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# 2016 INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT



**Water Quality in Alabama  
2014-2016**

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# 2016 Alabama Integrated Water Quality Monitoring and Assessment Report

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This report was prepared by the Alabama Department of Environmental Management as required by Section 305(b) (the Clean Water Act). Comments or questions related to the content of the report should be addressed to:



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## Executive Summary

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### Executive Summary

Alabama's 2016 Integrated Water Quality Assessment and Monitoring Report combines information about Alabama's surface and ground water resource management programs with a comprehensive listing of State waters consistent with EPA's 2006 Integrated Reporting Guidance (which is supplemented by EPA's 2008, 2010, 2012, 2014 and 2016 IR memos). The guidance requests that states report on the condition of all surface waters by categorizing rivers, streams, lakes, estuaries, and coastal waters according to their designated uses and the degree to which water quality is supporting those uses. State waters have been segmented using the high resolution National Hydrography Dataset (NHD) and assigned a unique identification number called an assessment unit ID (AU-ID). The AU-IDs are based on the twelve-digit Watershed Boundary Dataset (WBD). Waterbody data and information are evaluated using the use support assessment methodology and the waterbody is assigned to one of the following categories.

#### Category 1

Waters that are attaining all applicable water quality standards.

#### Category 2

Waters for which readily available data, which meets the State's requirements as described in Section 4.9, supports a determination that some water quality standards are met and there is insufficient data to determine if remaining water quality standards are met. Attainment status of the remaining standards is unknown because data is insufficient. Waters for which the minimum data requirements (as described later) have not been met will be placed in Category 2.

##### *Category 2A*

For these waters available data does not satisfy minimum data requirements but there is a high potential for use impairment based on the limited data. These waters will be given a higher priority for additional data collection.

##### *Category 2B*

For these waters available data does not satisfy minimum data requirements but there is a low potential for use impairment based on the limited data. These waters will be included in future basin monitoring rotations as resources allow.

### Category 3

Waters for which there is no data or information to determine if any applicable water quality standard is attained or impaired. These waters will be considered unassessed.

### Category 4

Waters in which one or more applicable water quality standards are not met but establishment of a TMDL is not required.

#### *Category 4A*

Waters for which all TMDLs needed to result in attainment of all applicable WQSs have been approved or established by EPA.

#### *Category 4B*

Waters for which other required control measures are expected to attain applicable water quality standards in a reasonable period of time. Adequate documentation is required to indicate that the proposed control mechanisms will address all major pollutant sources and should result in the issuance of more stringent effluent limitations required by either Federal, State, or local authority or the implementation of “other pollution control requirements (e.g., best management practices) required by local, state, or federal authority” that are stringent enough to implement applicable water quality standards. Waters will be evaluated on a case by case basis to determine if the proposed control measures or activities under another program can be expected to address the cause of use impairment within a reasonable time period. A reasonable time period may vary depending on the degree of technical difficulty or extent of the modifications to existing measures needed to achieve water quality standards. EPA’s 2006 assessment and listing guidance offers additional clarification of what might be expected of waters placed in Category 4b.

#### *Category 4C*

Waters in which the impairment is not caused by a pollutant. This would include waters which are impaired due to natural causes or pollution. A pollutant is defined in Section 502(6) of the Clean Water Act (CWA) as “spoil, solid waste, incinerator residue, sewerage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water.” Pollution is defined as “the man-made or man-induced alteration of the chemical, physical, or radiological integrity of a waterbody.” Invasive plants and animal species are considered pollution.

### Category 5

Waters in which a pollutant has caused or is suspected of causing impairment. If the impairment is caused by an identified pollutant the water should be placed in Category 5. All “readily available data and information” will be used to determine when a water should be placed in

Category 5. Waters in this category comprise the State’s list of impaired waters or §303(d) list. When the information used to assess the waterbody consist primarily of observed conditions, (limited water quality data, water quality data older than six years, or estimated impacts from observed or suspected activities), the assessment is generally referred to as an evaluated assessment (Category 2). Evaluated assessments usually require the use of some degree of professional judgment by the person making the assessment and these assessments are not considered sufficient to place waters in or to remove waters from the impaired category (Category 5) or the fully supporting category (Category 1).

Monitored assessments (Categories 1 and 5) are based on readily available chemical, physical, and/or biological data collected during the previous six years, using commonly accepted and well-documented methods. Readily available data are data that have been collected or assembled by the Department or other groups or agencies and are available to the public. Data older than six years old may be used on a case-by-case basis when assessing waters that are not currently included in Category 1 or Category 5. (For example, older data could be used if conditions, such as land use, have not changed.) The 2016 §303(d) list was developed by using data collected by the Department and various other sources. The data assessed to categorize Alabama’s waters was collected between 2009 and 2015. For example, the Department collected over 540,000 samples at 1075 stations during an estimated 17,000 site visits.

**Table ES-1 River Basins**

Alabama
Black Warrior
Blackwater
Cahaba
Chattahoochee
Chipola
Choctawhatchee
Coosa
Escambia
Escatawpa
Mobile
Perdido
Tallapoosa
Tennessee
Tombigbee
Yellow

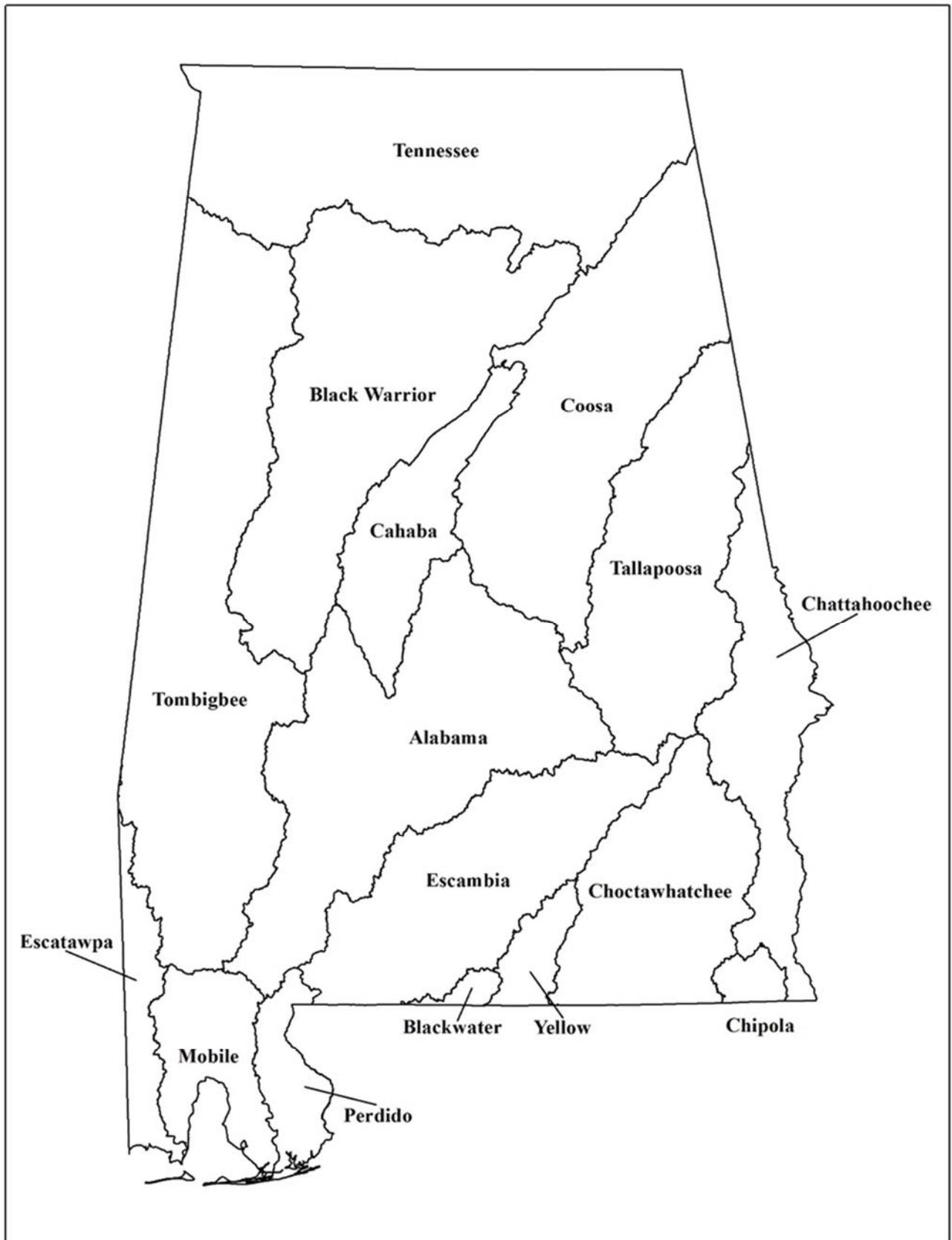
Categorizing Alabama’s surface waters represents a significant effort. With approximately 59,000 miles of perennial rivers and streams and approximately 70,000 miles of intermittent streams, this process will be ongoing and will require substantial resources and time.

Alabama’s 2015 Water Quality Monitoring Strategy describes the Department’s comprehensive strategy for monitoring Alabama’s vast surface water resources and has resulted in a significant increase in data available for assessing the designated use support of surface waters in Alabama. The five part list included in the appendix of this report represents the categorization based on information currently available. As new information becomes available the list will be updated and placed on the Department’s web site to give the public the most complete and accurate picture of the water quality status of Alabama’s surface water resources.

A summary of Alabama’s Active Trend Stations (Ambient Monitoring) can be found in the Appendix of this report. This information is an ongoing effort to demonstrate trends in water quality. Ambient Trend sites are sampled to identify long-term trends in water quality statewide and to provide data for the development of

Total Maximum Daily Loads (TMDLs) and water quality criteria. Sampling frequency presently occurs 3 times a year during the months of June, August, and October at most trend stations and are sampled statewide annually. Selected sites are sampled more frequently. Sampling frequency and parameters collected at these sites vary from other station types. Currently, 99 trend stations are sampled statewide annually.

Figure ES-1 River Basins



**Table ES-2 Atlas**

<b>Topics</b>	<b>Value</b>
State population	4,779,736
State surface area	51,609
Number of river basins	16
Total miles of rivers and streams	129,700
Miles of perennial rivers/streams	59,000
Miles of intermittent (nonperennial) streams	70,700
Border miles of shared rivers/streams	210
Number of lakes/reservoirs/ponds	7,694
Number of significant publicly-owned lakes/reservoirs/ponds	43
Acres of lakes/reservoirs/ponds	490,472
Acres of significant publicly-owned lakes/reservoirs/ponds	425,748
Square miles of estuaries/harbors/ponds	610
Miles of ocean coast (includes bays and inlets)	337
Acres of freshwater wetlands*	3,600,000
Acres of tidal wetlands*	27,600
*Historic National Wetland Inventory estimates	

\*historic National Wetland Inventory estimates

The U.S. Census estimates the population of Alabama in 2014 to be 4,849,377. The 2010 Census population was 4,779,736. This is a percent change of 1.4%. The cities of Birmingham, Huntsville, Montgomery, Mobile, and their surrounding suburbs contain approximately half of Alabama's population. The state is comprised of sixty-seven (67) counties. A large percentage of Alabama's industries are related to forestry, agriculture, and mining. The State is divided into sixteen (16) river basins (Table ES-1) containing 129,700 miles of rivers and streams (Table ES-2). Table ES-4 shows Size of Surface Waters Assigned to Reporting Categories and Table ES-5 shows the size of Rivers/Streams, Lakes/Reservoirs, and Estuary/Ocean impaired by Causes.

Alabama has ponds, lakes, and reservoirs in excess of 490,472 acres. Freshwater wetlands occupy an estimated 3,600,000 acres. Alabama's coastal wetlands are estimated at 27,600 acres (National Wetland Inventory estimates). Coastal Alabama also contains an estimated 610 square miles of estuaries and a coastal shoreline that is 337 miles long (includes Mobile Bay and island shorelines).

Assessing the State's abundant surface water resources requires a major effort and sizeable resources. These watersheds, ranging in size from approximately 10 square miles up to more than 100 square miles, were randomly selected to incorporate a range of human disturbances. In addition to the probabilistic watershed monitoring, the Department continued its more traditional monitoring of §303(d) listed streams, ambient trend monitoring, and the rivers and reservoirs monitoring programs. This monitoring strategy continues to be used to gather the data necessary to assess the state's surface waters.

Alabama's surface water is of generally high quality. An indication of full support of rivers and streams can be determined by analyzing Alabama's Category 4 and 5 waters. The total mileage for rivers and streams not supporting designated uses is 3,352.20 miles. This total is 15% of the almost 14,000 river and stream miles which have been assessed. Approximately 53% of Alabama's publicly accessible lakes and reservoirs are fully supporting their designated uses.

Much of the non-support acreage is related to historic as well as recent PCB contamination and eutrophic conditions in the Coosa River Basin reservoirs. Naturally higher nutrients in the soils of the Coosa River Basin, to a large extent, dictate its reservoirs' eutrophic conditions. In an effort to manage eutrophic conditions more directly, the Department has developed nutrient criteria for 29 reservoirs (Weiss Lake, Lake Harris, West Point Lake, Walter F. George Lake, Lake Martin, Yates Lake, Thurlow Lake, Lake Guntersville, Wheeler Lake, Wilson Lake, Pickwick Lake, Little Bear Creek Lake, Cedar Creek Lake, Claiborne Lake, Dannelly Lake, Bankhead Lake, Holt Lake, Lewis Smith Lake, Oliver Lake, Lake Tuscaloosa, Warrior Lake, Lake Harding, Gantt Lake, Point A Lake, Inland Lake, Jackson Lake, Coffeeville Lake, Demopolis Lake, and Gainesville Lake).

ADEM and the ACNPCP have continued coordination with the U.S. Fish and Wildlife Service, and the Mississippi Department of Marine Resources through the Army Corps of Engineers' Mitigation Bank Interagency Review Team (MBIRT) to develop regionalized wetland functional assessment tools as Hydro-Geomorphic (HGM) guidebooks utilized for the standardized assessment of these wetland functions for Coastal Alabama. ADEM also coordinates with the Alabama Department of Conservation and Natural Resources (ADCNR) through the ACNPCP to present best available wetland-related technologies in the form of technical studies, workshops, and conferences, which are made available to state and federal regulatory staff, consultants, and the general public. Previous accomplishments have included the presentation of the *Alabama Coastal Wetland Rapid Assessment Procedure (WRAP) Workshop* and the *Alabama Coastal Wetland Plant Identification Workshop*, the regional *Alabama Stream and Wetlands Restoration Conference*.

Alabama's ground water continues to be managed effectively through efforts under the Underground Storage Tank (UST) Program, the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the Underground Injection Control (UIC) Program, as well as the Wellhead Protection Program (WHPP). The lack of chronic detections of pollutants in public water supply groundwater sources is a good indication of Alabama's high ground water quality and effective management of the resource.

Alabama's estuaries enjoy overall good health, but pathogens and mercury are pollutants of concern in many coastal watersheds. The Department's coastal water quality monitoring program has participated in several monitoring initiatives with partners such as the Mobile Bay National Estuary Program, the National Oceanic and Atmospheric Administration, the Gulf of Mexico Alliance, the U.S. Environmental Protection Agency, and other local groups and institutions to provide comprehensive assessments of Alabama's coastal waters.

Approximately 850,000,000 gallons of water are taken from ground and surface sources each day, provided with treatment, and made available to approximately four million citizens in Alabama. Five hundred and eighteen (518) community systems, forty-eight (48) transient noncommunity systems and twenty-three (23) non-transient non-community systems are permitted by the ADEM. Approximately sixty-five (65) percent of the water used is obtained from surface sources such as lakes, rivers, and streams and provided with full treatment to include coagulation, sedimentation, filtration, and disinfection. One hundred (100) percent of

these systems meet turbidity requirements, one hundred (100) percent meet trihalomethane standards, ninety-seven (97) percent meet haloacetic acid standards and one hundred (100) percent meet inorganic and radiological drinking water standards

Despite significant progress, much work remains to be done regarding water quality management with the 303(d) process and implementation of Total Maximum Daily Loads (TMDLs) in Alabama and the recent management efforts of the Source Water Protection Program and the Wellhead Protection Program. Management efforts continue in the UST, RCRA, CERCLA, and UIC Programs and through National Pollutant Discharge Elimination System (NPDES) permitting. Continuing watershed coordination efforts in Alabama are vital to the effective use of limited resources for surface and ground water management. Implementation of controls for nonpoint source runoff is an integral component of watershed management in Alabama. Water quality monitoring will be crucial in demonstrating the effectiveness of these implementation activities.

**Table ES-3 Size of Surface Waters Assigned to Reporting Categories**

Waterbody Type	Category								Total Assessed
	1	2A	2B	3	4A	4B	4C	5	
River/Stream (miles)	5,227.74	1,905.78	3,099.45	3,626.03	1,146.73	61.86	22.79	2,120.82	13,585.17
Reservoir/Lake (acres)	193,666.79	3,009.14	5,252.00	2,242.99	40,282.15			191,104.09	433,314.17
Estuary/Ocean (square	129.08		18.20	0.63	5.59			624.88	777.75

\*category 3 not included in total assessed waters

**Table ES-4 Size of Rivers/Streams, Lakes/Reservoirs, and Estuary/Ocean impaired by Causes**

Cause	Category 5			Category 4			Totals		
	River Stream (miles)	Reservoir Lake (acres)	Ocean Estuary (square miles)	River Stream (miles)	Reservoir Lake (acres)	Ocean Estuary (square miles)	River Stream (miles)	Reservoir Lake (acres)	Ocean Estuary (square miles)
<b>FLOW ALTERATIONS</b>							<b>7.56</b>		
Habitat alteration	4.41						4.41		
Other flow regime alterations				3.15			3.15		
<b>METALS</b>							<b>984.01</b>	<b>54,270.95</b>	<b>300.58</b>
Aluminum	4.11			45.99			50.10		
Arsenic	19.56						19.56		
Chromium	18.82						18.82		
Copper				7.96			7.96		
Cyanide	12.43			44.55			56.98		
Iron	3.62			45.99			49.61		
Lead	23.61			3.30			26.91		
Mercury	692.65	54,270.95	205.96				692.65	54,270.95	205.96
Thallium			94.62				0.00		94.62
Zinc				61.42			61.42		
<b>MINERALIZATION</b>							<b>169.95</b>		
Total dissolved solids	50.05						50.05		
Turbidity	32.02			87.88			119.90		
<b>NUTRIENTS</b>							<b>933.44</b>	<b>181,649.99</b>	
Ammonia				215.80	527.25		215.80	527.25	
Nitrogen				187.59	3,021.35		187.59	3,021.35	
Phosphorus	158.12	101,942.96		371.93	76,158.43		530.05	178,101.39	
<b>OXYGEN DEPLETION</b>							<b>1,348.74</b>	<b>12,438.25</b>	
BOD, carbonaceous	106.07	3,710.32		675.34	4,121.37		781.41	7,831.69	
BOD, nitrogenous	106.07	3,710.32		441.62	896.24		547.69	4,606.56	
Dissolved oxygen				19.64			19.64		
<b>PATHOGENS</b>							<b>1,405.09</b>	<b>7,669.51</b>	<b>428.72</b>
Enterococcus bacteria			418.92	50.72		9.80	50.72		428.72
E. coli	521.14	6,567.86		833.23	1,101.65		1,354.37	7,669.51	
<b>PESTICIDES</b>							<b>185.63</b>	<b>85.73</b>	
Atrazine				23.42			23.42		
Chlorpyrifos				23.42			23.42		
DDT		85.73		13.04			13.04	85.73	
Dieldrin	24.29						24.29		
Endosulfan				50.73			50.73		
Methyl Parathion				50.73			50.73		
<b>pH</b>							<b>33.53</b>	<b>1,569.21</b>	
pH	16.00	1,569.21		17.53			33.53	1,569.21	
<b>SEDIMENTATION</b>							<b>1,130.78</b>	<b>4,442.18</b>	
Sedimentation/Siltation	680.95	869.04		449.83	3,573.14		1,130.78	4,442.18	
<b>TOXIC ORGANICS</b>							<b>79.95</b>	<b>54,666.84</b>	
Benzo(a)pyrene (PAHs)				44.55			44.55		
Polychlorinated biphenyls (PCBs)	35.40	30,044.38			24,622.46		35.40	54,666.84	
Perfluorooctane Sulfonate (PFOS)		19,378.31							
<b>UNKNOWN</b>							<b>11.08</b>		
Unknown toxicity	11.08						11.08		

\* Category 4 includes all TMDLs

## List of Acronyms

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A&I	Agriculture and Industry water supply use classification
AAES	Alabama Agricultural Experiment Station
ACES	Alabama Cooperative Extension Service
ACT/ACF	Alabama-Coosa-Tallapoosa/Apalachicola-Chattahoochee-Flint River Basins study
ACWI	Alabama Coastal Waters Initiative
ADAI	Alabama Department of Agriculture and Industries
ADCNR	Alabama Department of Conservation and Natural Resources
ADCNR-MRD	Alabama Department of Conservation and Natural Resources-Marine Resources Division
ADE	Alabama Department of Education
ADEM	Alabama Department of Environmental Management
ADPH	Alabama Department of Public Health
AEEI	Alabama Environmental Education Initiative
AEMA	Alabama Emergency Management Agency
AEMC	Alabama Environmental Management Commission
AFC	Alabama Forestry Commission
AGPT	Algal Growth Potential Test
ALAMAP	Alabama Monitoring and Assessment Program
ALUS	Aquatic Life Use Assessment
ANHP	Alabama Natural Heritage Program
ASCS	Agricultural Stabilization & Conservation Service
ASMC	Alabama Surface Mining Commission
ASSESS	ADEM's Strategy for Sampling Environmental indicators of Surface water Quality Status
ASWCC	Alabama Soil and Water Conservation Committee
AUC	Assessment Unit Code
AWPCA	Alabama Water Pollution Control Act
B/H	Biological/Habitat data
BMP	Best Management Practices
CBEP	Community-Based Environmental Protection
CERS	Center for Environmental Research and Service at Troy State University
CLP	Clean Lakes Program
CNPCP	Coastal Nonpoint Pollution Control Program
CPYRWMA	Choctawhatchee-Pea and Yellow Rivers Watershed Management Authority
CSO	Combined Sewer Overflow
CWA	Clean Water Act
CWP	Clean Water Partnership
DA	Drainage Area
DIZ	Discharge Information Zone for NPDES Coastal Permits
DO	Dissolved Oxygen

## List of Acronyms

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EMAP	Environmental Monitoring Assessment Program
EPA	U.S. Environmental Protection Agency
ERL-A	EPA's Environmental Research Laboratory at Athens, GA
ERL-C	EPA's Environmental Research Laboratory at Corvallis, OR
F&W	Fish and Wildlife use classification
FDA	U.S. Food and Drug Administration
FDER	Florida Department of Environmental Regulation
GDNR	Georgia Department of Natural Resources
GIS	Geographical Information System
GPS	Global Positioning System
GSA	Geological Survey of Alabama
HDG	Human Disturbance Gradient
HUC	Hydrologic Unit Code
IO	Industrial Operations
LDI	Landscape Development Index
MBP	Multihabitat Bioassessment Protocol
MCL	Maximum Contaminant Level
MESC	Marine Environmental Sciences Consortium of Dauphin Island, AL
MGD	Million Gallons per Day
MOPC	Mississippi Office of Pollution Control
MOU	Memorandum of Understanding
MPSs	Hester-Dendy Multiplate Samplers
MRD	Marine Resources Division of the ADCNR
MU	Monitoring Unit
NEP	National Estuary Program
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	Superfund National Priority Listed Sites
NRCS	Natural Resource Conservation Service of the USDA
NWI	National Wetland Inventory of the USFWS
OAW	Outstanding Alabama Water use classification
OEO	Office of Education and Outreach
ONRW	Outstanding National Resource Water designation
P/C	Physical/Chemical data
PACE	Pollution Abatement Costs and Expenditures
PCB	Polychlorinated Biphenyls

## List of Acronyms

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PFOA	Perfluorooctanoic Acid
PWS	Public Water Supply use classification
RBP	Rapid Bioassessment Protocol
RC&D	Resource Conservation and Development Councils of the USDA
RM	River Mile
RPS	Rapid Periphyton Surveys
RSMP	Rivers and Streams Monitoring Program
RWC	Receiving Water Concentration
S	Swimming and Other Whole Body Water contact Sports use classification
SH	Shellfish Harvesting use classification
SM/LG	Sand Mountain/Lake Guntersville watershed study
SMZ	Streamside Management Zone
SOC	Synthetic Organic Compound
SOD/NR	Sediment Oxygen Demand/Nutrient Release studies
SOP	Standard Operating Procedures
SRF	State Revolving Fund of Alabama
SSO	Sanitary Sewer Overflow
STP	Sewage Treatment Plant
SWCD	Soil and Water Conservation District
SWCP	State Wetland Conservation Plan
TAL	Treasured Alabama Lake
TMDL	Total Maximum Daily Loads
TOT	Time-of-travel studies
TRE	Toxicity Reduction Evaluation
TSI	Trophic State Index
UAA	Use Attainability Analysis
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USCG	United States Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service of the Department of the Interior
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound
WCAMI	Wetlands Conservation and Management Initiative
WLA	Wasteload Allocation
WQB	Water Quality Branch
WWTP	Wastewater Treatment Plant

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# Chapter 1 Water Quality Standards

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## 1.1 Water Quality Standards Program

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For information pertaining to Water Quality Standards, contact Jennifer Haslbauer in ADEM's Montgomery Office at (334) 274-4250 or [jhaslbauer@adem.state.al.us](mailto:jhaslbauer@adem.state.al.us).

## 1.2 Water Quality Rule Changes

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Changes made to previous **Chapter 335-6-10 Water Quality Criteria**:

- Corrected grammatical errors and clarified existing language. (Date: April 1, 2014, Section 335-6-10)
- Added numeric nutrient criteria in the form of growing season mean chlorophyll *a* to three reservoirs: Lake Frank Jackson in the Perdido/Escambia River Basin and Bear Creek and Upper Bear Creek in the Tennessee River Basin. (Date: April 1, 2014, Section 335-6-10-.11)

Changes made to previous **Chapter 335-6-11 Water Use Classifications for Interstate and Intrastate Waters**:

- Corrected grammatical errors and clarified existing language. (Date: April 1, 2014, Section 335-6-11)
- Added Swimming and Other Whole Body Water-Contact Sports (S) use classification to segments of Coosa River, Terrapin Creek, and Big Wills Creek in the Coosa River Basin and Warrior River, Locust Fork, Sipsey Fork and Tributaries, North River, Valley Creek, Village Creek, Fivemile Creek, Lost Creek, and Wolf Creek in the Warrior River Basin. (Date: November 27, 2012, Section: 335-6-11-.02)
- Added Public Water Supply (PWS) use classification to Clear Creek (Lake Lewis Smith) in the Warrior River Basin (Date: November 27, 2012, Section 335-6-11-.02(14))
- Added Outstanding Alabama Water (OAW) use classification to segments of Shoal Creek in the Coosa River Basin and Estill Fork and Hurricane Creek in the Tennessee River Basin. (Date: April 1, 2014, Section 335-6-11-.02)
- Added Swimming and Other Whole Body Water-Contact Sports (S) use classification to segments of Pea River in the Choctawhatchee River Basin. (Date: April 1, 2014, Section 335-6-11.02(5))

## 1.3 Conceptual Approach to Nutrient Criteria Development

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In developing nutrient criteria, the Department's objective is to determine nutrient levels that are protective of the beneficial uses designated for each reservoir. Keeping in mind that these reservoirs serve a variety of uses, including swimming and recreation, sport-fishing, and public water supply, while also supporting a wide diversity of aquatic life, nutrient criteria are targeted that support the designated uses and are protective of aquatic communities. Thus, the Department's rationale is to

establish nutrient criteria consistent with the “fishable/swimmable” goal of the Clean Water Act.

Located within 16 major river basins and 25 different sub-ecoregions, Alabama’s surface waters represent some of the most biologically diverse aquatic ecosystems in the United States. Because of the large diversity in geographic and climatic conditions from one region to another, as well as the significant variability in dam operations between reservoirs, the Department used best professional judgment to develop nutrient criteria on a lake-specific basis rather than on a more aggregate basis such as an ecoregional approach. The lake-specific approach captures the large variability inherent in man-made reservoirs, where chlorophyll a concentrations are typically affected by such factors as reservoir depth, reservoir retention time, and scheduling of power generation. Figure 1-1 and Figure 1-2 depicts Alabama’s General Soils and Ecoregions respectively.

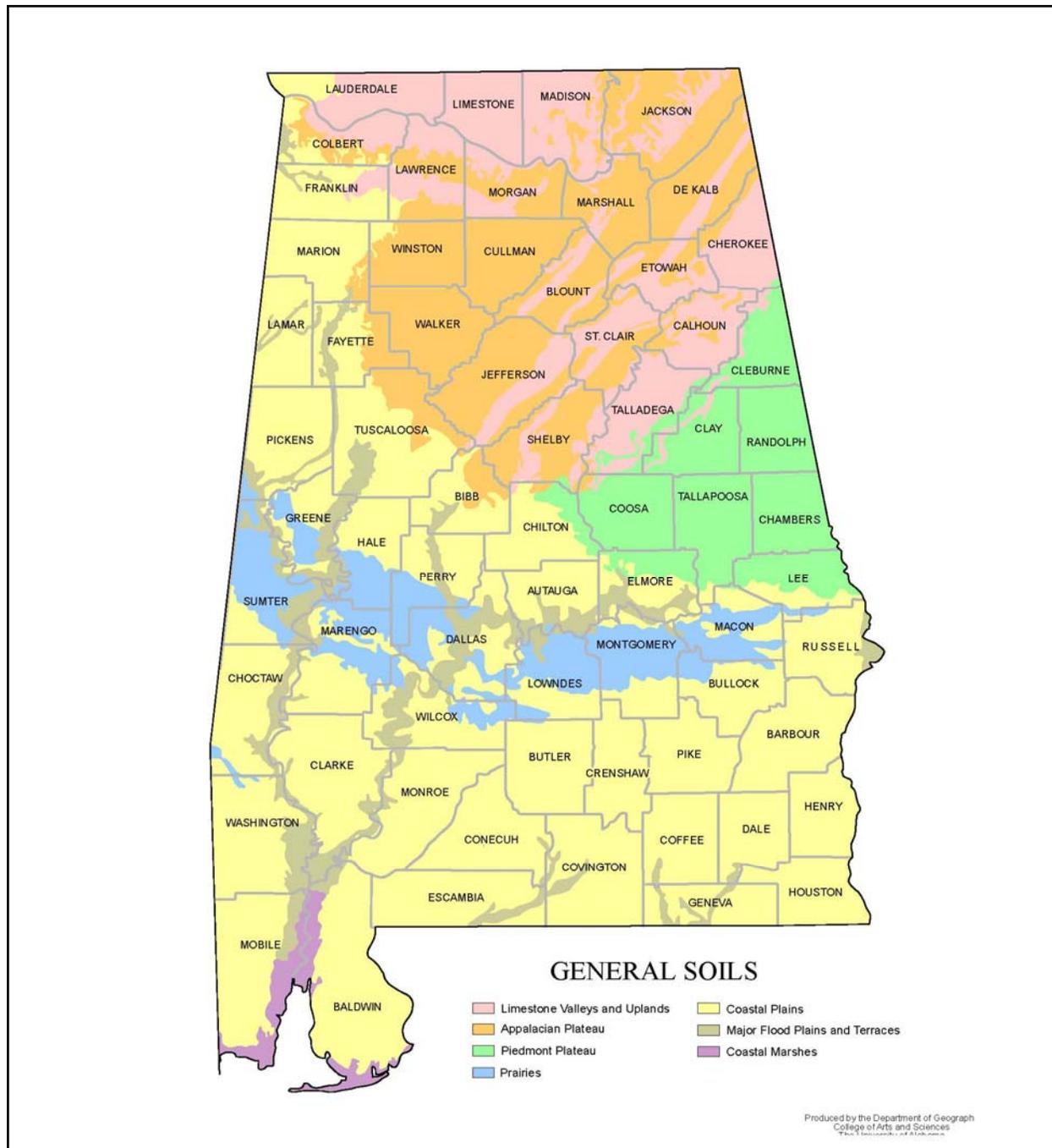
During the criteria development process, historical data are studied to provide an overall perspective of the condition of each reservoir. This information is analyzed to determine trends in trophic conditions, the degree to which reservoir conditions remained stable over time, and whether any impairment has occurred due to nutrient over-enrichment. From this data, nutrient levels (expressed as seasonal means of chlorophyll a concentrations) are targeted that correlate with reservoir conditions that support the designated beneficial uses. The historical data depicts the diversity of reservoir conditions in Alabama, from lakes in the Tallapoosa River Basin that are naturally oligotrophic-mesotrophic, such as lakes Martin, Yates and Thurlow, to lakes that tend to be more eutrophic in nature, such as the mainstem reservoirs on the Tennessee and Coosa Rivers.

The Department recognizes that using reference condition analysis to establish nutrient criteria in reservoirs can be limited due to the fact that there is uncertainty regarding what constitutes “natural” conditions in a man-made water body. Therefore, in developing nutrient criteria, the Department has selected to analyze historical ambient data on an individual reservoir basis to determine if each reservoir continues to support its designated uses. If so, the nutrient concentrations that have historically corresponded to that reservoir’s use support are evaluated to determine a chlorophyll a target specific to that reservoir. This same approach is used regardless of the reservoir’s trophic state (i.e. eutrophic, oligotrophic, or mesotrophic). Thus, the intent is that the selected chlorophyll a criteria values are specifically associated with a condition of full use support in each respective reservoir, taking into account the factors unique to various trophic conditions.

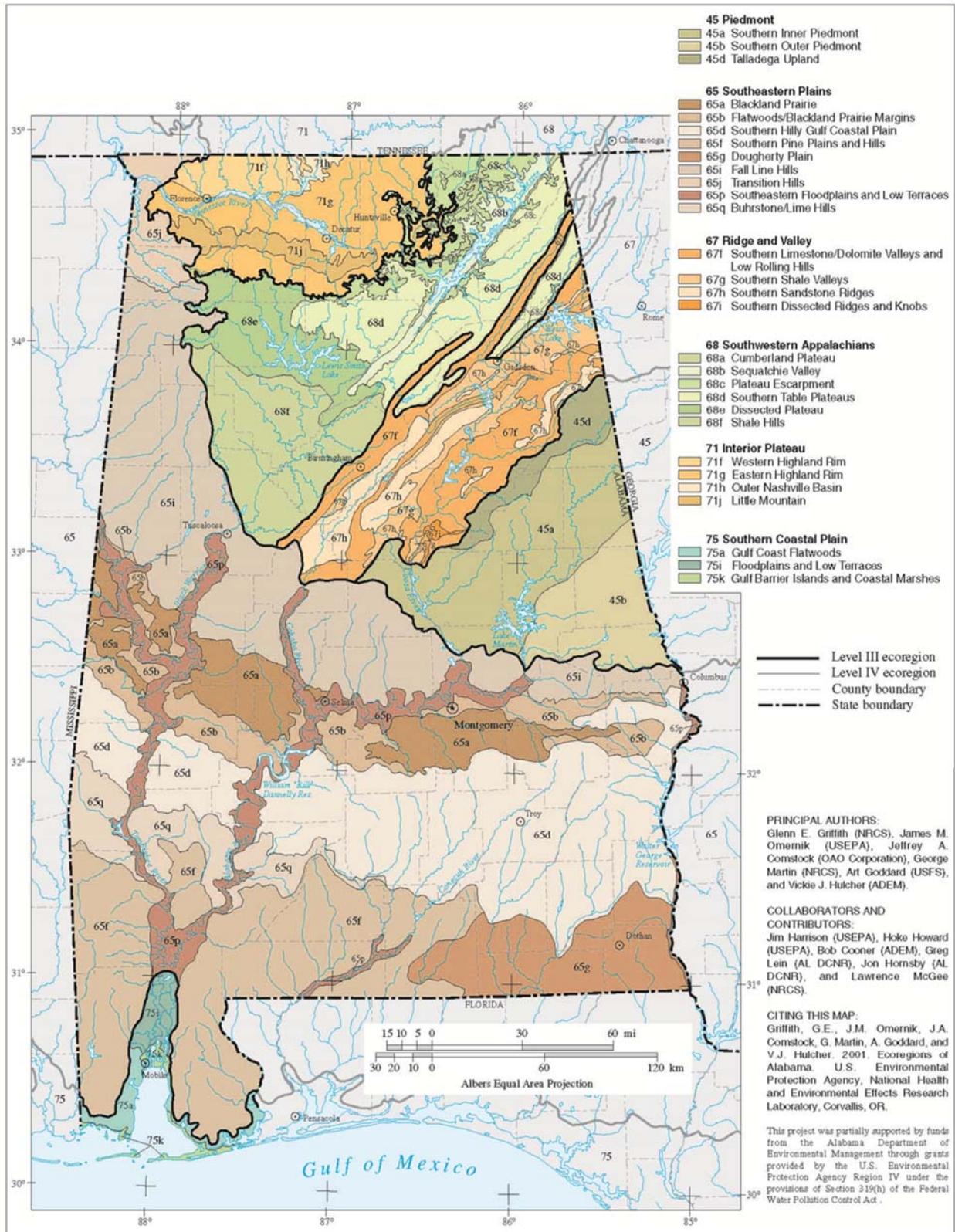
Nutrient criteria are developed to support the existing uses that define each reservoir system and protect the aquatic communities that inhabit them. Data are analyzed to determine the ranges of chlorophyll a and total phosphorus concentrations historically occurring in each reservoir. To maintain nutrient levels within the ranges associated with full use-support conditions, best professional judgment is used to derive criteria values that “cap” each reservoir system with a protective chlorophyll a concentration. In establishing chlorophyll a targets, the variability occurring within the growing season was taken into account. The cooler months are generally less productive and lower chlorophyll a values are usually recorded while the warmer months are generally more productive with higher chlorophyll a values typically recorded.

To determine what constitutes healthy conditions in various types of reservoirs and how trophic gradients relate to use attainment, the Department utilizes research conducted by Dr. David Bayne at Auburn University. This research examines how the quality of fisheries correlates to varying trophic conditions in Alabama reservoirs. The study assesses the potential impacts of reverse eutrophication and nutrient reduction on reservoir fisheries and calculates target levels of primary production that provide both quality fishing and satisfactory water clarity for other recreational users, while protecting all aquatic communities. This research (“Compatibility

**Figure 1-1 Alabama’s General Soils**



**Figure 1-2 Alabama's Level III and IV Ecoregions**



**Table 1-1 Nutrient Criteria Implementation Schedule for Alabama Reservoirs**

Year	Number of Reservoirs	Major Basin(s)	Name of Reservoirs
2001	4	Chattahoochee, Coosa, Tallapoosa	West Point, W.F. George, Weiss, R.L. Harris
2002	9	Tallapoosa, Tennessee	Martin, Yates, Thurlow, Guntersville, Wheeler, Wilson, Pickwick, Little Bear, Cedar
2004	11	Alabama Black Warrior Chattahoochee Escambia	Claiborne, Dannelly Bankhead, Holt, Lewis Smith, Oliver, Tuscaloosa, Warrior Harding Gantt, Point A
2005	5	Black Warrior Yellow Tombigbee	Inland Jackson Coffeeville, Demopolis, Gainsville
2010	8	Cahaba Coosa Escatawpa Tombigbee	Purdy Jordan, Lay, Logan Martin, Mitchell, Neely Henry Big Creek Aliceville
2014	3	Yellow Tennessee	Frank Jackson Bear Creek, Upper Bear Creek
TBD	1	Alabama	Woodruff

between Water Clarity and Quality Black Bass and Crappie Fisheries in Alabama”; American Fisheries Society Symposium 16:296-305. 1996) provides substantial evidence that fish biomass and sport-fish harvesting are positively correlated to algal production in reservoirs.

The research by Dr. Bayne demonstrates that the size, growth rates, and condition of certain species of sports fish are generally higher in eutrophic than in oligo-mesotrophic reservoirs. This study, along with case studies of reservoirs in other regions, raises the concern that the reversal of eutrophication and improvement in water clarity in some reservoirs can be deleterious to its warm-water sports fisheries by reducing fish production and biomass. The Department, therefore, believes that when establishing nutrient criteria it is vital to set water quality standards that adequately consider all the beneficial uses of the reservoir, fishing and swimming alike. Thus, caution is warranted when regulatory actions can potentially result in an undesirable shift in fish species. If, historically, a reservoir has supported all of its uses, including high-quality fisheries and other aquatic communities, nutrient criteria were targeted to preserve these reservoir conditions.

The typical hydraulic regime and flow characteristics of each reservoir are other key factors considered during criteria development. The relationship between water quality, biomass accumulation, and hydraulic residence time (or retention time), which is the average amount of time required to completely renew a reservoir’s water volume, was taken into account when establishing the chlorophyll

a criteria. For example, reservoirs associated with “run-of-the-river” dams typically have small hydraulic head, limited storage area and short retention times and are less likely to be susceptible to conditions that can lead to eutrophication or promote excessive algal growth. In contrast, reservoirs associated with larger dams, such as storage or hydroelectric dams, are more likely to have longer retention times, providing a greater potential for incoming nutrients to stimulate increased algal production. Increased algal biomass can potentially deplete dissolved oxygen levels within the reservoir through bacterial decomposition and photosynthetic respiration.

A study by Dr. Bayne examined the relationship between reservoir water retention times and phytoplankton algae production on Weiss Lake during the summer of 2001. Dr. Bayne, along with Auburn University professor Dr. Mike Maceina, assessed the potential water quality effects on Weiss Lake of the draft Coosa River water-sharing agreement between Alabama and Georgia. Their study showed that reservoirs with typically short retention times, such as reservoirs on the Coosa River, are more susceptible to hypereutrophic effects and higher chlorophyll a concentrations when retention times are increased even moderately. Historical data shows that higher chlorophyll a concentrations in Weiss Lake have consistently corresponded to longer retention times. Hydrologic models in their study indicated that longer retention times in the reservoir would likely increase phytoplankton algae production and algal biomass accumulation, assuming that other factors remain unchanged. This result is particularly evident during drought periods, such as occurred in 2000, 2006, and 2007.

In addition, the nutrient criteria were developed to reflect downstream transport of nutrients and the processes by which nutrient uptake occurs in streams. Nutrient concentrations generally tend to decrease as they move downstream. This attenuation occurs as nutrients are absorbed by microorganisms and plants (biotic uptake) or as they adsorb onto sediment particles (abiotic uptake) and settle out of the water column. Thus, in developing nutrient criteria, the chlorophyll a targets were set so that along certain stretches of river, each successive reservoir has a lower criteria value as you move downstream. This approach takes into account natural processes that determine nutrient concentrations and is protective of downstream water quality.

#### **1.4 Implementation of Alabama’s Antidegradation Policy**

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On June 25, 2002, the Alabama Environmental Management Commission adopted Rule 335-6-10-.12, Implementation of the Antidegradation Policy. This rule codifies procedures for implementing the Department’s antidegradation policy (contained in Rule 335-6-10-.04) which was last amended in 1991 and approved that same year by the U.S. Environmental Protection Agency (EPA), Region 4. In response to a petition from the Legal Environmental Assistance Foundation (LEAF), in 1997 EPA requested that ADEM develop written procedures for implementing the state’s antidegradation policy. Final written implementation procedures were submitted to EPA in December 1998 and approved by EPA in August 1999. In November 1999, LEAF sued ADEM alleging that the Department’s use of the EPA-approved implementation procedures in the NPDES permitting process was improper because these procedures were, in fact, “rules” that had not been adopted through the formal rulemaking process. The Montgomery Circuit Court found in favor of ADEM; a decision later affirmed by the Court of Civil Appeals.

LEAF then applied for a writ of certiorari to the Alabama Supreme Court, which was granted, and thereafter the Alabama Supreme Court concluded in a decision dated March 1, 2002, that the implementation procedures are “rules” within the context of the Alabama Administrative Procedure

Act, reversed the judgment of the Court of Civil Appeals and remanded the case to the lower courts.

As a result of the Supreme Court decision, the Department ceased the review of permit applications for new or expanded discharges of treated wastewater to those waters affected by the Supreme Court decision until April 10, 2002, following adoption by the Alabama Environmental Management Commission of emergency rule (335-6-10-.12-.01ER) establishing implementation procedures. As adopted, the emergency rule procedures incorporate suggestions made by EPA and are essentially equivalent to the written procedures utilized by the Department prior to the Supreme Court decision. The provisions of the permanent rule adopted on June 25, 2002, are the same as those of the emergency rule and, as such, have been determined by EPA to be consistent with the federal requirement for implementation procedures included in EPA's water quality standards regulation. The final implementation procedures rule became effective on August 1, 2002.

The Department's antidegradation policy serves to conserve and protect the waters of Alabama and their beneficial uses and to prevent the deterioration of a water body even when its water quality surpasses the level necessary to meet the fishable and swimmable goals of the Clean Water Act. The antidegradation implementation policy addresses three categories of waters and beneficial uses:

- High-quality waters that constitute an outstanding national resource (Tier 3 waters);
- Waters where the quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife as well as recreation in and on the water (Tier 2 waters); and
- Existing instream water uses and the level of water quality necessary to protect the existing uses (Tier 1 waters).

The implementation policy codifies procedures for reviewing applications for new or expanded discharges to waters designated as Tier 2 waters. The two basic components of the implementation policy involve:

- The Department's determination, based on the applicant's demonstration, that the proposed discharge is necessary for important economic or social development in the area in which the waters are located; and
- An evaluation, by the applicant, of alternatives other than the proposed discharge to Tier 2 water.
- The antidegradation implementation procedures comply with federal law and provides ADEM with adequate guidelines for making environmentally and economically sound decisions, industries with the predictability needed to operate and the public with the assurances needed to guarantee clean water.

## 1.5 Surface Water Use Classification Maps

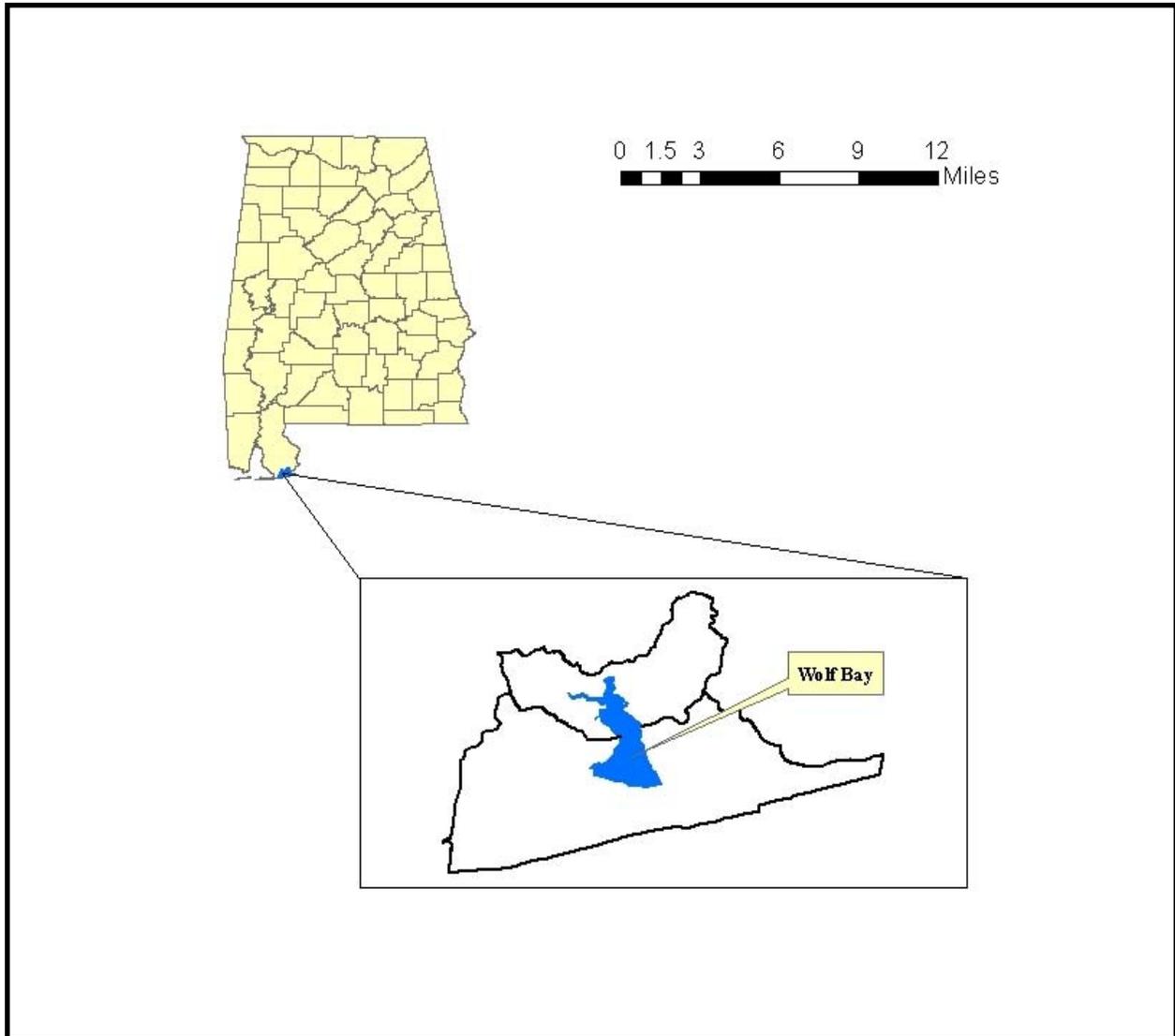
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The following maps depict Outstanding Alabama Waters, Outstanding National Resource Waters, and a Treasured Alabama Lake. Alabama’s classified surface waters are listed in *ADEM Water Division, Water Quality Program, Chapter 335-6-11, Water Use Classifications for Interstate and Intrastate Waters (effective November 27, 2012)*. Table 1-2 shows Surface Water Classifications and Designations. Figures and Tables 1-3 through 1-11 show waters classified as Outstanding Alabama Water (OAW) and waters with the special designation of Outstanding National Resource Water (ONRW) and Treasured Alabama Lake (TAL).

**Table 1-2 Surface Water Classifications and Special Designations**

Use Classifications	
Outstanding Alabama Water	OAW
Public Water Supply	PWS
Swimming and Other Whole Body and Water Contact Sports	S
Shellfish Harvesting	SH
Fish and Wildlife	F&W
Limited Warmwater Fishery	LWF
Agricultural and Industrial Water Supply	A&I
Special Designations	
Outstanding National Resource Water	ONRW
Treasured Alabama Lake	TAL

**Figure 1-3 Wolf Bay - Outstanding Alabama Water**



**Table 1-3 Wolf Bay - Outstanding Alabama Water**

#	Assessment Unit #	Name	Downstream	Upstream	Use Classification	Square Miles
1	AL03140107-0204-600	Wolf Bay	Bay la Launch	Moccasin Bayou	OAW/SH/S/F&W	4.65
<b>Total Square Miles:</b>						4.65

Figure 1-4 Cahaba River and Tributaries - Outstanding Alabama

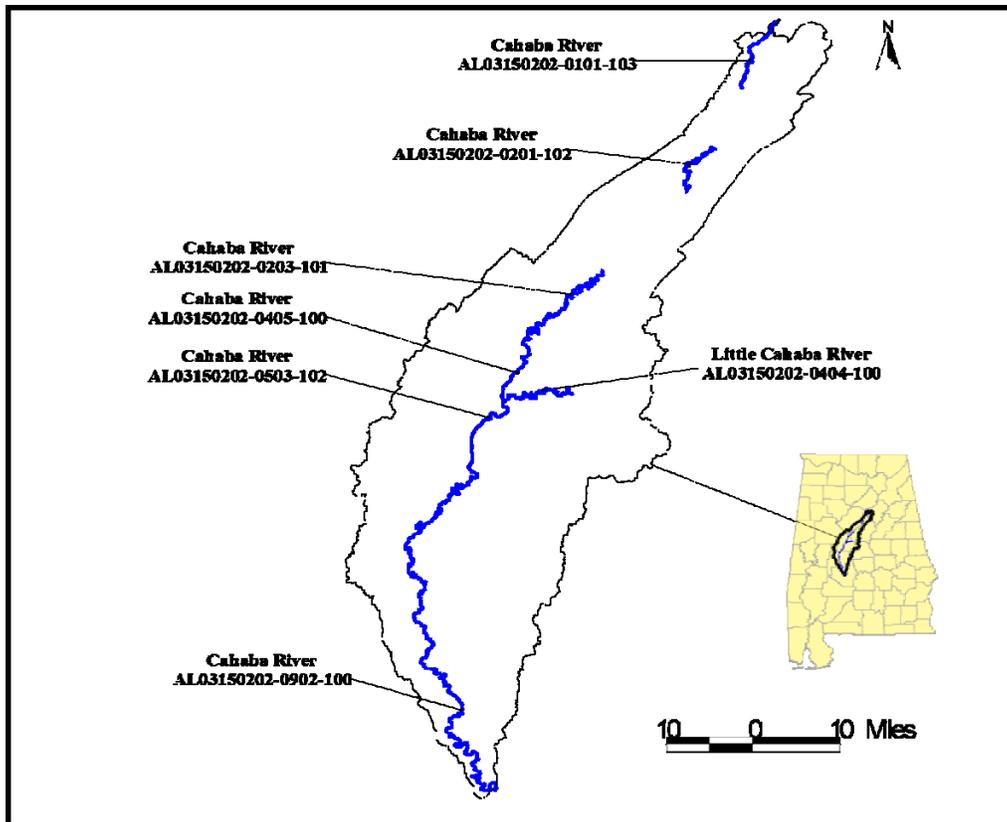
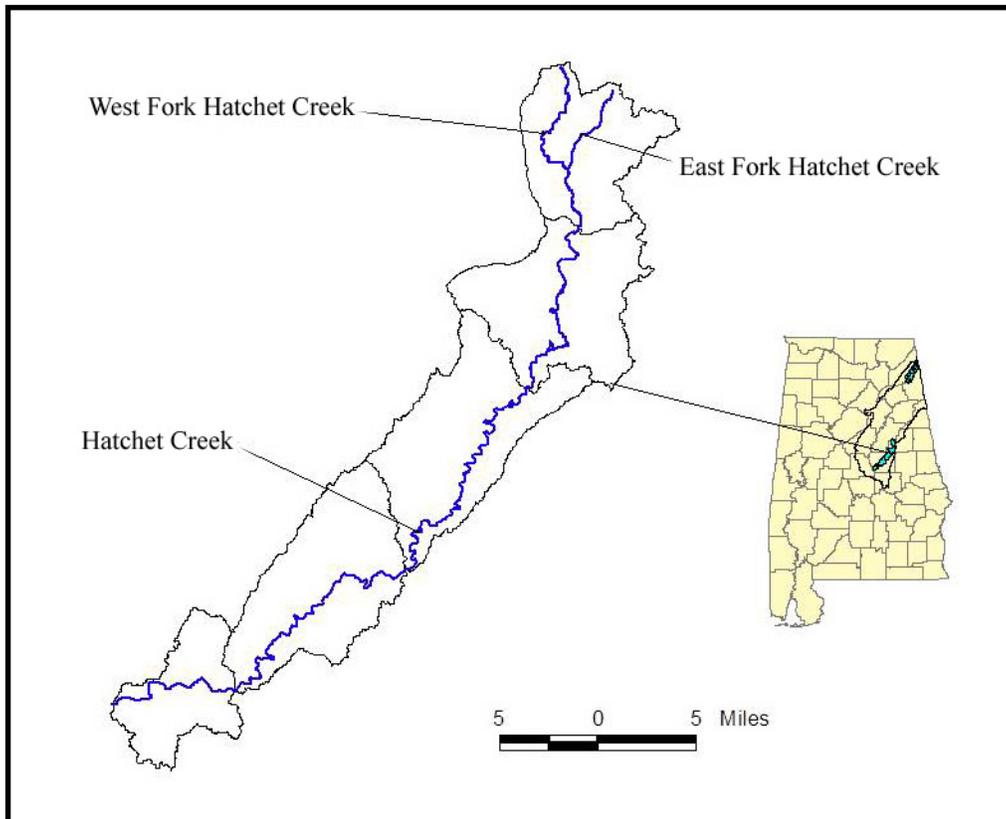


Figure 1-5 Hatchet Creek and Tributaries - Outstanding Alabama



**Table 1-4 Cahaba River and Tributaries - Outstanding Alabama Water**

#	Assessment Unit #	Name	Downstream	Upstream	Use Classification	Miles
1	AL03150202-0902-100	Cahaba River	Alabama River	Alabama Highway 82	OAW/S	89.50
2	AL03150202-0503-102	Cahaba River	Alabama Highway 82	lower Little Cahaba River	OAW/S	10.58
3	AL03150202-0407-100	Cahaba River	lower Little Cahaba River	Shades Creek	OAW/F&W	13.51
4	AL03150202-0206-101	Cahaba River	Shades Creek	Shelby County Road 52	OAW/F&W	23.61
5	AL03150202-0204-102	Cahaba River	dam near U.S. Highway 280	Grant's Mill Road	OAW/PWS	13.45
6	AL03150202-0101-102	Cahaba River	US Highway 11	I-59	OAW/F&W	3.13
7	AL03150202-0101-103	Cahaba River	I-59	its source	OAW/F&W	2.22
8	AL03150202-0405-100	Little Cahaba River	Cahaba River	its source	OAW/F&W	16.54
<b>Total Miles:</b>						172.54

**Table 1-5 Hatchet Creek and Tributaries - Outstanding Alabama Water**

#	Assessment Unit #	Name	Downstream	Upstream	Use Classification	Miles
1	AL03150107-0709-100	Hatchet Creek	Coosa River	Wildcat Creek	OAW/S/F&W	43.20
2	AL03150107-0706-102	Hatchet Creek	Wildcat Creek	its source	OAW/PWS/S/F&W	18.87
3	AL03150107-0701-300	East Fork Hatchet Creek	Hatchet Creek	its source	OAW/F&W	5.30
4	AL03150107-0701-400	West Fork Hatchet Creek	Hatchet Creek	its source	OAW/F&W	7.71
<b>Total Miles:</b>						75.08

Figure 1-6 Lake Martin – Treasured Alabama Lake

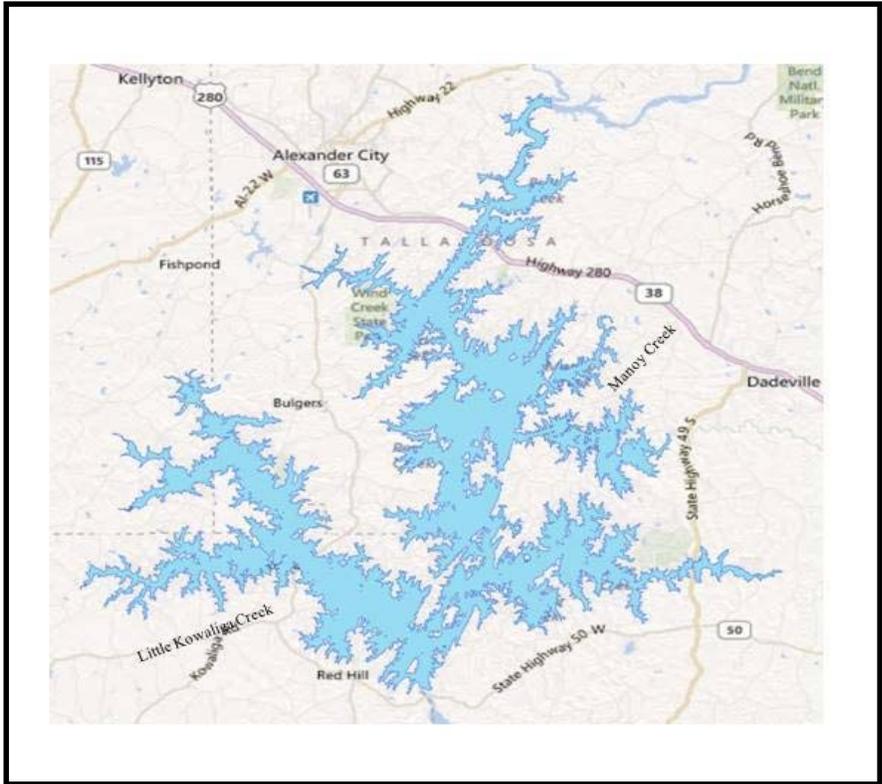
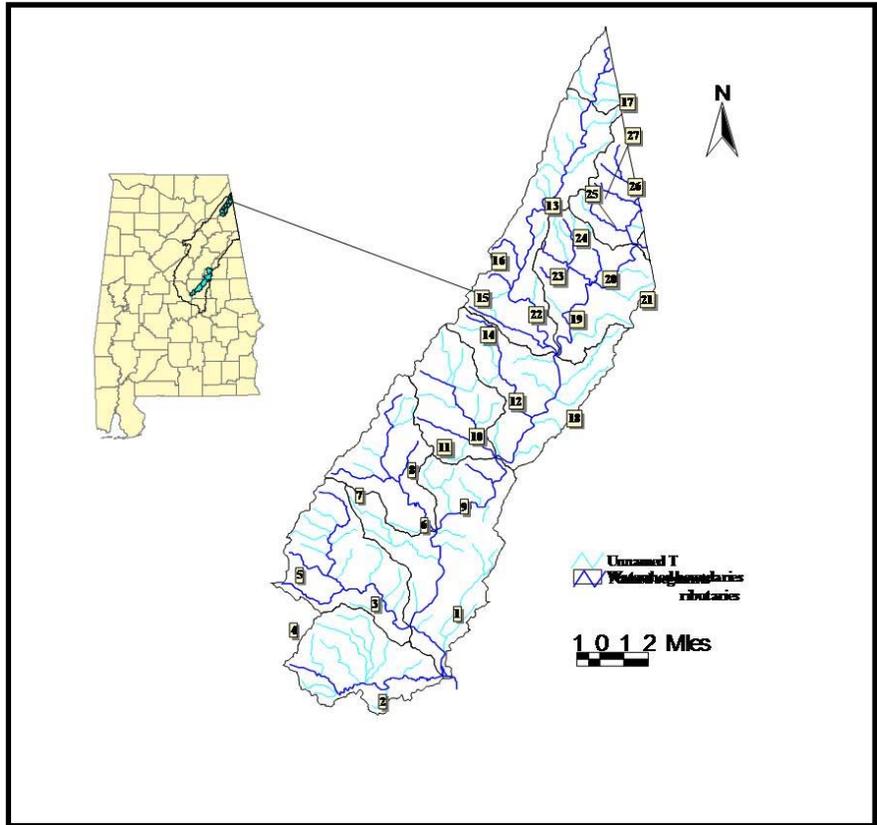


Figure 1-7 Little River and Tributaries (ONRW)



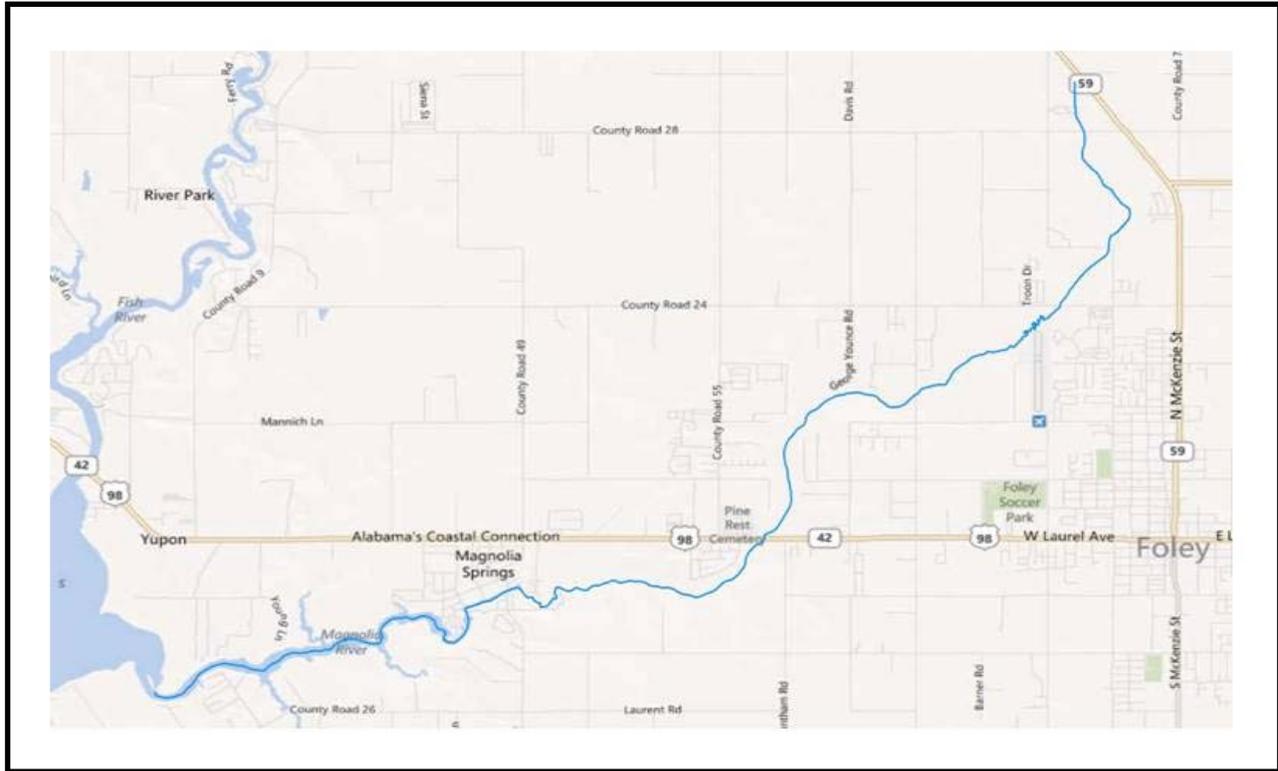
**Table 1-6 Lake Martin – Treasured Alabama Lake**

#	Assessment Unit #	Name	Downstream	Upstream	Use Classification	Acres
1	AL03150109-0502-102	Tallapoosa River (Lake Martin)	US Highway 280	Hillabee Creek	PWS/S/F&W (TAL)	2,025.57
2	AL03150109-0504-201	Manoy Creek (Lake Martin)	Tallapoosa River	end of embayment	PWS/S/F&W (TAL)	618.88
3	AL03150109-0505-100	Tallapoosa River (Lake Martin)	Martin Dam	US Highway 280	S/F&W (TAL)	34,400.04
4	AL03150109-0702-201	Little Kowaliga Creek (Lake Martin)	Big Kowaliga Creek	End of embayment	PWS/S/F&W (TAL)	2,634.38
<b>Total Acres:</b>						39,678.87

**Table 1-7 Little River and Tributaries (ONRW)**

#	Assessment Unit #	Name	Downstream	Upstream	Use classification	Miles
1	AL03150105-0806-100	Little River	Coosa River	its source	PWS/S/F&W (ONRW)	22.19
2	AL03150105-0805-100	Wolf Creek	Little River	its source	PWS/S/F&W (ONRW)	9.51
3	AL03150105-0804-100	Johnnies Creek	Little River	its source	PWS/S/F&W (ONRW)	11.63
4	AL03150105-0804-200	Camprock Creek	Johnnies Creek	its source	PWS/S/F&W (ONRW)	3.40
5	AL03150105-0804-300	Dry Creek	Johnnies Creek	its source	PWS/S/F&W (ONRW)	2.37
6	AL03150105-0803-100	Bear Creek	Little River	its source	PWS/S/F&W (ONRW)	8.67
7	AL03150105-0803-300	Hicks Creek	Bear Creek	its source	PWS/S/F&W (ONRW)	3.42
8	AL03150105-0803-200	Falls Branch	Bear Creek	its source	PWS/S/F&W (ONRW)	2.47
9	AL03150105-0806-200	Brooks Branch	Little River	its source	PWS/S/F&W (ONRW)	1.68
10	AL03150105-0801-100	Yellow Creek	Little River	its source	PWS/S/F&W (ONRW)	7.06
11	AL03150105-0801-200	Straight Creek	Yellow Creek	its source	PWS/S/F&W (ONRW)	3.03
12	AL03150105-0802-200	Hurricane Creek	Little River	its source	PWS/S/F&W (ONRW)	6.67
13	AL03150105-0705-100	West Fork Little River	Little River	AL-GA state line	PWS/S/F&W (ONRW)	18.87
14	AL03150105-0705-200	Straight Creek	West Fork of Little River	its source	PWS/S/F&W (ONRW)	4.45
15	AL03150105-0705-300	Sharp Branch	West Fork of Little River	its source	PWS/S/F&W (ONRW)	1.39
16	AL03150105-0705-400	Seymour Branch	West Fork of Little River	its source	PWS/S/F&W (ONRW)	2.48
17	AL03150105-0703-201	East Fork West Fork Little River	West Fork of Little River	AL-GA state line	PWS/S/F&W (ONRW)	0.47
18	AL03150105-0704-100	East Fork Little River	Little River	AL-GA state line	PWS/S/F&W (ONRW)	9.55
19	AL03150105-0704-200	Laurel Creek	East Fork of Little River	its source	PWS/S/F&W (ONRW)	3.97
20	AL03150105-0704-300	Gilbert Branch	East Fork of Little River	its source	PWS/S/F&W (ONRW)	1.83
21	AL03150105-0702-101	Middle Fork Little River	East Fork of Little River	AL-GA state line	PWS/S/F&W (ONRW)	2.44
22	AL03150105-0704-400	Shrader Branch	Laurel Creek	its source	PWS/S/F&W (ONRW)	1.95
23	AL03150105-0705-500	Armstrong Branch	Laurel Creek	its source	PWS/S/F&W (ONRW)	1.75
24	AL03150105-0702-200	Brush Creek	Middle Fork of Little River	its source	PWS/S/F&W (ONRW)	3.04
25	AL03150105-0702-300	Anna Branch	Middle Fork of Little River	its source	PWS/S/F&W (ONRW)	2.18
26	AL03150105-0702-400	Blalock Branch	Anna Branch	its source	PWS/S/F&W (ONRW)	3.46
27	AL03150105-0702-500	Stillhouse Branch	Blalock Branch	its source	PWS/S/F&W (ONRW)	1.09
		Unnamed Tributaries				277.20
<b>Total Miles:</b>						418.22

**Figure 1-8 Magnolia River - Outstanding Alabama Water**



**Table 1-8 Magnolia River - Outstanding Alabama Water**

#	Assessment Unit #	Name	Downstream	Upstream	Use Classification	Miles
1	AL03160205-0203-110	Magnolia River	Weeks Bay	its source	OAW/S/F&W	12.41
<b>Total Square Miles:</b>						12.41

Figure 1-9 Tensaw River - Outstanding Alabama Water and Weeks Bay (ONRW)

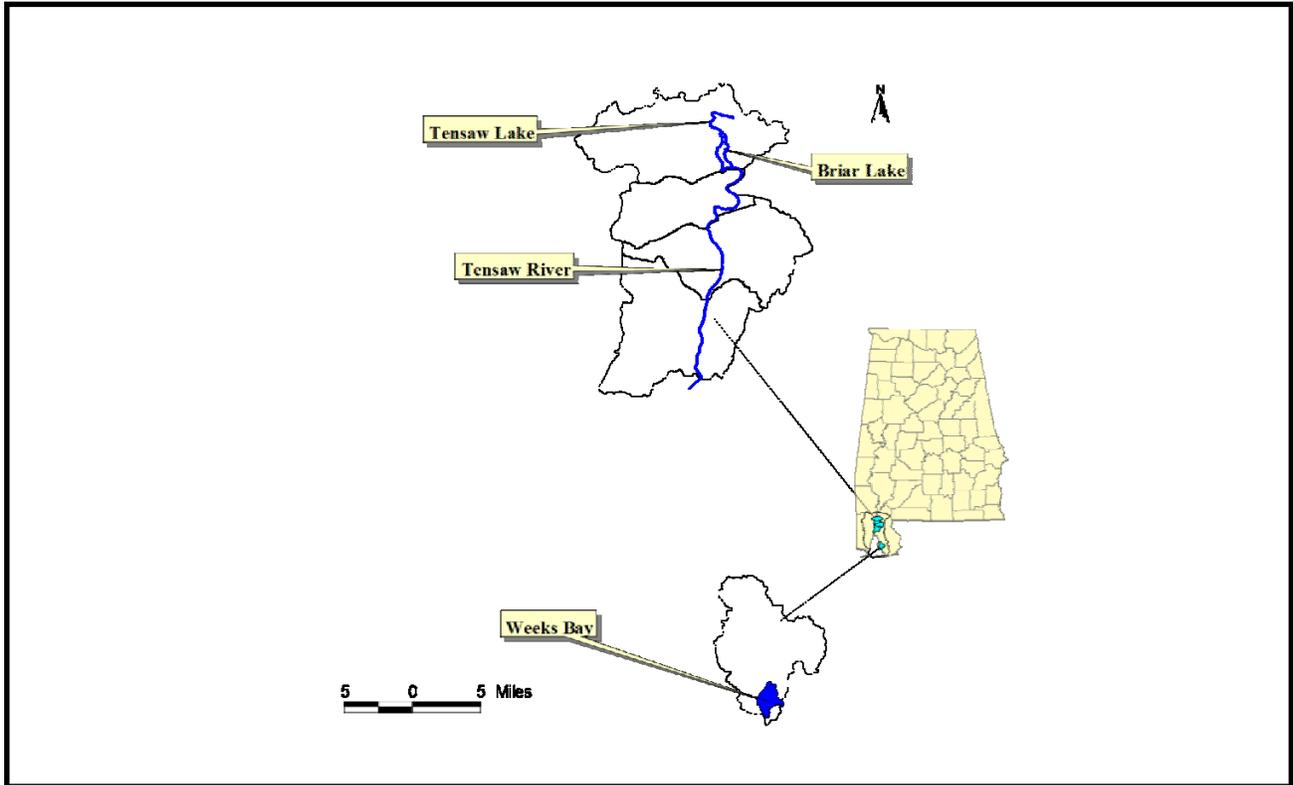
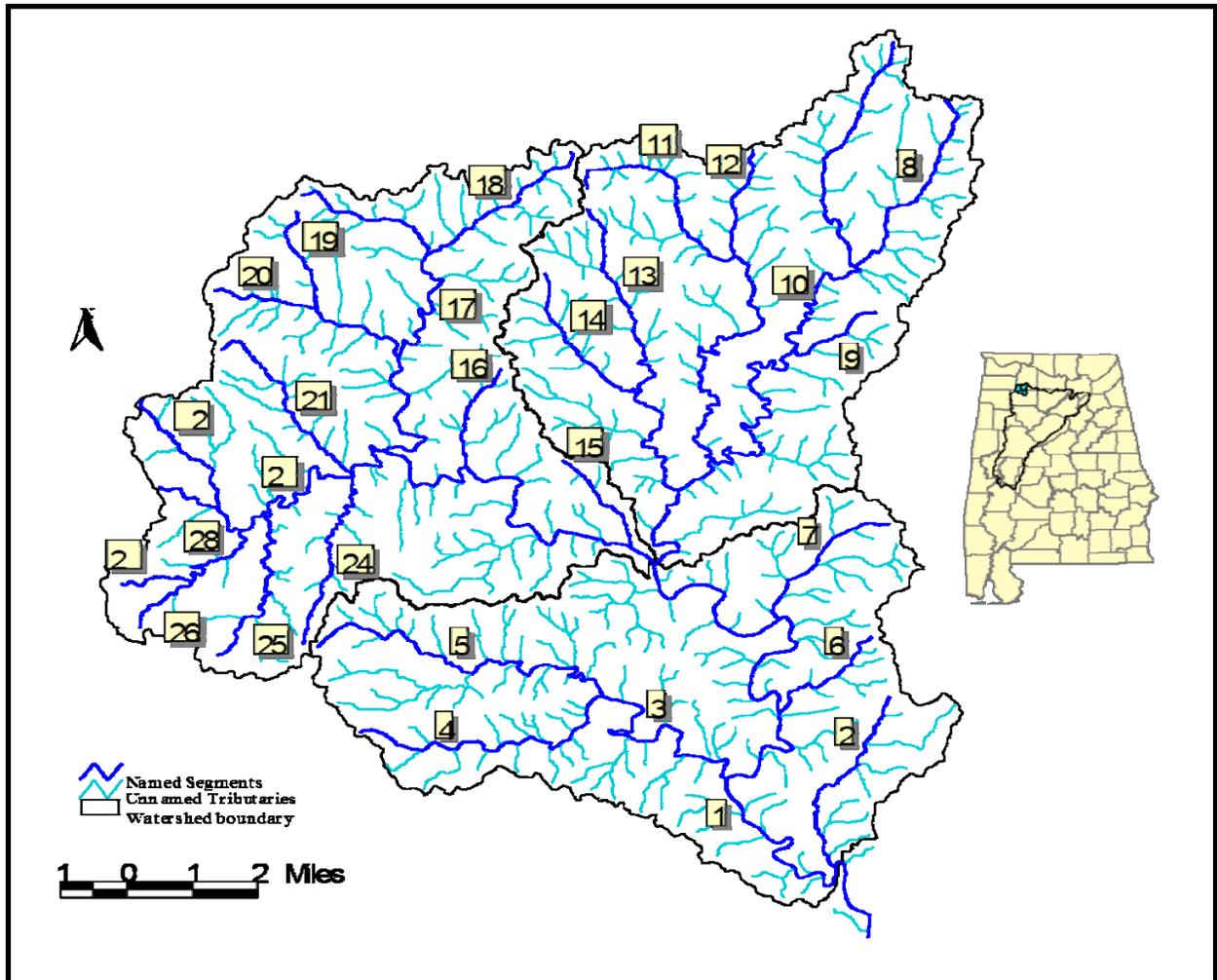


Table 1-9 Tensaw River - Outstanding Alabama Water and Weeks Bay (ONRW)

Tensaw River and Tributaries						
#	Assessment Unit #	Name	Downstream	Upstream	Use Classification	Miles
1	AL03160204-0505-202	Tensaw River	Junction of Tensaw and Apalachee Rivers	Junction of Briar Lake	OAW/S/F&W	21.73
2	AL03160204-0106-302	Tensaw River	Junction of Briar Lake	Junction of Tensaw Lake	OAW/F&W	2.93
<b>Total Miles</b>						24.66
#	Assessment Unit #	Name	From	To	Use Classification	Acres
3	AL03160204-0106-400	Briar Lake	Junction of Tensaw River	Junction of Tensaw Lake	OAW/F&W	169.36
4	AL03160204-0106-500	Tensaw Lake	Junction of Tensaw River	Bryant Landing	OAW/F&W	436.74
<b>Total Acres</b>						655.42
Weeks Bay						
#	Assessment Unit #	Name	From	To	Use Classification	Square Miles
1	AL03160205-0204-101	Weeks Bay	Bon Secour Bay	Fish River	S/F&W (ONRW)	3.04
<b>Total Square Miles:</b>						2.70

Figure 1-10 Sipsey Fork and Tributaries (ONRW)



**Table 1-10 Sipsey Fork and Tributaries (ONRW)**

#	Assessment Unit #	Name	Downstream	Upstream	Use Classification	Miles
1	AL03160110-0104-103	Sipsey Fork	Sandy Creek	its source	F&W (ONRW)	21.23
2	AL03160110-0101-100	Borden Creek	Sipsey Fork	its source	F&W (ONRW)	16.61
3	AL03160110-0101-200	Braziel Creek	Borden Creek	its source	F&W (ONRW)	5.69
4	AL03160110-0101-300	Flannagin Creek	Borden Creek	its source	F&W (ONRW)	9.99
5	AL03160110-0101-400	Horse Creek	Borden Creek	its source	F&W (ONRW)	1.76
6	AL03160110-0101-500	Montgomery Creek	Borden Creek	its source	F&W (ONRW)	3.99
7	AL03160110-0101-600	Hagood Creek	Braziel Creek	its source	F&W (ONRW)	4.23
8	AL03160110-0101-700	Dry Creek	Flannagin Creek	its source	F&W (ONRW)	2.17
9	AL03160110-0102-110	Parker Branch	Hubbard Creek	its source	F&W (ONRW)	3.82
10	AL03160110-0102-120	Whitman Creek	Hubbard Creek	its source	F&W (ONRW)	3.73
11	AL03160110-0102-130	Maxwell Creek	Hubbard Creek	its source	F&W (ONRW)	2.02
12	AL03160110-0102-140	Basin Creek	Hubbard Creek	its source	F&W (ONRW)	2.81
13	AL03160110-0102-150	Dunn Branch	Maxwell Creek	its source	F&W (ONRW)	1.33
14	AL03160110-0102-160	Natural Well Branch	Maxwell Creek	its source	F&W (ONRW)	1.45
15	AL03160110-0102-170	White Oak Branch	Thompson Creek	its source	F&W (ONRW)	1.69
16	AL03160110-0102-180	Wolf Pen Branch	Sipsey Fork	its source	F&W (ONRW)	1.00
17	AL03160110-0102-190	Ugly Creek	Sipsey Fork	its source	F&W (ONRW)	3.05
18	AL03160110-0102-200	Fall Creek	Sipsey Fork	its source	F&W (ONRW)	2.06
19	AL03160110-0102-300	Bee Branch	Sipsey Fork	its source	F&W (ONRW)	2.09
20	AL03160110-0102-400	Thompson Creek	Sipsey Fork	its source	F&W (ONRW)	8.59
21	AL03160110-0102-500	Hubbard Creek	Sipsey Fork	its source	F&W (ONRW)	6.59
22	AL03160110-0102-600	Tedford Creek	Thompson Creek	its source	F&W (ONRW)	3.68
23	AL03160110-0102-700	Mattox Creek	Thompson Creek	its source	F&W (ONRW)	3.26
24	AL03160110-0102-800	Ross Branch	Tedford Creek	its source	F&W (ONRW)	2.06
25	AL03160110-0102-900	Quillan Creek	Hubbard Creek	its source	F&W (ONRW)	3.77
26	AL03160110-0103-200	Payne Creek	Sipsey Fork	its source	F&W (ONRW)	3.89
27	AL03160110-0103-300	Caney Creek	Sipsey Fork	its source	F&W (ONRW)	4.66
28	AL03160110-0103-400	Hurricane Creek	Sipsey Fork	its source	F&W (ONRW)	2.29
29	AL03160110-0103-500	Davis Creek	Sipsey Fork	its source	F&W (ONRW)	2.83
30	AL03160110-0103-600	North Fork Caney Creek	Caney Creek	its source	F&W (ONRW)	6.38
31	AL03160110-0103-700	South Fork Caney Creek	Caney Creek	its source	F&W (ONRW)	5.04
32	AL03160110-0103-800	Lloyds Creek	Sipsey Fork	its source	F&W (ONRW)	1.11
33	AL03160110-0103-900	Sweetwater Creek	Caney Creek	its source	F&W (ONRW)	1.23
		Unnamed Tributaries				240.37
<b>Total Miles:</b>						<b>386.47</b>

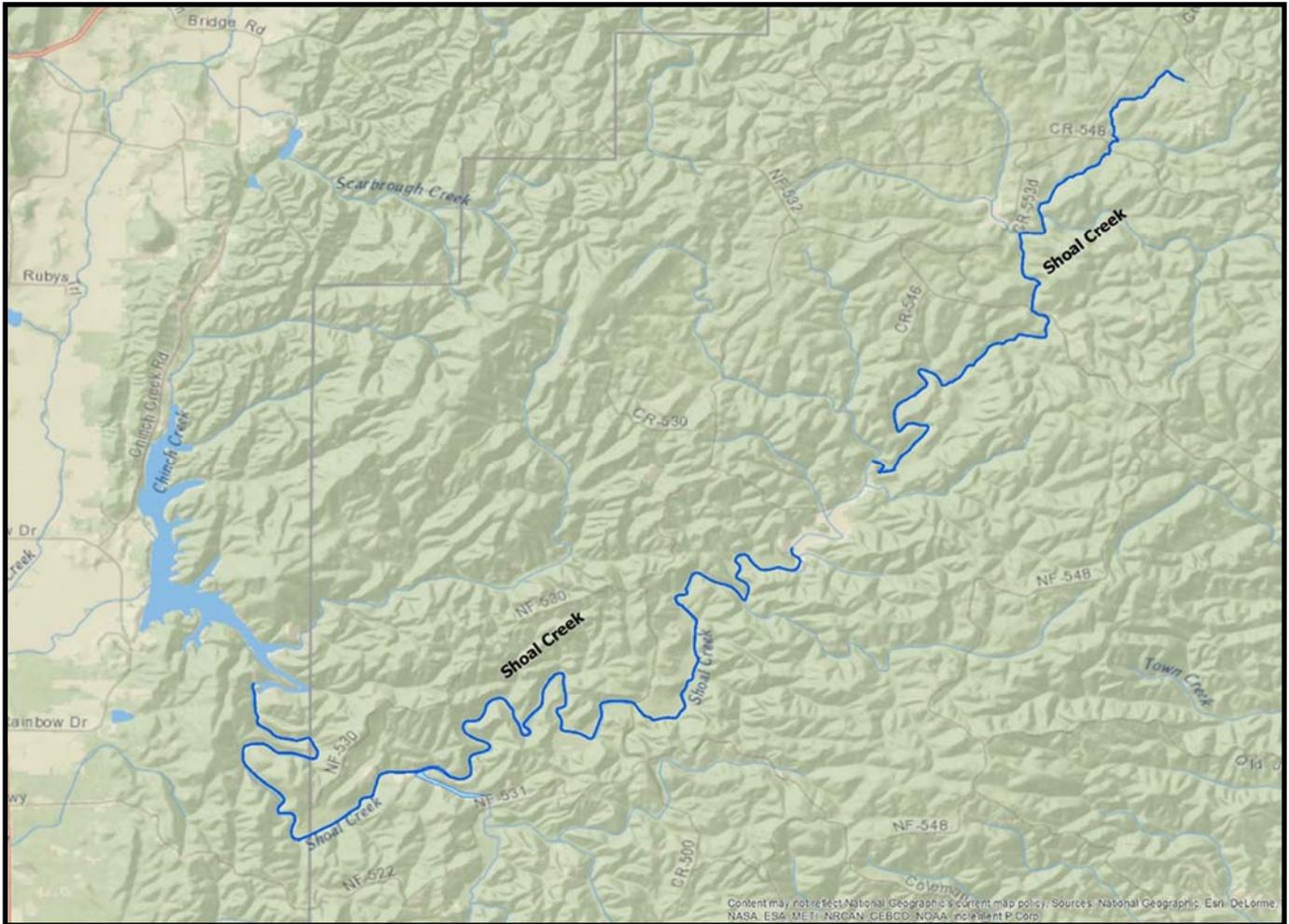
Figure 1-11 Estil Fork and Hurricane Creek - Outstanding Alabama Water



Table 1-11 Estil Fork and Hurricane Creek - Outstanding Alabama Water

Assessment Unit #	Name	Downstream	Upstream	Use Classification	Miles
AL06030002-0101-100	Hurricane Creek	AL-TN state line	Paint Rock River	OAW/F&W	10.89
AL06030002-0103-200	Estil Fork	AL-TN state line	Paint Rock River	OAW/F&W	8.00
<b>Total Square Miles:</b>					<b>18.89</b>

**Figure 1-12 Shoal Creek - Outstanding Alabama Water**



**Table 1-12 Shoal Creek - Outstanding Alabama Water**

Assessment Unit #	Name	Downstream	Upstream	Use Classification	Size	Type
AL03150106-0501-103	Shoal Creek	Whitesides Mill Lake	Highrock Lake	OAW/S/F&W	3.45	miles
AL03150106-0501-104	Shoal Creek (Highrock Lake)	Highrock Lake		OAW/S/F&W	13.95	acres
AL03150106-0501-105	Shoal Creek	Highrock Lake	Sweetwater Lake	OAW/S/F&W	6.31	miles
AL03150106-0501-107	Shoal Creek	Sweetwater Lake	its source	OAW/S/F&W	5.71	miles
<b>Total Miles:</b>					15.47	miles
<b>Total Acres:</b>					13.95	acres



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## Chapter 2 Rivers and Streams

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### **2.1 Wadeable Rivers and Streams Monitoring Program (RSMP)**

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ADEM's monitoring strategy is designed to characterize water quality, to identify impacts from a variety of sources, and to provide a systematic and integrated framework for gathering necessary information to support the decision-making process. It is implemented on a 5-year cycle and incorporates specific protocols and methodologies to ensure that monitoring activities provide the highest quality information and make the most efficient use of available resources. See Alabama's 2015 Monitoring Strategy document for a more detailed description of the program.

#### **2.1.2 Objectives**

The objectives of ADEM's Wadeable Rivers and Streams Program are to provide data:

1. Develop, adopt, or revise water quality standards;
2. Develop criteria & indicators;
3. Estimate water quality trends;
4. Evaluate program effectiveness;
5. Categorize waters in Alabama's Biennial Integrated Assessment Report;
6. Support management decisions; and,
7. Estimate overall water quality.

#### **2.1.3 Monitoring Strategy**

One of the key aspects of ADEM's Monitoring Strategy is to define a given monitoring station as being either wadeable or nonwadeable. This is important because the minimum data requirements for Alabama's Assessment and Listing Methodology vary based on waterbody type and wadeability. The four monitoring protocols included in the RSMP are as follows:

**Wadeable-BIO (BIO-W)**: A station is classified as wadeable-bio if the 300-foot sampling reach is completely wadeable ( $\sim \leq 3$  feet) and the 300-foot reaches upstream and downstream of the sampling location are also completely wadeable. This is to help ensure that the reach is representative of the watershed.

**Wadeable-Water (H20-W)**: A station is classified as wadeable-H20 if water samples can be collected instream, but the sampling reach is not completely wadeable ( $\sim \leq 3$  feet) or the 300-foot reaches upstream or downstream of the sampling location are not completely wadeable.

**Nonwadeable Bridge Stations (NWG)**: Sub-surface grab samples are collected from a bridge if a nonwadeable station is not accessible by boat. A vertical profile of field parameters (temp.,

pH, cond., D.O.) is collected. This information is used to document that the stream is well-mixed and collection of a grab sample is appropriate. Once a protocol is established, the protocol used to collect the vertical profile should be consistent (i.e, if a full vertical profile is collected in the spring, a full vertical profile should be collected throughout the sampling period; if in situ measurements are measured at surface, mid-, and bottom in the spring, the crew leader should continue to do so throughout the sampling period). By contrast, every attempt should be made to collect water samples at mid-depth. During the year, if the reach can be waded, water samples should be collected from in stream rather than from the bridge, if it is safe to do so. However, sub-surface grab samples can be collected from the bridge over fast flowing water when conditions are truly non-wadeable.

NWG-Deep: These stations are  $\geq 10$  ft. in depth. Full vertical profiles are measured at these stations.

NWG-Shallow: These stations are  $< 10$  ft. in depth. A minimum of 3 measurements are collected at the surface (0.2 m), mid-depth, and the bottom.

ADEM's 2015 monitoring strategy is implemented by basin on a 5-year cycle. It incorporates a combination of fixed, targeted, and probabilistic monitoring sites and projects to meet state monitoring goals and objectives. Four types of non-navigable, flowing sites are included in the RSMP:

- **Monitoring Units** ADEM defines a wadeable, flowing MU (WFMU) as the watershed directly upstream of the downstream-most, accessible, and completely wadeable, 300-foot reach. All stream reaches meeting these requirements are delineated using the 2010 12-digit hydrologic unit codes (HUCs), National Hydrography Dataset (NHD), and the National Elevation Dataset (NEDs). Statewide, 976 WFMUs have been delineated. Together, they represent all wadeable, flowing watersheds statewide. A subset of these watersheds are sampled statewide annually.
- **Targeted sites** are selected by ADEM's Water Quality Branch, Office of Education and Outreach, one of the Clean Water Partnerships of Alabama, or the Environmental Indicators Section to provide data for use support and assessment, TMDL development, Use Attainability Analyses, and education and outreach. Targeted sampling is conducted statewide annually.
- Long term **ecoregional reference reaches**, established to reflect the best attainable conditions present within a specific ecoregion, are sampled to provide baseline data for comparison to other streams within the ecoregion. Ecoregional reference reaches sampled each year are selected to compliment the Level IV Ecoregions within any given basin group. As part of Alabama's Monitoring Strategy, data from established and candidate reference reaches are reviewed to update status, and develop the dataset used to document reference conditions. This process is completed in accordance with ADEM's 5-year monitoring cycle.
- Long term **ambient trend sites** are sampled to identify long-term trends in water quality statewide and to provide data for the development of TMDLs and water quality criteria. Sampling frequency and parameters collected at these sites vary from other station types. Currently, ninety nine trend sites are sampled statewide annually.

The strategy incorporates a watershed-based monitoring program. A Watershed Disturbance Gradient (WDG) was developed to classify each wadeable, flowing monitoring location by its

potential level of disturbance within its watershed. With this information, the monitoring strategy provides an estimate of overall water quality throughout the basin. Additionally, by ensuring that the entire gradient of watershed conditions within the basin group is sampled, the monitoring strategy increases ADEM's monitoring capacity by providing data to develop indicators and criteria appropriate for wadeable rivers and streams statewide. Because the WDG provides disturbance and landuse information for all stations assessed within the basin group, it enables ADEM to document the "least-impaired" landuse characteristics to set criteria for reference reach status in each Ecoregion or Bioregion. It also assists ADEM in stressor identification and causal analysis for §303(d) listing and TMDL development.

#### **2.1.4 Monitoring Design**

*Indicator selection and sampling frequency:* Core indicators and sampling frequency are selected to meet minimum data requirements as outlined in Alabama's Listing and Assessment Methodology so that the majority of waterbodies monitored can be categorized in Alabama's Integrated Report and listing/delisting decisions can be made to prioritize sites for §319 funding and BMP implementation.

*Monitoring Units:* As recommended in the Integrated Water Quality Monitoring and Assessment Guidance, ADEM delineated the wadeable, flowing portions of the 2004 12-digit hydrologic unit codes (HUCs) into smaller monitoring units (MUs) that represent true watersheds. This system limits the variability in drainage area and waterbody type associated with the 12-digit HUCs. Since 2005, a total of 978 wadeable, flowing MUs have been delineated in the ACT (342), the EMT (128), the BWC (179), the TN (121), and the SEAL (208) basin groups.

*Watershed Disturbance Gradient:* Monitoring watersheds in proportion to an environmental index or Watershed Disturbance Gradient (WDG) can limit error or bias associated with targeted sampling, a weakness of *ASSESS* identified during the review of the first monitoring cycle. The use of an WDG has also been recommended by the EPA to develop Tiered Aquatic Life Uses, to correlate suspected stressors to known levels of impairment, and consequently improve the overall assessment of water quality. Sampling MUs with relatively low and high potentials of impairment also provides a method of identifying the least- and most-impaired sites in support of the Ecoregional Reference Reach and §303(d) Monitoring Programs.

The Landscape Development Intensity Index (LDI) or disturbance gradient, used by the Florida Department of Environmental Protection, relates water quality conditions (physical, chemical, and biological) to human activity within a watershed (Fore 2004), using landuse data and a development-intensity measure derived from energy use per unit area (Brown and Vivas 2004). The Florida LDI was applied to the ACT flowing, wadeable MUs using the 2011 USEPA National Landcover dataset (NLCD), Departmental permit databases, population estimates, and the number of road crossings to place each MU into one of 8 Watershed Disturbance Gradient (WDG) categories (1=least potential for disturbance and 8=greatest potential for disturbance).

*Watershed and Reach Selection:* Monitoring sites are selected by ADEM's five basin teams to meet ADEM's monitoring objectives, and focus on the 2015-2019 program priorities. Priorities

identified by the Department include monitoring impaired, unimpaired, and un-assessed waters, evaluating the effectiveness of restoration efforts, and collaborating with partner agencies and stakeholders when possible.

### **2.1.5 Core and Supplemental Indicators**

Core indicators and sampling frequency were selected to meet data requirements as outlined in Alabama's Listing and Assessment Methodology so that the majority of waterbodies monitored each year can be categorized in Alabama's Integrated Report. The Ambient Monitoring Program was designed to provide the required data over the five year monitoring cycle. Sampling frequency and indicators collected at these sites differ from the other wadeable rivers and streams programs.

### **2.1.6 Data Analysis and Assessment**

The development of indicators and assessment criteria was a primary objective of ADEM's 2005 and 2012 Monitoring Strategies. Therefore, a very significant part of Monitoring Strategy is to link results from chemical, physical, and biological indicator sampling to conditions throughout each stream's watershed. These analyses will include the following:

- Methods analysis, including optimal sampling frequencies, timing and number of samples collected, and redundancy among parameters;
- Calculation of method performance characteristics based on duplicate samples, samples collected at reference sites, and known levels of watershed disturbance;
- Development of stream classification (bioregions) based on biological community data; and,
- Development of indicators, criteria, and assessment indices based on correlations among chemical, physical, and biological indicators, and watershed conditions.

### **2.1.7 Reporting**

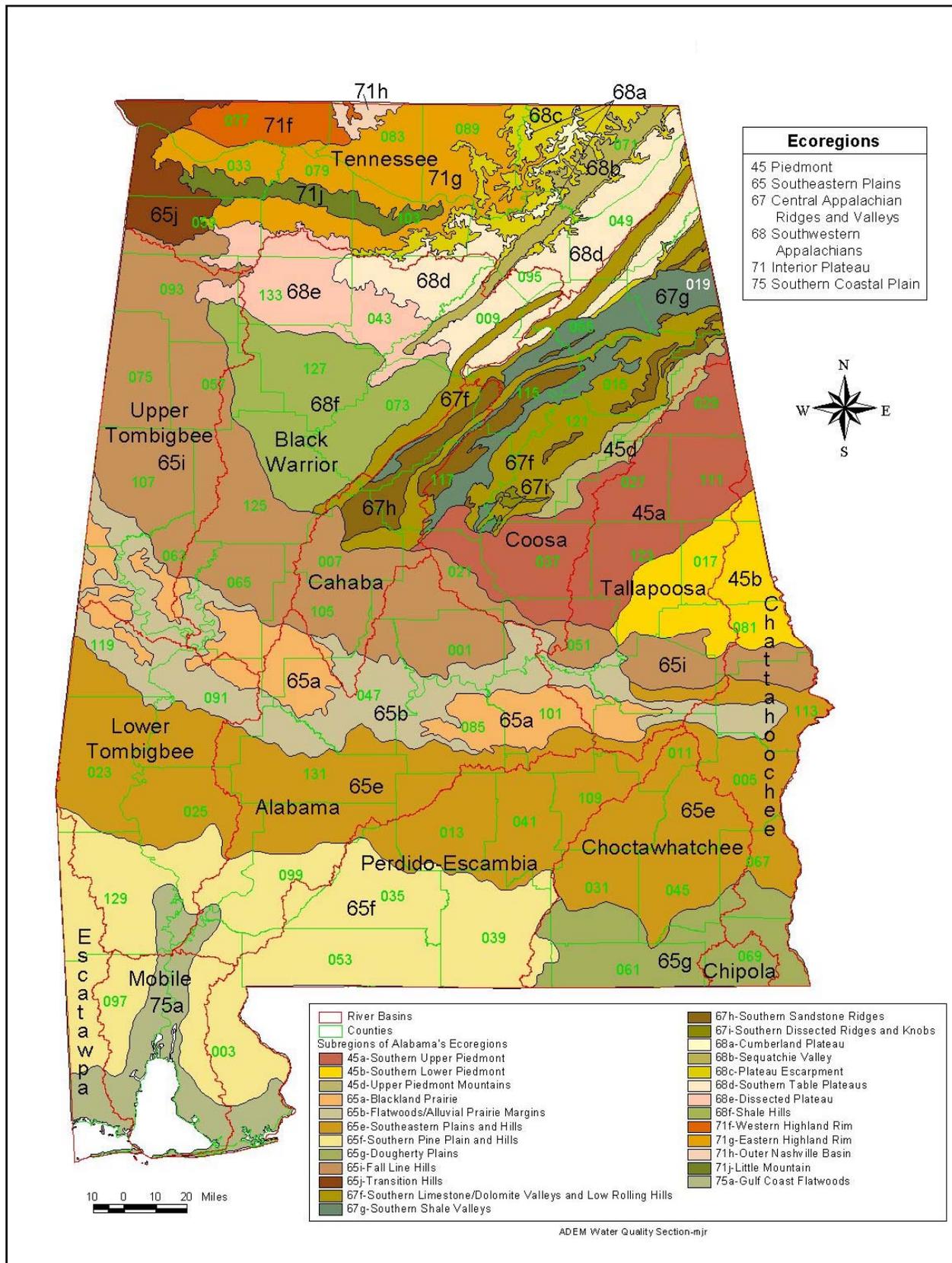
Results of data analysis will be compiled and documented in a Methods Development Document. All necessary changes to sampling methods, protocols, and assessment indices and criteria will be incorporated into the next revision of the appropriate standard operating procedures manual and the Alabama Listing and Assessment Methodology document.

Once appropriate indicators have been selected and criteria and assessment indices have been established, RSMP data is used to categorize and report water quality status in Alabama's Integrated Assessment Report. Biological assessment results are also documented in ADEM's RSMP Monitoring Summary Reports, which summarize data and assessment results on the basis of watershed or monitoring unit.

### **2.1.8 Programmatic Evaluation**

An important component of ADEM's Monitoring Strategy is a thorough review of data and assessment results from ADEM's five year monitoring cycle to address program weaknesses and changing data needs. Extensive program evaluations were conducted in 2014, in

Figure 2-1 Subregions of Alabama's Ecoregions



preparation for the 2015-2019 monitoring cycle. Annual status reports on methods development will be completed and provided to USEPA Region 4 to document interim progress during the monitoring cycle.

For more information on the Wadeable Rivers and Streams Monitoring Program contact Ms. Bonnie Coleman in ADEM's Montgomery Office at (334) 260-2737 or [bcolemen@adem.state.al.us](mailto:bcolemen@adem.state.al.us).

## **2.2 Ecoregions**

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Innate regional differences exist in climate, landform, soil, natural vegetation, and hydrology. These factors, in turn, affect nutrient regime, substrate characteristics, and the composition of biological communities within aquatic ecosystems. By defining relatively homogeneous ecological areas, ecoregions provide a geographic framework for more efficient management of aquatic ecosystems and their components (Hughes 1985, Hughes et al. 1986, and Hughes and Larsen 1988). The USEPA has recommended the development of ecoregional reference conditions as a scientifically defensible method of defining expected habitat, biotic, and chemical conditions within streams, rivers, reservoirs, and wetlands. Level IV ecoregions have been developed or are under development in 37 states nationwide. Griffith et al. (2001) delineated six Level III ecoregions in Alabama: Piedmont, Southeastern Plains, Ridge and Valley, Southwestern Appalachians, Interior Plateau, and the Southern Coastal Plain. Within these, they delineated 29 Level IV ecoregions. Figure 2-1 shows Subregions of Alabama's Ecoregions.

ADEM uses ecoregions as an a priori classification of streams to assist in the development of a dataset representative of wadeable, flowing streams statewide. Since 1991, ADEM has selected and monitored least-impaired reference sites within each sub-ecoregion to be representative of "best attainable" conditions within that subecoregion, both for comparison with other streams and for the development of biological, physical, and chemical reference conditions (ADEM 2000b).

### **2.2.1 ADEM's Ecoregional Reference Reach Project: 1991-2004**

Specific selection criteria were used to ensure that reference reaches were typical of the subecoregion and relatively unimpaired. Watersheds containing the highest percentage of natural vegetation were first located using topographic maps and land use information compiled by USEPA and local Soil and Water Conservation Districts. Departmental databases were used to ensure that potential reference watersheds did not contain any point source discharges, mining, or urban runoff, and minimal agricultural sources. Field reconnaissance was then conducted to ground truth land use estimates. In situ field parameters were collected and visual macroinvertebrate surveys were conducted to screen for obvious impacts to chemical and biological conditions. Substrate composition, gradient, canopy cover, sinuosity, and habitat quality and availability were estimated to assess stream condition and comparability to other streams in the subecoregion. Intensive site assessments were then conducted to verify that the reaches were in relatively good condition.

From 1991-1995, the Ecoregional Reference Reach Project was conducted annually, statewide by ecoregion. In 1996, the ADEM went to a 5-year basin rotation. Reference reaches and candidate reference reaches were sampled within the target basin, or as needed to support specific projects. Through this process, a total of 594 locations were investigated as potential reference reaches statewide. Sixty-five ecoregional reference reaches were established statewide. Data from these sites were used to develop assessment guidelines for ADEM's habitat assessments, screening-level macroinvertebrate assessments, and chemical parameters, including nutrient concentrations for 10 of the 29 subcoregions.

### **2.2.2 ADEM's Ecoregional Reference Reach Project: 2005-2014**

In 2005, ADEM used its WDG and Departmental databases to identify candidate reference reaches in least-disturbed watersheds. Habitat and biological assessments (macroinvertebrates, fish, and periphyton), and monthly water quality data are used to verify that the sites are representative of least-impaired conditions within a subcoregion. Between 2005 and 2014, two hundred and sixty-nine locations were identified as candidate reference reaches. Although the project concentrated on wadeable streams and rivers, for which the USEPA and ADEM have developed rapid bioassessment protocols (Plafkin et al. 1989, Barbour et al. 1999, ADEM 1996, ADEM 1999, ADEM in press), large river ecoregional reference reaches have been established on Sipsev Fork and Hatchet Creek to assess specific impacts to Locust Fork, Mulberry Fork, and the Cahaba River.

In 2008, data from established ecoregional reference reaches were used to define macroinvertebrate site classes, and update reference guidelines for ADEM's habitat assessments and macroinvertebrate assessments, and chemical parameters. In 2010, guidelines for chemical parameters were revised using additional data.

In 2012, watershed information from 1,292 sites were used to identify candidate ecoregional reference reaches statewide. Sites were classified by level 4 ecoregion and stream size (<5 square miles, 5-75 square miles, >75<1,000 square miles). For each site class, sites in the top 25<sup>th</sup> percentile of watershed condition based on ADEM's WDG scores were selected as candidate reference reaches.

Data collected at each candidate reference reach, including habitat assessment information, reach and watershed characteristics and observations, and the absence of permitted discharges within the watershed were used to validate reference reach status. Water quality data were used as a tertiary filter to exclude sites that may be impacted by unknown sources. Google Earth was also used to evaluate disturbances not reflected in the WDG score (silviculture, poultry, etc.). For sites >5 square miles, all watersheds within the lowest WDG category were selected as candidate reference reaches if at least five sites meeting this criterion could not be identified.

For more information on Alabama's Ecoregions, contact Ms. Lisa Huff in ADEM's Montgomery Office at (334) 260-2752 or [esh@adem.state.al.us](mailto:esh@adem.state.al.us)

## 2.3 Trend Stations

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The purpose of Alabama's trend station network is to gather surface water data at specific locations so that long-term trends in water quality can be identified. In addition, data gathered at these locations are helpful in water quality management decisions related to NPDES permitting and the development of TMDLs, water quality standards, and water quality assessment for the Department's Integrated Water Quality Assessment Report. These data will also be useful in development of nutrient and sediment water quality criteria in mid- and large-river systems for which ecoregional reference reaches are difficult to establish.

One hundred and nine ambient monitoring stations were established statewide ([Appendix E](#)), but due to recent monitoring changes, there are now ninety-nine established ambient monitoring stations. To provide overall coverage throughout the state, the selected stations are distributed relatively evenly throughout each of Alabama's 14 major drainage basins. The stations also represent a range in watershed size and water quality. Over half (57) of these reaches were established at USGS gauging stations to provide continuous flow data that can be used to develop pollutant loading models. Sampling is conducted to meet the requirements of ADEM's Listing and Assessment Methodology over a five year monitoring cycle..

An important aspect of ADEM's Listing and Assessment Methodology is that the monitoring, assessment, and listing methodologies differ between wadeable and nonwadeable waterbodies, as well as between freshwater and estuarine waterbodies. Fifty-one wadeable and fifty-eight nonwadeable sampling reaches are monitored statewide; 23 of these monitoring locations are estuarine.

Monthly (January-December) sampling is conducted at twenty-four stations where data are limited, where additional data are needed for TMDL development, or to monitor water quality conditions as they come into or leave the State. Sampling three times during the growing season was selected as the minimum sampling frequency that would provide data representative of a water body under critical conditions and provide the minimum data needed for categorizing waterbodies in Alabama's Integrated Assessment Report. To increase the number of stations that can be monitored and to level out field and laboratory resource needs, forty-four locations are sampled June/August/October, and thirty-seven stations are sampled May/July/September. In 2016, March through October sampling was implemented in estuarine waters to support the development of nutrient criteria. A list of water quality survey reports can be found at: <http://adem.alabama.gov/programs/water/wqsurvey.cnt>

For more information on Alabama's Trend Monitoring Sites, contact Chris Johnson ((334)-271-7827 or [CLJohnson@adem.state.al.us](mailto:CLJohnson@adem.state.al.us)) or David Thompson ((334) 271-7958 or [dwt@adem.state.al.us](mailto:dwt@adem.state.al.us)) in ADEM's Montgomery Office.

## 2.4 Summaries of Designated Use Support for Rivers /Streams

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Table 2-1 and Table 2-2 show the Size of Rivers and Streams Impaired by causes and sources respectively. For more information about Designated Use Support contact Mr. John Pate in

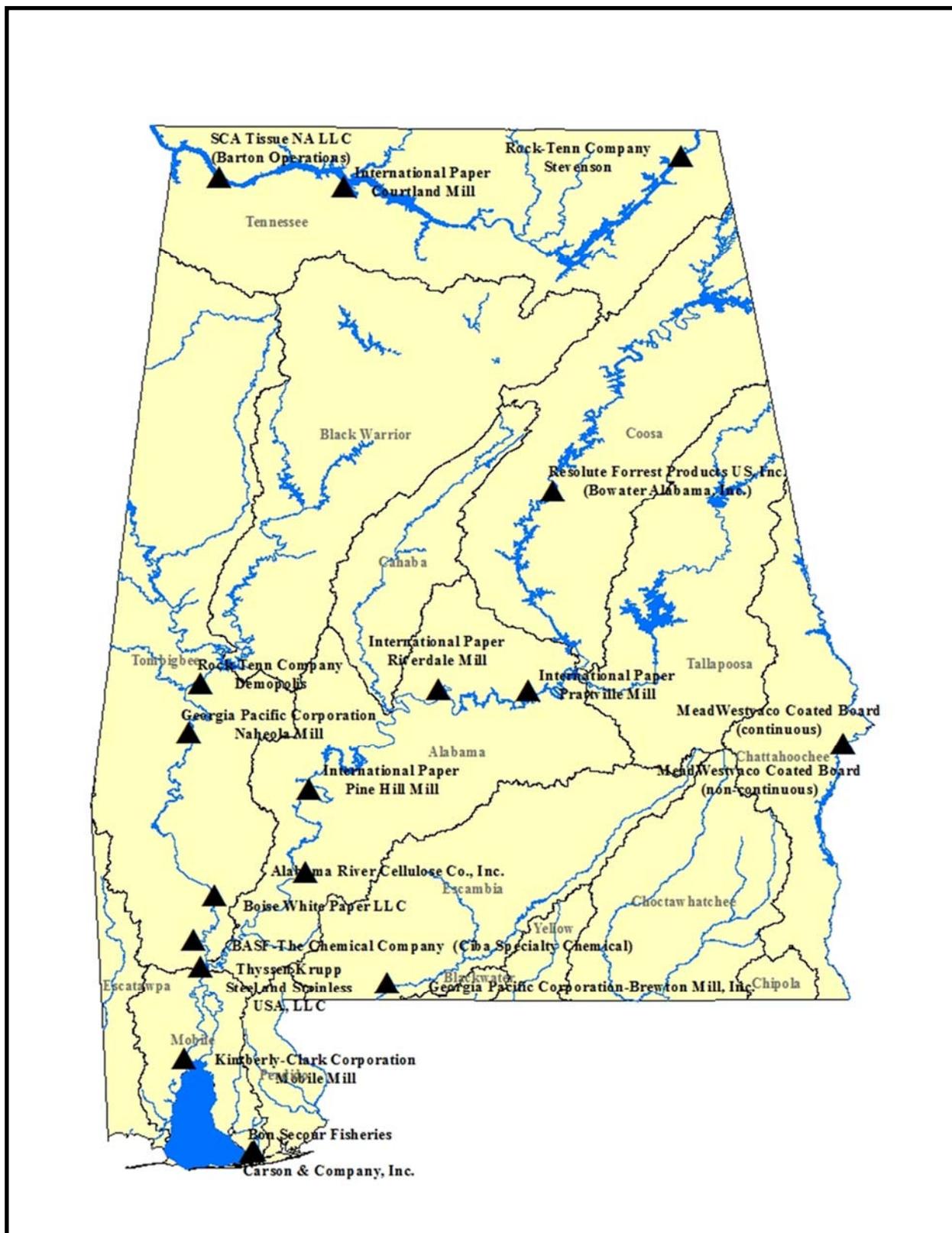
**Table 2-1 Size of Rivers and Streams Impaired by Causes**

Cause	Category 5	Category 4
	River/Stream (miles)	River/Stream (miles)
<b>Flow Alterations</b>		
Habitat alteration	4.41	
Other flow regime alterations		3.15
<b>Metals</b>		
Aluminum	4.11	45.99
Arsenic	19.56	
Chromium	18.82	
Copper		7.96
Cyanide	12.43	44.55
Iron	3.62	45.99
Lead	23.61	3.30
Mercury	692.65	
Zinc		61.42
<b>Mineralization</b>		
Total dissolved solids	50.05	
Turbidity	32.02	87.88
<b>Nutrients</b>		
Ammonia		215.80
Nitrogen		187.59
Phosphorus	158.12	371.93
<b>Oxygen depletion</b>		
BOD, carbonaceous	106.07	675.34
BOD, nitrogenous	106.07	441.62
Dissolved oxygen		19.64
<b>Pathogens</b>		
E. coli	524.14	833.23
Enterococcus		50.72
<b>Pesticides</b>		
Atrazine		23.42
Chloripyrifos		23.42
DDT		13.04
Dieldrin	24.29	
Endosulfan		50.73
Methyl Parathion		50.73
<b>pH</b>		
pH	16.00	17.53
<b>Sedimentation</b>		
Siltation	680.95	449.83
<b>Toxic Organics</b>		
Benzo(a)pyrene (PAHs)		44.55
Polychlorinated biphenyls (PCBs)	35.40	
<b>Unknown</b>		
Unknown toxicity	11.08	

**Table 2-2 Size of Rivers and Streams Impaired by Sources**

	<b>Category 5</b>	<b>Category 4</b>
<b>Sources outside state</b>	River/Stream (miles)	River/Stream (miles)
Agriculture	394.58	191.19
Animal feeding operations	192.18	254.28
Aquaculture	8.96	
Atmospheric deposition	678.69	
Channelization	4.41	
Collection system failure	34.41	121.55
Contaminated sediments	43.36	18.77
Flow regulation/modification		39.42
Habitat modification		56.38
Industrial	60.91	340.09
Land development	141.93	225.50
Landfills		44.84
Mill tailings		17.53
Mine tailings		17.53
Mining	11.86	
Municipal	233.31	306.84
Natural	16.05	
Non-irrigated crop production	82.07	275.74
On-site wastewater systems	42.55	29.33
Pasture grazing	663.22	657.62
Road and bridge construction		56.38
Silviculture activities	19.89	
Sources outside state	62.38	
Streambank modification	4.41	56.38
Surface mining	87.20	
Surface mining-abandoned	186.39	63.52
Unknown source	70.86	20.51
Urban development	56.47	
Urban runoff/storm sewers	114.34	616.91
Wet weather discharge	3.62	

Figure 2-2 Industrial River Monitoring



ADEM's Montgomery Office at (334) 270-5662 or [jtp@adem.state.al.us](mailto:jtp@adem.state.al.us)

## **2.5 Industrial River Monitoring**

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The Industrial River Monitoring Program is a water quality monitoring program with the participation of eighteen (18) facilities located within various river basins. The purpose of the river monitoring program is to inform of operational decisions at the facilities and to assess the impact of a facility's discharge on water quality. Each facility's NPDES permit contains specific monitoring requirements which may include parameters such as pH, DO, Water Temperature, BOD<sub>5</sub>, etc. Most of the facilities which collect this information are pulp and paper mills, although, other types of industries are included. Much of the sampling takes place during the months May through September when critical water quality conditions are anticipated. Table 2-3 and Figure 2-4 show industrial facilities that conduct river monitoring. Table 2-4 shows Industrial River Monitoring Ambient Dissolved Oxygen Summaries for 2014.

For more information about Industrial River Monitoring contact Ms. Carla Crews in ADEM's Water Division at (334) 271-7804 or [ccrews@adem.state.al.us](mailto:ccrews@adem.state.al.us)

**Table 2-3 Industrial River Monitoring**

Facility Name	NPDES #	Facility Type	Parameters Sampled	Receiving Stream Name	Number of Stations	River Basin	City	County
International Paper-Courtland Mill	AL0000396	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Tennessee River	5	Tennessee	Courtland	Lawrence
MeadWestvaco Coated Board (non-continuous)	AL0000817	Paper Mill	D.O. (at 5 foot depth), Stream Temperature and pH	Chattahoochee River	12	Chattahoochee	Cottonton	Russell
MeadWestvaco Coated Board (continuous)	AL0000817	Paper Mill	D.O. (at 5 foot depth), Stream Temperature and pH	Chattahoochee River	4	Chattahoochee	Cottonton	Russell
International Paper-Pine Hill Mill	AL0002674	Paper Mill	D.O. (at 5 foot depth), Stream Temperature and pH	Alabama River	8	Alabama	Pine Hill	Wilcox
Georgia Pacific Corporation-Brewton Mill, Inc.	AL0002682	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature, Color and pH	Conecuh River	3	Escambia	Brewton	Escambia
Boise White Paper LLC	AL0002755	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Tombigbee River	6	Lower Tombigbee	Jackson	Clarke
Kimberly-Clark Corporation-Mobile Mill	AL0002801	Paper Mill	D.O. (at 5 foot depth), Conductivity, pH, and Temperature (both ambient & stream)	Mobile River	5	Mobile	Mobile	Mobile
Rock-Tenn Company-Demopolis	AL0002828	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Tombigbee River	2	Tombigbee	Demopolis	Marengo
International Paper-Rivertdale Mill	AL0003018	Paper Mill	D.O. (at 5 foot depth)	Alabama River	1	Alabama	Selma	Dallas
BASF-The Chemical Company (Ciba Specialty Chemical)	AL0003093	Chemical Plant	Stream Temperature, pH, DO, Chloride,	Tombigbee River	6	Tombigbee	McIntosh	Washington
International Paper- Prattville Mill	AL0003115	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Alabama River	10	Alabama	Prattville	Autauga
Resolute Forrest Products US, Inc. (Bowater Alabama, Inc.)	AL0003158	Paper Mill	D.O. (at 5 foot depth), Sample Time, Stream Temperature and pH	Coosa River	17	Coosa	Coosa Pines	Talladega
Bon Secour Fisheries	AL0003298	Seafood Processing	Stream Temperature, pH, DO, Salinity	Bon Secour River	3	Mobile Bay	Bon Secour	Baldwin
Georgia Pacific Corporation-Naheola Mill	AL0003301	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Tombigbee River	2	Tombigbee	Pennington	Choctaw
Rock-Tenn Company-Stevenson	AL0022314	Paper Mill	D.O. (at 5 foot depth), Stream Temperature and pH	Tennessee River	6	Tennessee	Stevenson	Jackson
Alabama River Cellulose Co., Inc.	AL0025968	Paper Mill	D.O. (at 5 foot depth), BOD5, Stream Temperature and pH	Alabama River	5	Alabama	Claiborne	Monroe
Carson & Company, Inc.	AL0048194	Seafood Processing	Stream Temperature, pH, DO, Salinity	Bon Secour River	3	Mobile Bay	Bon Secour	Baldwin
SCA Tissue NA LLC (Barton Operations)	AL0074667	Paper Mill	D.O. (at 5 foot depth), Stream Temperature and pH	Tennessee River	3	Tennessee	Cherokee	Colbert
ThyssenKrupp Steel and Stainless USA, LLC	AL0079901	Steel Manufacturer	D.O. (at 1 meter increments from 0.2 meters until you reach the bottom) Stream Temperature, pH, Conductivity and Turbidity.	Tombigbee River	4	Tombigbee	Calvert	Washington

**Table 2-4 Industrial River Monitoring Ambient Dissolved Oxygen Summary 2014**

Facility Name	NPDES #	Total Samples	# of Samples < 5.0 mg/l	%DO < 5	# of Samples < 4.0 mg/l	%DO <4
Alabama River Cellulose LLC	AL0025968	115	0	0.00	0	0.00
BASF-The Chemical Company	AL0003093	18	0	0.00	0	0.00
Boise White Paper LLC	AL0002755	136	0	0.00	0	0.00
Bon Secour Fisheries	AL0003298	**	**	**	**	**
Carson & Company, Inc.	AL0048194	**	**	**	**	**
Georgia Pacific Corporation Brewton Mill, Inc.	AL0002682	144	0	0.00	0	0.00
Georgia Pacific Naheola Mill	AL0003301	157	0	0.00	0	0.00
International Paper-Courtland Mill*	AL0000396	9	0	0.00	0	0.00
International Paper-Pine Hill Mill	AL0002674	264	4	1.52	0	0.00
International Paper- Prattville Mill	AL0003115	201	0	0.00	0	0.00
International Paper-Riverdale Mill	AL0003018	316	0	0.00	0	0.00
Kimberly-Clark Corporation Mobile Mill	AL0002801	**	**	**	**	**
MeadWestvaco Coated Board (non-continuous)	AL0000817	140	1	0.71	0	0.00
Resolute Forrest Products US, Inc. (Bowater)	AL0003158	221	14	6.33	0	0.00
Rock-Tenn Company-Demopolis	AL0002828	135	0	0.00	0	0.00
Rock-Tenn Company-Stevenson	AL0022314	18	0	0.00	0	0.00
SCA Tissue NA LLC (Barton Operations)	AL0074667	39	6	15.38	0	0.00
ThyssenKrupp Steel and Stainless USA, LLC	AL0079901	191	0	0.00	0	0.00

Table prepared with incomplete data received

\*IP-Courtland has closed, but still has their wastewater treatment system in place.

\*\* Data not reported

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## Chapter 3 Lakes and Reservoirs

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### 3.1 Lake Water Quality Assessment

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#### 3.1.1 Background

Section 314 (a) (2) of the Clean Water Act, as amended by the Water Quality Act of 1987, requires states to conduct assessments of publicly-owned lake water quality and report the findings as part of the biennial §305(b) Water Quality Report to Congress. The assessment process is conducted through the use of federal and matching funding, including that available pursuant to Sections 106 and 319 of the Act.

The Department has defined publicly-owned lakes/reservoirs as those that are of a multiple-use nature, publicly accessible, and exhibit physical/chemical characteristics typical of impounded waters. Lakes designated strictly for public water supply, privately owned lakes, or lakes managed by the Alabama Department of Conservation and Natural Resources (ADCNR) strictly for fish production are not included in this definition. Lakes currently meeting the above definition are included in the tables that follow.

In 1985, the need for information on the trophic state of Alabama's publicly-owned lakes led to the initial survey, conducted by the ADEM with the assistance of the U.S. Environmental Protection Agency Region IV. During the survey, limited baseline data was collected and used to rank the lakes according to trophic condition.

In 1989, Clean Lakes Program funds enabled the ADEM to conduct required water quality assessments of thirty-four (34) publicly-owned lakes in the State and submit collected information as part of the 1990 Water Quality Report to Congress. Trophic state index (TSI) values calculated from data gathered for the water quality assessments indicated potentially significant increases when compared to the TSI values derived from the study conducted in 1985.

Initiated in 1990 as the Reservoir Water Quality Monitoring Program, the program was given the name Rivers and Reservoirs Monitoring Program (RRMP) in 2004 with the addition of free-flowing river reaches:

Objectives of the program are:

- a. to develop an adequate water quality database for all rivers and publicly-accessible lakes in the state;
- b. to establish trends in river and lake trophic status that are only established through long-term monitoring efforts; and,
- c. to satisfy Section 314 (a) (2) of the Clean Water Act.

Acquiring this information enables the ADEM to determine lake water quality and identify lakes in which water quality may be deteriorating. Should deterioration in water quality be indicated by collected data, more intensive study of the lake can be instituted to establish the causes and extent of the deterioration.

From 1990-1992, thirty-one publicly-owned lakes in the State were monitored at least once. Lakes indicated to be use-threatened or impaired from previously collected data were monitored annually. Additional funding received in 1991 through the Clean Lakes Program allowed the expansion of the Program to include all of the thirty-three (33) publicly-owned lakes in the State, with the exception of the eight reservoirs in the Tennessee River system. These reservoirs are monitored through the TVA Reservoir Vital Signs Program. Figure 3-1 shows Publicly Accessible Reservoirs of Alabama.

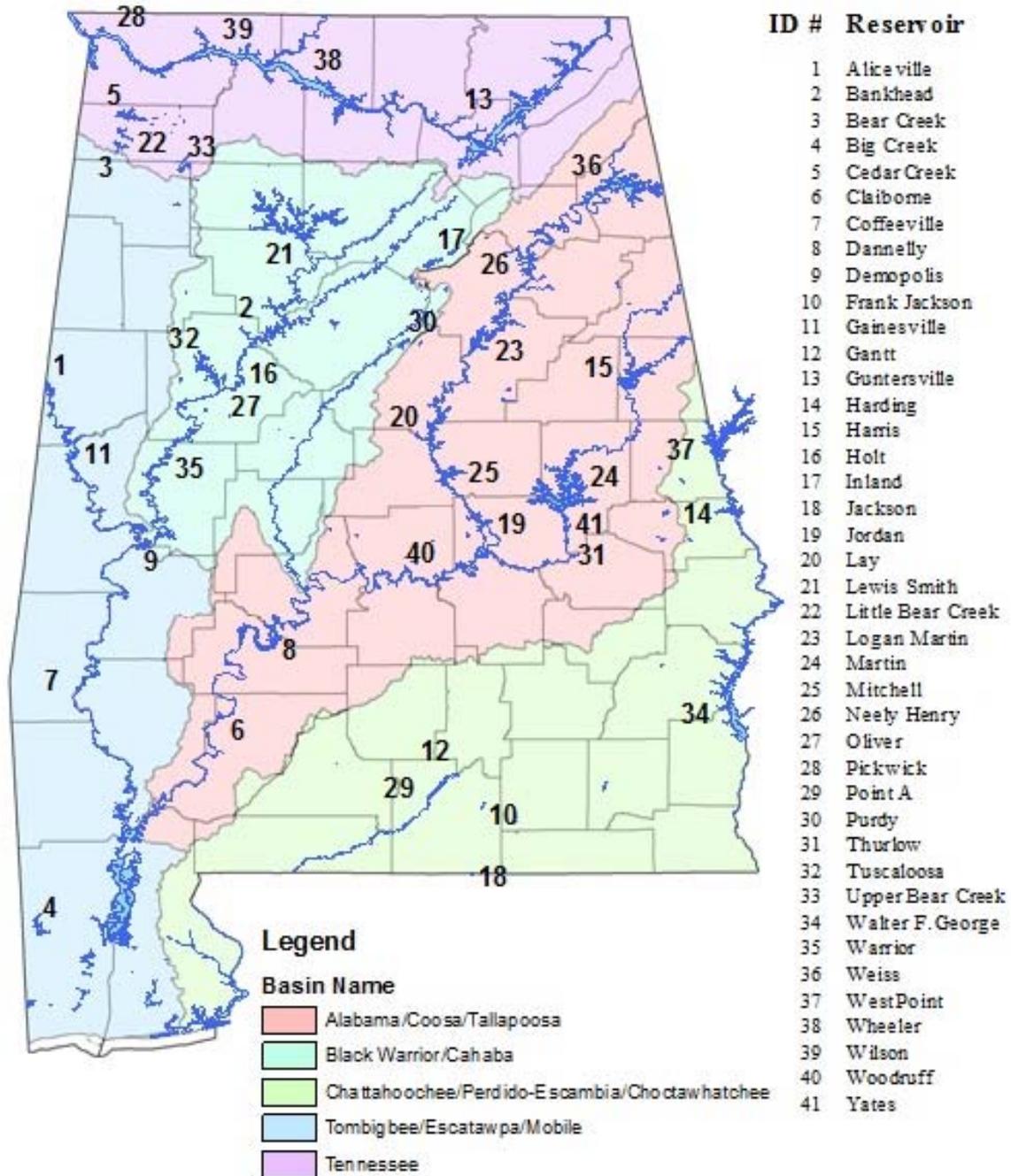
Beginning in 1994, the frequency of reservoir monitoring in the RRMP was increased to a minimum of once every two years (August monitoring) so that the water quality database and trends in trophic status could be more rapidly developed. Lakes indicated to be use-threatened or impaired continued to be monitored annually.

In 1997, intensive monitoring of reservoirs by basin was initiated, with spring season sampling for the RRMP discontinued to allow allocation of resources toward this effort. In 2010, August sampling was also discontinued to focus on full growing season sampling. The mainstem station(s) of each of the publicly-owned lakes were sampled once every three years, as either part of the basin rotation or compliance sampling. After two complete cycles through the state, this approach was discontinued after the 2014 field season. Basins were sampled as follows:

- a. Coosa and Tallapoosa River Basin reservoirs, 1997;
- b. Black Warrior River Basin reservoirs, 1998;
- c. Chattahoochee and Conecuh River Basin reservoirs, 1999;
- d. Coosa, Tallapoosa, and Alabama River Basin reservoirs, 2000;
- e. Tombigbee and Escatawpa River Basin reservoirs, 2001;
- f. Black Warrior and Cahaba River Basin reservoirs, 2002;
- g. Tennessee River Basin tributary embayments, 2003;
- h. Chattahoochee, Perdido-Escambia, and Choctawhatchee River Basins, 2004;
- i. Coosa, Tallapoosa, and Alabama River Basins, 2005;
- j. Tombigbee and Escatawpa River Basins, 2006;
- k. Black Warrior and Cahaba River Basins, 2007;
- l. Chattahoochee, Perdido-Escambia, and Choctawhatchee River Basins, 2008;
- m. Tennessee River Basin tributary embayments, 2009;
- n. Coosa, Tallapoosa, and Alabama River Basins, 2010;
- o. Tombigbee, Mobile and Escatawpa River Basins, 2011;
- p. Black Warrior and Cahaba River Basins, 2012;
- q. Tennessee River Basin tributary embayments, 2013; and,
- r. Chattahoochee, Perdido-Escambia, and Choctawhatchee River Basins, 2014.

In 2015, the RRMP was redesigned to better utilize available resources and to align with the sampling approach of the Rivers and Streams Monitoring Program. The focus moved away

Figure 3-1 Publicly Accessible Reservoirs of Alabama



from the mega-basin concentrated sampling [i.e. Alabama, Coosa, Tallapoosa (ACT) and Black Warrior, Cahaba (BWC)] to smaller, individual river basins, statewide, which would allow more intensive sampling on a smaller scale. The new RRMP design operates on a fixed, three year rotation and consists of monthly sampling of multiple mainstem, tributary embayment and main river stations from April-October. This allows for a more even, statewide distribution of stations and consistent involvement from all field offices throughout the rotation. By focusing on individual river basins, each reservoir will be visited more often, eliminating the need for separate compliance sampling. Beginning with 2015, the three year rotation is as follows:

- a. Year One : Alabama, Cahaba, Tallapoosa, and Tennessee (Tributary Embayments) River Basins
- b. Year Two: Coosa and Tombigbee River Basins
- c. Year Three: Black Warrior, Chattahoochee, Choctawhatchee, Conecuh, Escatawpa and Yellow River Basins

Water quality monitoring of lakes (mainstem) of the Tennessee River system continues through the Tennessee Valley Authority (TVA) Reservoir Vital Signs Monitoring Program. The Program provides results of its monitoring activities to the ADEM on an annual basis through Program reports. Activities of the Program are based on the examination of appropriate physical, chemical, and biological indicators in the forebay, mid-region, and headwater areas of each lake. Objectives of the Program are to provide basic information on the “health” or integrity of the aquatic ecosystem in each TVA lake and to provide screening level information describing how well each reservoir meets the “fishable” and “swimmable” goals of the Clean Water Act.

For more information about Lakes and Reservoirs, contact Ms. Gina Curvin in ADEM’s Montgomery Office at (334) 260-2783 or [GCurvin@adem.state.al.us](mailto:GCurvin@adem.state.al.us)

### **3.2 Trophic Status**

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In the RRMP, the ADEM uses Carlson’s trophic state index (TSI) for determination of the trophic state of Alabama lakes. Carlson suggests the use of corrected chlorophyll a concentrations in calculations of the trophic state of lakes during the summer months. Using corrected chlorophyll a concentrations to determine trophic state is considered to give the best estimate of the biotic response of lakes to nutrient enrichment when phytoplankton is the dominant plant community. In previous reporting due to limited data availability, the ADEM used the yearly August TSI value to characterize the reservoir’s trophic state and determine long-term trends. Beginning with the 2012 report, the ADEM evaluated each reservoir using the season mean TSI value which is a better indicator for trophic status and trends.

Carlson’s TSI provides the limnologist and the public with a single number that serves as an indicator of trophic status of a lake but does not necessarily define it. Lakes with a TSI of 70 or greater are generally considered to be hypereutrophic and in need of regulatory action appropriate for protection and restoration. A TSI of 50 to 70 indicates eutrophic conditions in a lake. Trophic state index values from 40 to 50 indicate mesotrophic conditions. Oligotrophic conditions are indicated by TSI values less than 40.

**Table 3-1 Trophic Status of Significant Publicly Owned Lakes**

	Number of Lakes	Acreage of Lakes
Total	41	479,470
Assessed	41	471,170
Oligotrophic	7	84,420
Mesotrophic	13	61,737
Eutrophic	21	333,313
Hypereutrophic	0	0
Dystrophic	0	0
Unknown	1	0

The number and surface area of lakes for each trophic classification appear in Table 3-1, which was developed using current monitoring data. A trophic state ranking of Alabama lakes appears in Table 3-2. TSI graphs for Alabama reservoirs are found in Figures 3-2 thru 3-37.

### **3.3 Control Methods**

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The ADEM has not defined control methods specifically for lakes. Instead, the pollution controls of ADEM's Point Source Program (NPDES permitting) and the Nonpoint Source Program are applicable for all of the State's surface waters.

### **3.4. Restoration Efforts**

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Water quality data collected by the RRMP enabled the ADEM to determine lakes in need of Clean Lakes Program Phase I Diagnostic/Feasibility Studies. All Clean Lakes Program Phase I Diagnostic/Feasibility Studies were conducted through cooperative agreements between ADEM and Auburn University. A list of the Clean Lakes Program Projects of Alabama appears in Table 3-3. Table 3-4 shows State Owned and Operated Public Fishing Lakes.

### **3.5. Impaired Lakes**

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The Size of Rivers and Streams Impaired by Causes appears in Table 3-5. Size of Rivers and Streams Impaired by Sources appears in Table 3-6.

Water quality data collected by the ADEM RRMP, Clean Lakes Program Phase I Studies and TVA Reservoir Monitoring Program were used for determination of use support status. Available data from each reservoir was examined for repeated violations of specific water quality criteria established by the ADEM and evaluated with adherence to the Guidelines For Preparation of the State Water Quality Assessments (305(b) Reports). Waters affected by health advisories related to fish consumption were determined to be either partially supporting or not supporting. This determination was dependent upon whether advisories specified limited consumption or no consumption of a particular species as directed in the guidelines mentioned above.

**Table 3-2 Reservoir and Lake Trophic Status**

Trophic State Designation	Index	Reservoir	River Basin	Growing Season TSI Value	Growing Season TSI Year	*Average TSI Value
Eutrophic (50-69)	1	Neely Henry	Coosa	58	2013	63
	2	Wheeler	Tennessee	58	2013	58
	3	Pickwick	Tennessee	58	2014	57
	4	Wilson	Tennessee	54	2014	57
	5	Weiss	Coosa	54	2013	61
	6	Lay	Coosa	54	2013	58
	7	Frank Jackson	Perdido Escambia	54	2014	51
	8	Bear	Tennessee	53	2014	57
	9	Upper Bear	Tennessee	53	2014	57
	10	Warrior	Warrior	53	2012	53
	11	Gainesville	Tombigbee	52	2014	53
	12	Bankhead	Warrior	52	2012	53
	13	Demopolis	Tombigbee	52	2014	49
	14	Guntersville	Tennessee	51	2014	54
	15	Purdy	Cahaba	51	2015	56
	16	Jordan	Coosa	51	2013	54
	17	Holt	Warrior	51	2012	52
	18	Cedar	Tennessee	51	2014	47
	19	W.F. George	Chattahoochee	50	2014	53
	20	Logan Martin	Coosa	50	2013	57
	21	Coffeeville	Tombigbee	50	2014	50
Mesotrophic (40-49)	22	Little Bear	Tennessee	49	2014	49
	23	Mitchell	Coosa	49	2013	56
	24	Gantt	Perdido Escambia	49	2014	48
	25	Aliceville	Tombigbee	48	2015	56
	26	Dannelly	Alabama	48	2015	54
	27	Harding	Chattahoochee	46	2014	48
	28	Oliver	Warrior	45	2012	49
	29	Thurlow	Tallapoosa	45	2015	41
	30	West Point	Chattahoochee	44	2014	52
	31	Woodruff	Alabama	44	2015	52
	32	Claiborne	Alabama	43	2015	51
	33	Jackson	Perdido Escambia	42	2014	39
	34	Point A	Perdido Escambia	40	2014	45
	Oligotrophic (< 40)	35	Smith	Warrior	39	2012
36		Harris	Tallapoosa	38	2015	49
37		Inland	Warrior	37	2012	42
38		Yates	Tallapoosa	36	2015	42
39		Martin	Tallapoosa	34	2015	39
40		Tuscaloosa	Warrior	32	2012	39
41		Big Creek	Escatawpa	31	2014	45

\*Average cumulative mean growing season values (1997-present) from dam forebay stations and may not reflect a lake's current trophic state.

**Table 3-3 List of Clean Lakes Program Projects**

<b>Name of Project</b>	<b>Type of Project</b>	<b>Federal Funding (\$)</b>	<b>Problems Addressed</b>	<b>Management Measures Proposed or Undertaken</b>
West Point Reservoir	Phase I	100,000	Diagnostic/Feasibility	See Report
W.F. George Reservoir	Phase I	70,000	Diagnostic/Feasibility	See Report
Neely Henry Reservoir	Phase I	92,000	Diagnostic/Feasibility	See Report
Weiss Reservoir	Phase I	142,583	Diagnostic/Feasibility	See Report
Smith Reservoir	Phase I	93,000	Diagnostic/Feasibility	See Report

**Table 3-4 State Owned and Operated Public Fishing Lakes**

<b>County</b>	<b>County Fishing Lakes</b>	<b>Acres</b>
Barbour	Barbour County Lake	75
Bibb	Bibb County Lake	100
Chambers	Chambers County Lake	183
Clay	Clay County Lakes	74
Coffee	Coffee County Lake	80
Crenshaw	Crenshaw County Lake	53
Dale	Dale County Lake	92
Dallas	Dallas County Lake	100
DeKalb	DeKalb County Lake	120
Escambia	Escambia County Lake	184
Fayette	Fayette County Lake	60
Geneva	Geneva County Lakes	65
Lamar	Lamar County Lake	68
Lee	Lee County Lake	130
Madison	Madison County Lake	105
Marion	Marion County Lake	37
Monroe	Monroe County Lake	94
Pike	Pike County Lake	45
Walker	Walker County Lake	163
Washington	Washington County Lake	84
<b>Totals</b>	20 State Fishing Lakes	1,061

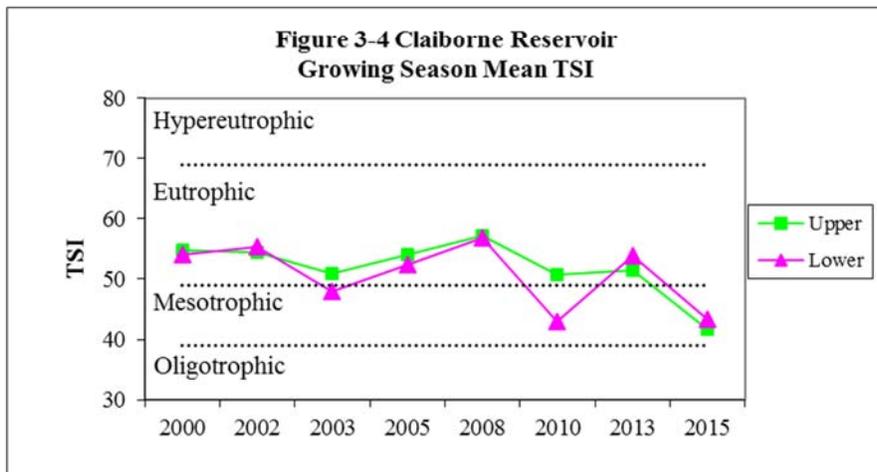
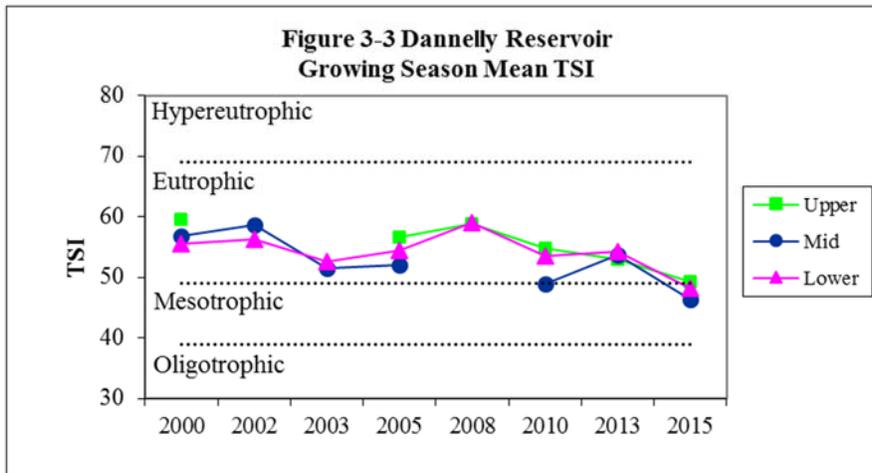
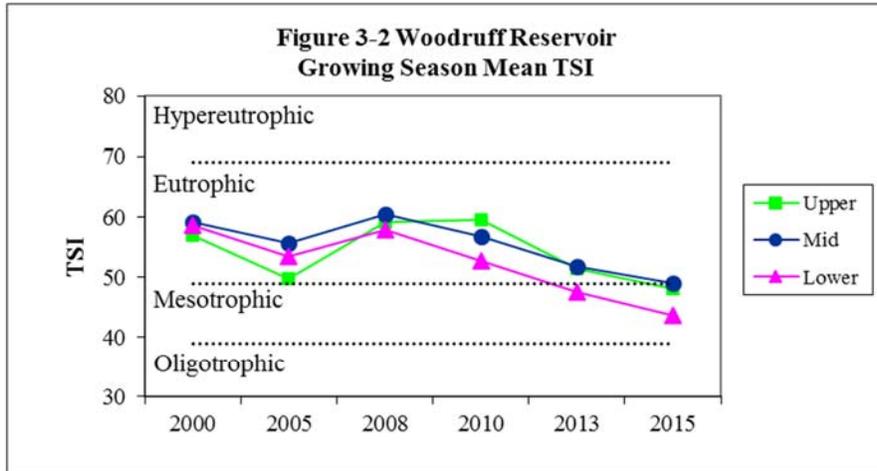
**Table 3-5 Size of Lakes/ Reservoirs Impaired by Causes**

Cause	Category 5	Category 4
	Lake/Reservoir (acres)	Lake/Reservoir (acres)
<b>Metals</b>		
Mercury	54,270.95	
<b>Nutrients</b>		
Ammonia		527.25
Nitrogen		3,021.35
Phosphorus	101,942.96	76,158.43
<b>Oxygen depletion</b>		
BOD, carbonaceous	3,710.32	4,121.37
BOD, nitrogenous	3,710.32	896.24
<b>Pathogens</b>		
E. coli	6,567.86	1,101.65
<b>Pesticides</b>		
DDT	85.73	
<b>pH</b>		
pH	1,569.21	
<b>Sedimentation</b>		
Siltation	869.04	3,573.14
<b>Toxic Organics</b>		
Perfluorooctane Sulfonate (PFOS)	19,378.31	
Polychlorinated biphenyls (PCBs)	30,044.38	24,622.46

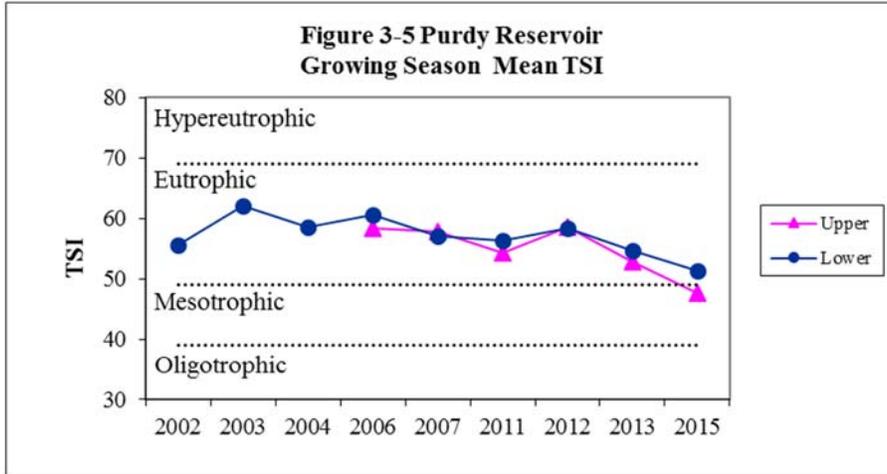
**Table 3-6 Size of Lakes/ Reservoirs Impaired by Sources**

Source	Category 5	Category 4
	Lake/Reservoir (acres)	Lake/Reservoir (acres)
Agriculture	100,099.02	368.99
Atmospheric deposition	54,185.22	
Collection system failure		527.25
Contaminated sediments	30,130.11	
Dam construction	1,723.22	2,288.69
Flow regulation/modification	1,723.22	56,521.24
Industrial	20,466.93	12,169.38
Municipal	1,208.29	12,902.04
Non-irrigated crop production	1,569.21	3,364.43
Nonpoint source runoff	62.63	
Pasture grazing	1,569.21	1,832.68
Sources outside state	6,567.86	50,773.07
Spills from trucks or trains		412.49
Surface mining-abandoned		412.49
Unknown source	1,435.05	
Urban runoff/storm sewers	1,088.62	24,407.03

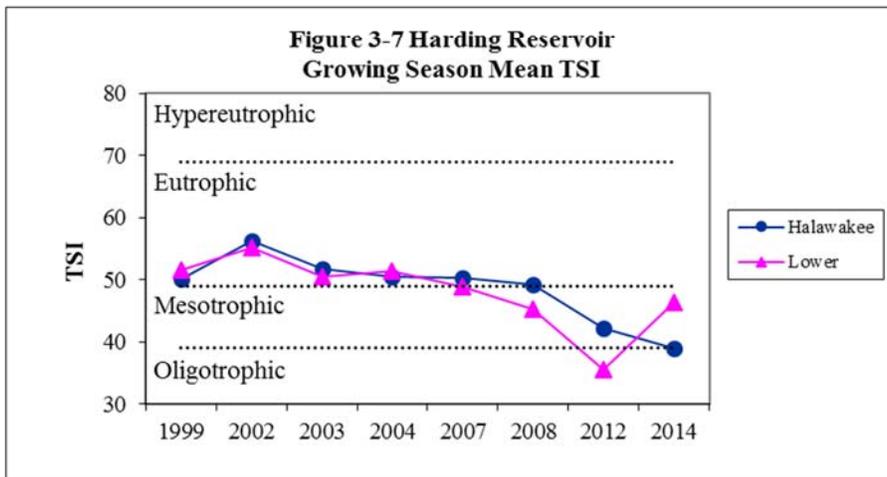
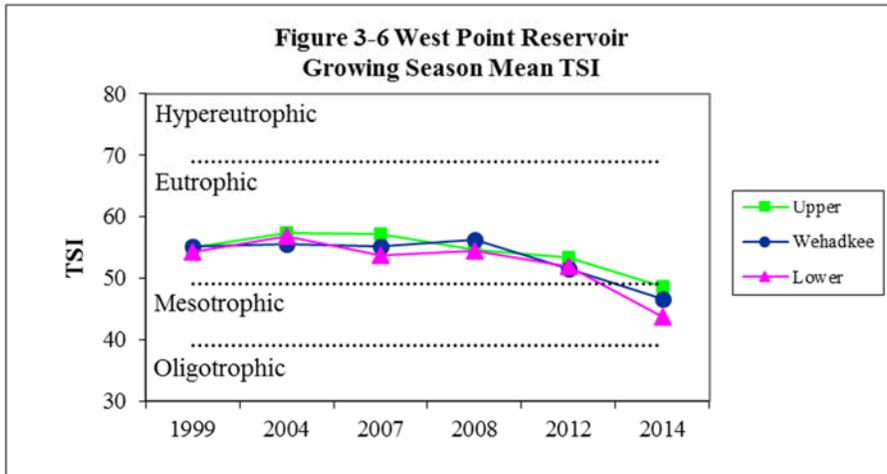
**Alabama River Basin**



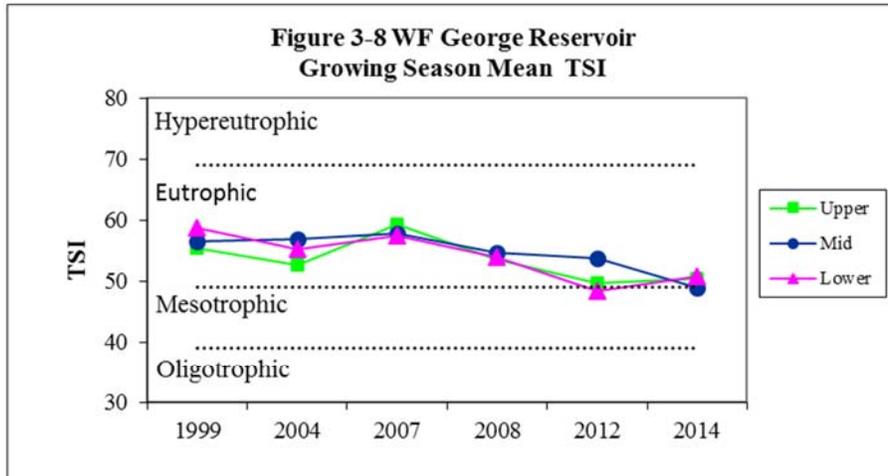
**Cahaba River Basin**



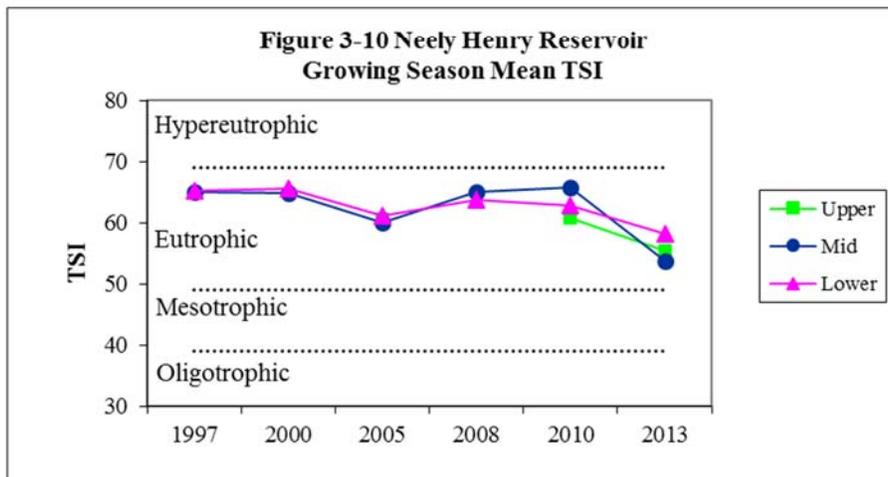
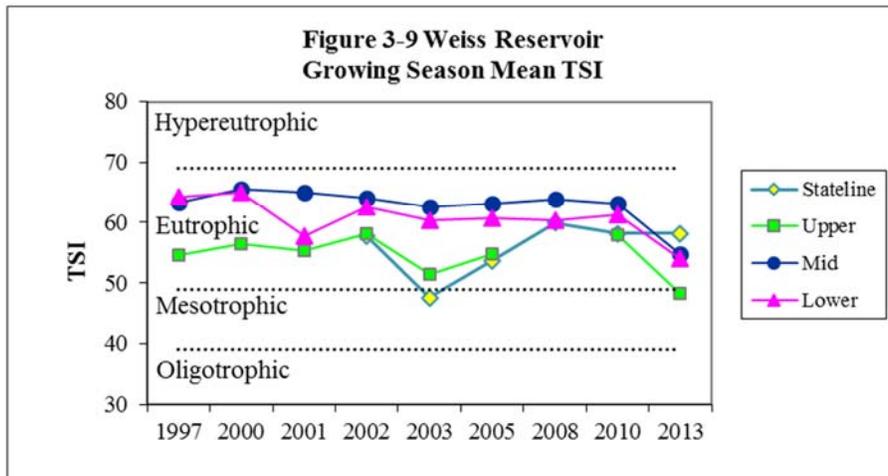
**Chattahoochee River Basin**



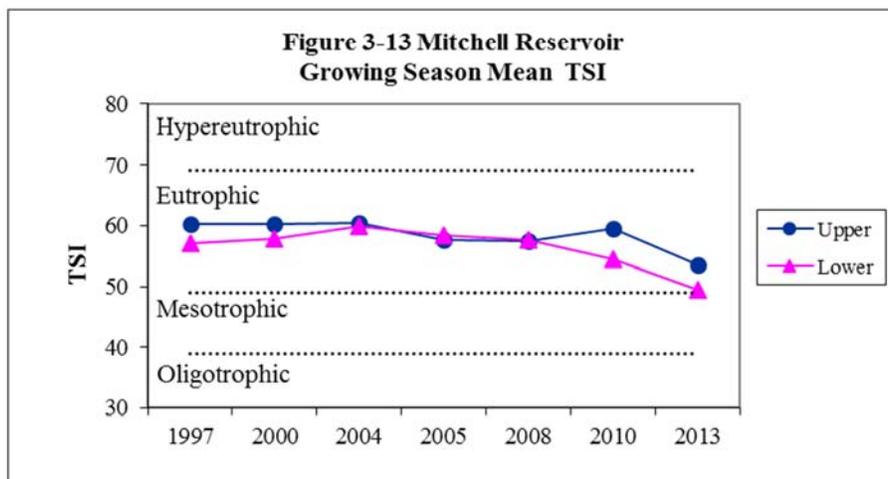
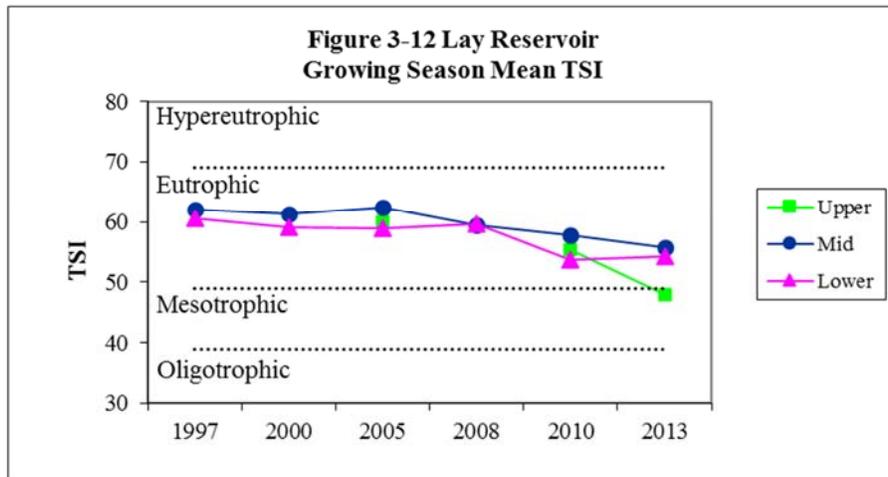
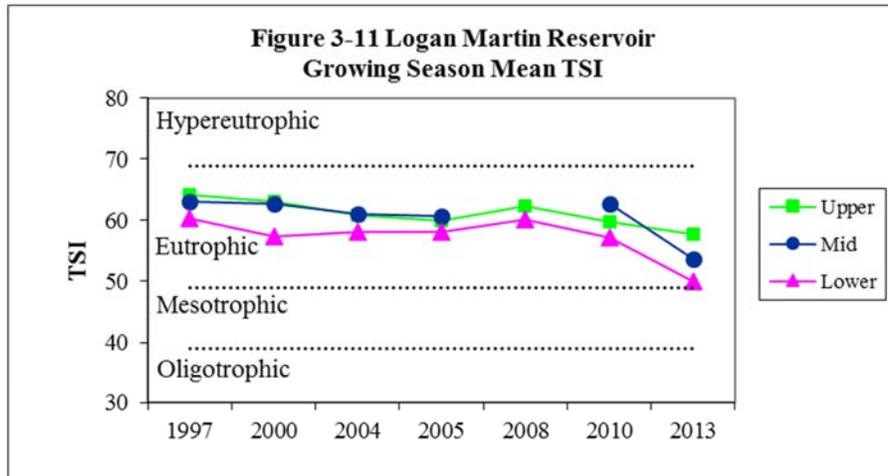
## Chattahoochee River Basin



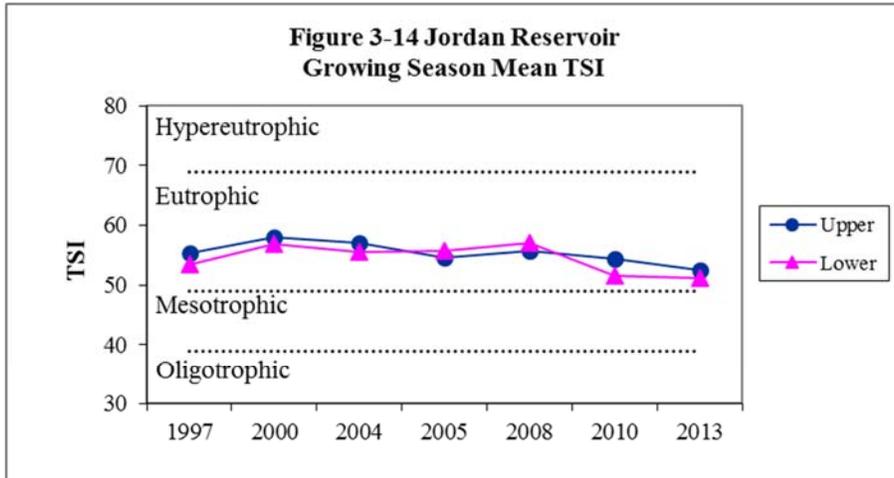
## Coosa River Basin



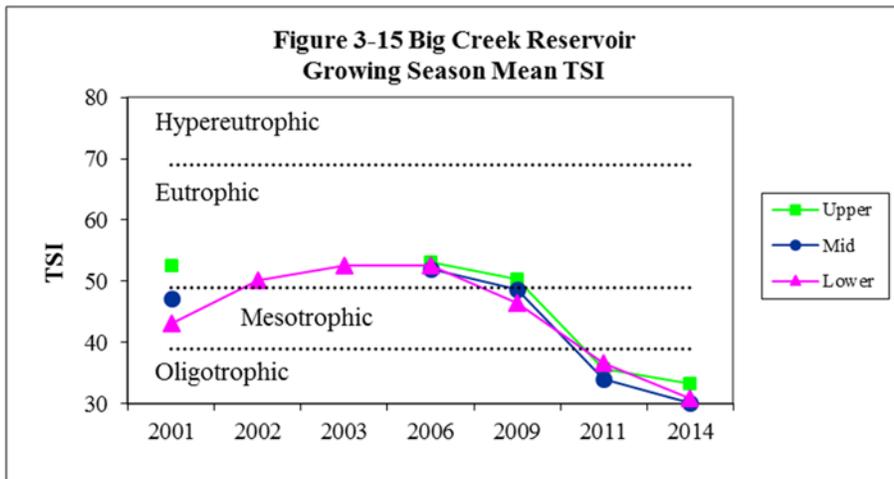
**Coosa River Basin**



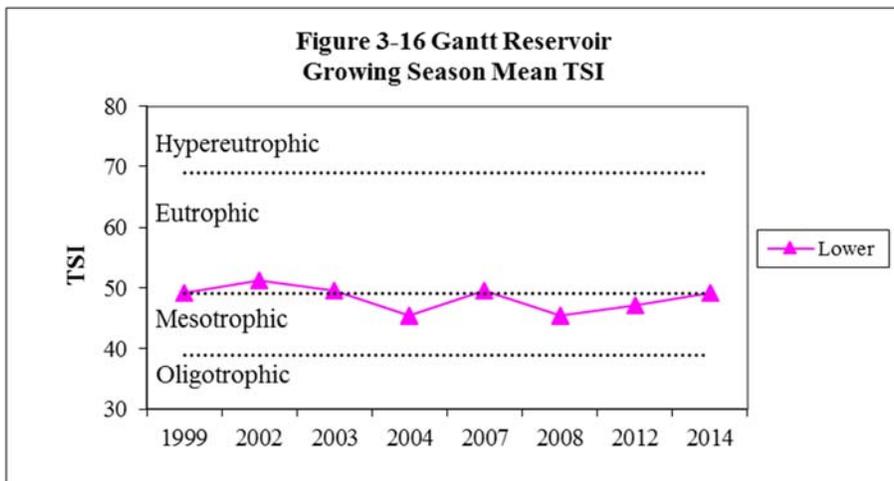
**Coosa River Basin**



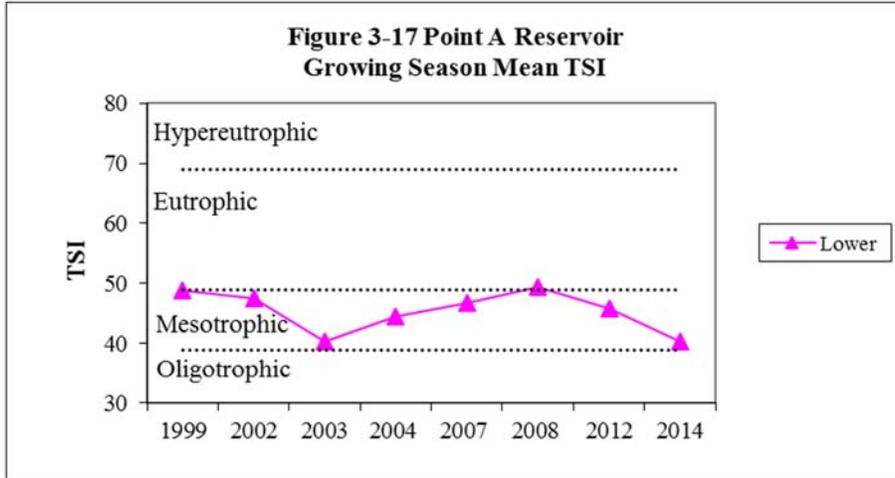
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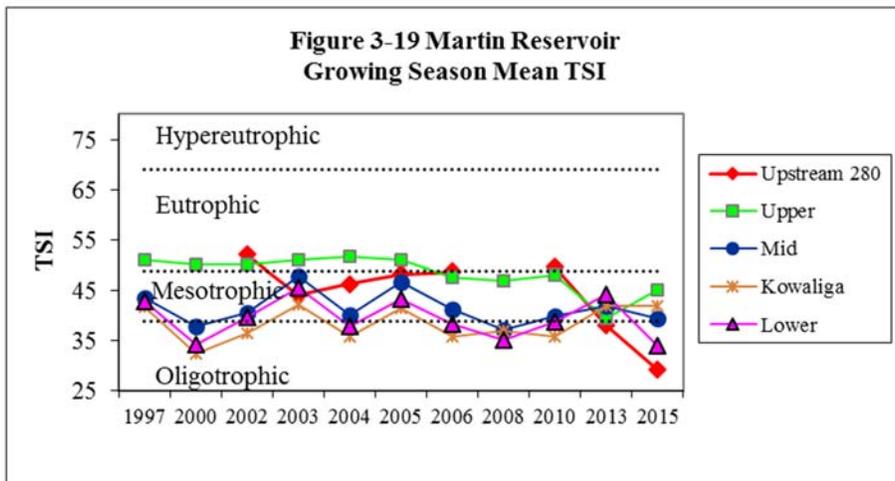
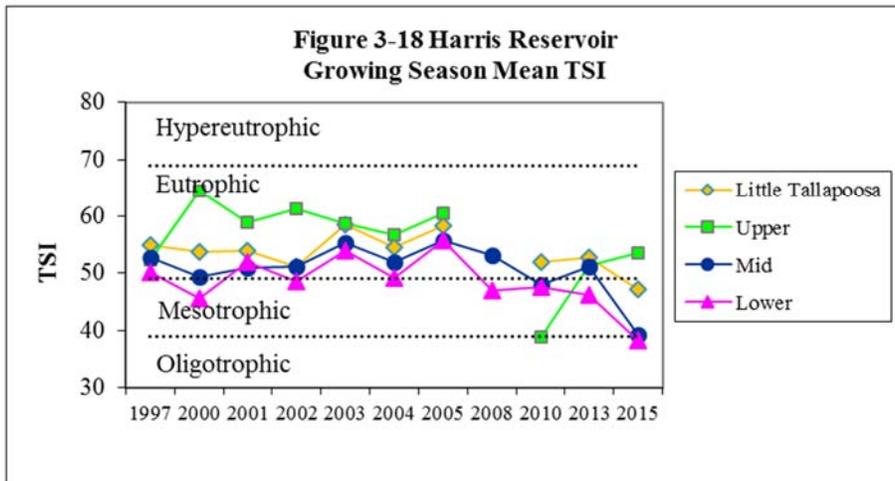
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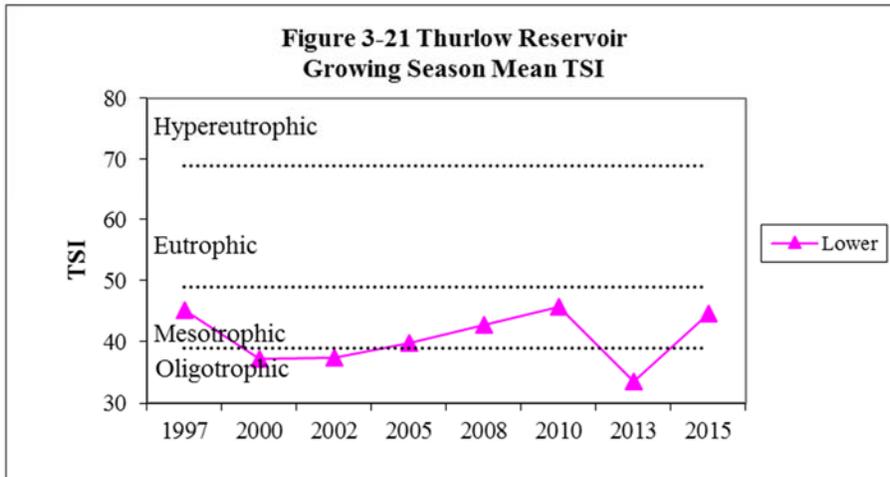
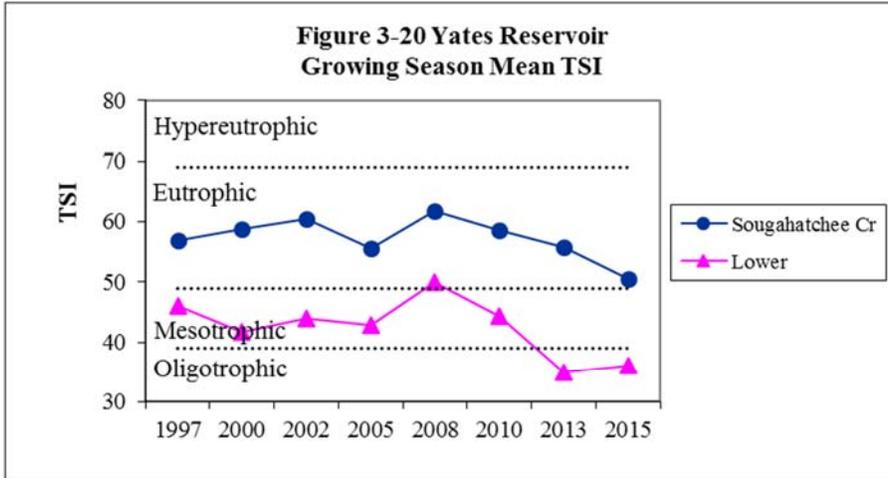
**Escambia River Basin**



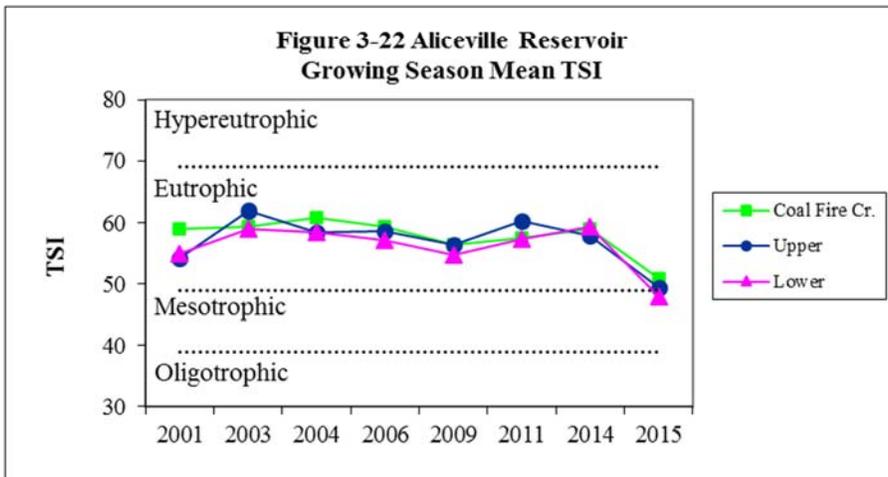
**Tallapoosa River Basin**



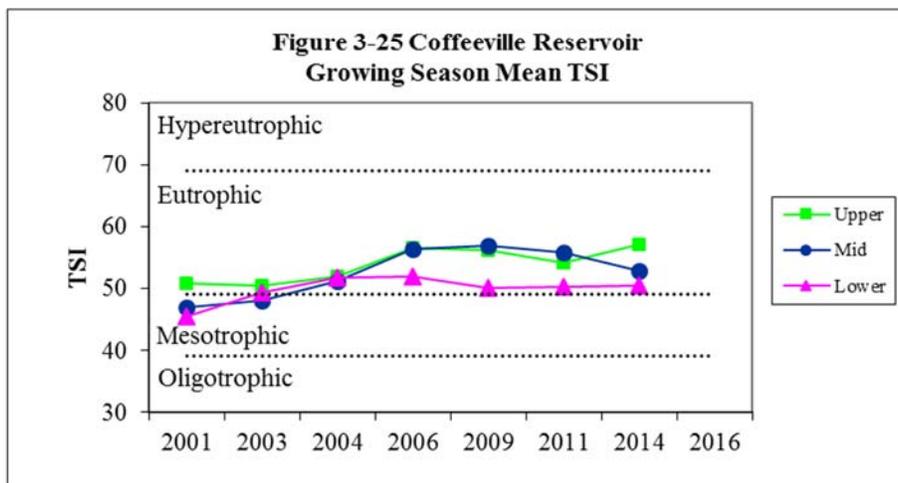
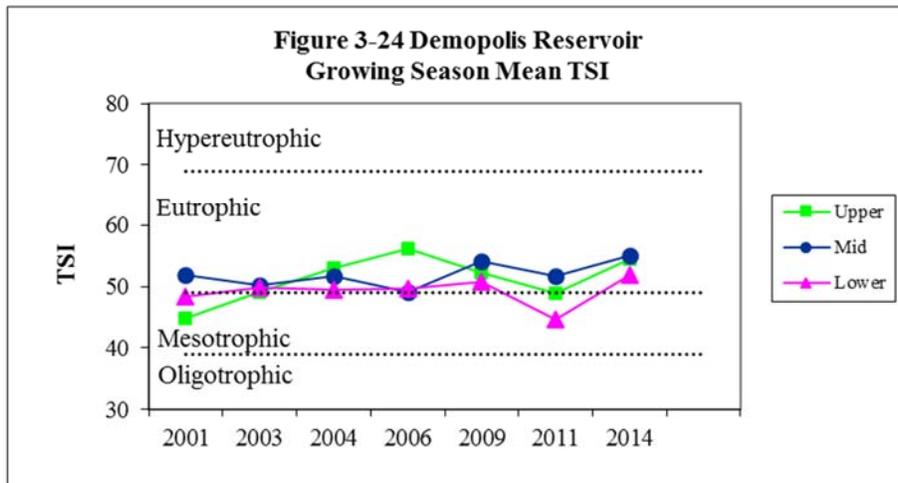
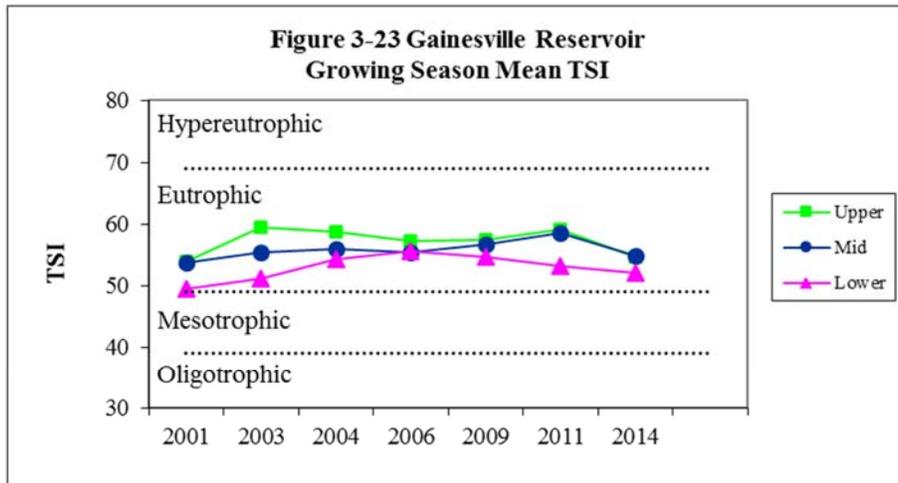
**Tallapoosa River Basin**



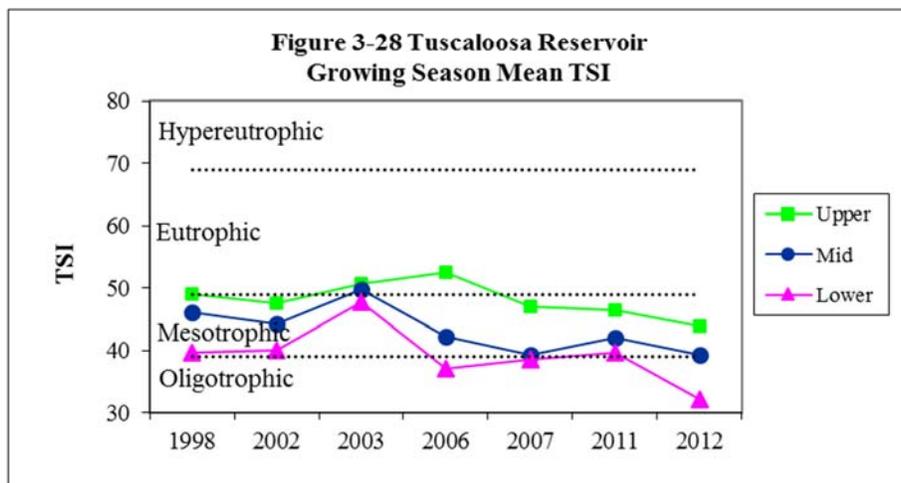
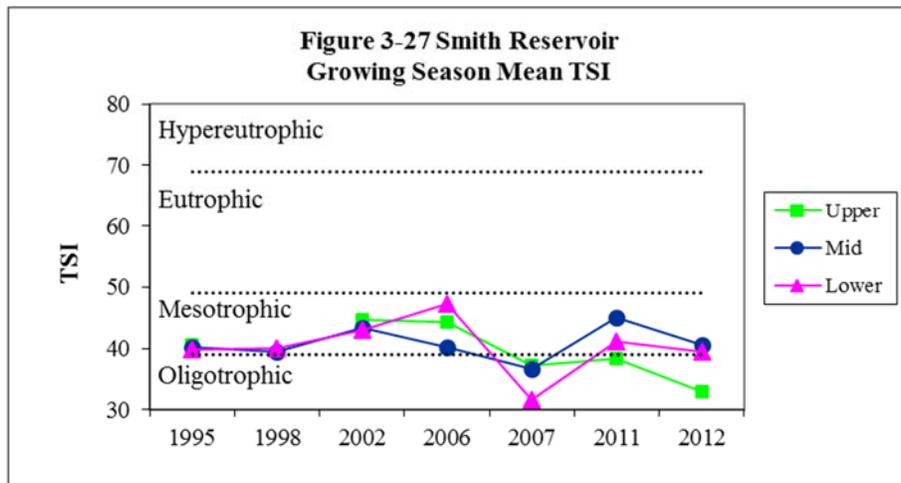
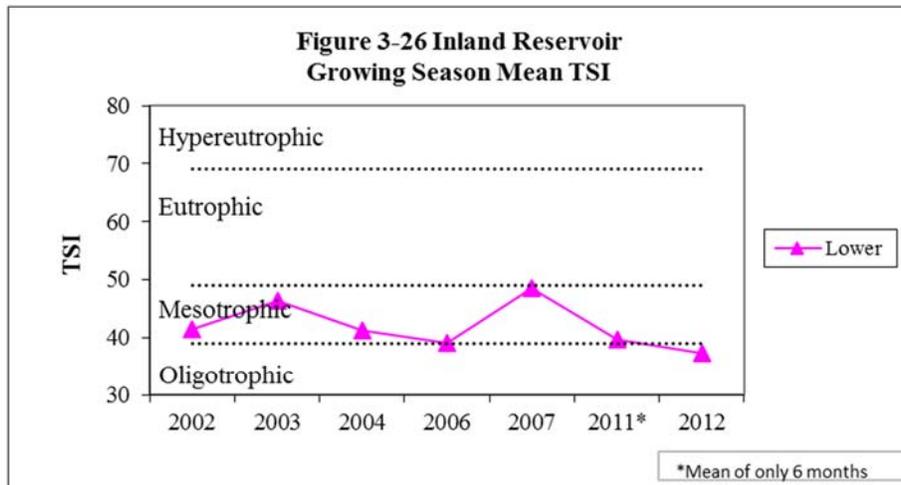
**Tombigbee River Basin**



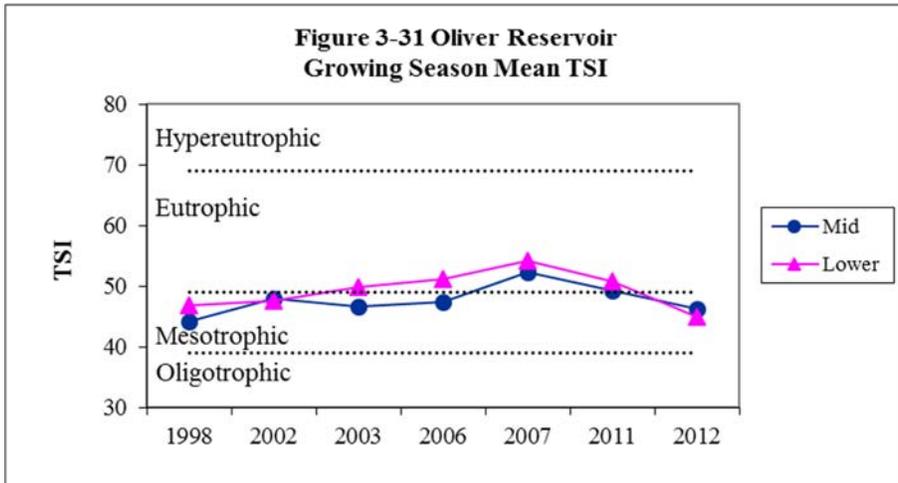
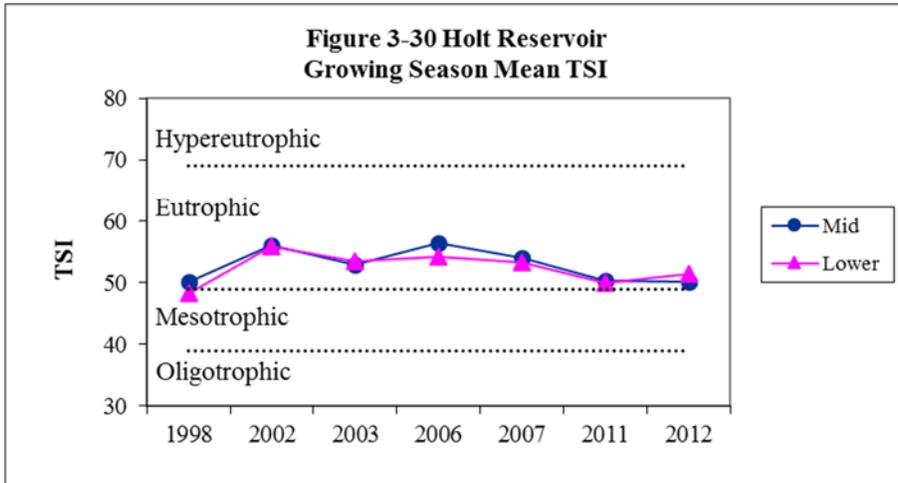
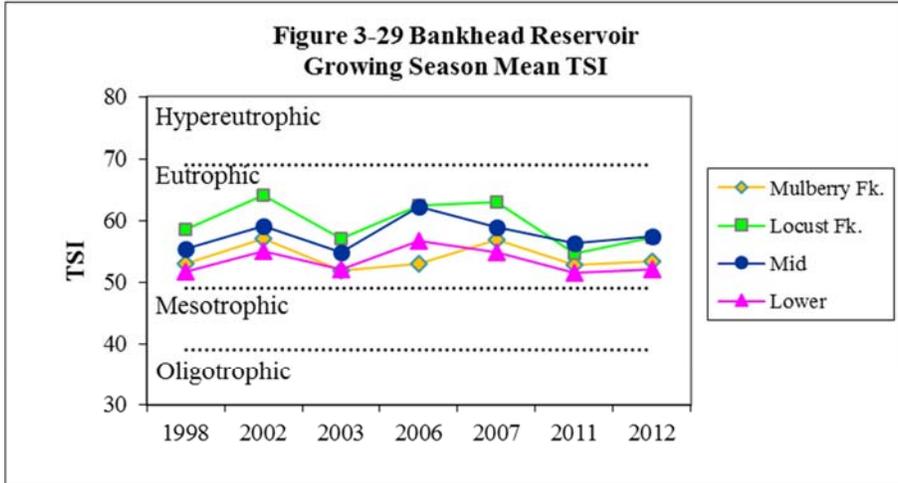
**Tombigbee River Basin**



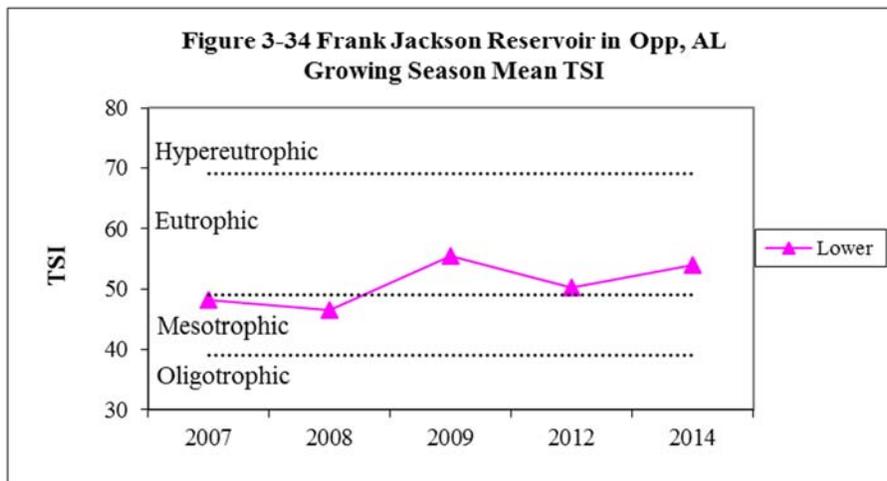
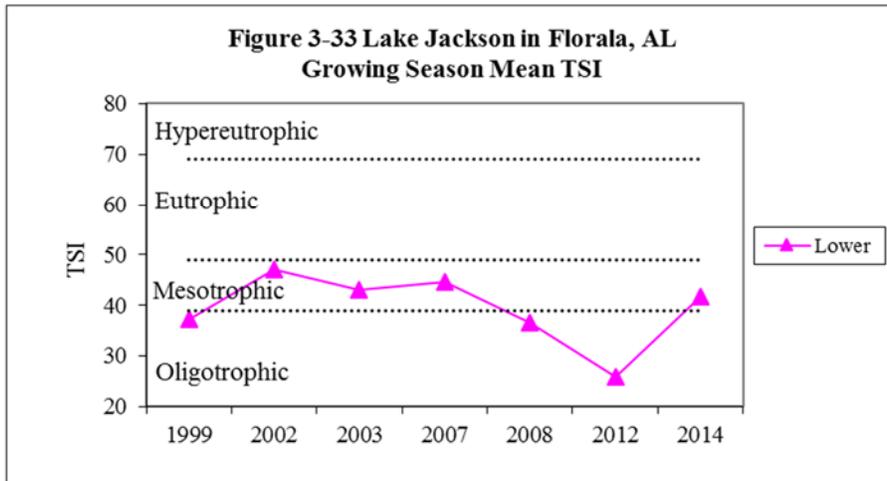
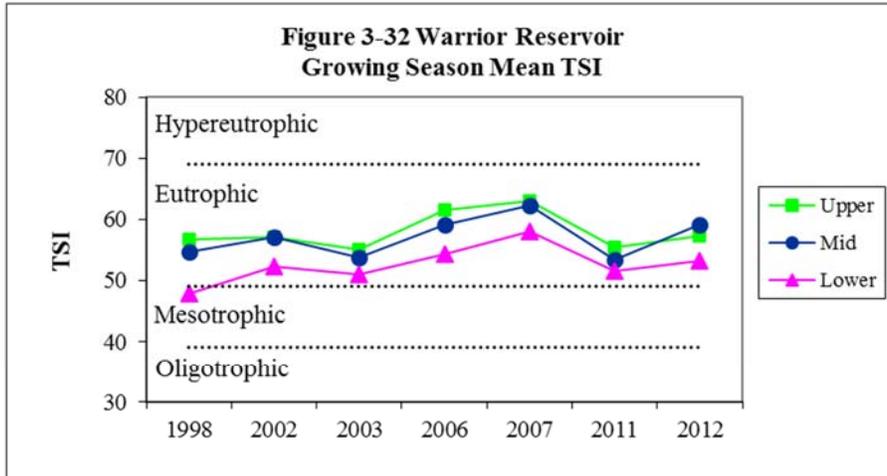
## Warrior River Basin



**Warrior River Basin**



**Warrior River Basin**



### **3.6. Toxic Effects on Lakes**

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Lake-specific monitoring information for toxic pollutants is limited. Point source control efforts are directed at the source of toxic pollutants through NPDES permitting programs. Total lake acres affected by toxicants appear in Table 3-7. Lake acreage monitored for toxicants consists of lakes for which fish have been collected and analyzed through the ADEM Fish Tissue Monitoring Program and the TVA Reservoir Monitoring Program. Lake acreage with elevated levels of toxicants consists of lake areas upon which health advisories have been instituted that relate to consumption of fish contaminated with certain priority pollutants.

Fish will continue to be collected from major lakes, rivers, and certain waterbodies of concern and analyzed for toxic pollutants as part of the ADEM Fish Tissue Monitoring Program. Fish tissue sampling results are contained in the Fish Tissue Monitoring section of Part V Public Health Information.

### **3.7 Acid Effects on Lakes**

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The number and acreage of lakes affected by acidity appear in Table 3-8. The number and acreage of lakes affected by sources of high acidity appear in Table 3-9. No reservoirs monitored by the ADEM have been determined to be impacted by high acidity based on data collected through the RRMP. However, the following reservoirs are considered vulnerable to acidity based on low alkalinities and pH values observed in monitoring data that were near limits of specific ADEM water quality criteria: Big Creek; Inland; Jackson; Frank Jackson, Point A; Smith; and Tuscaloosa. Low pH values measured in Big Creek, Jackson, Frank Jackson, and Point A Reservoirs are determined to be of natural origin and are considered unlikely to cause adverse impacts. In the case of both Smith and Tuscaloosa Reservoirs, mining activities in the watershed were also considered in determining the vulnerability of the reservoirs to acid effects.

### **3.8. Trends**

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Status of Trends for Lakes and Reservoirs appears in Table 3-10. Trends were determined by reviewing three (3) or more years of water quality data from multiple sources, if available, for each reservoir during the period 1997 to 2015.

The reservoirs considered to be degrading were listed based on data collected through the RRMP. Assignment of a particular reservoir to the “Stable” category does not necessarily indicate desirable water quality but only that the water quality appears stable.

Future data collection is critical in further establishing trends in water quality of reservoirs in the State.

For more information about Lakes and Reservoirs, contact Ms. Gina Curvin in ADEM’s Montgomery Office at (334) 260-2783 or [GCurvin@adem.state.al.us](mailto:GCurvin@adem.state.al.us)

**Table 3-7 Total Reservoir Size Affected by Toxicants**

<b>Waterbody</b>	<b>Size Monitored for Toxicants</b>	<b>Size with Elevated Levels of Toxicants</b>
Rivers (miles)	-	-
Lakes (acres)	339,406	66,832
Estuaries (sq. miles)	-	-
Coastal waters (miles)	-	-
Freshwater wetlands (acres)	-	-
Tidal wetlands (acres)	-	-

**Table 3-8 Lakes Affected By Acidity**

	<b>Number of Lakes</b>	<b>Acreage of Lakes</b>
Assessed for Acidity	41	479,470
Impacted by High Acidity	0	0
Vulnerable to Acidity	7	34,030

**Table 3-9 Sources of High Acidity in Lakes and Reservoirs**

<b>Source</b>	<b>Number of Lakes Impacted</b>	<b>Acreage of Lakes Impacted</b>
Acid Deposition	0	0
Acid Mine Drainage	0	0
Natural Sources	0	0
Other (list)	0	0

**Table 3-10 Status of Trends for Lakes and Reservoirs**

	<b>Number of Lakes</b>	<b>Acreage of Lakes</b>
Assessed for Trends	41	479,470
Improving	11	98,607
Stable	29	376,663
Degrading	1	4,200
Trend Unknown	0	0

### 3.9 TVA Lakes

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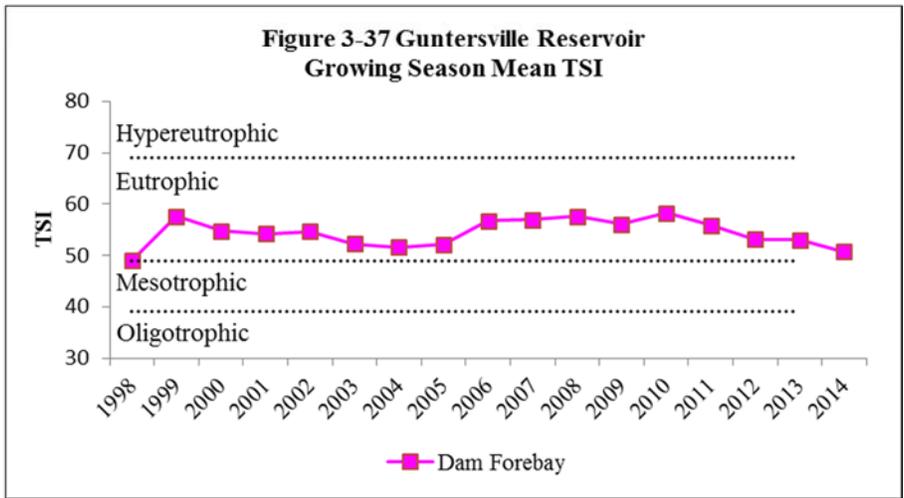
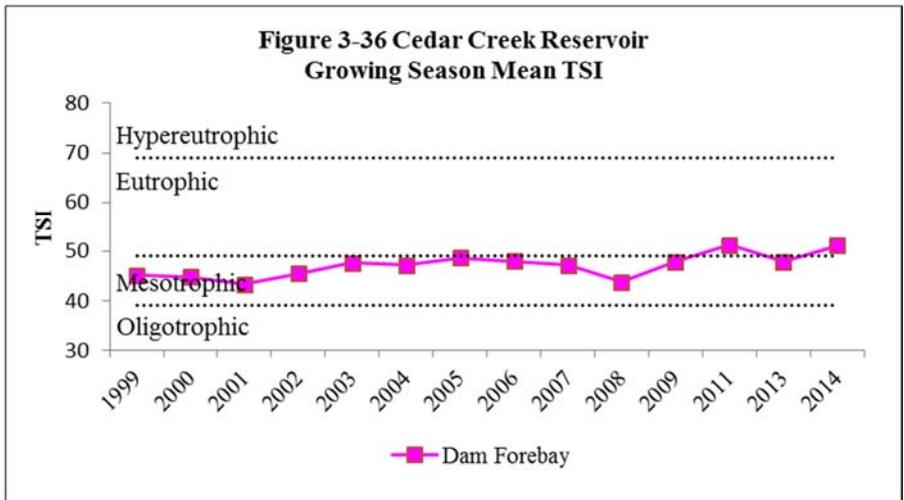
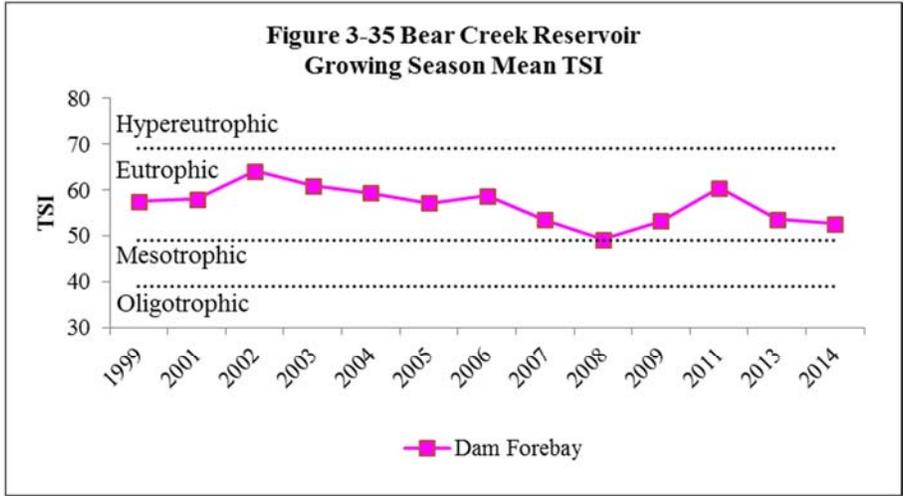
For certain lakes and reservoirs in Alabama there are waterbody-specific nutrient criteria. Nutrients may vary significantly lake-to-lake, and may vary from year to year depending on such factors as rainfall and hydraulic retention time. See Water Quality Criteria Applicable to Specific Lakes, ADEM Administrative code 335-6-10-.11. Tropic Status for TVA Reservoirs in Alabama appear in Figures 3-35 thru 3-41

For more information about TVA Lakes, contact Mr. Tyler Baker with Tennessee Valley Authority at (423)-876-6733 or [tfbaker@tva.gov](mailto:tfbaker@tva.gov).

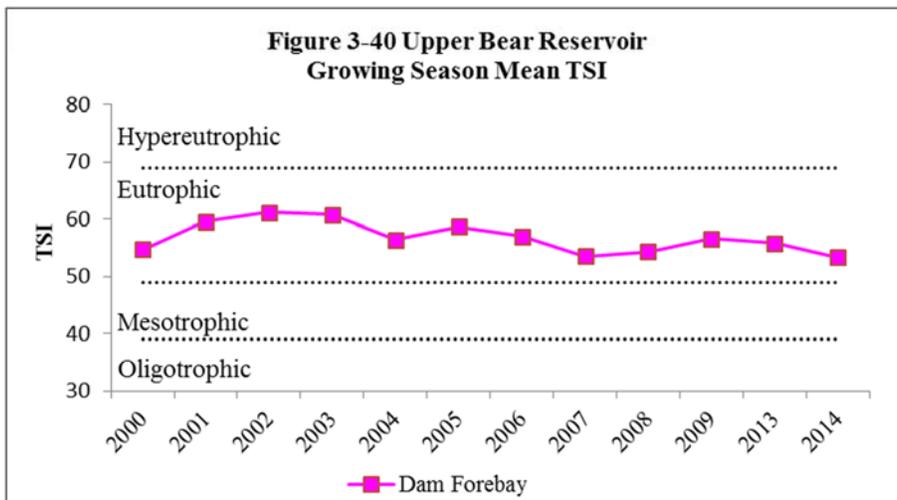
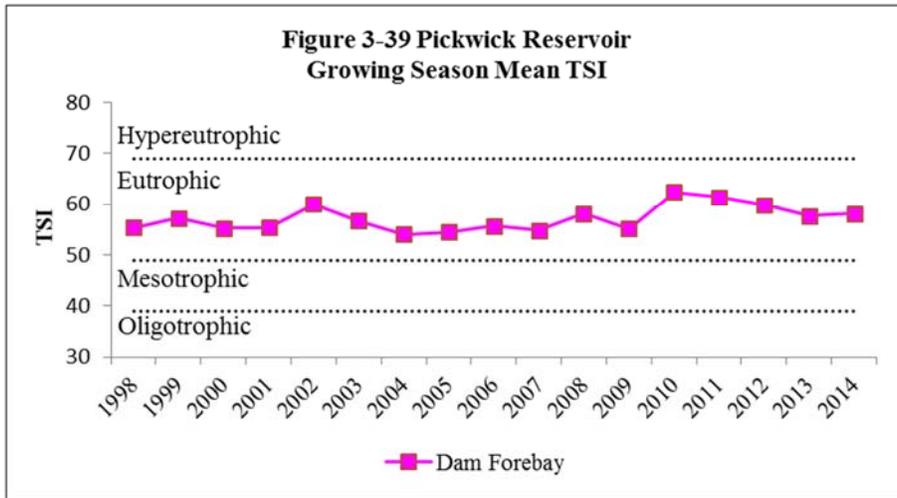
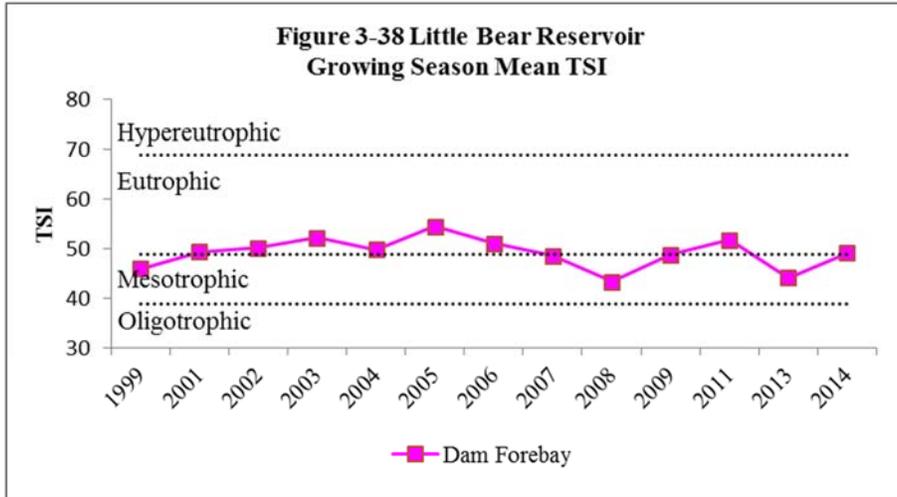
**Table 3-11 TVA Lake Sampling Chlorophyll A Sampling Locations**

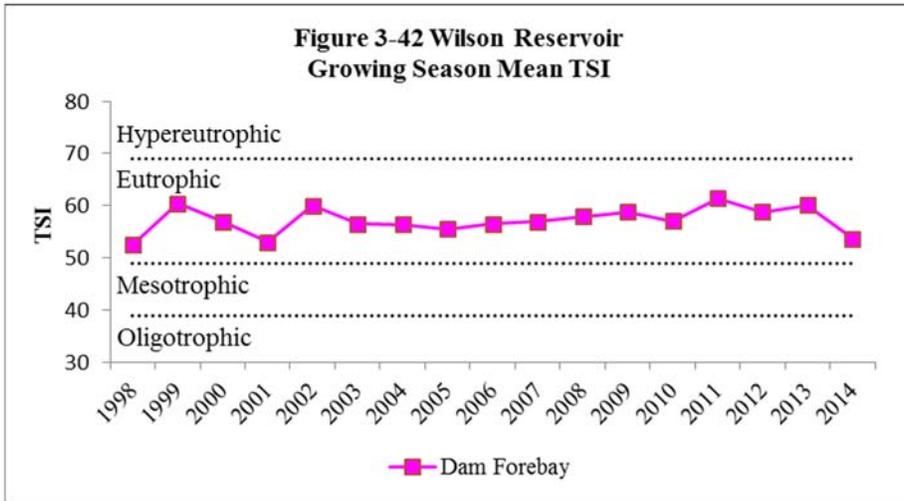
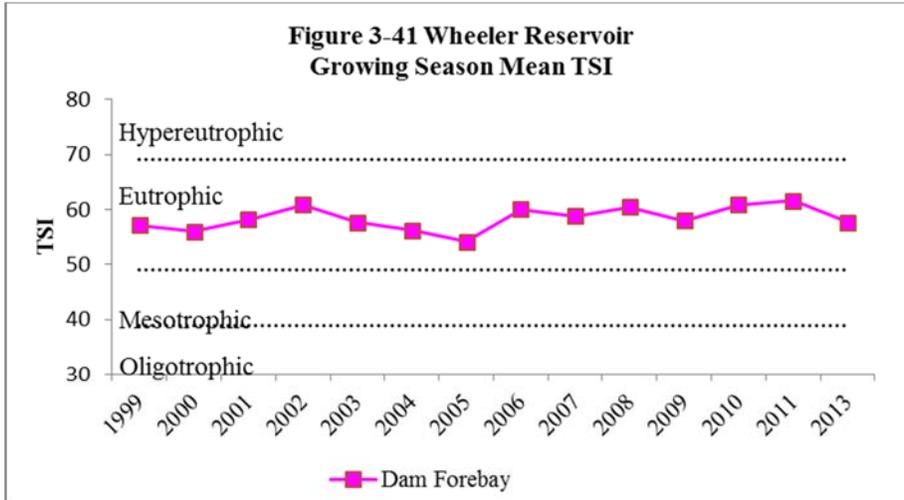
Site Code	River Mile	Reservoir	Area	Lat	Long
UBDFB	BCM 115.4	Upper Bear Creek	Forebay	34°16'37.3"	87°41'06.3"
BCDFB	BCM 75.0	Bear Creek	Forebay	34°23'55.5"	87°58'57.8"
CCDFB	CCM 25.2	Cedar Creek	Forebay	34°32'03.0"	87°57'27.3"
LBDFFB	LBCM 12.5	Little Bear	Forebay	34°27'12.7"	87°58'05.1"
PKHFB	TRM 207.3	Pickwick Land- ing	Forebay	35°04'13.0"	88°14'22.0"
WLHFB	TRM 260.8	Wilson	Forebay	34°48'30.8"	87°36'07.8"
WEHFB	TRM 277.0	Wheeler	Forebay	34°48'06.5"	87°21'15.7"
GUHFB	TRM 350.0	Guntersville	Forebay	34°25'16.1"	86°22'25.5"

**Tennessee River Basin**



**Tennessee River Basin**







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## Chapter 4 Wetlands

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### 4.1 Alabama Wetland Management Programs

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In 2006, EPA developed the *Elements of a State Water Monitoring and Assessment Program* (EPA-841-B-03) to help States plan and implement a comprehensive water quality monitoring and assessment program to protect and restore water quality of all waters of the State as described in the Clean Water Act [CWA]. The *Elements* document requires that each state develop a wetland monitoring program by 2014, and serves as a guideline to ensure that a State's Wetland Monitoring and Assessment Program not only meets the needs of the State's Monitoring Objective but also those required by the *CWA Section 106(e)(1)*.

In 2011, ADEM began sampling wetland systems statewide as part of EPA's National Wetlands Conditional Assessment Survey (NWCA), and Piedmont and Coastal Plain wetland systems beginning in 2012 as part the Southeast Wetlands Monitoring Intensification Survey, a 2-year multi-state project. ADEM reviewed the protocols assembled and data obtained during these surveys to develop a comprehensive wetland monitoring program that can be incorporated in Alabama's current Water Quality Monitoring Strategy.

This initial effort provided information that assisted the development of the current efforts aimed towards developing a 5-year Wetlands Monitoring Strategy that can be included in Alabama's overall surface water monitoring strategy. Based on prior documents (e.g. EPA's 2008 "Core Elements of an Effective State or Tribal Wetland Program Framework" -Core Elements Framework), the activities currently in process are structured to develop a *Wetlands Monitoring Program (WMP) Project* that will meet ADEM's current and future needs for ongoing development and future implementation of the Monitoring Strategy, including capacity for monitoring and assessing Category 2B and 4A wetlands, wetland restoration projects, mitigated wetlands, and protected wetland areas.

In 2014 the *Alabama Wetland Monitoring Workgroup* was established by ADEM-FOD with assistance from the ACNPCP to identify interagency partners and offer participation that would enhance future WMP development. This *Workgroup* has been working through teleconferencing and e-mail to assist the development of goals and objectives, some of which include the following:

1. Further develop the *WMP Workgroup* and identify additional program partners.
2. Identify and document essential objectives for **Alabama's Wetlands Monitoring Program**.
3. Identify the data needed to achieve these goals and objectives for wetland types statewide.
4. Determine the objectives, methods, and indicators for a first 5-yr Wetland Monitoring Strategy.

5. Design the WMP such that it may integrate and be included in Alabama's overall Surface Water Monitoring Strategy and Activities.

Eventually, ADEM's WMP will monitor and assess all wetland types statewide. However in the near term, three goals identified by the Department are scheduled for implementation during the 2015-2019 monitoring cycle:

1. Define the percentage of wetlands within wadeable river and stream watersheds. These will be distinct as a site class discrete from other wadeable river and stream system systems with little or no wetlands, based on expected chemical, physical, and biological conditions;
2. Characterize natural background conditions in the blackwater wadeable river and stream systems (braided, swamps, etc.) common in south Alabama; and
3. Characterize natural background conditions in wetland systems throughout the State.

To further these goals, ADEM convened an *Alabama Wetlands Monitoring Program Workgroup Conference* on August 26-27, 2015 to discuss and identify areas of potential collaboration, including the use of common methods, sharing data, and coordinating future wetland monitoring efforts. The overall goal of the meeting was to determine the best methods and procedures to use for the development of the Alabama Department of Environmental Management (ADEM) WMP. The workgroup consisted of 20 individuals from ten state and federal agencies with existing wetland monitoring programs or an interest in developing a program in the future. The meeting included field activities and took place at the ADEM offices in Montgomery, Alabama, August 25-27, 2015.

The *WMP Workgroup Conference* enabled ADEM to compile an inventory of ongoing monitoring in the State of Alabama and identify the steps needed to further develop a successful WMP. Five specific topics were identified as being essential for wetland program development: 1) wetland classification; 2) the purpose and objectives of each agency's individual program; 3) existing monitoring designs, sampling methods and indicators used to meet program objectives and how to obtain documents; 4) inventory of GIS datasets and tools; 5) existing maps of wetland monitoring locations.

## **4.2 Coastal Wetlands**

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Alabama's coastal counties contain approximately 271,000 acres of wetlands based upon ADEM's 305(b) report for 2002. This acreage represents 12.5% of the total acreage of the designated areas of the Alabama Coastal Nonpoint Pollution Control Program (ACNPP) Management Area. Alabama recognizes the function of coastal wetlands and the important role they play to reduce Non-Point Source (NPS) impacts and improve coastal water quality. In addition, approximately 400,000 acres of coastal streams and estuarine waters, comprising 18% of the ACNPP *Management Area*, are contained within the geographic area of Mobile and Baldwin counties. These coastal waters possess a large number of wetland, riparian and shoreline vegetative buffers that function to reduce NPS impacts and other ecosystem stressors while serving to protect coastal water quality and habitats. This sub-basin comprises the 6th largest watershed area in the United States that drains into this unique deltaic and estuarine complex contained within the southwestern region of Alabama.

Alabama manages its wetland, riparian areas and adjacent buffers as important resources that provide for protection of habitat and water quality. Alabama's Coastal Zone Management Program provides regulatory oversight, through ADEM's Coastal Section for the review, avoidance and minimization of wetland development impacts. Wetlands are permitted and mitigated through the implementation of ADEM's Administrative Code –R.335-8 for the Coastal Program. Alabama's awareness of these resources, has resulted in the development of watershed oriented projects and programs that have proactively incorporated CZARA-§6217 (g) guidance management measures within the ACNPCP *Management Area*. ADEM's Mobile Branch and Coastal Section staff have continued participation in the development and approval of proposed coastal mitigation banks throughout this area, currently totaling more than 2,513 wetland acres that have been accredited or implemented to mitigate the ACNPCP Management Area and southern Alabama.

Additionally, ADEM and the ACNPCP have continued coordination with the U.S. Fish and Wildlife Service, and the Mississippi Department of Marine Resources through the Army Corps of Engineers' Mitigation Bank Interagency Review Team (MBIRT) that developed regionalized wetland functional assessment tools as Hydro-Geomorphic (HGM) guidebooks utilized for the standardized assessment of these wetland functions for the Northern Gulf of Mexico, inclusive of Coastal Alabama habitats and functions. ADEM also coordinates with the Alabama Department of Conservation and Natural Resources (ADCNR) with NOAA's Coastal Training Program, along with the ACNPCP, to present best available wetland-related technologies in the form of technical studies, workshops, and conferences that are made available to state and federal regulatory staff, consultants, and the general public. Previous accomplishments have included the presentation of the coastal *Wetland Rapid Assessment Procedure (WRAP) Workshops* and the *Alabama Coastal Wetland Plant Identification Workshops*, the regional *Alabama Stream and Wetlands Restoration Conference*, and the *Coastal Wetlands Hydric Soils Workshops*. The ACNPCP coastal counties technical report titled, *Coastal Alabama Hydromodification and Wetlands Technical Update*, presents an in-depth catalog of wetland-related activities and programs that have been implemented for southwest Alabama.

The most recent wetlands project being implemented for Alabama has included technical assistance from the ACNPCP through 2015 to initiate the pilot development of the *Alabama Wetlands Monitoring Program* (see Section 4.1 above). This project has been developed through ADEM with coordination from EPA in order to develop a scheduled monitoring program that will collect long term wetland data, attributes and conditions that contribute to the tracking the health of waters throughout the state. For more information about Alabama's Wetland Resource Programs, contact Scott Hughes /ADEM-Field Operations Division at (334) 394-4304 or [ash@adem.state.al.us](mailto:ash@adem.state.al.us); Fred Leslie/ ADEM-Montgomery Branch at (334) 260-2748 or [fal@adem.state.al.us](mailto:fal@adem.state.al.us); Scott Brown / ADEM-Mobile Branch at (334) 432-6533 or [jsb@adem.state.al.us](mailto:jsb@adem.state.al.us)



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## Chapter 5 Groundwater

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### 5.1. Overview of State Groundwater Protection Programs

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Many of the elements of Alabama's groundwater programs listed in Table 5-1 are managed by subdivisions within the Alabama Department of Environmental Management (ADEM), including the Land, Field Operations, and Water Divisions. The Groundwater Branch in the Land Division provides the hydrogeological support for these programs. Other programs related to groundwater management and protection are managed by other state and federal agencies. The single family on-site sewage program and less than 15,000 gallon-per-day multi-family residential systems operated by management entities are managed by the Alabama Department of Public Health (ADPH). The Class II Underground Injection Control (UIC) Program is managed by the State of Alabama Oil and Gas Board. Groundwater withdrawal registrations are addressed by the Alabama Department of Economic and Community Affairs (ADECA) Office of Water Resources (Table 5-3). Other groundwater monitoring and regulatory programs are managed by the Geological Survey of Alabama and the Alabama Surface Mining Commission. The U.S. Environmental Protection Agency (EPA) provides oversight on all federally funded and delegated groundwater programs.

### 5.2 Significant State Groundwater Program Developments

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Table 5-1 shows a Summary of State Groundwater Protection Programs. The following items summarize some of the recent groundwater developments that are underway in Alabama:

1. Implementation of the Source Water Assessment Program within the ADEM Water Supply Branch regulations.
2. Implementation of revised guidance for Alabama Risk-Based Corrective Action (ARBCA) with respect to releases from structures and/or facilities other than Underground Storage Tanks (USTs). This regulatory guidance was last revised in April 2008.
3. Implementation of revised guidance for Alabama Risk-Based Corrective Action (ARBCA) with respect to releases of petroleum fuels from USTs. This guidance was last revised November 2001 and is currently under revision.
4. Implementation of FileNet Program for transference of all new documentation from paper files to electronic files allowing these files to be more easily accessible to the public. Older files are being scanned as resources allow.
5. The deadline for UST upgrades with spill, overfill and corrosion protection was December 22, 1998. Tanks should have been upgraded, replaced with a new system or permanently closed by this date. The compliance rate with these regulations is increasing with continuing enforcement of these requirements.
6. In September 1997, a contract was signed with the Geological Survey of Alabama to

**Table 5-1. Summary of State Groundwater Protection Programs**

Programs or Activities	Check	Implementation Status	Responsible State Agency (1)
Active Sara Title III Program	X	Fully established	EPA/ADEM/FOD/EMA
Ambient Groundwater Level Monitoring Program	X	Fully established	GSA
Aquifer Vulnerability Assessment	X	Fully established Being updated	ADEM/GWB
Aquifer Mapping	X	Fully established	GSA
Aquifer Characterization	X	Fully established	GSA
Brownfield Redevelopment & Voluntary Cleanup Program Regulations	X	Fully established	ADEM/HWB
Dry Cleaner Trust Fund Program	X	Fully Established	ADEM/HWB
EPA-Endorsed Core Comprehensive State Groundwater Protection Program	X	Fully established	ADEM/GWB
Groundwater discharge permits	X	Established in UIC Regulations	ADEM/UIC
Groundwater Best Management Practices			
Groundwater Legislation			
Groundwater Classification	X	Established in UIC Reg Definition	ADEM/UIC
Groundwater Quality Standards			
Groundwater Use	X	Fully established	ADECA/WRD
Interagency coordination for ground water protection initiatives	X	Continuing efforts	ADEM/GWB
Non-point Source Controls	X	Ongoing education	ADEM/FOD
NPDES Permits for Land Application Sites	X	Fully established	ADEM/MUN/IND
Pesticide State Management Plan	X	Fully established	ADA1
Pollution Prevention Program	X	Fully established	ADEM/OEO
Resource Conservation and Recovery Act (RCRA) Primacy	X	Fully established	ADEM/HWB
Source Water Assessment Program	X	Fully established	ADEM/WSB
State Groundwater Program	X	Statute Based program	ADEM/GWB
State Superfund	X	Fully established	ADEM/LD
State RCRA Program incorporating more stringent requirements than RCRA Primacy	X	Fully established	ADEM/HWB
State Septic System Regulations	X	Fully established	ADPH
Subtitle D Solid Waste Program	X	Fully established	ADEM/SWB
Underground Storage Tank Installation Requirements	X	Fully established	ADEM/GWB
Underground Storage Tank Remediation Fund	X	Fully established	ADEM/GWB
Underground Storage Tank Registration Program	X	Fully established	ADEM/GWB
Underground Injection Control Program	X	Fully established	ADEM/GWB/OGB
Vulnerability Assessment for Drinking Water/Wellhead Protection	X	Fully established	ADEM/GWB
Well Abandonment Regulations	X	WSB Regs & Guidelines	ADEM/WSB/GWB
Wellhead Protection Program (EPA-approved)	X	Fully established	ADEM/WSB
Well Installation Regulations	X	Fully established	ADEM/WSB

(1) ADEM = Alabama Department of Environmental Management, FOD = Field Operations Division, GWB = Ground Water Branch, WSB = Water Supply Branch, LD = Land Division, HWB = Hazardous Waste Branch, OEO = Office of Education and Outreach, SWB = Solid Waste Branch, MUN = Municipal Section, IND = Industrial Section, GSA = Geological Survey of Alabama, ADPH = Alabama Department of Economic and Community Affairs, Office of Water Resources, EPA = Environmental Protection Agency, EMA = Emergency Management Agency

revise a series of 13 Aquifer Vulnerability Reports. These reports are being revised by updating geologic names and terms to match the most recent state mapping, revising vulnerability maps from 1:250,000 scale to 1:100,000 scale, revising the vulnerability rating methods, updating information on public water supply wells, and inclusion of text, maps and figures in an electronic CDROM format and GIS Interactive maps. Area 13 (Baldwin and Mobile Counties), Area 10 (Washington, Choctaw and Clarke Counties), Area 5 (Coosa, Cleburne, Clay, Randolph, Tallapoosa, Chambers and Lee Counties), Area 11 (Covington, Escambia, Monroe, Clarke, Butler and Crenshaw Counties), and Area 4 (Jefferson, St. Clair, Calhoun, Talladega and Shelby Counties) have been completed and published as a compact discs. GSA has completed the review process for Area 2 and it is available online. Areas yet to be completed are now linked to the Geological Survey of Alabama Statewide Groundwater Assessment and will be completed as the statewide assessment progresses. Data collection and interpretation for Area 12 is complete. Graphics are now complete and report is completed. Formatting of statewide assessment report into the Vulnerability Area report format still needs to be completed. Data collection for Area 9 is near completion.

7. Interpretation is underway. Regulations have been developed and implemented by ADEM to manage Concentrated Animal Feeding Operations (CAFOs). Hydrogeologic site evaluations and groundwater monitoring requirements have been included in the regulations as part of siting and operation requirements for CAFO lagoons and land application sites.
8. The U.S. Geological Survey has completed the National Water Quality Assessment that includes significant parts of Alabama's Mobile River and Lower Tennessee River Basins.
9. The Alabama Department of Public Health has completed its on-site sewage regulations that went into effect on March 9, 2006.

### **5.3 Summary of Groundwater Contamination Sources**

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#### **5.3.1 Reporting Area**

There are five Physiographic Sections in Alabama (Figure 5-1). ADEM has selected the Cumberland Plateau Physiographic Section (Figure 5-2) for evaluation during this reporting period. This area includes all or parts of 16 counties in north Alabama that are underlain by three major aquifer outcrop areas. These aquifers in the reporting area are significant sources of drinking water supplies for private residential use as well as for municipalities. Counties included in the reporting area in whole or part are Blount, Cherokee, Cullman, DeKalb, Etowah, Fayette, Franklin, Jackson, Jefferson, Lawrence, Madison, Marion, Marshall, Morgan, Tuscaloosa, and Walker. Data contained in Tables 5-2 and 5-3 were queried and retrieved by county. Some overlap of data from physiographic districts not included in the reporting area is shown where the above-mentioned counties do not lie wholly within the report's selected physiographic districts.

### **5.3.2 Data Review and Compilation**

Hydrogeologists from the ADEM Groundwater Branch are assigned to the major groundwater regulatory programs as part of the Comprehensive State Groundwater Protection Program. The information contained in Table 5-2, Groundwater Contamination Summary, was researched from ADEM's electronic databases and prepared by the hydrogeologists assigned to each of the programs listed under the Source type column.

### **5.3.3 Superfund CERCLIS and DOD Sites**

ADEM's Land Division works with EPA and the Department of Defense (DOD) to manage these types of sites. No facilities identified in Table 5-2 are listed on the National Priority List (NPL) in the reporting area. There are no CERCLIS (non-NPL) sites located in the reporting area that could have a confirmed release of contaminants into groundwater. These are sites where state and federal funds could be used to conduct preliminary and secondary assessments by ADEM and EPA. There is one DOD facility located within the reporting area. Active DOD facilities with ongoing site assessments are primarily funded through the Defense Environmental Restoration Program. However, the DOD facility located in this province is classified as a Formerly Used Defense Sites (FUDS). Therefore, the property is eligible for Defense Environment Restoration Account funding under the FUDS program. Environmental cleanup at FUDS properties is conducted in accordance with CERCLA. Corrective action to remediate disposed munitions has occurred in the past. Investigations and corrective action for additional areas are currently planned. Groundwater has been investigated for explosives and VOCs.

### **5.3.4 Underground Storage Tank Program**

The largest category of sites listed in Table 5-2 is Underground Storage Tanks (USTs). There are 124 UST sites in the reporting area that have been assessed for impacted groundwater. These sites are managed by the ADEM Groundwater Branch. Assessment and remediation of eligible sites is funded through the State UST Trust Fund. Many of the cleanups listed include free product, source and soil removals. Active groundwater remediation systems are also included. Most of these cleanups involve gasoline releases, but also include releases of diesel fuel oils and hazardous substances. The petroleum fuels include compounds such as Benzene, Ethylbenzene, Toluene, and Xylene (BTEX), Polynuclear Aromatic Hydrocarbons (PAHs), Methyl Tertiary Butyl Ether (MTBE), and Lead that affect groundwater quality. Monitoring for MTBE at UST sites has been required since 1996.

### **5.3.5 Hazardous Waste Management Program (RCRA)**

There are three hazardous waste sites managed under the Resource Conservation and Recovery Act (RCRA) program identified in the reporting area. The ADEM Land Division's Hazardous Waste Branch manages these sites. These sites require extensive assessment, permitting, and reporting requirements. Releases associated with these sites are persistent and difficult to assess and remediate. Compounds such as chlorinated VOCs and BTEX associated with

hazardous waste generated by the facilities are present in many instances and have properties that make remediation problematic.

### **5.3.6 Alabama Brownfield & Voluntary Cleanup Program**

The ADEM's Land Division administers the Brownfield Redevelopment and Voluntary Cleanup Program pursuant to the Alabama Land Recycling and Redevelopment Act, Code of Alabama 1975, § 22-30E-4 (ADEM Admin. Code Rule 335-15-x-xx). The program provides a mechanism for the implementation of a cleanup program that encourages applicants to voluntarily assess, remediate and reuse rural and urban areas with actual or perceived contamination. There are 12 sites managed under the Alabama Brownfields and Voluntary Cleanup Program within the reporting area. Groundwater impacted with constituents such as VOCs and metals are associated with these sites.

### **5.3.7 Alabama Drycleaning Trust Fund Program**

The ADEM's Land Division administers the Alabama Drycleaning Environmental Response Trust Fund (DERTF) Program pursuant to the Alabama Drycleaning Environmental Response Trust Fund Act, Code of Alabama, 1975, § 22-30D-1 et. seq. (ADEM Admin. Code Rule 335-16-x-xx). The program established: (1) performance standards for facilities brought into use after May 24, 2003; (2) a schedule for the retrofit of facilities that were in existence prior to May 24, 2000; (3) criteria required for reporting a suspected release or site discovery; and (4) requirements for initial investigation, assessment, and remediation of contamination. There is one facility managed under the Alabama DERTF in the reporting area. VOCs associated with chlorinated solvents have impacted soil and groundwater at this site.

### **5.3.8 Underground Injection Control Program**

The Underground Injection Control (UIC) program is managed by the ADEM Groundwater Branch. There are 61 sites that have been permitted for underground injection in the reporting area. Sites with impacted groundwater are under investigated through other programs. Each Class V UIC facility in the State is required to operate under an individual performance-based discharge permit issued by the UIC Program. The UIC program reviews permit applications; issues individual performance-based discharge permits for all Class V facilities, and inspects and tracks Class V facilities for compliance. In this reporting area, permits are issued to Class V facilities for the subsurface injection of treated wastewater from various industrial and commercial activities, and for the injection of materials intended to aid remediation at existing contamination sites. Some types of activities that are permitted and regulated by the UIC Program include discharges from clustered on-site sewage Waste Water Treatment Plants (WWTPs), coal washing operations at coal mines, poultry processors, laundromats, truck and car washes, as well as other industrial or commercial activities. State UIC regulations prohibit the discharge from a Class V injection well that would cause an exceedance of federally established maximum contaminant limits (MCLs) in receiving groundwater. Class I and Class IV UIC wells are prohibited in the State of Alabama and Class II UIC wells are managed by the State of Alabama Oil and Gas Board.

### **5.3.9 State Groundwater Program**

**Table 5-2. Groundwater Contamination Summary (2014-2015)**

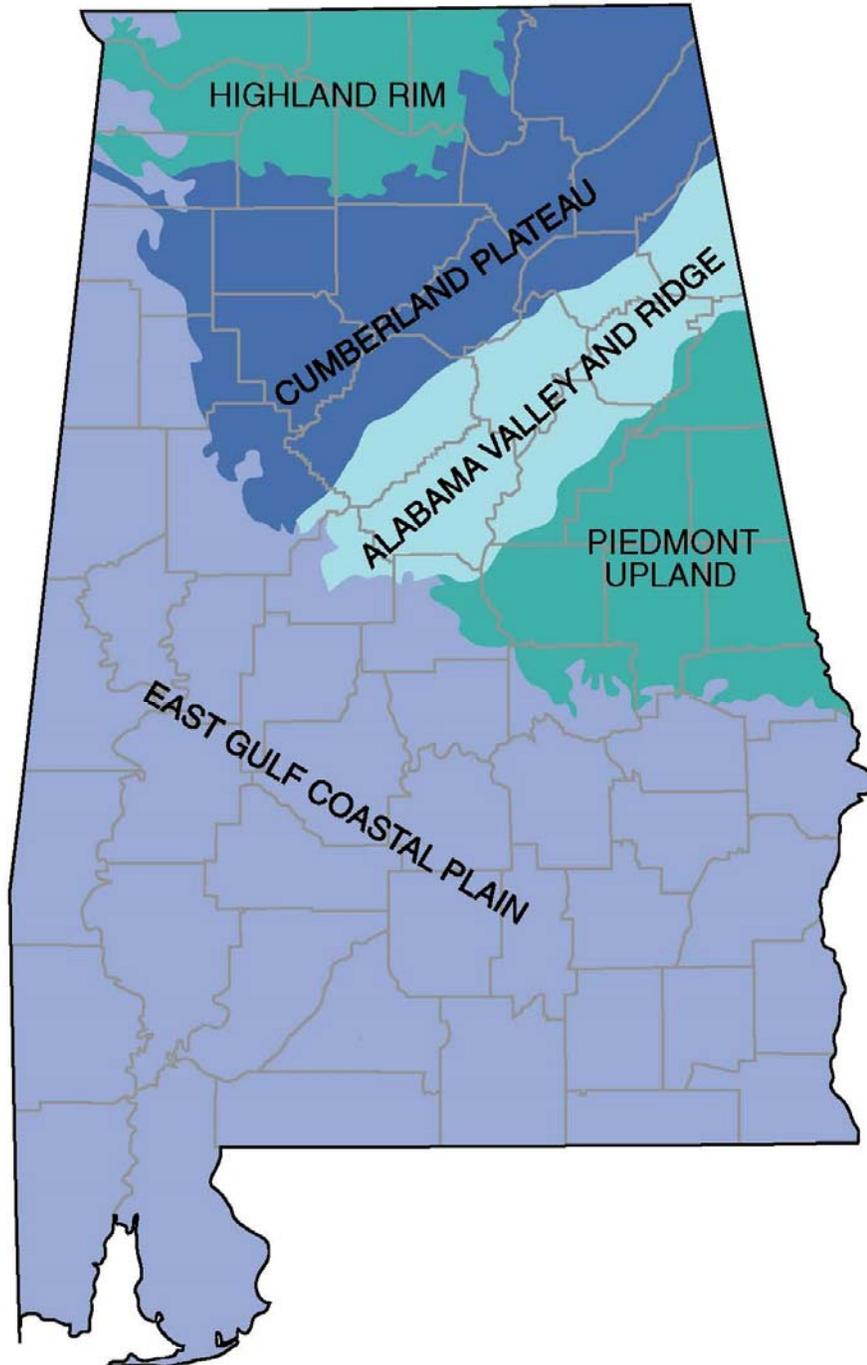
Source Type	Number of Sites	Number of sites that are listed and/or have confirmed releases	Number with confirmed groundwater contamination	Contaminants	Number of Site Investigations (optional)	Number of sites that have been stabilized or have had the source removed	Number of sites with corrective action plans (optional)	Number of sites with active remediation (optional)	Number of sites with cleanup completed (optional)
NPL	0	0	0						
CERCLIS (non-NPL)	0	0	0						
DOD/DOE	1	1	1	Explosives and VOCs	1	1	1	0	0
Brownfields & VCP Sites	12	7	7	VOCs and metals	12	2	11	10	2
Drycleaning Trust Fund	1	1	1	Chlorinated VOCs	1	0	1	0	0
UST #	124	124	102	Petroleum hydrocarbons (BTEX, MTBE, PAHs, lead et al)	104	114	73	70	N/A
RCRA Corrective Action	3	3	3	Cadmium, chromium, lead, trichloroethene and other chlorinated VOC	3	2	2	0	0
Underground Injection *	61			Petroleum hydrocarbons (BTEX, MTBE, PAHs, lead et al)					
Toxic Substance Control Act PCBs	1	1	0	PCBs	1	0	0	0	0
State Sites	13	11	11	Metals, Chlorinated VOCs, SVOCs, Petroleum hydrocarbons, and nitrate	11		2	3	2
Solid Waste	11	1	1	Metals and VOCs	1	0	0	0	0
<b>Totals</b>	<b>227</b>	<b>149</b>	<b>126</b>		<b>134</b>	<b>119</b>	<b>90</b>	<b>83</b>	<b>4</b>

Hydrogeologic Setting: Alabama Cumberland Plateau Physiographic Section Map Available: See Figure 5-1 Date Reporting Period: 2014-2015

\* Sites for Underground Injection are investigated through other programs (primarily UST)

# The number of UST sites reflects releases that have been reported but are not yet closed/NFA.

Figure 5-1 Alabama Physiographic Sections



Produced by the Dept. of Geography  
College of Arts and Sciences  
The University of Alabama

**Table 5-3. Groundwater Withdrawals, Overall by Categories, by County - Alabama (2010)**

Water withdrawals (Mgal/d)																				
County	Public Supply		Commercial		Domestic		Industrial		Thermoelectric		Mining		Livestock		Aquaculture		Irrigation		Total	
	Fresh	Saline	Fresh		Fresh	Saline	Fresh	Saline	Fresh	Saline	Fresh	Saline	Fresh	Saline	Fresh	Saline	Fresh	Saline	Fresh	Saline
Blount	2.44				0.89	0.00			0.00		0.12		0.47	0.00			0.25	4.17		
Cullman	0.48				0.24	0.43			0.00		0.01		1.04	0.00			0.57	2.77		
Dekalb	0.81				1.32	0.77			0.00		0.07		0.97	0.00			0.46	4.40		
Etowah	4.67				0.31	0.00			0.00		0.24		0.19	0.00			0.13	5.54		
Fayette	0.05				0.52	0.00			0.00		0.00		0.07	0.02			0.00	0.66		
Franklin	1.08				0.51	0.00			0.00		0.31		0.32	0.00			0.00	2.22		
Jackson	0.67				0.82	0.00			0.00		0.06		0.32	0.00			0.17	2.04		
Jefferson	8.44				0.46	0.50			0.00		0.85		0.03	0.01			0.13	10.42		
Lawrence	0.00				0.38	0.00			0.00		0.01		0.30	0.05			0.19	0.93		
Madison	28.64				0.78	0.00			0.00		0.31		0.12	0.00			3.71	33.56		
Marion	0.70				0.76	0.00			0.00		0.03		0.18	0.00			0.16	1.83		
Marshall	4.35				0.48	0.38			0.00		0.12		0.59	0.00			0.37	6.29		
Morgan	0.00				0.28	0.00			0.00		0.26		0.30	0.02			0.14	1.00		
Tuscaloosa	1.47				0.82	0.74			0.00		0.00		0.09	0.04			1.10	4.26		
Walker	0.16				0.44	0.00			0.00		0.12		0.12	0.01			0.22	1.07		
Winston	0.00				0.66	0.00			0.00		0.11		0.17	0.00			0.00	0.94		
<b>Total:</b>	<b>53.96</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>9.67</b>	<b>2.82</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>2.62</b>	<b>0.00</b>	<b>5.28</b>	<b>0.15</b>	<b>0.00</b>	<b>0.00</b>	<b>7.60</b>	<b>82.10</b>	<b>0.00</b>	<b>0.00</b>

Source: Estimated Use of Water in Alabama in 2010, Published 2015 by ADECA-OWR  
 Contact: Tom Littlepage, Office of Water Resources, Alabama Department of Economic & Community Affairs

There are 13 facilities managed under the State Groundwater Program within this reporting area. State Groundwater Program sites are those that are not regulated by established programs such as CERCLA, RCRA, UIC, UST, DERTF or the Brownfields & Voluntary Cleanup programs. Sites such as releases from bulk petroleum storage facilities, pipelines, and otherwise unregulated chemical spills are assessed and remediated using the authority of the Alabama Water Pollution Control Act (AWPCA). Releases from these sites are in many cases reported by the responsible party through company initiated environmental audits or are discovered as a result of real estate assessments during property transactions. Other groundwater incidents are discovered and reported to the Department by citizens or discovered through inspections. The responsible party is required to perform assessment and cleanup of these sites. Many types of contaminant releases have been addressed by this program.

### **5.3.10 Solid Waste Program**

There are 11 solid waste facilities managed under the Solid Waste Program within the reporting area. The ADEM Land Division's Solid Waste Branch manages these sites, and includes extensive assessment, permitting, and reporting requirements. Analytical data associated with these sites documents that metals and VOCs are the primary constituents of concern.

## **5.4 Summary of Groundwater Quality**

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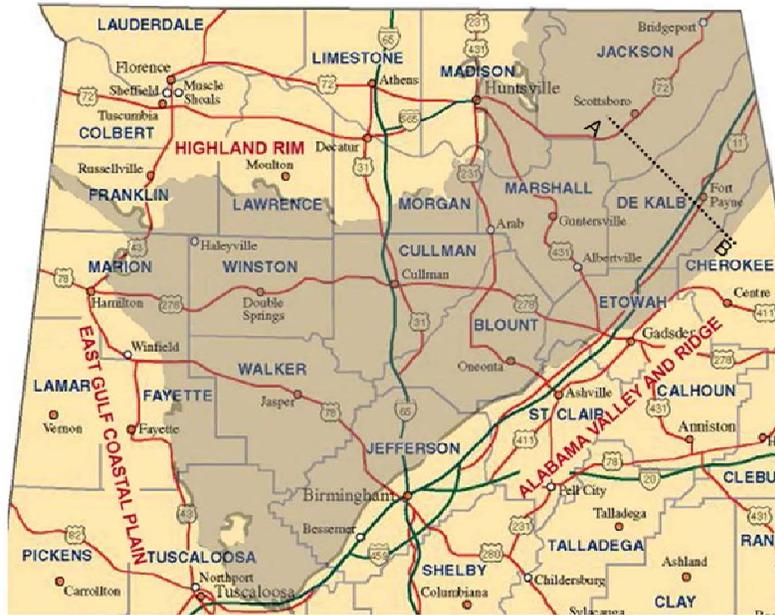
### **5.4.1 Hydrogeology**

The Cumberland Plateau Physiographic Section in Alabama (Figure 5-2) was described by Moore (1976) as "a submaturely-to maturely-dissected upland which is underlain largely by nearly flat lying rocks of Pennsylvanian age but contains anticlinal valleys of older Paleozoic limestone and dolomite. In northern Alabama the upland lies at an altitude between 1,500 and 2,000 feet and to the south the altitude is about 500 feet, where it passes under deposits of the Coastal Plain. The eastern boundary of the plateau is formed by an outward-facing escarpment of Little Mountain which overlooks the Highland Rim Section of the Interior Low Plateaus. To the west and south, the boundary follows the edge of the Coastal Plain, where the older Pennsylvanian rocks pass beneath the sand, clay, and gravel of the Tuscaloosa Group."

In Alabama the Cumberland Plateau Section is divided into the Warrior Basin, Jackson County Mountains, Sand Mountain, Sequatchie Valley, Blount Mountain, Murphree's Valley, Wills Valley, and Lookout Mountain Districts.

The Pottsville Formation has the largest outcrop area in this province and consists of consolidated and tightly cemented interbeds of quartzose sandstone, shale, siltstone, conglomerate, limestone, and clay with several bituminous coal beds. Hinkle (1976) indicated that the thickness of the Pottsville Formation ranges from less than 300 feet to 9000 feet in the Cahaba coal field. The Pottsville aquifer outcrop area includes the entire Warrior coal basin, Blount Mountain, Lookout Mountain and Sand Mountain. It also caps the high table-like areas of the Cumberland Plateau north of the Tennessee River and forms most of the Coosa and Cahaba Ridges. Structurally the rocks in Pottsville outcrop areas are relatively flat lying and dip to the southwest at 30 to 40 feet per mile. There are areas where faulting and folding have taken place.

Figure 5-2 Cumberland Plateau and Cross-Section



Location map of the Cumberland Plateau. (Base maps from Cartography Research Lab, University of Alabama)

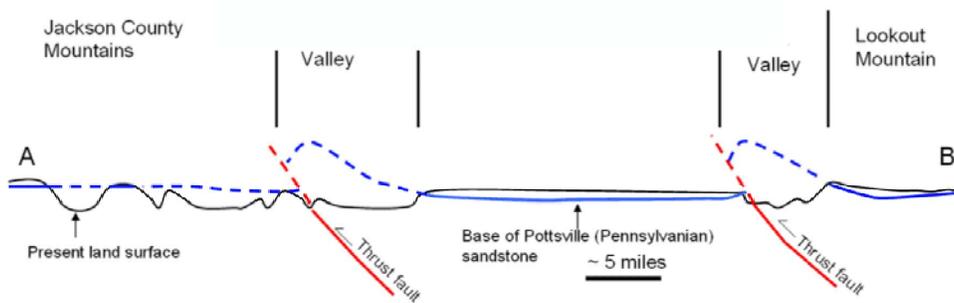
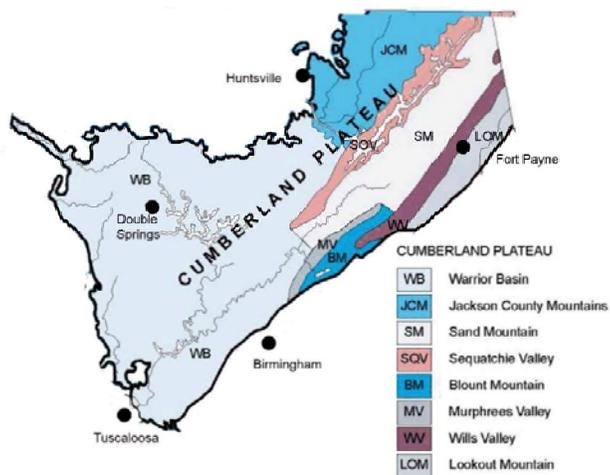


Figure 3: Cross-section A-B (see Figure 1 for location) showing the major geologic structures in the Cumberland Plateau. The blue line shows the base of the Pottsville Formation, the most resistant rock in the area. The blue and red broken lines show the approximate location of the Pottsville and the thrust faults before erosion has reduced the surface to the black solid line.

The Pottsville aquifer yields ground water from fractures, joints, and bedding planes. Relatively small quantities of ground water are produced from wells that are generally less than 100 feet in depth. The average yield is 10 gallons per minute (gpm); however some wells have produced up to 375 gpm. Wells completed on Lookout Mountain yield 25 gpm where the aquifer is 250 feet thick (Hinkle, 1976).

The Sequatchie Valley is a narrow faulted valley that trends from the northeast corner of Alabama for 100 miles to the southwest where its older rocks disappear under the younger Pottsville Formation (Moore, 1967). This valley is developed on the crest of the Sequatchie anticline and is underlain by carbonate rocks of Paleozoic age.

Murphree's Valley is a faulted valley approximately 40 miles in length and two to three miles wide. It trends from the northeast to the southwest through Etowah, Blount, and Jefferson Counties. Moore (1967) indicated that a thrust fault forms the eastern margin of this valley. Rocks of Paleozoic age form the valley floor and dip steeply to the northwest. Wills Valley runs astride I-65 from the town of Attalla, in Etowah County, to the Alabama-Georgia border. The valley is about 70 miles long and ranges in width from less than two miles in the southwest to about six miles across in the northeast. Lookout Mountain lies to the east of Wills Valley and stretches from the Georgia to Gadsden, in Etowah County. It continues through northwest Georgia to Chattanooga, Tennessee. Lookout Mountain is narrower and shorter than Sand Mountain

The Tuscumbia Limestone and the Fort Payne Chert geologic formations and associated aquifers crop out in thin belts along the flanks of the Sequatchie, and Murphree's Valleys and are the principal water bearing units in the valleys according to Bossong (1989). Also included are lesser aquifers within the Bangor Limestone, the Pride-Mountain Formation, the Harstelle Sandstone, and the Monteagle Limestone. These formations are consolidated sedimentary rocks of Mississippian to Cambrian age. Ground water in these aquifers is found in solution cavities, joints, and other secondary features. Primary porosity and permeability in most of these rocks are limited. Production rates vary from a gallon per minute or less to thousands of gpm.

#### **5.4.4 General Statement of Ground Water Quality and Vulnerability**

The shallow aquifers in the Cumberland Plateau Ground Water Province are considered vulnerable to contamination from surface sources through fractures and sinkholes that provide for direct recharge to the subsurface. Other deeper aquifers are in some cases better protected by confining shale and clay beds. Ground water in the Pottsville is generally poor in quality because of high concentrations of naturally occurring iron and other inorganic compounds.

Other aquifers in the valleys in and adjacent to the Cumberland Plateau produce good quality ground water from carbonate rocks. These aquifers are highly vulnerable to contamination from surface sources through karst features that provide direct access from the surface into the aquifer. In many cases bacteria originating from a variety of surface sources are a common contaminant. For more information about Groundwater Programs, contact Whit Slagle /ADEM -Montgomery at (334) 271-7831 or [cws@adem.state.al.us](mailto:cws@adem.state.al.us).



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## Chapter 6 Coastal Waters

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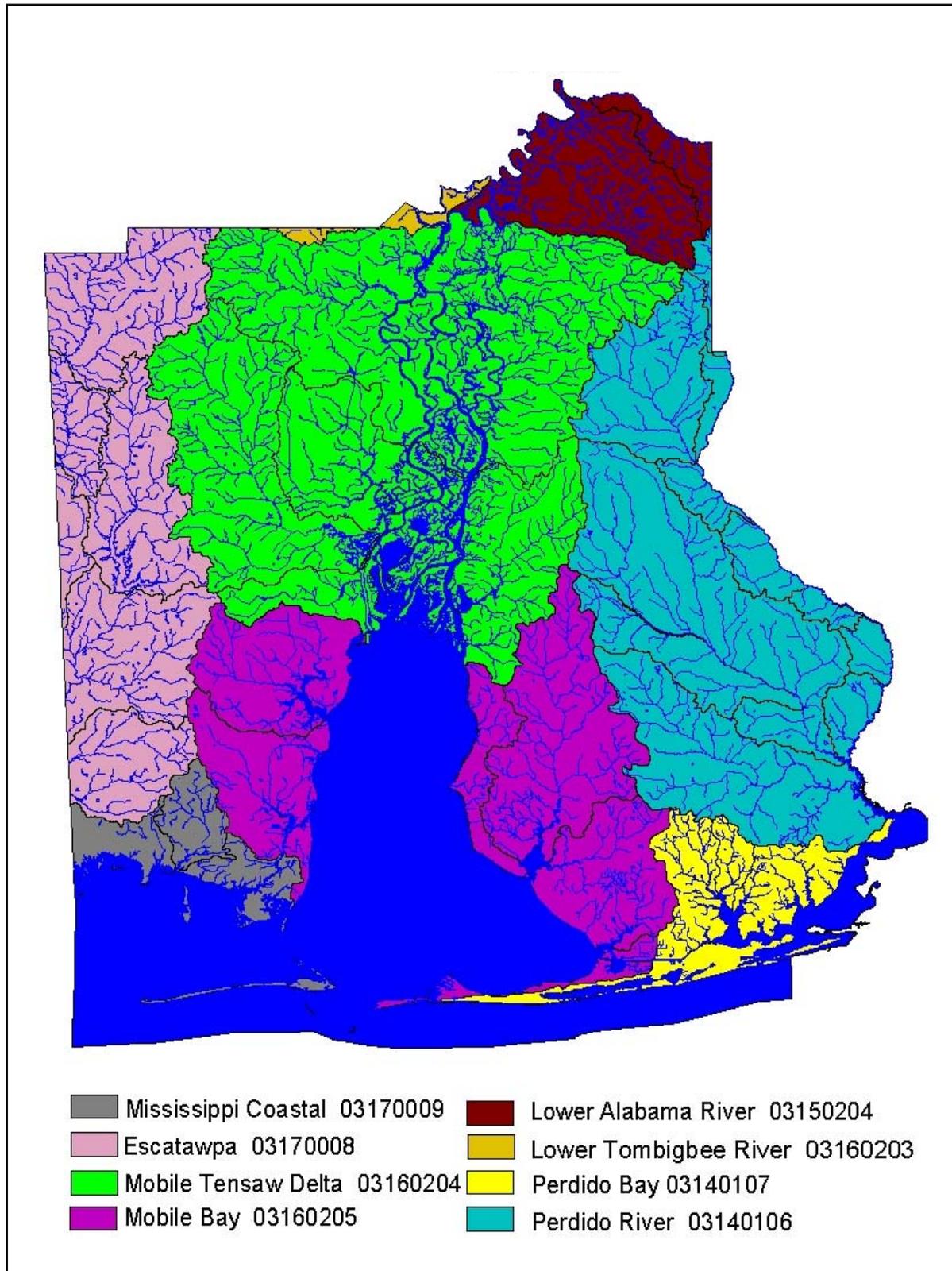
### 6.1 Alabama Coastal Nonpoint Pollution Control Program (ACNPCP)

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In June 1998, the NOAA-Office of Coastal and Resource Management (OCRM) and USEPA awarded conditional approval to the Alabama Coastal Nonpoint Pollution Control Program (ACNPCP). Since achieving conditional approval, ADEM has further developed the ACNPCP, seeking full program approval, in order to ensure that program components are implemented to the maximum extent practicable. The approved ACNPCP Management Area is inclusive of the subwatersheds of the Escatawpa River, Mobile-Tensaw Rivers, and Perdido River Sub-Basins, that are contained within the geo-political boundaries of Baldwin and Mobile Counties. Figure 6-1 depicts this *ACNPCP Management Area*.

ADEM continues to work with ADCNR-State Lands-Coastal Section, NOAA-OCRM, USEPA and other State and federal agencies to coordinate the Alabama Coastal Nonpoint Pollution Control Program (ACNPCP). ADEM and ADCNR jointly submitted the *ACNPCP: 2003 Submission Documentation; Response to NOAA/EPA Conditional Approval Items*; July 31, 2003, wherein the State described new and expanded program components that demonstrate an approvable ACNPCP. This submission included a 250 page description of the Program with over 500 supporting documents, which include statewide and coastal projects and programs that have been developed or tailored to address the ACNPCP management measures. This documentation was augmented by the submission of the *ACNPCP: Response to "Final Administrative Changes" Guidance; ACNPCP 2003 Submission Support Document*; October 31, 2003, that provided the enforcement policy, long term strategy and implementation planning documentation requested by the federal review agencies to complete their approval review process. The State is in the process of a new sequential category submission process documenting the State's approach and implementation of over 34 supporting projects that address the joint NOAA/EPA Interim Decision Document for Unapproved Conditions of ACNPCP (February 16, 2005). These new Submissions outline the recommended actions implemented by Alabama to help the State gain federal approval and allow full program implementation. The ACNPCP utilizes partnerships with Federal, State and Local agencies, businesses, organizations and decision makers to influence the implementation of items necessary to achieve program approval and operation. Over the last 16 years the ACNPCP has facilitated the development of the Coastal Alabama Clean Water Partnership, which provides for a broad-based Technical Advisory Committee (TAC), and the Coastal Alabama Nonpoint Source Resources Matrix (CNPS-Matrix) The ACNPCP also works with the ADEM-§319 program to address nonpoint source pollution management program needs and issues. These various forums are utilized to enhance coordination and cooperation regarding coastal water quality resources management. NOAA-OCRM, USEPA, ADEM-§319, ADCNR-State Lands, and many other agency environmental partners have helped to further administrative coordination and interagency cooperation.

Figure 6-1 ACNPCP Management Area



ADEM has engaged in many ongoing projects pertinent to ACNPCP that monitor and promote the effectiveness of nonpoint source pollution controls, CZARA-§6217 management measures, and program approval criteria. ADEM's CNPCP submitted the initial *Coastal Monitoring Plan for the ACNPCP; Mobile and Baldwin Counties, Alabama*. This plan incorporates monitoring activities being conducted through ADEM, within the ACNPCP Management Area. ADEM staff continue extensive field monitoring efforts to conduct specific baseline or Land-Use Category (LUC) BMP Surveys, Targeted Water Quality Studies, inspections of construction, stormwater and mining operations, and targeted Watershed Studies within the ACNPCP Management Area. The ACNPCP has also provided valuable coordination toward the development of the new *Alabama Coastal Water Quality Monitoring (CAWQM) Program* -see Section 6.3 below.

ADEM Activities have been expanded considerably to coordinate closely with ADEM-319, Coastal States Organization (CSO), the Gulf of Mexico Alliance (GOMA), Alabama Clean Water Partnership, and other Program partners and projects in order to specifically address approval criteria for the Program. ADEM's ACNPCP Coordinator has served as national Chair of the CSO's Coastal NPS (6217) WorkGroup since October of 2010. This position serves the national Coastal NPS WorkGroup (coordinating directly with the federal NOAA and EPA representatives, CSO Director, Counsel and Staff, Sub Committees, as well as other State representatives) to provide monthly national Teleconferences that are directed toward the promotion, approval and implementation of State CNPCPs. This is an ongoing forum for all states' Coastal Nonpoint Programs, with over 105 WorkGroup members affiliated through the server for this forum.

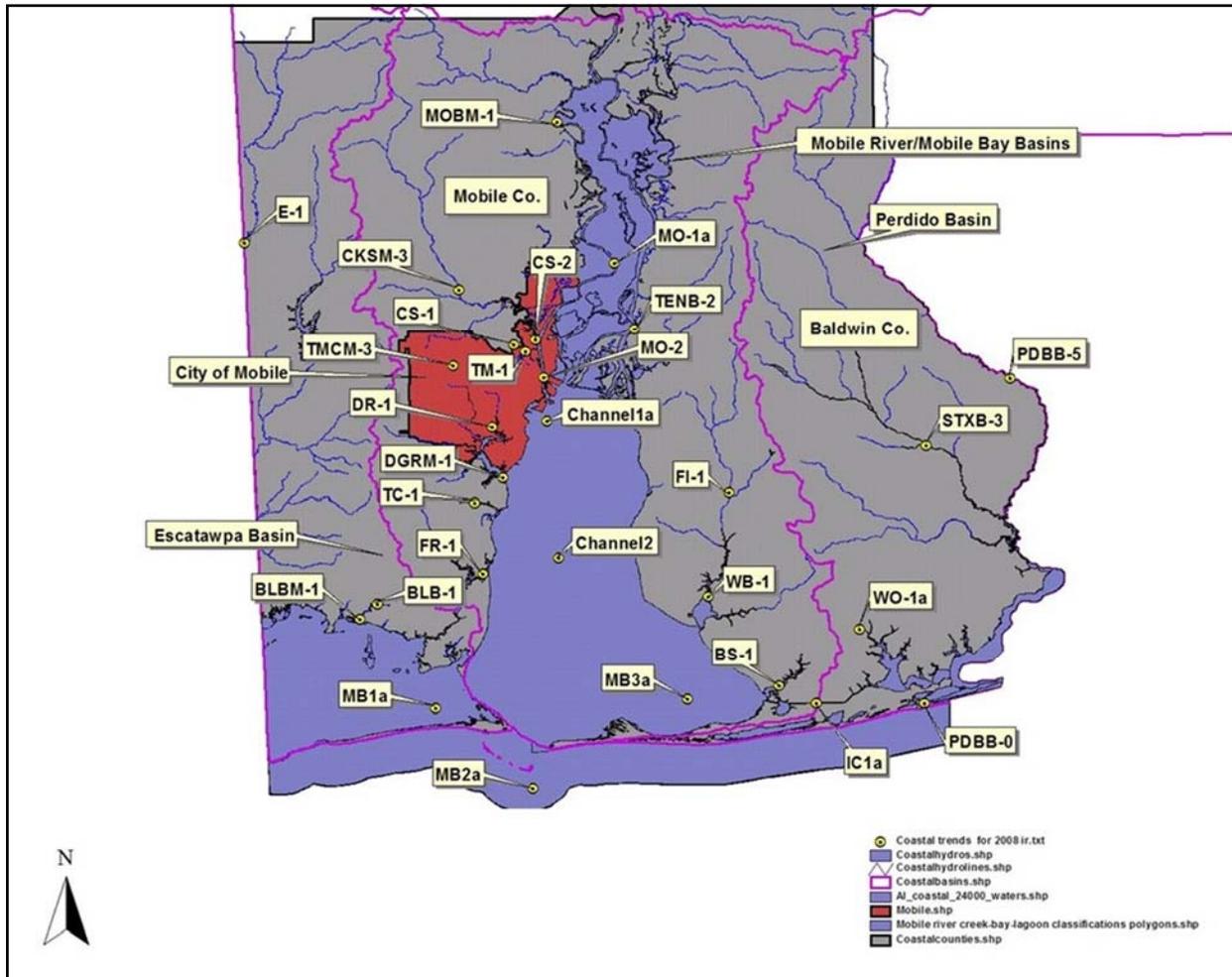
The ADEM staff has continued to provide technical advice and technical coordination with ADCNR and the Mobile Bay NEP, NRCS, USFWS, COE-Mobile District, MS-AL Sea Grant, the Nature Conservancy, and others, including cooperation with local County and Municipal entities to develop the following ACNPCP applicable projects and programs to address approval components for these categories:

A. AGRICULTURE:

1.) *Alabama's Coastal Nonpoint Pollution Control Program Interim Decision Document Response and Implemented Strategy for Final Category Approval for Agriculture:* ADEM-ACNPCP has engaged directly with ADCNR-State Lands and ADEM-Field Operations Division in order to submit the state's response addressing the IDD "Recommended Actions" for the Agriculture Category. Formal submissions by the State to the Federal entities (NOAA-OCM and EPA) include detailed Agriculture Submission information that was submitted in February of 2015. The federal partners deemed this category "conditionally approved" in November, 2015.

2.) *Coastal Alabama Regional NO TILL Grain Drill (NTGD) Program:* The continued implementation and monitoring of Agriculture-related measures are realized through the newest ACNPCP project being implemented through the local Soil and Water Conservation Districts using ADEM-319 funds. Both Mobile and Baldwin Counties

Figure 6-2 Active Coastal Trend Stations



have contracted to purchase this erosion stabilization equipment and through a series of six collaborative Workshops, they have provided field demonstrations that raise awareness and educate the local public concerning their use and importance. This Program provides access and long-term maintenance, enabling maximum application for these machines for farmers participating within each coastal county. The machines are recording acres of use (~2000 acres to date) and the SWCDs will identify the HUCS and tally projected soil loss reduction as a result of these and project associated practices. The No Till equipment was bid out, ordered and was delivered to the SWCDs in August of 2015. The SWCDs will continue implementation of this project into 2016, with monitoring and tracking of its use projected for the next ten years.

**B. URBAN AREAS:**

ADEM-ACNPCP staff participates in many coordination meetings, projects development, implementation activities, local, regional, and national events and trainings that support *Urban Areas* measures for this Program category.

1.) *ACNPCP Technical Advisory Projects for Urban Areas MMs*

Category efforts during this period that focused on addressing Urban Areas impacts and related

**Table 6-1 Active Coastal Trend Stations**

Station	Station Location	Latitude	Longitude
BLB-1	Bayou La Batre @ AL Hwy 188	30.40556	-88.24806
BLBM-1	Bayou La Batre in channel next to light approx. 0.4 miles upstream of mouth	30.38670	-88.27000
BS-1	Bon Secour River at Oyster Bay Canal	30.30139	-87.73542
Channel1a	Mobile ship channel just south of Arlington ship channel @ channel marker 76	30.63637	-88.03165
Channel2	Mobile ship channel south of Galliard Island @ channel marker 51	30.46424	-88.01657
CKSM-3	Chickasaw Creek @ State Highway 158	30.80297	-88.14334
CS-1	Chickasaw Creek on north side U.S. Hwy 43 Bridge Crossing	30.73258	-88.07330
CS-2	Chickasaw Creek on north side of CSX RR Crossing @ confluence with Mobile River	30.73911	-88.04561
DR-1	Dog River @ Luscher Park Boat Launch near I-10	30.62861	-88.10139
DGRM-1	Dog River in main channel at State Highway 163	30.56510	-88.08780
E-1	Escatawpa River @ U.S. Hwy 98 (Moffat Road) near Mississippi/Ala state line	30.86241	-88.41769
FI-1	Fish River @ State Hwy 104	30.54542	-87.79861
FR-1	Fowl River @ State Hwy 193	30.44403	-88.11333
IC1a	Intracoastal Waterway @ State Highway 59	30.27930	-87.68700
MB1a	Intracoastal Waterway on east side of Portersville Bay @ buoy 25	30.27308	-88.17317
MB2a	Mobile ship channel just south of Sand Island Light House in the Gulf of Mexico @ buoy 10	30.17180	-88.04895
MB3a	Intracoastal Waterway in Bon Secour Bay @ channel marker 127	30.28407	-87.85137
MO-1a	Mobile River @ CSX RR Crossing	30.83667	-87.94472
MO-2	Mobile River @ Government Street (Bankhead Tunnel)	30.69083	-88.03556
MOBM-1	Mobile River @ APCO water intake (near Bucks @ doppler gage)	31.01370	-88.01853
PDBB-0	Perdido Bay approx. 0.25 mile upstream of State Highway 182 bridge	30.27968	-87.54948
PDBB-5	Perdido River @ Duck Place Rd. on AL/FL line (off State Highway 112)	30.69047	-87.44026
STXB-3	Styx River @ Baldwin County Rd. 87 (near Elsanor)	30.60532	-87.54700
TC-1	Theodore Industrial Canal @ State Hwy 193 (Rangeline Road)	30.53333	-88.12389
TENB-2	Tensaw River approx. 0.3 mile downstream of power line crossing (near Blakely Park and Steam Mill Landing)	30.75291	-87.91987
TM-1	Three Mile Creek between U.S. Hwy 43 & RR Crossing	30.72403	-88.05903
TMCM-3	Three Mile Creek @ Spring Hill Ave.	30.70630	-88.15111
WB-1	Weeks Bay @ U.S. Hwy 98 (Marina)	30.41470	-87.82575
WO-1a	Wolf Creek @ Swift Church Road (Baldwin Co. Rd. 12)	30.37361	-87.63250

issues have included ACNPCP's intensive involvement and support with Mobile Bay NEP activities:

- a. ACNPCP has continued providing Technical Assistance with developing NFWF funded Watershed Restoration and Management Planning efforts. This involves current participation for Fowl River, Bayou La Batre River, Bon Secour River-Oyster Bay, Fish River, and Halls Mill Creek HUCs. Future plans by Mobile Bay NEP to develop coastal prioritized Watershed Management Plans include Sandy Creek-Wolf Bay and West Fowl River, and Tensaw-Apalachee River HUCs as well.
- b. ACNPCP continues to provide Technical Assistance to guide Implementation Projects being developed for the D'Olive Branch Restoration Plan, Eight Mile Creek Watershed Management Plan, and the newer Three Mile Creek Watershed Management and Restoration Plan. These efforts require intensive coordination with Mobile Bay NEP, ADEM-319, ADEM-Water Divisions programs, NRCS, and the Nature Conservancy. Watershed Management Plans are in queue for approximately 19 of 50 identified priority designated coastal HUCs, with funding proposals submitted for more. For more specific information see [http://www.mobilebaynep.com/the\\_watersheds](http://www.mobilebaynep.com/the_watersheds)
- c. Other ACNPCP projects included technical assistance as needed by providing presentations of Coastal NPS concepts to the Public and partner agencies as requested. ADEM's ACNPCP further addressed Urban Area issues by being involved with the continued support and development of the *Alabama Low Impact Development (LID) Handbook*. <http://www.aces.edu/natural-resources/water-resources/watershed-planning/stormwater-management/documents/LIDHandbookDisplay.pdf> We are proud that this product provides CNPCP-based BMP guidance and technical information that reduce NPS impacts and supports the implementation of Urban development measures.
- d. The newly released 2014 *Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas* (see [http://swcc.alabama.gov/pages/erosion\\_control.aspx?sm=b\\_b](http://swcc.alabama.gov/pages/erosion_control.aspx?sm=b_b)) was developed through the Alabama Soil & Water Conservation Committee (ASWCC) as a project for ADEM-319 with important additions to the BMP practices that have been coordinated to support the ACNPCP measures. ACNPCP participated on the document review team.
- e. ACNPCP has provided technical assistance to the National Estuarine Research Reserve's Coastal Training Program, which will supplement the *CLEAR WATER ALABAMA Workshop Program* by conducting a series of local *Construction and Stormwater BMP Training Workshops* in 2016 through the Weeks Bay NERR.

## 2.) Onsite Sewage Distribution Systems (OSDS):

- a. Using 2014 set-aside ADEM-319 funds, ACNPCP has secured concurrent Contracts with four agencies to implement the *Coastal Alabama OSDS Inspection & Maintenance (I&M) Program*: ADPH-Baldwin County Health Department, Baldwin

County Soil & Water Conservation District, Mobile County Health Department, and the Mobile County Soil & Water Conservation District. Due to Contractor resource issues, Contract extensions were reprogrammed and reissued in a timely manner for each in 2015

- b. Four (4) Geographic Sewer Units as “Sectors” have been selected for each County, based upon NRCS and SWCDs hydric mapping and expertise provided by the local Health Departments. Sector 1 has begun implementation and will continue into 2016.
- c. An MOU has been facilitated by the SWCDs through the AOWB and the local Health Departments with participation from participating state certified *OSDS-PUMPERS* that have agreed upon a set value for pumpout reimbursement.
- d. Project informational Fact Sheets and Workshop Flyer Templates have been designed and distributed to the public.
- e. Alabama Cooperative Extension System (ACES) has provided PSA Radio time to publicize these efforts through local iHeartMedia, Inc. stations and social media on behalf of the SWCDs. Also the Contractors and Partners are reporting project Sector 1 Workshops in their social media outlets and newsletters.
- f. OSDS I&M Workshop Resident Folders have been designed cooperatively by the Contractors to provide each resident with an OSDS tracking and Pump-Out reminder format.
- g. Six (6) OSDS I&M Workshops were conducted in 2015 at locations that were facilitated by the Contractors for each County Sector with the gracious participation of our OSDS I&M Workshop Hosts.
- h. The selected group of Contractors have worked well to complement one another and have assisted toward implementing the objectives of this Project. This first cycle of the Program will continue in early 2016, with following Sector 2 activities planned into 2016.

### C. OTHER ACNPCP PROJECTS :

Another recently completed effort is the *Coastal Alabama HeadWater Streams Survey Project-Level II (HDWTRSS)*, which was contracted by the ACNPCP through ADEM-319. The Headwater Stream Survey field component located potential stream sites to identify and survey as ‘representative’ low-order streams within the two coastal counties. Documentation of measurements were made of specific water quality conditions and flow parameters, including basic geomorphic survey data for local headwater streams, both urban and rural. Quantification of adjacent Land Use Categories (LUC) was assessed, along with correlating LUC management measures and/or best management practices in close proximity to the targeted stream sites. Utilizing recognized riparian/stream reach elements and tools the HDWTRSS Report developed the *Coastal Headwater Composite Assessment Index* using a comparative factor measure of 0 to 5. Intensive geomorphic *Headwater Stream Field Surveys* were finished to complement the prior *Alabama Reference Reach and Regional Curve* data for the southern Coastal Plain . This project has been completed and the project Report and supporting data were released for distribution in December of 2014.

Continuation of ACNPCP Projects under development during this and the next year includes continued coordination with ACNPCP for implementation of this year's *NRCS Gulf of Mexico Implementation (GOMI) Projects for Mobile County, and Baldwin County, Alabama*, which are being developed and augmented to address targeted key sub-watersheds (e.g. Grand Bay Swamp and Fish River HUCs) in coastal Alabama through the NRCS. Coordination has continued to support the joint *Alabama-Mississippi Clean Marina Program* being implemented through MS-AL programs. ACNPCP continues to provide Technical Assistance for many DWH/ RESTORE-related project proposals and environmental projects being developed for coastal Alabama.

For further information about Alabama's Coastal Nonpoint Pollution Control Program, contact Randy C. Shaneyfelt at ADEM's Mobile Branch Office at (251) 450-3408 or email: [racs@adem.state.al.us](mailto:racs@adem.state.al.us)

## **6.2 Coastal Assessment**

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### **6.2.1 Eutrophication**

Hypoxic and anoxic conditions are common in Alabama's coastal waters and are generally most prevalent during the summer months. Naturally occurring conditions combine to result in frequently stressed water quality conditions marked by stratification with low dissolved oxygen. These conditions include: relatively shallow water depths found in all of Alabama's open bays and sounds; low average wind and tidal energies; variable fresh water inflow; and constricted tidal passes. This persistent pattern of hypoxia manifests itself in "Jubilees", an infrequently occurring summer condition in Mobile Bay that results when winds blowing from the mainland drive surface waters from shore, causing deeper, poorly oxygenated water to move into the shallows. Fish, shrimp and crabs get caught in the poorly oxygenated water and generally rise to the surface in stress. The Jubilee phenomenon was first recorded in 1821 indicating that its underlying causes are naturally occurring. At this time it has not been determined if anthropogenic sources exacerbate those underlying causes.

### **6.2.2 Habitat Modification**

Alabama's coastal counties are experiencing tremendous population growth. Statistics indicate that the population of Baldwin County increased from 140,415 in 2000 to 195,540 in 2013. Between 2000 and 2013, the Baldwin County population increased by 39.3%. The population of Mobile County increased from 399,843 in 2000 to 414,079 in 2013. Between 2000 and 2013, the Mobile County population increased by 3.6%. Much of that growth is occurring within Alabama's defined coastal area, particularly in Baldwin County where there has been explosive growth in the beach communities of Orange Beach and Gulf Shores and on the Eastern Shore of Mobile Bay. The area of west Mobile, inside and outside of the current city boundary, is undergoing rapid commercial and residential development. Sedimentation from erosion at the

numerous construction sites and the increased post development storm water runoff have placed a heavy burden on the receiving streams in the area increasing the incidence of flooding and stream bank erosion. All of Alabama's estuarine waters are being affected by this population growth.

Applications to the Department for coastal permits and certifications are growing, particularly in terms of complexity. Many of these applications propose projects that would have significant adverse impacts to coastal resources if approved as proposed. Projects having direct and significant adverse wetland impacts are routinely reviewed by Department personnel pursuant to the provisions of ADEM Administrative Code R.335-8 (Coastal Program) and Section 404 of the Clean Water Act. Generally, permits are issued for projects having wetland impacts only if all of the following conditions are satisfied: the activity is related to an existing or approved water dependent use, or use of regional benefit or related to an approved beach nourishment, shoreline stabilization or marsh creation, restoration or enhancement project, elimination of dead-end canals or boat slips exhibiting poor water quality or other similar beneficial use, no other feasible alternatives exist; impacts to wetlands on the project site have been minimized by project design, and mitigation is incorporated into the project proposal.

There have been no coastal area wide surveys completed of wetland acreage for submersed aquatics, tidal emergence, or swamp forest during the reporting period. Due to the State's restrictive approval process, including mitigation requirements, it is believed that wetland losses that do occur are minimal for those wetlands regulated by the program and that other losses that may occur are due to natural erosion, unpermitted activities, and minimal losses due to nationwide permitting by the U.S. Army Corps of Engineers.

ADEM's Coastal/Facility Unit is working with other governmental entities to support wetland and submersed aquatic vegetation status and trend identification. At this time, both Mobile and Baldwin Counties have been flown and color infrared digital ortho-quarter quads have been produced. This imagery will be used to map wetlands and uplands in Mobile and Baldwin Counties.

Alabama's Coastal Program is compiling data on stabilized versus unstabilized shoreline miles. In general, the explosive coastal population growth has resulted in near continuous shoreline development, with certain areas developing more rapidly than others. The Gulf shoreline is unstabilized along its length in Alabama, except at the passes from interior estuarine waters to the Gulf of Mexico at Perdido Pass, Little Lagoon Pass, and on the eastern tip of Dauphin Island at the entrance to Mobile Bay.

### **6.2.3 Changes in Living Resources**

The Alabama Department of Conservation and Natural Resources-Marine Resources Division (ADCNR-MRD) manages Alabama's marine resources. According to ADCNR-MRD personnel, populations are cyclic and vary by species. ADCNR oversees the replanting of oyster reefs and believes that there has been a decrease in reef productivity recently due to

For more information about Alabama's National Coastal Condition Assessment, contact Mr. Joie Horn in ADEM's Mobile Office at (251) 450-3400 or [mjhorn@adem.state.al.us](mailto:mjhorn@adem.state.al.us)

### **6.3 Alabama Coastal Waters Monitoring Program (CWMP)**

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This program continues to provide data necessary to develop indicators and assessment criteria that link chemical, physical, and biological conditions for estuaries and coastal rivers within Alabama's Coastal Area. This data will be used in the development of nutrient criteria, and to update or revise protocols and methodologies to more accurately assess related water quality conditions for designated estuaries, coastal rivers, and streams. This program will also incorporate monitoring in priority watersheds identified by ADEM's Field Operations Division, Water Division and the Nonpoint Source Management Program to provide corroborating data concerning the effectiveness of BMPs implemented using Section 319 funds. The CWMP primary study area is delineated as waters within the ten foot contour line and South of Interstate 10. This definition aligns the program with other ADEM and Partner activities in the Coastal region.

The CWMP collects samples from at least 50 stations yearly with an intensive focus on specific watersheds. The intensive efforts include additional sampling visits and are now performed in a rotational fashion. In 2016, intensive sampling will be performed in the western portion of Coastal Alabama, from the Mississippi State Line to the western shore of the Mobile Bay. Additionally this strategy has identified the need for greater sampling frequency at stations outside the intensive area in order to provide sufficient data to achieve project goals. This may reduce the number of stations over time but will provide better information on which management decisions are made.

In 2014 a total of 15 stations in Perdido Bay were selected for intensive sampling as a part of the Coastal Waters Monitoring Program. Samples were collected at a frequency of eight times a year between the months of March and October. Conventional and field parameters as well as Bacteria and Chlorophyll a were sampled at each site visit. Low Level Hg was sampled twice per year at three stations as indicated on the table provided and flow was collected where conditions were suitable or from available USGS gauges.

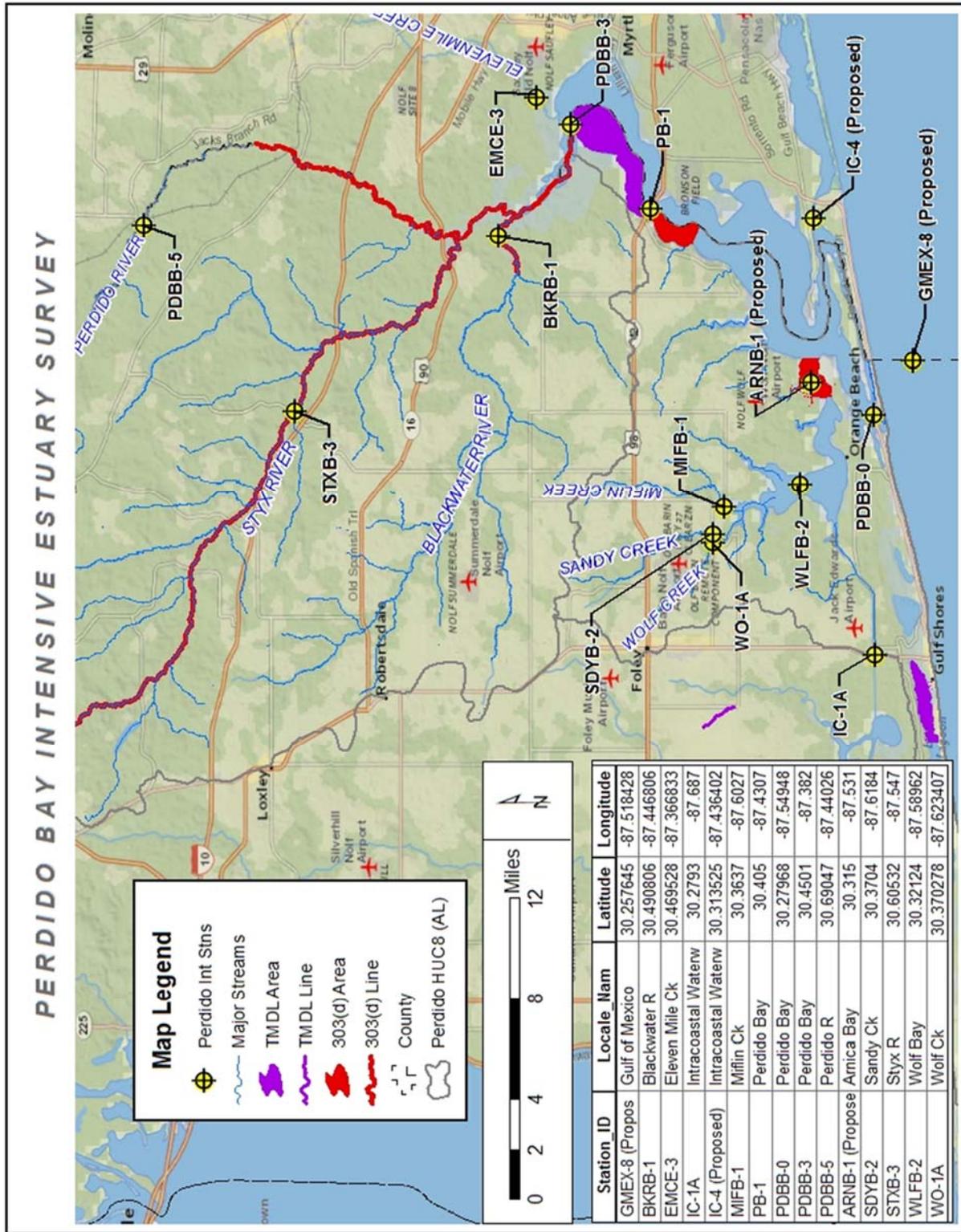
Figure 6-3 And Table 6-2 show the CWMP Intensive Perdido Bay Stations.

In 2015 the CWMP intensive monitoring efforts focused on the Mobile Delta. Sampling occurred at 14 stations, most at the same frequency and for the same parameters as the previous year. Metals and hardness were collected at all stations one time in June or July. Figure 6-4 And Table 6-3 show the CWMP Intensive Mobile Delta Stations.

All validated data is available on the ADEM web site, [www.adem.state.al.us](http://www.adem.state.al.us).

For more information about Alabama's Coastal Waters Monitoring Program, contact Mr. Joie Horn in ADEM's Mobile Office at (251) 450-3418 or [mjhorn@adem.state.al.us](mailto:mjhorn@adem.state.al.us)

Figure 6-3 2014 CWMP Intensive Perdido Bay



**Table 6-2 2014 CWMP Intensive Perdido Bay Stations**

Station	Sampling Protocol	Field Parameters	Salinity	Flow	Conventionals	Enterococci	E Coli	Chl-a	Low-Level Hg <sup>3</sup>
ARNB-1 (New)	Non-wadeable	8X (Monthly)	8X (Monthly)	NOT REQ	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--
BKRB-1	Non-wadeable	8X (Monthly)	8X (Monthly)	ADCP	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	2X
EMCE-3	Non-wadeable	8X (Monthly)	8X (Monthly)	ADCP	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--
GMEX-8 (New)	Non-wadeable	8X (Monthly)	8X (Monthly)	NOT REQ	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--
IC-1A	Non-wadeable	8X (Monthly)	8X (Monthly)	ADCP	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--
IC-4 (New)	Non-wadeable	8X (Monthly)	8X (Monthly)	ADCP	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--
MIFB-1	Non-wadeable	8X (Monthly)	8X (Monthly)	ADCP	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--
PB-1	Non-wadeable	8X (Monthly)	8X (Monthly)	NOT REQ	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--
PDBB-0	Non-wadeable	8X (Monthly)	8X (Monthly)	NOT REQ	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--
PDBB-3	Non-wadeable	8X (Monthly)	8X (Monthly)	NOT REQ	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--
PDBB-5	Non-wadeable Grab-Shallow	8X (Monthly)	--	USGS Gage	8X (Monthly)	--	8X (Monthly)	8X (Monthly)	2X
SDYB-2	Non-wadeable	8X (Monthly)	8X (Monthly)	ADCP	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--
STXB-3	Wadeable	8X (Monthly)	--	USGS Gage	8X (Monthly)	--	8X (Monthly)	8X (Monthly)	2X
WLFB-2	Non-wadeable	8X (Monthly)	8X (Monthly)	NOT REQ	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--
WO-1A	Non-wadeable Grab-Shallow	8X (Monthly)	8X (Monthly)	USGS Gage <sup>2</sup>	8X (Monthly)	8X (Monthly)	--	8X (Monthly)	--

<sup>1</sup> Sampling protocol not listed in ALA WADR. Assumed to be non-wadeable

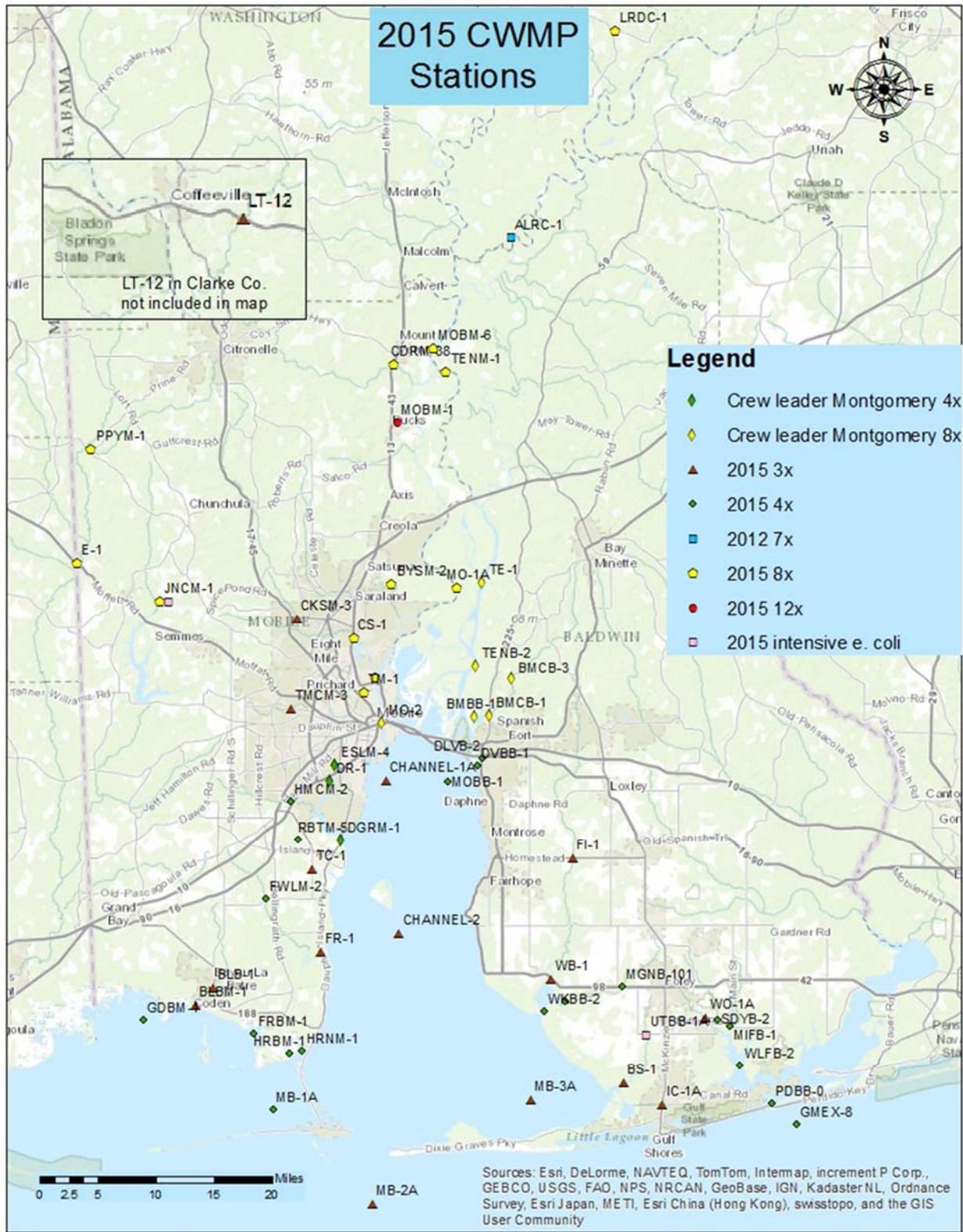
<sup>2</sup> USGS Gage 02378170 located upstream of sampling location; can be ratioed for flows

<sup>3</sup> To be conducted twice during SWQMP sampling period (hardness also required)

Field Parameters = DO, pH, Cond., Turb., Weather, Site conditions

Conventionals = CBOD5, Alkalinity, TSS, TDS, Cl, NH3-N, NO3+NO2-N, TKN, TP, DRP

Figure 6-4 2015 CWMP Intensive Mobile Delta Stations



**Table 6-3 2015 CWMP Intensive Mobile Delta Stations**

Station ID	Comments	Frequency	Protocol	Latitude	Longitude	Locale_Name	Location_Desc	County	Basin	Ecoregion	Drainage
BMBB-1	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	30.6978	-87.9206	Bay Minette	Middle of Bay Minette Basin (widened portion of Minette Creek just upstream of Blakely River).	Baldwin	Mobile R		113.9 mi2
BMCB-1	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	30.699472	-87.902194	Bay Minette Ck	Bay Minette Ck, Baldwin Co. in the vicinity of Hwy 225 bridge. Lat/ Lon calculated at bridge crossing.	Baldwin	Mobile R	75A	113.8 mi2
BMCB-3	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	30.7399	-87.8746	Bay Minette Ck	Bay Minette Ck @ Bromely Rd	Baldwin	Mobile R	65F	78.7 mi2
BYSM-2	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	30.8406	-88.0252	Bayou Sara	Bayou Sara at pipeline crossing downstream of Gunnison Creek.	Mobile	Mobile R	75I	75.98 mi2
CS-1	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	30.78224	-88.072481	Chickasaw Ck	Chickasaw Ck @ US Hwy 43 crossing	Mobile	Mobile R	75I	
CS-2	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	30.73925	-88.04571	Chickasaw Ck	Chickasaw Ck @ CSX Railroad crossing bridge at confluence with Mobile River	Mobile	Mobile R	75K	
MO-1A	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	30.8364	-87.94406	Mobile R	Mobile River at L&N Railroad crossing.	Baldwin	Mobile R	75I	
MO-2	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	30.69137	-88.03646	Mobile R	Mobile River @ Government Sreet (Bankhead Tunnel) in Mobile at Alabama State Docks	Mobile	Mobile R	75K	
MOBM-1	CY2015 INTENSIVE	12X Monthly (Jan-Dec)	NW Boat	31.0137	-88.01853	Mobile R	Mobile River at Bucks near the MAWSS water intake	Mobile	Mobile R	75I	
MOBM-6	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	31.092917	-87.973111	Mobile R	Mobile R at David Lake, river mile 41.3.	Mobile	Mobile R	75I	
TE-1	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	30.84277725	-87.910833	Tensaw R	Tensaw River at the L&N Railroad crossing, Baldwin County.	Baldwin	Mobile R	75I	
TENB-2	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	30.75291	-87.91987	Tensaw R	Tensaw River approx. 0.3 miles ds of power line (near Blakely Park and Steam Mill Landing)	Baldwin	Mobile R	75I	
TENM-1	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	31.06764057	-87.95725229	Tensaw R	County: MOBILE, Alabama Ecoregion: 75I Ichthyoregion: Southern Plains	Mobile	Mobile R	75I	
TM-1	CY2015 INTENSIVE	8X Monthly (Mar-Oct)	NW Boat	30.723983	-88.059119	Three Mile Ck	Three Mile Creek between US Hwy 43 & railroad crossing	Mobile	Mobile R	75A	

changes in environmental conditions. Oyster landings have been below the 697k pound average (1990-2007) since 2008. Brown Shrimp landings have increased back to the average, excluding 2010. Blue crab landings have been below average since 2008.

#### **6.2.4 Toxic Contamination**

The ADEM has conducted studies to determine metals enrichment in estuarine sediments and has sampled sediments in proximity to shipyards, petroleum storage terminals, and industrial point source discharges. During 2000, ADEM began sampling Alabama's estuarine sediments for toxicity and fishes for whole-body contaminants as part of the NCA program, described above. However, no statement is being made as to the extent of areas having elevated levels of toxicants because no state or EPA criteria for toxins in sediments exist.

#### **6.2.5 Pathogen Contamination**

In addition to the recreational beach monitoring discussed above, Alabama's coastal shellfishing waters are monitored for pathogens and are subject to closings, advisories, or warnings. During the reporting period, all of Alabama's oyster harvest areas were closed at one time or another through closing orders issued by the State Health Officer of the Alabama Department of Public Health. Those orders were issued when excess fresh water entered Mobile Bay from the Mobile River. Information on Shellfish Harvesting Area Closures/Reopenings and Fish Advisories are included in the chapter on Public Health.

#### **6.2.6 Other State Coastal Activities**

##### National Coastal Condition Assessment

The U.S. EPA's National Coastal Condition Assessment (NCCA) is a partnership with EPA's Office of Water (OW), EPA's Regional office, all coastal states, and selected territories.

ADEM participated in NCCA during the summers of 2010 and 2015. Samples were collected for water quality, sediment quality, benthic analysis, and fish tissue chemistry from seventeen sampling locations, with two sites being revisited. ADEM contracted with the ADCNR for collection of fish tissue. All samples were shipped to and analyzed by contract labs.

The NCCA program is based on EPA's EMAP program, and is a continuation of the National Coastal Assessment Program in which ADEM participated from 2000-2004 and again in 2006. These programs use a compatible probabilistic program and a common set of environmental indicators to survey each state's estuaries and assess their condition. These estimates can then be aggregated to assess conditions at the EPA Regional, biogeographical, and national levels. ADEM expects to participate in this program with sampling events occurring once every five years, with the next event occurring in 2015.

## 6.4 Summaries of Designated Use Support for Oceans /Estuaries

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Table 6-4 and Table 6-5 show the Size of Oceans and Estuaries Impaired by causes and sources respectively. For more information about Designated Use Support contact Mr. John Pate in ADEM's Montgomery Office at (334) 270-5662 or [jtp@adem.state.al.us](mailto:jtp@adem.state.al.us)

**Table 6-4 Size of Ocean/Estuary Impaired by Causes**

Cause	Category 5	Category 4
	Ocean/Estuary (square miles)	Ocean/Estuary (square miles)
<b>Metals</b>		
Mercury	205.96	
Thallium	94.62	
<b>Pathogens</b>		
Enterococcus	418.92	9.80

**Table 6-5 Size of Ocean/Estuary Impaired by Sources**

Source	Category 5	Category 4
	Ocean/Estuary (square miles)	Ocean/Estuary (square miles)
Atmospheric deposition	205.96	
Collection system failure	1.29	
Industrial	94.62	
Municipal	18.81	
On-site wastewater systems	136.25	5.09
Unknown source	0.95	
Urban runoff/storm sewers	365.87	9.80

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## Chapter 7 Nonpoint Source Management

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### 7.1 Overview

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The [Alabama Nonpoint Source Management Program](#) continues to respond to the nation's leading remaining causes of water quality problems by implementing the revised Alabama Nonpoint Source (NPS) Management Program Plan formally approved by the United States Environmental Protection Agency (EPA) on August 26, 2014. The program enhances public and private sector efforts to plan and implement environmentally-protective NPS pollution management practices, i.e., it provides a framework for all stakeholders to “work off the same page.” Goals and objectives include facilitation of a flexible, targeted, iterative, and broad-based management approaches aimed at effectively and efficiently restoring NPS impaired waters and preventing the degradation of unimpaired waters. Management strategies are designed to prevent, reduce, and abate NPS problems using a watershed-based planning and management approach. The statewide program also coordinates applicable coastal NPS water quality management efforts with the Alabama Coastal Nonpoint Source Program (see Chapter 6).

The primary source of funding to implement the state's NPS management program is annual CWA Section 319(h) grant awards from EPA. Efforts to mitigate NPS pollution include facilitation of cooperative public and private sector partnerships, education and outreach, technical assistance, technology transfer, development and implementation of watershed-based management plans, and implementation of best management practices and measures. The management of NPS pollution generally uses a voluntary approach; however, applicable federal and state water quality standards and NPDES pollutant discharge rules and regulations provide adequate regulatory backstops. The development and implementation of watershed-based management plans that incorporate EPA's nine-key watershed plan elements as presented in [Section 319 grant guidelines](#) is a statewide NPS management and Section 319 grant program priority. Watershed-based management plans generally target 12-digit hydrologic unit code areal extents to enhance watershed health and restore water quality, mitigate priority NPS pollutant load reductions (i.e., nitrogen, phosphorus, and sediment), and target other NPS causes identified in a draft or final [TMDL](#).

### 7.2 Nonpoint Source Water Quality

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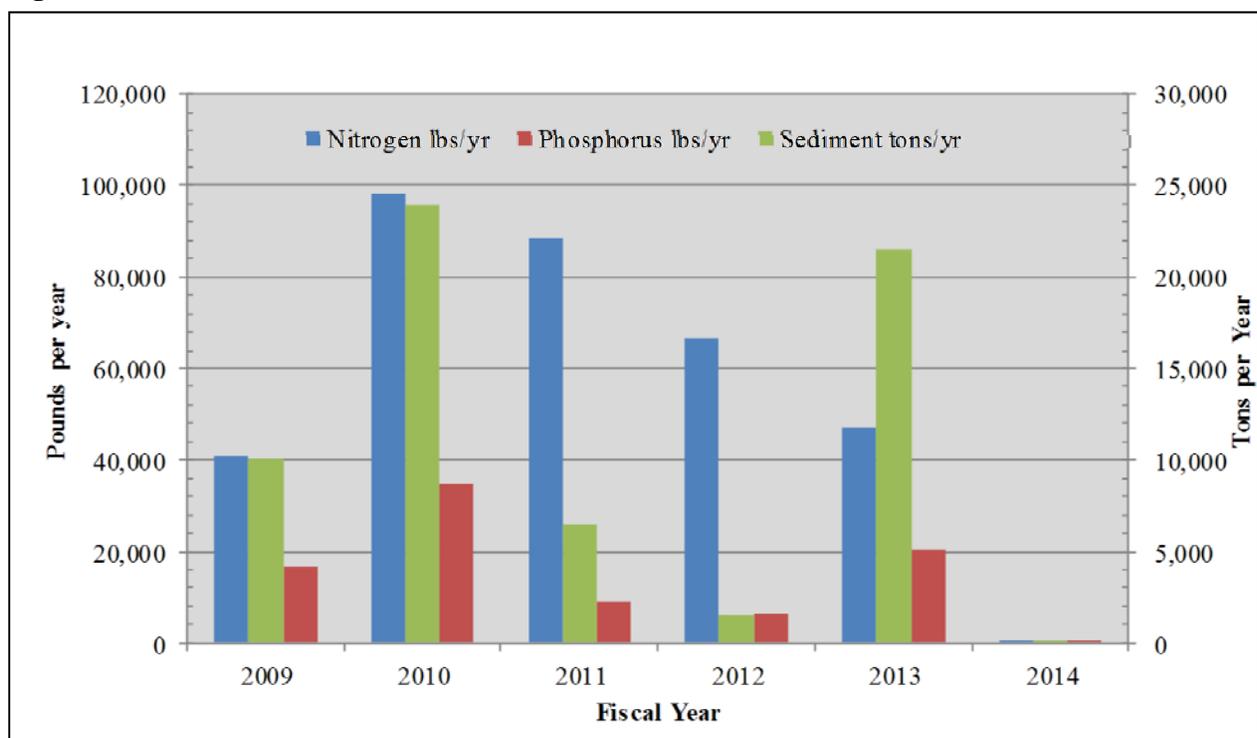
The Alabama Nonpoint Source Management Program and Section 319 grant program is evaluated using NPS water quality data collected as a component of the statewide water quality monitoring and assessment strategy, and/or as needed to assess interim and final NPS project implementation success. This strategy is the most efficient, practical, and cost-effective approach to holistically assess NPS watershed health and water quality on a statewide basis. Assessment reports are available on the ADEM's [Water Quality Report](#) website.

**Table 7-1 Section 319 Grant Funded Pollutant Load Reduction Estimates**

Load Reduction Estimate			
	Nitrogen	Phosphorus	Sedimentation-Siltation
Fiscal Year	LBS/YR	LBS/YR	TONS/YR
2009	40,800	16,492	10,119
2010	98,433	34,791	23,915
2011	88,563	9,147	6,492
2012	66,584	6,449	1,535
2013	46,939	20,509	21,536
2014	109	16	9
<b>Total</b>	<b>341,428</b>	<b>87,404</b>	<b>63,606</b>

*\*Note: Section 319 grants have a duration of 5 years, thus load reduction estimates are not calculated immediately but accumulate over time.*

**Figure 7-1 Section 319 Grant Funded Pollutant Load Reduction Estimates**



Section 319 nonpoint source pollutant load reduction estimates (Table 7-1/Figure 7-1) are used as an indicator of improvements in water quality and as a measure of success for Section 319 grant funded projects. The data is also required to be reported biannually in the EPA [Grants Reporting and Tracking](#) (GRTS) database. Data quantity and quality continues to improve as a result of continued enhancements to ADEM water quality assessment and monitoring methodologies, NPS partnerships, and cooperative public/private sector data-sharing and reporting.

### **7.3 Watershed Management Approach**

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Because of the wide variety of human activities on the land and the various causes of NPS pollution and impacts on water quality, the efficient and focused targeting of control measures can be problematic. Resources to implement a holistic statewide NPS program are insufficient. Nonpoint source water quality education and outreach, training, technical assistance, and technology transfer to specific and community-based audiences must continue. Dedicated and sustainable sources of NPS funding, incentives and continued outreach will improve water quality and enhance stakeholder efforts to mitigate the causes of personal or “pointless” pollution. Section 319 grant funded water quality improvement success stories are presented on the [EPA-HQ](#) and Region 4 websites, and along with other information, in the [Annual Report](#) located on the ADEM website.

No single state agency or public/private sector entity retains comprehensive authority or possesses adequate means, staff, resources, or funding to adequately address all facets of watershed health and water quality protection issues. Cooperative partnerships continue to be a NPS water quality management priority. Local stakeholders are encouraged to voluntarily assume local ownership of local water quality protection and restoration issues and provide local resources to implement locally-led solutions. Integral to this process is the continued efforts of the [Alabama Clean Water Partnership](#) and [Alabama Water Watch](#).

The implementation of innovative, alternative, and creative water quality monitoring and assessment strategies will continue to be implemented where feasible and practical. Presenting opportunities for NPS stakeholders to provide input relative to water quality monitoring and assessment decision-making processes will also be maintained. Environmental, economic, human health, cultural and social conditions, threatened and endangered species, aquatic habitat, drinking water sources, recreational uses and other NPS pollution impairment issues continue to be integral components of watershed-based management plans. In addition, the roles and authorities of resource agencies, elected and appointed officials, environmental groups, producers, industries, municipalities, citizens and others is considered when developing the details of how NPS water quality will be managed in Alabama. Clearly defined goals and objectives will continue to be agreed upon before NPS water quality monitoring funds and resources are expended.

For more information about Section 319 grant funding and the AL Nonpoint Source Management Program, contact the ADEM – AL NPS Unit at (334) 260-4501 or [NPSmail@adem.state.al.us](mailto:NPSmail@adem.state.al.us).

### **7.4 Management Program Challenges and Success**

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Much progress has been made to protect water quality in Alabama and water quality continues to improve. However, specific targeting of some NPS best management practices can be problematic because it is sometimes difficult to definitively ascertain specific NPS pollutant sources and causes. In addition, human and financial capital is insufficient statewide to implement some best management practices needed to protect water quality using a voluntary approach. Statewide and watershed-specific NPS and water quality protection education and

outreach and provisions for citizen input must continue. Dedicated and sustainable sources of funding to be used as stakeholder incentives would likely enhance voluntary NPS management program efforts. Examples of NPS management program activities are presented in the Annual Report on the ADEM website at <http://www.adem.state.al.us/programs/water/npsprogram.cnt>.

The Alabama NPS Management Program integrates varied water quality programmatic issues such as the development and implementation of TMDLs and watershed management plans, and water quality monitoring and assessments. Facilitation of cooperative partnerships continues to be a NPS management program priority. An example of a successful statewide NPS partnering effort is the Alabama Clean Water Partnership (ACWP). The ACWP is composed of a diverse and inclusive coalition of public and private interest groups and individuals who work to improve, protect, and maintain water resources and aquatic ecosystems. This voluntary non-profit organization has assumed a leadership role in helping stakeholders plan and implement natural resource protection and restoration efforts. Additional information concerning the ACWP can be found at: <http://www.cleanwaterpartnership.org/>

Education and outreach helps to motivate and sustain NPS partnerships. Examples of ADEM education and outreach initiatives include: 1) Nonpoint Source Education for Municipal Officials (NEMO) <http://nemo.uconn.edu/index.htm> and 2) Take Action for Clean Water; <http://www.adem.state.al.us/programs/water/npsprogram.cnt>. Additional NPS education and outreach resources and information is available at: <http://www.adem.state.al.us/programs/water/npsprogram.cnt> or from the USEPA website at: <http://www.epa.gov/owow/keep/NPS/index.html>.

The Alabama Water Watch (AWW) is a statewide education and outreach program coordinated by the Auburn University Department of Fisheries and Allied Aquacultures. This national and internationally recognized group coordinates water quality monitoring data collected by citizen-volunteers. The Alabama Water Watch Association, in cooperation with the AWW, promotes water quality protection efforts. Additional AWW information and data is available at: <http://www.alabamawaterwatch.org>.

Statewide NPS pollution management efforts support applicable CWA Section 6217 program requirements. The Alabama Coastal Nonpoint Pollution Control Program's primary focus is to protect, manage, and improve water quality seaward of the coastal zone management area (10-foot contour elevation) of Mobile and Baldwin counties. See Table 7-2 for a list of Progress to Achieve Full Approval of The Alabama Coastal NPS Pollution Control Program (§6217). Additional Coastal NPS program is discussed in Chapter 6.

The Alabama NPS Management Program / Section 319 grant program partners with many federal, state, and local units of government to efficiently and effectively protect water quality. These entities include, but are not limited to the, USDA-NRCS (technical assistance and cost-share funding), State Soil and Water Conservation Committee and Districts (BMP implementation and watershed health assessments); ACES (stream restoration), OSM and ADIR (resource extraction); ADPH (on-site septage); AFC (silviculture); and GSA and USGS (water quality). In addition, ADEM also partners with academic institutions and the private sector.

**Table 7-2 Progress to Achieve Full Approval of The Alabama Coastal NPS Pollution Control Program (§6217)**

<b>Year</b>	<b>Program Approval Activities</b>	<b>Status</b>
1998	<i>Findings and Conditions for Alabama,” Conditional Approval” with 72 Conditions for 14 Categories remaining to be addressed.</i>	-
2001	<b>ACNPCP Mangement Area Designated -Mobile &amp; Baldwin Counties. 1-FTE</b>	<b>100%</b>
2002	<b>ACNPCP Legal Opinion issued by State AG-submitted to NOAA &amp; EPA. 1-FTE</b>	<b>100%</b>
2003	Through ACNPCP Coordination by ADEM, <b>69 Conditions for 14 Categories</b> remaining to be addressed. <b>1-FTE.</b>	-
2003	<b>2003 ACNPCP Update and 15-Year Strategy documents submitted to NOAA and EPA. 1-FTE.</b>	<b>100%</b>
2004	ADEM implemented 2 projects to address draft <b>IDD* / 2-FTE Limited NOAA-OCRM Funding for ADEM Projects</b>	<b>100%</b>
2005	Following <b>2003 ACNPCP Update Submission, 9 Conditions for 14 Categories</b> remaining to be addressed; remaining criteria re-addressed as <b>Recommended Actions</b> in Alabama’s <b>*Interim Decision Document (IDD)</b> : 24 Actions in remaining Categories are identified to be addressed by Alabama’s CNPCP.	-
2005	ADEM implemented 6 projects to address <b>IDD criteria / 3-FTE reduced to 2 FTE.</b> Reduced NOAA-OCRM Funding for ADEM-ACNPCP Projects.	<b>100%</b>
2005	<b>NOAA-OCRM and EPA assess ACNPCP as 87% complete.</b>	-
2006	ADEM implemented 3 projects to address <b>IDD criteria / 2-FTE. No NOAA-OCRM Funding for ADEM-ACNPCP Projects.</b>	<b>100%</b>
2007	ADEM implemented 3 projects to address <b>IDD criteria / 2-FTE. No NOAA-OCRM Funding for ADEM-ACNPCP Projects.</b>	<b>100%</b>
2008	ADEM implemented 6 projects to address <b>IDD criteria / 2-FTE reduced to 1 FTE. Limited Funding secured from EPA-R4 to ADEM-319 for ACNPCP. No new NOAA-OCRM Funding for ADEM-ACNPCP Projects.</b>	<b>100%</b>
2009	ADEM implements 2 projects to address <b>IDD criteria / 1-FTE.</b> Reduced Funding secured from EPA-R4 to ADEM-319 for ACNPCP. No NOAA-OCRM Funding for ADEM-ACNPCP Projects.	<b>100%</b>
2010	ADEM to implement 1 project to address <b>IDD criteria / 1-FTE. Project Report slated for December 2012. Reduced Funding secured from EPA-R4 to ADEM-319 for ACNPCP. No NOAA-OCRM Funding for ADEM-ACNPCP Projects.</b>	Project Reprogrammed
2010	ADEM will assist and support ACNPCP’s new 2010 ACNPCP UPDATE SUBMISSION for Alabama during 2010 through 2012. of CSO-6217 National Workgroup.	-
2011	DRAFT 2011 Program Submission submitted to EPA in May 2011.*Staff assignments in alignment with BP MC-252 Oil Spill Recovery Activities. 2010 & 2011 Projects reprogrammed to 2012+. ACNPCP participates in DHS-USCG Investigation.	<b>100%</b>
2012	ADEM implements 1 new project to address <b>IDD criteria / 1-FTE Reduced Funding secured from EPA-R4 to ADEM-319 for ACNPCP. No NOAA-OCRM Funding for ADEM-ACNPCP Projects.</b>	<b>100%</b>
2012	ADEM will assist and support ACNPCP’s new sequential UPDATE SUBMISSION for Alabama during 2012 through 2016. Reinitiate 2010 Project. ADEM Chair of CSO-6217 National Workgroup.	-
2013	ADEM implements 1 project to address <b>IDD criteria / 1-FTE</b> Reduced Funding secured from EPA-R4 to ADEM-319 for ACNPCP. No NOAA-OCRM Funding for ADEM-ACNPCP Projects.	<b>100%</b>
2013	ADEM will assist and support ACNPCP’s new sequential UPDATE SUBMISSION approach for Alabama during 2012. This will proceed until final Approval. ADEM Chair of CSO-6217 National Workgroup.	-
2014	ADEM implements 1 new project to address <b>IDD criteria / 1-FTE</b> New 5-Yr Plan Funding secured from EPA-R4 to ADEM-319 for ACNPCP. No NOAA-OCRM Funding for ADEM-ACNPCP Projects.	<b>[2010 Project completed] 100%</b>
2014	ADEM utilizes interagency coordination to develop the current ACNPCP’s sequential UPDATE SUBMISSION for AGRICULTURE for Alabama during 2014.** ADEM Chair of CSO-6217 National Workgroup.	-
2015	ADEM implements 1 new project to address <b>IDD criteria / 1-FTE</b> New 5-Yr Plan Funding secured from EPA-R4 to ADEM-319 for ACNPCP. No NOAA-OCRM Funding for ADEM-ACNPCP Projects.	<b>Project implementaton in progress.</b>
2015	ADEM utilizes interagency coordination to develop the current ACNPCP’s submission Poject for Urban-OSDS for Alabama during 2015.** AGRICULTURE SUBMISSION conditionally approved by NOAA and EPA in NOV2015. ADEM Chair of CSO-6217 National Workgroup.	-

## **7.5 Nonpoint Source Management Program Recommendations**

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The development and implementation of TMDL/watershed-based plans should continue to be a NPS management program priority. Stakeholders should be encouraged to implement plans that are locally developed and have local support.

Statewide and locally-specific NPS education and outreach, training, technical assistance, and technology transfer should be continued. Public awareness and knowledge related to the water quality protection processes, pollutant mitigation needs and available resources, and public/private sector roles and responsibilities should be enhanced. Opportunities for NPS stakeholders to provide input into water quality protection and watershed management decision-making processes should continue to be facilitated. In addition, dedicated and consistent sources of funding are needed to help plan and implement a myriad of NPS TMDL and watershed-based best management practices and activities, and support water quality monitoring and watershed assessments, citizen volunteers, and public/private sector partnerships.

Environmental, economic, cultural, social, human health, threatened and endangered species, habitat protection, urban growth and development, recreation, and other NPS pollution impact issues should continue to be integrated into holistic watershed-based management plans. The roles, authorities, and views of regulatory and other agencies, elected and appointed officials, environmental groups, commodity groups, industries, municipalities, citizens, and others must be considered when developing the details of how watershed management plans will be implemented. In addition, implementation of innovative, alternative, or creative NPS approaches should be encouraged where feasible and practical and may include but are not limited to: pollutant trading, permitting using a watershed approach; and/or local ordinances, authorities, and incentives. Clearly defined water quality protection goals and objectives and measurable “success” endpoints should be agreed upon before management plans are implemented and funding is expended.

For more information about Section 319 grant funding and the AL Nonpoint Source Management Program, contact the ADEM – AL NPS Unit at (334) 260-4501 or [NPSmail@adem.state.al.us](mailto:NPSmail@adem.state.al.us).

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## Chapter 8 Public Health

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### 8.1 Fish Consumption Advisories

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Concern about protecting the public from possible health exposure to mercury from eating fish has led to the issuance of several new fish consumption advisories for bodies of water in Alabama. The quality of water, based upon the levels of contaminants in fish from the waters in Alabama, generally continues to improve made in recent years. The Alabama Department of Environmental Management (ADEM) collected samples of specific fish species for analysis from various waterbodies throughout the state during the fall of 2013. The Alabama Department of Public Health assessed the results to determine potential human health effects. Fish consumption advisories are issued for specific waterbodies and specific species taken from those areas. The advisories apply to waters as far as a boat can be taken upstream in a tributary, that is, to full pool elevations. The Alabama Department of Public Health, in consultation with ADEM and the Alabama Department of Conservation and Natural Resources, has shifted to a more protective level for mercury. Mercury, which occurs both naturally and from man-made sources, can cause developmental disabilities and behavioral problems in children if it is consumed at high levels. One way to minimize exposure in populations at risk is to reduce mercury derived from eating fish from contaminated water. These populations include women of childbearing age, pregnant women, and children younger than 15 years of age. The fish consumption advisories are based on a stricter action level for mercury developed by the U.S. Environmental Protection Agency. Previously, Food and Drug Administration guidelines were used for mercury advisories. The FDA level was based on eating one fish meal per week.

Beginning with the 2007 advisories, the Department of Public Health adopted a contaminant level for mercury in fish that would protect those who eat more than one fish meal per week. The new EPA standards are four times more protective. This advisory will be represented as the safe number of meals of that fish species that can be eaten in a given period of time, such as meals per week, meals per month or no consumption. A meal portion consists of six (6) ounces of cooked fish or eight (8) ounces of raw fish.

For more information about Fish Consumption Advisories contact the ADPH Epidemiology Division, at 1-800-338-8374 or [epidemiology@adph.state.al.us](mailto:epidemiology@adph.state.al.us). To view current and historical notices visit <http://adph.org/tox/index.asp?ID=1360>.

### 8.2 Shellfish Harvesting Areas

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Shellfish harvesting area closures are issued when the Mobile River stage rises above 8 feet at the Barry Steam Plant. For reopening the closed areas, the river stage must be below 8 feet, ambient fecal coliform counts must be below a geometric mean of 14 MPN (most probable

number) in 100 milliliters of sample water with not more than 10 percent exceeding 43 MPN in 100 milliliter sample of water, and the E. coli count in oyster meat must be below 230 MPN in 100g of meat. From July 2009 through July 2011 a portion of Area V was sampled to determine its potential as a shellfish harvesting area. Area VI was approved in April 2012 and opened for the first time in October 2012 for shellfish harvesting. Figure 8-1 depicts Alabama's Oyster/Shellfish Harvesting Areas in Coastal Waters. For exceptions to these areas such as around outfalls, marinas, or other specific waters refer to the ADEM Administrative Code Water Quality Program Volume I Chapter 335-6-11. Table 8-1 contains the notices pertaining to shellfish harvesting area closures and subsequent reopening.

For more information about shellfish harvesting areas refer to the 2011 ADPH Seafood Branch Shellfish Growing Water Report, ADPH Seafood Branch Triennial Report, 2007 Comprehensive Sanitary Survey of Alabama's Shellfish Growing Waters at <http://adph.org/foodsafety/index.asp?ID=1141> and contact Mr. Jeff McCool with the ADPH Seafood Branch Mobile at (251) 432-7618 or [JeffMcCool@adph.state.al.us](mailto:JeffMcCool@adph.state.al.us) or Mr. Ron Dawsey ADPH Montgomery at (334) 206-5375 or [rdawsey@adph.state.al.us](mailto:rdawsey@adph.state.al.us)

### **8.3 Public Water Supply/Drinking Water**

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Approximately 850,000,000 gallons of water are taken from ground and surface sources each day, provided with treatment, and made available to approximately four million citizens in Alabama. Five hundred and eighteen (518) community systems, forty-eight (48) transient non-community systems and twenty-three (23) non-transient non-community systems are permitted by the ADEM.

Approximately sixty-five (65) percent of the water used is obtained from surface sources such as lakes, rivers, and streams and provided with full treatment to include coagulation, sedimentation, filtration, and disinfection. One hundred (100) percent of these systems meet turbidity requirements, one hundred (100) percent meet trihalomethane standards, ninety-seven (97) percent meet haloacetic acid standards and one hundred (100) percent meet inorganic and radiological drinking water standards. These water treatment facilities are required to employ Grade IV Certified Operators to ensure that proper doses of chemicals are applied and hourly tests are performed to demonstrate a satisfactory water quality.

Thirty-five (35) percent of the water is obtained from ground water sources such as wells and springs. An adequate source of ground water is generally available in this State; however, the ground water is extremely limited in the Piedmont area. Ground water sources are required to provide disinfection and monitor the draw down (water level change) in wells ensuring that a satisfactory available quantity of water remains. More than ninety-eight (98) percent of the Community Systems and ninety-five (95) percent of the Non-community Systems met the bacteriological quality standard of the Department. More than ninety-seven (97) percent of the community systems and approximately ninety (90) percent of the non-community systems were in full compliance with the bacteriological monitoring requirements. Ninety-six (97) percent meet disinfection byproduct standards and one hundred (100) percent of the groundwater public water systems were able to meet the inorganic and radiological maximum contaminant levels.

Figure 8-1 Alabama's Oyster/Shellfish Harvesting Areas in Coastal Waters

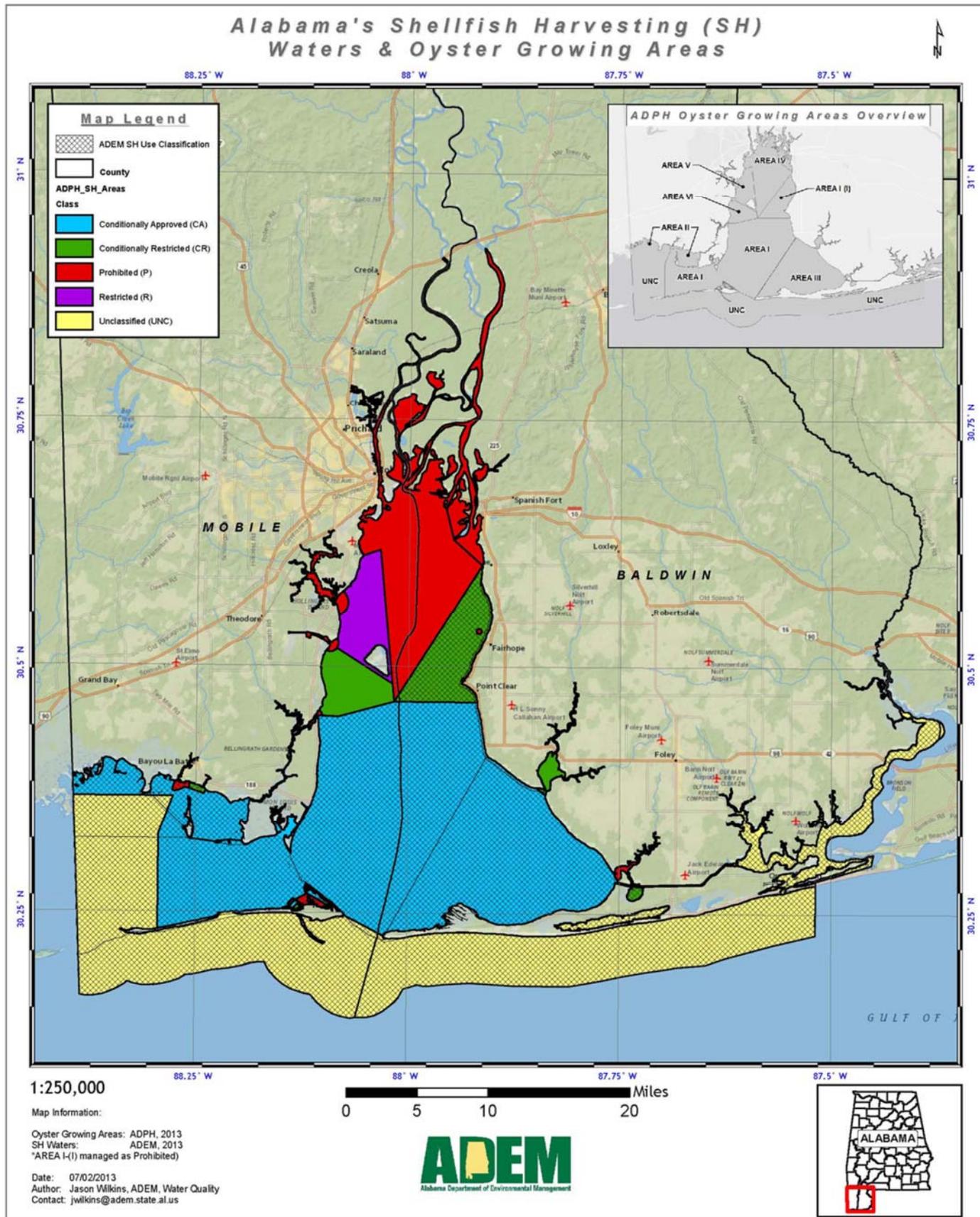


Table 8-1 Shellfish Harvesting Area Closures/Reopening

2015																	
NOTICE DATE	EFFECTIVE DATE	AREA I			AREA II			AREA III			AREA IV			AREA V			
		STATUS	# DAYS OPEN	# DAYS CLOSED	STATUS	# DAYS OPEN	# DAYS CLOSED	STATUS	# DAYS OPEN	# DAYS CLOSED	STATUS	# DAYS OPEN	# DAYS CLOSED	STATUS	# DAYS OPEN	# DAYS CLOSED	
11-31-15																	
11-11-15	0630	CONDITIONALLY CLOSED		46													
10-27-15	1530	CONDITIONALLY OPEN	29														
10-21-15	1530	CONDITIONALLY OPEN	6														
09-28-15	0730	CONDITIONALLY CLOSED		23													
07-08-15	0500	CONDITIONALLY OPEN	142														
04-14-15	1530	CONDITIONALLY CLOSED		23													
01-22-15	0630	CONDITIONALLY OPEN	81														
01-01-15	0630	CONDITIONALLY CLOSED		19													
01-01-15		CONDITIONALLY OPEN	3		CONDITIONALLY OPEN	3		CONDITIONALLY OPEN	3		CONDITIONALLY OPEN	3		CONDITIONALLY OPEN	3		
TOTALS			212	113		212	113		212	113		212	113		212	113	
				30.96%			30.96%									30.96%	
																	100.00%

DATE	EFFECTIVE DATE	AREA I			AREA II			AREA III			AREA IV			AREA V			
		STATUS	# DAYS OPEN	# DAYS CLOSED	STATUS	# DAYS OPEN	# DAYS CLOSED	STATUS	# DAYS OPEN	# DAYS CLOSED	STATUS	# DAYS OPEN	# DAYS CLOSED	STATUS	# DAYS OPEN	# DAYS CLOSED	
11-31-14																	
06-26-14	0530	CONDITIONALLY OPEN		22													
04-02-14	0403	CONDITIONALLY CLOSED		23													
01-10-14	0111	CONDITIONALLY OPEN	82														
07-02-14	0133	CONDITIONALLY CLOSED		9													
07-01-14		CONDITIONALLY OPEN	1		CONDITIONALLY OPEN	1		CONDITIONALLY OPEN	1		CONDITIONALLY OPEN	1		CONDITIONALLY OPEN	1		
TOTALS			155	62		155	62		155	62		155	62		155	62	
				10.99%			10.99%									10.99%	
																	59.45%

Conditionally means there are some exceptions to the open status some parts of the area may still remain closed. See original notice for more detailed information

\*\* No Notice Found

Area V added April 1, 2012

These figures demonstrate that the majority of the water provided to the citizens in Alabama is excellent. Contaminants, chemicals, and byproducts that water systems monitor for are shown in Tables 8-3 through 8-7.

All water systems continue to monitor for lead and copper. Three systems exceeded a lead or copper action level out of the 348 community and non-transient, non-community systems that were sampled in 2014 and 2015. This system is being required to formulate a corrosion control plan, and continue sampling every six months.

All community and non-transient non-community water system sources continued to be monitored for volatile organic chemicals (VOCs) and synthetic organic chemicals (SOCs). More than ninety-nine (99) percent of the community systems and non-transient non-community systems required to monitor in 2012 and 2013 were in full compliance with the VOC and SOC monitoring requirements. Of the contaminants found, Tetrachloroethylene (TCE) is the most common regulated VOC and Di(2-ethylhexyl)phthalate is the most common regulated SOC. Table 8- shows surface source public water systems with compliance violations.

For more information about to Public Water Supply/Drinking Water, contact Mr. Tom DeLoach in ADEM's Montgomery Office at (334) 271-7791 or [tsd@adem.state.al.us](mailto:tsd@adem.state.al.us).

#### **8.4 Source Water Assessment Program**

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All public water supply systems with ground water sources have completed a SWAP for each of their existing sources. All water systems are required to update their SWAPs when applying for reissuance of their permits-to-furnish water. All new groundwater sources must have a completed SWAP, prior to using the source for potable water. A completed SWAP for a groundwater source must include the following:

- Delineation of the source water assessment area (SWAA),
- An inventory of the possible contaminant sources within the SWAA,
- A susceptibility analysis of each possible contaminant source in the inventory, and
- A public awareness requirement

When the SWAP requirements were initially required in February 2003, Alabama had a total of 414 public water supply systems that utilized one or more groundwater sources. These systems were required to complete a SWAP for their groundwater sources. The public water supply systems were categorized as follows:

- 310 Community Groundwater Systems
- 75 Non-Community Transient Groundwater Systems, and
- 29 Non-Community Non-Transient Groundwater Systems

Alabama received fifteen SWAPs for thirteen new or expanded groundwater sources in 2014 - 2015. All fifteen of these reports were submitted from existing public water systems. SWAPs have been finalized for twelve of the new well sources. For the remaining groundwater sources, the SWAP is currently in the process of being reviewed and finalized.

**Table 8-2 Surface Source Public Water Systems with Compliance Violations**

Name of Facility	Municipality Served	Name of Water body	Contaminants with Percent Violations
Auburn Water Works	Auburn	Lake Ogletree	Total Trihalomethanes
Limestone County Water System	Elkmont, Rural Limestone County	Elk River	Total Haloacetic Acids
Opelika Utilities	Opelika	Halawakee Creek, Saugahatchee Lake	Total Trihalomethanes
Redstone Arsenal	Redstone Arsenal	Tennessee River	Total Haloacetic Acids
Tuskegee Utilities Board	Tuskegee	Tallapoosa River	Total Trihalomethanes

**Table 8-3 Public Water Supply Elemental Contaminants**

Elemental Contaminants	MCL in mg/L
Antimony	0.006
Arsenic	0.05
Asbestos	7 million fibers*/L
Barium	2
Beryllium	0.004
Cadmium	0.005
Chromium	0.1
Cyanide	0.2
Fluoride	4
Lead	0.015
Mercury	0.002
Nickel	0.1
Nitrate (as N)	10
Nitrite (as N)	1
Total Nitrate/Nitrite (as N)	10
Selenium	0.05
Sulfate	500
Thallium	0.002

\* Longer than 10 micrometers

**Table 8-4 Public Water Supply Radiological Contaminants**

Radiological Contaminants	Concentrations
Gross alpha particle	15pCi/L
Combined radium226 and radium228	5 pCi/L
Tritium	20,000 pCi/L
Strontium90	8 pCi/L
Beta particle and photon radioactivity	4 millirem/Yr

For more information about the Source Water Assessment Program, contact Mr. Loren Crawford in ADEM's Montgomery Office at (334) 271-7788 or [llc@adem.state.al.us](mailto:llc@adem.state.al.us).

## **8.5 Wellhead Protection Program**

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A Ground Water Branch staff member is assigned to the ADEM Public Water Supply Branch to support Source Water Assessment (SWA) and Drinking Water State Revolving Fund (DWSRF) grants and contracts, to manage the Wellhead Protection Program, and to conduct technical reviews of ground water source delineations and contaminant inventories. The Wellhead Protection Program supports the Source Water Assessment Program (SWAP) by providing a mechanism for communities and water systems to develop and implement drinking water protection strategies. The Ground Water Branch provides assistance and guidance to systems in developing a Wellhead Protection Plan, promotes the Ground Water Guardian program, coordinates drinking water protection sign distribution, coordinates with the Alabama Rural Water Association (ARWA) in recognizing water systems that have completed a Wellhead Protection Plan, attends meetings, conferences and workshops, and coordinates inspections and compliance issues in wellhead protection areas with ADEM Branches and other State agencies. ADEM and the ARWA are working together to integrate the WHPP Tool Kit into implementation of the WHP Program. Nine utilities have developed a protection program utilizing the Tool Kit. In addition, the ADEM and ARWA are working together to install Drinking Water Protection signs in those communities with completed Wellhead Protection Plans. The sign installations were publicized for several of the communities in both the local media as well as the ARWA journal.

ADEM is working to insure that delineated source water area maps and potential contaminant site location information are available for use within the Department. Source Water Area maps have been digitized for use in developing a GIS layer. The ADEM Information Systems Branch is providing the digitizing and GIS support. The database is currently available to the agency as a draft. The ADEM Groundwater Branch UIC, UST and 106 Programs and the ADEM Industrial and Municipal Branches all consider existing Source Water Assessment areas as part of their permitting process.

The Groundwater Guardian Program was established within the State to provide recognition to communities, municipalities and counties that implement groundwater protection initiatives. The Department was awarded the Ground Water Guardian Affiliate designation for the 19th year by the Ground Water Foundation. Three communities were designated Groundwater Guardians during the reporting period. These communities include the Eufaula, Limestone County, and New Brockton/Coffee County.

Thirty one (31) Groundwater or Water Festivals were hosted. Approximately 24,000 students participated in a festival during the reporting period. The ADEM Groundwater Branch with the assistance of the ADEM Office of Education and Outreach manages the State program and coordinates (on average) three festival committees per year. The ARWA Groundwater and Source Water Technicians provide volunteer hours to several festivals per year and provide 4th grade teacher training on groundwater in preparation for the festivals. Funding to support the program is provided through an ADEM grant program. Festival committees can apply yearly for a \$1000 grant.

**Table 8-6 Public Water Supply Disinfection Byproducts**

Disinfection Byproduct	MCL in mg/L
Bromate	0.01
Chlorite	1
Haloacetic Acids	0.06
Trihalomethanes	0.08

**Table 8-5 Public Water Supply Volatile Synthetic Organic Chemicals**

Volatile Synthetic Organic Chemicals (VOC)	MCL in mg/L
Benzene	0.005
Carbon Tetrachloride	0.005
1,2-Dichloroethane	0.005
Trichloroethylene	0.005
para-Dichlorobenzene	0.075
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.2
Vinyl chloride	0.002
cis-1,2-Dichloroethylene	0.07
1,2-Dichloropropane	0.005
Ethylbenzene	0.7
Monochlorobenzene	0.1
o-Dichlorobenzene	0.6
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1
Trans-1,2-Dichloroethylene	0.1
Xylene (Total)	10
Dichloromethane	0.005
1,2,4-Trichlorobenzene	0.07
1,1,2-Trichloroethane	0.005

**Table 8-7 Public Water Supply Synthetic Organic Chemicals**

Synthetic Organic Chemicals (non-volatile)	MCL in mg/L
Alachlor	0.002
Atrazine	0.003
Carbofuran	0.04
Chlordane	0.002
Dibromochloropropane	0.0002
2,4-D	0.07
Endrin	0.002
Ethylene Dibromide	0.00005
Heptachlor	0.0004
Heptachlor Epoxide	0.0002
Lindane	0.0002
Methoxychlor	0.04
Polychlorinated Biphenyls	0.0005
Pentachlorophenol	0.001
Toxaphene	0.003
2,4,5-TP	0.05
Benzo(a)pyrene	0.0002
Dalapon	0.2
Di (2-ethylhexyl) adipate	0.4
Di (2-ethylhexyl) phthalate	0.006
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Glyphosate	0.7
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Oxamyl (Vydate)	0.2
Picloram	0.5
Simazine	0.004
2,3,7,8-TCDD (Dioxin)	3x10 <sup>-8</sup>

The Annual Alabama Groundwater Conference was held in June 9, 2015 at the Gordon Persons Building in Montgomery. The conference provides a forum for discussion of the latest technology and protection programs for groundwater. Approximately one hundred and forty-five (145) people were registered for the conference. The audience for the conference is comprised of utility personnel, consultants, watershed managers, geologist, university professors and students, and ADEM personnel.

For more information about the Wellhead Protection Program, contact Mr. Whit Slagle in ADEM's Montgomery Office at (334) 271-7831 or [cws@adem.state.al.us](mailto:cws@adem.state.al.us). For information about the Water Festival Program contact Scott Hughes, ADEM Office of Education and Outreach, at (334) 271-7955 or [ash@adem.state.al.us](mailto:ash@adem.state.al.us).

## 8.6 Coastal Beach Monitoring

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Alabama has approximately 50 miles of Gulf beaches and almost 70 miles of bay beaches, both of which are major tourist attractions and represent a significant component of the lifestyle of Alabama residents. In June 1999, ADEM, in cooperation with the ADPH, initiated a program to routinely monitor bacteria levels at five swimming beaches on the Gulf Coast and in August 2000, six additional beaches were added. Congressional passage of the Beaches Environmental Assessment and Coastal Health (BEACH) Act expanded the monitoring and assessment activities at public beaches and in the fall of 2002, ADEM and the Baldwin County Health Department conducted on-site surveys to evaluate additional public beach sites to add to the program. Figure 8-2 shows Alabama's coastal waters covered under the 2000 B.E.A.C.H. Act.

During the past summer, a total of 25 public beach areas were monitored. A majority of these sites were sampled weekly from Memorial Day through Labor Day and for the remainder of the year sampling is conducted monthly. All sample collection and analyses are performed by qualified ADEM or ADPH staff, with analytical results made available to the public within 24 hours.

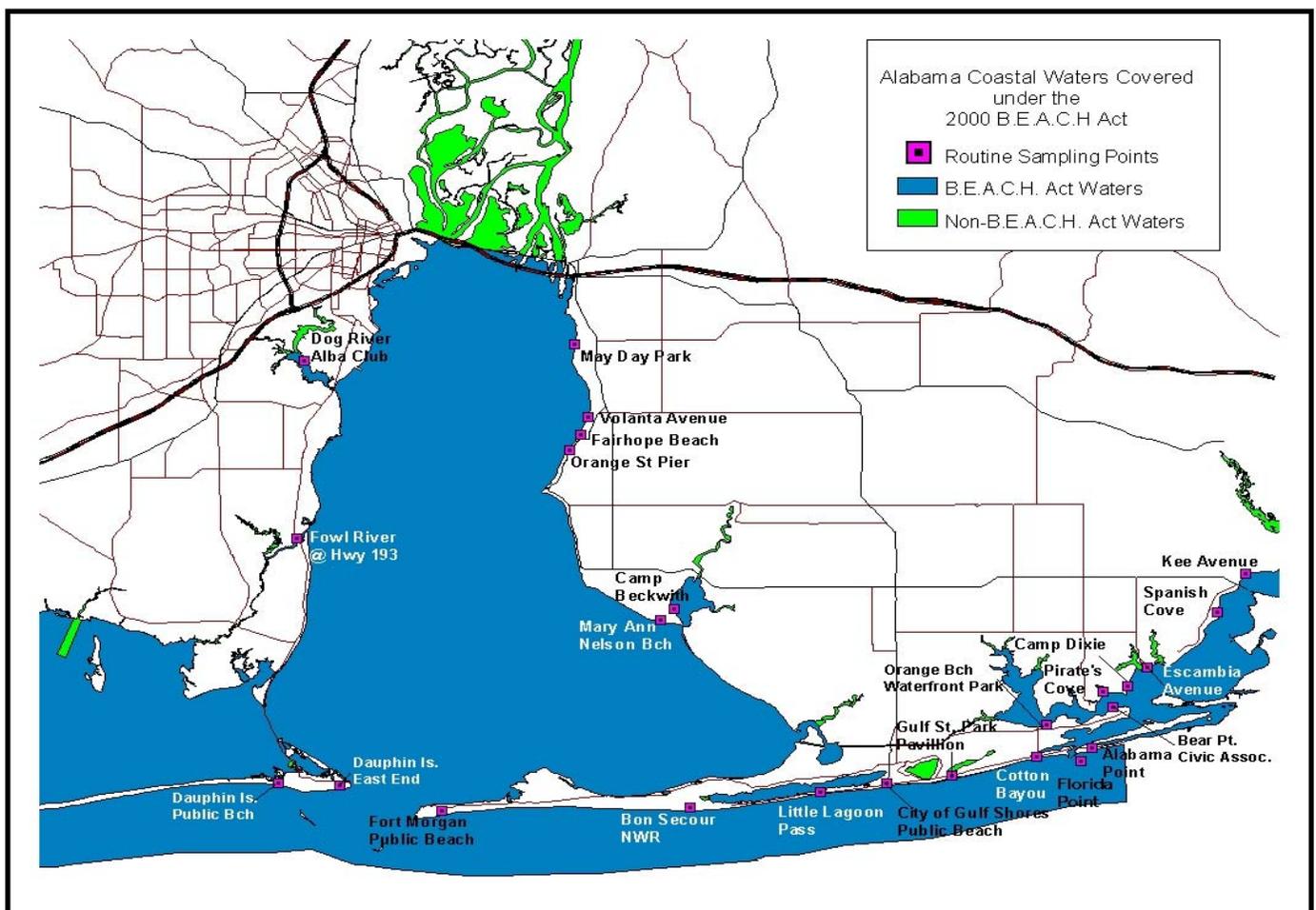
The public beach locations that are sampled have signage with a color-coded bacteriological advisory status to inform the public of the potential health risk associated with swimming or other water contact activities at that site. A **GREEN** advisory means the most recent water quality test revealed bacterial levels are below recommended thresholds while a **YELLOW** advisory indicates the most recent water quality test revealed bacterial levels exceed recommended thresholds and an increased risk of illness may be associated with swimming. Once a yellow advisory status has been issued, the site is re-tested. A **RED** advisory indicates continued elevated bacterial levels at the site and the ADPH issues a swimming advisory. The site is re-tested until bacterial levels return to an acceptable level.

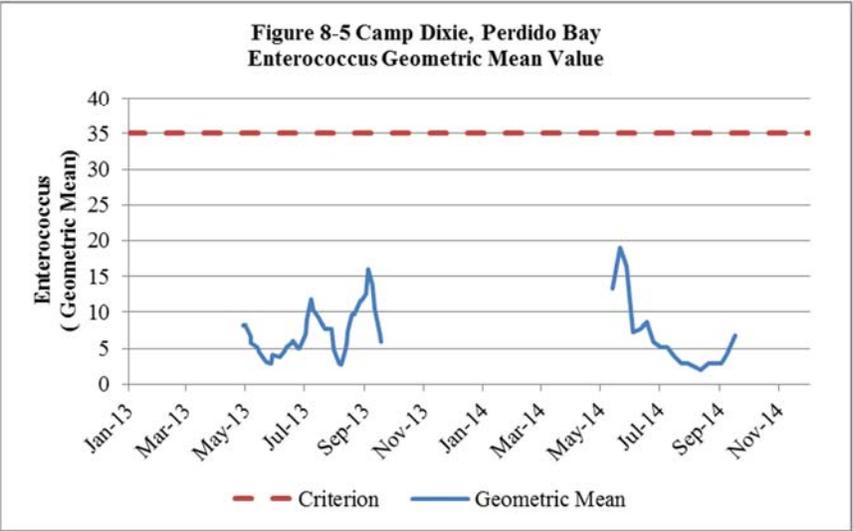
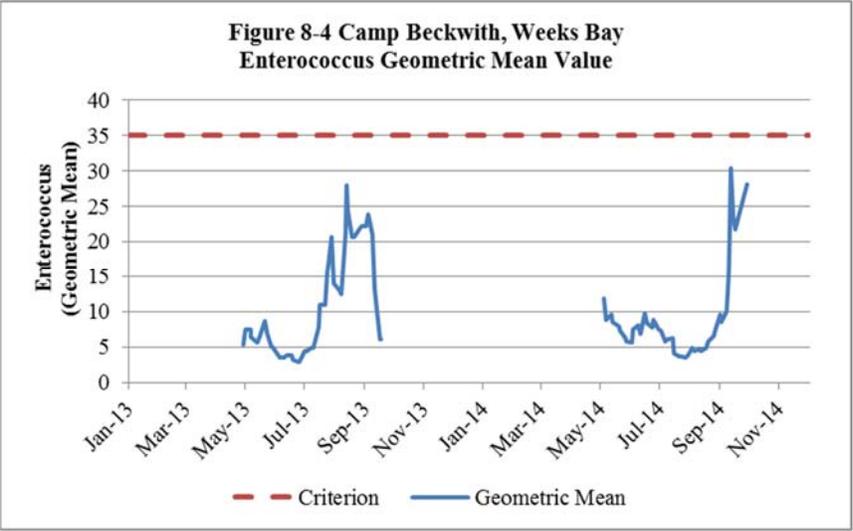
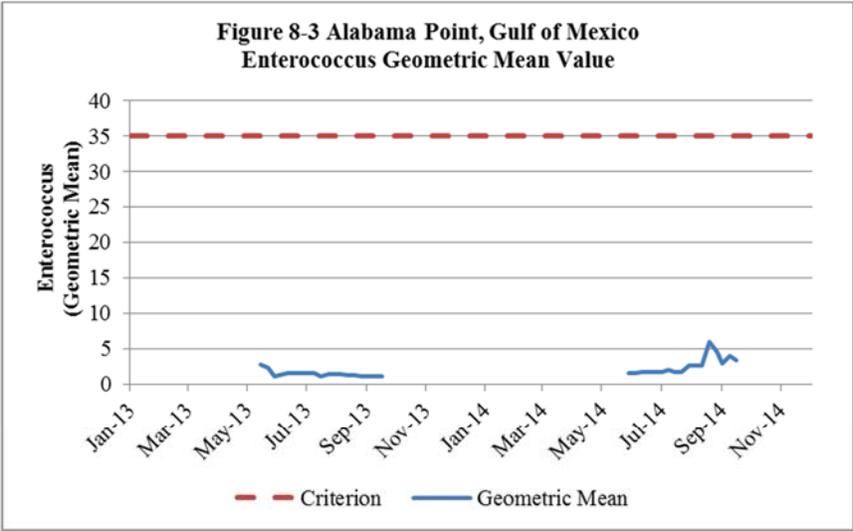
In 2015, approximately 800 samples were collected and analyzed for enterococcus bacteria. There were 3 advisories that occurred during the swim season, May through September; resulting in a total of 13 days that beaches were under advisories because of elevated bacteria. Data and monitoring location information from this program are available at [www.adem.alabama.gov](http://www.adem.alabama.gov).

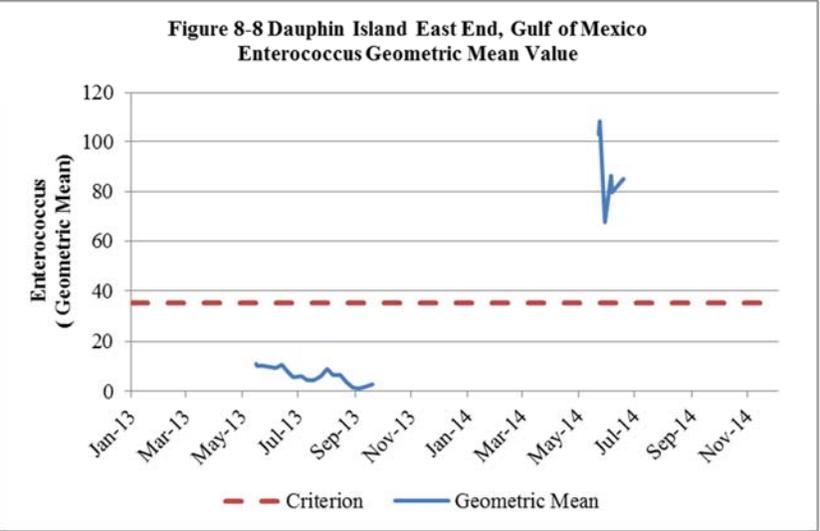
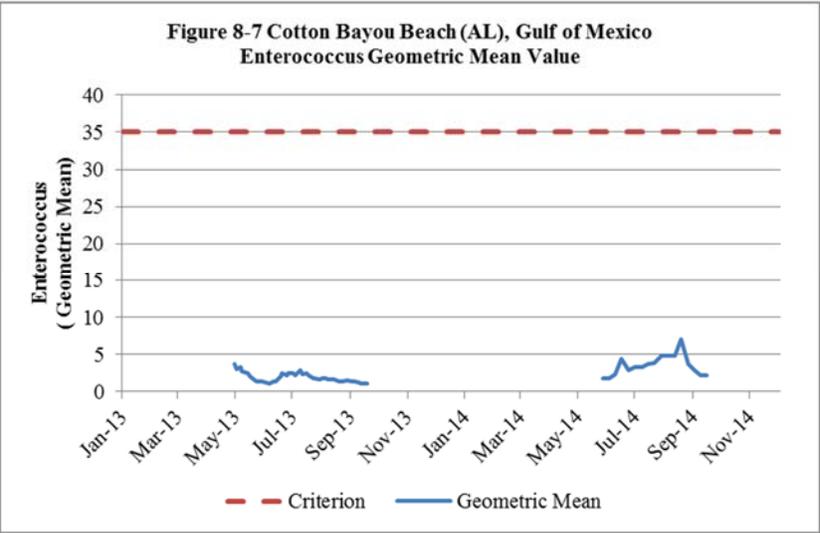
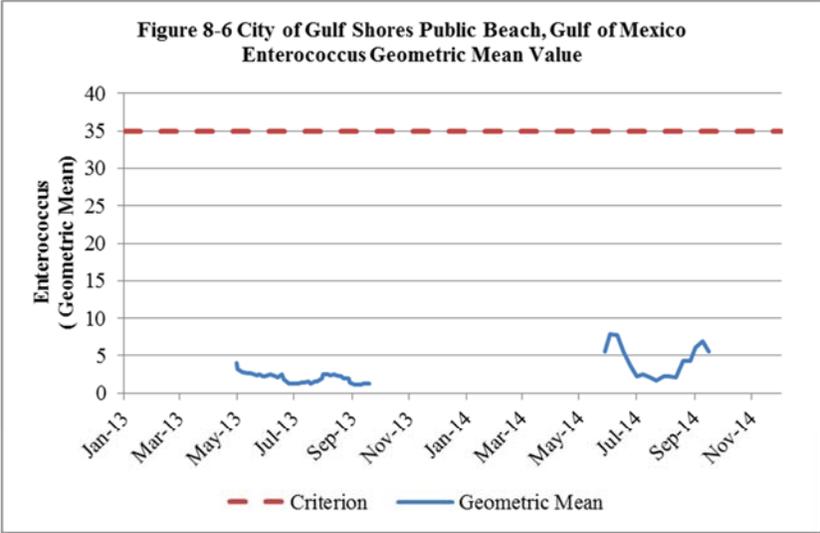
Elevated bacterial levels can be caused by heavy rainfall events that allow stormwater runoff to carry bacterial matter into the coastal waters. ADEM and the ADPH use on-site signs, the ADEM web-page, press releases, and local newspapers to notify the public of the latest monitoring results. Graphs for each beach monitoring station's Enterococcus geomean or Individual count results are on the following pages.

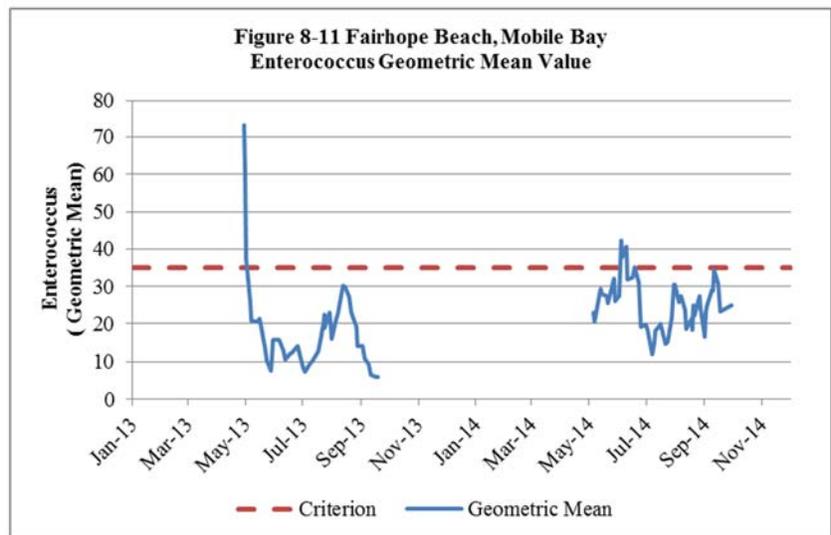
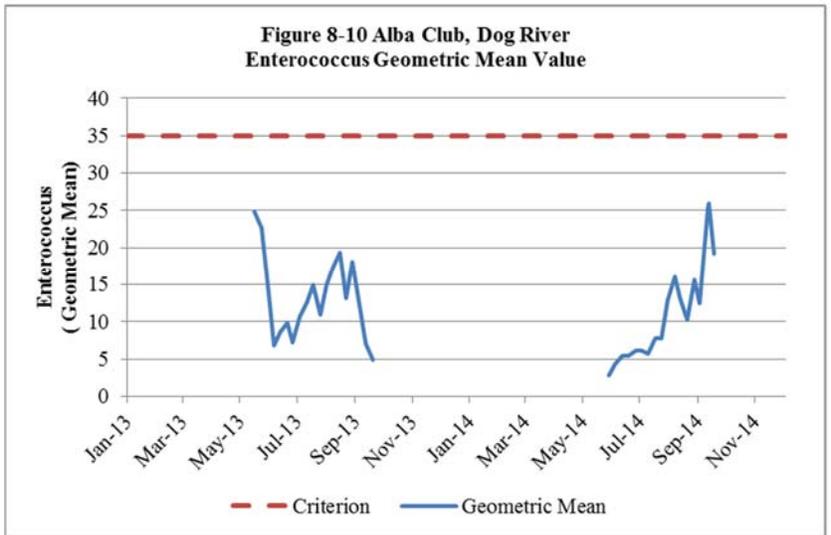
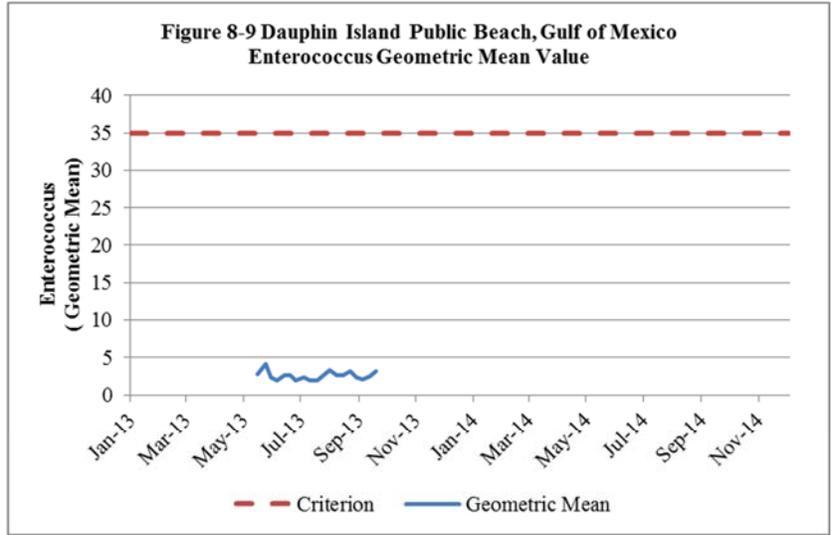
For information pertaining to Coastal Beach Monitoring, contact Ms. Susan Rice in ADEM's Mobile Office at (251) 450-3400 or [srice@adem.state.al.us](mailto:srice@adem.state.al.us)

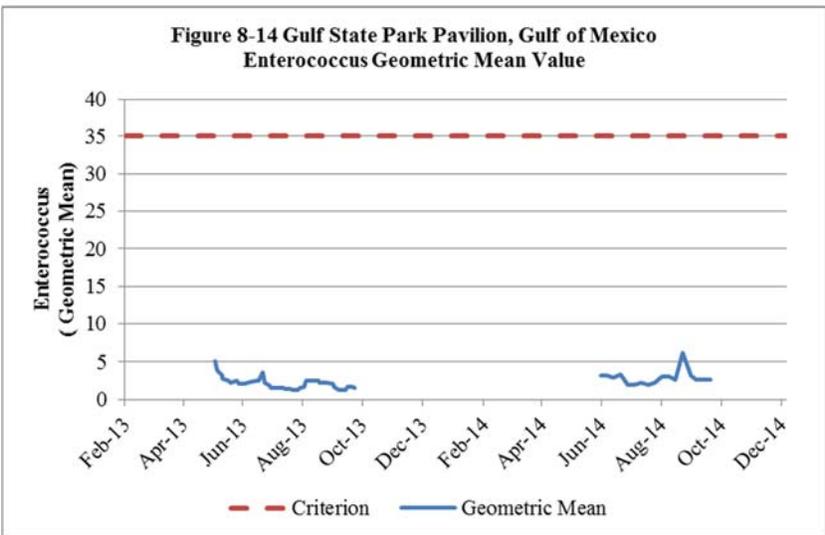
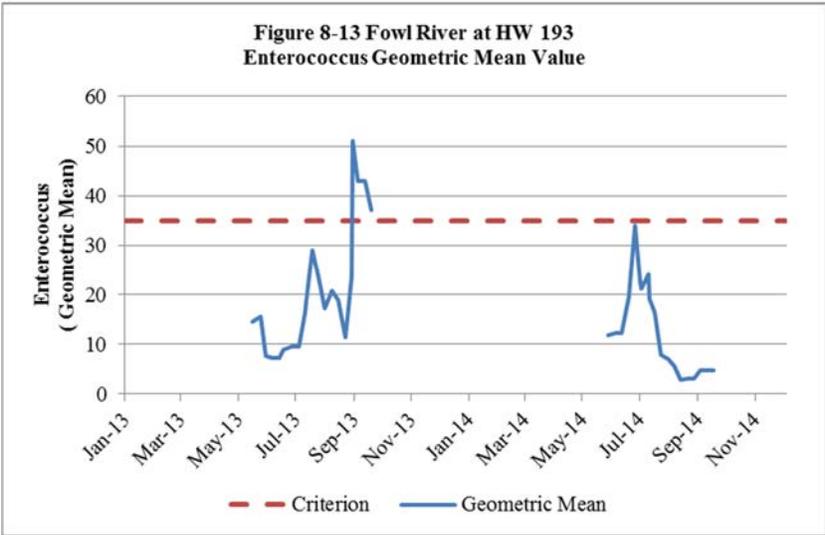
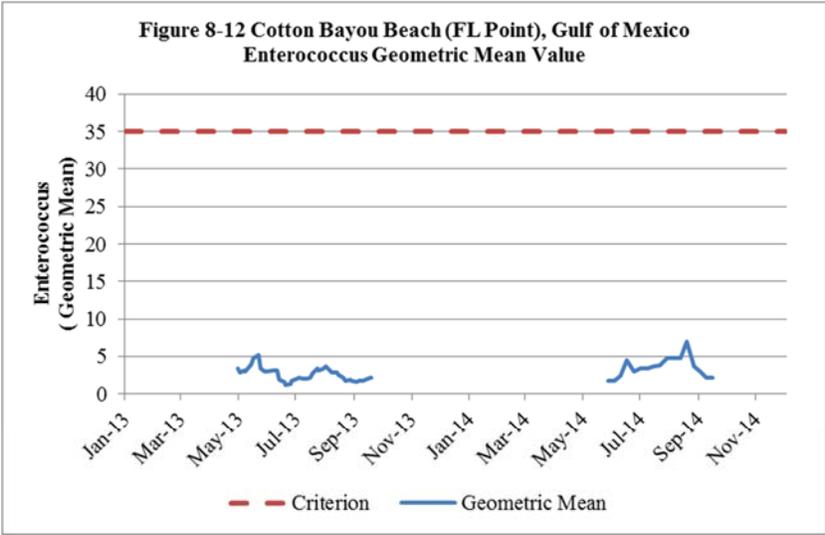
Figure 8-2 Coastal Beach Monitoring

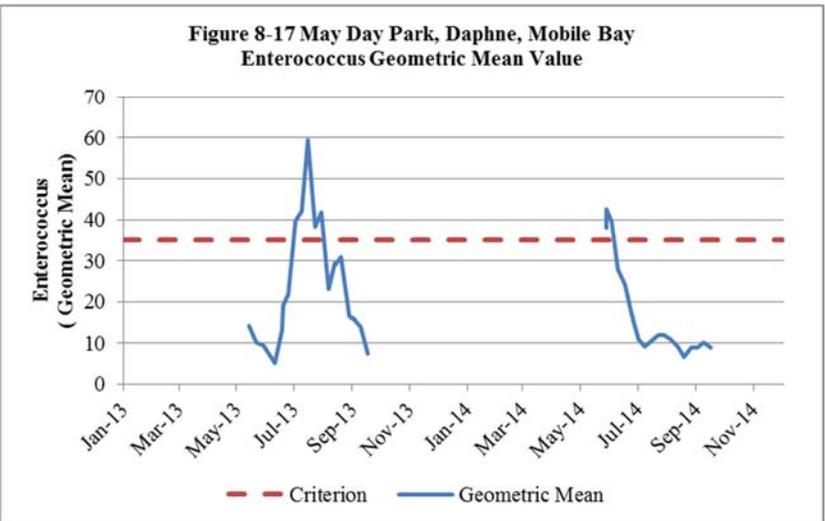
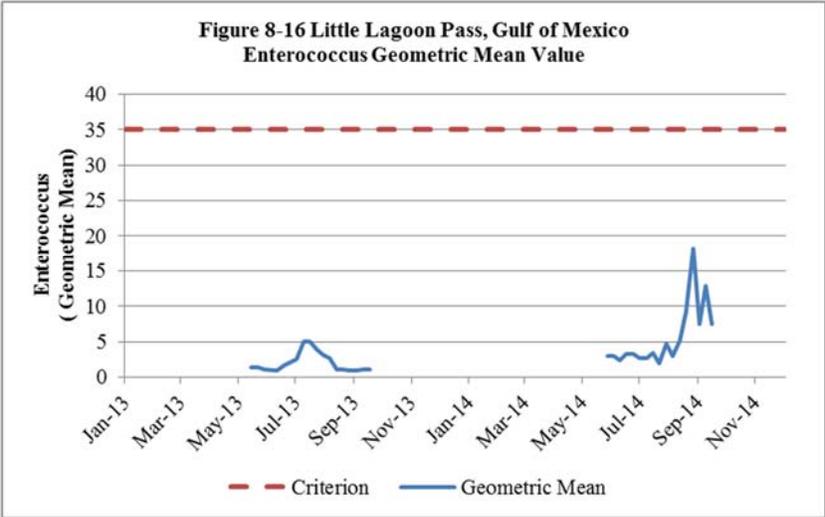
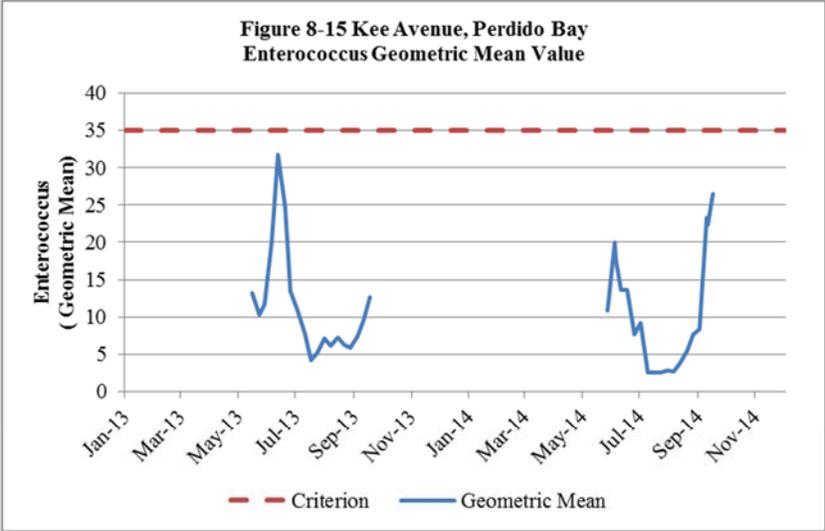


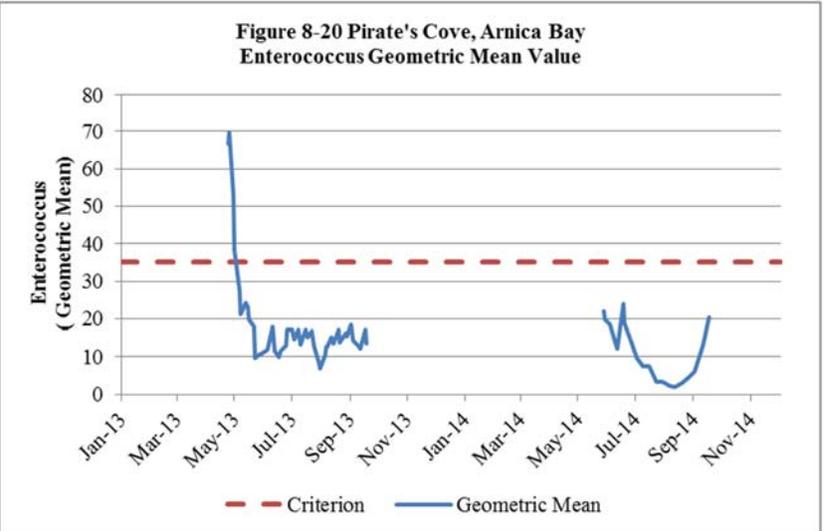
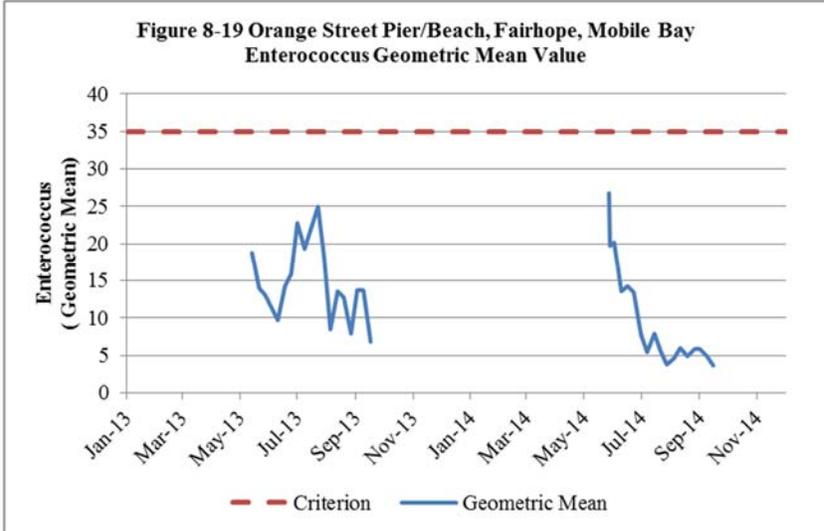
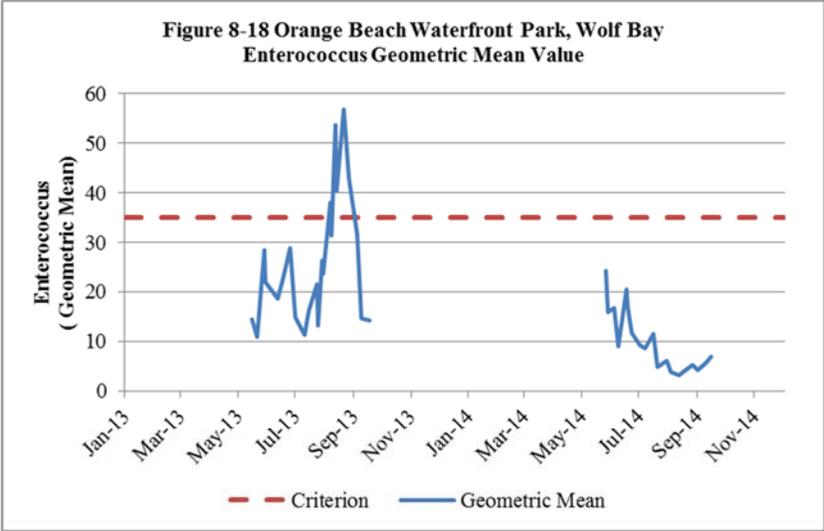


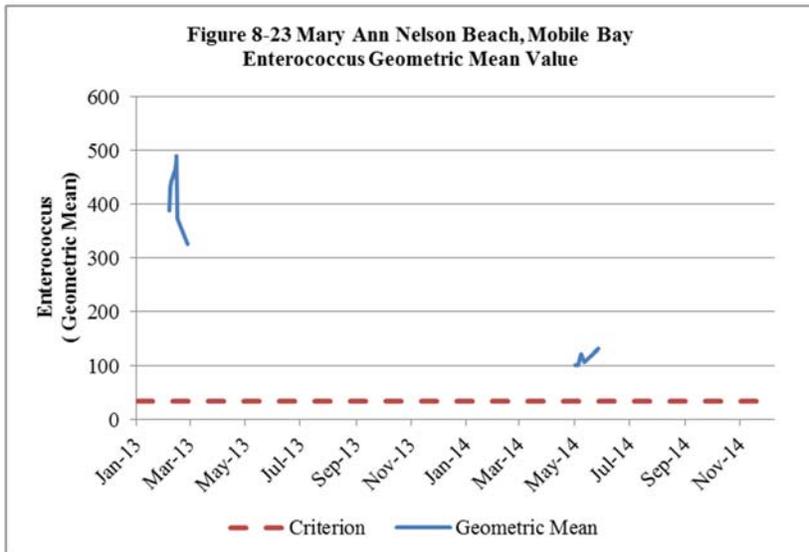
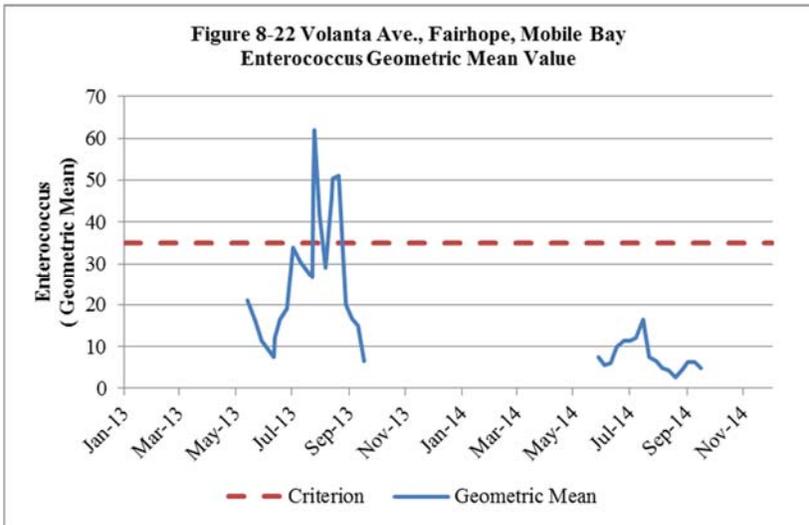
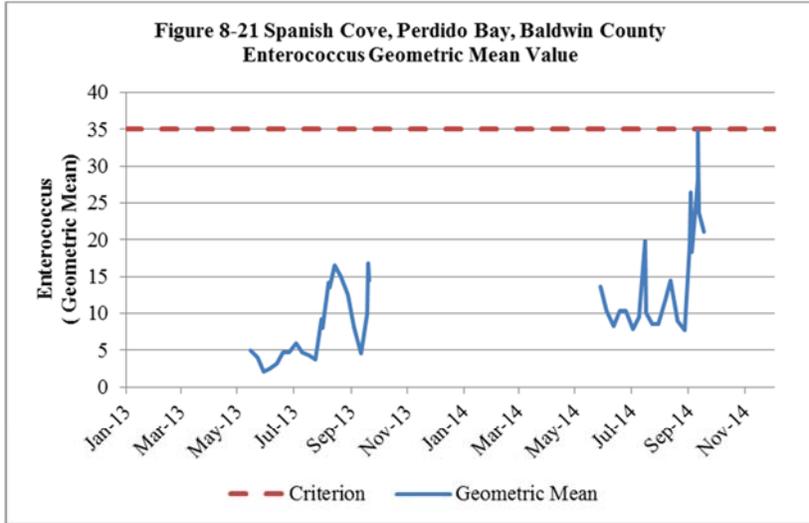














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## Chapter 9 TMDL Program

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### 9.1 TMDL Program

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According to the code of federal regulations (CFR), specifically 40 CFR §130.7(b), each state must determine the total maximum daily load (TMDL) for each pollutant causing impairment as identified on their §303(d) list of impaired waters. A total maximum daily load is defined in 40 CFR §130.2 as the sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs.

Point sources include all sources subject to regulation under the National Pollutant Discharge Elimination System (NPDES) program. Nonpoint sources include all remaining sources of the pollutant as well as anthropogenic and natural background sources. TMDLs must also account for seasonal variations in water quality and include a margin of safety (MOS) to account for uncertainty in predicting how well pollutant reductions will result in meeting water quality standards. The TMDL calculates the maximum amount of a pollutant that a waterbody can receive and still meet applicable water quality standards.

The TMDL calculation is as follows:

$$\text{TMDL} = \sum \text{WLA} + \sum \text{LA} + \text{MOS}$$

Where WLA = the sum of wasteload allocations (point sources)

LA = the sum of load allocations for nonpoint sources and background

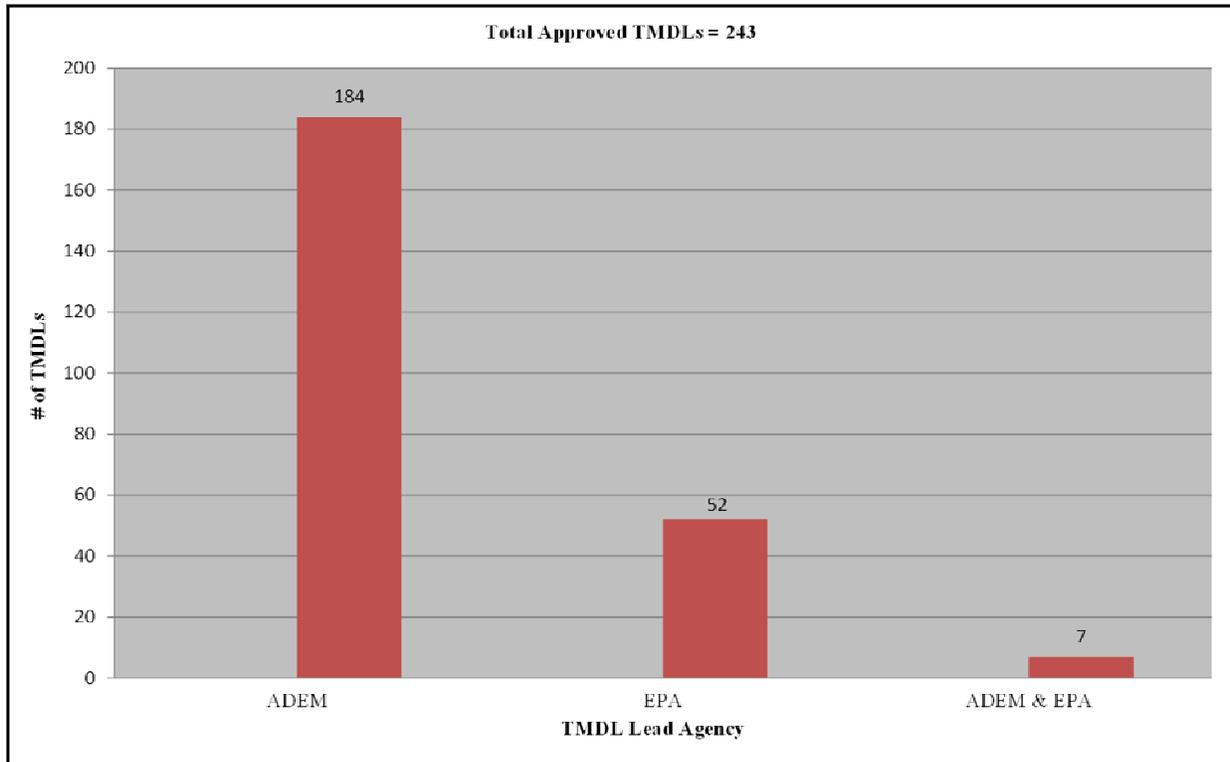
MOS = the margin of safety

Typical modeling methods or approaches used by the Department to develop TMDLs are as follows:

- Dynamic and steady-state models for organic enrichment (CBOD and NBOD),
- Dynamic and steady-state water quality models for nutrients and siltation,
- Mass balance approach for toxic pollutants and pathogens.

Information used in development of the TMDL consists primarily of chemical, physical and biological data of the impaired waterbody to include its watershed characteristics such as land

**Figure 9-1 Total Approved TMDLs in Alabama**



use/cover, soil types, elevation data, point and nonpoint sources, census data, meteorological data, water withdrawals, flow data and various other types of information. Most data and information are stored in Departmental databases and can also be managed, analyzed and displayed using ESRI ArcMap Geographic Information System (GIS), Microsoft Access, Microsoft Excel, Water Resources Database (WRDB) or other software. This information is collected and evaluated by the Water Quality Branch through planned water quality studies with ADEM's Field Operations Division (FOD) or is gathered from other sources (e.g. federal agencies, universities, other State agencies, volunteer monitoring groups) for evaluation by the Water Quality Branch.

Documentation of the TMDL is provided in the form of a written draft report. The draft TMDL report is provided to the EPA Regional Administrator and shall include, at minimum, the elements required under 40 CFR §130.7. In conjunction with or following review by the Regional Administrator the draft TMDL is made available for public review and comment. The notice of availability of the draft TMDL report and request for comment is published on the Department's website, placed in the State's largest daily newspapers and distributed electronically to any person wishing to receive public notices from the Department.

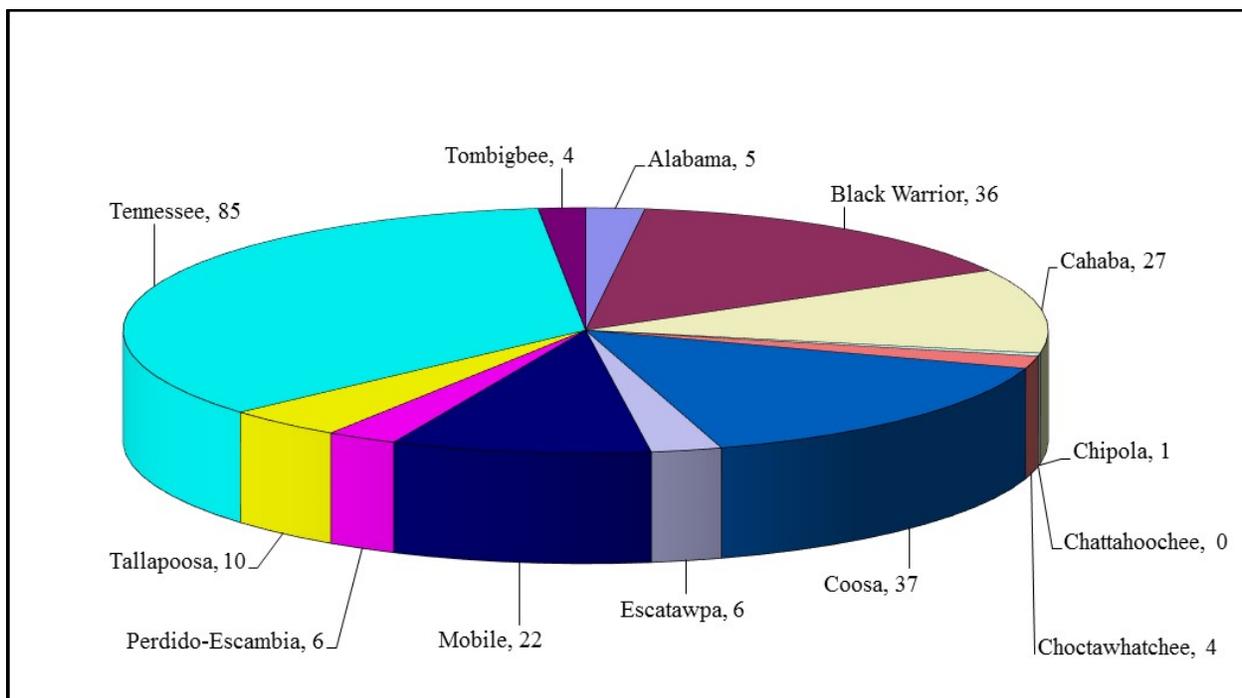
Following public review and comment, TMDLs are finalized, incorporating any necessary changes as a result of information and comments received during the comment period. The final TMDLs are then submitted to EPA for formal review and approval. Implementation of the final TMDLs is accomplished through ADEM's NPDES programs for regulated point sources, which address WLAs, and through ADEM's 319 nonpoint source program for nonpoint sources, which address the LAs. When the TMDL contains a WLA for point sources, any

affected NPDES permits are modified to be consistent with the wasteload allocation contained in the TMDL. The nonpoint source program uses a voluntary approach to address nonpoint source pollution. The program relies on best management practices, education and outreach, technology transfer, monitoring and assessments and resource assistance using a balanced statewide and watershed focused restoration approach. Local partnerships and citizen input are the primary implementation components. These partnerships are fostered through the Alabama Clean Water Partnership (ACWP). The ACWP plays a central role in implementation of TMDLs through the development of watershed restoration action strategies.

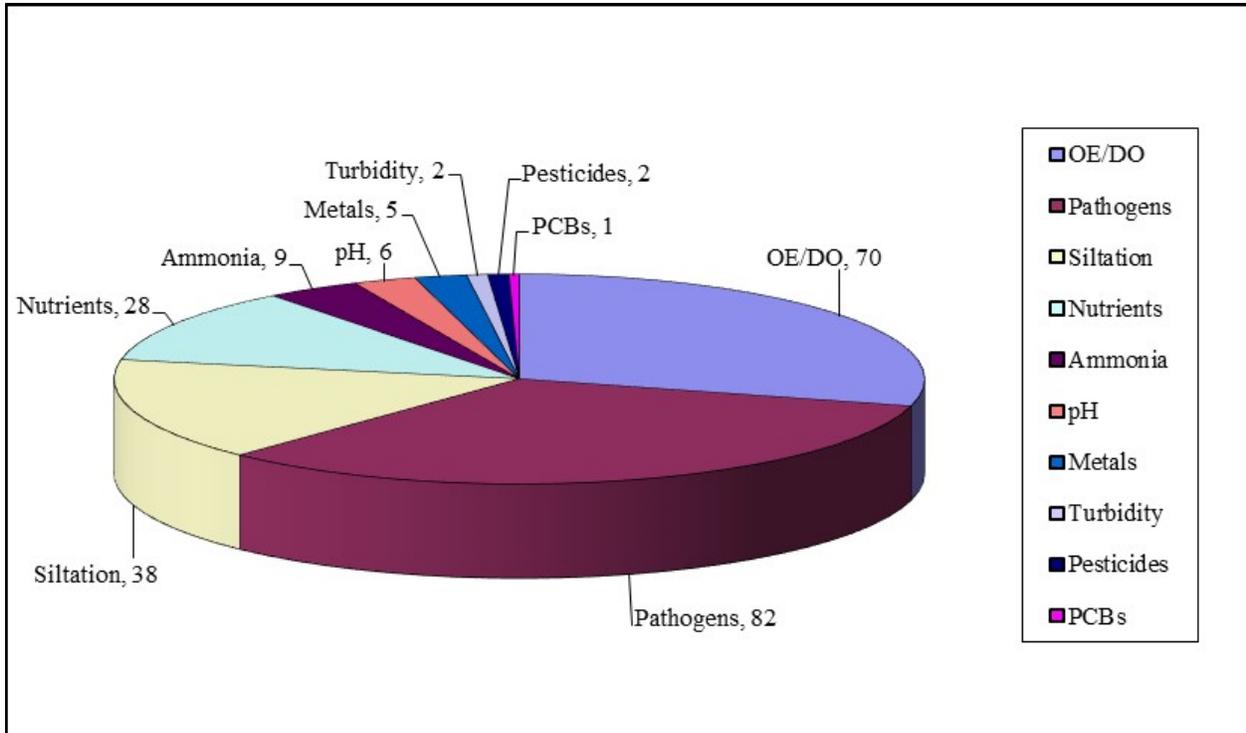
In FY2014 and FY2015, Alabama’s TMDL Program had several accomplishments with respect to TMDL development, pollutant delistings, waterbody/watershed investigations and development of dynamic water quality models, all of which address impaired waters throughout Alabama. A total of 11 TMDLs were developed by ADEM’s Water Quality Branch and subsequently approved by EPA Region 4. All of these TMDLs addressed pathogen impairments. As of February 1, 2016, a total of 243 TMDLs have been developed for Alabama’s waterbodies since the inception of the program which began in 1997. See Figure 9-1 for details. Figures 9-2 and 9-3 provide the number of TMDLs developed per major river basin and number of TMDLs developed per pollutant, respectively. Table 9-1 provides a list of the approved TMDLs that were completed in FY2014-FY2015. Tables 9-2 and 9-3 provide the TMDL Development Schedules for FY2016 and FY2017, respectively.

For more information about Alabama’s TMDL Program, contact Ms. Kimberly Minton in ADEM’s Montgomery Office at (334) 271-7826 or [kminton@adem.state.al.us](mailto:kminton@adem.state.al.us).

**Figure 9-2 Alabama’s Approved TMDLs by Major River Basin**



**Figure 9-3 Alabama's Approved TMDLs by Pollutant**



**Table 9-1 TMDL Development for Fiscal Years 2014 & 2015**

Waterbody Name	Waterbody ID	River Basin	County	Pollutant	Final TMDL Date (approval date)
Cahaba River	AL03150202-0206-101	Cahaba	Shelby	Pathogens	11/21/2013
Cahaba River	AL03150202-0206-102	Cahaba	Shelby	Pathogens	11/21/2013
Cahaba River	AL03150202-0204-101	Cahaba	Jefferson Shelby	Pathogens	11/21/2013
Threemile Creek	AL03160204-0504-101	Mobile	Mobile	Pathogens	11/21/2013
Threemile Creek	AL03160204-0504-102	Mobile	Mobile	Pathogens	11/21/2013
Fish River	AL03160205-0204-112	Mobile Bay	Baldwin	Pathogens	11/21/2013
East Branch Luxapallila Creek	AL03160105-0101-200	Upper Tombigbee	Fayette Marion	Pathogens	11/21/2013
Wahalak Creek	AL03160201-0904-101	Lower Tombigbee	Choctaw	Pathogens	11/21/2013
Village Creek	AL03160111-0408-102	Black Warrior	Jefferson	Pathogens	10/5/2015
Village Creek	AL03160111-0408-103	Black Warrior	Jefferson	Pathogens	10/5/2015
Mobile Bay	AL03160205-0300-501	Mobile Bay	Baldwin	Pathogens	10/5/2015

**Table 9-2 Final TMDL Development Schedule for Fiscal Year 2016**

<b>Waterbody Name</b>	<b>Waterbody ID (12-Digit HUC)</b>	<b>River Basin</b>	<b>County</b>	<b>Pollutant</b>
Cypress Creek	AL03130012-0101-410	Chipola	Houston	Nutrients Organic enrichment (CBOD, NBOD)
Rocky Creek	AL03140303-0201-101	Perdido-Escambia	Butler	Pathogens
Black Branch	AL03160109-0404-500	Black Warrior	Walker	Metals (Aluminum) pH
Locust Fork	AL03160111-0305-102	Black Warrior	Blount Jefferson	Nutrients
Locust Fork	AL03160111-0308-102	Black Warrior	Blount Jefferson	Nutrients
Locust Fork	AL03160111-0404-102	Black Warrior	Blount Jefferson	Nutrients
Locust Fork	AL03160111-0413-101	Black Warrior	Jefferson	Nutrients
Locust Fork	AL03160111-0413-112	Black Warrior	Jefferson	Nutrients
<b>Total Segments = 8</b>				
<b>Total Pollutants = 11</b>				

**Table 9-3 Final TMDL Development Schedule for Fiscal Year 2017**

<b>Waterbody Name</b>	<b>Waterbody ID (12-Digit HUC)</b>	<b>River Basin</b>	<b>County</b>	<b>Pollutant</b>
AL03150108-0905-103	Little Tallapoosa River	Tallapoosa	Cleburne Randolph	Pathogens
AL03150201-0101-200	Callaway Creek	Alabama	Elmore	Nutrients
AL03160109-0101-150	Riley Maze Creek	Black Warrior	Cullman Marshall	Total Dissolved Solids
AL03160109-0101-600	Tibb Creek	Black Warrior	Cullman Marshall	Total Dissolved Solids
AL03160109-0203-101	Mulberry Fork	Black Warrior	Blount Cullman	Nutrients
AL03160109-0203-102	Mulberry Fork	Black Warrior	Blount Cullman	Nutrients
AL03160112-0201-102	Big Yellow Creek	Black Warrior	Tuscaloosa	Metals (Chromium, Lead)
<b>Total Segments = 7</b>				
<b>Total Pollutants = 8</b>				



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## Chapter 10 Concerns and Recommendations

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A declining trend in national and state funding of water quality programs, including funding of water quality monitoring activities, and ever increasing federal mandates will continue to provide challenges, as well as, opportunities for innovation. Given the considerable task of adequately monitoring the State's surface waters and the fact that EPA's budget continues to decline overall, especially in funding for the Section 319 program, efficiencies must be found to make the most of available resources. The Department is initiating several efforts to increase program efficiency through the effective use of technology to gather, store, assess and report data and information. In addition, EPA has placed a greater emphasis on measuring and reporting water quality changes resulting from implementation of management practices.

Implementation of management measures must be based on sufficiently detailed watershed protection plans with measurable goals. In Alabama, the Clean Water Partnership program promotes efficient and effective implementation of technically sound, environmentally protective, and economically achievable management measures using a grass-roots approach. The partnership is composed of a diverse and inclusive coalition of public and private interest groups and individuals who are working in collaboration to improve, protect, and preserve water resources and aquatic ecosystems in Alabama. Public and private funding is needed to institutionalize this successful endeavor and to ensure permanent facilitators in each basin or sub-basin to coordinate projects and programs and to enhance citizen interest and input into decision-making processes. Federal funding reductions for the Section 319 Nonpoint Source Program may jeopardize this very successful effort.

Water quality assessment and resource protection efforts should emphasize shared decision-making processes, integrate diverse and inclusive partnerships, and provide a clear understanding of the many and varied problems impacting a waterbody. In Alabama, voluntary and enforceable mechanisms are in-place, are complementary, and are effective in assuring long-term protection of water quality. However, as competing demands for limited resources endure, additional information becomes available, priorities change, or complex issues emerge, watershed protection plans must be designed to be iterative, particularly as related to TMDL plan implementation. Stakeholders must be involved in the early stages of plan development, encouraged to assume ownership, and voluntarily accept responsibility for providing solutions. Certain elements and structure of the plans can be adapted to the entire watershed, or to specific sources or causes of impairment. However, it is recommended that all plans in Alabama be based on a similar format, especially if the impairments to be addressed are both point and nonpoint source related and/or the plan will serve as a TMDL implementation plan.

In 2015, ADEM's Monitoring Strategy was updated to meet data needs for the next five-

year monitoring cycle, namely calendar years 2015-2020. Since 1996, ADEM utilized a rotating basin approach to monitor waters throughout the State. The former approach divided the State into 5 river basin groups which were monitored on a five-year rotating basis. Monitoring was concentrated in one target basin, in accordance with ADEM's 5-year basin rotation. Beginning in 2015, monitoring is conducted in each of the five basin groups every year based on programmatic needs. In addition, the Rivers and Reservoirs Monitoring Program (RRMP) went from a 5-year rotation to a 3-year rotation thus allowing for a more frequent monitoring schedule for our large rivers and reservoirs. The coastal monitoring program was also redesigned to allow for more frequent monitoring in a given year at specific locations within the estuarine and coastal waters. These monitoring changes will enable the Department to collect samples throughout the growing season and provide more sufficient data nutrient criteria development and use support analysis. These changes to ADEM's Monitoring Strategy provides more flexibility to address the multiple monitoring needs, as well as, meet the growing demands of the various water protection programs.

In 2016, the Department initiated research to collect "real-time" continuous flow, turbidity and total suspended solids (TSS) at two streams in the Tennessee Basin and two streams in the Tallapoosa Basin. These studies will be used to provide a better understanding of sediment loadings and concentrations during various hydrologic conditions including storm events with a goal of developing sediment and turbidity benchmarks for the various ecoregions within Alabama. These benchmarks will hopefully provide for more accurate use support analysis and more definitive targets for TMDL development.

The Department's ability to efficiently gather, store, analyze, and report on water quality data and information is critical to making sound management decisions. The Department has initiated several projects to address this issue, such as electronic reporting of Discharge Monitoring Reports by industrial and municipal wastewater treatment facilities, the NPDES Management System (NMS), the Alabama Water Quality Assessment & Monitoring Data Repository (ALAWADR), and a database system to replace the Assessment Database (ADB), for tracking assessment units and assessment unit categories.

Although several initiatives and programmatic changes have been established recently, ADEM needs additional resources to enable its monitoring programs to meet a growing list of the programmatic commitments. Development of EPA-mandated nutrient criteria for State waters and evaluation of TMDL implementation activities will require significant additional monitoring resources, including personnel, field equipment and laboratory facilities. Adequate data and information are required to make sound, scientifically based decisions related to development of new water quality criteria, designated uses, and use support status for Alabama's water resources. Careful and thorough planning is needed to insure that any additional resources for monitoring State waters are used efficiently and as effectively as possible. To accomplish this goal, Alabama should establish a Water Quality Monitoring Council (AWQMC) made up of agencies and organizations involved in water quality monitoring activities. The

AWQMC would facilitate a long-term, coordinated monitoring strategy for the state's waters and leverage resources to better assess both the quality and quantity of Alabama's water.



## **Appendix A**

### **Alabama's Water Quality Assessment and Listing Methodology**



# **Alabama's Water Quality Assessment and Listing Methodology**

**January 1, 2016**

## Appendix A

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## List of Acronyms

A&I	Agriculture and Industry Water Supply
ADB	Assessment Database
ADEM	Alabama Department of Environmental Management
ADPH	Alabama Department of Public Health
AEMC	Alabama Environmental Management Commission
AWIC	Alabama Water Improvement Commission
CaCO <sub>3</sub>	Calcium Carbonate
CBOD <sub>5</sub>	Five-Day Carbonaceous Biochemical Oxygen Demand
Cl <sup>-1</sup>	Chlorides
CWA	Clean Water Act
DO	Dissolved Oxygen
DBP	Disinfection By Products
DRP	Dissolved Reactive Phosphorus
EPA	Environmental Protection Agency
EPT	Ephemeroptera/Plecoptera/Trichoptera
F&W	Fish and Wildlife
GIS	Geographical Information System
GPS	Global Positioning System
IBI	Index of Biotic Integrity
IWQMAR	Integrated Water Quality & Monitoring
LWF	Limited Warmwater Fishery
MPN	Most Probable Number
MDL	Method Detection Limit
NH <sub>3</sub> -N	Ammonia Nitrogen
NHD	National Hydrography Dataset
NO <sub>3</sub> + NO <sub>2</sub> -N	Nitrate + Nitrite Nitrogen
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Units
OAW	Outstanding Alabama Water
ONRW	Outstanding National Resource Water
PWS	Public Water Supply
QAPP	Quality Assurance Project Plan
S	Swimming and Other Whole Body Water-Contact Sports
SH	Shellfish Harvesting
SOP/QCA	Standard Operating Procedures/Quality Control Assurance
SW	Surface Water
TAL	Treasured Alabama Lake
TDS	Total Dissolved Solids
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
Total-P	Total Phosphorus
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WMB-EPT	Wadeable Multi-habitat Bioassessment - EPT Families
WMB-I	Intensive Wadeable Multi-habitat Bioassessment

## **1.0 Introduction**

Alabama has long been recognized for its abundant water resources. With over 77,000 miles of perennial and intermittent streams and rivers, 481,757 acres of publicly-owned lakes and reservoirs, 610 square miles of estuaries, and 50 miles of coastal shoreline, the state is faced with a tremendous challenge to monitor and accurately report on the condition of its surface waters (ADEM, 2004).

Sections 305(b) and 303(d) of the federal Clean Water Act direct states to monitor and report the condition of their water resources. Guidance published by the Environmental Protection Agency (EPA) provides a basic framework that states may use to fulfill this reporting requirement. *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act* provide recommendations on the delineation of assessment units, reporting the status and progress towards comprehensive assessment of state waters, attainment of state water quality standards and the basis for making attainment decisions, schedules for additional monitoring, listing waters which do not fully support their designated uses (i.e. impaired waters), and schedules to address impaired waters (EPA, 2005). This Methodology is consistent with this guidance and supplemental guidance issued in 2008, 2010, 2012, 2014 and 2016.

Alabama's assessment and listing methodology establishes a process, consistent with EPA's guidance, to assess the status of surface waters in Alabama relative to the designated uses assigned to each waterbody. The methodology will also describe the procedure to assign the size or extent of assessed waterbodies. This methodology is not intended to limit the data or information that the State considers as it prepares an Alabama's Integrated Water Monitoring Report (IWQMAR). Rather, it is intended to establish a rational and consistent process for reporting the status of Alabama's surface waters relative to their designated uses.

## **2.0 Alabama's Water Quality Standards**

State water quality standards are the yardstick by which the condition of the nation's waters is measured. They are intended to protect, restore and maintain the condition of the nation's waters. In Alabama, the Alabama Water Improvement Commission (AWIC) first adopted water quality standards in 1967. In 1982, the Alabama Department of Environmental Management (ADEM) was formed by merging AWIC with elements of the Alabama Department of Public Health (ADPH). Since first being adopted in 1967, Alabama's water quality standards have been amended on numerous occasions (ADEM, 2014). The Alabama Environmental Management Commission (AEMC), which is the entity that oversees ADEM, has the authority to adopt revisions to the ADEM Administrative Code. The Designated Uses (ADEM Administrative Code r. 335-6-11) and the Water Quality Criteria (ADEM Administrative Code r. 335-6-10) are reviewed once every three years pursuant to EPA regulations at 40 CFR Part 131.20. Known as the triennial review, this process affords the public the opportunity to make comments and suggestions regarding Alabama's water quality standards. Any changes that ADEM may propose as a result of the review process are subject to further public comment before consideration by the AEMC.

Water quality standards consist of three components: designated uses, numeric and narrative criteria, and an antidegradation policy. These three components have been compared to the three

## Appendix A

legs of a stool which work together to provide water quality protection for the nation's surface waters.

Designated uses describe the best uses reasonably expected of waters. These uses should include such activities as recreation in and on the water, public water supply, agricultural and industrial water supply, and habitat for fish and wildlife. While not all waters may support all of these uses, the goal of the Clean Water Act is to provide protection of water quality consistent with "fishable/swimmable" uses, where attainable. In Alabama, waters can be assigned one or more of seven designated uses pursuant to ADEM Administrative Code r. 335-6-11. These uses include:

1. Outstanding Alabama Water (OAW)
2. Public Water Supply (PWS)
3. Shellfish Harvesting (SH)
4. Swimming and Other Whole Body Water-Contact Sports (S)
5. Fish and Wildlife (F&W)
6. Limited Warmwater Fishery (LWF)
7. Agricultural and Industrial Water Supply (A&I)

Designated uses 1 through 5 in the list above are considered by EPA to be consistent with the "fishable/swimmable" goal and, therefore, provide for protection of aquatic life and human health.

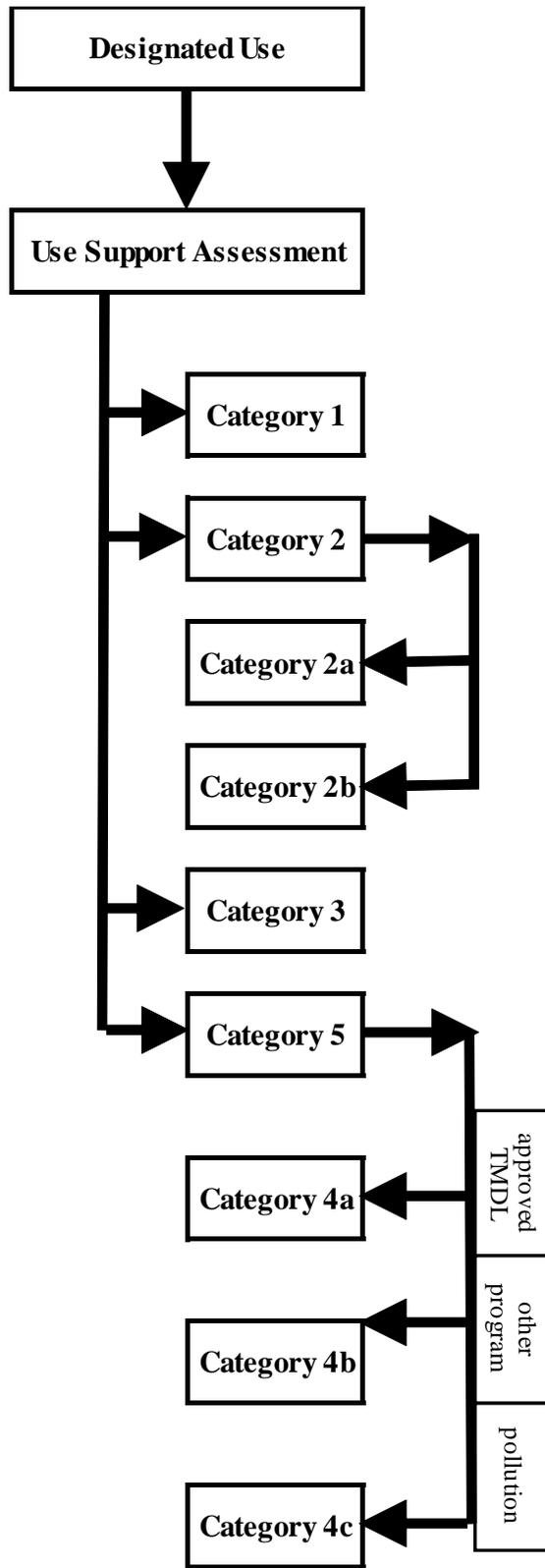
The State also has two special designations – Outstanding National Resource Water (ONRW) and Treasured Alabama Lake (TAL). These high quality waters are protected or require a thorough evaluation of discharges from new or expanded point sources of pollutants and may be assigned to any one of the first five designated uses in the list above.

Numeric and narrative criteria provide the means to measure the degree to which the quality of waters is consistent with their designated use or uses. The criteria are intended to provide protection of the water quality commensurate with the water's use, to include protection of human health. Narrative criteria generally describe minimum conditions necessary for all uses and may include certain restrictions for specific uses. Numeric criteria include pollutant concentrations or physical characteristics necessary to protect a specific designated use. Alabama's narrative and numeric criteria are defined in ADEM Administrative Code r. 335-6-10.

The state's antidegradation policy provides for the protection of high quality waters that constitute an outstanding national resource (Tier 3), waters whose quality exceeds the levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water (Tier 2), and existing instream water uses and the level of water quality necessary to protect the existing uses (Tier 1). In Tier 3 waters, ADEM Administrative Code r. 335-6-10-.10 prohibits new or expanded point source discharges. In Tier 2 waters, ADEM Administrative Code r. 335-6-10-.04 provides for new or expanded discharge of pollutants only after intergovernmental coordination, public participation, and a demonstration that the new or expanded discharge is necessary for important economic or social development. Alabama's water quality standards regulations (ADEM Administrative Code r. 335-6-10 and 335-6-11) may be found at the Departments web page at:

<http://www.adem.state.al.us/alEnviroRegLaws/files/Division6Vol1.pdf>

Figure 1: Alabama's Waterbody Assessment Process



### **3.0 Waterbody Categorization**

The water quality assessment process begins with the collection, compilation, and evaluation of water quality data and information for the purpose of determining if a waterbody is supporting all of its designated uses. It is imperative that the data and information used in the process be of adequate quality and provide an accurate indication of the water quality conditions in the waterbody since decisions arising from the assessment process may have long-term consequences. Issues of data sufficiency and data quality must be addressed to ensure that use support decisions are based on accurate data and information. However, the minimum data requirements discussed in this methodology are not intended to exclude data and information from the assessment process, but are a guide for use in designing monitoring activities to assess the State's surface waters and to ensure that decisions are made using the best available data. The goal is to accurately describe the status of surface waters where possible and to identify waters where more information is needed to make use support decisions.

The use support assessment process considers all existing and readily available data and information with a goal of placing waterbodies in one of five separate categories. This process is specific to the highest designated use assigned to the waterbody and is described by the flow chart depicted in **Figure 1**.

#### 3.1 Waterbody Categories

Waterbody data and information are evaluated using the use support assessment methodology and the waterbody is assigned to one of the following categories.

##### Category 1

Waters that are attaining all applicable water quality standards. This category includes waterbodies with exceedances of water quality criteria determined to be the result of Non-anthropogenic Impacts (Natural Conditions). For a description of Non-anthropogenic Impacts (Natural Conditions) see Section 4.8.10.

##### Category 2

Waters for which existing and readily available data, which meets the State's requirements as described in Section 4.9, supports a determination that some water quality standards are met and there is insufficient data to determine if remaining water quality standards are met. Attainment status of the remaining standards is unknown because data is insufficient. Waters for which the minimum data requirements have not been met will be placed in Category 2.

1. Category 2a

For these waters, available data does not satisfy minimum data requirements but there is a high potential for use impairment based on the limited data. These waters will be given a higher priority for additional data collection.

2. Category 2b

For these waters available data does not satisfy minimum data requirements but there is a low potential for use impairment based on the limited data. These waters will be included in future monitoring plans as resources allow.

## Appendix A

### Category 3

Waters for which there is no data or information to determine if any applicable water quality standard is attained or impaired. These waters will be considered unassessed.

### Category 4

Waters in which one or more applicable water quality standards are not met but establishment of a TMDL is not required.

1. Category 4a  
Waters for which all TMDLs needed to result in attainment of all applicable WQs have been approved or established by EPA.
2. Category 4b  
Waters for which other required control measures are expected to attain applicable water quality standards in a reasonable time. Adequate documentation is required to indicate that the proposed control mechanisms will address all major pollutant sources and should result in the issuance of more stringent effluent limitations required by either Federal, State, or local authority or the implementation of “other pollution control requirements (e.g., best management practices) required by local, state, or federal authority” that are stringent enough to implement applicable water quality standards. Waters will be evaluated on a - case-by-case basis to determine if the proposed control measures or activities under another program can be expected to address the cause of use impairment within a reasonable time. A reasonable time may vary depending on the degree of technical difficulty or extent of the modifications to existing measures needed to achieve water quality standards. EPA’s 2006 assessment and listing guidance offers additional clarification of what might be expected of waters placed in Category 4b.
3. Category 4c  
Waters in which the impairment is not caused by a pollutant. This would include waters which are impaired due to specific pollution. A pollutant is defined in Section 502(6) of the Clean Water Act (CWA) as “spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water.” Pollution is defined as “the man-made or man-induced alteration of the chemical, physical, or radiological integrity of a waterbody.” Invasive plants and animal species are considered pollution.

### Category 5

Waters in which a pollutant has caused or is suspected of causing impairment. If an identified pollutant causes the impairment, the water should be placed in Category 5. All “existing and readily available data and information” will be used to determine when a water should be placed in Category 5. Waters in this category comprise the State’s list of impaired waters or §303(d) list.

### 3.2 Evaluated or Monitored Assessments

When the information used to assess the waterbody consist primarily of observed conditions, (limited water quality data, water quality data older than six years, or estimated impacts from observed or suspected activities), the assessment is generally referred to as an evaluated assessment (Category 2). Evaluated assessments usually require the use of some degree of professional judgment by the person making the assessment and these assessments are not considered sufficient to place waters in or to remove waters from the impaired category (Category 5) or the fully supporting category (Category 1).

Monitored assessments (Categories 1 and 5) are based on existing and readily available chemical, physical, and/or biological data collected during the previous six years, using commonly accepted and well-documented methods. Existing and readily available data are data that have been collected or assembled by the Department or other groups or agencies and are available to the public. Data older than six years old may be used on a case-by-case basis when assessing waters that are not currently included in Category 1 or Category 5. (For example, older data could be used if conditions, such as land use, have not changed.) Much of the remainder of this document will pertain to the use of monitoring data to make use support determinations.

## **4.0 The Water Quality Assessment Process**

The water quality assessment process is different for each of Alabama's seven designated uses, because each use is protected by specific numeric and narrative water quality criteria. As such, the methodology for assigning a given waterbody to one of the five categories may have different data requirements and thresholds for determining the waterbody's use support status. In addition, interpretation of narrative criteria may differ by classified use and waterbody type. Data and information that may be considered when assessing state waters could include water chemistry data such as chemical specific concentration data, land use or land cover data, physical data such as water temperature, and conductivity, and habitat evaluations; biological data such as macroinvertebrate and fish community assessments, and bacteriological data such as E. coli or enterococci counts. Waters classified as "Fish and Wildlife" or higher must provide protection of the aquatic life use. All classifications must provide protection of the human health use.

Alabama's designated uses embody a tiered approach to aquatic life protection. The assessment process recognizes this by allowing for different minimum data requirements and varying criteria exceedance thresholds. For example, in waters classified as OAW, Alabama's highest designated use, the assessment methodology requires less data and allows for fewer exceedances of a toxic criterion to be considered for inclusion in Category 5. The assessment process for waters classified as A&I, Alabama's lowest designated use, require more data and allows for slightly more exceedances of toxic criteria. This sliding scale assessment approach provides for existing differences in the aquatic communities and habitat conditions represented by streams with Alabama's various designated uses.

In order to ensure consistent and accurate assessment of a waterbody's support status and proper categorization of the waterbody, minimum data requirements must be defined that address data quality and data quantity. Data requirements will not only be dictated by the classified use of the

waterbody, but also by the waterbody type to account for the different monitoring strategies that may be used for different waterbody types. The minimum data requirements are expected to guide future water quality monitoring activities and provide the basis for making use support decisions. However, in those cases where a data set may not include all of the elements specified by the minimum data requirements, a decision to include the water in Category 5 can still be made, provided the available data indicates a clear impairment and the cause of the impairment is evident. These decisions will be made on a case-by-case basis and the decision will be documented in the ADB.

In the assessment methodology, the terms “Level IV WMB-I”, “Fish IBI”, “habitat assessment”, “conventional parameter samples”, “pesticide/herbicide samples”, “inorganic samples”, “chlorophyll *a* samples”, and “fish tissue analysis” are used. For the purposes of this assessment methodology, these terms will have the following meanings.

**Level IV WMB-I:**

- An intensive multi-habitat assessment of the macroinvertebrate community in a wadeable stream involving the collection of macroinvertebrates for identification and enumeration in a laboratory

**Fish IBI:**

- A multihabitat fish community assessment method developed by the Geological Survey of Alabama (O’Neil et al. 2006) and described in ADEM SOP # 6100 for streams in the southern plains (O’Neil and Shepard 2012), Tennessee Valley (O’Neil and Shepard 2010), Ridge and Valley/Piedmont (O’Neil and Shepard 2011a), Hills and Coastal Terraces (O’Neil and Shepard 2011b), and Plateau (O’Neil and Shepard 2011c) ichthyoregions (O’Neil and Shepard 2007).

**Habitat assessment:**

- An assessment of available aquatic habitat in a stream which evaluates habitat characteristics important to supporting a diverse and healthy aquatic community

**Conventional parameter samples** will include analyses for the following constituents:

- Air Temperature, °C
- Alkalinity, mg/l
- Ammonia Nitrogen (NH<sub>3</sub>-N), mg/l
- Chlorides (Cl<sup>-1</sup>)
- Collector Name
- Conductivity, µmhos/cm @ 25C
- Date (Month, Day, Year)
- Dissolved Oxygen (DO), mg/l
- Dissolved Reactive Phosphorus (DRP), mg/l (field filtered, separate bottle)
- Five-day Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>), mg/l
- Hardness, mg/l
- Nitrate + Nitrite Nitrogen (NO<sub>3</sub>+ NO<sub>2</sub>-N), mg/l
- pH, s.u.

- Salinity, ppt (coastal waters only)
- Sample Collection Depth, ft. or m
- Stream Flow (where appropriate)
- Sulfate, mg/L
- Time (24 hr)
- Total Dissolved Solids (TDS), mg/l
- Total Kjeldahl Nitrogen (TKN), mg/l
- Total Phosphorus (Total-P), mg/l
- Total Stream Depth at Sampling Point, ft. or m
- Total Suspended Solids (TSS), mg/l
- Turbidity, NTU
- Water Temperature, °C
- Weather Conditions

**Pesticide/Herbicide samples** will include analyses for the following constituents:

- Atrazine by Immunoassay
- Chlorinated Herbicides by method SW8151
- Organochlorine Pesticides by method SW8081A
- Organophosphorus Pesticides by method SW8141

**Inorganic (metals) samples** will include analyses for the following constituents:

- "Total" Aluminum (Al), µg/l
- "Dissolved" Aluminum (Al), µg/l
- "Dissolved" Antimony (Sb), µg/l
- "Dissolved" Arsenic<sup>+3</sup> (As<sup>+3</sup>), µg/l
- "Dissolved" Cadmium (Cd), µg/l
- "Dissolved" Chromium<sup>+3</sup> (Cr<sup>+3</sup>), µg/l
- "Dissolved" Copper (Cu), µg/l
- "Total" Iron (Fe), µg/l
- "Dissolved" Iron (Fe), µg/l
- "Dissolved" Lead (Pb), µg/l
- "Total" Manganese (Mn), µg/l
- "Dissolved" Manganese (Mn), µg/l
- "Total" Mercury (Hg), µg/l
- "Dissolved" Nickel (Ni), µg/l
- "Dissolved" Selenium (Se), µg/l
- "Dissolved" Silver (Ag), µg/l
- "Dissolved" Thallium (Tl), µg/l
- "Dissolved" Zinc (Zn), µg/l

**Bacteriological Samples**

- E. coli, colonies/100 ml in non-coastal waters
- Fecal coliform, colonies/100 ml in Shellfish Harvesting waters
- Enterococci, colonies/100 ml in coastal waters

**Chlorophyll *a* samples** will include the collection of photic zone composite water samples to be processed in accordance with ADEM SOP # 2063 Chlorophyll *a* Collection and Processing.

**Fish tissue analysis** will include collection and analyses of fish for the following constituents:

- 2,4-DDD
- 2,4-DDE
- 2,4-DDT
- 4,4-DDD
- 4,4-DDE
- 4,4-DDT
- Arochlor 1016
- Arochlor 1221
- Arochlor 1232
- Arochlor 1242
- Arochlor 1248
- Arochlor 1254
- Arochlor 1260
- Arsenic
- Cadmium
- Chlordane
- Chlorpyrifos
- Dieldrin
- Dioxin
- Endosulfan I
- Endosulfan II
- Endrin
- Heptachlor
- Heptachlor Epoxide
- Hexachlorobenzene
- Lindane
- Mercury
- Mirex
- Percent lipids
- Selenium
- Total PCBs
- Toxaphene

Fish sampling and tissue preparation procedures are described in SOP #2300 Fish Tissue Monitoring Sample Collection and ADEM SOP #2301 Fish Tissue Monitoring Sample, Processing and Data Reporting Procedures

Chronic aquatic life criteria will be used to assess a waterbody's use support where the designated use specifies such criteria. In those cases where both human health criteria and chronic aquatic life criteria are included, the more stringent of the criteria will determine the waterbody's use support status. The assessment process, including minimum data requirements

and the number of chronic criteria exceedances, is described for each designated use in the remainder of the document. The corresponding ADEM Standard Operating Procedures (SOPs) describing each of the methods required are listed in **Table 1**.

**Table 1: ADEM Standard Operating Procedures (SOPs)**

SOP#	Title
2040	Stream Flow Abbreviated Measurement Method
2041	Temperature Field Measurements
2042	pH Field Measurements
2043	Conductivity Field Measurements
2044	Turbidity Field Measurements
2045	SW Dissolved Oxygen Field Measurements
2046	Photic Zone Measurements and Visibility Determinations
2047	Data Sonde Field Measurements
2048	Continuous Monitoring using Datasondes
2049	Time of Travel
2050	ADCP Flow Measurement
2061	General Surface Water Sample Collection
2062	Dissolved Reactive Phosphorus (DRP) Collection & Processing
2063	Water Column Chlorophyll <i>a</i> Sample Collection
2064	Bacteriological Sample Collection
2065	Sediment Sample Collection
2066	Dissolved Metals Sample Collection and Processing
2067	Organic Sample Collection
2069	Cyanide Sample Collection and Processing
5700	Algal Growth Potential Testing (AGPT)
6000	Macroinvertebrate Sample Collection
6001	Macroinvertebrate Sample Processing
6002	Macroinvertebrate Organism Identification
6004	Macroinvertebrate Sample Data Analysis
6100	Fish Community Sample Collection
6101	Fish IBI Metrics/Data Analysis
6300	Physical Characterization
6301	Habitat Assessment
9020	Sample Submittal to Labs
9021	Field Quality Control Measurements and Samples
9025	Field Equipment Cleaning and Storage
9040	Station, Sample ID & Chain of Custody Procedures

#### 4.1 Outstanding Alabama Waters (OAW)

The best usage of waters assigned this classification are those activities consistent with the natural characteristics of the waters. Waterbodies assigned the OAW use are high quality waters that constitute an outstanding Alabama resource, such as waters of state parks and wildlife

refuges and waters of exceptional recreational or ecological significance. Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply.

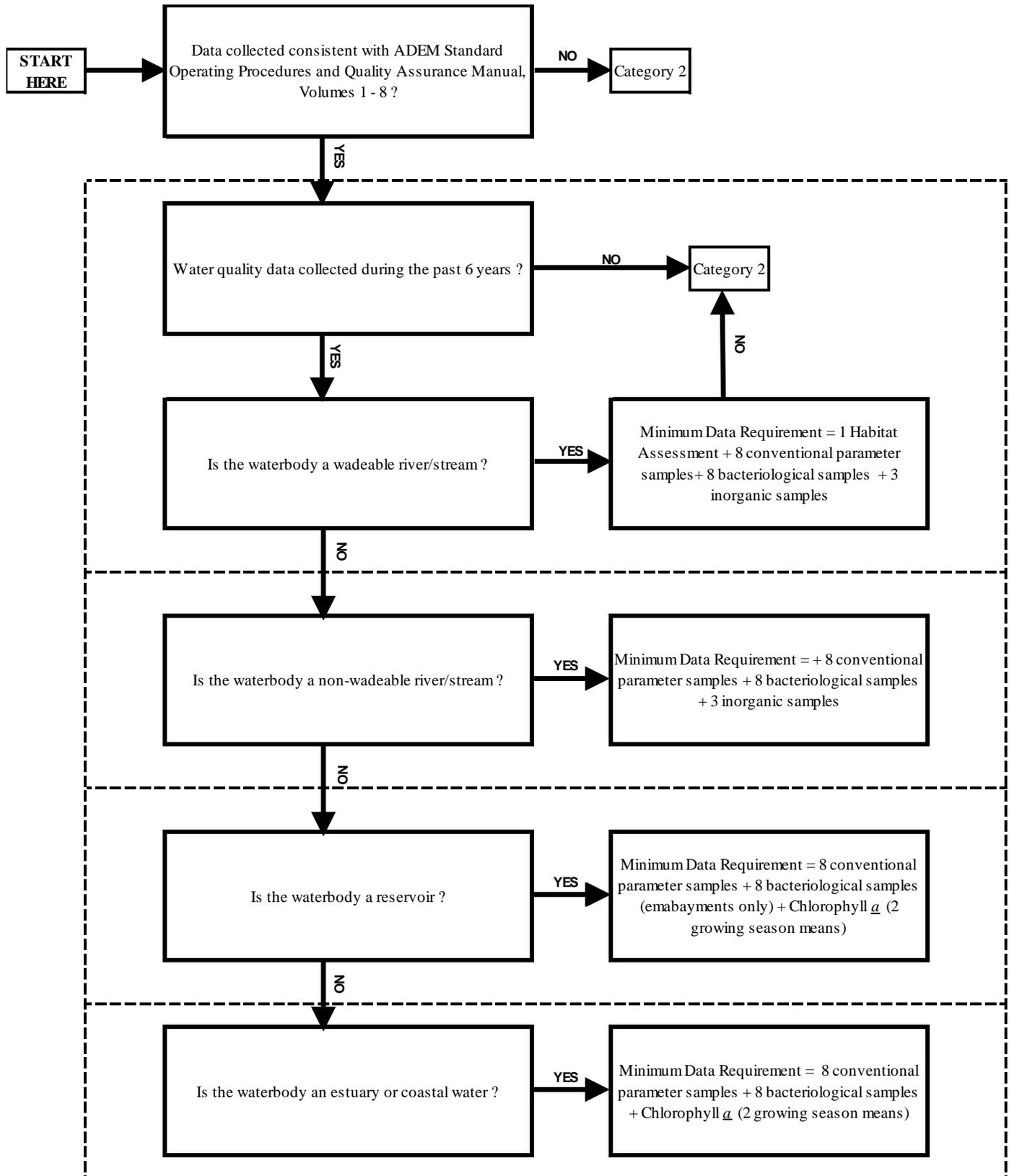
#### 4.1.1 Minimum Data Requirement for OAW Waters

For waters with the OAW classification, the available data must have been collected consistent with the following standard operating procedures (SOP) manuals listed in **Table 1**.

In addition, the data must have been collected within the last six years. The six-year timeframe would capture all data collected by ADEM during one complete five-year monitoring plan currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include wadeable rivers and streams, non-wadeable rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. In addition, the minimum data requirement may change if pollutant sources upstream of the monitoring location are likely. Failure to meet the minimum data requirement for any waterbody type will place the waterbody in Category 2. The following list and **Figure 2** describe the minimum data requirements for assessing waters classified as OAW.

- Wadeable River or Stream
  - 1 Habitat Assessment
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - 3 inorganic samples
- Non-wadeable River or Stream
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - 3 inorganic samples
- Reservoirs and Embayments
  - 8 conventional parameter samples
  - 8 bacteriological samples (embayments only)
  - Chlorophyll  $a-2$  growing season means
- Wadeable Estuary or Coastal Waters
  - 8 conventional parameter samples
  - 8 bacteriological samples
- Non-Wadeable Estuary or Coastal Waters
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - Chlorophyll  $a-2$  growing season means

**Figure 2: Minimum Data Requirements for the OAW Designated Use**



#### 4.1.2 Use Support Assessment for OAW Waters

Once the minimum data requirements have been met an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the OAW use (Category 1) or not fully supporting the OAW use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, shellfish harvesting closure notices, chemical specific data, bacteriological data, biological community assessments, habitat assessments, periphyton assessments, and toxicity evaluations. **Table 2** shows OAW Category 1 Requirements and **Table 3** shows OAW Category 5 Requirements. **Figure 3** illustrates the assessment process for OAW waters.

**Table 2: OAW Category 1 Requirements**

<b>The OAW waterbody can be placed in Category 1 if all the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	No fish/shellfish consumption advisory issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	Level IV WMB-I assessment “good” or “excellent”. <sup>1</sup> Fish IBI results (when available) will be used as supplemental data.
<b>Chlorophyll <i>a</i> Data</b>	Growing season mean chlorophyll <i>a</i> criterion has not been exceeded where such a criterion has been established. <sup>2</sup>
<b>Toxic Pollutants</b>	No more than two exceedances of a particular toxic pollutant criterion in previous six years or more than one in a 3-year period.
<b>Conventional Parameters<sup>3</sup></b>	No more than a 10% exceedance rate for any given parameter. <sup>4</sup>
<b>Bacteriological Data</b>	<b><u>Non-Coastal Waters:</u></b>
	A. The geometric mean E. coli density must be less than or equal to 126 colonies/100 ml, and; B. 10% or less of single samples must be less than or equal to 235 colonies/100 ml. <sup>4</sup>
	<b><u>Coastal Waters:</u></b>
	A. The geometric mean enterococci density must be less than or equal to 35 colonies/100 ml, and; B. 10% or less of single samples must be less than or equal to 104 colonies/100 ml. <sup>4</sup>

<sup>1</sup> Applicable to wadeable streams only.

<sup>2</sup> Chlorophyll *a* values in excess of the criterion, due to extreme hydrological events (i.e. drought, floods), will not be considered as an exceedance of the criterion. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75<sup>th</sup> percentile streamflow based on period of record caused by events such as tropical storms, hurricanes, and unusually intense storm activity.

<sup>3</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>4</sup> As determined by the binomial distribution function and Table 17.

**Table 3: OAW Category 5 Requirements**

<b>The OAW waterbody can be placed in Category 5 if any of the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	Fish consumption advisory has been issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	Level IV WMB-I assessment less than “good”. <sup>5</sup> Fish IBI results (when available) will be used as supplemental data.
<b>Chlorophyll <i>a</i> Data</b>	Growing season mean chlorophyll <i>a</i> criterion has been exceeded where such a criterion has been established. <sup>6</sup>
<b>Toxic Pollutants</b>	More than two exceedances of a particular toxic pollutant criterion in previous six years or more than one in a 3-year period.
<b>Conventional Parameters<sup>7</sup></b>	More than a 10% exceedance rate for any given parameter. <sup>8</sup>
<b>Bacteriological Data</b>	<b><u>Non-Coastal Waters:</u></b>
	A. The geometric mean E. coli density is greater than 126 colonies/100 ml, or; B. More than 10% of single samples are greater than 235 colonies/100 ml. <sup>8</sup>
	<b><u>Coastal Waters:</u></b>
	A. The geometric mean enterococci density is greater than 35 colonies/100 ml, or; B. More than 10% of single samples are greater than 104 colonies/100 ml. <sup>8</sup>

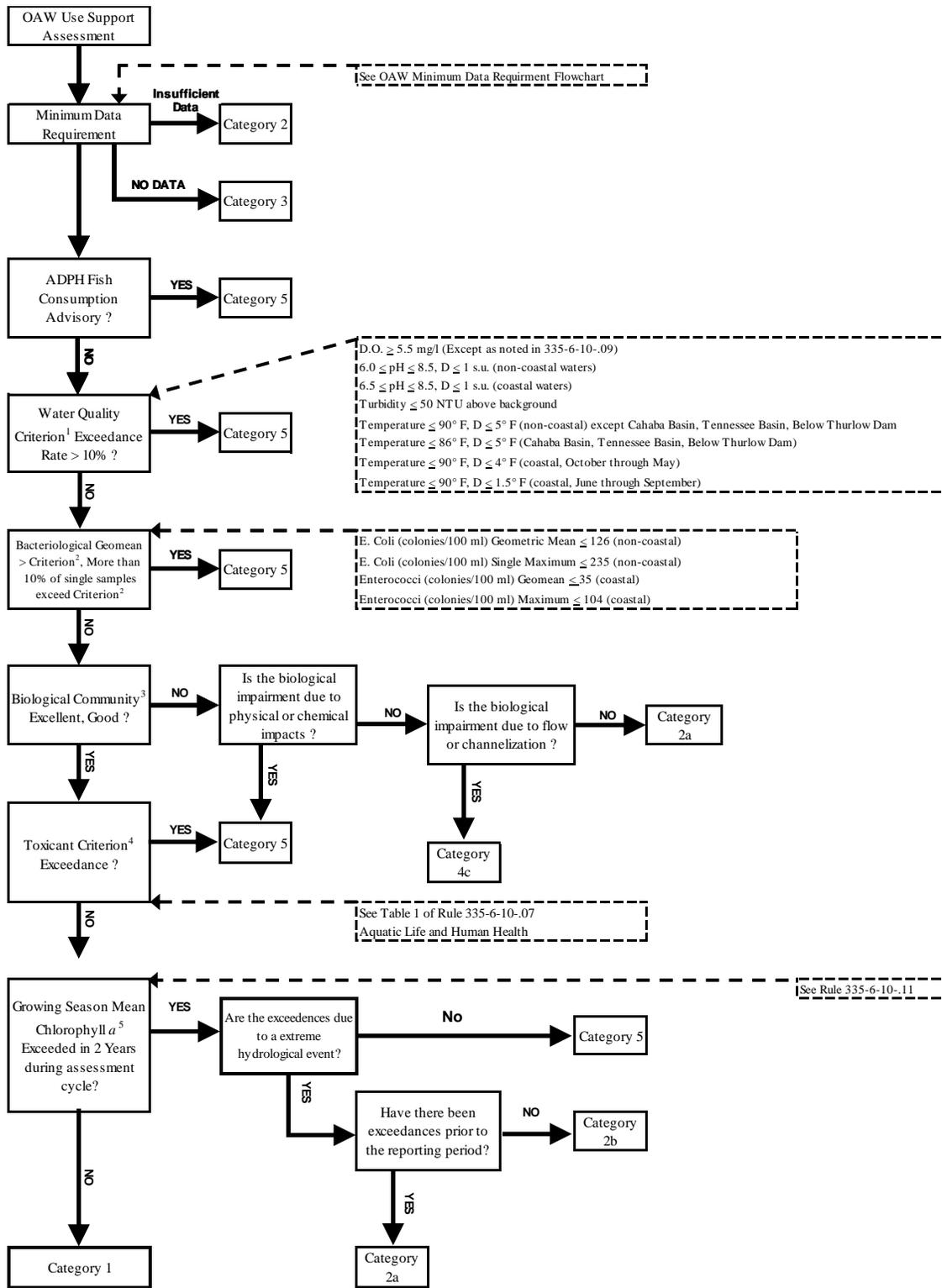
<sup>5</sup> Applicable to wadeable streams only. A potential anthropogenic cause for the degraded condition must be identified.

<sup>6</sup> Chlorophyll *a* values in excess of the criterion, due to extreme hydrological events (i.e. drought, floods), will not be considered as an exceedance of the criterion. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75<sup>th</sup> percentile streamflow based on period of record caused by events such as tropical storms, hurricanes, and unusually intense storm activity.

<sup>7</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>8</sup> As determined by the binomial distribution function and Table 17.

Figure 3: Outstanding Alabama Water (OAW) Categorization Methodology



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources  
 2 Bacteriological Criterion refers to both the single sample maximum and geometric mean, see discussion in Section 4.1.2  
 3 Biological community refers to macroinvertebrates and/or fish in Wadeable rivers/streams only (See Minimum Data Requirements)  
 4 Toxicant Criterion refers to toxics listed in 335-6-10-.07  
 5 Applies only to reservoirs with established Chlorophyll a criteria and not during extreme hydrologic events. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75th percentile caused by events such as tropical storms, hurricanes, and unusually intense storm activity.  
**Special Note** - Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. These criteria relate to condition of waters as affected by the discharge of sewage, industrial wastes, or other wastes, not to conditions resulting from natural forces. See 335-6-10-.05(4)

#### 4.2 Public Water Supply (PWS)

The best usage of waters assigned this classification is as a source of water supply for drinking or food-processing purposes after approved treatment. Waterbodies assigned the PWS use are considered safe for drinking or food-processing purposes if subjected to treatment approved by the Department equal to coagulation, sedimentation, filtration and disinfection, with additional treatment if necessary to remove naturally present impurities. Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, drinking and food-processing water supply, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply.

##### 4.2.1 Minimum Data Requirement for PWS Waters

For waters with the PWS classification the available data must have been collected consistent with the following standard operating procedures (SOP) manuals: listed in **Table 1**.

In addition, the data must have been collected within the last six years. The six-year timeframe would capture all data collected by ADEM during one complete rotation of the five-year monitoring schedule plan currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include wadeable rivers and streams, non-wadeable rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. Failure to meet the minimum data requirement will place the waterbody in Category 2. The following list and **Figure 4** describe the minimum data requirement for assessing waters classified as PWS.

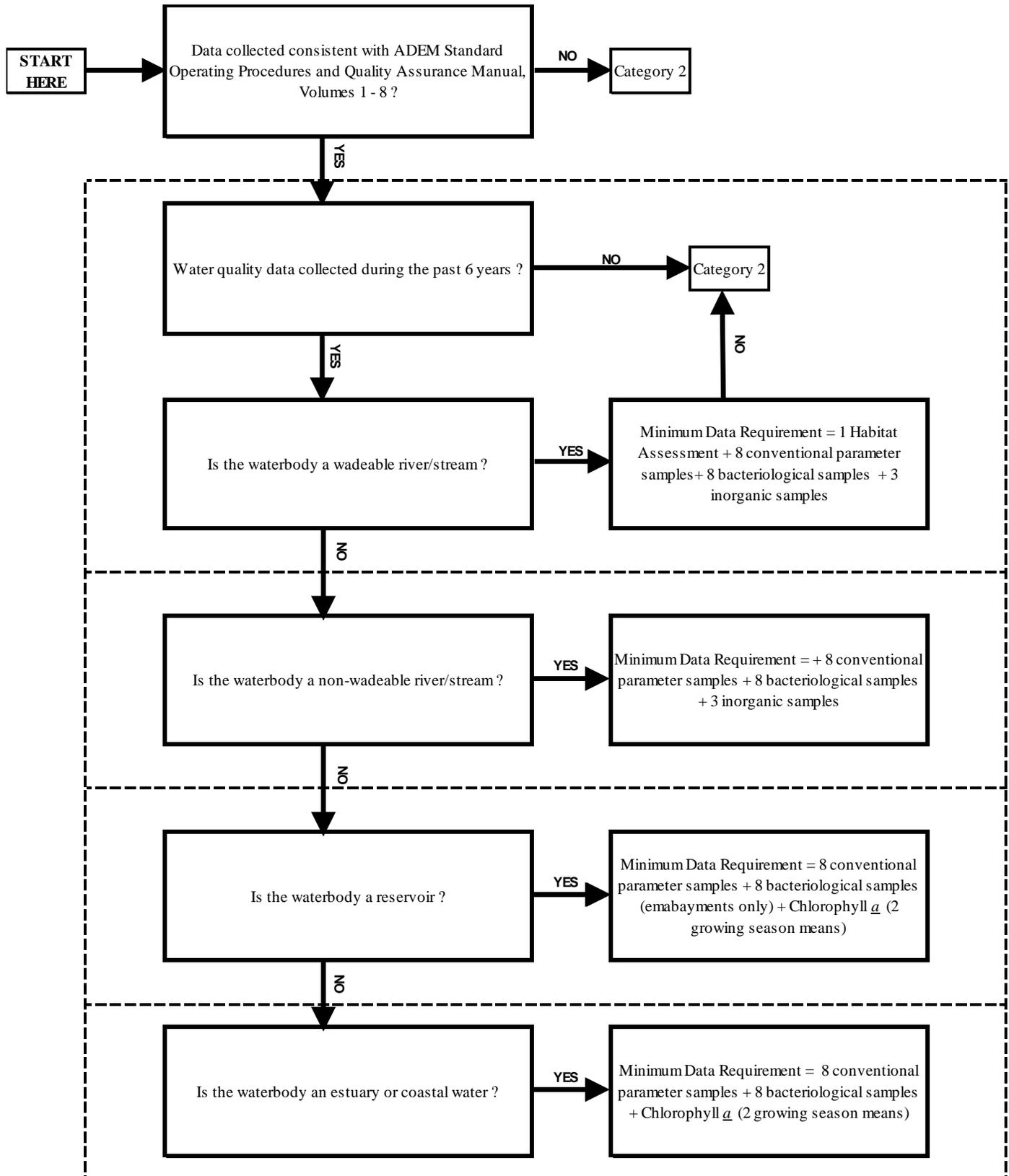
- Wadeable River or Stream
  - 1 Habitat Assessment
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - 3 inorganic samples
- Non-wadeable River or Stream
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - 3 inorganic samples
- Reservoirs and Embayments
  - 8 conventional parameter samples
  - 8 bacteriological samples (embayments only)
  - Chlorophyll *a* – 2 growing season means
- Wadeable Estuary or Coastal Waters
  - 8 conventional parameter samples
  - 8 bacteriological samples

- Non-Wadeable Estuary or Coastal Waters
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - Chlorophyll *a* – 2 growing season means

### 4.2.2 Use Support Assessment for PWS Waters

Once the minimum data requirement has been met, an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the PWS use (Category 1) or not fully supporting the PWS use (Category 5). The assessment process considers the available data, and may include any fish consumption advisories, shellfish harvesting closure notices, chemical specific data, bacteriological data, biological community assessments, habitat assessments, periphyton assessments, drinking water system compliance records, and toxicity evaluations. **Table 4** shows PWS Category 1 Requirements and **Table 5** shows PWS Category 5 Requirements. **Figure 5** illustrates the assessment process for PWS waters.

**Figure 4: Minimum Data Requirements for the PWS Designated Use**



**Table 4: PWS Category 1 Requirements**

<b>The PWS waterbody can be placed in Category 1 if all the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	No fish/shellfish consumption advisories issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	Level IV WMB-I assessment “fair”, “good” or “excellent”. <sup>9</sup> Fish IBI results (when available) will be used as supplemental data.
<b>Chlorophyll <i>a</i> Data</b>	Growing season mean chlorophyll <i>a</i> criterion has not been exceeded in two years during the assessment cycle where such a criterion has been established. <sup>10</sup>
<b>Toxic Pollutants</b>	No more than two exceedances of a particular toxic pollutant criterion in previous six years or more than one in a 3-year period.
<b>Conventional<sup>11</sup> Parameters</b>	No more than a 10% exceedance rate for any given parameter. <sup>12</sup>
<b>Bacteriological Data</b>	<p style="text-align: center;"><b><u>Non-Coastal Waters:</u></b></p> <p><b>A.</b> The geometric mean E. coli density must be less than or equal to 126 colonies/100 ml (June – September) or less than or equal to 548 colonies/100 ml (October – May), and;</p> <p><b>B.</b> 10% or less of single samples must be less than or equal to 487 colonies/100 ml (June – September) or less than or equal to 2,507 colonies/100 ml (October – May).<sup>12</sup></p>
	<p style="text-align: center;"><b><u>Coastal Waters:</u></b></p> <p><b>A.</b> The geometric mean enterococci density must be less than or equal to 35 colonies/100 ml, and;</p> <p><b>B.</b> 10% or less of single samples must be less than or equal to 158 colonies/100 ml (June – September) or less than or equal to 275 colonies/100 ml (October – May).<sup>12</sup></p>

<sup>9</sup> Applicable to wadeable streams only.

<sup>10</sup> Chlorophyll *a* values in excess of the criterion, due to extreme hydrological events (i.e. drought, floods), will not be considered as an exceedance of the criterion. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75<sup>th</sup> percentile streamflow based on period of record caused by events such as tropical storms, hurricanes, and unusually intense storm activity.

<sup>11</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>12</sup> As determined by the binomial distribution function and Table 17.

**Table 5: PWS Category 5 Requirements**

<b>The PWS waterbody can be placed in Category 5 if any of the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	Fish consumption advisory issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	Level IV WMB-I assessment less than “fair”. <sup>13</sup> Fish IBI results (when available) will be used as supplemental data.
<b>Chlorophyll <i>a</i> Data</b>	Growing season mean chlorophyll <i>a</i> criterion has been exceeded in two years during the assessment cycle. <sup>14</sup>
<b>Toxic Pollutants</b>	More than two exceedances of a particular toxic pollutant criterion in previous six years or more than one in a 3-year period.
<b>Conventional Parameters<sup>15</sup></b>	There is more than a 10% exceedance rate for any given parameter. <sup>16</sup>
<b>Bacteriological Data</b>	<p style="text-align: center;"><b><u>Non-Coastal Waters:</u></b></p> <p><b>A.</b> The geometric mean E. coli density is greater than 126 colonies/100 ml (June – September) or is greater than 548 colonies/100 ml (October – May), or;</p> <p><b>B.</b> More than 10% of single samples are greater than 487 colonies/100 ml (June – September) or greater than 2,507 colonies/100 ml (October – May).<sup>16</sup></p>
	<p style="text-align: center;"><b><u>Coastal Waters:</u></b></p> <p><b>A.</b> The geometric mean enterococci density is greater than 35 colonies/100 ml, or;</p> <p><b>B.</b> More than 10% of single samples are greater than 158 colonies/100 ml (June – September) or greater than 275 colonies/100 ml (October – May).<sup>16</sup></p>

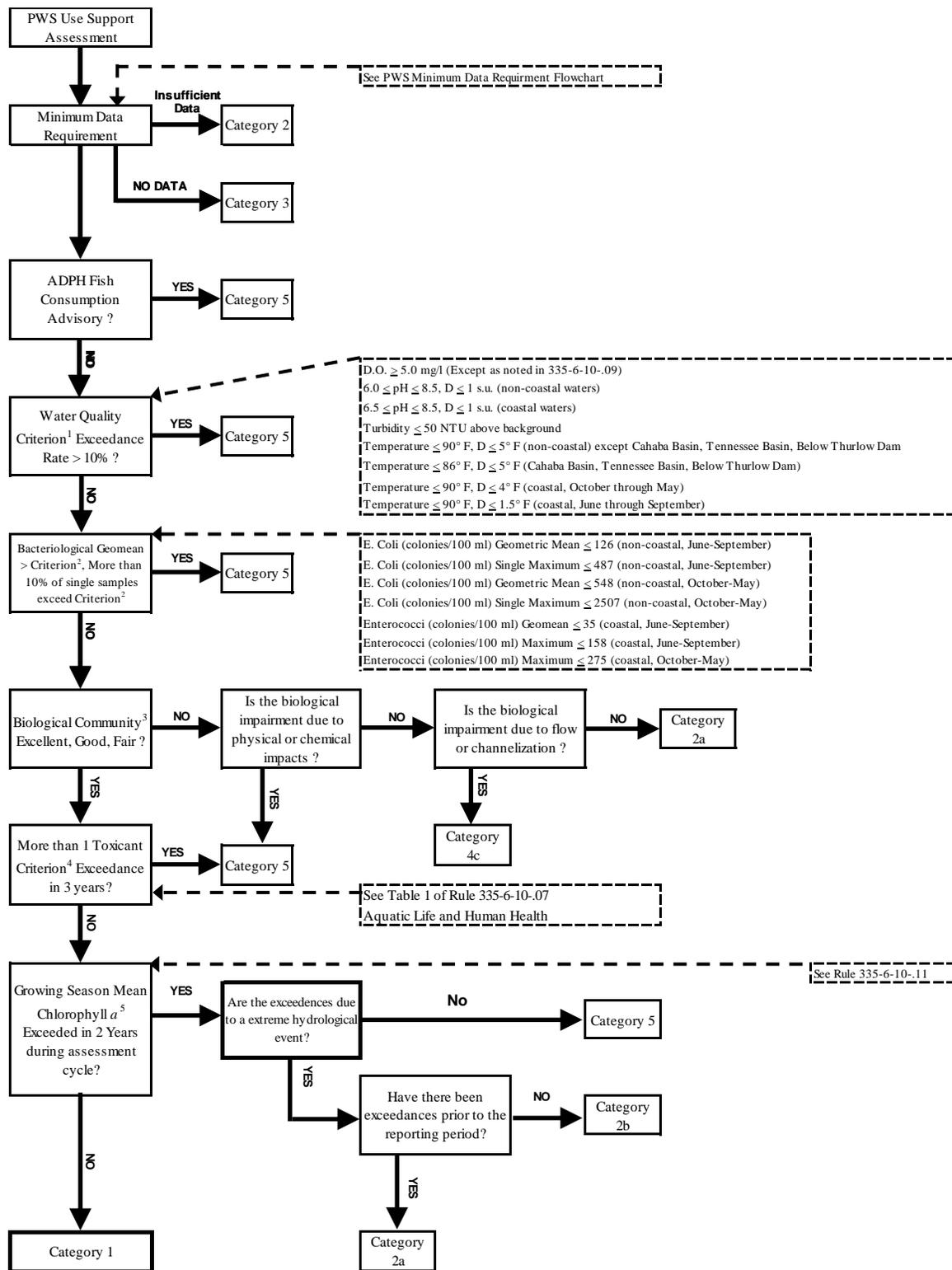
<sup>13</sup> Applicable to wadeable streams only. A potential anthropogenic cause for the degraded condition must be identified using observations made during the sampling events or from information contained in the Department’s geographic information system.

<sup>14</sup> Chlorophyll *a* values in excess of the criterion, due to extreme hydrological events (i.e. drought, floods), will not be considered as an exceedance of the criterion. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75<sup>th</sup> percentile streamflow based on period of record caused by events such as tropical storms, hurricanes, and unusually intense storm activity.

<sup>15</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>16</sup> As determined by the binomial distribution function and Table 17.

**Figure 5: Public Water Supply (PWS) Categorization Methodology**



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources  
 2 Bacteriological Criterion refers to both the single sample maximum and geometric mean, see discussion in Section 4.2.2  
 3 Biological community refers to macroinvertebrates and/or fish in wadeable rivers/streams only (See Minimum Data Requirements)  
 4 Toxicant Criterion refers to toxics listed in 335-6-10-.07  
 5 Applies only to reservoirs with established Chlorophyll a criteria and not during extreme hydrologic events. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75th percentile caused by events such as tropical storms, hurricanes, and unusually intense storm activity.  
**Special Note** - Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. These criteria relate to condition of waters as affected by the discharge of sewage, industrial wastes, or other wastes, not to conditions resulting from natural forces. See 335-6-10-.05(4)

### 4.3 Swimming and Other Whole Body Water-Contact Sports (S)

The best usage of waters assigned this classification is for swimming and other whole body water-contact sports. Waterbodies assigned the S use, under proper sanitary supervision by the controlling health authorities, will meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports. Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply.

#### 4.3.1 Minimum Data Requirement for S Waters

For waters with the S classification, the available data must have been collected consistent with the following standard operating procedures (SOP) manuals listed in **Table 1**.

In addition, the data must have been collected within the last six years. The six-year timeframe would capture all data collected by ADEM during one complete five-year monitoring plan currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include wadeable rivers and streams, non-wadeable rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. Failure to meet the minimum data requirement will place the waterbody in Category 2. The following list and **Figure 6** describe the minimum data requirement for assessing waters classified as S.

- Wadeable River or Stream
  - 1 Habitat Assessment
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - 3 inorganic samples
- Non-wadeable River or Stream
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - 3 inorganic samples
- Reservoirs and Embayments
  - 8 conventional parameter samples
  - 8 bacteriological samples (embayments only)
  - Chlorophyll a – 2 growing season means
- Wadeable Estuary or Coastal Waters
  - 8 conventional parameter samples
  - 8 bacteriological samples
- Non-Wadeable Estuary or Coastal Waters

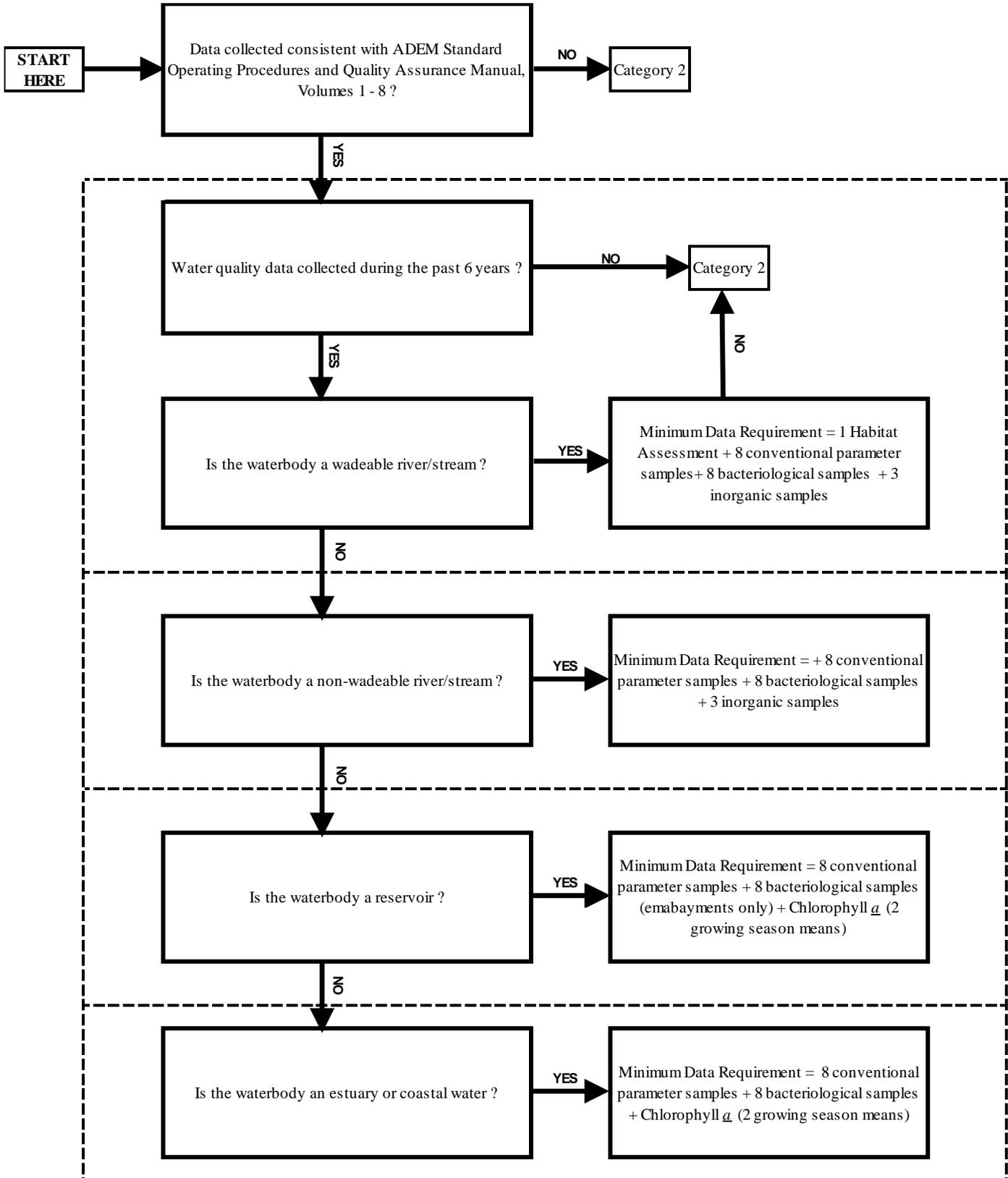
## Appendix A

- 8 conventional parameter samples
- 8 bacteriological samples
- Chlorophyll a – 2 growing season means

### 4.3.2 Use Support Assessment for S Waters

Once the minimum data requirement has been met an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the S use (Category 1) or not fully supporting the S use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, shellfish harvesting closure notices, chemical specific data, bacteriological data, biological community assessments, habitat assessments, periphyton assessments, beach closure notices and toxicity evaluations. **Table 6** shows S Category 1 Requirements and **Table 7** shows S Category 5 Requirements. **Figure 7** illustrates the assessment process for S waters.

**Figure 6: Minimum Data Requirements for the S Designated Use**



**Table 6: S Category 1 Requirements**

<b>The S waterbody can be placed in Category 1 if all the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	No fish/shellfish consumption advisory issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	Level IV WMB-I assessment “fair”, “good” or “excellent”. <sup>17</sup> Fish IBI results (when available) will be used as supplemental data.
<b>Chlorophyll <i>a</i> Data</b>	Growing season mean chlorophyll <i>a</i> criterion has not been exceeded in two years during the assessment cycle where such a criterion has been established. <sup>18</sup>
<b>Toxic Pollutants</b>	No more than two exceedances of a particular toxic pollutant criterion in previous six years or more than one in a 3-year period.
<b>Conventional Parameters<sup>19</sup></b>	No more than a 10% exceedance rate for any given parameter. <sup>20</sup>
<b>Bacteriological Data</b>	<b><u>Non-Coastal Waters:</u></b>
	<b>A.</b> The geometric mean E. coli density must be less than or equal to 126 colonies/100 ml, and; <b>B.</b> 10% or less of single samples must be less than or equal to 235 colonies/100 ml. <sup>20</sup>
	<b><u>Coastal Waters:</u></b>
	<b>A.</b> The geometric mean enterococci density must be less than 35 colonies/100 ml, and; <b>B.</b> 10% or less of single samples must be less than or equal to 104 colonies/100 ml. <sup>20</sup>

<sup>17</sup> Applicable to wadeable streams only.

<sup>18</sup> Chlorophyll *a* values in excess of the criterion, due to extreme hydrological events (i.e. drought, floods), will not be considered as an exceedance of the criterion. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75<sup>th</sup> percentile streamflow based on period of record caused by events such as tropical storms, hurricanes, and unusually intense storm activity.

<sup>19</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>20</sup> As determined by the binomial distribution function and Table 17.

**Table 7: S Category 5 Requirements**

<b>The S waterbody can be placed in Category 5 if any of the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	There is a fish consumption advisory issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	Level IV WMB-I assessment less than “fair”. <sup>21</sup> Fish IBI results (when available) will be used as supplemental data.
<b>Chlorophyll <i>a</i> Data</b>	Growing season mean chlorophyll <i>a</i> criterion has been exceeded in two years during the assessment cycle. <sup>22</sup>
<b>Toxic Pollutants</b>	More than two exceedances of a particular toxic pollutant criterion in previous six years or more than one in a 3-year period.
<b>Conventional Parameters<sup>23</sup></b>	There is more than a 10% exceedance rate for any given parameter. <sup>24</sup>
<b>Bacteriological Data</b>	<b><u>Non-Coastal Waters:</u></b>
	A. The geometric mean E. coli density is greater than 126 colonies/100 ml, or; B. More than 10% of single samples are greater than 235 colonies/100 ml. <sup>24</sup>
	<b><u>Coastal Waters:</u></b>
	A. The geometric mean enterococci density is greater than 35 colonies/100 ml, or; B. More than 10% of single samples are greater than 104 colonies/100 ml. <sup>24</sup>

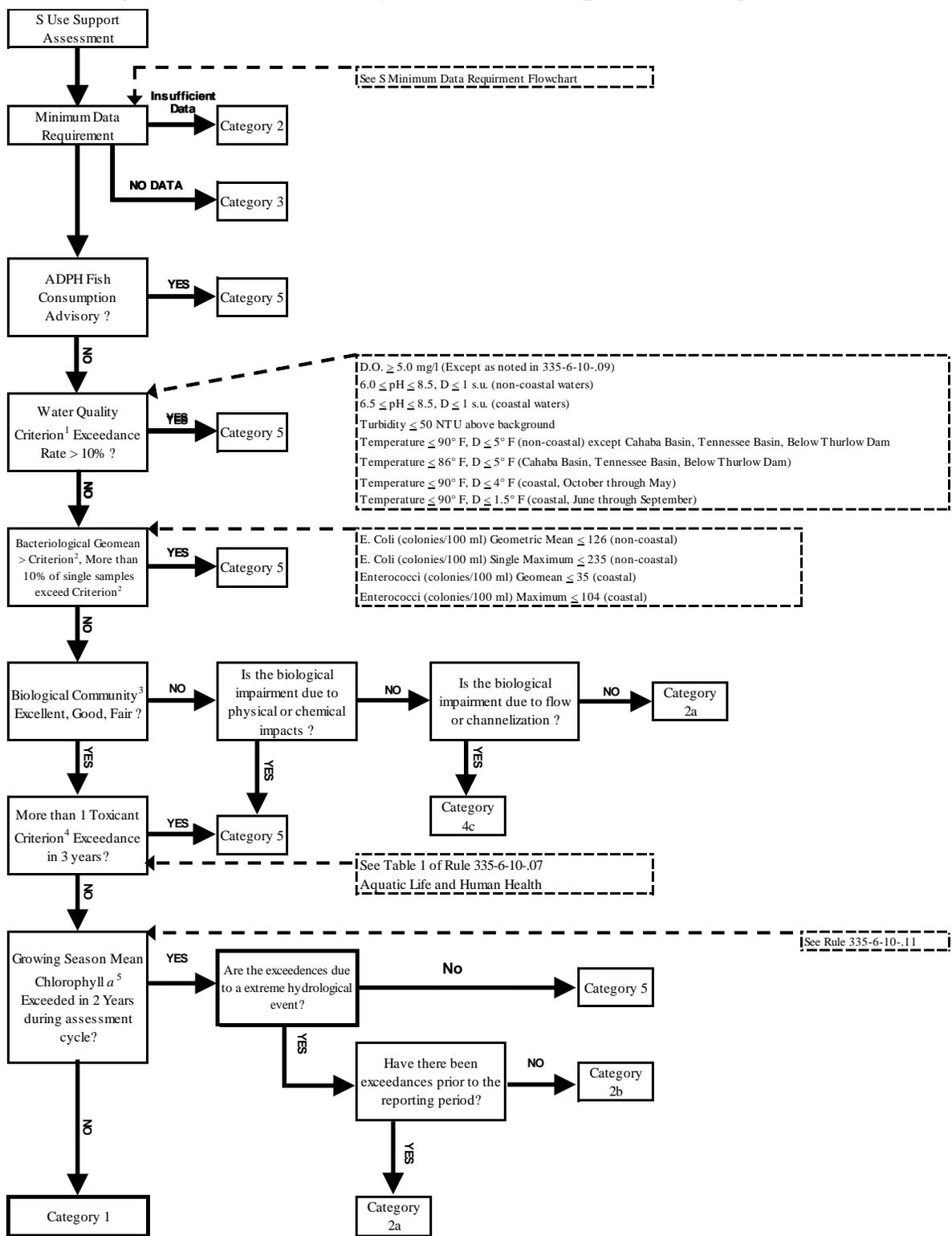
<sup>21</sup> Applicable to wadeable streams only. A potential anthropogenic cause for the degraded condition must be identified using observations made during the sampling events or from information contained in the Department’s geographic information system.

<sup>22</sup> Chlorophyll *a* values in excess of the criterion, due to extreme hydrological events (i.e. drought, floods), will not be considered as an exceedance of the criterion. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75<sup>th</sup> percentile streamflow based on period of record caused by events such as tropical storms, hurricanes, and unusually intense storm activity.

<sup>23</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>24</sup> As determined by the binomial distribution function and Table 17.

Figure 7: Swimming and Other Whole Body Water-Contact Sports (S) Categorization Methodology



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources  
 2 Bacteriological Criterion refers to both the single sample maximum and geometric mean, see discussion in Section 4.3.2  
 3 Biological community refers to macroinvertebrates and/or fish in wadeable rivers/streams only (See Minimum Data Requirements)  
 4 Toxicant Criterion refers to toxics listed in 335-6-10-.07  
 5 Applies only to reservoirs with established Chlorophyll a criteria and not during extreme hydrologic events. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75th percentile caused by events such as tropical storms, hurricanes, and unusually intense storm activity.  
**Special Note** - Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. These criteria relate to condition of waters as affected by the discharge of sewage, industrial wastes, or other wastes, not to conditions resulting from natural forces. See 335-6-10-.05(4)

#### 4.4 Shellfish Harvesting (SH)

The best usage of waters assigned this classification is the propagation and harvesting of shellfish (oysters) for sale or for use as a food product. Waterbodies assigned the SH use will meet the sanitary and bacteriological standards included in the *National Shellfish Sanitation Program Model Ordinance, 1999, Chapter IV*, published by the Food and Drug Administration, U.S. Department of Health and Human Services and the requirements of the Alabama Department of Public Health. The waters will also be of a quality suitable for the propagation of fish and other aquatic life, including shrimp and crabs. Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply.

##### 4.4.1 Minimum Data Requirement for SH Waters

For waters with the SH classification the available data must have been collected consistent with the following standard operating procedures (SOP) manuals listed in **Table 1**.

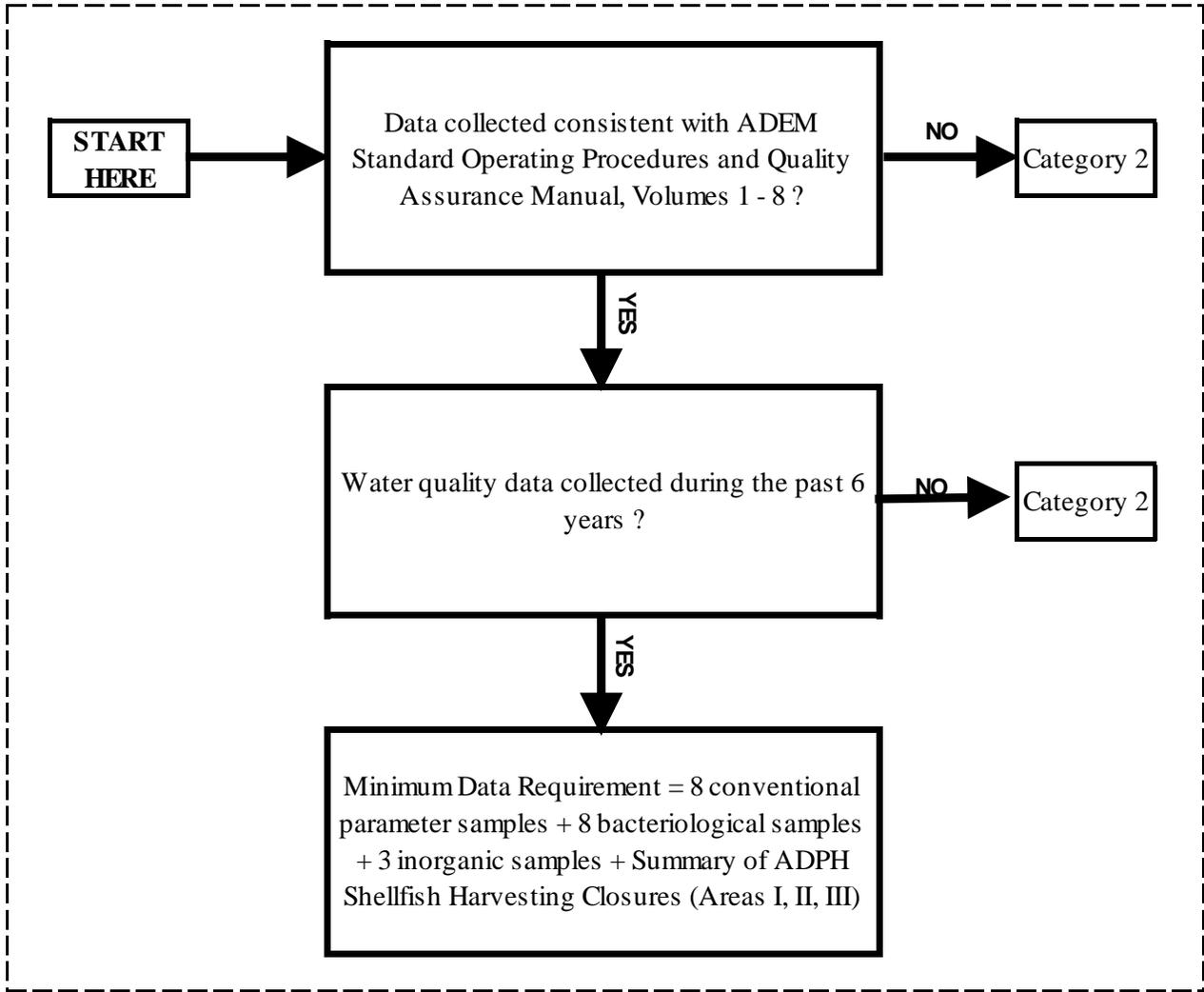
In addition, the data must have been collected within the last six years. The six-year timeframe would capture all data collected by ADEM during one complete five-year monitoring plan currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. The following list and **Figure 8** describe the minimum data requirement for assessing waters classified as SH.

- 8 conventional parameter samples
- 8 bacteriological samples or 1 geometric mean sample
- 3 inorganic samples
- Summary of ADPH shellfish harvesting closure notices for Areas I, II, and III

##### 4.4.2 Use Support Assessment for SH Waters

Once the minimum data requirement has been met, an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the SH use (Category 1) or not fully supporting the SH use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, shellfish harvesting closure notices, chemical specific data, bacteriological data, and toxicity evaluations. . **Table 8** shows SH Category 1 Requirements and **Table 9** shows SH Category 5 Requirements. **Figure 9** illustrates the assessment process for SH waters.

**Figure 8: Minimum Data Requirements for the SH Designated Use**



**Table 8: SH Category 1 Requirements**

<b>The SH waterbody can be placed in Category 1 if all the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	No fish/shellfish consumption advisories issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	NA
<b>Chlorophyll <i>a</i> Data</b>	NA
<b>Toxic Pollutants</b>	No more than two exceedances of a particular toxic pollutant criterion in previous six years or more than one in a 3-year period.
<b>Conventional Parameters<sup>25</sup></b>	No more than a 10% exceedance rate for any given parameter. <sup>26</sup>
<b>Bacteriological Data</b>	<b>A.</b>
	<p style="text-align: center;"><b><u>Coastal Waters:</u></b></p> <p><b>A.</b> A single sample result greater than or equal to 43 colonies /100 ml fecal coliform or a geometric mean greater than or equal to 14 colonies /100 ml fecal coliform.</p> <p><b>B.</b> The geometric mean enterococci density must be less than 35 colonies/100 ml and;</p> <p><b>C.</b> 10% or less of single samples must be less than or equal to 104 colonies/100 ml.<sup>26</sup></p>

<sup>25</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>26</sup> As determined by the binomial distribution function and Table 17.

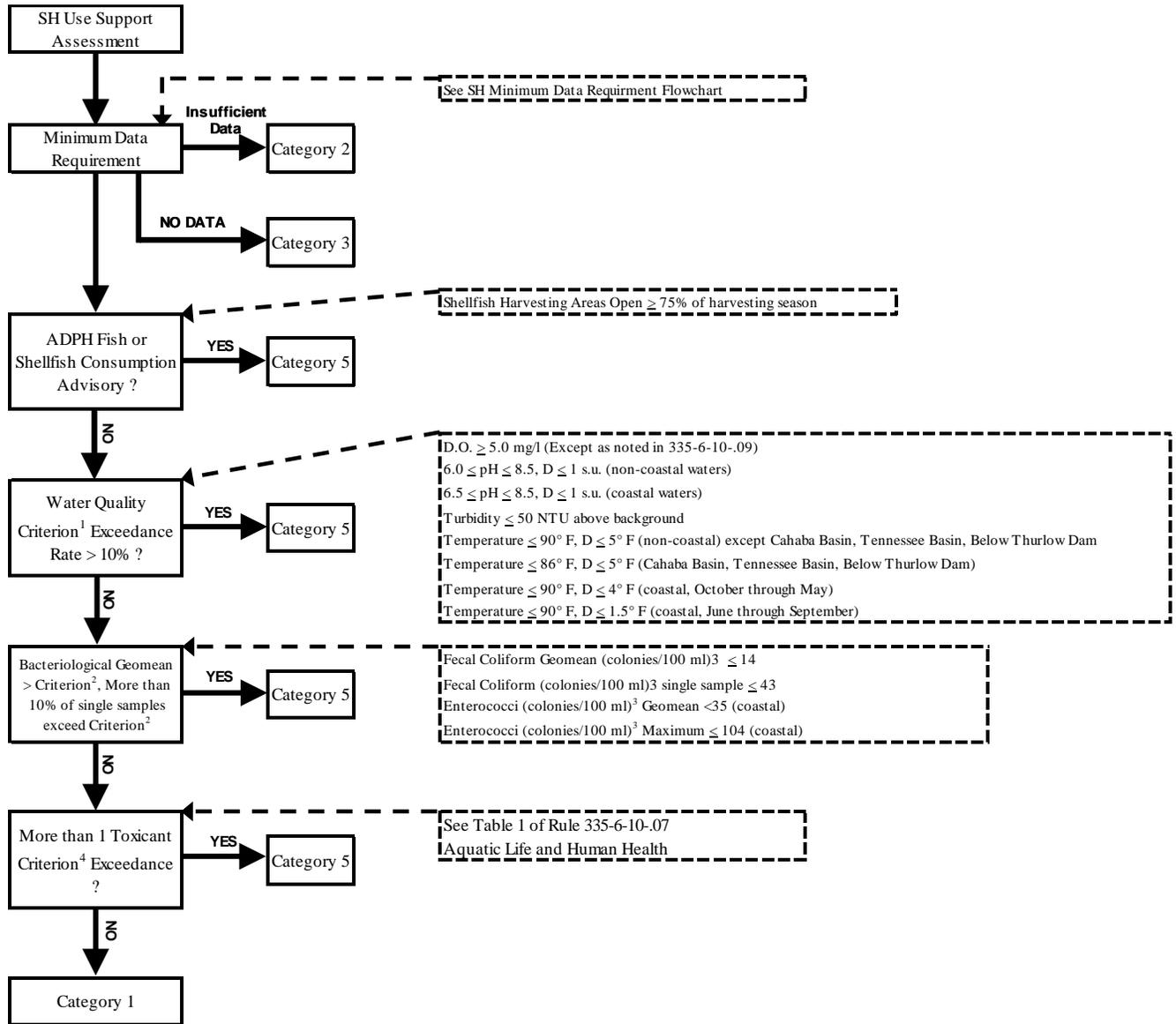
**Table 9: SH Category 5 Requirements**

<b>The SH waterbody can be placed in Category 5 if any of the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	There is a fish consumption advisory issued by the Alabama Department of Public Health (ADPH) or the shellfish growing areas are “conditionally approved” or “conditionally restricted”.
<b>Macroinvertebrate and Fish Assessments</b>	NA
<b>Chlorophyll <i>a</i> Data</b>	NA
<b>Toxic Pollutants</b>	More than two exceedances of a particular toxic pollutant criterion in previous six years or more than one in a 3-year period.
<b>Conventional Parameters<sup>27</sup></b>	There is more than a 10% exceedance rate for any given parameter. <sup>28</sup>
<b>Bacteriological Data</b>	<p style="text-align: center;"><b><u>Coastal Waters:</u></b></p> <p><b>A.</b> A single sample result greater than or equal to 43 colonies /100 ml fecal coliform or a geometric mean greater than or equal to 14 colonies /100 ml fecal coliform.</p> <p><b>B.</b> The geometric mean enterococci density is greater than 35 colonies/100 ml, or;</p> <p><b>C.</b> More than 10% of single samples exceed 104 colonies/100 ml enterococci.<sup>28</sup></p>

<sup>27</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>28</sup> As determined by the binomial distribution function and Table 17.

**Figure 9: Shellfish Harvesting (SH) Categorization Methodology**



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources

2 Bacteriological Criterion refers to both the single sample maximum and geometric mean

3 Not to exceed the limits specified in the latest edition of the National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish: 2007 Revision, published by the Food and Drug Administration, U.S. Department of Health and Human Services.

4 Toxicant Criterion refers to toxics listed in 335-6-10-.07

**Special Note** - Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. These criteria relate to condition of waters as affected by the discharge of sewage, industrial wastes, or other wastes, not to conditions resulting from natural forces. See 335-6-10-.05(4)

#### 4.5 Fish and Wildlife (F&W)

The best usage of waters assigned this classification includes fishing, the propagation of fish, aquatic life, and wildlife, and any other usage except swimming and water-contact sports or as a source of water supply for drinking or food-processing purposes. Waterbodies assigned the F&W classification are suitable for fish, aquatic life and wildlife propagation. The quality of salt and estuarine waters to which this classification is assigned will also be suitable for the propagation of shrimp and crabs. In addition, it is recognized that these waters may be used for incidental water contact and recreation during June through September, except in the vicinity of wastewater discharges or other conditions beyond the control of the ADPH. Under proper sanitary supervision by the controlling health authorities, these waters will meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports during the months of June through September.

##### 4.5.1 Minimum Data Requirement for F&W Waters

For waters with the F&W classification the available data must have been collected consistent with the following standard operating procedures (SOP) manuals listed in **Table 1**.

In addition, the data must have been collected within the last six years. The six-year timeframe would capture all data collected by ADEM during one complete rotation of the five-year monitoring plan currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include wadeable rivers and streams, non-wadeable rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. Failure to meet the minimum data requirement will place the waterbody in Category 2. The following list and **Figure 10** describe the minimum data requirement for assessing waters classified as F&W.

- Wadeable River or Stream
  - 1 Habitat Assessment
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - 3 inorganic samples
- Non-wadeable River or Stream
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - 3 inorganic samples
- Reservoirs and Embayments
  - 8 conventional parameter samples
  - 8 bacteriological samples (embayments only)
  - Chlorophyll a – 2 growing season means
- Wadeable Estuary or Coastal Waters

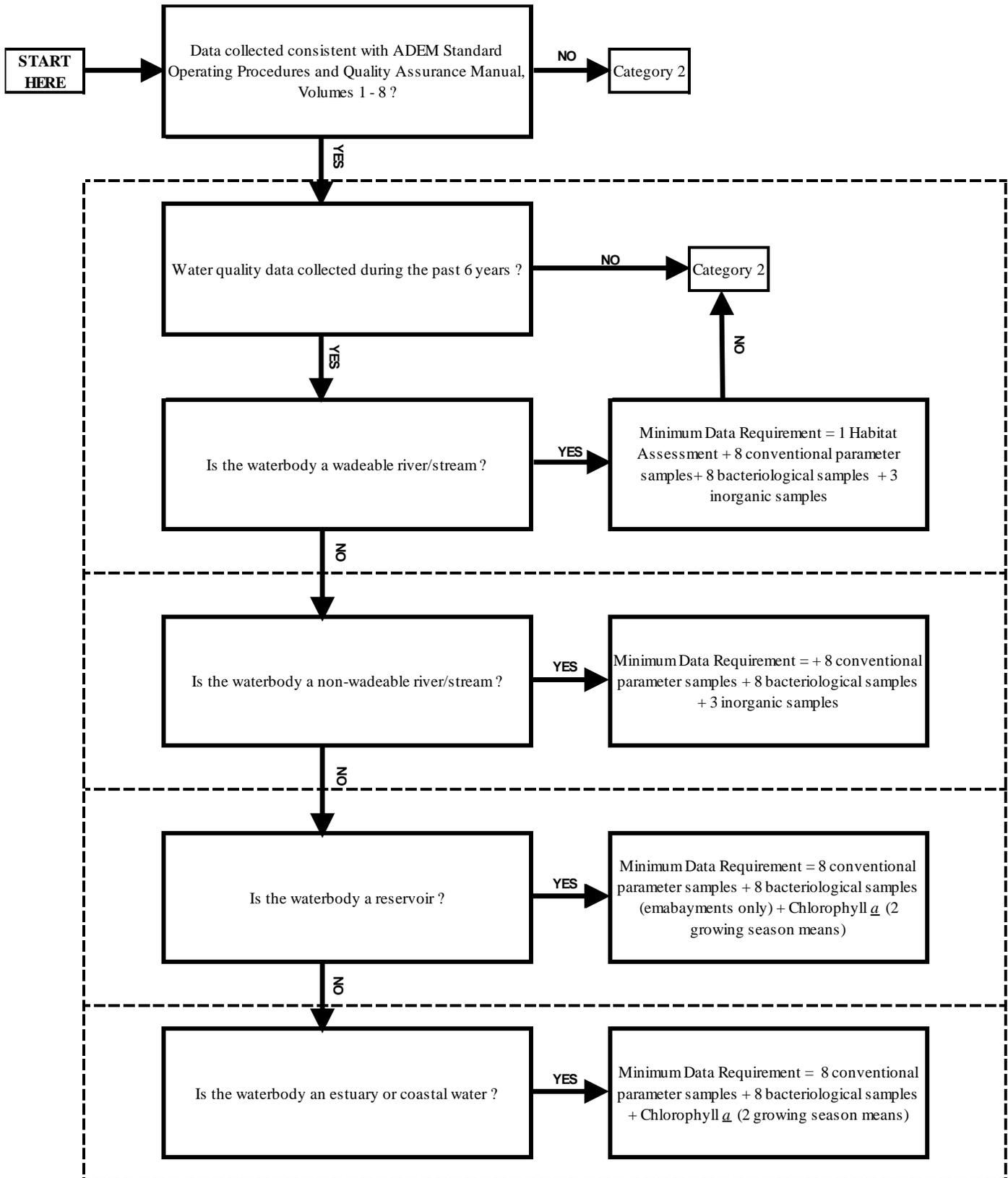
## Appendix A

- 8 conventional parameter samples
- 8 bacteriological samples
- Non-Wadeable Estuary or Coastal Waters
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - Chlorophyll a – 2 growing season means

### 4.5.2 Use Support Assessment for F&W Waters

Once the minimum data requirement has been met, an assessment of the data can be completed, resulting in the categorization of the waterbody as either fully supporting the F&W use (Category 1) or not fully supporting the F&W use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, chemical specific data, biological community assessments, bacteriological data, beach closure notices and toxicity evaluations. **Figure 11** illustrates the assessment process for F&W waters.

**Figure 10: Minimum Data Requirements for the F&W Designated Use**



**Table 10: F&W Category 1 Requirements**

<b>The F&amp;W waterbody can be placed in Category 1 if all the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	No fish consumption advisory issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	Level IV WMB-I assessment “fair”, “good” or “excellent”. <sup>29</sup> Fish IBI results (when available) will be used as supplemental data.
<b>Chlorophyll <i>a</i> Data</b>	Growing season mean chlorophyll <i>a</i> criterion has not been exceeded in two years during the assessment cycle where such a criterion has been established. <sup>30</sup>
<b>Toxic Pollutants</b>	No more than two exceedances of a particular toxic pollutant criterion in previous six years or more than one in a 3-year period.
<b>Conventional Parameters<sup>31</sup></b>	No more than a 10% exceedance rate for any given parameter. <sup>32</sup>
<b>Bacteriological Data</b>	<p style="text-align: center;"><b><u>Non-Coastal Waters:</u></b></p> <p><b>A.</b> The geometric mean E. coli density must be less than or equal to 126 colonies/100 ml (June – September) or less than or equal to 548 colonies/100 ml (October – May), and;</p> <p><b>B.</b> 10% or less of single samples must be less than or equal to 487 colonies/100 ml (June – September) or less than or equal to 2,507 colonies/100 ml (October – May).<sup>32</sup></p>
	<p style="text-align: center;"><b><u>Coastal Waters:</u></b></p> <p><b>A.</b> The geometric mean enterococci density must be less than or equal to 35 colonies/100 ml (June – September), and;</p> <p><b>B.</b> 10% or less of single samples must be less than or equal to 158 colonies/100 ml (June – September) or less than or equal to 275 colonies/100 ml (October – May).<sup>32</sup></p>

<sup>29</sup> Applicable to wadeable streams only.

<sup>30</sup> Chlorophyll *a* values in excess of the criterion, due to extreme hydrological events (i.e. drought, floods), will not be considered as an exceedance of the criterion. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75<sup>th</sup> percentile streamflow based on period of record caused by events such as tropical storms, hurricanes, and unusually intense storm activity.

<sup>31</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>32</sup> As determined by the binomial distribution function in Table 17.

**Table 11: F&W Category 5 Requirements**

<b>The F&amp;W waterbody can be placed in Category 5 if any of the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	Fish consumption advisory issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	Level IV assessment less than “fair”. <sup>33</sup> Fish IBI results (when available) will be used as supplemental data.
<b>Chlorophyll <i>a</i> Data</b>	Growing season mean chlorophyll <i>a</i> criterion has been exceeded in two years during the assessment cycle. <sup>34</sup>
<b>Toxic Pollutants</b>	More than two exceedances of a particular toxic pollutant criterion in previous six years or more than one in a 3-year period.
<b>Conventional Parameters<sup>35</sup></b>	More than a 10% exceedance rate for any given parameter. <sup>36</sup>
<b>Bacteriological Data</b>	<p style="text-align: center;"><b><u>Non-Coastal Waters:</u></b></p> <p><b>A.</b> The geometric mean E. coli density is greater than 126 colonies/100 ml (June – September) or greater than 548 colonies/100 ml (October – May), or;</p> <p><b>B.</b> More than 10% of single samples are greater than 487 colonies/100 ml (June – September) or greater than 2507 colonies/100 ml (October – May).<sup>36</sup></p>
	<p style="text-align: center;"><b><u>Coastal Waters:</u></b></p> <p><b>A.</b> The geometric mean enterococci density is greater than 35 colonies/100 ml, or;</p> <p><b>B.</b> More than 10% of single samples are greater than 158 colonies/100 ml (June – September) or greater than 275 colonies/100 ml (October – May).<sup>36</sup></p>

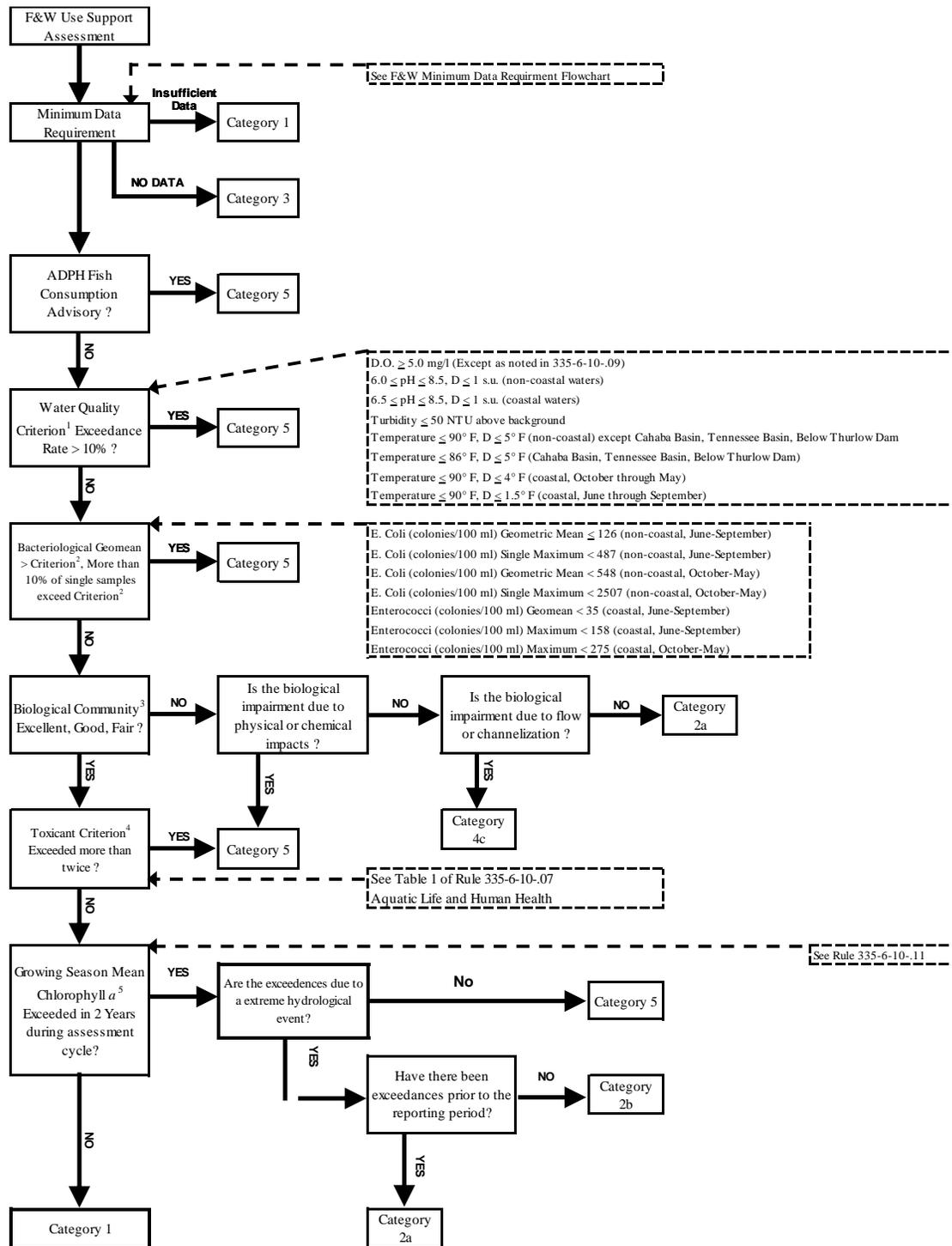
<sup>33</sup> Applicable to wadeable streams only.

<sup>34</sup> Chlorophyll *a* values in excess of the criterion, due to extreme hydrological events (i.e. drought, floods), will not be considered as an exceedance of the criterion. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75<sup>th</sup> percentile streamflow based on period of record caused by events such as tropical storms, hurricanes, and unusually intense storm activity.

<sup>35</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>36</sup> As determined by the binomial distribution function in Table 17.

**Figure 11: Fish and Wildlife (F&W) Categorization Methodology**



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources  
 2 Bacteriological Criterion refers to both the single sample maximum and geometric mean, see discussion in Section 4.5.2  
 3 Biological community refers to macroinvertebrates and/or fish in wadeable rivers/streams only (See Minimum Data Requirements)  
 4 Toxicant Criterion refers to toxics listed in 335-6-10-.07  
 5 Applies only to reservoirs with established Chlorophyll a criteria and not during extreme hydrologic events. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75th percentile caused by events such as tropical storms, hurricanes, and unusually intense storm activity.

**Special Note** - Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. These criteria relate to condition of waters as affected by the discharge of sewage, industrial wastes, or other wastes, not to conditions resulting from natural forces. See 335-6-10-.05(4)

#### 4.6 Limited Warmwater Fishery (LWF)

For the months of December through April, the best usage of waters assigned this classification includes fishing, the propagation of fish, aquatic life, and wildlife, and any other usage except swimming and water-contact sports or as a source of water supply for drinking or food-processing purposes. May through November the quality of waters to which this classification is assigned will be suitable for agricultural irrigation, livestock watering, industrial cooling and process water supplies, and any other usage, except fishing, bathing, recreational activities, including water-contact sports, or as a source of water supply for drinking or food-processing purposes.

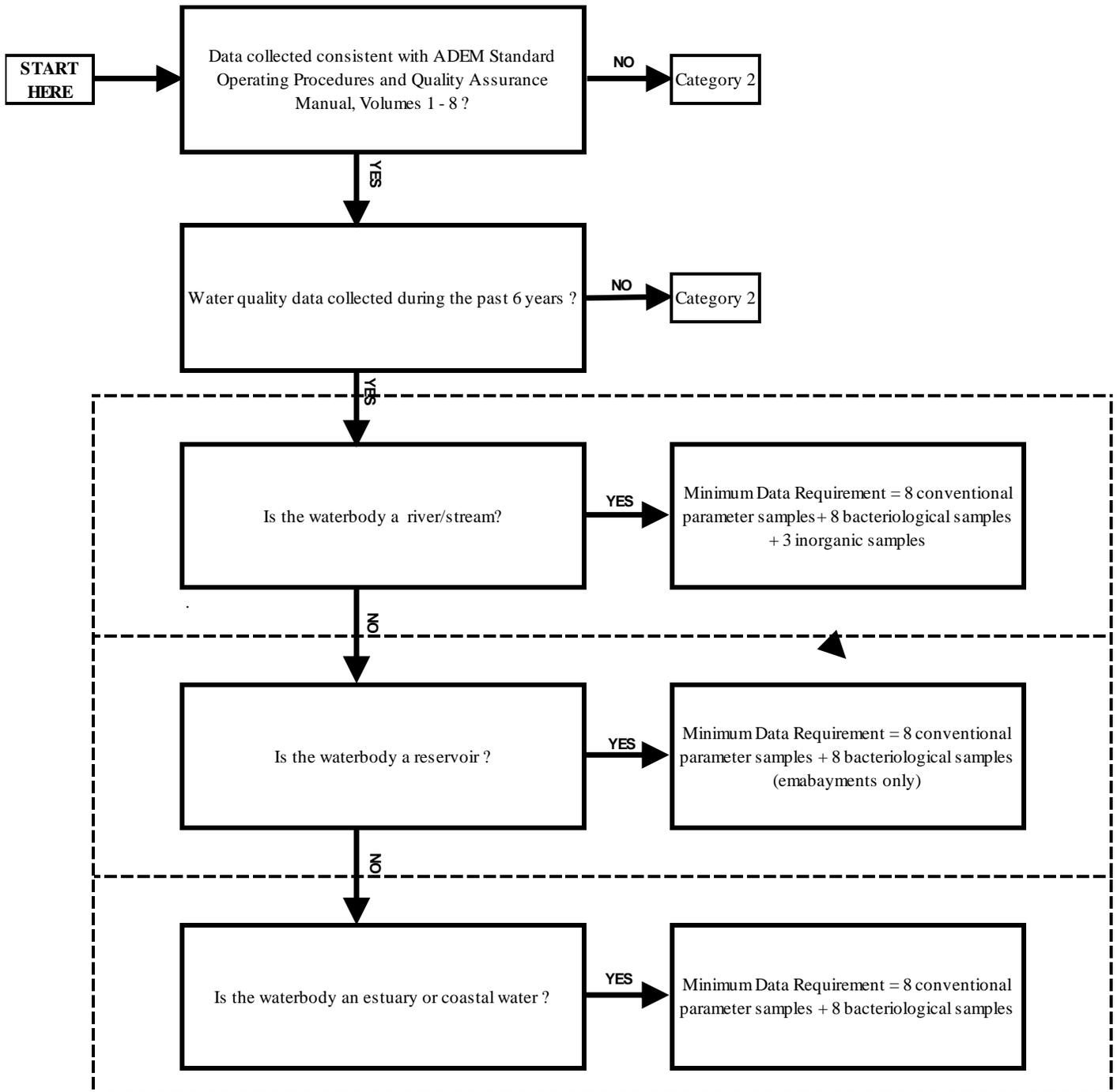
##### 4.6.1 Minimum Data Requirement for LWF Waters

For waters with the LWF classification, the available data must have been collected consistent with the standard operating procedures (SOP) manuals listed in **Table 1**.

In addition, the data must have been collected within the last six years. The six-year timeframe would capture all data collected by ADEM during one complete five-year monitoring plan currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. Failure to meet the minimum data requirement will place the waterbody in Category 2. The following list and **Figure 12** describe the minimum data requirements for assessing waters classified as LWF.

- River or Stream (Wadeable and Non-wadeable)
  - 8 conventional parameter samples
  - 8 bacteriological samples
  - 3 inorganic samples
- Reservoirs and Embayments
  - 8 conventional parameter samples
  - 8 bacteriological samples (embayments only)
- Estuary or Coastal Waters (Wadeable and Non-wadeable)
  - 8 conventional parameter samples
  - 8 bacteriological samples

**Figure 12: Minimum Data Requirements for the LWF Designated Use**



4.6.2 Use Support Assessment for LWF Waters

Once the minimum data requirement has been met, an assessment of the data can be completed, resulting in the categorization of the waterbody as either fully supporting the LWF use (Category 1) or not fully supporting the LWF use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, chemical specific data, bacteriological data, and toxicity evaluations. However, at the present time there is no available protocol for use of biological assessment results to assess use support in LWF-classified waters. The Department’s current SOP for conducting biological assessments employs the use of reference sites located in least impacted watersheds and is intended to assess the “fishable” use. . **Table 12** shows LWF Category 1 Requirements and **Table 13** shows LWF Category 5 Requirements. **Figure 13** illustrates the assessment process for LWF waters.

**Table 12: LWF Category 1 Requirements**

<b>The LWF waterbody can be placed in Category 1 if all the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	No fish consumption advisory issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	NA
<b>Chlorophyll <i>a</i> Data</b>	NA
<b>Toxic Pollutants</b>	No more than one exceedance of a particular toxic pollutant acute criterion (May – November) in previous six years. No more than one exceedance of a particular toxic pollutant chronic criterion (December – April).
<b>Conventional Parameters<sup>37</sup></b>	No more than a 10% exceedance rate for any given parameter. <sup>38</sup>
<b>Bacteriological Data</b>	<p style="text-align: center;"><b><u>Non-Coastal Waters:</u></b></p> <p><b>A.</b> The geometric mean <i>E. coli</i> density must be less than or equal to 548 colonies/100 ml, and;</p> <p><b>B.</b> 10% or less of single samples must be less than or equal to 2,507 colonies/100 ml.<sup>38</sup></p>
	<p style="text-align: center;"><b><u>Coastal Waters:</u></b></p> <p><b>A.</b> 10% or less of single samples must be less than 275 colonies/100 ml <i>Enterococci</i>.<sup>38</sup></p>

<sup>37</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>38</sup> As determined by the binomial distribution function in Table 17.

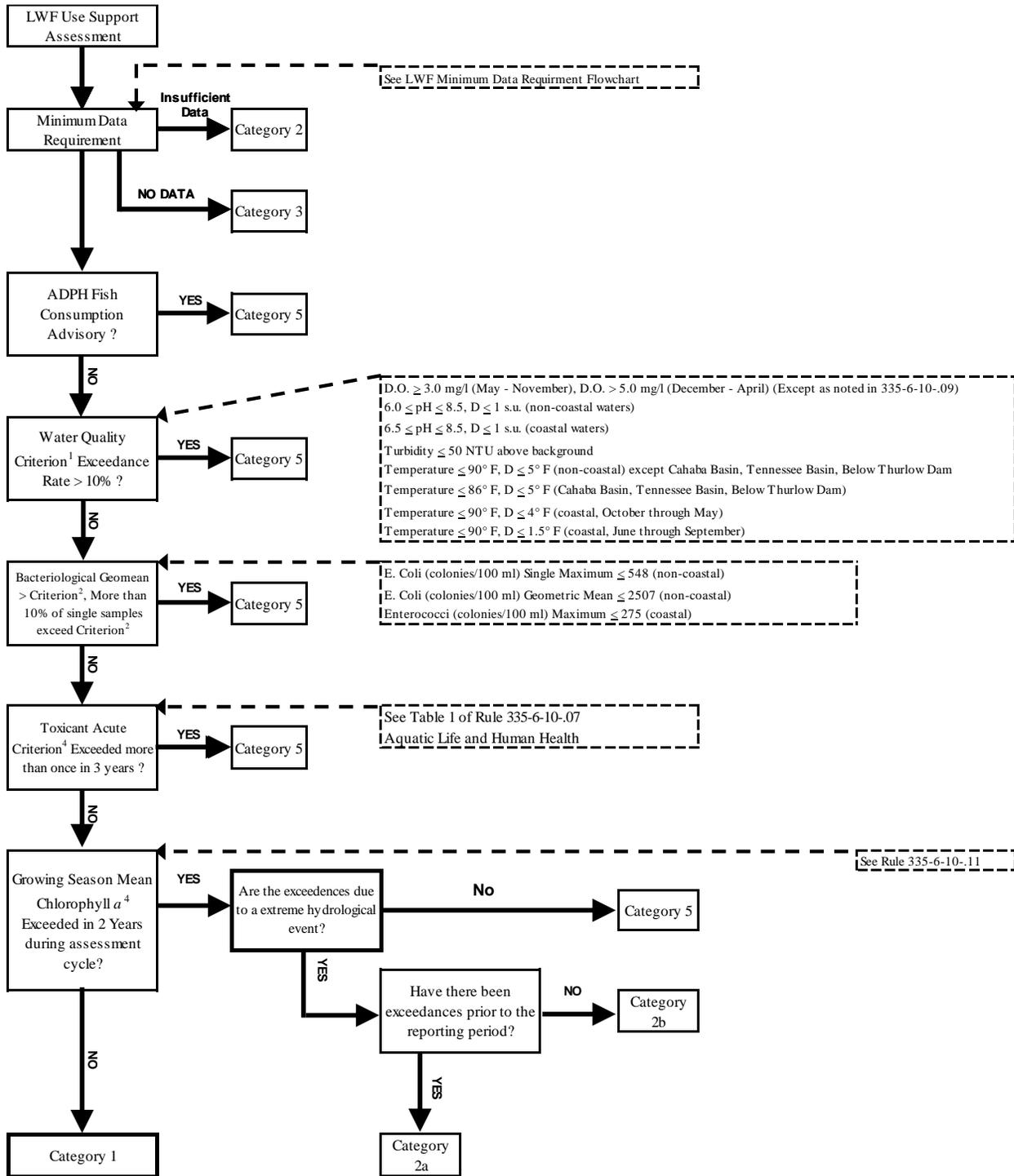
**Table 13: LWF Category 5 Requirements**

<b>The LWF waterbody can be placed in Category 5 if any of the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	Fish consumption advisory issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	NA
<b>Chlorophyll <i>a</i> Data</b>	NA
<b>Toxic Pollutants</b>	Two or more exceedances of a particular toxic pollutant acute criterion (May – November) during the previous six years or more than one in a 3 year period. Two or more exceedances of a particular toxic pollutant chronic criterion (December – April) during previous six years or more than one in a 3 year period.
<b>Conventional Parameters<sup>39</sup></b>	More than a 10% exceedance rate for any given parameter. <sup>40</sup>
<b>Bacteriological Data</b>	<b><u>Non-Coastal Waters:</u></b>
	A. The geometric mean E. coli density is greater than 548 colonies/100 ml, or; B. More than 10% of single samples are greater than 2,507 colonies/100 ml. <sup>40</sup>
	<b><u>Coastal Waters:</u></b>
	A. More than 10% of single samples are greater than 275 colonies/100 ml Enterococci. <sup>40</sup>

<sup>39</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>40</sup> As determined by the binomial distribution function in Table 17.

**Figure 13: Limited Warmwater Fishery (LWF) Categorization Methodology**



1 Water Quality Criterion refers to pH, Dissolved Oxygen, turbidity, and temperature resulting from heat sources  
 2 Bacteriological Criterion refers to both the single sample maximum and geometric mean, see discussion in Section 4.6.2  
 3 Toxicant Criterion refers to toxics listed in 335-6-10-.07  
 4 Applies only to reservoirs with established Chlorophyll a criteria and not during extreme hydrologic events. Extreme drought conditions are droughts with a drought intensity category of D2 or greater as listed in the U.S. Drought Monitor (<http://droughtmonitor.unl.edu/>) that persists for 50% or more of the growing season. Extreme flood conditions are streamflows greater than the 75th percentile caused by events such as tropical storms, hurricanes, and unusually intense storm activity.  
**Special Note** - Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. These criteria relate to condition of waters as affected by the discharge of sewage, industrial wastes, or other wastes, not to conditions resulting from natural forces. See 335-6-10-.05(4)

#### 4.7 Agricultural and Industrial Water Supply (A&I)

Best usage of waters assigned this classification include agricultural irrigation, livestock watering, industrial cooling and process water supplies, and any other usage, except fishing, bathing, recreational activities, including water-contact sports, or as a source of water supply for drinking or food-processing purposes. The waters, except for the natural impurities that may be present, will be suitable for agricultural irrigation, livestock watering, industrial cooling waters, and fish survival. The waters will be usable after special treatment, as may be needed under each particular circumstance, for industrial process water supplies. This classification includes watercourses in which natural flow is intermittent and non-existent during droughts and which may, of necessity, receive treated waste from existing municipalities and industries, both now and in the future.

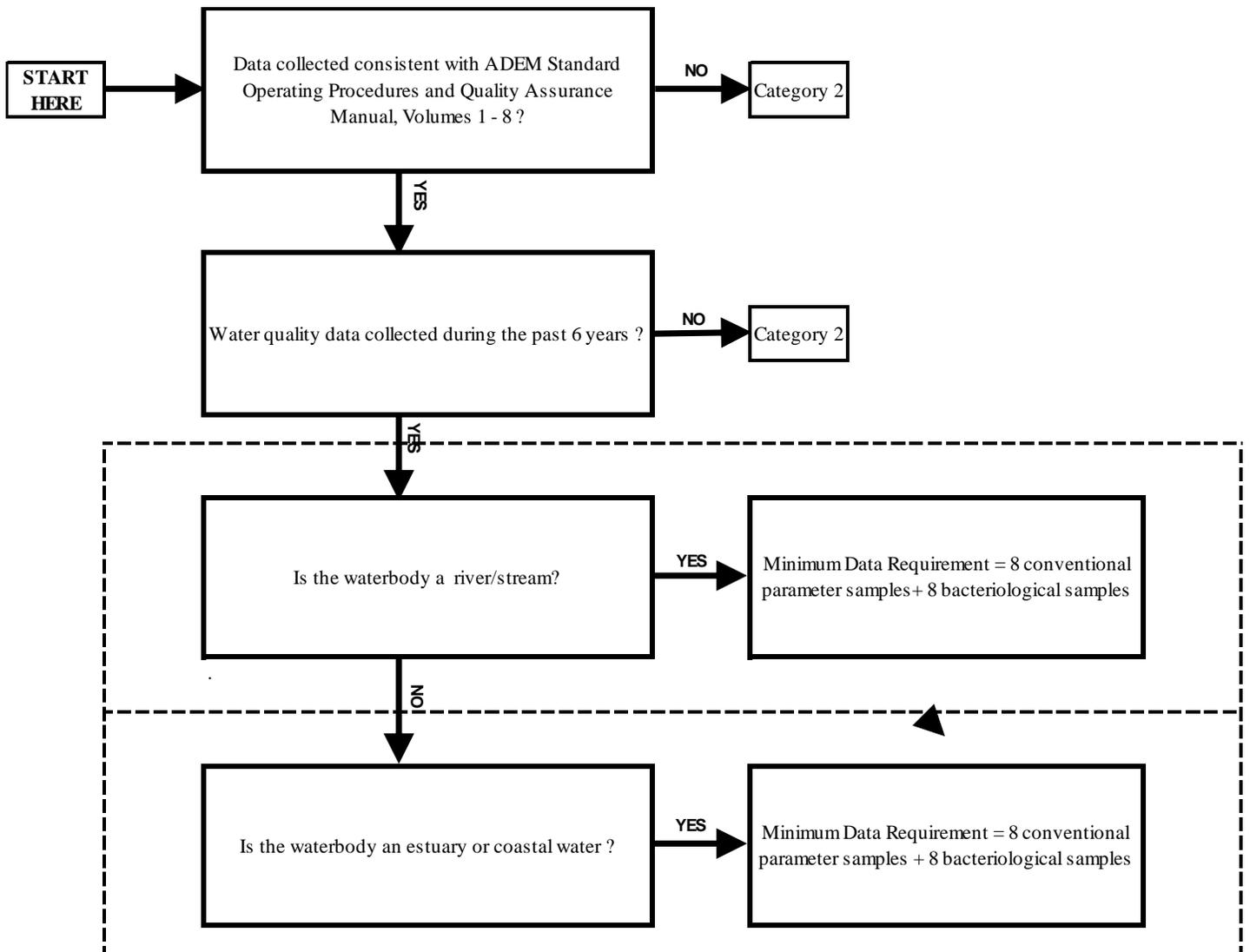
##### 4.7.1 Minimum Data Requirement for A&I Waters

For waters with the A&I classification, the available data must have been collected consistent with the standard operating procedures (SOP) manual listed in **Table 1**.

In addition, the data must have been collected within the last six years. The six-year timeframe would capture all data collected by ADEM during one complete five-year monitoring plan currently used by the Department. Failure to satisfy both of these conditions places the waterbody in Category 2. If these two conditions are met, the determination of the minimum data requirement is dependent upon the waterbody type. Waterbody types include wadeable rivers and streams, non-wadeable rivers and streams, reservoirs and reservoir embayments, and estuary and coastal waters. Failure to meet the minimum data requirement will place the waterbody in Category 2. The following list and **Figure 14** describe the minimum data requirement for assessing waters classified as A&I.

- River or Stream
  - 8 conventional parameter samples
  - 8 bacteriological samples
  
- Estuary or Coastal Waters
  - 8 conventional parameter samples
  - 8 bacteriological samples

**Figure 14: Minimum Data Requirements for the A&I Designated Use**



**4.7.2 Use Support Assessment for A&I Waters**

Once the minimum data requirement has been met an assessment of the data can be completed resulting in the categorization of the waterbody as either fully supporting the A&I use (Category 1) or not fully supporting the A&I use (Category 5). The assessment process considers the available data and may include any fish consumption advisories, chemical specific data, biological community assessments, bacteriological data, beach closure notices and toxicity evaluations. **Table 14** shows A&I Category 1 Requirements and **Table 15** shows A&I Category 5 Requirements. **Figure 15** illustrates the assessment process for A&I waters.

**Table 14: A&I Category 1 Requirements**

<b>The A&amp;I waterbody can be placed in Category 1 if all the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	No fish consumption advisory issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	NA
<b>Chlorophyll <i>a</i> Data</b>	NA
<b>Toxic Pollutants</b>	No more than two exceedances of a particular toxic pollutant acute criterion in previous six years or more than one in a 3-year period.
<b>Conventional Parameters<sup>41</sup></b>	No more than a 10% exceedance rate for any given parameter. <sup>42</sup>
<b>Bacteriological Data</b>	<p style="text-align: center;"><b><u>Non-Coastal Waters:</u></b></p> <p><b>A.</b> The geometric mean E. coli density must be less than or equal to 700 colonies/100 ml, and;</p> <p><b>B.</b> 10% or less of single samples must be less than or equal to 3,200 colonies/100 ml.<sup>42</sup></p>
	<p style="text-align: center;"><b><u>Coastal Waters:</u></b></p> <p><b>A.</b> 10% or less of single samples must be less than or equal to 500 colonies/100 ml.<sup>42</sup></p>

<sup>41</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>42</sup> As determined by the binomial distribution function in Table 17.

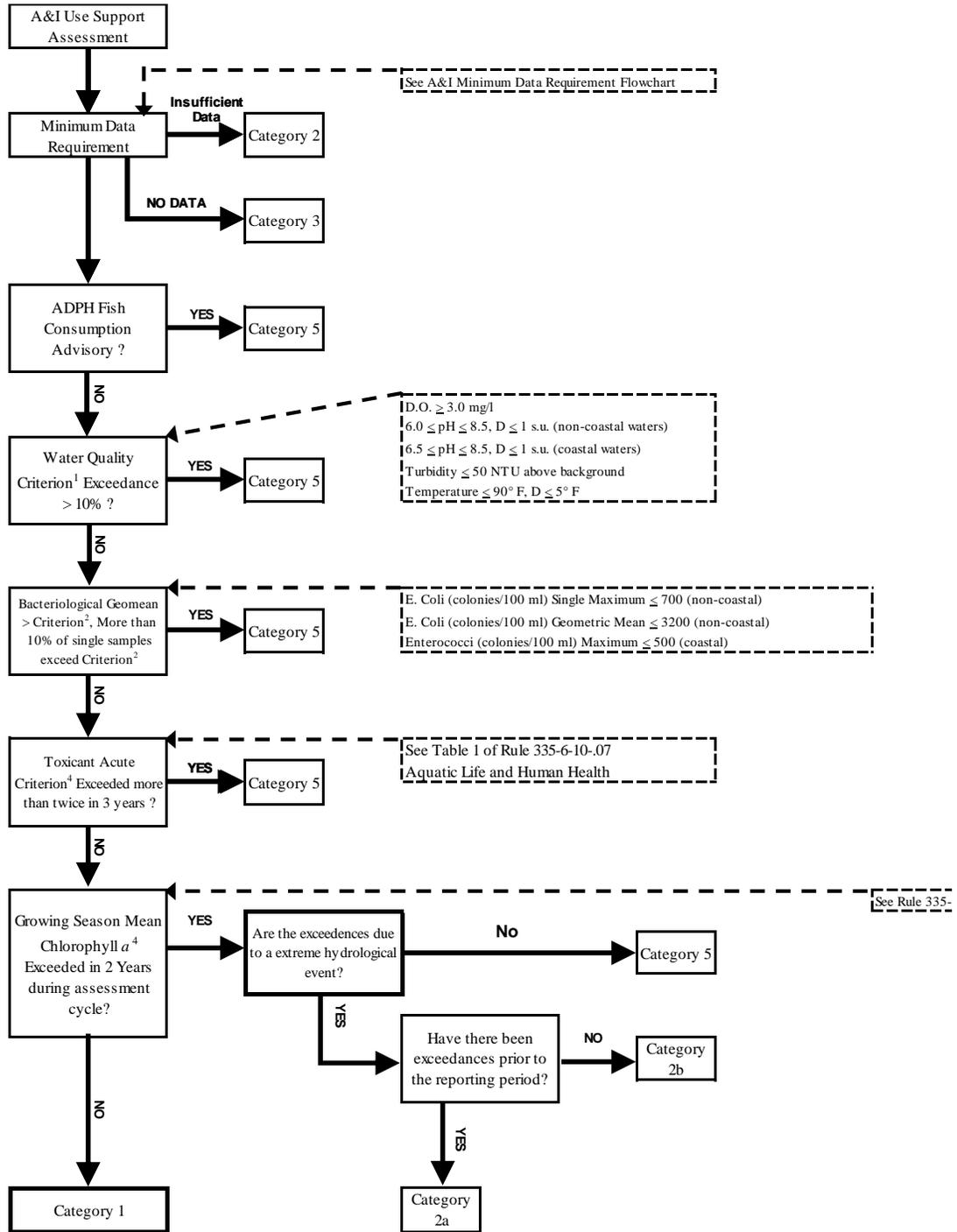
**Table 15: A&I Category 5 Requirements**

<b>The A&amp;I waterbody can be placed in Category 5 if any of the following are true:</b>	
<b>Issue</b>	<b>Condition</b>
<b>Consumption Advisories</b>	Fish consumption advisory issued by the Alabama Department of Public Health (ADPH).
<b>Macroinvertebrate and Fish Assessments</b>	NA
<b>Chlorophyll <i>a</i> Data</b>	NA
<b>Toxic Pollutants</b>	More than two exceedances of a particular toxic pollutant acute criterion in previous six years or more than one in a 3-year period.
<b>Conventional Parameters<sup>43</sup></b>	More than a 10% exceedance rate for any given parameter. <sup>44</sup>
<b>Bacteriological Data</b>	<p style="text-align: center;"><b><u>Non-Coastal Waters:</u></b></p> <p><b>A.</b> The geometric mean E. coli density is greater than 700 colonies/100 ml, or;</p> <p><b>B.</b> More than 10% of single samples are greater than 3,200 colonies/100 ml.<sup>44</sup></p>
	<p style="text-align: center;"><b><u>Coastal Waters:</u></b></p> <p><b>A.</b> More than 10% of single samples are greater than 500 colonies/100 ml.<sup>44</sup></p>

<sup>43</sup> Conventional parameters include DO, pH, temperature (where influenced by heated discharge), and turbidity.

<sup>44</sup> As determined by the binomial distribution function and Table 17.

Figure 15: Agricultural and Industrial Water Supply (A&I) Categorization Methodology



#### 4.8 Other Data considerations and Requirements

##### 4.8.1 Use of the 10% Rule

Seasonal variation in water quality conditions, non-anthropogenic impacts (natural conditions), sampling frequency and number of samples collected, and the temporal and spatial sampling coverage of the waterbody must be considered when evaluating water quality data to determine whether a waterbody is fully supporting its designated uses. Most states, including Alabama, determine a waterbody's use support status based on the percent of measured values exceeding a given water quality criterion. Based on USEPA guidance, 10 percent is commonly used as the maximum percent of measurements that may exceed the criterion for waters fully supporting their designated uses. For any given set of samples, the percent exceedance indicated by the number of samples exceeding a given criterion is only an estimate of the true percent exceedance for the waterbody segment. As a result, it is important that a level of confidence be assigned to the estimate of percent exceedance for a given set of samples.

Hypothesis testing can be used to make this estimate. When making a decision about whether a water should be included in Category 5 on the basis of data for conventional pollutants, the null hypothesis is that the water is not impaired and sufficient data must be collected to minimize the probability that this assumption is incorrect (Type I error). For the purpose of this methodology, a 90% confidence level will be used so that we can say, for a given sample size with a given number of criterion exceedances, we are 90% confident that the true exceedance percentage is greater than 0.1 (10%). Using the binomial distribution, it is possible to determine the number of exceedances out of a given number of samples that will result in a greater than 10 percent exceedance rate at approximately the 90% confidence level. This is the number of exceedances needed to reject the null hypothesis.

When making a decision about whether a water in Category 5 should be removed to Category 1 for a particular conventional pollutant, the null hypothesis is that the water is impaired and sufficient data must be collected to minimize the probability that this assumption is incorrect. Again, a 90% confidence level will be used in the binomial distribution function to estimate the number of samples required to be 90% confident that the water is truly not impaired.

##### 4.8.2 Use of Data Older than Six Years

More recent data shall take precedence over older data if:

- The newer data indicates a change in water quality and the change is related to changes in pollutant loading to the watershed or improved pollution control mechanisms in the watershed contributing to the assessed area.

**OR**

The Department determines that the older data do not meet the data quality requirements of this methodology or are no longer representative of the water quality of the segment.

Data older than six years will generally not be considered valid, for the purpose of initially placing a waterbody in Category 1 or Category 5, except that data and information older than six years will be considered in the assessment process when such data/information is determined to be reliable. Data older than six years may be used to demonstrate that a waterbody was placed in the wrong category (Category 1 or Category 5) when the original water quality assessment was completed. In addition, data older than six years may be used if the data was not considered during a previous reporting cycle and there is evidence that conditions affecting water quality have not changed since the original data was collected. Waterbodies will not be removed from Category 5 based on the age of data. However, if there is evidence that water quality conditions are likely to have changed since the water was originally placed in Category 1, waterbodies may be removed from Category 1 to Category 2, based on the age of the data.

### 4.8.3 Use of Accurate Location Data

Accurate location data is required to ensure the appropriate use classification is applied, as well as to confirm that sampling stations are located outside of regulatory mixing zones where water quality criteria do not apply. The monitoring data is acceptable if the locations are correct to within 50 feet. Digital spatial data (GIS or GPS) or latitude/longitude information obtained from USGS 7.5 minute quadrangle maps are acceptable methods of providing location information.

### 4.8.4 Use of Temporally Independent Samples

When relying solely on chemical data to determine designated use support, at least eight temporally independent samples of chemical and physical conditions obtained during a time period are optimal. That includes conditions considered critical for the particular pollutant of interest. Independent samples, for the purpose of parameters other than bacteria and in-situ water quality measurements, will have been collected at least four days apart. Samples collected at the same location less than four days apart shall be considered as one sample for the purpose of determining compliance with toxic pollutant criteria, with the mean value used to represent the sampling period.

### 4.8.5 Data from Continuous Monitoring

For conventional parameters measured using continuous monitoring instruments, such as multi-probe datasondes, compliance with the applicable criteria will be determined at the regulatory depth established for dissolved oxygen measurements. This depth is five feet in water that is ten feet or more in total depth or is at mid-depth in water that is less than ten feet in total depth. Hourly measurements of dissolved oxygen, temperature, and pH data collected using continuous monitoring equipment will be assessed using the same binomial distribution function used for discrete sampling of these parameters. When measurements are made more frequently than hourly, the hourly values will be calculated as the mean of the measured values within each hour.

### 4.8.6 Use of Fish / Shellfish Consumption Advisories and Shellfish Growing Area Classifications

In October 2000, EPA issued guidance to states regarding the use of fish and shellfish consumption advisories (EPA, 2000). The guidance recommended that states consider

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certain information when determining if designated uses were impaired, including consumption advisories for fish and shellfish and certain shellfish growing area classifications. The following is an excerpt from the EPA guidance.

*“Certain shellfish growing area classifications should be used as part of determinations of attainment of water quality standards and listing of impaired waterbodies. Shellfish growing area classifications are developed by the National Shellfish Sanitation Program (NSSP) using water column and tissue data (where available), and information from sanitary surveys of the contributing watershed, to protect public health. The States review these NSSP classifications every three years. There are certain NSSP classifications that are not appropriate to consider, and certain data and information that should not be considered independently of the classification (unless the data and information were not used in the development or review of the classification). These instances are: “Prohibited” classifications set as a precautionary measure due to the proximity of wastewater treatment discharges, or absence of a required sanitary survey; shellfish tissue pathogen data (which can fluctuate based on short-term conditions not representative of general water quality); or short-term actions to place growing areas in the closed status.”*

The ADPH, Seafood Program, regulates shellfish harvesting in coastal waters of Alabama. The ADPH has designated four areas in Mobile Bay and adjacent coastal waters and classifies shellfish harvesting waters within these areas as “conditionally approved”, “conditionally restricted”, “restricted”, “unclassified”, and “prohibited”. Area I waters comprise most of Mobile Bay south of East Fowl River and west of Bon Secour Bay and including Mississippi Sound. Area II waters include Grand Bay and Portersville Bay with exceptions near wastewater discharges. Area III waters are located in Bon Secour Bay and east of a line drawn from Fort Morgan to Mullet Point. Area IV is located in approximately the northern half of Mobile Bay.

Most of the waters designated as Shellfish Harvesting are classified as “conditionally approved”. These harvesting areas are closed when the river stage on the Mobile River at Barry Steam Plant in Bucks, Alabama reaches a river stage of 8.0 feet above mean sea level and a public notice announcing the closure is published. These procedures are described in detail in the Conditional Area Management Plan developed by ADPH (ADPH, 2001) and the 2007 Comprehensive Sanitary Survey of Alabama’s Growing Waters in Mobile and Baldwin Counties Area I, Area II and Area III (ADPH, 2008) which can be found at <http://adph.org/foodsafety/index.asp?ID=1141>

For purposes of making use support decisions relative to the SH designated use, the Department will consider “conditionally approved” and “conditionally restricted” waters as impaired and will include these waters in Category 5. In “prohibited” and “unclassified” waters the Department will use water column bacteria sampling results to determine use support. When the applicable bacteria criterion is exceeded in more than 10% of the samples as determined using the binomial distribution function and Table 17, these waters will be included in Category 5.

The October 2000 EPA guidance concerning the use of fish and shellfish consumption advisories for protection of human health also recommended that state's include waters in Category 5 when there was a consumption advisory which suggested either limited consumption or no consumption of fish due to the presence of toxics in fish tissue. The following is an excerpt from the guidance.

*“When deciding whether to identify a water as impaired, States, Territories, and authorized Tribes need to determine whether there are impairments of designated uses and narrative criteria, as well as the numeric criteria. Although the CWA does not explicitly direct the use of fish and shellfish consumption advisories or NSSP classifications to determine attainment of water quality standards, States, Territories, and authorized Tribes are required to consider all existing and readily available data and information to identify impaired waterbodies on their section 303(d) lists. For purposes of determining whether a waterbody is impaired and should be included on a section 303(d) list, EPA considers a fish or shellfish consumption advisory, a NSSP classification, and the supporting data, to be existing and readily available data and information that demonstrates non-attainment of a section 101(a) “fishable” use when:*

- 1. the advisory is based on fish and shellfish tissue data,*
- 2. a lower than “Approved” NSSP classification is based on water column and shellfish tissue data (and this is not a precautionary “Prohibited” classification or the state water quality standard does not identify lower than “Approved” as attainment of the standard)*
- 3. the data are collected from the specific waterbody in question and*
- 4. the risk assessment parameters (e.g., toxicity, risk level, exposure duration and consumption rate) of the advisory or classification are cumulatively equal to or less protective than those in the State, Territory, or authorized Tribal water quality standards.”*

This listing and assessment methodology will consider fish consumption advisories issued by the ADPH as an indication of impaired use in all State waters. However, there may be circumstances under which these waters could be placed in a category other than Category 5. For example, it may be appropriate to place certain waters in Category 4b when activities are ongoing under another restoration program, with the goal of restoring the water to fully supporting its uses. These decisions will be made on a case-by-case basis and documented in the ADB.

#### 4.8.7 Use of Biological Assessments

Biological assessments compare data from biological surveys and other direct measurements of resident biota in surface waters to established biological criteria and assess the waterbody's degree of use support. Alabama has not established numeric biological criteria (except in the case of chlorophyll *a* in reservoirs) and, as a result, biological data are used as a means of applying narrative criteria contained in Alabama's water quality criteria document (ADEM Administrative Code r. 335-6-10). ADEM has been gathering biological assessment data for streams across Alabama since the 1970s.

## Appendix A

In the early 1990's the Department began assessing the biological health of wadeable streams using the USEPA Rapid Bioassessment Protocol (Level III Wadeable Multi-habitat Bioassessments – EPT Families (WMB-EPT)) and the Intensive Wadeable Multi-habitat Bioassessment (Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I)). USEPA has offered the following technical considerations when using biological data to make use support determinations.

- A waterbody's use support should be based on a comparison of site-specific biological data to a reference condition established for the ecoregion in which the waterbody is located.
- A multimetric approach to bioassessment is recommended.
- The use of a standardized index or sampling period is recommended.
- Standard operation procedures and a quality assurance program should be established.
- A determination of the performance characteristics of the bioassessment methodology is suggested.
- An identification of the appropriate number of sampling sites that are representative of the waterbody is also recommended.

Biological assessment data is used in combination with other surface water quality data or information to arrive at an overall use support determination and to assist with the stressor identification process. Biological assessments should include a habitat assessment conducted at the time of the biological sampling. When available, periphyton assessment data and algal growth potential tests results will be used to refine stressor identification.

In this methodology, several bioassessment methodologies can be used to assess aquatic life use support. One Level IV Intensive Wadeable Multi-habitat Bioassessment (WMB-I) is sufficient for assessing aquatic life use support. These methodologies are described in detail in the Department's SOPs referenced earlier. Macroinvertebrate and fish assessment results may vary significantly due to varying sensitivities to stressors between the communities. For these reasons, it may be appropriate to place the waterbody in Category 5 when only 1 assessment indicates impairment. These decisions will be made on a case-by-case basis in consultation with the biologist(s) responsible for conducting the assessment and will be documented in the ADB.

### 4.8.8 Use of Data Collected by Others

Data collected by other agencies, industry or industry groups, neighboring states, and watershed groups will be considered and evaluated provided the data meet the minimum data requirements specified for each designated use and comply with the quality control and quality assurance requirements discussed in Section 4.9. Data collected by others assist the Department in making use support determinations, as well as, helps to focus our water quality monitoring priorities from year to year. Examples of other agencies and groups collecting water quality data in Alabama include, but are not limited to, the following agencies and groups:

- USGS

## Appendix A

- USEPA
- Tennessee Valley Authority
- National Oceanic and Atmospheric Administration
- United States Fish and Wildlife Service
- Mobile Bay National Estuary Program
- Dauphin Island Sea Lab
- Geological Survey of Alabama
- Natural Resources Conservation Service
- Soil and Water Conservation Districts
- Alabama Department of Conservation and Natural Resources
- Alabama Clean Water Partnership
- Alabama Department of Public Health
- Alabama Department of Transportation
- Citizen and Watershed Groups
- Industries and municipalities conducting river monitoring pursuant to NPDES or CWA Section 401 requirements

Data submitted by third parties for consideration should include methods used to collect the data, including a study plan or SOP, and documentation that the data were (or were not) collected consistent with the requirements presented in this methodology.

### 4.8.9 Use of Bacteria Data

Waterbody segments are sampled for bacteria either as part of a special study, routine ambient monitoring, or as part of the Department's Beach Monitoring Program. Bacteria of the *E. coli* group are currently used as indicators of the possible presence of pathogens in non-coastal waters. In coastal waters, bacteria of the enterococci group are used as indicators of the possible presence of pathogens. Alabama's bacteria criteria are summarized for each designated use in **Table 16**.

When assessing the geometric means of bacteria sample results, one excursion will generally be sufficient to determine impairment. If the number of individual samples is less than eight and there is enough data to calculate a geomean, both the geometric mean and single sample maximum criteria must be exceeded to determine impairment. If there are eight or more individual samples and a geomean is unable to be calculated with the data, **Table 17** will be used to determine impairment based on exceedances of the single sample criterion. Bacteria data from the Beach Monitoring Program will be assessed by calculating the geometric mean on a monthly basis. More than one geomean exceedance, in this case, will be sufficient to determine impairment. Impairment can also be determined if the single sample maximum criteria is exceeded (Independent of geomean exceedances).

**Table 16: Alabama's Bacteria Criteria**

	<b>Non-Coastal Waters</b>	<b>Coastal Water</b>
<b>Outstanding Alabama Water (OAW)</b>	<i>E. Coli (colonies/100 ml)</i> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 126</math></li> <li>Single Sample Max <math>\leq 235</math></li> </ul>	<i>Enterococci (colonies/100 ml)</i> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 35</math></li> <li>Single Sample Max <math>\leq 104</math></li> </ul>
<b>Public Water Supply (PWS)</b>	<i>E. Coli (colonies/100 ml)</i> <p><u>June through September</u></p> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 126</math></li> <li>Single Sample Max <math>\leq 487</math></li> </ul> <p><u>October through May</u></p> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 548</math></li> <li>Single Sample Max <math>\leq 2507</math></li> </ul>	<i>Enterococci (colonies/100 ml)</i> <p><u>June through September</u></p> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 35</math></li> <li>Single Sample Max <math>\leq 158</math></li> </ul> <p><u>October through May</u></p> <ul style="list-style-type: none"> <li>Single Sample Max <math>\leq 275</math></li> </ul>
<b>Swimming and Other Whole Body Water-Contact Sports (S)</b>	<i>E. Coli (colonies/100 ml)</i> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 126</math></li> <li>Single Sample Max <math>\leq 235</math></li> </ul>	<i>Enterococci (colonies/100 ml)</i> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 35</math></li> <li>Single Sample Max <math>\leq 104</math></li> </ul>
<b>Shellfish Harvesting (SH)</b>	<i>E. Coli (colonies/100 ml)</i> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 126</math></li> <li>Single Sample Max <math>\leq 235</math></li> </ul>	<i>Fecal Coliform (colonies/100 ml)</i> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 14</math></li> <li>Single Sample Max <math>\leq 43</math></li> </ul> <i>Enterococci (colonies/100 ml)</i> <sup>13</sup> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 35</math></li> <li>Single Sample Max <math>\leq 104</math></li> </ul>
<b>Fish and Wildlife (F&amp;W)</b>	<i>E. Coli (colonies/100 ml)</i> <p><u>June through September</u></p> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 126</math></li> <li>Single Sample Max <math>\leq 487</math></li> </ul> <p><u>October through May</u></p> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 548</math></li> <li>Single Sample Max <math>\leq 2507</math></li> </ul>	<i>Enterococci (colonies/100 ml)</i> <p><u>June through September</u></p> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 35</math></li> <li>Single Sample Max <math>\leq 158</math></li> </ul> <p><u>October through May</u></p> <ul style="list-style-type: none"> <li>Single Sample Max <math>\leq 275</math></li> </ul>
<b>Limited Warmwater Fishery (LWF)</b>	<i>E. Coli (colonies/100 ml)</i> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 548</math></li> <li>Single Sample Max <math>\leq 2507</math></li> </ul>	<i>Enterococci (colonies/100 ml)</i> <ul style="list-style-type: none"> <li>Single Sample Max <math>\leq 275</math></li> </ul>
<b>Agricultural and Industrial Water Supply (A&amp;I)</b>	<i>E. Coli (colonies/100 ml)</i> <ul style="list-style-type: none"> <li>Geometric Mean <math>\leq 700</math></li> <li>Single Sample Max <math>\leq 3200</math></li> </ul>	<i>Enterococci (colonies/100 ml)</i> <ul style="list-style-type: none"> <li>Single Sample Max <math>\leq 500</math></li> </ul>

<sup>13</sup> Not to exceed the limits specified in the latest edition of the *National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish: 2007 Revision*, published by the Food and Drug Administration, U.S. Department of Health and Human Services.

#### 4.8.10 Consideration of Stream Flow and Method Detection Limits

During toxicant sampling in rivers or streams, the measured flow must be at or above the 7Q10 value for that location. In cases where the applicable water quality criterion is less than the method detection limit (MDL) for a particular pollutant and the concentration for the pollutant is reported as less than detection (<MDL), the Department will evaluate the data consistent with EPA guidance provided in “*Guidance for Data Quality Assessment*”, EPA QA/G-9, QA00 UPDATE, EPA, July 2000 and will use the approach that is appropriate for the data set.

These requirements are intended to ensure that existing water quality conditions are accurately portrayed, do not characterize transitional conditions, and that obsolete or inaccurate data are not used. In addition, the minimum data requirements may change on a case-by-case basis if pollutant sources upstream of the monitoring locations are likely. This determination will be made using information obtained from the Department’s geographic information system or other databases. Failure to meet the minimum data requirements for any waterbody type will place the waterbody in Category 2.

#### 4.8.11 Non-anthropogenic Impacts (Natural Conditions)

In the absence of known point and non-point sources or influences, ADEM will investigate if natural conditions [ADEM Administrative Code r. 335-6-10-.05(4)] are responsible for the deviation from water quality criteria. A determination that natural conditions are responsible will be made by examining all readily available sources of supporting data including the following: water quality data from ecoregion reference stations, land use, geology, biology, soils, hydrology, wildlife density, site visits and any other relevant data. If the deviation from water quality criteria are naturally occurring, then the waterbody(s) will be placed into Category 1. When comparing measured ambient water quality data to data collected at ecoregion stations for the purpose of establishing natural conditions as the sole reason for criterion exceedances, the ambient water quality results will generally be compared to the 90th percentile of the data measured at one or more ecoregion stations, except in the case of bacteria data.

#### 4.8.12 Application of Hardness Based Metals Criteria

For purposes of assessing compliance with the freshwater aquatic life criteria for metals calculated using the equations in ADEM Administrative Code r. 335-6-10-.07(1)(a), ambient in situ hardness measurements will be used to compute the aquatic life criteria. When hardness values are less than 25 mg/l and the measured hardness-dependent metal concentration exceeds the applicable aquatic life criterion, the ambient in situ hardness and metal concentrations will be compared to the ecoregion/unimpacted reference site hardness and metal concentration. If the mean ambient hardness concentration is statistically similar ( $p < 0.05$ ) to the mean ecoregion/unimpacted reference site and the metal concentration is statistically similar ( $p < 0.05$ ) to the mean ecoregion/unimpacted reference site, the exceedance of the aquatic life criterion for the hardness-dependent metal will be considered natural in the absence of potential anthropogenic sources.

### 4.9 Quality Control / Quality Assurance Requirements

Collection and analyses of all data (including chemical, physical, and biological) should be collected and analyzed consistent with the SOPs presented earlier. Study plans should reference

the SOP appropriate for the type of data being collected and should discuss how data quality will be documented. This should include a discussion of the quality control procedures followed during sample collection and analysis. These procedures should describe the number and type of field and laboratory quality control samples for the project, if appropriate for the type of sampling being conducted, field blanks, equipment blanks, split samples, duplicate samples, the name of the laboratory performing the analyses, name of the laboratory contact person, and the number and type of laboratory quality control samples.

While the Department will consider any existing and readily available data and information, the Department reserves the right to reject data or information in making use support decisions that do not comply with the minimum data requirements presented in this document. The decision not to use certain data will be documented in the ADB. The Department applies best professional judgment when considering datasets smaller than the specified minimum data requirements. In such instances, use support decisions are made on a case-by-case basis in consideration of ancillary data and information such as watershed characteristics, known pollutant sources, water quality trends or other environmental indicators.

#### 4.10 Minimum Sample Size and Allowable Number of Water Quality Criterion Exceedances

**Table 17** shows the allowable number of exceedances for various samples sizes up to 199 samples. The Department's annual sampling plans and available resources generally allow for at least eight samples per sampling location except in reservoirs where fewer samples (i.e. 3 samples) may be collected due to sample holding time and resource constraints. The number of exceedances in each range of sample sizes was calculated using the binomial distribution function. This number is the number of exceedances of a particular water quality criterion needed to say with 90% confidence that the criterion is exceeded in more than 10% of the population represented by the available samples. This table will be used to determine the number of exceedances of Alabama numeric water quality criteria listed in ADEM Administrative Code r. 335-6-10 (for dissolved oxygen, temperature, turbidity, pH, and bacteria), consistent with the assessment methodology for each use discussed earlier, necessary to establish that a waterbody segment is not fully supporting its designated uses. This approach is consistent with ADEM Administrative Code r. 335-6-10, which recognizes that natural conditions may cause sporadic excursions of numeric water quality criteria, and with EPA's 1997 305(b) guidance. For conventional water quality parameters, there must be at least eight temporally independent samples collected during the previous six-year period to be considered adequate for making use support determinations, except where fewer samples are determined to be adequate as discussed earlier. As used in this context, temporally independent means that the samples were collected at an interval appropriate to capture the expected variation in the parameter. For example, dissolved oxygen, temperature and pH measurements should capture the normal diurnal variation that occurs in the parameters and temporal independence may occur in several hours (i.e. morning versus afternoon). Measurements for turbidity and bacteria should typically be at least 24 hours apart.

It is the intent of the methodology to ensure that an adequate number of samples are available for use in the assessment process and for developing future monitoring plans. Smaller sample sizes may be appropriate in certain circumstances where there is a clear indication that exceedances of the criteria are not due to natural conditions. For example, a data set comprised of fewer than the

required minimum number of samples collected monthly may be sufficient to determine that a waterbody is not supporting its use when a significant number (more than two) exceed a particular criterion. Conversely, a data set with fewer than the required minimum number of samples collected monthly may be sufficient to determine that a waterbody is fully supporting its use if none of the samples exceed any of the criteria and there is sufficient supporting information to support this conclusion (i.e. biological assessment indicates full use support). The decision to use smaller data sets for making use support decisions will be made on a case-by-case basis using best professional judgment. The basis for these decisions will be documented in the ADB.

**Table 17: Minimum Number of Samples Exceeding the Numeric Criterion Necessary for Listing\***

Sample Size	Number of Exceedances	Sample Size	Number of Exceedances
8 thru 11	2	97 thru 104	14
12 thru 18	3	105 thru 113	15
19 thru 25	4	114 thru 121	16
26 thru 32	5	122 thru 130	17
33 thru 40	6	131 thru 138	18
41 thru 47	7	139 thru 147	19
48 thru 55	8	148 thru 156	20
56 thru 63	9	157 thru 164	21
64 thru 71	10	165 thru 173	22
72 thru 79	11	174 thru 182	23
80 thru 88	12	183 thru 191	24
89 thru 96	13	192 thru 199	25

\* - For conventional parameters, including bacteria, at the 90 percent confidence level

### **5.0 Removing a Waterbody from Category 5**

Waterbodies may be removed from a 303(d) list (category 5) for various reasons, including:

- Assessment of more recent water quality data demonstrates that the waterbody is meeting all applicable water quality standards. (Move to Category 1)
- A review of the original listing decision demonstrates that the waterbody should not have been included in Category 5. (Move to Category 1 or Category 2)
- TMDL has been completed. (Move to Category 4a)
- Other pollution control requirements are reasonably expected to result in the attainment of the water quality standards in the near future. These requirements must be specifically applicable to the particular water quality problem. (Move to Category 4b)
- Impairment is not caused by a pollutant. (Move to Category 4c)
- Natural causes – When it can be demonstrated the exceedance of a numeric water quality criterion is due to natural conditions and not to human disturbance activities. (Move to Category 1)

**Table 18** shows the allowable number of exceedances of criteria for conventional pollutants for various sample sizes and a 90% confidence level. This table will be used to determine the number of allowable exceedances of Alabama numeric water quality criteria for pollutants listed in ADEM Administrative Code r. 335-6-10, with the exception of chlorophyll *a* criteria and the toxics criteria listed in the appendix to ADEM Administrative Code r. 335-6-10, for the waterbody to be removed from a 303(d) list for a specific pollutant (move to Category 1). In addition, the original basis for listing the waterbody will be considered as a part of the delisting process. Included in this evaluation will be a review of pollutant sources to determine which ones may have been removed or remediated, changes in land practices or uses, installation of new treatment facilities or best management practices, and changes in stream hydrology or morphology.

**Table 18: Maximum Number of Samples Exceeding the Numeric Criterion Necessary for Delisting\***

Sample Size	Number of Exceedances	Sample Size	Number of Exceedances
8 thru 21	0	104 thru 115	7
22 thru 37	1	116 thru 127	8
38 thru 51	2	128 thru 139	9
52 thru 64	3	140 thru 151	10
65 thru 77	4	152 thru 163	11
78 thru 90	5	164 thru 174	12
91 thru 103	6	175 thru 186	13

\* - For conventional parameters, including bacteria, at the 90 percent confidence level

When a waterbody has been included in Category 5 due to a fish consumption advisory, the waterbody will be moved to Category 1 when subsequent fish tissue results indicate that pollutant concentrations have declined and a fish consumption advisory is no longer needed. The determination that a fish consumption advisory is no longer needed is made by the Alabama Department of Public Health.

For waters originally placed in Category 5 due to a specific toxic pollutant or specific toxic pollutants, there should be no violations of the appropriate criteria in a minimum of eight samples collected over a three-year period before the cause of impairment is removed or the water is placed in Category 1.

## **6.0 Estimating the Size of the Assessed Waterbody**

Waterbodies are assessed based on assessment units. Assessment units vary in size, depending on the waterbody type, watershed characteristics, designated use, and the location of monitoring stations. Individual assessments will lie completely within a designated use or a segment with multiple designated uses. For example, an assessment unit will not be partially within one designated use and partially within a different designated use. However, assessment units may be assigned more than one designated use as listed in ADEM Administrative Code r. 335-6-11. For example, an assessment unit may have classified uses of both Fish and Wildlife and Public Water Supply provided both uses are assigned to the entire assessment unit. An assessment unit

may be defined as a stream, the mainstem of a river, embayment, portion of a lake or reservoir, or a part of an estuary or coastal water.

A monitoring unit is defined as the watershed draining to a sampling location and is generally made up of many assessment units (individual reaches). A monitoring unit will generally have a drainage area of more than 5 square miles. When it is necessary to better characterize assessment units within the larger monitoring units, new monitoring units can be delineated based on the location of the additional sampling location or locations. Water quality data and information gathered at a sampling location, which defines a monitoring unit, will be the primary means for assigning a use support status to assessment units within the monitoring unit.

The spatial extent of each monitoring unit will be determined using information contained in the Department's Geographic Information System (GIS). Specifically, stream coverage contained within the National Hydrography Dataset (NHD) will be the basis for determining the size of assessed waters. This database of natural and constructed surface waters is a comprehensive set of digital spatial data that contains information about surface water features, such as lakes, ponds, streams, rivers, springs and wells. Within the NHD, surface water features are combined to form "reaches", which provide the framework for linking water-related data to the NHD surface drainage network. These linkages enable the analysis and display of these water-related data in upstream and downstream order. Characteristics such as stream length or reservoir area can be aggregated within a monitoring unit to estimate the size of assessed waters.

### **7.0 Ranking and Prioritizing Impaired Waters**

Section 303(d)(1) of the Clean Water Act requires each state to establish a priority ranking for waters it identifies on the 303(d) list (i.e., Category 5 waters) taking into account the severity of pollution and the designated uses of such waters.

The State of Alabama is to establish Total Maximum Daily Loads (TMDLs) in accordance with its priority ranking strategy; however, states are given considerable flexibility in establishing their ranking method based on their particular circumstances and available resources. In accordance with EPA's *Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program*, Alabama has determined priority waters from the 303(d) list for which TMDLs will be developed during FY2016 through FY2022. Factors that were considered in the development of the list of priority waters include:

- Pollutants of concern
- Degree of public interest and support for particular waterbodies
- General watershed management activities (e.g., 319 grant activities and watershed management planning)
- Existence of endangered and sensitive aquatic species
- Data availability
- Sources of the pollutants
- Designated uses of waterbodies

All waters placed on the 303(d) list will be given a priority ranking for TMDL development. Those waters identified as priority waters under the *Vision* will be given higher rankings, while those that are not currently identified as priority waters will be given lower rankings.

Alabama's IWQMAR will include proposed schedules (both long term and annually) for the development of TMDLs.

The Department will communicate with bordering states concerning the status of shared waters. When requested, the state will provide data concerning shared waters to the adjacent state.

### **8.0 Surface Water Quality Monitoring Plan**

The State has developed a Watershed Management Schedule and has been operating under the rotating basin plan since 1996. This schedule has the state divided into 5 river basin groups that have been sampled on a five-year rotating basis. From 2005 to 2014, the annual Surface Water Quality Monitoring Plan (SWQMP) was developed by a small group of program managers. Monitoring was concentrated in one target basin, in accordance with ADEM's 5-year basin rotation. ADEM's monitoring strategy for the plan was updated in 2015 to meet data needs for the next five-year monitoring cycle (CY 2015-2020). Beginning in 2015 monitoring is conducted in all of the five basin groups each year.

*Even Annual Statewide Target (EAST):* The ADEM set a statewide target number of 320 monitoring locations, based on analysis of the 2010-2014 stations and samples. This number represents the average number of locations monitored annually during this timeframe (the last 5- year basin rotation).

*Even Annual Basin Targets (EABT):* The 320 monitoring locations were divided among the five basin groups. The target number of stations for each basin group was based on the average number of stations monitored in that basin group, 2010-2014.

A Basin Plan was developed for each of the five basin groups. Each Basin Plan was developed by a team for the specific basins and the combination of these five individual basin plans make up the SWQMP.

This statewide annual monitoring approach enables ADEM to provide more frequent, intensive monitoring to stakeholders within each basin, and to accurately measure trends in water quality over time. They also provide level loading for ADEM's labs and field offices, making better use of ADEM's available resources. **Table 19** shows the basin groups for the five-year monitoring cycle.

**Table 19: River Basin Groups**

<b>River Basin Group</b>	<b>River Basins</b>
ACT	Alabama / Coosa / Tallapoosa
BWC	Black Warrior / Cahaba
EMPT	Escatawpa / Mobile / Perdido / Tombigbee
SEAL	Chattahoochee / Chipola / Choctawhatchee / Escambia
TN	Tennessee

### **9.0 Public Participation**

Alabama's IWQMAR will combine the Water Quality Inventory Report (§305(b)) with the Impaired Waterbodies (§303(d)) listing. Category 5 in the IWQMAR is considered the Impaired Waterbodies list. The remaining categories are considered the Water Quality Inventory. This methodology lays out the framework for assessing data and determining which of the five categories the waterbody will be assigned. The entire Integrated List will follow the same public process as the §303(d) listing but Categories 1 through 4 and the monitoring schedule will be provided for informational purposes only since these schedules are subject to change as resources allow.

The Department will solicit the submittal of data and information for use in developing the IWQMAR. The public notice requesting data will be published in four major newspapers in the state and on the Department's Website. The time period for submitting data will be specified in the public notice. Data submitted after the specified period will be considered in the development of subsequent IWQMAR Reports. The Department reviews all existing and readily available data and is committed to using only data with acceptable quality assurance to develop the IWQMAR. Only electronic data or data available in published reports are considered "readily available".

The Department will publish notice of the availability of the Integrated Water Quality Monitoring and Assessment Methodology and Draft Integrated Report in four major newspapers of general circulation throughout the State and on the Department Website. Adjacent states, federal agencies and interstate agencies shall also be noticed as necessary. The Department will coordinate with neighboring states during the development of the IWQMAR, as needed. The comment period on a proposed Category 5 (§303(d)) list will be a minimum of 30 days.

The IWQMAR, which will include the integrated list, expected monitoring schedules, TMDL schedules, as well as any other information usually included in the §305(b) Report, will be submitted to the USEPA as required by §305(b) of the Clean Water Act. The Department will post the availability of the IWQMAR on its web page at that time.

## **10.0 References**

ADEM, 2014. ADEM Administrative Code r. 335-6-10, Water Quality Criteria. Alabama Department of Environmental Management, Montgomery, AL.

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ADPH, 2007. ADPH, Seafood Branch. Area I-II-III Triennial Report – 2006, 2007, 2008. Alabama Department of Public Health, Montgomery, AL.

EPA, 2000. Guidance: Use of Fish and Shellfish Advisories and Classifications in 303(d) and 305(b) Listing Decisions, Geoffrey H. Grubbs and Robert H. Wayland, III, October 24, 2000. United States Environmental Protection Agency, Washington, DC.

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O'Neil, P.E., and Shepard, T.E., 2007, Delineation of ichthyoregions in Alabama for use with the index of biotic integrity: Alabama Geological Survey Open-File Report 0711, 34 p.

O'Neil, PE, and Shepard, TE, 2012, Calibration of the index of biotic integrity for the Southern Plains ichthyoregion in Alabama: Alabama Geological Survey, Open-File Report 1210,126 p.

O'Neil, PE, and Shepard, TE, 2011, Calibration of the index of biotic integrity for the Hills and Coastal Terraces ichthyoregion in Alabama: Alabama Geological Survey, Open-File Report 1116,135 p.

O'Neil, P. and Shepard, TE, 2011, Calibration of the index of biotic integrity for the Plateau ichthyoregion in Alabama: Alabama Geological Survey, Open-File Report 1111, 117 p.

O'Neil, PE, and Shepard, TE, 2011, Calibration of the index of biotic integrity for the Ridge and Valley/Piedmont ichthyoregion in Alabama: Alabama Geological Survey, Open-File Report 1109, 140 p.

O'Neil, P and Shepard, TE, 2010, Calibration of the index of biotic integrity for the Tennessee Valley ichthyoregion in Alabama: Alabama Geological Survey, Open-File Report 1004, 126 p.

## **Appendix B**

### **Categorization of Alabama Waters**



## Categorization of Alabama Waters

### Category 1 - River and Stream

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150201-0104-301	Three Mile Branch	Alabama	F&W	Galbraith Mill Creek	Lower Wetumpka Road	1	0.24	miles
AL03150201-0201-100	Bridge Creek	Alabama	F&W	Autauga Creek	its source	1	11.99	miles
AL03150201-0203-101	Autauga Creek	Alabama	F&W	Alabama River	Matthews Branch	1	7.28	miles
AL03150201-0203-102	Autauga Creek	Alabama	S/F&W	Matthews Branch	its source	1	26.82	miles
AL03150201-0602-100	White Water Creek	Alabama	F&W	Swift Creek	Its source	1	9.50	miles
AL03150201-0603-100	Swift Creek	Alabama	S/F&W	Swift Creek embayment	its source	1	38.54	miles
AL03150201-0807-100	Big Swamp Creek	Alabama	S/F&W	Alabama River	its source	1	56.41	miles
AL03150201-1001-100	Benson Creek	Alabama	F&W	Mulberry Creek	its source	1	11.38	miles
AL03150201-1005-100	Buck Creek	Alabama	F&W	Mulberry Creek	its source	1	21.33	miles
AL03150201-1006-102	Mulberry Creek	Alabama	F&W	Harris Branch	its source	1	23.91	miles
AL03150201-1101-103	Valley Creek	Alabama	S/F&W	Valley Creek Lake	its source	1	6.07	miles
AL03150201-1102-101	Valley Creek	Alabama	F&W	Alabama River	Selma-Summerfield Road	1	7.27	miles
AL03150201-1102-102	Valley Creek	Alabama	S/F&W	Selma-Summerfield Road	Valley Creek Lake dam	1	15.22	miles
AL03150201-1203-100	Soapstone Creek	Alabama	F&W	Alabama River	its source	1	17.52	miles
AL03150201-1207-101	Alabama River	Alabama	S/F&W	Cahaba River	Six Mile Creek	1	5.36	miles
AL03150201-1207-102	Alabama River	Alabama	F&W	Sixmile Creek	Robert F Henry Lock and Dam	1	42.43	miles
AL03150203-0106-110	Chaney Creek	Alabama	F&W	Bogue Chitto Creek	its source	1	17.12	miles
AL03150203-0203-100	Wolf Creek	Alabama	F&W	Cedar Creek	its source	1	21.98	miles
AL03150203-0209-100	Cedar Creek	Alabama	S/F&W	Alabama River	its source	1	64.46	miles
AL03150203-0404-100	Turkey Creek	Alabama	F&W	Pine Barren Creek	its source	1	18.84	miles
AL03150203-0408-100	Pine Barren Creek	Alabama	S/F&W	Dannelly Lake	its source	1	62.58	miles
AL03150203-0505-102	Alabama River	Alabama	S/F&W	Bogue Chitto Creek	Cahaba River	1	27.73	miles
AL03150203-0605-200	Cub Creek	Alabama	F&W	Beaver Creek	its source	1	12.94	miles
AL03150204-0101-100	Tallatchee Creek	Alabama	F&W	Tallatchee Creek embayment	its source	1	22.23	miles
AL03150204-0104-100	Silver Creek	Alabama	F&W	Alabama River	its source	1	13.42	miles
AL03150204-0205-210	Bear Creek	Alabama	F&W	Big Flat Creek	its source	1	8.75	miles
AL03150204-0206-500	Holly Mill Creek	Alabama	F&W	Big Flat Creek	its source	1	9.05	miles
AL03150204-0302-200	Walkers Creek	Alabama	F&W	Limestone Creek	its source	1	8.24	miles
AL03150204-0302-300	Brushy Creek	Alabama	F&W	Limestone Creek	its source	1	8.08	miles
AL03150204-0705-110	Alabama River	Alabama	F&W	Mobile River	Pigeon Creek	1	68.45	miles
AL03160109-0202-110	Marriott Creek	Black Warrior	F&W	Mulberry Fork	its source	1	14.10	miles
AL03160109-0205-500	Rice Creek	Black Warrior	F&W	Mulberry Fork	its source	1	8.60	miles
AL03160109-0401-100	Mill Creek	Black Warrior	F&W	Lost Creek	its source	1	11.44	miles
AL03160109-0404-101	Cane Creek (Oakman)	Black Warrior	F&W	Lost Creek	Dixie Springs Road	1	7.15	miles
AL03160109-0404-102	Cane Creek (Oakman)	Black Warrior	LWF	Dixie Springs Road	Alabama Highway 69	1	3.49	miles
AL03160109-0404-103	Cane Creek (Oakman)	Black Warrior	F&W	Alabama Highway 69	its source	1	7.38	miles
AL03160109-0601-101	Cane Creek	Black Warrior	LWF	Mulberry Fork	Town Creek	1	10.58	miles
AL03160109-0601-901	Town Creek	Black Warrior	LWF	Cane Creek	100 yards upstream of Southern Railway crossing	1	1.10	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160110-0101-100	Borden Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	16.61	miles
AL03160110-0101-116	unnamed tributaries to Borden Creek	Black Warrior	F&W	Borden Creek	Their source	1	23.35	miles
AL03160110-0101-210	Braziel Creek	Black Warrior	F&W	Borden Creek	Its source	1	5.69	miles
AL03160110-0101-215	unnamed tributaries to Braziel Creek	Black Warrior	F&W	Braziel Creek	Their source	1	13.77	miles
AL03160110-0101-310	Flannagin Creek	Black Warrior	F&W	Borden Creek	Its source	1	9.99	miles
AL03160110-0101-315	unnamed tributaries to Flannagin Creek	Black Warrior	F&W	Flannagin Creek	Their source	1	15.49	miles
AL03160110-0101-410	Horse Creek	Black Warrior	F&W	Borden Creek	Its source	1	1.76	miles
AL03160110-0101-415	unnamed tributaries to Horse Creek	Black Warrior	F&W	Horse Creek	Their source	1	2.30	miles
AL03160110-0101-510	Montgomery Creek	Black Warrior	F&W	Borden Creek	Its source	1	3.99	miles
AL03160110-0101-515	unnamed tributaries to Montgomery Creek	Black Warrior	F&W	Montgomery Creek	Their source	1	8.99	miles
AL03160110-0101-610	Hagood Creek	Black Warrior	F&W	Braziel Creek	Its source	1	4.23	miles
AL03160110-0101-615	unnamed tributaries to Hagood Creek	Black Warrior	F&W	Hagood Creek	Their source	1	7.57	miles
AL03160110-0101-710	Dry Creek	Black Warrior	F&W	Flannagin Creek	Its source	1	2.17	miles
AL03160110-0101-715	unnamed tributaries to Dry Creek	Black Warrior	F&W	Dry Creek	Their source	1	2.80	miles
AL03160110-0102-110	Parker Branch	Black Warrior	F&W	Hubbard Creek	Its source	1	3.82	miles
AL03160110-0102-114	unnamed tributaries to Parker Branch	Black Warrior	F&W	Parker Branch	Their source	1	3.35	miles
AL03160110-0102-115	unnamed tributaries to Sipsey Fork	Black Warrior	F&W	Sipsey Fork	Their source	1	9.69	miles
AL03160110-0102-120	Whitman Creek	Black Warrior	F&W	Hubbard Creek	Its source	1	3.73	miles
AL03160110-0102-125	unnamed tributaries to Whitman Creek	Black Warrior	F&W	Whitman Creek	Their source	1	4.53	miles
AL03160110-0102-130	Maxwell Creek	Black Warrior	F&W	Hubbard Creek	Its source	1	2.02	miles
AL03160110-0102-135	unnamed tributaries to Maxwell Creek	Black Warrior	F&W	Maxwell Creek	Their source	1	1.55	miles
AL03160110-0102-140	Basin Creek	Black Warrior	F&W	Hubbard Creek	Its source	1	2.81	miles
AL03160110-0102-145	unnamed tributaries to Basin Creek	Black Warrior	F&W	Basin Creek	Their source	1	4.39	miles
AL03160110-0102-150	Dunn Branch	Black Warrior	F&W	Maxwell Creek	Its source	1	1.33	miles
AL03160110-0102-160	Natural Well Branch	Black Warrior	F&W	Maxwell Creek	Its source	1	1.45	miles
AL03160110-0102-165	unnamed tributary to Natural Well Branch	Black Warrior	F&W	Natural Well Branch	Its source	1	0.60	miles
AL03160110-0102-170	White Oak Branch	Black Warrior	F&W	Thompson Creek	Its source	1	1.69	miles
AL03160110-0102-175	unnamed tributaries to White Oak Branch	Black Warrior	F&W	White Oak Branch	Their source	1	0.61	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160110-0102-180	Wolf Pen Branch	Black Warrior	F&W	Sipsey Fork	Its source	1	1.00	miles
AL03160110-0102-190	Ugly Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	3.05	miles
AL03160110-0102-195	unnamed tributaries to Ugly Creek	Black Warrior	F&W	Ugly Creek	Their source	1	4.46	miles
AL03160110-0102-210	Fall Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	2.06	miles
AL03160110-0102-215	unnamed tributaries to Fall Creek	Black Warrior	F&W	Fall Creek	Their source	1	0.70	miles
AL03160110-0102-310	Bee Branch	Black Warrior	F&W	Sipsey Fork	Its source	1	2.09	miles
AL03160110-0102-315	unnamed tributaries to Bee Branch	Black Warrior	F&W	Bee Branch	Their source	1	2.95	miles
AL03160110-0102-410	Thompson Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	8.59	miles
AL03160110-0102-415	unnamed tributaries to Thompson Creek	Black Warrior	F&W	Thompson Creek	Their source	1	15.29	miles
AL03160110-0102-510	Hubbard Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	6.59	miles
AL03160110-0102-515	unnamed tributaries to Hubbard Creek	Black Warrior	F&W	Hubbard Creek	Their source	1	5.30	miles
AL03160110-0102-610	Tedford Creek	Black Warrior	F&W	Thompson Creek	Its source	1	3.68	miles
AL03160110-0102-615	unnamed tributaries to Tedford Creek	Black Warrior	F&W	Tedford Creek	Their source	1	10.40	miles
AL03160110-0102-710	Mattox Creek	Black Warrior	F&W	Thompson Creek	Its source	1	3.26	miles
AL03160110-0102-715	unnamed tributaries to Mattox Creek	Black Warrior	F&W	Mattox Creek	Their source	1	7.73	miles
AL03160110-0102-800	Ross Branch	Black Warrior	F&W	Tedford Creek	Its source	1	2.06	miles
AL03160110-0102-805	unnamed tributaries to Ross Branch	Black Warrior	F&W	Ross Branch	Their source	1	2.07	miles
AL03160110-0102-900	Quillan Creek	Black Warrior	F&W	Hubbard Creek	Its source	1	3.77	miles
AL03160110-0102-905	unnamed tributaries to Quillan Creek	Black Warrior	F&W	Quillan Creek	Their source	1	6.68	miles
AL03160110-0103-105	unnamed tributaries to Sipsey Fork	Black Warrior	F&W	Sipsey Fork	Their source	1	28.32	miles
AL03160110-0103-200	Payne Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	3.89	miles
AL03160110-0103-205	unnamed tributaries to Payne Creek	Black Warrior	F&W	Payne Creek	Their source	1	6.11	miles
AL03160110-0103-300	Caney Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	4.66	miles
AL03160110-0103-305	unnamed tributaries to Caney Creek	Black Warrior	F&W	Caney Creek	Their source	1	10.21	miles
AL03160110-0103-400	Hurricane Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	2.29	miles
AL03160110-0103-405	unnamed tributaries to Hurricane Creek	Black Warrior	F&W	Hurricane Creek	Their source	1	2.56	miles
AL03160110-0103-500	Davis Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	2.83	miles
AL03160110-0103-505	unnamed tributaries to Davis Creek	Black Warrior	F&W	Davis Creek	Their source	1	8.94	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160110-0103-600	North Fork Caney Creek	Black Warrior	F&W	Caney Creek	Its source	1	6.38	miles
AL03160110-0103-605	unnamed tributaries to North Fork Caney Creek	Black Warrior	F&W	North Fork Caney Creek	Their source	1	19.65	miles
AL03160110-0103-700	South Fork Caney Creek	Black Warrior	F&W	Caney Creek	Its source	1	5.04	miles
AL03160110-0103-705	unnamed tributaries to South Fork Caney Creek	Black Warrior	F&W	South Fork Caney Creek	Their source	1	8.69	miles
AL03160110-0103-800	Lloyds Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	1.11	miles
AL03160110-0103-805	unnamed tributaries to Lloyds Creek	Black Warrior	F&W	Lloyds Creek	Their source	1	0.62	miles
AL03160110-0103-900	Sweetwater Creek	Black Warrior	F&W	Caney Creek	Its source	1	1.23	miles
AL03160110-0103-905	unnamed tributaries to Sweetwater Creek	Black Warrior	F&W	Sweetwater Creek	Their source	1	0.70	miles
AL03160110-0104-102	Sipsey Fork	Black Warrior	F&W	Grindstone Creek	Sandy Creek	1	0.89	miles
AL03160110-0104-103	Sipsey Fork	Black Warrior	F&W	Sandy Creek	Its source	1	21.23	miles
AL03160110-0104-500	Sandy Creek	Black Warrior	F&W	Sipsey Fork	Its source	1	10.83	miles
AL03160110-0201-200	Rush Creek	Black Warrior	F&W	Brushy Creek	Its source	1	9.06	miles
AL03160110-0202-200	Capsey Creek	Black Warrior	F&W	Brushy Creek	Its source	1	13.47	miles
AL03160110-0203-102	Brushy Creek	Black Warrior	PWS/F&W	Lewis Smith Lake	Highway 278	1	1.13	miles
AL03160110-0203-103	Brushy Creek	Black Warrior	F&W	Highway 278	Its source	1	29.85	miles
AL03160110-0203-110	Inman Creek	Black Warrior	F&W	Brushy Creek	Its source	1	5.79	miles
AL03160110-0402-100	Rock Creek	Black Warrior	F&W	Blevens Creek	Its source	1	14.43	miles
AL03160110-0407-202	White Oak Creek	Black Warrior	F&W	Lewis Smith Lake	Its source	1	7.72	miles
AL03160110-0507-101	Sipsey Fork	Black Warrior	PWS/F&W	Mulberry Fork	Lewis Smith Dam	1	13.92	miles
AL03160111-0202-103	Locust Fork	Black Warrior	F&W	Blount County Road 30	Slab Creek	1	5.90	miles
AL03160111-0202-104	Locust Fork	Black Warrior	S/F&W	Slab Creek	Its source	1	35.70	miles
AL03160111-0204-102	Blackburn Fork	Black Warrior	PWS/S	Inland Lake	Highland Lake Dam	1	3.33	miles
AL03160111-0204-104	Blackburn Fork	Black Warrior	PWS/S	Highland Lake	Its source	1	6.42	miles
AL03160111-0206-101	Calvert Prong	Black Warrior	F&W	Little Warrior River	Calvert Prong dam above U.S. Highway 231	1	13.36	miles
AL03160111-0206-102	Calvert Prong	Black Warrior	PWS	Calvert Prong dam above U.S. Highway 231	Its source	1	13.99	miles
AL03160111-0207-100	Little Warrior River	Black Warrior	F&W	Locust Fork	Its source	1	6.98	miles
AL03160111-0207-300	Blackburn Fork	Black Warrior	F&W	Little Warrior River	Inland Lake Dam	1	11.63	miles
AL03160111-0207-900	Hendrick Mill Branch	Black Warrior	F&W	Blackburn Fork	Its source	1	3.91	miles
AL03160111-0304-100	Gurley Creek	Black Warrior	F&W	Locust Fork	Its source	1	23.07	miles
AL03160111-0411-100	Short Creek	Black Warrior	F&W	Locust Fork	Its source	1	9.34	miles
AL03160112-0105-101	Mud Creek	Black Warrior	F&W	Valley Creek	Big Branch	1	14.12	miles
AL03160112-0301-100	Blue Creek	Black Warrior	F&W	Black Warrior River	Its source	1	18.49	miles

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Appendix B

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160112-0303-110	Davis Creek	Black Warrior	F&W	Black Warrior River	Its source	1	39.00	miles
AL03160112-0401-200	Deadwater Creek	Black Warrior	F&W	Clear Creek	Its source	1	8.13	miles
AL03160112-0404-100	Tyro Creek	Black Warrior	F&W	North River	Its source	1	12.67	miles
AL03160112-0406-100	Bear Creek	Black Warrior	F&W	North River	Its source	1	11.12	miles
AL03160112-0409-100	Barbee Creek	Black Warrior	F&W	Binion Creek	Its source	1	10.29	miles
AL03160112-0410-100	Binion Creek	Black Warrior	F&W	Lake Tuscaloosa	Its source	1	14.06	miles
AL03160112-0501-103	Yellow Creek	Black Warrior	PWS	Little Yellow Creek	Its source	1	10.47	miles
AL03160113-0103-100	South Sandy Creek	Black Warrior	F&W	Big Sandy Creek	Its source	1	14.86	miles
AL03160113-0401-103	Fivemile Creek	Black Warrior	F&W	Payne Lake	Its source	1	5.04	miles
AL03160113-0602-300	Carthage Branch	Black Warrior	F&W	Warrior Lake	Its source	1	3.98	miles
AL03160113-0604-200	Gabriel Creek	Black Warrior	F&W	Warrior Lake	Its source	1	17.00	miles
AL03140104-0103-100	Bear Creek	Blackwater	F&W	Panther Creek	Its source	1	10.70	miles
AL03150202-0103-101	Little Cahaba River	Cahaba	PWS	Cahaba River	Lake Purdy dam	1	4.82	miles
AL03150202-0103-103	Little Cahaba River	Cahaba	F&W	Lake Purdy	Its source	1	13.75	miles
AL03150202-0203-112	Buck Creek	Cahaba	LWF	Cahaba Valley Creek	Shelby County Road 44	1	6.02	miles
AL03150202-0204-800	Little Shades Creek	Cahaba	F&W	Cahaba River	Its source	1	7.40	miles
AL03150202-0205-100	Piney Woods Creek	Cahaba	F&W	Cahaba River	Its source	1	7.64	miles
AL03150202-0302-101	Mud Creek	Cahaba	F&W	Shades Creek	Tannehill Iron Works	1	3.68	miles
AL03150202-0403-200	Mayberry Creek	Cahaba	F&W	Shoal Creek	Its source	1	8.51	miles
AL03150202-0405-110	Little Cahaba River	Cahaba	OAW/F&W	Cahaba River	Its source	1	16.54	miles
AL03150202-0405-200	Fourmile Creek	Cahaba	F&W	Little Cahaba River	Its source	1	5.64	miles
AL03150202-0603-200	Goose Creek	Cahaba	F&W	Cahaba River	Its source	1	7.67	miles
AL03150202-0703-400	Silver Creek	Cahaba	F&W	Cahaba River	Its source	1	3.76	miles
AL03150202-0802-700	Holsombech Creek	Cahaba	F&W	Oakmulgee Creek	Its source	1	5.55	miles
AL03150202-0804-100	Little Oakmulgee Creek	Cahaba	S	Oakmulgee Creek	Its source	1	18.69	miles
AL03150202-0902-100	Cahaba River	Cahaba	OAW/S	Alabama River	Alabama Highway 82	1	89.50	miles
AL03130002-0806-102	Wehadkee Creek	Chattahoochee	F&W	Alabama-Georgia state line	Its source	1	24.66	miles
AL03130002-0901-100	Wells Creek	Chattahoochee	F&W	Oseligee Creek	Its source	1	12.60	miles
AL03130002-0902-200	Finley Creek	Chattahoochee	F&W	Oseligee Creek	Its source	1	4.72	miles
AL03130002-0903-400	Barrow Creek	Chattahoochee	F&W	Oseligee Creek	Its source	1	7.54	miles
AL03130002-0908-101	Chattahoochee River	Chattahoochee	F&W	Johnson Island	West Point Manufacturing Company water supply intake at Lanett	1	12.56	miles
AL03130002-0908-102	Chattahoochee River	Chattahoochee	PWS	West Point Manufacturing Company water supply intake at Lanett	West Point Dam	1	4.20	miles
AL03130002-1104-100	Wildcat Creek	Chattahoochee	F&W	Osanippa Creek	Its source	1	7.15	miles
AL03130002-1104-200	Snapper Creek	Chattahoochee	F&W	Wildcat Creek	Its source	1	13.10	miles
AL03130002-1105-100	Osanippa Creek	Chattahoochee	F&W	Lake Harding	Its source	1	27.32	miles
AL03130002-1108-100	Halawakee Creek	Chattahoochee	PWS/F&W	Lake Harding	Three miles upstream of County Road 79	1	2.21	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03130003-0502-110	Adams Branch	Chattahoochee	F&W	Uchee Creek	Its source	1	6.62	miles
AL03130003-0803-102	Hatchechubbee Creek	Chattahoochee	F&W	Russell County Highway 4	Its source	1	17.12	miles
AL03130003-0804-100	Hatchechubbee Creek	Chattahoochee	S/F&W	Walter F George Lake	Russell County Highway 4	1	7.01	miles
AL03130003-1003-100	Middle Fork Cowikee Creek	Chattahoochee	S/F&W	North Fork Cowikee Creek	Its source	1	48.33	miles
AL03130003-1205-200	North Fork Cowikee Creek	Chattahoochee	F&W	Walter F George Lake	Its source	1	43.85	miles
AL03130003-1304-100	Leak Creek	Chattahoochee	F&W	Barbour Creek	Its source	1	11.02	miles
AL03130004-0104-100	McRae Mill Creek	Chattahoochee	F&W	Chattahoochee River	Its source	1	7.62	miles
AL03130004-0602-201	Poplar Spring Branch	Chattahoochee	F&W	Omusee Creek	Ross Clark Circle	1	2.13	miles
AL03130004-0701-100	Cedar Creek	Chattahoochee	F&W	Chattahoochee River	Its source	1	11.51	miles
AL03140201-0207-110	East Fork Choctawhatchee River	Choctawhatchee	S/F&W	Blackwood Creek	Its source	1	47.03	miles
AL03140201-0208-100	East Fork Choctawhatchee River	Choctawhatchee	S/F&W	Choctawhatchee River	Blackwood Creek	1	7.34	miles
AL03140201-0208-300	Seabes Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	1	7.16	miles
AL03140201-0304-110	Judy Creek	Choctawhatchee	F&W	West Fork Choctawhatchee River	Its source	1	23.64	miles
AL03140201-0402-300	Pauls Creek	Choctawhatchee	F&W	West Fork Choctawhatchee River	Its source	1	7.59	miles
AL03140201-0502-110	Bear Creek	Choctawhatchee	F&W	Little Choctawhatchee River	Its source	1	11.41	miles
AL03140202-0205-300	Dry Creek	Choctawhatchee	F&W	Pea River	Its source	1	6.29	miles
AL03140202-0401-101	Walnut Creek	Choctawhatchee	F&W	Whitewater Creek	Pike County Road 3304	1	3.58	miles
AL03140202-0401-103	Walnut Creek	Choctawhatchee	F&W	US Highway 231	Its source	1	6.14	miles
AL03140202-0407-100	Big Creek	Choctawhatchee	F&W	Whitewater Creek	Its source	1	26.05	miles
AL03140202-0409-100	Whitewater Creek	Choctawhatchee	F&W	Pea River	Its source	1	41.95	miles
AL03140202-0503-100	Clearwater Creek	Choctawhatchee	F&W	Pea River	Its source	1	10.07	miles
AL03140202-0506-100	Pea River	Choctawhatchee	F&W	Red Oak Creek	Halls Creek	1	8.08	miles
AL03140202-0610-101	Pea River	Choctawhatchee	F&W	Flat Creek	Snake Branch	1	12.11	miles
AL03150105-0206-600	UT to Ballplay Creek	Coosa	F&W	Weiss Lake	Its source	1	4.61	miles
AL03150105-0502-100	Mills Creek	Coosa	F&W	Chattooga River	Alabama-Georgia state line	1	21.59	miles
AL03150105-0605-102	Chattooga River	Coosa	F&W	Weiss Lake	Alabama-Georgia state line	1	8.57	miles
AL03150105-0702-101	Middle Fork Little River	Coosa	PWS/S/F&W	East Fork Little River	Alabama-Georgia state line	1	2.44	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150105-0702-105	unnamed tributaries to Middle Fork Little River	Coosa	PWS/S/F&W	Middle Fork Little River	Their source	1	2.91	miles
AL03150105-0702-200	Brush Creek	Coosa	PWS/S/F&W	Middle Fork Little River	Its source	1	3.04	miles
AL03150105-0702-205	unnamed tributaries to Brush Creek	Coosa	PWS/S/F&W	Brush Creek	Their source	1	5.79	miles
AL03150105-0702-300	Anna Branch	Coosa	PWS/S/F&W	Middle Fork Little River	Its source	1	2.18	miles
AL03150105-0702-305	unnamed tributaries to Anna Branch	Coosa	PWS/S/F&W	Anna Branch	Their source	1	1.62	miles
AL03150105-0702-400	Blalock Branch	Coosa	PWS/S/F&W	Anna Branch	Its source	1	3.46	miles
AL03150105-0702-405	unnamed tributaries to Blalock Branch	Coosa	PWS/S/F&W	Blalock Branch	Their source	1	2.15	miles
AL03150105-0702-500	Stillhouse Branch	Coosa	PWS/S/F&W	Blalock Branch	Its source	1	1.09	miles
AL03150105-0702-505	unnamed tributaries to Stillhouse Branch	Coosa	PWS/S/F&W	Stillhouse Branch	Their source	1	0.79	miles
AL03150105-0703-201	East Fork West Fork Little River	Coosa	PWS/S/F&W	West Fork Little River	Alabama-Georgia state line	1	0.47	miles
AL03150105-0704-100	West Fork Little River	Coosa	PWS/S/F&W	Little River	Alabama-Georgia state line	1	18.87	miles
AL03150105-0704-105	unnamed tributaries to West Fork Little River	Coosa	PWS/S/F&W	West Fork Little River	Their source	1	41.51	miles
AL03150105-0704-200	Straight Creek	Coosa	PWS/S/F&W	West Fork Little River	Its source	1	4.45	miles
AL03150105-0704-205	unnamed tributaries to Straight Creek	Coosa	PWS/S/F&W	Straight Creek	Their source	1	3.77	miles
AL03150105-0704-300	Sharp Branch	Coosa	PWS/S/F&W	West Fork Little River	Its source	1	1.39	miles
AL03150105-0704-305	unnamed tributaries to Sharp Branch	Coosa	PWS/S/F&W	Sharp Branch	Its source	1	0.67	miles
AL03150105-0704-400	Seymour Branch	Coosa	PWS/S/F&W	West Fork Little River	Its source	1	2.48	miles
AL03150105-0705-110	East Fork Little River	Coosa	PWS/S/F&W	Little River	Its source	1	9.55	miles
AL03150105-0705-115	unnamed tributaries to East Fork Little River	Coosa	PWS/S/F&W	East Fork Little River	Their source	1	19.75	miles
AL03150105-0705-210	Laurel Creek	Coosa	PWS/S/F&W	East Fork Little River	Its source	1	3.97	miles
AL03150105-0705-215	unnamed tributaries to Laurel Creek	Coosa	PWS/S/F&W	Laurel Creek	Their source	1	4.43	miles
AL03150105-0705-310	Gilbert Branch	Coosa	PWS/S/F&W	East Fork Little River	Its source	1	1.83	miles
AL03150105-0705-315	unnamed tributaries to Gilbert Branch	Coosa	PWS/S/F&W	Gilbert Branch	Their source	1	1.66	miles
AL03150105-0705-405	unnamed tributaries to Shrader Branch	Coosa	PWS/S/F&W	Shrader Branch	Their source	1	1.33	miles
AL03150105-0705-410	Shrader Branch	Coosa	PWS/S/F&W	Laurel Creek	Its source	1	1.95	miles
AL03150105-0705-500	Armstrong Branch	Coosa	PWS/S/F&W	Laurel Creek	Its source	1	1.75	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150105-0705-505	unnamed tributaries to Armstrong Branch	Coosa	PWS/S/F&W	Armstrong Branch	Their source	1	4.13	miles
AL03150105-0801-100	Yellow Creek	Coosa	PWS/S/F&W	Little River	Its source	1	7.06	miles
AL03150105-0801-115	unnamed tributaries to Yellow Creek	Coosa	PWS/S/F&W	Yellow Creek	Their source	1	14.96	miles
AL03150105-0801-210	Straight Creek	Coosa	PWS/S/F&W	Yellow Creek	Its source	1	3.03	miles
AL03150105-0801-215	unnamed tributaries to Straight Creek	Coosa	PWS/S/F&W	Straight Creek	Their source	1	4.54	miles
AL03150105-0802-115	unnamed tributaries to Little River	Coosa	PWS/S/F&W	Little River	Their source	1	29.23	miles
AL03150105-0802-210	Hurricane Creek	Coosa	PWS/S/F&W	Little River	Its source	1	6.67	miles
AL03150105-0802-215	unnamed tributaries to Hurricane Creek	Coosa	PWS/S/F&W	Hurricane Creek	Their source	1	11.69	miles
AL03150105-0803-100	Bear Creek	Coosa	PWS/S/F&W	Little River	Its source	1	8.67	miles
AL03150105-0803-105	unnamed tributaries to Bear Creek	Coosa	PWS/S/F&W	Bear Creek	Their source	1	11.94	miles
AL03150105-0803-200	Falls Branch	Coosa	PWS/S/F&W	Bear Creek	Its source	1	2.47	miles
AL03150105-0803-205	unnamed tributaries to Falls Branch	Coosa	PWS/S/F&W	Falls Branch	Their source	1	1.67	miles
AL03150105-0803-300	Hicks Creek	Coosa	PWS/S/F&W	Bear Creek	Its source	1	3.42	miles
AL03150105-0803-305	unnamed tributaries to Hicks Creek	Coosa	PWS/S/F&W	Hicks Creek	Their source	1	2.00	miles
AL03150105-0804-100	Johnnies Creek	Coosa	PWS/S/F&W	Little River	Its source	1	11.63	miles
AL03150105-0804-105	unnamed tributaries to Johnnies Creek	Coosa	PWS/S/F&W	Johnnies Creek	Their source	1	24.92	miles
AL03150105-0804-200	Camprock Creek	Coosa	PWS/S/F&W	Johnnies Creek	Its source	1	3.40	miles
AL03150105-0804-205	unnamed tributaries to Camprock Creek	Coosa	PWS/S/F&W	Camprock Creek	Their source	1	2.65	miles
AL03150105-0804-300	Dry Creek	Coosa	PWS/S/F&W	Johnnies Creek	Its source	1	2.37	miles
AL03150105-0804-305	unnamed tributaries to Dry Creek	Coosa	PWS/S/F&W	Dry Creek	Their source	1	3.29	miles
AL03150105-0805-100	Wolf Creek	Coosa	PWS/S/F&W	Little River	Its source	1	9.51	miles
AL03150105-0805-105	unnamed tributaries to Wolf Creek	Coosa	PWS/S/F&W	Wolf Creek	Their source	1	36.20	miles
AL03150105-0806-100	Little River	Coosa	PWS/S/F&W	Weiss Lake	Its source	1	22.19	miles
AL03150105-0806-105	unnamed tributaries to Little River	Coosa	PWS/S/F&W	Little River	Their source	1	42.86	miles
AL03150105-0806-200	Brooks Branch	Coosa	PWS/S/F&W	Little River	Its source	1	1.68	miles
AL03150105-0806-205	unnamed tributary to Brooks Branch	Coosa	PWS/S/F&W	Brooks Branch	Its source	1	0.74	miles
AL03150105-0901-100	South Fork Terrapin Creek	Coosa	F&W	Terrapin Creek	Its source	1	11.36	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150105-0905-100	Nances Creek	Coosa	F&W	Terrapin Creek	Its source	1	13.48	miles
AL03150105-0906-102	Terrapin Creek	Coosa	PWS/F&W	US Highway 278	Calhoun County Road 70	1	3.58	miles
AL03150105-0906-103	Terrapin Creek	Coosa	F&W	Calhoun County Road 70	Alabama-Georgia state line	1	21.07	miles
AL03150105-0907-100	Hurricane Creek	Coosa	F&W	Terrapin Creek	Its source	1	15.85	miles
AL03150105-0907-300	Wolf Branch	Coosa	F&W	Hurricane Creek	Its source	1	2.61	miles
AL03150105-0908-102	Terrapin Creek	Coosa	F&W	Cherokee County Road 8	US Highway 278	1	2.92	miles
AL03150105-0909-101	Terrapin Creek	Coosa	S/F&W	Coosa River	Cherokee County Road 8	1	20.65	miles
AL03150106-0101-102	Big Wills Creek	Coosa	PWS/F&W	100 yards below Allen Branch	Its source	1	7.51	miles
AL03150106-0103-100	Big Wills Creek	Coosa	F&W	Little Sand Valley Creek	100 yards below Allen Branch	1	51.63	miles
AL03150106-0106-100	Little Wills Creek	Coosa	F&W	Big Wills Creek	Its source	1	21.65	miles
AL03150106-0108-102	Big Wills Creek	Coosa	S/F&W	Neely Henry Lake	Little Sand Valley Creek	1	24.76	miles
AL03150106-0304-100	Little Canoe Creek	Coosa	F&W	Big Canoe Creek	Its source	1	19.88	miles
AL03150106-0306-100	Big Canoe Creek	Coosa	F&W	Coosa River	Its source	1	57.29	miles
AL03150106-0501-103	Shoal Creek	Coosa	OAW/S/F&W	Whitesides Mill Lake	Highrock Lake dam	1	3.45	miles
AL03150106-0501-105	Shoal Creek	Coosa	OAW/S/F&W	Highrock Lake	Sweetwater Lake dam	1	6.31	miles
AL03150106-0501-107	Shoal Creek	Coosa	OAW/S/F&W	Sweetwater Lake	Its source	1	5.71	miles
AL03150106-0501-111	Shoal Creek	Coosa	S/F&W	Choccolocco Creek	Whitesides Mill Lake	1	1.55	miles
AL03150106-0502-700	Dry Creek	Coosa	F&W	Choccolocco Creek	Its source	1	4.03	miles
AL03150106-0503-101	Hillabee Creek	Coosa	F&W	Choccolocco Creek	Hillabee Lake dam	1	1.14	miles
AL03150106-0503-103	Hillabee Creek	Coosa	F&W	Hillabee Lake	Its source	1	10.85	miles
AL03150106-0504-101	Choccolocco Creek	Coosa	PWS/F&W	Hillabee Creek	Egoniaga Creek	1	8.18	miles
AL03150106-0504-102	Choccolocco Creek	Coosa	F&W	Egoniaga Creek	Its source	1	29.96	miles
AL03150106-0506-200	Coldwater Spring	Coosa	PWS/F&W			1	0.10	miles
AL03150106-0508-100	Salt Creek	Coosa	F&W	Choccolocco Creek	Its source	1	15.43	miles
AL03150106-0509-103	Cheaha Creek	Coosa	F&W	Lake Chinnabee	Its source	1	4.86	miles
AL03150106-0511-100	Cheaha Creek	Coosa	S/F&W	Choccolocco Creek	Lake Chinnabee	1	17.67	miles
AL03150106-0601-100	Trout Creek	Coosa	F&W	Coosa River	Its source	1	13.69	miles
AL03150106-0701-102	Talladega Creek	Coosa	F&W	Alabama Highway 77	Its source	1	23.66	miles
AL03150106-0702-102	Talladega Creek	Coosa	PWS/F&W	Drivers Branch	Alabama Highway 77	1	6.67	miles
AL03150106-0703-100	Talladega Creek	Coosa	F&W	Lay Lake	Drivers Branch	1	29.51	miles
AL03150107-0102-103	Tallaseehatchee Creek	Coosa	PWS/F&W	Lake Howard	Lake Virginia dam	1	0.60	miles
AL03150107-0102-105	Tallaseehatchee Creek	Coosa	PWS/F&W	Lake Virginia	Its source	1	5.83	miles
AL03150107-0205-200	Fourmile Creek	Coosa	F&W	Yellowleaf Creek	Its source	1	10.90	miles
AL03150107-0502-110	Paint Creek	Coosa	F&W	Lay Lake	Its source	1	14.26	miles
AL03150107-0603-110	Weogufka Creek	Coosa	S/F&W	Mitchell Lake	Its source	1	45.16	miles
AL03150107-0701-300	East Fork Hatchet Creek	Coosa	OAW/F&W	Hatchet Creek	Its source	1	5.30	miles
AL03150107-0701-400	West Fork Hatchet Creek	Coosa	OAW/F&W	Hatchet Creek	Its source	1	7.71	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150107-0704-100	Jacks Creek	Coosa	F&W	Socapatoy Creek	Its source	1	10.51	miles
AL03150107-0705-100	Socapatoy Creek	Coosa	F&W	Hatchet Creek	Its source	1	16.17	miles
AL03150107-0706-102	Hatchet Creek	Coosa	OAW/PWS/S/F &W	Wildcat Creek	Its source	1	18.87	miles
AL03150107-0708-300	Jones Creek	Coosa	F&W	Hatchet Creek	Its source	1	5.22	miles
AL03150107-0709-100	Hatchet Creek	Coosa	OAW/S/F&W	Mitchell Lake	Wildcat Creek	1	35.47	miles
AL03150107-0801-800	Turkey Creek	Coosa	F&W	Yellow Leaf Creek	Its source	1	5.17	miles
AL03150107-0802-110	Walnut Creek	Coosa	F&W	Mitchell Lake	Its source	1	15.66	miles
AL03150107-0803-300	Cargle Creek	Coosa	F&W	Mitchell Lake	Its source	1	7.80	miles
AL03150107-0901-110	Chestnut Creek	Coosa	F&W	Jordan Lake	Its source	1	22.10	miles
AL03150107-0904-100	Weoka Creek	Coosa	S/F&W	Jordan Lake	Its source	1	25.16	miles
AL03150107-0905-102	Sofkahatchee Creek	Coosa	F&W	Jordan Lake	Its source	1	12.71	miles
AL03150107-0906-800	Pinchoulee Creek	Coosa	F&W	Jordan Lake	Its source	1	9.03	miles
AL03150107-0907-100	Coosa River	Coosa	F&W	Tallapoosa River	Jordan Dam	1	12.96	miles
AL03140301-0503-100	Conecuh River	Escambia	F&W	Sepulga River	Point A Dam	1	34.68	miles
AL03140302-0401-100	Pond Creek	Escambia	F&W	Patsaliga Creek	Its source	1	7.97	miles
AL03140302-0502-100	Piney Woods Creek	Escambia	F&W	Patsaliga Creek	Its source	1	14.15	miles
AL03140303-0704-300	Amos Mill Creek	Escambia	F&W	Sepulga River	Its source	1	9.02	miles
AL03140304-0106-200	Sandy Creek	Escambia	F&W	Mill Creek	Its source	1	5.76	miles
AL03140304-0305-102	Burnt Corn Creek	Escambia	S/F&W	Sevenmile Creek	Its source	1	38.44	miles
AL03140304-0402-200	Jordan Creek	Escambia	F&W	Murder Creek	Its source	1	7.31	miles
AL03140304-0403-100	Murder Creek	Escambia	F&W	Cedar Creek	Its source	1	59.39	miles
AL03140304-0505-700	Mayo Mill Creek	Escambia	F&W	Conecuh River	Its source	1	5.81	miles
AL03170008-0205-101	Puppy Creek	Escatawpa	F&W	Escatawpa River	Alabama Highway 217	1	5.68	miles
AL03170008-0501-100	Big Creek	Escatawpa	PWS/F&W	Collins Creek	Its source	1	13.33	miles
AL03170008-0502-200	Hamilton Creek	Escatawpa	F&W	Big Creek Lake	Its source	1	4.78	miles
AL03170008-0601-200	Pasture Creek	Escatawpa	F&W	Big Creek	Its source	1	8.47	miles
AL03170008-0602-110	Miller Creek	Escatawpa	F&W	Big Creek	Its source	1	14.15	miles
AL03170008-0602-400	Deakle Creek	Escatawpa	F&W	Miller Creek	Its source	1	6.37	miles
AL03170008-0603-100	Big Creek	Escatawpa	F&W	Alabama-Mississippi state line	Big Creek Lake dam	1	14.55	miles
AL03170008-0701-100	Jackson Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	1	14.03	miles
AL03170008-0702-100	Franklin Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	1	9.46	miles
AL03160204-0104-100	Halls Creek	Mobile	F&W	Tensaw Lake	Its source	1	11.93	miles
AL03160204-0106-302	Tensaw River	Mobile	OAW/F&W	Junction of Briar Lake	Junction of Tensaw Lake	1	2.93	miles
AL03160204-0106-303	Tensaw River	Mobile	F&W	Junction of Tensaw Lake	Mobile River	1	10.98	miles
AL03160204-0304-104	Eightmile Creek	Mobile	F&W	Highpoint Boulevard	Its source	1	2.56	miles
AL03160204-0401-100	Gunnison Creek	Mobile	S/F&W	Bayou Sara	Its source	1	7.62	miles
AL03160204-0502-100	Whitehouse Creek	Mobile	F&W	Bay Minette Creek	Its source	1	13.10	miles
AL03160204-0505-100	Mobile River	Mobile	LWF	Mobile Bay	Spanish River	1	7.61	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160204-0505-201	Tensaw River	Mobile	F&W	Mobile Bay	Junction of Tensaw and Apalachee Rivers	1	6.51	miles
AL03160205-0201-200	Caney Branch	Mobile	F&W	Fish River	Its source	1	5.25	miles
AL03160205-0201-400	Perone Branch	Mobile	F&W	Fish River	Its source	1	7.06	miles
AL03160205-0203-120	UT to Magnolia River	Mobile	F&W	Magnolia River	Its source	1	3.65	miles
AL03160205-0208-200	Intracoastal Waterway	Mobile	F&W	Bon Secour Bay	Alabama Highway 59	1	3.35	miles
AL03140106-0503-100	Hollinger Creek	Perdido	F&W	Styx River	Its source	1	23.10	miles
AL03140107-0204-100	Intracoastal Waterway	Perdido	F&W	Alabama Highway 59	Wolf Bay	1	5.08	miles
AL03150108-0404-101	Cahulga Creek	Tallapoosa	F&W	Tallapoosa River	US Highway 78	1	4.58	miles
AL03150108-0404-102	Cahulga Creek	Tallapoosa	PWS/F&W	US Highway 78	Cahulga Reservoir dam	1	0.47	miles
AL03150108-0404-104	Cahulga Creek	Tallapoosa	PWS/F&W	Cahulga Reservoir	Its source	1	2.99	miles
AL03150108-0902-100	Bear Creek	Tallapoosa	F&W	Little Tallapoosa River	Its source	1	12.78	miles
AL03150108-1003-100	Ketchepedrakee Creek	Tallapoosa	F&W	R L Harris Lake	Its source	1	25.81	miles
AL03150109-0102-102	Crooked Creek	Tallapoosa	PWS/F&W	Alabama Highway 9	Its source	1	2.17	miles
AL03150109-0102-400	Horsetrough Creek	Tallapoosa	F&W	Crooked Creek	Its source	1	8.40	miles
AL03150109-0103-100	Crooked Creek	Tallapoosa	F&W	Tallapoosa River	Alabama Highway 9	1	21.08	miles
AL03150109-0104-100	Cornhouse Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	19.53	miles
AL03150109-0106-400	Hurricane Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	11.67	miles
AL03150109-0202-100	Little Chatahospee Creek	Tallapoosa	F&W	Chatahospee Creek	Its source	1	14.20	miles
AL03150109-0302-100	Caty Creek	Tallapoosa	F&W	High Pine Creek	Its source	1	11.93	miles
AL03150109-0304-100	Chikasanoxee Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	21.56	miles
AL03150109-0307-100	Little Emuckfaw Creek	Tallapoosa	F&W	Emuckfaw Creek	Its source	1	9.23	miles
AL03150109-0308-100	Emuckfaw Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	23.51	miles
AL03150109-0701-102	Oakachoy Creek	Tallapoosa	F&W	Lake Martin	Its source	1	6.14	miles
AL03150109-0801-100	Timbergut Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	14.19	miles
AL03150109-0803-302	Sugar Creek	Tallapoosa	F&W	Lake Martin	Its source	1	4.64	miles
AL03150110-0101-300	Little Loblockee Creek	Tallapoosa	F&W	Loblockee Creek	Its source	1	9.94	miles
AL03150110-0101-400	UT to Loblockee Creek	Tallapoosa	F&W	Loblockee Creek	Its source	1	2.26	miles
AL03150110-0202-102	Chewacla Creek	Tallapoosa	PWS/F&W	Moore's Mill Creek	Its source	1	14.92	miles
AL03150110-0204-100	Chewacla Creek	Tallapoosa	F&W	Uphapee Creek	Moore's Mill Creek	1	23.20	miles
AL03150110-0204-300	Long Branch	Tallapoosa	F&W	Chewacla Creek	Its source	1	12.26	miles
AL03150110-0402-102	Channahatchee Creek	Tallapoosa	F&W	Yates Lake	Its source	1	17.31	miles
AL03150110-0504-102	Calebee Creek	Tallapoosa	F&W	Macon County Road 9	Its source	1	36.95	miles
AL03150110-0802-102	Line Creek	Tallapoosa	F&W	Panther Creek	Its source	1	34.78	miles
AL03150110-0902-100	Chubbehatchee Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	23.11	miles
AL03150110-0905-200	Harwell Mill Creek	Tallapoosa	F&W	Tallapoosa River	Its source	1	7.70	miles
AL06030001-0203-102	Long Island Creek	Tennessee	PWS/S/F&W	Guntersville Lake	Miller Creek	1	1.85	miles
AL06030001-0203-103	Long Island Creek	Tennessee	S/F&W	Miller Creek	Its source	1	2.43	miles
AL06030001-0402-110	Flat Rock Creek	Tennessee	S/F&W	Coon Creek	Its source	1	9.22	miles
AL06030001-0402-300	Hogue Creek	Tennessee	F&W	Flat Rock Creek	Its source	1	3.48	miles
AL06030001-0403-100	Coon Creek	Tennessee	S/F&W	Guntersville Lake	Its source	1	3.17	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL06030001-0403-140	Rocky Branch	Tennessee	F&W	Warren Smith Creek	Its source	1	2.00	miles
AL06030001-0403-600	Dry Creek	Tennessee	F&W	Coon Creek	Its source	1	4.21	miles
AL06030001-0405-110	Mud Creek	Tennessee	F&W	Guntersville Lake	Its source	1	17.71	miles
AL06030001-0406-100	Bryant Creek	Tennessee	F&W	Jones Creek	Its source	1	12.96	miles
AL06030001-0505-100	South Sauty Creek	Tennessee	S/F&W	Guntersville Lake	Its source	1	32.34	miles
AL06030001-0604-100	North Sauty Creek	Tennessee	PWS	Guntersville Lake	Its source	1	8.91	miles
AL06030001-0805-110	Short Creek	Tennessee	F&W	Scarham Creek	Its source	1	24.81	miles
AL06030001-0806-100	Short Creek	Tennessee	PWS/F&W	Tennessee River	Scarham Creek	1	0.84	miles
AL06030002-0101-100	Hurricane Creek	Tennessee	OAW/F&W	Paint Rock River	Alabama-Tennessee state line	1	10.89	miles
AL06030002-0103-200	Estil Fork	Tennessee	OAW/F&W	Paint Rock River	Alabama-Tennessee state line	1	8.00	miles
AL06030002-0307-102	Flint River	Tennessee	F&W	Mountain Fork	Alabama-Tennessee state line	1	16.99	miles
AL06030002-0402-102	Hurricane Creek	Tennessee	F&W	Gurley Pike Road	Its source	1	18.11	miles
AL06030002-0403-111	Flint River	Tennessee	F&W	Hurricane Creek	Alabama Highway 72	1	7.14	miles
AL06030002-0404-102	Flint River	Tennessee	PWS/F&W	Big Cove Creek	Hurricane Creek	1	8.04	miles
AL06030002-0404-300	Big Cove Creek	Tennessee	F&W	Flint River	Its source	1	8.19	miles
AL06030002-0405-100	Flint River	Tennessee	F&W	Tennessee River	Big Cove Creek	1	15.56	miles
AL06030002-0602-200	Mud Creek	Tennessee	F&W	West Fork Cotaco Creek	Its source	1	3.42	miles
AL06030002-0602-800	Widner Creek	Tennessee	F&W	Mud Creek	Its source	1	6.79	miles
AL06030002-0602-900	Fall Creek	Tennessee	F&W	Mud Creek	Its source	1	3.62	miles
AL06030002-0702-102	Limestone Creek	Tennessee	F&W	Leslie Branch	Alabama-Tennessee state line	1	19.21	miles
AL06030002-0703-111	Limestone Creek	Tennessee	F&W	Wheeler Lake	US Highway 72	1	15.62	miles
AL06030002-0803-100	Piney Creek	Tennessee	F&W	Wheeler Lake	Its source	1	41.94	miles
AL06030002-1003-710	Rock Creek	Tennessee	F&W	Flint Creek	Its source	1	5.23	miles
AL06030002-1012-202	McDaniel Creek	Tennessee	F&W	Alabama Highway 36	Its source	1	3.83	miles
AL06030002-1101-200	Town Creek	Tennessee	F&W	Swan Creek	Its source	1	7.28	miles
AL06030002-1202-100	First Creek	Tennessee	S/F&W	Tennessee River	Its source	1	14.48	miles
AL06030002-1204-102	Second Creek	Tennessee	F&W	First bridge upstream from US Highway 72	Lauderdale County Road 76	1	2.34	miles
AL06030004-0403-102	Elk River	Tennessee	PWS/F&W	Alabama Highway 99	Alabama-Tennessee state line	1	12.89	miles
AL06030004-0403-800	Sulphur Creek	Tennessee	F&W	Elk River	Its source	1	8.34	miles
AL06030004-0405-900	Big Creek	Tennessee	F&W	Elk River	Its source	1	9.15	miles
AL06030005-0304-100	Town Creek	Tennessee	F&W	Tennessee River	Its source	1	46.16	miles
AL06030005-0509-800	Indiancamp Creek	Tennessee	F&W	Shoal Creek	Its source	1	5.98	miles
AL06030005-0901-100	Bumpass Creek	Tennessee	F&W	Second Creek	Alabama-Tennessee state line	1	6.78	miles
AL06030006-0103-103	Bear Creek	Tennessee	S/F&W	Mill Creek	Upper Bear Creek Dam	1	3.00	miles
AL06030006-0203-112	Cedar Creek	Tennessee	PWS/S/F&W	Cedar Creek Lake	Alabama Highway 24	1	3.01	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160101-0502-100	Bull Mountain Creek	Tombigbee	F&W	Alabama-Mississippi state line	Its source	1	24.98	miles
AL03160101-0503-100	Hurricane Creek	Tombigbee	F&W	Alabama-Mississippi state line	Its source	1	10.14	miles
AL03160103-0201-201	Purgatory Creek	Tombigbee	F&W	Beaver Creek	Wickett Creek	1	0.50	miles
AL03160103-0201-202	Purgatory Creek	Tombigbee	F&W	Wickett Creek	US Highway 278	1	1.86	miles
AL03160103-0201-203	Purgatory Creek	Tombigbee	PWS/F&W	US Highway 278	Its source	1	1.28	miles
AL03160103-0301-100	Woods Creek	Tombigbee	F&W	Buttahatchee River	Its source	1	13.95	miles
AL03160103-0303-200	Cantrell Mill Creek	Tombigbee	F&W	Buttahatchee River	Its source	1	7.40	miles
AL03160103-0306-101	Buttahatchee River	Tombigbee	F&W	Alabama-Mississippi state line	U.S. Highway 278 one mile east of junction of U.S. Highways 43 and 78 in Hamilton	1	41.85	miles
AL03160103-0401-200	Boardtree Creek	Tombigbee	F&W	Sipsey Creek	Its source	1	10.87	miles
AL03160105-0303-100	Hells Creek	Tombigbee	F&W	Yellow Creek	Its source	1	25.20	miles
AL03160106-0405-200	Little Bear Creek	Tombigbee	F&W	Bear Creek	Its source	1	7.82	miles
AL03160106-0407-100	Bear Creek	Tombigbee	F&W	Lubbub Creek	Its source	1	33.40	miles
AL03160106-0703-100	Jones Creek	Tombigbee	F&W	Tombigbee River	Its source	1	15.28	miles
AL03160107-0203-100	Bear Creek	Tombigbee	F&W	Sipsey River	Its source	1	10.64	miles
AL03160107-0306-102	Sipsey River	Tombigbee	F&W	Gainesville Reservoir	Tuscaloosa county line	1	40.86	miles
AL03160201-0102-100	Dry Creek	Tombigbee	F&W	Chickasaw Bogue	Its source	1	13.84	miles
AL03160201-0103-300	Poplar Creek	Tombigbee	F&W	Chickasaw Bogue	Its source	1	8.87	miles
AL03160201-0109-100	Chickasaw Bogue	Tombigbee	F&W	Coffeeville Lake	Its source	1	41.19	miles
AL03160201-0201-100	Little Kinterbish Creek	Tombigbee	F&W	Kinterbish Creek	Its source	1	8.54	miles
AL03160201-0504-200	Clear Creek	Tombigbee	F&W	Yantley Creek	Its source	1	17.25	miles
AL03160201-0506-110	Tuckabum Creek	Tombigbee	F&W	Coffeeville Lake	Alabama-Mississippi state line	1	47.07	miles
AL03160201-0602-100	Sweetwater Creek	Tombigbee	F&W	Horse Creek	Its source	1	18.59	miles
AL03160201-0702-100	Tallahatta Creek	Tombigbee	F&W	Bashi Creek	Its source	1	20.97	miles
AL03160201-0807-100	Okatuppa Creek	Tombigbee	F&W	Coffeeville Lake	Alabama-Mississippi state line	1	47.09	miles
AL03160201-0908-110	Turkey Creek	Tombigbee	S/F&W	Coffeeville Lake	Its source	1	16.24	miles
AL03160203-0201-110	Wells Creek	Tombigbee	F&W	Salitpa Creek	Its source	1	14.71	miles
AL03160203-0203-100	Harris Creek	Tombigbee	F&W	Salitpa Creek	Its source	1	12.35	miles
AL03160203-0302-200	Ulcanush Creek	Tombigbee	F&W	Tombigbee River	Its source	1	9.33	miles
AL03160203-0401-100	Tattilaba Creek	Tombigbee	F&W	Jackson Creek	Its source	1	23.68	miles
AL03160203-0902-100	Salt Creek	Tombigbee	F&W	Tombigbee River	Its source	1	9.96	miles
AL03140103-0203-200	Pond Creek	Yellow	F&W	Five Runs Creek	Its source	1	4.71	miles
AL03140103-0203-400	Bay Branch	Yellow	F&W	Five Runs Creek	Its source	1	7.58	miles
AL03140103-0301-100	Indian Creek	Yellow	F&W	Yellow River	Its source	1	10.86	miles

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Appendix B

**Category 1 - Lake and Reservoir**

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150201-0107-100	Alabama River (Woodruff Lake)	Alabama	F&W	Autauga Creek	its source	1	5271.33	acres
AL03150201-0501-100	Alabama River (Woodruff Lake)	Alabama	F&W	Pintlala Creek	Autauga Creek	1	1053.22	acres
AL03150201-0701-111	Cypress Creek (Woodruff Lake)	Alabama	S/F&W	Alabama River	end of embayment	1	87.87	acres
AL03150201-0706-100	Alabama River (Woodruff Lake)	Alabama	S/F&W	Robert F Henry Lock and Dam	Pintlala Creek	1	4786.34	acres
AL03150201-1101-102	Valley Creek (Valley Creek Lake)	Alabama	S/F&W	Valley Creek Lake dam	end of embayment	1	54.17	acres
AL03150203-0701-100	Alabama River (Dannelly Lake)	Alabama	S/F&W	Millers Ferry Lock and Dam	Bogue Chitto Creek	1	8620.60	acres
AL03160109-0604-101	Mulberry Fork (Bankhead Lake)	Black Warrior	PWS/S/F&W	Black Warrior River	Baker Creek	1	1357.57	acres
AL03160109-0604-711	Lost Creek (Bankhead Lake)	Black Warrior	S/F&W	Mulberry Fork	end of embayment	1	269.63	acres
AL03160110-0105-100	Sipsey Fork (Smith Lake)	Black Warrior	S/F&W	Brushy Creek	Grindstone Creek	1	2280.57	acres
AL03160110-0203-101	Brushy Creek (Smith Lake)	Black Warrior	S/F&W	Sipsey Fork	end of embayment	1	1280.10	acres
AL03160110-0302-102	Clear Creek (Haleyville City Lake)	Black Warrior	PWS	Haleyville City Lake dam	Its source	1	21.30	acres
AL03160110-0404-100	Rock Creek (Smith Lake)	Black Warrior	S/F&W	White Oak Creek	end of embayment	1	843.72	acres
AL03160110-0407-100	Crooked Creek (Smith Lake)	Black Warrior	S/F&W	White Oak Creek	end of embayment	1	698.25	acres
AL03160110-0407-201	White Oak Creek (Smith Lake)	Black Warrior	F&W	Rock Creek	end of embayment	1	377.68	acres
AL03160110-0505-102	Ryan Creek (Smith Lake)	Black Warrior	S/F&W	Doctor Harris Spring Branch	Coon Creek	1	887.65	acres
AL03160110-0507-102	Sipsey Fork (Smith Lake)	Black Warrior	PWS/S/F&W	Lewis Smith Dam	three miles upstream from Lewis Smith Dam	1	1269.96	acres
AL03160110-0507-103	Sipsey Fork (Smith Lake)	Black Warrior	S/F&W	three miles upstream from Lewis Smith Dam	County Road 41	1	2870.56	acres
AL03160111-0204-103	Blackburn Fork (Highland Lake)	Black Warrior	PWS/S	Highland Lake dam	extent of reservoir	1	315.81	acres
AL03160111-0204-111	Blackburn Fork (Inland Lake)	Black Warrior	PWS/S	Inland Lake dam	extent of reservoir	1	1389.78	acres
AL03160112-0203-100	Black Warrior River (Bankhead Lake)	Black Warrior	PWS/S/F&W	Bankhead Lock and Dam	Its source	1	3645.57	acres
AL03160112-0306-100	Black Warrior River (Holt Lake)	Black Warrior	S/F&W	Holt Lock and Dam	Bankhead Lock and Dam	1	3147.23	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160112-0505-101	Black Warrior River (Oliver Lake)	Black Warrior	F&W	Oliver Lock and Dam	Hurricane Creek	1	556.93	acres
AL03160112-0505-102	Black Warrior River (Oliver Lake)	Black Warrior	S/F&W	Hurricane Creek	Holt Lock and Dam	1	57.98	acres
AL03160113-0105-111	Big Sandy Creek (Warrior Lake)	Black Warrior	F&W	Black Warrior River	end of embayment	1	11.29	acres
AL03160113-0401-102	Fivemile Creek (Payne Lake)	Black Warrior	S	Payne Lake dam	extent of reservoir	1	111.54	acres
AL03160113-0402-111	Fivemile Creek (Warrior Lake)	Black Warrior	F&W	Black Warrior River	end of embayment	1	92.06	acres
AL03160113-0507-111	Big Brush Creek (Warrior Lake)	Black Warrior	F&W	Black Warrior River	end of embayment	1	381.95	acres
AL03160113-0607-100	Black Warrior River (Warrior Lake)	Black Warrior	F&W	Warrior Lock and Dam	Oliver Lock and Dam	1	4970.75	acres
AL03160113-0804-102	Black Warrior River (Lake Demopolis)	Black Warrior	PWS/S/F&W	Five miles upstream of Big Prarie Creek	Eight miles upstream of Big Prarie Creek	1	131.02	acres
AL03160113-0804-103	Black Warrior River (Lake Demopolis)	Black Warrior	S/F&W	Eight miles upstream of Big Prarie Creek	Warrior Lock and Dam	1	1451.33	acres
AL03160113-0806-100	Black Warrior River (Lake Demopolis)	Black Warrior	S/F&W	Tombigbee River	Five miles upstream of Big Prarie Creek	1	2074.06	acres
AL03150202-0103-102	Little Cahaba River (Lake Purdy)	Cahaba	PWS	Lake Purdy dam	extent of reservoir	1	961.95	acres
AL03150202-0202-110	Oak Mountain State Park Lakes	Cahaba	PWS	Within Oak Mountain State Park		1	166.73	acres
AL03130002-0808-101	Chattahoochee River (West Point Lake)	Chattahoochee	S/F&W	West Point Dam	West Point Lake Limits in Alabama	1	2201.43	acres
AL03130002-1105-111	Osanippa Creek (Lake Harding)	Chattahoochee	PWS/S/F&W	Chattahoochee River	end of embayment	1	122.60	acres
AL03130002-1108-111	Halawakee Creek (Lake Harding)	Chattahoochee	PWS/S/F&W	Chattahoochee River	end of embayment	1	1525.46	acres
AL03130002-1109-101	Chattahoochee River (Lake Harding)	Chattahoochee	PWS/S/F&W	Bartletts Ferry Dam	Osanippa Creek	1	679.12	acres
AL03130002-1109-102	Chattahoochee River (Lake Harding)	Chattahoochee	F&W	Osanippa Creek	Johnson Island	1	200.89	acres
AL03130002-1306-101	Chattahoochee River (Lake Oliver)	Chattahoochee	PWS/S/F&W	Oliver Dam	Goat Rock Dam	1	334.30	acres
AL03130002-1306-102	Chattahoochee River (Goat Rock Lake)	Chattahoochee	PWS/S/F&W	Goat Rock Dam	Bartletts Ferry Dam	1	131.20	acres
AL03130003-0804-111	Hatchechubbee Creek (Walter F George Lake)	Chattahoochee	S/F&W	Chattahoochee River	end of embayment	1	247.47	acres
AL03130003-0905-100	Chattahoochee River (Walter F George Lake)	Chattahoochee	F&W	Cowikee Creek	Cliatt Branch	1	2021.86	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150105-0807-111	Little River (Weiss Lake)	Coosa	PWS/S/F&W	Chattooga River	end of embayment	1	761.03	acres
AL03150106-0501-104	Shoal Creek (Highrock Lake)	Coosa	OAW/S/F&W	Highrock Lake dam	extent of reservoir	1	13.95	acres
AL03150106-0501-106	Shoal Creek (Sweetwater Lake)	Coosa	PWS/S/F&W	Sweetwater Lake dam	extent of reservoir	1	54.97	acres
AL03150106-0501-112	Shoal Creek (Whitesides Mill Lake)	Coosa	PWS/S/F&W	Whitesides Mill Lake dam	extent of reservoir	1	251.75	acres
AL03150106-0501-400	Coleman Lake	Coosa	S/F&W	Coleman Lake		1	19.46	acres
AL03150106-0503-102	Hillabee Creek (Hillabee Lake)	Coosa	PWS/S/F&W	Hillabee Lake dam	extent of reservoir	1	180.88	acres
AL03150106-0508-400	Salt Creek Lake	Coosa	S/F&W	Salt Creek Lake		1	1.73	acres
AL03150106-0509-102	Cheaha Creek (Lake Chinnabee)	Coosa	S/F&W	Chinnabee dam	extent of reservoir	1	13.94	acres
AL03150107-0102-102	Tallaseehatchee Creek (Lake Howard)	Coosa	PWS/F&W	Howard dam	extent of reservoir	1	135.97	acres
AL03150107-0102-104	Tallaseehatchee Creek (Lake Virginia)	Coosa	PWS/F&W	Lake Virginia dam	extent of reservoir	1	126.74	acres
AL03150107-0902-111	Shoal Creek (Jordan Lake)	Coosa	S/F&W	Coosa River	end of embayment	1	617.49	acres
AL03150107-0904-111	Weoka Creek (Jordan Lake)	Coosa	S/F&W	Coosa River	end of embayment	1	358.71	acres
AL03150107-0905-111	Sofkahatchee Creek (Jordan Lake)	Coosa	S/F&W	Coosa River	end of embayment	1	291.88	acres
AL03150107-0906-100	Coosa River (Jordan Lake)	Coosa	S/F&W	Jordan Dam	Mitchell Dam	1	4017.31	acres
AL03150201-0101-300	Coosa River (Jordan Lake)	Coosa	PWS/S/F&W	Bouldin Dam	Alabama Highway 111	1	754.31	acres
AL03160204-0106-400	Briar Lake	Mobile	OAW/F&W	Junction of Tensaw River	Junction of Tensaw Lake	1	169.36	acres
AL03160204-0106-500	Tensaw Lake	Mobile	OAW/F&W	Junction of Tensaw River	Bryant Landing	1	436.74	acres
AL03140107-0204-200	Shelby Lakes	Perdido	S/F&W	Within Gulf State Park		1	802.00	acres
AL03150108-0404-103	Cahulga Creek	Tallapoosa	PWS/F&W	Cahulga Reservoir dam	extent of reservoir	1	82.04	acres
AL03150108-0904-111	Wedowee Creek (R L Harris Lake)	Tallapoosa	S/F&W	Little Tallapoosa River	end of embayment	1	294.40	acres
AL03150108-0905-102	Little Tallapoosa River (R L Harris Lake)	Tallapoosa	PWS/S/F&W	US Highway 431	Wolf Creek	1	173.72	acres
AL03150108-0906-100	Little Tallapoosa River (R L Harris Lake)	Tallapoosa	S/F&W	Tallapoosa River	US Highway 431	1	2746.88	acres
AL03150108-1005-111	Mad Indian Creek (R L Harris Lake)	Tallapoosa	S/F&W	R L Harris Lake	Its source	1	136.18	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150108-1006-110	Tallapoosa River (R L Harris Lake)	Tallapoosa	S/F&W	Little Tallapoosa River	4 miles upstream of Randolph County Road 88	1	2014.75	acres
AL03150109-0105-102	Tallapoosa River (R L Harris Lake)	Tallapoosa	S/F&W	R. L. Harris Dam	Little Tallapoosa River	1	5356.95	acres
AL03150109-0406-111	Hillabee Creek (Lake Martin)	Tallapoosa	PWS/S.F&W	Tallapoosa River	end of embayment	1	57.75	acres
AL03150109-0504-111	Sandy Creek (Lake Martin)	Tallapoosa	S/F&W	Tallapoosa River	end of embayment	1	2390.93	acres
AL03150109-0602-111	Blue Creek (Lake Martin)	Tallapoosa	S/F&W	Tallapoosa River	its source	1	5495.14	acres
AL03150109-0702-111	Oakachoy Creek (Lake Martin)	Tallapoosa	S/F&W	Kowaliga Creek	end of embayment	1	4455.93	acres
AL03150109-0703-201	Little Kowaliga Creek (Martin Lake)	Tallapoosa	PWS/S/F&W	Kowaliga Creek	end of embayment	1	2634.38	acres
AL03150109-0704-111	Kowaliga Creek (Lake Martin)	Tallapoosa	S/F&W	Tallapoosa River	end of embayment	1	5602.95	acres
AL03150109-0802-102	Tallapoosa River (Lake Martin)	Tallapoosa	PWS/S/F&W	US Highway 280	Hillabee Creek	1	1973.85	acres
AL03150109-0802-104	Tallapoosa River (Lake Martin)	Tallapoosa	S/F&W	Hillabee Creek	Irwin Shoals	1	343.41	acres
AL03150109-0802-311	Coley Creek (Lake Martin)	Tallapoosa	PWS/S/F&W	Tallapoosa River	end of embayment	1	54.29	acres
AL03150109-0803-111	Elkahatchee Creek (Lake Martin)	Tallapoosa	S/F&W	Tallapoosa River	end of embayment	1	511.41	acres
AL03150109-0804-201	Manoy Creek (Lake Martin)	Tallapoosa	PWS/S/F&W	Tallapoosa River	end of embayment	1	618.88	acres
AL03150109-0805-100	Tallapoosa River (Martin Lake)	Tallapoosa	S/F&W	Martin Dam	US Highway 280	1	15867.11	acres
AL06030001-0307-111	Crow Creek (Guntersville Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	1	1399.82	acres
AL06030001-0403-111	Coon Creek (Guntersville Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	1	844.36	acres
AL06030001-0405-111	Mud Creek (Guntersville Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	1	2276.16	acres
AL06030001-0505-111	South Sauty Creek (Guntersville Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	1	2627.60	acres
AL06030001-0603-111	Roseberry Creek (Guntersville Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	1	2251.14	acres
AL06030001-0605-100	North Sauty Creek (Guntersville Lake)	Tennessee	PWS	Tennessee River	end of embayment	1	2999.46	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL06030001-0606-103	Tennessee River (Guntersville Lake)	Tennessee	PWS/S/F&W	Roseberry Creek	Pump Spring Branch	1	8633.81	acres
AL06030001-0807-111	Short Creek (Guntersville Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	1	418.23	acres
AL06030001-0901-102	Tennessee River (Guntersville Lake)	Tennessee	S/F&W	upper end of Buck Island	Roseberry Creek	1	20440.33	acres
AL06030001-0903-111	Big Spring Creek (Guntersville Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	1	2010.65	acres
AL06030001-0906-100	Tennessee River (Guntersville Lake)	Tennessee	PWS/S/F&W	Guntersville Dam	upper end of Buck Island	1	10176.81	acres
AL06030002-0405-111	Flint River (Wheeler Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	1	204.52	acres
AL06030004-0405-102	Elk River (Wheeler Lake)	Tennessee	S/F&W	Anderson Creek	Alabama Highway 99	1	3114.40	acres
AL06030005-0202-111	Bluewater Creek (Wilson Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	1	140.06	acres
AL06030005-0304-111	Town Creek (Wilson Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	1	592.99	acres
AL06030005-0509-101	Shoal Creek (Wilson Lake)	Tennessee	S/F&W	Tennessee River	Indiancam Creek	1	1169.76	acres
AL03160106-0408-111	Lubbub Creek (Gainesville Lake)	Tombigbee	S/F&W	Tombigbee River	end of embayment	1	26.64	acres
AL03160106-0504-111	Bogue Chitto (Gainesville Lake)	Tombigbee	S/F&W	Tombigbee River	end of embayment	1	5.42	acres
AL03160106-0606-111	Trussells Creek (Demopolis Lake)	Tombigbee	F&W	Tombigbee River	end of embayment	1	4.57	acres
AL03160106-0607-111	Brush Creek (Demopolis Lake)	Tombigbee	F&W	Tombigbee River	end of embayment	1	5.17	acres
AL03160106-0609-102	Tombigbee River (Gainesville Lake)	Tombigbee	S/F&W	Heflin Lock and Dam	Bevill Lock and Dam	1	4761.67	acres
AL03160106-0702-101	Factory Creek (Demopolis Lake)	Tombigbee	F&W	Tombigbee River	end of embayment	1	12.54	acres
AL03160106-0706-100	Tombigbee River (Demopolis Lake)	Tombigbee	F&W	Cobb Creek	Heflin Lock and Dam	1	1935.13	acres
AL03160106-0709-100	Tombigbee River (Demopolis Lake)	Tombigbee	S/F&W	Black Warrior River	Cobb Creek	1	1859.82	acres
AL03160201-0109-111	Chickasaw Bogue (Coffeeville Lake)	Tombigbee	F&W	Tombigbee River	extent of reservoir	1	22.13	acres
AL03160201-0401-102	Tombigbee River (Demopolis Lake)	Tombigbee	S/F&W	Demopolis Lock and Dam	Black Warrior River	1	545.48	acres
AL03160201-0408-102	Tombigbee River (Coffeeville Lake)	Tombigbee	PWS/F&W	1/2 mile downstream from Alabama Highway 114	3 miles upstream from Alabama Highway 114	1	196.10	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160201-0408-104	Tombigbee River (Coffeeville Lake)	Tombigbee	F&W	3 miles upstream from Alabama Highway 114	Sucarnoochee River	1	1418.11	acres
AL03160201-0506-111	Tuckabum Creek (Coffeeville Lake)	Tombigbee	F&W	Tombigbee River	end of embayment	1	11.53	acres
AL03160201-0604-111	Horse Creek (Coffeeville Lake)	Tombigbee	F&W	Tombigbee River	end of embayment	1	8.15	acres
AL03160201-0807-111	Okatuppa Creek (Coffeeville Lake)	Tombigbee	S/F&W	Tombigbee River	end of embayment	1	86.63	acres
AL03160201-0904-111	Wahalak Creek (Coffeeville Lake)	Tombigbee	F&W	Tombigbee River	end of embayment	1	4.92	acres
AL03160201-0906-111	Tallawampa Creek (Coffeeville Lake)	Tombigbee	S/F&W	Tombigbee River	end of embayment	1	95.78	acres
AL03160201-0907-102	Tombigbee River (Coffeeville Lake)	Tombigbee	F&W	Beach Bluff (RM 141)	1/2 mile downstream from Alabama Highway 114	1	2088.71	acres
AL03160201-0908-111	Turkey Creek (Coffeeville Lake)	Tombigbee	S/F&W	Tombigbee River	end of embayment	1	508.88	acres
AL03160201-0909-100	Tombigbee River (Coffeeville Lake)	Tombigbee	S/F&W	Coffeeville Lock and Dam	Beach Bluff (RM 141)	1	1989.31	acres

**Category 1 - Ocean and Estuary**

AL03160204-0503-101	Bay Minette	Mobile	F&W	Blakely River	Its source	1	1.11	sq. miles
AL03160205-0204-111	Weeks Bay	Mobile	S/F&W	Bon Secour Bay	Fish River	1	3.04	sq. miles
AL03160205-0300-300	Mobile Bay	Mobile	F&W	West of a line drawn due south from the western shore of Chacaloochee Bay (30.67981, -087.99561)	North of a line due east from a point at the mouth of Dog River (30.56478, -088.08758)	1	31.56	sq. miles
AL03160205-0300-400	Mobile Bay	Mobile	S/F&W	South of a line drawn due east from the mouth of Dog River (30.56478, -088.08758)	North of the segment classified for shellfish harvesting	1	54.93	sq. miles
AL03160205-0300-502	Mobile Bay	Mobile	S/F&W	East of a line drawn due south from the western shore of Chacaloochee Bay (30.67981, -087.99561) except area 1000 feet offshore from Ragged Point to the mouth of Yancey Branch	North of a line due east of a point at the mouth of Dog River (30.56478, -088.08758)	1	35.80	sq. miles
AL03140107-0205-101	Little Lagoon	Perdido	SH/S/F&W	west of Little Lagoon Pass		1	2.64	sq. miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
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**Category 2A - River and Stream**

AL03150201-0309-300	Whites Slough	Alabama	F&W	Catoma Creek	its source	2A	8.22	miles
AL03150201-0407-100	Pintlala Creek	Alabama	S/F&W	Woodruff Lake	Pinchony Creek	2A	23.65	miles
AL03150201-0801-200	Lake Creek	Alabama	F&W	Fort Deposit Creek	its source	2A	8.79	miles
AL03150203-0105-100	Mud Creek	Alabama	F&W	Bogue Chitto Creek	its source	2A	20.87	miles
AL03150203-0108-110	Bear Creek	Alabama	F&W	Bogue Chitto Creek	its source	2A	16.60	miles
AL03150203-0702-100	Dixon Creek	Alabama	F&W	Alabama River	its source	2A	22.47	miles
AL03150203-0801-100	Gravel Creek	Alabama	F&W	Pursley Creek	its source	2A	18.45	miles
AL03150204-0102-300	Beaver Creek	Alabama	F&W	Alabama River	its source	2A	5.68	miles
AL03150204-0206-100	Big Flat Creek	Alabama	S/F&W	Alabama River	its source	2A	63.53	miles
AL03150204-0704-100	Majors Creek	Alabama	F&W	Alabama River	its source	2A	19.29	miles
AL03160109-0101-700	Warrior Creek	Black Warrior	F&W	Mulberry Fork	its source	2A	4.28	miles
AL03160109-0108-101	Mud Creek	Black Warrior	F&W	Mulberry Fork	Alabama Highway 31	2A	4.34	miles
AL03160109-0109-900	Pan Creek	Black Warrior	F&W	Mulberry Fork	its source	2A	10.67	miles
AL03160109-0204-100	Dorsey Creek	Black Warrior	F&W	Mulberry Fork	its source	2A	18.04	miles
AL03160109-0206-100	Mulberry Fork	Black Warrior	F&W	Sipsey Fork	Marriott Creek	2A	23.34	miles
AL03160109-0307-300	Charlies Creek	Black Warrior	F&W	Blackwater Creek	its source	2A	6.67	miles
AL03160109-0309-100	Blackwater Creek	Black Warrior	F&W	Mulberry Fork	its source	2A	70.05	miles
AL03160109-0403-200	Burton Creek	Black Warrior	F&W	Lost Creek	its source	2A	4.16	miles
AL03160109-0502-102	Wolf Creek	Black Warrior	S/F&W	Alabama Highway 102	its source	2A	5.28	miles
AL03160109-0601-102	Cane Creek	Black Warrior	F&W	Town Creek	its source	2A	10.34	miles
AL03160109-0604-700	Lost Creek	Black Warrior	S/F&W	Bankhead Lake	Two miles upstream from Wolf Creek	2A	2.64	miles
AL03160110-0301-100	Right Fork Clear Creek	Black Warrior	F&W	Clear Creek	Its source	2A	15.61	miles
AL03160110-0303-200	Widows Creek	Black Warrior	F&W	Clear Creek	Its source	2A	7.35	miles
AL03160110-0305-203	Clear Creek	Black Warrior	F&W	Caney Creek	Haleyville City Lake dam	2A	35.34	miles
AL03160111-0302-100	Longs Branch	Black Warrior	F&W	Locust Fork	Its source	2A	7.87	miles
AL03160111-0307-100	Turkey Creek	Black Warrior	F&W	Locust Fork	Its source	2A	25.34	miles
AL03160111-0413-600	Coal Creek	Black Warrior	F&W	Locust Fork	Its source	2A	4.79	miles
AL03160111-0603-200	Little Buck Creek	Black Warrior	F&W	Buck Creek	Its source	2A	8.99	miles
AL03160112-0101-101	Valley Creek	Black Warrior	LWF	19th Street North (Bessemer)	Opossum Creek	2A	0.90	miles
AL03160112-0101-200	Opossum Creek	Black Warrior	A&I	Valley Creek	Its source	2A	7.45	miles
AL03160112-0102-100	Valley Creek	Black Warrior	LWF	Blue Creek	19th Street North (Bessemer)	2A	10.80	miles
AL03160112-0104-100	Valley Creek	Black Warrior	F&W	Rock Creek	Blue Creek	2A	11.78	miles
AL03160112-0105-102	Mud Creek	Black Warrior	F&W	Big Branch	Its source	2A	7.70	miles
AL03160112-0106-101	Valley Creek	Black Warrior	F&W	Black Warrior River (Bankhead Lake)	Mud Creek	2A	5.23	miles
AL03160112-0106-102	Valley Creek	Black Warrior	S/F&W	Mud Creek	Rock Creek	2A	10.90	miles
AL03160112-0201-500	Little Yellow Creek	Black Warrior	F&W	Big Yellow Creek	Its source	2A	10.65	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160112-0301-400	Jock Creek	Black Warrior	F&W	Blue Creek	Its source	2A	2.21	miles
AL03160112-0411-102	North River	Black Warrior	F&W	Lake Tuscaloosa	Ellis Creek	2A	43.48	miles
AL03160113-0503-110	Polecat Creek	Black Warrior	F&W	Big Brush Creek	Its source	2A	14.02	miles
AL03160113-0708-100	Big Prairie Creek	Black Warrior	F&W	Lake Demopolis	Its source	2A	44.16	miles
AL03150202-0202-200	Dry Brook	Cahaba	F&W	Cahaba Valley Creek	Its source	2A	3.49	miles
AL03150202-0406-100	Caffee Creek	Cahaba	F&W	Cahaba River	Its source	2A	17.88	miles
AL03150202-0407-800	Cane Creek	Cahaba	F&W	Cahaba River	Its source	2A	10.38	miles
AL03130002-1106-100	UT to Halawakee Creek	Chattahoochee	F&W	Halawakee Creek	Its source	2A	14.19	miles
AL03130003-1101-100	Hurtsboro Creek	Chattahoochee	F&W	North Fork Cowikee Creek	Its source	2A	19.41	miles
AL03130012-0101-100	Limestone Creek	Chipola	F&W	Big Creek	Its source	2A	10.80	miles
AL03130012-0104-200	Big Creek	Chipola	F&W	Marshall Creek	Its source	2A	16.45	miles
AL03130012-0106-202	Boggy Creek	Chipola	F&W	Cottondale WWTP	Its source	2A	6.72	miles
AL03130012-0202-210	Bruners Gin Creek	Chipola	F&W	Rocky Creek	Its source	2A	5.43	miles
AL03140201-0501-202	Beaver Creek	Choctawhatchee	F&W	Dothan WWTP	Its source	2A	4.54	miles
AL03140201-0502-500	UT to Bear Creek	Choctawhatchee	F&W	Bear Creek	Its source	2A	3.18	miles
AL03140201-0504-200	Mossy Camp Branch	Choctawhatchee	F&W	Little Choctawhatchee River	Its source	2A	4.34	miles
AL03140201-0602-200	Killebrew Factory Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	2A	3.52	miles
AL03140201-0603-100	Choctawhatchee River	Choctawhatchee	S/F&W	Brooking Mill Creek	Its source	2A	10.83	miles
AL03140201-1102-550	UT to Blanket Creek	Choctawhatchee	F&W	Blanket Creek	Its source	2A	2.16	miles
AL03140201-1104-500	Beargrass Creek	Choctawhatchee	F&W	Double Bridges Creek	its source	2A	2.96	miles
AL03140201-1106-100	Double Bridges Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	2A	38.28	miles
AL03140202-0101-100	Stinking Creek	Choctawhatchee	F&W	Pea Creek	Its source	2A	9.89	miles
AL03140202-0201-200	Johnson Creek	Choctawhatchee	F&W	Pea River	Its source	2A	9.51	miles
AL03140202-0204-110	Big Sandy Creek	Choctawhatchee	F&W	Pea River	Its source	2A	11.32	miles
AL03140202-0207-102	Pea River	Choctawhatchee	F&W	Connors Creek	Its source	2A	31.65	miles
AL03140202-0301-102	Pea River	Choctawhatchee	S/F&W	Buckhorn Creek	Connors Creek	2A	10.44	miles
AL03140202-0303-200	Richland Creek	Choctawhatchee	F&W	Pea River	Its source	2A	15.90	miles
AL03140202-0502-102	Pea River	Choctawhatchee	S/F&W	Pike/Barbour County Road 77	Kaiser Branch	2A	5.77	miles
AL03140202-0504-102	Pea River	Choctawhatchee	F&W	US Highway 231	Pike/Barbour County Road 77	2A	6.41	miles
AL03140202-0505-200	Halls Creek	Choctawhatchee	F&W	Pea River	Its source	2A	5.54	miles
AL03140202-0610-102	Pea River	Choctawhatchee	S/F&W	Snake Branch	Bucks Mill Creek	2A	19.54	miles
AL03140202-0803-400	Eightmile Creek	Choctawhatchee	F&W	Flat Creek	Alabama-Florida state line	2A	8.61	miles
AL03140202-0904-102	Pea River	Choctawhatchee	S/F&W	Alabama-Florida state line	Flat Creek	2A	10.42	miles
AL03140202-0906-102	Pea River	Choctawhatchee	S/F&W	Laddon Creek	Alabama-Florida state line	2A	7.36	miles
AL03150105-0908-200	Mill Creek	Coosa	F&W	Terrapin Creek	Its source	2A	8.79	miles
AL03150106-0307-100	Beaver Creek	Coosa	F&W	Neely Henry Lake	Its source	2A	26.58	miles
AL03150106-0406-100	Ohatchee Creek	Coosa	S/F&W	Logan Martin Lake	Its source	2A	26.64	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150106-0408-100	Cane Creek	Coosa	F&W	Logan Martin Lake	Its source	2A	30.68	miles
AL03150107-0203-100	Weewoka Creek	Coosa	F&W	Tallaseehatchee Creek	Its source	2A	18.32	miles
AL03150107-0907-500	Fourmile Creek	Coosa	F&W	Taylor Creek	Its source	2A	5.67	miles
AL03140301-0102-100	Flat Creek	Escambia	F&W	Conecuh River	Its source	2A	11.74	miles
AL03140301-0103-100	Log Creek	Escambia	F&W	Conecuh River	Its source	2A	13.31	miles
AL03140301-0403-100	Feagin Creek	Escambia	F&W	Gantt Lake	Its source	2A	7.76	miles
AL03140302-0102-100	Olustee Creek	Escambia	F&W	Patsaliga Creek	Its source	2A	23.90	miles
AL03140302-0202-200	Blue Creek	Escambia	F&W	Patsaliga Creek	Its source	2A	18.08	miles
AL03140303-0101-100	Hawkins Creek	Escambia	F&W	Persimmon Creek	Its source	2A	4.25	miles
AL03140303-0203-100	Panther Creek	Escambia	F&W	Persimmon Creek	Its source	2A	23.10	miles
AL03140303-0204-100	Persimmon Creek	Escambia	F&W	Sepulga River	Its source	2A	55.01	miles
AL03140303-0302-100	Long Creek	Escambia	F&W	Duck Creek	Its source	2A	21.93	miles
AL03140303-0405-500	Ninemile Branch	Escambia	F&W	Pigeon Creek	Its source	2A	2.29	miles
AL03140303-0703-102	Sepulga River	Escambia	F&W	Robinson Mill Creek	Its source	2A	46.99	miles
AL03140304-0404-200	Franklin Mill Creek	Escambia	F&W	Murder Creek	Its source	2A	6.60	miles
AL03140304-0501-200	Folley Creek	Escambia	F&W	Conecuh River	Its source	2A	3.68	miles
AL03140304-0505-800	Maye Creek	Escambia	F&W	Conecuh River	Its source	2A	3.81	miles
AL03140304-0602-100	Narrow Gap Creek	Escambia	F&W	Little Escambia Creek	Its source	2A	10.25	miles
AL03140305-0102-100	Sizemore Creek	Escambia	S/F&W	Big Escambia Creek	Its source	2A	14.28	miles
AL03170009-0102-200	Carls Creek	Escatawpa	F&W	Bayou la Batre	Its source	2A	2.93	miles
AL03160204-0106-103	Mobile River	Mobile	PWS/F&W	Barry Steam Plant	Tensaw River	2A	10.29	miles
AL03160204-0402-502	Norton Creek	Mobile	F&W	Saraland WWTP	Its source	2A	3.74	miles
AL03160205-0105-200	North Fork Deer River	Mobile	F&W	Deer River	Its source	2A	1.81	miles
AL03160205-0203-400	Weeks Creek	Mobile	F&W	Magnolia River	Its source	2A	3.58	miles
AL03160205-0203-500	Schoolhouse Branch	Mobile	F&W	Magnolia River	Its source	2A	3.83	miles
AL03160205-0204-400	Turkey Branch	Mobile	S/F&W	Fish River	Its source	2A	13.38	miles
AL03160205-0204-510	Waterhole Branch	Mobile	F&W	Fish River	Its source	2A	7.22	miles
AL03140107-0104-500	Peterson Branch	Perdido	F&W	Perdido Bay	Its source	2A	3.98	miles
AL03140107-0201-100	Wolf Creek	Perdido	F&W	Wolf Bay	Its source	2A	8.91	miles
AL03140107-0201-200	Sandy Creek	Perdido	S/F&W	Wolf Creek	Its source	2A	7.57	miles
AL03140107-0202-101	Miflin Creek	Perdido	S/F&W	Wolf Bay	limit of tidal effects	2A	3.39	miles
AL03150110-0102-103	Sougahatchee Creek	Tallapoosa	PWS/F&W	Sougahatchee Lake	Its source	2A	4.95	miles
AL03150110-0104-102	Sougahatchee Creek	Tallapoosa	F&W	Yates Lake	Sougahatchee Lake dam	2A	47.35	miles
AL03150110-0304-100	Uphapee Creek	Tallapoosa	F&W	Tallapoosa River	Its source	2A	21.16	miles
AL03150110-0803-110	Johnsons Creek	Tallapoosa	F&W	Line Creek	Its source	2A	16.77	miles
AL03150110-0903-300	Goodwater Creek	Tallapoosa	F&W	Tallapoosa River	Its source	2A	7.28	miles
AL06030001-0305-100	Big Coon Creek	Tennessee	F&W	Coon Creek	Its source	2A	12.64	miles
AL06030001-0502-100	Kirby Creek	Tennessee	F&W	South Sauty Creek	Its source	2A	12.52	miles
AL06030002-0204-100	Paint Rock River	Tennessee	F&W	Wheeler Lake	Its source	2A	53.72	miles
AL06030002-1101-103	Swan Creek	Tennessee	F&W	Town Creek	Its source	2A	10.83	miles
AL06030002-1202-200	Neeley Branch	Tennessee	F&W	First Creek	Its source	2A	3.61	miles
AL06030005-0102-101	Muddy Fork	Tennessee	A&I	Big Nance Creek	Crow Branch	2A	11.14	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL06030005-0102-700	Crow Branch	Tennessee	A&I	Muddy Fork	Its source	2A	4.73	miles
AL06030005-0301-200	Chandelower Creek	Tennessee	F&W	Rock Creek	Its source	2A	5.95	miles
AL06030006-0304-500	Rock Creek	Tennessee	F&W	Bear Creek	Its source	2A	20.74	miles
AL03160103-0303-600	Clark Creek	Tombigbee	F&W	Buttahatchee River	Its source	2A	3.96	miles
AL03160106-0506-110	Blubber Creek	Tombigbee	F&W	Lubbub Creek	Its source	2A	20.12	miles
AL03160106-0701-100	Toms Creek	Tombigbee	F&W	Factory Creek	Its source	2A	12.17	miles
AL03160107-0102-100	New River	Tombigbee	F&W	Sipsey River	Its source	2A	24.41	miles
AL03160108-1005-100	Bodka Creek	Tombigbee	F&W	Noxubee River	Alabama-Mississippi state line	2A	17.45	miles
AL03160201-0105-100	Powell Creek	Tombigbee	F&W	Chickasaw Bogue	Its source	2A	18.92	miles
AL03160201-0203-100	Kinterbish Creek	Tombigbee	S/F&W	Tombigbee River	Alabama-Mississippi state line	2A	52.74	miles
AL03160201-0504-100	Yantley Creek	Tombigbee	F&W	Tuckabum Creek	Alabama-Mississippi state line	2A	37.28	miles
AL03160201-0904-102	Wahalak Creek	Tombigbee	F&W	Spear Creek	Its source	2A	11.42	miles
AL03160202-0404-101	Sucarnoochee River	Tombigbee	PWS/S/F&W	US Highway 11	Miuka Creek	2A	6.07	miles
AL03140103-0203-100	Five Runs Creek	Yellow	F&W	Yellow River	Its source	2A	30.72	miles
AL03140103-0303-110	Clear Creek	Yellow	F&W	Yellow River	Its source	2A	13.99	miles

**Category 2B - River and Stream**

AL03150201-0103-100	Mortar Creek	Alabama	F&W	Alabama River	its source	2B	23.99	miles
AL03150201-0105-500	Pierce Creek	Alabama	F&W	Mill Creek	its source	2B	3.42	miles
AL03150201-0107-200	Pine Creek	Alabama	F&W	Alabama River (Woodruff Reservoir)	its source	2B	9.58	miles
AL03150201-0304-110	Little Catoma Creek	Alabama	F&W	Catoma Creek	its source	2B	28.99	miles
AL03150201-0306-110	Waller Creek	Alabama	F&W	Ramer Creek	its source	2B	12.16	miles
AL03150201-0308-100	Catoma Creek	Alabama	F&W	Ramer Creek	its source	2B	21.50	miles
AL03150201-0403-100	Pinchony Creek	Alabama	F&W	Pintlala Creek	its source	2B	18.46	miles
AL03150201-0501-200	Noland Creek	Alabama	F&W	Alabama River	its source	2B	9.96	miles
AL03150201-0502-100	Tallassee Creek	Alabama	F&W	Alabama River	its source	2B	16.91	miles
AL03150201-0601-400	Indian Creek	Alabama	F&W	Swift Creek	its source	2B	4.77	miles
AL03150201-0704-100	Beaver Creek	Alabama	F&W	Alabama River	its source	2B	10.19	miles
AL03150201-0705-100	Ivy Creek	Alabama	F&W	Alabama River	its source	2B	15.51	miles
AL03150201-0801-100	Fort Deposit Creek	Alabama	F&W	Big Swamp Creek	its source	2B	13.52	miles
AL03150201-0802-500	Cherry Creek	Alabama	F&W	Big Swamp Creek	its source	2B	7.71	miles
AL03150201-0903-100	Little Mulberry Creek	Alabama	F&W	Alabama River	its source	2B	38.51	miles
AL03150201-1002-100	Little Mulberry Creek	Alabama	F&W	Mulberry Creek	its source	2B	4.92	miles
AL03150201-1002-200	Byrd Creek	Alabama	F&W	Little Mulberry Creek	its source	2B	6.50	miles
AL03150201-1002-300	Morgan Creek	Alabama	F&W	Little Mulberry Creek	its source	2B	6.66	miles
AL03150203-0104-100	Brush Creek	Alabama	F&W	Mud Creek	its source	2B	15.47	miles
AL03150203-0109-200	Tatum Creek	Alabama	F&W	Bogue Chitto Creek	its source	2B	11.92	miles
AL03150203-0206-100	Dry Cedar Creek	Alabama	F&W	Cedar Creek	its source	2B	28.26	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150203-0206-300	Sullivan Branch	Alabama	F&W	Dry Cedar Creek	its source	2B	8.63	miles
AL03150203-0208-100	Mush Creek	Alabama	F&W	Cedar Creek	its source	2B	24.58	miles
AL03150203-0402-100	Sturdivant Creek	Alabama	F&W	Pine Barren Creek	its source	2B	18.77	miles
AL03150203-0405-100	Bear Creek	Alabama	F&W	Pine Barren Creek	its source	2B	27.35	miles
AL03150203-0501-100	Sand Creek	Alabama	F&W	Chilatchee Creek	its source	2B	13.39	miles
AL03150203-0501-200	Glover Creek	Alabama	F&W	Sand Creek	its source	2B	4.70	miles
AL03150203-0502-100	Rogers Creek	Alabama	F&W	Chilatchee Creek	its source	2B	14.00	miles
AL03150203-0504-100	Little Chilatchee Creek	Alabama	F&W	Chilatchee Creek	its source	2B	12.30	miles
AL03150203-0505-200	Chilatchee Creek	Alabama	S/F&W	Dannelly Lake	its source	2B	36.42	miles
AL03150203-0606-100	Beaver Creek	Alabama	F&W	Claiborne Lake	its source	2B	38.22	miles
AL03150203-0606-200	Red Creek	Alabama	F&W	Beaver Creek	its source	2B	21.96	miles
AL03150204-0203-100	Robinson Creek	Alabama	F&W	Big Flat Creek	its source	2B	24.35	miles
AL03150204-0403-110	Randons Creek	Alabama	F&W	Lovetts Creek	its source	2B	16.17	miles
AL03150204-0403-300	Bear Creek	Alabama	F&W	Randons Creek	its source	2B	9.78	miles
AL03150204-0404-110	Lovetts Creek	Alabama	F&W	Alabama River	its source	2B	16.39	miles
AL03150204-0502-300	Butterfork Creek	Alabama	F&W	Little River	its source	2B	7.70	miles
AL03150204-0502-501	Chitterling Creek	Alabama	F&W	Little River	Little River Lake dam	2B	0.34	miles
AL03150204-0502-503	Chitterling Creek	Alabama	F&W	Little River Lake	its source	2B	4.69	miles
AL03150204-0503-100	Little River	Alabama	S/F&W	Alabama River	its source	2B	33.49	miles
AL03150204-0601-100	Walters Creek	Alabama	F&W	Alabama River	its source	2B	15.40	miles
AL03150204-0602-400	Baileys Creek	Alabama	F&W	Alabama River	its source	2B	9.25	miles
AL03150204-0603-300	Little Reedy Creek	Alabama	F&W	Sizemore Creek	its source	2B	7.52	miles
AL03150204-0604-400	Shomo Creek	Alabama	F&W	Alabama River	its source	2B	11.04	miles
AL03160109-0103-100	Duck River	Black Warrior	F&W	Mulberry Fork	its source	2B	19.28	miles
AL03160109-0107-110	Blue Springs Creek	Black Warrior	F&W	Mulberry Fork	its source	2B	13.97	miles
AL03160109-0108-102	Mud Creek	Black Warrior	F&W	Alabama Highway 31	its source	2B	4.66	miles
AL03160109-0109-103	Mulberry Fork	Black Warrior	F&W	Blount County Road 6	its source	2B	14.74	miles
AL03160109-0205-200	Sullivan Creek	Black Warrior	F&W	Mulberry Fork	its source	2B	8.20	miles
AL03160109-0206-510	Sloan Creek	Black Warrior	F&W	Mulberry Fork	its source	2B	5.62	miles
AL03160109-0301-110	Splunge Creek	Black Warrior	F&W	Blackwater Creek	its source	2B	20.11	miles
AL03160109-0306-100	Spring Creek	Black Warrior	F&W	Blackwater Creek	its source	2B	7.90	miles
AL03160109-0402-103	Lost Creek	Black Warrior	F&W	US Highway 78 at Carbon Hill	Cranford Creek	2B	0.66	miles
AL03160109-0402-104	Lost Creek	Black Warrior	S/F&W	Cranford Creek	its source	2B	8.33	miles
AL03160109-0403-102	Lost Creek	Black Warrior	F&W	Mill dam at Cedrum	US Highway 78 north of Cedrum	2B	1.23	miles
AL03160109-0403-140	Baker Branch	Black Warrior	F&W	Burton Creek	its source	2B	1.98	miles
AL03160109-0405-131	Lost Creek	Black Warrior	S/F&W	Cane Creek	Indian Creek	2B	2.89	miles
AL03160109-0405-132	Lost Creek	Black Warrior	F&W	Indian Creek	Alabama Highway 69 at Oakman	2B	11.61	miles
AL03160109-0603-102	Mulberry Fork	Black Warrior	PWS/F&W	Frog Ague Creek	Sipsey Fork	2B	13.54	miles
AL03160110-0201-300	Collier Creek	Black Warrior	F&W	Brushy Creek	Its source	2B	5.31	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160110-0201-800	West Fork Beech Creek	Black Warrior	F&W	Beech Creek	Its source	2B	3.95	miles
AL03160110-0302-200	Little Clear Creek	Black Warrior	F&W	Clear Creek	Its source	2B	11.53	miles
AL03160110-0506-100	Mill Creek	Black Warrior	F&W	Sipsey Fork	Its source	2B	12.99	miles
AL03160110-0506-200	Little Mill Creek	Black Warrior	F&W	Mill Creek	Its source	2B	6.01	miles
AL03160111-0101-100	Bristow Creek	Black Warrior	F&W	Locust Fork	Its source	2B	9.51	miles
AL03160111-0103-100	Clear Creek	Black Warrior	F&W	Locust Fork	Its source	2B	16.40	miles
AL03160111-0106-100	Slab Creek	Black Warrior	F&W	Locust Fork	Its source	2B	24.98	miles
AL03160111-0106-110	Little Reedbrake Creek	Black Warrior	F&W	Slab Creek	Its source	2B	2.92	miles
AL03160111-0201-100	Wynnvilke Creek	Black Warrior	F&W	Locust Fork	Its source	2B	5.98	miles
AL03160111-0303-200	Sand Valley Creek	Black Warrior	F&W	Gurley Creek	Its source	2B	5.55	miles
AL03160111-0304-201	Self Creek	Black Warrior	F&W	Gurley Creek	Alabama Highway 79	2B	8.55	miles
AL03160111-0304-202	Self Creek	Black Warrior	PWS	Alabama Highway 79	Its source	2B	4.14	miles
AL03160111-0401-100	Crooked Creek	Black Warrior	F&W	Locust Fork	Its source	2B	10.03	miles
AL03160111-0404-500	Ward Creek	Black Warrior	F&W	Locust Fork	Its source	2B	6.65	miles
AL03160111-0410-100	Locust Fork	Black Warrior	F&W	Village Creek	Jefferson County Road 77	2B	23.26	miles
AL03160112-0101-102	Valley Creek	Black Warrior	LWF	Opossum Creek	Its source	2B	13.53	miles
AL03160112-0104-400	Lick Creek	Black Warrior	F&W	Valley Creek	Its source	2B	8.13	miles
AL03160112-0202-200	Clifty Creek	Black Warrior	F&W	Big Yellow Creek	Its source	2B	4.91	miles
AL03160112-0301-300	Little Bear Creek	Black Warrior	F&W	Blue Creek	Its source	2B	3.48	miles
AL03160112-0303-120	Hanna Mill Creek	Black Warrior	F&W	Davis Creek	Its source	2B	4.62	miles
AL03160112-0303-400	Prudes Creek	Black Warrior	F&W	Davis Creek	Its source	2B	3.78	miles
AL03160112-0401-101	Clear Creek	Black Warrior	F&W	North River	Bugs Lake dam	2B	3.82	miles
AL03160112-0401-103	Clear Creek	Black Warrior	PWS	Bugs Lake	Its source	2B	7.66	miles
AL03160112-0402-102	North River	Black Warrior	S/F&W	Ellis Creek	Its source	2B	16.39	miles
AL03160112-0403-200	Cedar Creek	Black Warrior	F&W	North River	Its source	2B	13.97	miles
AL03160112-0407-100	Cripple Creek	Black Warrior	F&W	North River	Its source	2B	10.45	miles
AL03160112-0412-100	Carroll Creek	Black Warrior	F&W	North River	Its source	2B	15.12	miles
AL03160112-0413-101	North River	Black Warrior	F&W	Black Warrior River	Lake Tuscaloosa dam	2B	1.60	miles
AL03160112-0501-101	Yellow Creek	Black Warrior	F&W	Oliver Lake	Lake Harris dam	2B	2.88	miles
AL03160113-0105-100	Big Sandy Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	37.36	miles
AL03160113-0201-100	Mill Creek	Black Warrior	F&W	Warrior Lake	Its source	2B	10.36	miles
AL03160113-0202-200	Big Creek	Black Warrior	F&W	Black Warrior River	Its source	2B	12.12	miles
AL03160113-0202-350	UT to Tater Hill Creek	Black Warrior	F&W	Tater Hill Creek	Its source	2B	2.20	miles
AL03160113-0203-110	Cypress Creek	Black Warrior	F&W	Warrior Lake	Its source	2B	14.63	miles
AL03160113-0302-110	Elliotts Creek	Black Warrior	F&W	Warrior Lake	Its source	2B	24.74	miles
AL03160113-0402-100	Fivemile Creek	Black Warrior	F&W	Warrior Lake	Payne Lake dam	2B	32.16	miles
AL03160113-0501-100	Brush Creek	Black Warrior	F&W	Big Brush Creek	Its source	2B	17.35	miles
AL03160113-0502-110	Sparks Creek	Black Warrior	F&W	Big Brush Creek	Its source	2B	10.06	miles
AL03160113-0506-100	Big Brush Creek	Black Warrior	F&W	Warrior Lake	Its source	2B	27.29	miles
AL03160113-0601-100	Grant Creek	Black Warrior	F&W	Warrior Lake	Its source	2B	11.18	miles
AL03160113-0603-100	Buck Creek	Black Warrior	F&W	Warrior Lake	Its source	2B	12.97	miles
AL03160113-0604-300	Millians Creek	Black Warrior	F&W	Gabriel Creek	Its source	2B	16.91	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160113-0606-100	Minter Creek	Black Warrior	F&W	Warrior Lake	Its source	2B	16.82	miles
AL03160113-0702-100	Dry Creek	Black Warrior	F&W	Big Prairie Creek	Its source	2B	15.28	miles
AL03160113-0707-110	Big German Creek	Black Warrior	F&W	Big Prairie Creek	Its source	2B	15.21	miles
AL03160113-0802-110	Hines Creek	Black Warrior	F&W	Lake Demopolis	Its source	2B	9.87	miles
AL03150202-0203-103	Buck Creek	Cahaba	F&W	Shelby County Road 44	Its source	2B	8.35	miles
AL03150202-0403-600	Spring Creek	Cahaba	F&W	Shoal Creek	Its source	2B	9.38	miles
AL03150202-0503-200	Sandy Creek	Cahaba	F&W	Cahaba River	Its source	2B	16.29	miles
AL03150202-0504-100	Haysop Creek	Cahaba	F&W	Cahaba River	Its source	2B	26.81	miles
AL03150202-0505-100	Affonee Creek	Cahaba	S	Cahaba River	Its source	2B	18.51	miles
AL03150202-0506-300	Gully Creek	Cahaba	F&W	Cahaba River	Its source	2B	7.72	miles
AL03150202-0507-100	Blue Girth Creek	Cahaba	S	Cahaba River	Its source	2B	15.08	miles
AL03150202-0601-200	Wallace Creek	Cahaba	F&W	Cahaba River	Its source	2B	8.94	miles
AL03150202-0601-300	Potato Patch Creek	Cahaba	F&W	Cahaba River	Its source	2B	7.54	miles
AL03150202-0601-400	Taylor Creek	Cahaba	F&W	Cahaba River	Its source	2B	8.77	miles
AL03150202-0602-200	Old Town Creek	Cahaba	S	Cahaba River	Its source	2B	12.66	miles
AL03150202-0603-300	Mill Creek	Cahaba	F&W	Cahaba River	Its source	2B	11.35	miles
AL03150202-0701-100	Rice Creek	Cahaba	F&W	Cahaba River	Its source	2B	14.87	miles
AL03150202-0702-210	Waters Creek	Cahaba	S	Cahaba River	Its source	2B	9.93	miles
AL03150202-0702-300	Wells Creek	Cahaba	F&W	Cahaba River	Its source	2B	5.36	miles
AL03150202-0703-200	Possum Creek	Cahaba	F&W	Cahaba River	Its source	2B	8.97	miles
AL03150202-0801-100	Beaverdam Creek	Cahaba	F&W	Oakmulgee Creek	Its source	2B	13.49	miles
AL03150202-0805-100	Oakmulgee Creek	Cahaba	S	Cahaba River	Its source	2B	56.67	miles
AL03150202-0902-501	Dry Creek	Cahaba	F&W	Cahaba River	Dallas County Road 201	2B	4.50	miles
AL03130003-0104-102	Chattahoochee River	Chattahoochee	PWS/S/F&W	14th Street Bridge between Columbus and Phenix City	Oliver Dam	2B	3.15	miles
AL03130003-0403-100	Little Uchee Creek	Chattahoochee	F&W	Uchee Creek	Its source	2B	36.54	miles
AL03130003-0501-200	Snake Creek	Chattahoochee	F&W	Uchee Creek	Its source	2B	11.40	miles
AL03130003-0503-100	Uchee Creek	Chattahoochee	S/F&W	Island Creek	Its source	2B	22.59	miles
AL03130003-0505-101	Uchee Creek	Chattahoochee	S/F&W	Walter F George Lake	County Road 39	2B	8.96	miles
AL03130003-0505-102	Uchee Creek	Chattahoochee	PWS/S/F&W	County Road 39	Island Creek	2B	11.59	miles
AL03130003-0903-102	Chattahoochee River	Chattahoochee	F&W	Cliatt Branch	14th Street Bridge between Columbus and Phenix City	2B	41.77	miles
AL03130004-0602-202	Poplar Spring Branch	Chattahoochee	F&W	Ross Clark Circle	Its source	2B	3.46	miles
AL03130004-0604-100	Spivey Mill Creek	Chattahoochee	F&W	Omusee Creek	Its source	2B	8.07	miles
AL03130004-0607-100	Omusee Creek	Chattahoochee	F&W	Chattahoochee River	Its source	2B	28.05	miles
AL03130012-0106-100	Buck Creek	Chipola	F&W	Alabama-Florida state line	Its source	2B	11.11	miles
AL03140201-0201-200	Jack Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	2B	5.83	miles
AL03140201-0203-200	Panther Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	2B	7.63	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03140201-0204-200	Deal Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	2B	6.57	miles
AL03140201-0303-300	Blacks Creek	Choctawhatchee	F&W	Judy Creek	Its source	2B	5.62	miles
AL03140201-0503-200	Camp Creek	Choctawhatchee	F&W	Little Choctawhatchee River	Its source	2B	4.29	miles
AL03140201-0504-300	Panther Creek	Choctawhatchee	F&W	Little Choctawhatchee River	Its source	2B	7.13	miles
AL03140201-1004-400	Cox Mill Creek	Choctawhatchee	F&W	Hurricane Creek	Its source	2B	2.53	miles
AL03140201-1004-800	Sandy Branch	Choctawhatchee	F&W	Hurricane Creek	Its source	2B	2.34	miles
AL03140201-1102-200	Little Double Bridges Creek	Choctawhatchee	F&W	Double Bridges Creek	Its source	2B	10.25	miles
AL03140201-1103-100	Tight Eye Creek	Choctawhatchee	F&W	Double Bridges Creek	Its source	2B	14.69	miles
AL03140201-1202-200	Providence Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	2B	1.70	miles
AL03140201-1203-110	Adams Creek	Choctawhatchee	F&W	Rocky Creek	Its source	2B	1.97	miles
AL03140202-0104-100	Pea Creek	Choctawhatchee	F&W	Pea River	Its source	2B	22.85	miles
AL03140202-0206-200	Double Creek	Choctawhatchee	F&W	Mill Creek	Its source	2B	9.30	miles
AL03140202-0407-400	Cowpen Creek	Choctawhatchee	F&W	Big Creek	Its source	2B	4.19	miles
AL03140202-0407-500	Sweetwater Creek	Choctawhatchee	F&W	Big Creek	Its source	2B	6.82	miles
AL03140202-0502-103	Pea River	Choctawhatchee	F&W	Kaiser Branch	Buckhorn Creek	2B	8.89	miles
AL03140202-0701-100	Panther Creek	Choctawhatchee	F&W	Flat Creek	Its source	2B	10.81	miles
AL03140202-0803-100	Flat Creek	Choctawhatchee	F&W	Pea River	Eightmile Creek	2B	4.72	miles
AL03140202-0905-110	Sandy Creek	Choctawhatchee	F&W	Pea River	Its source	2B	10.91	miles
AL03140203-0701-100	Holmes Creek	Choctawhatchee	F&W	Alabama-Florida state line	Its source	2B	6.72	miles
AL03150106-0107-100	Black Creek	Coosa	F&W	Neely Henry Lake	Its source	2B	26.97	miles
AL03150106-0305-200	Gulf Creek	Coosa	F&W	Big Canoe Creek	Its source	2B	9.17	miles
AL03150106-0406-210	Tallaseehatchee Creek	Coosa	F&W	Ohatchee Creek	Its source	2B	35.97	miles
AL03150106-0509-200	Fayne Creek	Coosa	F&W	Cheaha Creek	Its source	2B	11.10	miles
AL03150106-0510-100	Kelly Creek	Coosa	F&W	Cheaha Creek	Its source	2B	12.25	miles
AL03140301-0201-100	Mannings Creek	Escambia	F&W	Conecuh River	Its source	2B	18.99	miles
AL03140301-0202-100	Beeman Creek	Escambia	F&W	Conecuh River	Its source	2B	14.28	miles
AL03140301-0404-103	Conecuh River	Escambia	F&W	Hornet Creek	Broadhead Creek	2B	35.36	miles
AL03140302-0303-100	Little Patsaliga Creek	Escambia	S/F&W	Patsaliga Creek	Its source	2B	32.00	miles
AL03140302-0506-102	Patsaliga Creek	Escambia	F&W	Buck Creek	Its source	2B	83.17	miles
AL03140303-0201-102	Rocky Creek	Escambia	F&W	County road north of Chapman	Its source	2B	12.64	miles
AL03140303-0702-100	Bottle Creek	Escambia	F&W	Sepulga River	Its source	2B	13.90	miles
AL03140304-0104-200	Shack Creek	Escambia	F&W	Murder Creek	Its source	2B	7.37	miles
AL03140304-0201-102	Cedar Creek	Escambia	F&W	Alabama-Florida state line	Its source	2B	7.28	miles
AL03140304-0201-200	Little Cedar Creek	Escambia	F&W	Cedar Creek	Its source	2B	6.40	miles
AL03140304-0502-100	Silas Creek	Escambia	F&W	Conecuh River	Its source	2B	1.57	miles
AL03140304-0506-300	Jernigan Mill Creek	Escambia	F&W	Conecuh River	Its source	2B	7.64	miles
AL03140304-0601-100	Little Escambia Creek	Escambia	F&W	Wild Fork Creek	Its source	2B	15.31	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03140305-0206-102	Big Escambia Creek	Escambia	F&W	Big Spring Creek	Its source	2B	27.55	miles
AL03170002-0604-100	Red Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	2B	15.95	miles
AL03170008-0201-100	Little Creek	Escatawpa	F&W	Escatawpa River	Its source	2B	12.05	miles
AL03170008-0201-600	Long Branch	Escatawpa	F&W	Pond Creek	Its source	2B	3.45	miles
AL03170008-0203-100	Bennett Creek	Escatawpa	F&W	Escatawpa River	Its source	2B	11.79	miles
AL03170008-0601-400	Pierce Creek	Escatawpa	F&W	Big Creek	Its source	2B	10.23	miles
AL03170009-0103-200	West Fowl River	Escatawpa	S/F&W	Fowl River bay	Its source	2B	5.84	miles
AL03160204-0201-200	Aikin Creek	Mobile	F&W	Rains Creek	Its source	2B	9.58	miles
AL03160205-0101-102	Dog River	Mobile	F&W	Moore Creek	Its source	2B	5.50	miles
AL03160205-0101-300	Robinson Bayou	Mobile	F&W	Dog River	Its source	2B	1.97	miles
AL03160205-0103-200	Perch Creek	Mobile	F&W	Dog River	Its source	2B	3.64	miles
AL03160205-0103-300	Alligator Bayou	Mobile	F&W	Dog River	Its source	2B	4.47	miles
AL03160205-0103-402	Rabbit Creek	Mobile	F&W	Alabama Highway 193	Its source	2B	8.20	miles
AL03160205-0104-210	East Fowl River	Mobile	S/F&W	Fowl River	Its source	2B	5.38	miles
AL03160205-0206-701	UT to Bon Secour River	Mobile	F&W	Bon Secour River	Baldwin County Road 65	2B	0.61	miles
AL03140106-0302-102	Brushy Creek	Perdido	F&W	Boggy Branch	Its source	2B	9.12	miles
AL03140106-0504-100	Styx River	Perdido	S/F&W	Hollinger Creek	Its source	2B	22.72	miles
AL03140106-0603-102	Blackwater River	Perdido	F&W	Narrow Gap Creek	Its source	2B	27.30	miles
AL03140106-0701-102	Perdido River	Perdido	F&W	Jacks Branch	Its source	2B	43.48	miles
AL03150108-1004-115	Tallapoosa River	Tallapoosa	F&W	Cleburne County Road 19	Cane Creek	2B	5.85	miles
AL03150108-1005-100	Mad Indian Creek	Tallapoosa	F&W	R L Harris Lake	Its source	2B	13.26	miles
AL03150109-0406-100	Hillabee Creek	Tallapoosa	F&W	Lake Martin	Oaktasasi Creek	2B	4.30	miles
AL03150109-0504-102	Sandy Creek	Tallapoosa	F&W	Lake Martin	Its source	2B	29.62	miles
AL03150109-0802-105	Tallapoosa River	Tallapoosa	F&W	Irwin Shoals	Alabama Highway 77	2B	36.94	miles
AL03150110-0501-100	Persimmon Creek	Tallapoosa	F&W	Calebee Creek	Its source	2B	13.87	miles
AL03150110-0702-100	Bughall Creek	Tallapoosa	F&W	Old Town Creek	Its source	2B	31.44	miles
AL03150110-0801-100	Panther Creek	Tallapoosa	F&W	Line Creek	Its source	2B	20.57	miles
AL03150110-0904-102	Tallapoosa River	Tallapoosa	PWS/F&W	Jenkins Creek	Thurlow dam	2B	30.00	miles
AL03150110-0905-101	Tallapoosa River	Tallapoosa	F&W	Alabama River	US Highway 231	2B	6.47	miles
AL06030002-0302-100	West Fork Flint River	Tennessee	F&W	Flint River	Its source	2B	1.76	miles
AL06030002-0505-102	Indian Creek	Tennessee	F&W	Martin Road (Redstone Arsenal)	US Highway 72	2B	10.37	miles
AL06030002-0602-103	West Fork Cotaco Creek	Tennessee	F&W	Frost Creek	Its source	2B	2.93	miles
AL06030002-0606-100	Cotaco Creek	Tennessee	S/F&W	Tennessee River	Guyer Branch	2B	11.76	miles
AL06030002-1012-102	West Flint Creek	Tennessee	F&W	McDaniel Creek	Its source	2B	24.32	miles
AL06030005-0801-202	McKiernan Creek	Tennessee	F&W	Tennessee River (Wilson Lake)	Its source	2B	3.71	miles
AL06030005-0806-100	Sinking Creek	Tennessee	F&W	Tennessee River	Its source	2B	16.38	miles
AL06030006-0101-102	Little Bear Creek	Tennessee	PWS/S/F&W	Bear Creek (Upper Bear Creek Lake)	Its source	2B	9.95	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL06030006-0102-103	Bear Creek	Tennessee	F&W	Alabama Highway 243	Its source	2B	10.97	miles
AL06030006-0205-104	Little Bear Creek	Tennessee	S/F&W	Alabama Highway 187	Its source	2B	14.01	miles
AL06030006-0206-101	Little Bear Creek	Tennessee	S/F&W	Cedar Creek	Little Bear Creek dam	2B	11.88	miles
AL06030006-0207-100	Cedar Creek	Tennessee	F&W	Alabama-Mississippi state line	Cedar Creek Lake dam	2B	18.75	miles
AL06030006-0305-100	Buzzard Roost Creek	Tennessee	F&W	Pickwick Lake	Its source	2B	21.80	miles
AL03160103-0101-600	Moore Creek	Tombigbee	F&W	West Branch Buttahatchee River	Its source	2B	3.47	miles
AL03160106-0702-102	Factory Creek	Tombigbee	F&W	Demopolis Lake	Its source	2B	20.71	miles
AL03160107-0201-102	Sipsey River	Tombigbee	PWS/F&W	US Highway 43	Alabama Highway 102	2B	12.61	miles
AL03160107-0201-103	Sipsey River	Tombigbee	F&W	Alabama Highway 102	Its source	2B	20.17	miles
AL03160107-0303-102	Sipsey River	Tombigbee	F&W	Tuscaloosa county line	US Highway 43	2B	74.42	miles
AL03160201-0601-100	Mill Creek	Tombigbee	F&W	Horse Creek	Its source	2B	14.15	miles
AL03140103-0302-400	UT to Yellow River	Yellow	F&W	Yellow River	Its source	2B	5.44	miles
AL03140103-0305-102	Yellow River	Yellow	F&W	North Creek	Its source	2B	35.05	miles

**Category 2A - Lake and Reservoir**

AL03150201-0407-111	Pintlala Creek (Woodruff Lake)	Alabama	S/F&W	Alabama River	end of embayment	2A	34.10	acres
AL03150203-0110-111	Bogue Chitto Creek (Dannelly Lake)	Alabama	F&W	Alabama River	end of embayment	2A	546.56	acres
AL03150203-0408-111	Pine Barren Creek (Dannelly Lake)	Alabama	S/F&W	Alabama River	end of embayment	2A	763.19	acres
AL03160110-0305-202	Clear Creek (Smith Lake)	Black Warrior	S/F&W	Coon Creek	Caney Creek	2A	782.08	acres
AL03160112-0202-100	Big Yellow Creek (Bankhead Lake)	Black Warrior	S/F&W	Black Warrior River	end of embayment	2A	445.51	acres
AL03150110-0102-102	Sougahatchee Creek (Sougahatchee Lake)	Tallapoosa	PWS/F&W	Sougahatchee Lake dam	extent of reservoir	2A	346.36	acres
AL06030002-0204-111	Paint Rock River (Wheeler Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	2A	91.34	acres

**Category 2B - Lake and Reservoir**

AL03150201-0311-111	Catoma Creek (Woodruff Lake)	Alabama	F&W	Alabama River	end of embayment	2B	368.99	acres
AL03150201-0603-111	Swift Creek (Woodruff Lake)	Alabama	S/F&W	Alabama River	end of embayment	2B	295.69	acres
AL03150203-0505-111	Chilatchee Creek (Dannelly Lake)	Alabama	S/F&W	Alabama River	end of embayment	2B	612.57	acres
AL03150203-0606-111	Beaver Creek (Claiborne Lake)	Alabama	PWS	Alabama River	end of embayment	2B	9.18	acres

### Categorization of Alabama Waters

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150203-0703-102	Alabama River (Claiborne Lake)	Alabama	PWS	Rockwest Creek	Millers Ferry Lock and Dam	2B	386.28	acres
AL03150204-0502-502	Chitterling Creek (Little River Lake)	Alabama	S/F&W	Little River Lake dam	extent of reservoir	2B	32.98	acres
AL03160110-0504-500	Simpson Creek (Smith Lake)	Black Warrior	S/F&W	Ryan Creek	end of embayment	2B	1319.43	acres
AL03160112-0302-300	UT to Rockcastle Creek (Ski Lake)	Black Warrior	F&W	Ski Lake dam	extent of reservoir	2B	106.72	acres
AL03160112-0302-400	UT to Rockcastle Creek (Catfish Lake)	Black Warrior	F&W	Catfish Lake dam	extent of reservoir	2B	10.00	acres
AL03160112-0401-112	Clear Creek (Bugs Lake)	Black Warrior	PWS	Bugs Lake dam	extent of reservoir	2B	63.96	acres
AL03160112-0501-102	Yellow Creek (Lake Harris)	Black Warrior	PWS	Lake Harris dam	Little Yellow Creek	2B	450.31	acres
AL03150110-0406-103	Tallapoosa River (Yates Lake)	Tallapoosa	PWS/S/F&W	Yates dam	Martin Dam	2B	1595.89	acres

#### Category 2B - Ocean and Estuary

AL03140107-0203-102	Wolf Bay	Perdido	SH/S/F&W	Moccasin Bayou	Its source	2B	0.22	sq. miles
AL03140107-0204-301	Perdido Bay	Perdido	SH/S/F&W	Gulf of Mexico	Suarez Point	2B	11.85	sq. miles
AL03140107-0204-500	Bay la Launch	Perdido	SH/S/F&W	Arnica Bay	Wolf Bay	2B	1.48	sq. miles
AL03140107-0204-600	Wolf Bay	Perdido	OAW/SH/S/F&W	Bay la Launch	Moccasin Bayou	2B	4.65	sq. miles

#### Category 3 - River and Stream

AL03150201-0101-100	Bouldin tailrace canal	Alabama	F&W	Coosa River	Bouldin Dam	3	4.74	miles
AL03150201-0802-400	Ballards Creek	Alabama	F&W	Big Swamp Creek	its source	3	9.41	miles
AL03150201-1003-400	Gale Creek	Alabama	F&W	Mulberry Creek	its source	3	7.39	miles
AL03150201-1003-600	Charlotte Creek	Alabama	F&W	Gale Creek	its source	3	4.14	miles
AL03150203-0102-200	Sand Creek	Alabama	F&W	Bogue Chitto Creek	its source	3	7.91	miles
AL03150203-0301-100	Big Swamp Creek	Alabama	F&W	Alabama River	its source	3	18.67	miles
AL03150203-0603-100	Turkey Creek	Alabama	F&W	Beaver Creek	its source	3	29.98	miles
AL03150203-0703-300	Rockwest Creek	Alabama	F&W	Alabama River	its source	3	12.69	miles
AL03150203-0703-900	UT to Rockwest Creek	Alabama	F&W	Rockwest Creek	its source	3	3.80	miles
AL03150204-0302-500	Hudson Branch	Alabama	F&W	Limestone Creek	its source	3	3.54	miles
AL03150204-0303-110	Double Bridges Creek	Alabama	F&W	Limestone Creek	its source	3	7.37	miles
AL03150204-0304-100	Limestone Creek	Alabama	F&W	Alabama River	its source	3	28.16	miles
AL03160109-0102-800	Wolf Creek	Black Warrior	F&W	Duck River	its source	3	4.31	miles
AL03160109-0104-201	Bridge Creek	Black Warrior	F&W	Eightmile Creek	George Lake dam	3	4.41	miles
AL03160109-0104-800	Adams Branch	Black Warrior	PWS	George Lake	its source	3	1.96	miles
AL03160109-0104-900	Pope Creek	Black Warrior	PWS	George Lake	its source	3	2.84	miles
AL03160109-0405-102	Lost Creek	Black Warrior	PWS/F&W	Two miles upstream from Wolf Creek	Cane Creek	3	4.92	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160109-0405-500	Indian Creek	Black Warrior	F&W	Lost Creek	its source	3	7.10	miles
AL03160109-0503-400	Indian Creek	Black Warrior	F&W	Wolf Creek	its source	3	11.50	miles
AL03160109-0601-902	Town Creek	Black Warrior	F&W	100 yards upstream of Southern Railway crossing	its source	3	6.27	miles
AL03160109-0603-101	Mulberry Fork	Black Warrior	PWS/F&W	Burnt Cane Creek	Frog Ague Creek	3	8.60	miles
AL03160109-0603-200	Burnt Cane Creek	Black Warrior	F&W	Mulberry Fork	its source	3	10.31	miles
AL03160109-0603-700	Frog Ague Creek	Black Warrior	F&W	Mulberry Fork	Its source	3	4.46	miles
AL03160109-0604-102	Mulberry Fork	Black Warrior	PWS/S/F&W	Baker Creek	Burnt Cane Creek	3	8.60	miles
AL03160110-0104-701	Curtis Mill Creek	Black Warrior	F&W	Sandy Creek	Town of Double Springs water supply reservoir dam	3	3.67	miles
AL03160110-0201-400	Beech Creek	Black Warrior	F&W	Brushy Creek	Its source	3	2.08	miles
AL03160110-0503-100	Rock Creek	Black Warrior	F&W	Ryan Creek	Its source	3	12.39	miles
AL03160111-0201-600	Whippoorwill Creek	Black Warrior	F&W	Wynville Creek	Its source	3	6.98	miles
AL03160111-0206-500	Chitwood Creek	Black Warrior	F&W	Calvert Prong	Its source	3	2.78	miles
AL03160111-0206-700	Whited Creek	Black Warrior	F&W	Calvert Prong	Its source	3	4.19	miles
AL03160111-0206-800	Mill Creek	Black Warrior	F&W	Chitwood Creek	Its source	3	6.39	miles
AL03160111-0307-200	Cunningham Creek	Black Warrior	F&W	Turkey Creek	Its source	3	11.60	miles
AL03160112-0301-200	Lick Creek	Black Warrior	F&W	Blue Creek	Its source	3	2.99	miles
AL03160113-0202-300	Tater Hill Creek	Black Warrior	F&W	Warrior Lake	Its source	3	4.58	miles
AL03160113-0504-200	Little Brush Creek	Black Warrior	F&W	Big Brush Creek	Its source	3	10.76	miles
AL03160113-0505-110	Colwell Creek	Black Warrior	F&W	Big Brush Creek	Its source	3	11.79	miles
AL03160113-0604-400	Martin Creek	Black Warrior	F&W	Gabriel Creek	Its source	3	1.20	miles
AL03160113-0607-400	Pole Bridge Branch	Black Warrior	F&W	Warrior Lake	Its source	3	8.39	miles
AL03160113-0801-100	Dollarhide Creek	Black Warrior	F&W	Lake Demopolis	Its source	3	8.59	miles
AL03160113-0803-900	White Creek	Black Warrior	F&W	Lake Demopolis	Its source	3	8.38	miles
AL03140104-0103-500	Bear Head Creek	Blackwater	F&W	Bear Creek	Its source	3	4.63	miles
AL03140104-0104-200	Boggy Hollow Creek	Blackwater	F&W	Alabama-Florida state line	Its source	3	7.45	miles
AL03140104-0105-110	Rock Creek	Blackwater	F&W	Alabama-Florida state line	Its source	3	1.98	miles
AL03140104-0301-100	Sweetwater Creek	Blackwater	F&W	Alabama-Florida state line	Its source	3	4.23	miles
AL03140104-0303-100	Big Jumiper Creek	Blackwater	F&W	Alabama-Florida state line	Its source	3	0.49	miles
AL03140104-0402-100	Dixon Creek	Blackwater	F&W	Alabama-Florida state line	Its source	3	0.77	miles
AL03150202-0101-103	Cahaba River	Cahaba	OAW/F&W	I-59	Its source	3	2.22	miles
AL03150202-0201-100	Peavine Creek	Cahaba	F&W	Buck Creek	Its source	3	10.01	miles
AL03150202-0202-300	UT to Cahaba Valley Creek	Cahaba	F&W	Cahaba Valley Creek	Its source	3	2.31	miles
AL03150202-0303-800	Little Shades Creek	Cahaba	F&W	Shades Creek	Its source	3	8.99	miles
AL03150202-0402-100	Mahan Creek	Cahaba	F&W	Little Cahaba River	Its source	3	15.47	miles
AL03150202-0403-110	Shoal Creek	Cahaba	F&W	Little Cahaba River	Its source	3	19.09	miles
AL03150202-0404-110	Sixmile Creek	Cahaba	S	Little Cahaba River	Its source	3	27.27	miles
AL03150202-0502-100	Schultz Creek	Cahaba	S	Cahaba River	Its source	3	16.39	miles
AL03130002-0804-100	Guss Creek	Chattahoochee	F&W	Wehadkee Creek	Its source	3	6.63	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03130002-0804-400	Gladney Mill Branch	Chattahoochee	F&W	Guss Creek	Its source	3	3.17	miles
AL03130002-0805-102	Veasey Creek	Chattahoochee	F&W	Alabama-Georgia state line	Its source	3	10.51	miles
AL03130002-0805-400	Finley Creek	Chattahoochee	F&W	Stroud Creek	Its source	3	4.98	miles
AL03130002-0902-300	Allen Creek	Chattahoochee	F&W	Oseligee Creek	Its source	3	4.89	miles
AL03130002-0902-400	Kellem Hill Creek	Chattahoochee	F&W	Oseligee Creek	Its source	3	4.69	miles
AL03130002-0903-200	Oseligee Creek	Chattahoochee	F&W	Alabama-Georgia state line	Its source	3	18.71	miles
AL03130002-0903-300	Hardley Creek	Chattahoochee	F&W	Alabama-Georgia state line	Its source	3	10.22	miles
AL03130003-0101-200	Holland Creek	Chattahoochee	F&W	Mill Creek	Its source	3	5.18	miles
AL03130003-1301-100	Chewalla Creek	Chattahoochee	S/F&W	Walter F George Lake	Its source	3	13.50	miles
AL03130003-1310-100	Cheneyhatchee Creek	Chattahoochee	S/F&W	Walter F George Lake	Its source	3	8.18	miles
AL03130004-0303-100	Skippers Creek	Chattahoochee	F&W	Abbie Creek	Its source	3	6.71	miles
AL03130004-0304-200	Vann Mill Creek	Chattahoochee	F&W	Abbie Creek	Its source	3	3.04	miles
AL03130004-0703-102	Chattahoochee River	Chattahoochee	S/F&W	Woods Branch	Walter F. George Lock and Dam	3	36.04	miles
AL03130004-0801-200	Irwin Mill Creek	Chattahoochee	F&W	Alabama-Florida state line	Its source	3	4.17	miles
AL03130012-0101-210	Harkin Branch	Chipola	F&W	Limestone Creek	Its source	3	3.31	miles
AL03130012-0101-310	Chipola Creek	Chipola	F&W	Limestone Creek	Its source	3	6.41	miles
AL03130012-0102-210	Coopers Bay Creek	Chipola	F&W	Big Creek	Its source	3	3.17	miles
AL03130012-0102-310	Chestnut Branch	Chipola	F&W	Big Creek	Its source	3	2.36	miles
AL03130012-0102-400	Big Branch	Chipola	F&W	Coopers Bay Creek	Its source	3	3.22	miles
AL03130012-0103-110	Double Bridges Creek	Chipola	F&W	Big Creek	Its source	3	9.22	miles
AL03130012-0104-100	Marshall Creek	Chipola	F&W	Alabama-Florida state line	Its source	3	3.80	miles
AL03130012-0105-100	Spring Creek	Chipola	F&W	Big Creek	Its source	3	13.68	miles
AL03130012-0107-100	Freeman Branch	Chipola	F&W	Alabama-Florida state line	Its source	3	3.83	miles
AL03130012-0201-210	Mill Creek	Chipola	F&W	Cowarts Creek	Its source	3	9.43	miles
AL03130012-0201-310	Webb Creek	Chipola	F&W	Cowarts Creek	Its source	3	10.22	miles
AL03130012-0201-410	Cooper Creek	Chipola	F&W	Cowarts Creek	Its source	3	3.13	miles
AL03130012-0202-100	Rocky Creek	Chipola	F&W	Cowarts Creek	Its source	3	11.70	miles
AL03130012-0202-310	Little Rocky Creek	Chipola	F&W	Rocky Creek	Its source	3	5.14	miles
AL03130012-0203-200	Gum Slough	Chipola	F&W	Alabama-Florida state line	Its source	3	6.74	miles
AL03130012-0203-300	Guy Branch	Chipola	F&W	Cowarts Creek	Its source	3	4.48	miles
AL03130012-0203-400	Bazemores Mill Branch	Chipola	F&W	Cowarts Creek	Its source	3	1.38	miles
AL03140201-0102-100	Piney Woods Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	3	9.23	miles
AL03140201-0102-200	Little Piney Woods Creek	Choctawhatchee	F&W	Piney Woods Creek	Its source	3	3.64	miles
AL03140201-0202-100	Poor Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	3	10.71	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03140201-0206-100	Blackwood Creek	Choctawhatchee	F&W	East Fork Choctawhatchee River	Its source	3	11.33	miles
AL03140201-0302-110	Little Judy Creek	Choctawhatchee	F&W	Judy Creek	Its source	3	14.99	miles
AL03140201-0401-100	Lindsey Creek	Choctawhatchee	F&W	West Fork Choctawhatchee River	Its source	3	12.48	miles
AL03140201-0403-110	Sikes Creek	Choctawhatchee	F&W	West Fork Choctawhatchee River	Its source	3	13.07	miles
AL03140201-0501-100	Newton Creek	Choctawhatchee	F&W	Little Choctawhatchee River	Its source	3	11.05	miles
AL03140201-0504-100	Little Choctawhatchee River	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	24.02	miles
AL03140201-0702-100	Claybank Creek	Choctawhatchee	F&W	Lake Tholocco	Its source	3	11.64	miles
AL03140201-0904-100	Claybank Creek	Choctawhatchee	F&W	Choctawhatchee River	Lake Tholocco dam	3	20.52	miles
AL03140201-0904-300	Brackin Mill Creek	Choctawhatchee	F&W	Claybank Creek	Its source	3	4.90	miles
AL03140201-1002-100	Pates Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	8.51	miles
AL03140201-1004-200	Spann Branch	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	2.09	miles
AL03140201-1004-300	Hurricane Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	15.66	miles
AL03140201-1004-900	Caney Creek	Choctawhatchee	F&W	Hurricane Creek	Its source	3	2.36	miles
AL03140201-1102-900	UT to Double Bridges Creek	Choctawhatchee	F&W	Double Bridges Creek	Its source	3	1.44	miles
AL03140201-1105-120	Beaverdam Creek	Choctawhatchee	F&W	Double Bridges Creek	Its source	3	12.37	miles
AL03140201-1105-200	Brushy Branch	Choctawhatchee	F&W	Beaverdam Creek	Its source	3	3.07	miles
AL03140202-0103-100	Hurricane Creek	Choctawhatchee	F&W	Pea Creek	Its source	3	10.34	miles
AL03140202-0202-110	Spring Creek	Choctawhatchee	F&W	Pea River	Its source	3	11.13	miles
AL03140202-0203-110	Little Indian Creek	Choctawhatchee	F&W	Pea River	Its source	3	12.56	miles
AL03140202-0205-200	Bogue Chitta Creek	Choctawhatchee	F&W	Pea River	Its source	3	7.19	miles
AL03140202-0206-100	Mill Creek	Choctawhatchee	F&W	Pea River	Its source	3	5.01	miles
AL03140202-0207-200	Connors Creek	Choctawhatchee	F&W	Pea River	Its source	3	4.35	miles
AL03140202-0302-100	Big Creek	Choctawhatchee	F&W	Pea River	Its source	3	8.29	miles
AL03140202-0403-600	Mims Creek	Choctawhatchee	F&W	Whitewater Creek	Its source	3	7.82	miles
AL03140202-0406-110	Bluff Creek	Choctawhatchee	F&W	Big Creek	Its source	3	10.13	miles
AL03140202-0409-200	Pea Creek	Choctawhatchee	F&W	Whitewater Creek	Its source	3	10.84	miles
AL03140202-0501-100	Bowden Mill Creek	Choctawhatchee	F&W	Pea River	Its source	3	8.78	miles
AL03140202-0601-100	Beaverdam Creek	Choctawhatchee	F&W	Pea River	Its source	3	11.33	miles
AL03140202-0602-100	Bucks Mill Creek	Choctawhatchee	F&W	Pea River	Its source	3	10.35	miles
AL03140202-0603-200	Helms Mill Creek	Choctawhatchee	F&W	Pea River	Its source	3	4.46	miles
AL03140202-0604-100	Hays Creek	Choctawhatchee	F&W	Pea River	Its source	3	8.10	miles
AL03140202-0607-100	Cripple Creek	Choctawhatchee	F&W	Pea River	Its source	3	8.75	miles
AL03140202-0608-100	Holley Mill Creek	Choctawhatchee	F&W	Pea River	Its source	3	4.66	miles
AL03140202-0610-200	Samson Branch	Choctawhatchee	F&W	Pea River	Its source	3	6.06	miles
AL03140202-0802-110	Corner Creek	Choctawhatchee	F&W	Eightmile Creek	Its source	3	16.35	miles
AL03140203-0101-100	Justice Mill Creek	Choctawhatchee	F&W	Spring Creek	Its source	3	7.51	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03140203-0103-200	Spring Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	13.72	miles
AL03140203-0103-300	Ice Factory Branch	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	1.45	miles
AL03140203-0103-400	Wheeler Mill Branch	Choctawhatchee	F&W	Spring Creek	Its source	3	2.73	miles
AL03140203-0103-500	Blue Branch	Choctawhatchee	F&W	Spring Creek	Its source	3	2.31	miles
AL03140203-0103-600	Negro Church Branch	Choctawhatchee	F&W	Spring Creek	Its source	3	3.15	miles
AL03140203-0103-700	Hathaway Branch	Choctawhatchee	F&W	Spring Creek	Its source	3	2.79	miles
AL03140203-0104-110	Hand Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	0.55	miles
AL03140203-0105-210	Wide Branch	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	3.65	miles
AL03140203-0105-300	Flowers Branch	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	2.40	miles
AL03140203-0105-400	Smith Branch	Choctawhatchee	F&W	Choctawhatchee River	Its source	3	1.77	miles
AL03140203-0105-500	Whitewater Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	0.70	miles
AL03140203-0105-600	John Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	1.21	miles
AL03140203-0105-700	Boggy Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	1.57	miles
AL03140203-0201-200	Gully Branch	Choctawhatchee	F&W	Wrights Creek	Its source	3	3.58	miles
AL03140203-0201-300	Grant Branch	Choctawhatchee	F&W	Wrights Creek	Its source	3	3.57	miles
AL03140203-0201-400	Davis Mill Creek	Choctawhatchee	F&W	Wrights Creek	Its source	3	3.43	miles
AL03140203-0201-500	Lighter Snag Creek	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	4.50	miles
AL03140203-0201-600	Mill Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	2.27	miles
AL03140203-0201-700	Tindil Branch	Choctawhatchee	F&W	Davis Mill Creek	Its source	3	3.55	miles
AL03140203-0203-100	Tenmile Creek	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	3.18	miles
AL03140203-0203-200	Poplar Creek	Choctawhatchee	F&W	Tenmile Creek	Its source	3	2.03	miles
AL03140203-0203-300	Cannon Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	2.46	miles
AL03140203-0701-200	Kirkland Branch	Choctawhatchee	F&W	Holmes Creek	Its source	3	3.19	miles
AL03140203-0701-300	Boggy Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	2.31	miles
AL03140203-0701-400	Big Branch	Choctawhatchee	F&W	Alabama-Florida state line	Its source	3	1.78	miles
AL03150105-0206-200	Ballplay Creek	Coosa	F&W	Weiss Lake	Its source	3	5.99	miles
AL03150105-0304-100	Spring Creek	Coosa	F&W	Weiss Lake	Alabama-Georgia state line	3	9.72	miles
AL03150105-0904-200	Little Terrapin Creek	Coosa	F&W	Terrapin Creek	Alabama-Georgia state line	3	6.37	miles
AL03150105-0906-200	Ladiga Creek	Coosa	PWS	Terrapin Creek	Terrapin Creek	3	2.91	miles
AL03150106-0101-401	Allen Branch	Coosa	F&W	Big Wills Creek	Ft. Payne public water supply dam	3	0.31	miles
AL03150106-0201-100	Ballplay Creek	Coosa	F&W	Neely Henry Lake	Its source	3	23.27	miles
AL03150106-0204-120	UT to Coosa River (Neely Henry Lake)	Coosa	F&W	Neely Henry Lake	Its source	3	1.89	miles
AL03150106-0204-900	UT to Coosa River (Neely Henry Lake)	Coosa	F&W	Neely Henry Lake	Its source	3	2.24	miles
AL03150106-0301-100	Little Canoe Creek	Coosa	F&W	Big Canoe Creek	Its source	3	22.12	miles
AL03150106-0402-200	UT to Tallassee hatchee Creek	Coosa	F&W	Tallassee hatchee Creek	Its source	3	5.97	miles
AL03150106-0407-200	Cave Creek	Coosa	F&W	Cane Creek	Its source	3	6.23	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150106-0506-100	Coldwater Spring Branch	Coosa	F&W	Choccolocco Creek	Its source	3	10.39	miles
AL03150106-0507-200	Snows Branch	Coosa	F&W	Choccolocco Creek	Its source	3	2.76	miles
AL03150106-0510-200	Brecon Branch	Coosa	F&W	Kelly Creek	Its source	3	3.68	miles
AL03150106-0605-210	Dye Creek	Coosa	F&W	Logan Martin Lake	Its source	3	4.02	miles
AL03150106-0611-100	Eastaboga Creek	Coosa	F&W	Choccolocco Creek	Its source	3	6.85	miles
AL03150106-0701-201	Mump Creek	Coosa	F&W	Talladega Creek	Mump Creek Reservoir dam	3	0.85	miles
AL03150106-0701-203	Mump Creek	Coosa	PWS/F&W	Mump Creek Reservoir	Its source	3	4.31	miles
AL03150106-0804-100	Shoal Creek	Coosa	F&W	Kelly Creek	Its source	3	20.33	miles
AL03150106-0808-100	Kelly Creek	Coosa	S/F&W	Lay Lake	Its source	3	33.58	miles
AL03150106-0810-200	Locust Creek	Coosa	F&W	Lay Lake	Its source	3	3.11	miles
AL03150107-0201-300	Little Creek	Coosa	F&W	North Fork Yellowleaf Creek	Its source	3	7.78	miles
AL03150107-0205-100	Yellowleaf Creek	Coosa	S/F&W	Lay Lake	Its source	3	15.30	miles
AL03150107-0205-300	Morgan Creek	Coosa	F&W	Yellowleaf Creek	Its source	3	8.14	miles
AL03150107-0403-500	UT to Waxahatchee Creek	Coosa	F&W	Waxahatchee Creek	Its source	3	4.02	miles
AL03150107-0406-100	Waxahatchee Creek	Coosa	F&W	Lay Lake	Its source	3	14.03	miles
AL03140301-0105-100	Conecuh River	Escambia	F&W	Mannings Creek	Its source	3	39.63	miles
AL03140301-0402-500	Double Branch	Escambia	F&W	Conecuh River	Its source	3	6.59	miles
AL03140301-0501-300	Prestwood Creek	Escambia	F&W	Conecuh River	Its source	3	6.01	miles
AL03140301-0501-500	UT to Conecuh River	Escambia	F&W	Conecuh River	Its source	3	2.22	miles
AL03140302-0201-200	Dry Creek	Escambia	F&W	Blue Creek	Its source	3	11.22	miles
AL03140302-0505-100	Buck Creek	Escambia	F&W	Patsaliga Creek	Its source	3	10.78	miles
AL03140303-0402-500	UT to Pigeon Creek	Escambia	F&W	Pigeon Creek	Its source	3	3.83	miles
AL03140303-0504-100	Pigeon Creek	Escambia	F&W	Sepulga River	Its source	3	79.41	miles
AL03140304-0106-100	Mill Creek	Escambia	F&W	Murder Creek	Its source	3	10.88	miles
AL03140304-0505-110	Conecuh River	Escambia	F&W	Mantle Branch	Sepulga River	3	33.57	miles
AL03140305-0101-100	Wet Weather Creek	Escambia	F&W	Sizemore Creek	Its source	3	13.46	miles
AL03140305-0401-100	Canoe Creek	Escambia	F&W	Alabama-Florida state line	Its source	3	3.85	miles
AL03140305-0401-300	Reedy Creek	Escambia	F&W	Alabama-Florida state line	Its source	3	1.83	miles
AL03140305-0501-100	Pine Barren Creek	Escambia	F&W	Alabama-Florida state line	Its source	3	2.62	miles
AL03140305-0501-200	Beaverdam Creek	Escambia	F&W	Alabama-Florida state line	Its source	3	3.99	miles
AL03170002-0602-100	Turkey Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	3	6.66	miles
AL03170002-0602-200	Sandy Creek	Escatawpa	F&W	Turkey Creek	Its source	3	4.72	miles
AL03170002-0604-200	Whiskey Creek	Escatawpa	F&W	Red Creek	Its source	3	2.17	miles
AL03170002-0604-300	Buck Creek	Escatawpa	F&W	Red Creek	Its source	3	2.05	miles
AL03170002-0605-400	Little Red Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	3	3.53	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03170002-0605-500	Savannah Branch	Escatawpa	F&W	Alabama-Mississippi state line	Its source	3	3.15	miles
AL03170003-0204-100	Byrd Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	3	0.21	miles
AL03170008-0104-100	Pine Barren Creek	Escatawpa	F&W	Escatawpa River	Its source	3	5.82	miles
AL03170008-0104-300	West Pine Barren Creek	Escatawpa	F&W	Pine Barren Creek	Its source	3	8.27	miles
AL03170008-0104-400	East Pine Barren Creek	Escatawpa	F&W	Pine Barren Creek	Its source	3	3.28	miles
AL03170008-0105-100	Brushy Creek	Escatawpa	F&W	Escatawpa River	Alabama-Mississippi state line	3	8.98	miles
AL03170008-0201-200	Pond Creek	Escatawpa	F&W	Little Creek	Its source	3	10.84	miles
AL03170008-0404-100	Flat Creek	Escatawpa	F&W	Alabama-Mississippi state line	Its source	3	5.86	miles
AL03170009-0101-100	Little River	Escatawpa	F&W	Portersville Bay	Its source	3	2.54	miles
AL03170009-0103-600	Bayou Coden	Escatawpa	F&W	Portersville Bay	Its source	3	2.30	miles
AL03160204-0102-100	Cedar Creek	Mobile	F&W	Mobile River	Its source	3	24.27	miles
AL03160204-0105-112	Cold Creek	Mobile	PWS/F&W	Dam 1 1/2 miles west of US Highway 43	Its source	3	5.05	miles
AL03160204-0201-100	Rains Creek	Mobile	F&W	Tensaw River	Its source	3	8.67	miles
AL03160204-0203-900	Martin Branch	Mobile	F&W	Red Hill Creek	Its source	3	5.52	miles
AL03160204-0304-101	Eightmile Creek	Mobile	F&W	Chickasaw Creek	City of Prichard's water supply intake	3	2.19	miles
AL03160204-0304-102	Eightmile Creek	Mobile	PWS/F&W	City of Prichard's water supply intake	US Highway 45	3	1.73	miles
AL03160204-0305-300	Hog Bayou	Mobile	F&W	Chickasaw Creek	Its source	3	0.85	miles
AL03160204-0401-200	Steele Creek	Mobile	S/F&W	Gunnison Creek	Its source	3	3.45	miles
AL03160204-0402-101	Bayou Sara	Mobile	S/F&W	Mobile River	Gunnison Creek	3	4.51	miles
AL03160204-0402-103	Bayou Sara	Mobile	S/F&W	Norton Creek	US Highway 43	3	1.26	miles
AL03160204-0402-104	Bayou Sara	Mobile	F&W	US Highway 43	Its source	3	14.95	miles
AL03160205-0101-110	Eslava Creek	Mobile	F&W	Bolton Branch	Its source	3	3.02	miles
AL03160205-0103-500	Rattlesnake Bayou	Mobile	F&W	Rabbit Creek	Its source	3	1.49	miles
AL03160205-0201-300	Corn Branch	Mobile	F&W	Fish River	Its source	3	5.14	miles
AL03160205-0205-300	Point Clear Creek	Mobile	F&W	Mobile Bay	Its source	3	4.45	miles
AL03160205-0205-700	Fly Creek	Mobile	S/F&W	Mobile Bay	Its source	3	4.57	miles
AL03160205-0205-800	Rock Creek	Mobile	F&W	Mobile Bay	Its source	3	4.01	miles
AL03160205-0206-300	Boggy Branch	Mobile	S/F&W	Bon Secour River	Its source	3	3.47	miles
AL03140106-0101-100	Perdido Creek	Perdido	F&W	Perdido River	Its source	3	9.61	miles
AL03140106-0203-100	Dyas Creek	Perdido	S/F&W	Perdido River	Its source	3	18.34	miles
AL03140106-0601-100	Negro Creek	Perdido	F&W	Blackwater River	Its source	3	11.77	miles
AL03140106-0602-500	Rock Creek	Perdido	F&W	Blackwater River	Its source	3	8.22	miles
AL03140107-0104-200	Palmetto Creek	Perdido	S/F&W	Perdido Bay	Its source	3	4.79	miles
AL03140107-0104-300	Soldier Creek	Perdido	S/F&W	Perdido Bay	Its source	3	8.77	miles
AL03140107-0104-600	Spring Branch	Perdido	S/F&W	Palmetto Creek	Its source	3	3.04	miles

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Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03140107-0202-102	Mifflin Creek	Perdido	F&W	limit of tidal effects	Its source	3	4.98	miles
AL03140107-0203-202	Hammock Creek	Perdido	F&W	limit of tidal effects	Its source	3	2.50	miles
AL03150108-0403-100	Cane Creek	Tallapoosa	F&W	Tallapoosa River	its source	3	25.30	miles
AL03150108-0802-100	Shoal Creek	Tallapoosa	F&W	Little Tallapoosa River	Its source	3	12.42	miles
AL03150108-0803-200	Knokes Creek	Tallapoosa	F&W	Little Tallapoosa River	Its source	3	12.60	miles
AL03150108-0904-100	Wedowee Creek	Tallapoosa	F&W	R L Harris Lake	Its source	3	26.46	miles
AL03150108-1004-112	Tallapoosa River	Tallapoosa	F&W	4 miles upstream of Randolph County Road 88	dam at Cleburne County Road 36	3	5.77	miles
AL03150109-0106-102	Tallapoosa River	Tallapoosa	F&W	Cedar Creek	R. L. Harris Dam	3	10.68	miles
AL03150109-0107-300	Hutton Creek	Tallapoosa	F&W	Tallapoosa River	Its source	3	7.11	miles
AL03150109-0107-500	Beaverdam Creek	Tallapoosa	F&W	Tallapoosa River	Its source	3	6.95	miles
AL03150109-0201-100	Mill Creek	Tallapoosa	F&W	Chatahospee Creek	Its source	3	6.88	miles
AL03150109-0201-201	Finley Creek	Tallapoosa	PWS/F&W	Mill Creek	Lafayette Reservoir dam	3	1.04	miles
AL03150109-0201-203	Finley Creek	Tallapoosa	PWS/F&W	Lafayette Reservoir	Its source	3	4.01	miles
AL03150109-0205-100	Chatahospee Creek	Tallapoosa	F&W	Tallapoosa River	Its source	3	21.52	miles
AL03150109-0301-102	High Pine Creek	Tallapoosa	PWS	Highway 431 crossing	High Pine Creek Lake #2 dam	3	0.09	miles
AL03150109-0301-104	High Pine Creek	Tallapoosa	PWS	High Pine Creek Lake #2	High Pine creek Lake #1 dam	3	3.98	miles
AL03150109-0301-106	High Pine Creek	Tallapoosa	PWS	High Pine Creek Lake #1	Its source	3	4.07	miles
AL03150109-0301-201	Jones Creek	Tallapoosa	PWS	High Pine Creek	Roanoke City Lake dam	3	0.20	miles
AL03150109-0301-203	Jones Creek	Tallapoosa	PWS	Roanoke City Lake	High Pine Creek Lake #4 dam	3	5.54	miles
AL03150109-0301-205	Jones Creek	Tallapoosa	PWS	High Pine Creek Lake #4	Its source	3	2.15	miles
AL03150109-0301-300	Town Creek	Tallapoosa	F&W	High Pine Creek	its source	3	2.54	miles
AL03150109-0301-400	Graves Creek	Tallapoosa	F&W	High Pine Creek	its source	3	5.53	miles
AL03150109-0301-501	UT to Jones Creek	Tallapoosa	PWS	Jones Creek	Crystal Lake dam	3	1.95	miles
AL03150109-0301-503	UT to Jones Creek	Tallapoosa	PWS	Crystal Lake	Its source	3	2.30	miles
AL03150109-0303-100	High Pine Creek	Tallapoosa	F&W	Tallapoosa River	Highway 431	3	13.74	miles
AL03150109-0405-101	Hillabee Creek	Tallapoosa	PWS/F&W	Oaktasasi Creek	County Road bridge 3 miles east of Hackneyville	3	5.83	miles
AL03150109-0405-102	Hillabee Creek	Tallapoosa	F&W	County Road bridge 3 miles east of Hackneyville	Its source	3	1.48	miles
AL03150109-0405-200	Town Creek	Tallapoosa	F&W	Hillabee Creek	Its source	3	14.06	miles
AL03150109-0405-500	Hackney Creek	Tallapoosa	PWS/F&W	Town Creek	Its source	3	6.92	miles
AL03150109-0406-300	Oaktasasi Creek	Tallapoosa	F&W	Hillabee Creek	Its source	3	10.89	miles
AL03150109-0406-400	Whortleberry Creek	Tallapoosa	F&W	Oaktasasi Creek	Its source	3	5.51	miles
AL03150109-0406-800	UT to Oaktasasi Creek (Christian Creek)	Tallapoosa	F&W	Oaktasasi Creek	Its source	3	4.93	miles
AL03150109-0501-101	Little Sandy Creek	Tallapoosa	F&W	Sandy Creek	Central of Georgia RR	3	0.31	miles
AL03150109-0501-102	Little Sandy Creek	Tallapoosa	PWS/F&W	Central of Georgia RR	Its source	3	2.09	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150109-0502-100	Chattasofka Creek	Tallapoosa	F&W	Sandy Creek	its source	3	17.56	miles
AL03150109-0503-200	North Fork Sandy Creek	Tallapoosa	F&W	Sandy Creek	its source	3	11.14	miles
AL03150109-0602-100	Blue Creek	Tallapoosa	F&W	Lake Martin	its source	3	10.21	miles
AL03150109-0802-300	Coley Creek	Tallapoosa	F&W	Lake Martin	its source	3	4.32	miles
AL03150109-0803-101	Elkahatchee Creek	Tallapoosa	PWS/F&W	Alabama Highway 63	Alabama Highway 22	3	4.42	miles
AL03150109-0803-102	Elkahatchee Creek	Tallapoosa	PWS/F&W	Alabama Highway 22	Its source	3	5.61	miles
AL03150109-0803-400	Harold Creek	Tallapoosa	F&W	Elkahatchee Creek	Its source	3	6.41	miles
AL03150110-0102-600	Head Creek	Tallapoosa	F&W	Sougahatchee Creek	Its source	3	4.00	miles
AL03150110-0202-900	UT to Chewacla Creek	Tallapoosa	F&W	Chewacla Creek	Its source	3	5.28	miles
AL03150110-0304-400	Bulger Creek	Tallapoosa	PWS/F&W	Uphapee Creek	Its source	3	7.52	miles
AL03150110-0401-100	Wind Creek	Tallapoosa	F&W	Tallapoosa River	its source	3	24.24	miles
AL03150110-0704-100	Old Town Creek	Tallapoosa	F&W	Line Creek	Its source	3	40.26	miles
AL06020001-1101-100	Lookout Creek	Tennessee	S/F&W	Alabama-Georgia state line	Its source	3	1.13	miles
AL06030001-0204-102	Widows Creek	Tennessee	S/F&W	Alabama Highway 277	Its source	3	5.48	miles
AL06030001-0307-100	Crow Creek	Tennessee	F&W	Guntersville Lake	Alabama-Tennessee state line	3	12.27	miles
AL06030001-0307-200	Bengis Creek	Tennessee	F&W	Guntersville Lake	Its source	3	5.93	miles
AL06030001-0402-200	Kash Creek	Tennessee	F&W	Flat Rock Creek	Its source	3	3.47	miles
AL06030001-0603-100	Roseberry Creek	Tennessee	F&W	Guntersville Lake	Its source	3	6.38	miles
AL06030001-0701-100	Bengis Creek	Tennessee	F&W	Town Creek	Its source	3	13.73	miles
AL06030001-0806-500	Turkey Creek	Tennessee	F&W	Short Creek	Its source	3	4.80	miles
AL06030001-0806-600	Drum Creek	Tennessee	F&W	Short Creek	Its source	3	7.71	miles
AL06030001-0806-900	East Fork Drum Creek	Tennessee	F&W	Drum Creek	Its source	3	3.08	miles
AL06030002-0102-100	Larkin Fork	Tennessee	F&W	Paint Rock River	Its source	3	10.95	miles
AL06030002-0104-100	Lick Fork	Tennessee	F&W	Paint Rock River	Its source	3	10.54	miles
AL06030002-0201-100	Clear Creek	Tennessee	F&W	Paint Rock River	Its source	3	6.43	miles
AL06030002-0203-401	Cole Spring Branch	Tennessee	F&W	Paint Rock River	Bridge at Jones farm	3	0.99	miles
AL06030002-0203-403	Cole Spring Branch	Tennessee	F&W	Jeep trail crossing	Its source	3	3.29	miles
AL06030002-0204-301	Little Paint Rock Creek	Tennessee	F&W	Paint Rock River	Merril Road Bridge	3	1.20	miles
AL06030002-0204-303	Little Paint Rock Creek	Tennessee	F&W	Jeep trail crossing	Its source	3	1.93	miles
AL06030002-0402-200	Sand Branch	Tennessee	F&W	Hurricane Creek	Its source	3	3.41	miles
AL06030002-0403-301	Chase Creek	Tennessee	F&W	Flint River	Acuff Spring	3	0.78	miles
AL06030002-0403-303	Chase Creek	Tennessee	F&W	Alabama Highway 72	Its source	3	2.14	miles
AL06030002-0502-100	Huntsville Spring Branch	Tennessee	F&W	Broglan Branch	Its source	3	1.85	miles
AL06030002-0504-300	Bradford Creek	Tennessee	F&W	Barren Fork Creek	Its source	3	9.43	miles
AL06030002-0602-101	West Fork Cotaco Creek	Tennessee	F&W	Cotaco Creek	Alabama Highway 67	3	1.56	miles
AL06030002-0603-100	Cotaco Creek	Tennessee	S/F&W	West Fork Cotaco Creek	Its source	3	14.08	miles
AL06030002-0603-700	Gilliam Creek	Tennessee	F&W	Mill Pond Creek	Its source	3	4.93	miles

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AL06030002-0901-100	Shoal Creek	Tennessee	F&W	Wheeler Lake	Its source	3	14.38	miles
AL06030002-1008-102	No Business Creek	Tennessee	F&W	Johnson Chapel Creek	Its source	3	6.81	miles
AL06030002-1009-111	Elam Creek	Tennessee	F&W	West Flint Creek	Rocky Branch	3	2.01	miles
AL06030002-1014-701	Village Branch	Tennessee	F&W	West Flint Creek	Moss Spring Branch	3	2.94	miles
AL06030002-1103-201	Round Island Creek	Tennessee	F&W	Tennessee River	Browns Ferry Road	3	2.87	miles
AL06030004-0303-100	Sugar Creek	Tennessee	F&W	Wheeler Lake	Its source	3	14.06	miles
AL06030004-0403-300	Baptizing Branch	Tennessee	F&W	Wheeler Lake	Its source	3	3.51	miles
AL06030004-0404-101	Anderson Creek	Tennessee	F&W	Elk River	Snake Road bridge	3	4.69	miles
AL06030005-0103-100	Clear Fork	Tennessee	F&W	Big Nance Creek	Its source	3	9.24	miles
AL06030005-0103-301	Sinking Creek	Tennessee	PWS/F&W	Clear Fork	Sinking Creek Lake dam	3	0.61	miles
AL06030005-0103-303	Sinking Creek	Tennessee	PWS/F&W	Sinking Creek Lake	Its source	3	2.09	miles
AL06030005-0103-401	Turkey Creek	Tennessee	PWS/F&W	Clear Fork	Moulton City Lake dam	3	1.57	miles
AL06030005-0103-403	Turkey Creek	Tennessee	PWS/F&W	Moulton City Lake	Its source	3	5.28	miles
AL06030005-0202-100	Bluewater Creek	Tennessee	F&W	Wilson Lake	Alabama-Tennessee state line	3	17.75	miles
AL06030005-0507-100	Butler Creek	Tennessee	F&W	Shoal Creek	Alabama-Tennessee state line	3	3.88	miles
AL06030005-0509-102	Shoal Creek	Tennessee	F&W	Indiancamp Creek	Alabama-Tennessee state line	3	10.79	miles
AL06030005-0509-300	Brush Creek	Tennessee	F&W	Wilson Lake	Its source	3	4.59	miles
AL06030005-0603-200	Lindsey Creek	Tennessee	F&W	Cypress Creek	Its source	3	12.29	miles
AL06030005-0604-100	Little Cypress Creek	Tennessee	F&W	Cypress Creek	Its source	3	16.01	miles
AL06030005-0605-101	Cypress Creek	Tennessee	F&W	Pickwick Lake	City of Florence Water Treatment Plant	3	7.22	miles
AL06030005-0605-102	Cypress Creek	Tennessee	PWS/F&W	City of Florence Water Treatment Plant	Little Cypress Creek	3	1.94	miles
AL06030005-0605-103	Cypress Creek	Tennessee	F&W	Little Cypress Creek	Alabama-Tennessee state line	3	17.06	miles
AL06030005-0605-200	Cox Creek	Tennessee	F&W	Cypress Creek	Its source	3	4.11	miles
AL06030005-0703-102	Spring Creek	Tennessee	F&W	Pickwick Lake	Its source	3	30.66	miles
AL06030005-0801-300	Shegog Creek	Tennessee	F&W	McKiernan Creek	Its source	3	3.76	miles
AL06030005-0804-500	Stinking Bear Creek	Tennessee	F&W	Little Bear Creek	Its source	3	10.06	miles
AL06030005-0805-100	Little Bear Creek	Tennessee	S/F&W	Pickwick Lake	Its source	3	11.06	miles
AL06030005-0807-100	Cane Creek	Tennessee	S/F&W	Pickwick Lake	Its source	3	15.41	miles
AL06030005-0902-100	Second Creek	Tennessee	F&W	Pickwick Lake	Alabama-Tennessee state line	3	7.64	miles
AL06030005-1001-100	Bluff Creek	Tennessee	F&W	Pickwick Lake	Its source	3	9.30	miles
AL06030005-1002-100	Colbert Creek	Tennessee	F&W	Pickwick Lake	Its source	3	5.52	miles
AL06030005-1202-800	Panther Creek	Tennessee	F&W	Pickwick Lake	Its source	3	0.79	miles
AL06030005-1202-900	Cedar Fork	Tennessee	F&W	Pickwick Lake	Its source	3	3.32	miles
AL06030006-0103-200	Flat Creek	Tennessee	F&W	Bear Creek	Its source	3	5.41	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL06030006-0105-100	Bear Creek	Tennessee	F&W	Alabama-Mississippi state line	Bear Creek Lake dam	3	18.64	miles
AL06030006-0201-200	Mud Creek	Tennessee	F&W	Cedar Creek	Its source	3	1.85	miles
AL06030006-0202-102	Cedar Creek	Tennessee	F&W	Alabama Highway 24	Its source	3	24.60	miles
AL06030006-0202-200	Duncan Creek	Tennessee	PWS	Cedar Creek	Its source	3	6.67	miles
AL06030006-0205-103	Little Bear Creek	Tennessee	PWS/S/F&W	Scott Branch	Alabama Highway 187	3	2.97	miles
AL06030006-0207-101	Cedar Creek	Tennessee	F&W	Bear Creek	Alabama-Mississippi state line	3	1.01	miles
AL06030006-0207-600	Mill Branch	Tennessee	F&W	Cedar Creek	Its source	3	3.24	miles
AL03160103-0101-100	West Branch Buttahatchee River	Tombigbee	F&W	Buttahatchee River	Its source	3	10.98	miles
AL03160103-0102-103	Buttahatchee River	Tombigbee	F&W	Lake Buttahatchee	Its source	3	9.94	miles
AL03160103-0103-100	Barn Creek	Tombigbee	F&W	Buttahatchee River	Its source	3	11.80	miles
AL03160103-0104-100	Camp Creek	Tombigbee	F&W	Buttahatchee River	Its source	3	10.64	miles
AL03160103-0106-100	Williams Creek	Tombigbee	F&W	Buttahatchee River	Its source	3	13.11	miles
AL03160103-0106-200	Stevens Creek	Tombigbee	F&W	Williams Creek	Its source	3	4.01	miles
AL03160103-0107-102	Buttahatchee River	Tombigbee	F&W	U.S. Highway 278 one mile east of junction of U.S. Highways 43 and 78 in Hamilton	Lake Buttahatchee dam	3	16.36	miles
AL03160103-0201-102	Beaver Creek	Tombigbee	PWS/F&W	U.S. Highway 78	Its source	3	6.91	miles
AL03160103-0202-100	Beaver Creek	Tombigbee	F&W	Buttahatchee River	Its source	3	21.37	miles
AL03160103-0302-102	Buttahatchee River	Tombigbee	PWS/F&W	U.S. Hwy. 278 one mile east of junction of U.S Highways 43 and 78 in Hamilton	U.S. Hwy. 278 seven miles east of junction of U.S. Highways 43 and 78 in Hamilton	3	9.05	miles
AL03160103-0305-100	Bogue Creek	Tombigbee	F&W	Buttahatchee River	Its source	3	11.11	miles
AL03160103-0503-100	Sipsey Creek	Tombigbee	F&W	Alabama-Mississippi state line	Its source	3	18.91	miles
AL03160105-0101-102	Luxapallila Creek	Tombigbee	PWS/F&W	US Highway 78	Its source	3	9.53	miles
AL03160105-0201-102	Luxapallila Creek	Tombigbee	PWS/F&W	Fayette County Road 37	County road crossing approximately 6 miles upstream from Alabama Highway 18	3	8.19	miles
AL03160105-0201-103	Luxapallila Creek	Tombigbee	F&W	County road crossing approximately 6 miles upstream from Alabama Highway 18	U.S. Highway 78	3	10.52	miles
AL03160105-0204-101	Luxapallila Creek	Tombigbee	PWS	at Alabama-Mississippi state line		3	0.18	miles
AL03160105-0404-101	Yellow Creek	Tombigbee	PWS	at Alabama-Mississippi state line		3	0.25	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160105-0404-102	Yellow Creek	Tombigbee	F&W	Alabama-Mississippi state line	Its source	3	36.46	miles
AL03160105-0502-100	Magby Creek	Tombigbee	F&W	Alabama-Mississippi state line	Its source	3	14.57	miles
AL03160106-0203-100	Coal Fire Creek	Tombigbee	S/F&W	Aliceville Lake	Its source	3	43.31	miles
AL03160106-0408-100	Lubbub Creek	Tombigbee	F&W	Gainesville Lake	Its source	3	53.62	miles
AL03160106-0505-200	Owl Creek	Tombigbee	F&W	Tombigbee River	Alabama-Mississippi state line	3	4.02	miles
AL03160106-0606-102	Trussells Creek	Tombigbee	F&W	Demopolis Lake	Its source	3	28.48	miles
AL03160106-0607-100	Brush Creek	Tombigbee	F&W	Demopolis Lake	Its source	3	22.60	miles
AL03160107-0103-100	Little New River	Tombigbee	F&W	Sipsey River	Its source	3	19.73	miles
AL03160107-0306-200	Hughes Creek	Tombigbee	F&W	Sipsey River	Its source	3	11.08	miles
AL03160201-0108-200	Sycamore Creek	Tombigbee	F&W	Chickasaw Bogue	Its source	3	8.02	miles
AL03160201-0302-100	Beaver Creek	Tombigbee	S/F&W	Tombigbee River	Its source	3	41.86	miles
AL03160201-0604-100	Horse Creek	Tombigbee	S/F&W	Coffeeville Lake	Its source	3	44.52	miles
AL03160201-0704-100	Bashi Creek	Tombigbee	S/F&W	Coffeeville Lake	Its source	3	33.94	miles
AL03160201-0804-100	Bogueloosa Creek	Tombigbee	F&W	Okatuppa Creek	Its source	3	22.73	miles
AL03160201-0902-400	Vaughn Creek	Tombigbee	F&W	Sucarbowa Creek	Its source	3	9.41	miles
AL03160201-0904-200	Tishlarka Creek	Tombigbee	F&W	Wahalak Creek	Its source	3	11.58	miles
AL03160202-0404-102	Sucarnoochee River	Tombigbee	F&W	Miuka Creek	Alabama-Mississippi state line	3	19.44	miles
AL03160202-0502-101	Toomsba Creek	Tombigbee	F&W	Alamuchee Creek	AT&N Railroad	3	1.14	miles
AL03160202-0502-102	Toomsba Creek	Tombigbee	PWS/F&W	AT&N Railroad	Alabama-Mississippi state line	3	9.90	miles
AL03160202-0502-201	UT to Toomsba Creek	Tombigbee	PWS	Toomsba Creek	Lake Louise dam	3	1.91	miles
AL03160202-0604-100	Alamuchee Creek	Tombigbee	F&W	Sucarnoochee River	Alabama-Mississippi state line	3	37.58	miles
AL03160202-0703-100	Sucarnoochee River	Tombigbee	F&W	Coffeeville Lake	US Highway 11	3	32.11	miles
AL03160203-0104-100	Santa Bogue Creek	Tombigbee	S/F&W	Tombigbee River	Its source	3	26.44	miles
AL03160203-0403-100	Jackson Creek	Tombigbee	F&W	Tombigbee River	Its source	3	23.33	miles
AL03160203-0502-102	Tombigbee River	Tombigbee	F&W	Smiths Creek	Coffeeville Lock and Dam	3	18.45	miles
AL03160203-0603-200	James Creek	Tombigbee	F&W	Bassett Creek	Its source	3	6.86	miles
AL03160203-0607-100	Bassett Creek	Tombigbee	F&W	Tombigbee River	Little Bassett Creek	3	39.26	miles
AL03160203-0701-100	Little Bassetts Creek	Tombigbee	F&W	Bassetts Creek	Its source	3	13.54	miles
AL03160203-0702-700	Miles Creek	Tombigbee	F&W	Bassetts Creek	Its source	3	5.21	miles
AL03160203-0705-100	Bassetts Creek	Tombigbee	S/F&W	Tombigbee River	Its source	3	43.22	miles
AL03160203-0802-100	Lewis Creek	Tombigbee	S/F&W	Tombigbee River	Its source	3	12.28	miles
AL03160203-0901-112	Tombigbee River	Tombigbee	PWS/S/F&W	1/2 mile downstream of Southern Railway Crossing	Smiths Creek	3	8.83	miles
AL03160203-1001-100	Bates Creek	Tombigbee	S/F&W	Bilbo Creek	Its source	3	25.30	miles
AL03160203-1103-103	Tombigbee River	Tombigbee	F&W	Olin Basin canal	Bassetts Creek	3	21.37	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03140103-0102-103	Lightwood Knot Creek	Yellow	F&W	Lake Frank Jackson	Its source	3	14.56	miles
AL03140103-0102-300	Cameron Creek	Yellow	F&W	Lake Frank Jackson	Its source	3	2.63	miles
AL03140103-0103-100	Lightwood Knot Creek	Yellow	F&W	Yellow River	Frank Jackson Lake dam	3	6.13	miles
AL03140103-0402-300	Big Creek	Yellow	F&W	Alabama-Florida state line	Its source	3	5.26	miles
AL03140103-0601-100	Pond Creek	Yellow	F&W	Alabama-Florida state line	Its source	3	2.85	miles
AL03140103-0601-200	Fleming Creek	Yellow	F&W	Alabama-Florida state line	Its source	3	3.15	miles
AL03140103-0602-100	Horsehead Creek	Yellow	F&W	Alabama-Florida state line	Its source	3	4.59	miles

**Category 3 - Lake and Reservoir**

AL03160109-0104-202	Bridge Creek (George Lake)	Black Warrior	PWS	George Lake dam	extent of reservoir	3	159.21	acres
AL03160110-0104-702	Curtis Mill Creek	Black Warrior	PWS	Town of Double Springs water supply reservoir dam	Its source	3	2.20	acres
AL03130003-1301-111	Chewalla Creek (Walter F George Lake)	Chattahoochee	S/F&W	Chattahoochee River	end of embayment	3	232.32	acres
AL03130003-1310-111	Cheneyhatchee Creek (Walter F George Lake)	Chattahoochee	S/F&W	Chattahoochee River	end of embayment	3	284.82	acres
AL03140201-0703-100	Claybank Creek (Lake Tholocco)	Choctawhatchee	S/F&W	Lake Tholocco dam	extent of reservoir	3	679.39	acres
AL03150106-0101-402	Allen Branch (Fort Payne City Lake)	Coosa	PWS/F&W	Ft. Payne public water supply dam	Its source	3	53.63	acres
AL03150106-0701-202	Mump Creek (Mump Creek Reservoir)	Coosa	PWS/F&W	Mump Creek Reservoir dam	extent of reservoir	3	36.40	acres
AL03150109-0201-202	Finley Creek (Lafayette Reservoir)	Tallapoosa	PWS/F&W	Lafayette Reservoir dam	extent of reservoir	3	96.25	acres
AL03150109-0301-103	High Pine Creek	Tallapoosa	PWS	High Pine creek Lake #2 dam	extent of reservoir	3	60.46	acres
AL03150109-0301-105	High Pine Creek	Tallapoosa	PWS	High Pine creek Lake #1 dam	extent of reservoir	3	10.36	acres
AL03150109-0301-202	Jones Creek (Roanoke City Lake)	Tallapoosa	PWS	Roanoke City Lake dam	extent of reservoir	3	39.79	acres
AL03150109-0301-204	Jones Creek	Tallapoosa	PWS	High Pine Creek Lake #4 dam	extent of reservoir	3	17.40	acres
AL03150109-0301-502	UT to Jones Creek (Crystal Lake)	Tallapoosa	PWS	Crystal Lake dam	extent of reservoir	3	54.26	acres
AL06030005-0103-302	Sinking Creek	Tennessee	PWS/F&W	Sinking Creek Lake dam	extent of reservoir	3	147.26	acres
AL06030005-0103-402	Turkey Creek	Tennessee	PWS/F&W	Moulton City Lake dam	extent of reservoir	3	72.73	acres
AL06030005-0703-300	Big Spring (Tuscumbia)	Tennessee	PWS	Spring Creek	Its source	3	1.53	acres
AL03160103-0102-102	Buttahatchee River (Lake Buttahatchee)	Tombigbee	S	Lake Buttahatchee dam	extent of reservoir	3	145.82	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160201-0704-111	Bashi Creek (Coffeeville Lake)	Tombigbee	F&W	Tombigbee River	end of embayment	3	12.91	acres
AL03160202-0502-202	UT to Toomsaba Creek	Tombigbee	PWS	Lake Louise dam	Its source	3	47.39	acres
AL03140103-0203-502	Blue Lake	Yellow	S/F&W	Within Conecuh National Forest		3	41.37	acres
AL03140103-0401-180	Open Pond	Yellow	S/F&W	Within Conecuh National Forest		3	34.76	acres
AL03140103-0401-190	Dowdy Pond	Yellow	S/F&W	Within Conecuh National Forest		3	12.73	acres

**Category 3 - Ocean and Estuary**

AL03140107-0203-201	Hammock Creek	Perdido	S/F&W	Wolf Bay	limit of tidal effects	3	0.63	sq. miles
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**Category 4A - River and Stream**

AL03150201-0304-200	UT to Little Catoma Creek	Alabama	F&W	Little Catoma Creek	its source	4A	6.27	miles
AL03150201-0307-100	Ramer Creek	Alabama	F&W	Catoma Creek	its source	4A	22.34	miles
AL03150201-0311-100	Catoma Creek	Alabama	F&W	Woodruff Lake	Ramer Creek	4A	20.70	miles
AL03150201-0404-100	Pintlala Creek	Alabama	S/F&W	Pinchony Creek	its source	4A	26.40	miles
AL03150203-0802-100	Pursley Creek	Alabama	F&W	Claiborne Lake	its source	4A	24.75	miles
AL03150203-0802-400	UT to Pursley Creek	Alabama	F&W	Pursley Creek	its source	4A	4.35	miles
AL03160109-0102-150	Long Branch	Black Warrior	F&W	Wolf Creek	its source	4A	2.04	miles
AL03160109-0102-910	Duck Creek	Black Warrior	F&W	Duck River	its source	4A	5.76	miles
AL03160109-0104-103	Eightmile Creek	Black Warrior	PWS	Moody Branch	its source	4A	7.60	miles
AL03160109-0105-101	Brindley Creek	Black Warrior	PWS	Broglen River	State Highway 69	4A	7.17	miles
AL03160109-0105-102	Brindley Creek	Black Warrior	PWS	State Highway 69	its source	4A	9.89	miles
AL03160109-0106-100	Broglen River	Black Warrior	F&W	Mulberry Fork	its source	4A	12.40	miles
AL03160109-0106-500	Eightmile Creek	Black Warrior	F&W	Broglen River	Lake Catoma dam	4A	8.15	miles
AL03160109-0201-100	Thacker Creek	Black Warrior	F&W	Mulberry Fork	its source	4A	9.98	miles
AL03160110-0403-102	Rock Creek	Black Warrior	F&W	Sipsey Fork (Lewis Smith Lake)	Blevens Creek	4A	8.82	miles
AL03160110-0406-100	Crooked Creek	Black Warrior	F&W	Lewis Smith Lake	Its source	4A	30.47	miles
AL03160110-0502-102	Ryan Creek	Black Warrior	F&W	Lewis Smith Lake	Its source	4A	16.12	miles
AL03160111-0202-200	Graves Creek	Black Warrior	F&W	Locust Fork	Its source	4A	9.79	miles
AL03160111-0203-100	Dry Creek	Black Warrior	F&W	Locust Fork	Its source	4A	12.00	miles
AL03160111-0408-300	Camp Branch	Black Warrior	F&W	Bayview Lake	Its source	4A	4.93	miles
AL03160112-0502-200	Little Hurricane Creek	Black Warrior	F&W	Hurricane Creek	Its source	4A	7.96	miles
AL03160112-0502-300	North Fork Hurricane Creek	Black Warrior	F&W	Hurricane Creek	Its source	4A	6.53	miles
AL03160112-0504-100	Hurricane Creek	Black Warrior	F&W	Oliver Lake	Its source	4A	31.50	miles
AL03150202-0101-102	Cahaba River	Cahaba	OAW/F&W	US Highway 11	I-59	4A	3.13	miles
AL03150202-0102-100	Big Black Creek	Cahaba	F&W	Cahaba River	Its source	4A	16.45	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150202-0103-300	Lee Branch	Cahaba	F&W	Lake Purdy	Its source	4A	2.26	miles
AL03150202-0103-700	Jeb Branch	Cahaba	F&W	Lee Branch	Its source	4A	1.24	miles
AL03150202-0104-102	Cahaba River	Cahaba	F&W	Grant's Mill Road	US Highway 11	4A	21.11	miles
AL03150202-0202-100	Cahaba Valley Creek	Cahaba	F&W	Buck Creek	Its source	4A	14.98	miles
AL03150202-0203-111	Buck Creek	Cahaba	F&W	Cahaba River	Cahaba Valley Creek	4A	2.92	miles
AL03150202-0204-101	Cahaba River	Cahaba	F&W	Buck Creek	Dam near US Highway 280	4A	17.46	miles
AL03150202-0204-102	Cahaba River	Cahaba	OAW/PWS	Dam near US Highway 280	Grant's Mill Road	4A	13.45	miles
AL03150202-0204-500	Patton Creek	Cahaba	F&W	Cahaba River	Its source	4A	8.84	miles
AL03150202-0206-101	Cahaba River	Cahaba	OAW/F&W	Shades Creek	Shelby County Road 52	4A	23.61	miles
AL03150202-0206-102	Cahaba River	Cahaba	F&W	Shelby County Road 52	Buck Creek	4A	3.62	miles
AL03150202-0302-102	Mud Creek	Cahaba	F&W	Tannehill Iron Works	Its source	4A	4.08	miles
AL03150202-0302-200	Mill Creek	Cahaba	F&W	Mud Creek	Its source	4A	6.65	miles
AL03150202-0302-400	Cooley Creek	Cahaba	F&W	Mill Creek	Its source	4A	2.83	miles
AL03150202-0303-100	Shades Creek	Cahaba	F&W	Cahaba River	Its source	4A	56.38	miles
AL03150202-0407-100	Cahaba River	Cahaba	OAW/F&W	lower Little Cahaba River	Shades Creek	4A	13.51	miles
AL03150202-0902-502	Dry Creek	Cahaba	F&W	Dallas County Road 201	Its source	4A	4.98	miles
AL03130012-0106-201	Boggy Creek	Chipola	F&W	Buck Creek	Cottondale WWTP	4A	3.48	miles
AL03140201-0601-100	Hurricane Creek	Choctawhatchee	F&W	Choctawhatchee River	Its source	4A	9.39	miles
AL03140202-0401-102	Walnut Creek	Choctawhatchee	F&W	Pike County Road 3304	US Highway 231	4A	3.30	miles
AL03150105-0807-102	Spring Creek	Coosa	F&W	Weiss Lake	Mud Creek	4A	5.39	miles
AL03150105-0807-103	Spring Creek	Coosa	F&W	Mud Creek	Its source	4A	9.88	miles
AL03150105-0807-200	Mud Creek	Coosa	F&W	Spring Creek	Its source	4A	5.24	miles
AL03150106-0102-300	Little Wills Creek	Coosa	F&W	Big Wills Creek	Its source	4A	6.08	miles
AL03150107-0404-100	Watson Creek	Coosa	F&W	Buxahatchee Creek	Its source	4A	12.37	miles
AL03140301-0302-102	Conecuh River	Escambia	F&W	Broadhead Creek	Mannings Creek	4A	24.53	miles
AL03140301-0404-112	Conecuh River	Escambia	F&W	Gantt Lake	Hornet Creek	4A	4.55	miles
AL03140301-0405-102	Conecuh River	Escambia	S/F&W	Point A Reservoir	Gantt Dam	4A	2.26	miles
AL03170008-0205-102	Puppy Creek	Escatawpa	F&W	Alabama Highway 217	Its source	4A	11.32	miles
AL03170008-0501-210	Juniper Creek	Escatawpa	F&W	Big Creek	Its source	4A	6.67	miles
AL03170009-0102-100	Bayou La Batre	Escatawpa	F&W	Portersville Bay	Its source	4A	5.46	miles
AL03160204-0304-103	Eightmile Creek	Mobile	F&W	US Highway 45	Highpoint Boulevard	4A	3.32	miles
AL03160204-0304-200	Gum Tree Branch	Mobile	F&W	Eightmile Creek	Its source	4A	2.27	miles
AL03160204-0402-102	Bayou Sara	Mobile	S/F&W	Gunnison Creek	Norton Creek	4A	2.76	miles
AL03160204-0402-501	Norton Creek	Mobile	F&W	Bayou Sara	Saraland WWTP	4A	0.95	miles
AL03160204-0504-101	Threemile Creek	Mobile	A&I	Mobile River	Toulmins Spring Branch	4A	2.04	miles
AL03160204-0504-102	Threemile Creek	Mobile	A&I	Toulmins Spring Branch	Mobile Street	4A	4.34	miles
AL03160204-0504-103	Threemile Creek	Mobile	A&I	Mobile Street	Its source	4A	8.85	miles
AL03160204-0504-200	Industrial Canal	Mobile	A&I	Threemile Creek	Its source	4A	2.32	miles
AL03160205-0101-101	Dog River	Mobile	F&W	Halls Mill Creek	Moore Creek	4A	1.38	miles
AL03160205-0101-200	Moore Creek	Mobile	F&W	Dog River	Its source	4A	3.95	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160205-0101-400	Bolton Branch	Mobile	F&W	Dog River	Its source	4A	2.44	miles
AL03160205-0101-500	Eslava Creek	Mobile	F&W	Dog River	Its source	4A	3.17	miles
AL03160205-0101-600	Bolton Branch	Mobile	F&W	Moore Creek	Its source	4A	5.69	miles
AL03160205-0102-101	Dog River	Mobile	S/F&W	Mobile Bay	Halls Mill Creek	4A	2.79	miles
AL03160205-0103-401	Rabbit Creek	Mobile	F&W	Halls Mill Creek	Alabama Highway 193	4A	2.28	miles
AL03160205-0206-702	UT to Bon Secour River	Mobile	F&W	Baldwin County Road 65	Its source	4A	1.64	miles
AL03150108-1004-104	Tallapoosa River	Tallapoosa	PWS/F&W	1/2 mile upstream of Cleburne County Road 36	Cleburne County Road 19	4A	3.82	miles
AL03150108-1004-113	Tallapoosa River	Tallapoosa	F&W	dam at Cleburne County Road 36	1/2 mile upstream of Cleburne County Road 36	4A	0.44	miles
AL03150110-0102-700	Pepperell Branch	Tallapoosa	F&W	Sougahatchee Creek	Its source	4A	6.67	miles
AL03150110-0202-200	Parkerson Mill Creek	Tallapoosa	F&W	Chewacla Creek	Its source	4A	6.85	miles
AL06030001-0705-100	Town Creek	Tennessee	F&W	Guntersville Lake	Its source	4A	60.70	miles
AL06030001-0805-200	Scarham Creek	Tennessee	F&W	Short Creek	Its source	4A	23.42	miles
AL06030002-0203-402	Cole Spring Branch	Tennessee	F&W	Bridge at Jones farm	Jeep trail crossing	4A	1.80	miles
AL06030002-0204-302	Little Paint Rock Creek	Tennessee	F&W	Merril Road Bridge	Jeep trail crossing	4A	2.17	miles
AL06030002-0303-100	Mountain Fork	Tennessee	F&W	Flint River	Its source	4A	14.90	miles
AL06030002-0303-500	Hester Creek	Tennessee	F&W	Mountain Fork	Alabama-Tennessee state line	4A	7.27	miles
AL06030002-0402-101	Hurricane Creek	Tennessee	F&W	Flint River	Gurley Pike Road	4A	7.31	miles
AL06030002-0403-302	Chase Creek	Tennessee	F&W	Acuff Spring	Alabama Highway 72	4A	2.14	miles
AL06030002-0404-200	Goose Creek	Tennessee	F&W	Flint River	Its source	4A	8.89	miles
AL06030002-0405-300	Yellow Bank Creek	Tennessee	F&W	Flint River	Its source	4A	5.33	miles
AL06030002-0501-110	Indian Creek	Tennessee	F&W	US Highway 72	Its source	4A	6.49	miles
AL06030002-0604-100	Town Creek	Tennessee	F&W	Cotaco Creek	Its source	4A	8.66	miles
AL06030002-0605-102	Cotaco Creek	Tennessee	S/F&W	Guyer Branch	West Fork Cotaco Creek	4A	5.38	miles
AL06030002-0703-102	Limestone Creek	Tennessee	F&W	US Highway 72	Leslie Branch	4A	10.79	miles
AL06030002-0802-201	French Mill Creek	Tennessee	F&W	Piney Creek	unnamed tributary in Pine Swamp	4A	5.21	miles
AL06030002-0902-200	Cane Creek	Tennessee	F&W	Tennessee River	Its source	4A	7.92	miles
AL06030002-0903-100	Aldridge Creek	Tennessee	F&W	Tennessee River	Its source	4A	11.80	miles
AL06030002-1001-100	East Fork Flint Creek	Tennessee	F&W	Flint Creek	Its source	4A	15.32	miles
AL06030002-1003-112	Robinson Creek	Tennessee	F&W	Flint Creek	Its source	4A	6.69	miles
AL06030002-1003-510	Indian Creek	Tennessee	F&W	Flint Creek	Its source	4A	4.22	miles
AL06030002-1004-100	Cedar Creek	Tennessee	F&W	Flint Creek	Its source	4A	9.54	miles
AL06030002-1005-100	Shoal Creek	Tennessee	F&W	Flint Creek	Its source	4A	12.59	miles
AL06030002-1005-150	UT to Town Branch	Tennessee	F&W	Town Branch	Its source	4A	1.25	miles
AL06030002-1005-200	Town Branch	Tennessee	F&W	Shoal Creek	Its source	4A	1.90	miles
AL06030002-1006-100	Crowdabout Creek	Tennessee	F&W	Flint Creek	Its source	4A	16.11	miles
AL06030002-1006-200	Herrin Creek	Tennessee	F&W	Crowdabout Creek	Its source	4A	6.21	miles
AL06030002-1007-102	Flint Creek	Tennessee	F&W	Shoal Creek	Its source	4A	13.39	miles
AL06030002-1007-500	Mack Creek	Tennessee	F&W	Flint Creek	Its source	4A	5.91	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL06030002-1008-101	No Business Creek	Tennessee	F&W	Flint Creek	Johnson Chapel Creek	4A	7.28	miles
AL06030002-1009-112	Elam Creek	Tennessee	F&W	Rocky Branch	Its source	4A	12.08	miles
AL06030002-1011-100	Big Shoal Creek	Tennessee	F&W	West Flint Creek	Its source	4A	14.47	miles
AL06030002-1012-201	McDaniel Creek	Tennessee	F&W	West Flint Creek	Alabama Highway 36	4A	4.16	miles
AL06030002-1013-100	West Flint Creek	Tennessee	F&W	Flint Creek	McDaniel Creek	4A	23.12	miles
AL06030002-1013-900	Flat Creek	Tennessee	F&W	West Flint Creek	Its source	4A	7.78	miles
AL06030002-1014-104	Flint Creek	Tennessee	LWF	Alabama Highway 36	Shoal Creek	4A	10.00	miles
AL06030002-1014-702	Village Branch	Tennessee	F&W	Moss Spring Branch	Its source	4A	6.47	miles
AL06030002-1101-102	Swan Creek	Tennessee	A&I	Huntsville Brownsferry Road	Town Creek	4A	2.80	miles
AL06030002-1103-202	Round Island Creek	Tennessee	F&W	Browns Ferry Road	Beauchamp Branch	4A	3.52	miles
AL06030002-1106-100	Mallard Creek	Tennessee	F&W	Tennessee River	Its source	4A	14.05	miles
AL06030002-1204-103	Second Creek	Tennessee	F&W	Lauderdale County Road 76	Alabama-Tennessee state line	4A	13.00	miles
AL06030004-0401-100	Shoal Creek	Tennessee	F&W	Elk River	Alabama-Tennessee state line	4A	7.47	miles
AL06030006-0201-900	Harris Creek	Tennessee	F&W	Mud Creek	Its source	4A	5.99	miles
AL03160105-0101-200	East Branch Luxapallila Creek	Tombigbee	PWS/F&W	Luxapallila Creek	Its source	4A	11.18	miles
AL03160201-0904-101	Wahalak Creek	Tombigbee	F&W	Coffeeville Lake	Spear Creek	4A	14.27	miles
AL03160203-0602-100	Bassett Creek	Tombigbee	F&W	Little Bassett Creek	Its source	4A	14.47	miles

**Category 4B - River and Stream**

AL03160111-0407-101	Fivemile Creek	Black Warrior	S/F&W	Locust Fork	Old Jasper Highway	4B	7.54	miles
AL03160111-0407-102	Fivemile Creek	Black Warrior	F&W	Old Jasper Highway	Alabama Highway 79	4B	27.94	miles
AL03160111-0407-103	Fivemile Creek	Black Warrior	S/F&W	Alabama Highway 79	Its source	4B	9.07	miles
AL03140201-0206-300	Dunham Creek	Choctawhatchee	F&W	Blackwood Creek	Its source	4B	4.27	miles
AL06030002-0503-101	Huntsville Spring Branch	Tennessee	F&W	Indian Creek	Johnson Road (Huntsville Field)	4B	11.08	miles
AL06030002-0505-101	Indian Creek	Tennessee	F&W	Wheeler Lake	Martin Road (Redstone Arsenal)	4B	1.96	miles

**Category 4C - River and Stream**

AL03150105-1003-201	Coosa River	Coosa	S/F&W	Weiss dam powerhouse	Sugar Creek	4C	5.30	miles
AL03150105-1003-202	Coosa River	Coosa	F&W	Sugar Creek	Weiss dam	4C	14.34	miles
AL03150109-0107-102	Tallapoosa River	Tallapoosa	F&W	Alabama Highway 77	Cedar Creek	4C	3.15	miles

**Category 4A - Lake and Reservoir**

AL03160109-0104-102	Eightmile Creek (Lake Catoma)	Black Warrior	PWS	Lake Catoma dam	Moody Branch	4A	527.25	acres
AL03160111-0408-101	Village Creek (Bayview Lake)	Black Warrior	LWF	Bayview Lake Dam	Second Creek	4A	412.49	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150105-0206-311	Mud Creek (Weiss Lake)	Coosa	S/F&W	Coosa River	end of embayment	4A	1109.35	acres
AL03150105-0303-111	Cowan Creek (Weiss Lake)	Coosa	PWS/S/F&W	Coosa River	end of embayment	4A	793.60	acres
AL03150105-0304-201	Spring Creek (Weiss Lake)	Coosa	PWS/S/F&W	Coosa River	end of embayment	4A	907.15	acres
AL03150105-0605-101	Chattooga River (Weiss Lake)	Coosa	S/F&W	Coosa River	end of embayment	4A	1755.50	acres
AL03150105-1002-301	Big Nose Creek (Weiss Lake)	Coosa	PWS/S/F&W	Coosa River	end of embayment	4A	178.13	acres
AL03150105-1003-102	Coosa River (Weiss Lake)	Coosa	PWS/S/F&W	Weiss dam powerhouse	Spring Creek	4A	15066.37	acres
AL03150106-0107-111	Black Creek (Neely Henry Lake)	Coosa	F&W	US Highway 411	end of embayment	4A	348.36	acres
AL03150106-0108-111	Big Wills Creek (Neely Henry Lake)	Coosa	F&W	US Highway 411	end of embayment	4A	514.85	acres
AL03150106-0201-111	Ballplay Creek (Neely Henry Lake)	Coosa	PWS/F&W	Coosa River	end of embayment	4A	11.47	acres
AL03150106-0203-111	Cove Creek (Neely Henry Lake)	Coosa	PWS/F&W	Coosa River	end of embayment	4A	158.35	acres
AL03150106-0204-101	Coosa River (Neely Henry Lake)	Coosa	F&W	Big Wills Creek	City of Gadsden water supply intake	4A	245.39	acres
AL03150106-0204-102	Coosa River (Neely Henry Lake)	Coosa	PWS/S/F&W	City of Gadsden water supply intake	Weiss dam powerhouse	4A	1724.59	acres
AL03150106-0306-111	Big Canoe Creek (Neely Henry Lake)	Coosa	S/F&W	Coosa River	end of embayment	4A	1231.02	acres
AL03150106-0307-1111	Beaver Creek (Neely Henry Lake)	Coosa	S/F&W	Coosa River	end of embayment	4A	397.23	acres
AL03150106-0309-101	Coosa River (Neely Henry Lake)	Coosa	S/F&W	Neely Henry Dam	McCardney's Ferry	4A	3519.93	acres
AL03150106-0309-102	Coosa River (Neely Henry Lake)	Coosa	F&W	McCardney's Ferry	Big Wills Creek	4A	2637.46	acres
AL03150106-0309-311	Greens Creek (Neely Henry Lake)	Coosa	S/F&W	Coosa River	end of embayment	4A	237.21	acres
AL03150107-0709-111	Hatchet Creek (Mitchell Lake)	Coosa	PWS/S/F&W	Coosa River	end of embayment	4A	1677.40	acres
AL03150107-0802-111	Walnut Creek (Mitchell Lake)	Coosa	PWS/S/F&W	Coosa River	end of embayment	4A	88.72	acres
AL03150107-0803-100	Coosa River (Mitchell Lake)	Coosa	PWS/S/F&W	Mitchell Dam	Lay Dam	4A	3718.98	acres
AL06030002-1014-102	Flint Creek (Wheeler Lake)	Tennessee	F&W	Alabama Highway 67	L&N Railroad	4A	732.66	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160106-0203-111	Coal Fire Creek (Aliceville Lake)	Tombigbee	S/F&W	Tombigbee River	end of embayment	4A	323.51	acres
AL03160106-0308-101	Tombigbee River (Aliceville Lake)	Tombigbee	S/F&W	Bevill Lock and Dam	Alabama-Mississippi state line	4A	1965.18	acres

**Category 4A - Ocean and Estuary**

AL03160205-0300-101	Mobile Bay	Mobile	SH/F&W	out to 1000 feet offshore from Mullet Point to Ragged Point		4A	2.31	sq. miles
AL03160205-0300-201	Bon Secour Bay	Mobile	SH/S/F&W	out to 1000 feet offshore from Fish River Point to Mullet Point		4A	0.88	sq. miles
AL03160205-0300-501	Mobile Bay	Mobile	S/F&W	1000 feet offshore from Ragged Point to the mouth of Yancey Branch		4A	1.08	sq. miles
AL03140107-0205-102	Little Lagoon	Perdido	SH/S/F&W	east of Little Lagoon Pass		4A	1.32	sq. miles

**Category 5 - River and Stream**

AL03150201-0101-200	Callaway Creek	Alabama	F&W	Bouldin tailrace canal	its source	5	11.78	miles
AL03150201-0104-302	Three Mile Branch	Alabama	F&W	Lower Wetumpka Road	its source	5	7.62	miles
AL03150201-0105-300	Mill Creek	Alabama	F&W	Still Creek	its source	5	8.86	miles
AL03150201-1006-101	Mulberry Creek	Alabama	S/F&W	Alabama River	Harris Branch	5	22.20	miles
AL03150201-1207-301	Sixmile Creek	Alabama	F&W	Alabama River	Fourmile Creek	5	1.23	miles
AL03150203-0101-100	Washington Creek	Alabama	F&W	Bogue Chitto Creek	its source	5	17.24	miles
AL03150203-0103-200	Coffee Creek	Alabama	F&W	Tayloe Creek	its source	5	6.88	miles
AL03150203-0110-100	Bogue Chitto Creek	Alabama	F&W	Dannelly Lake	its source	5	53.56	miles
AL03150204-0405-102	Alabama River	Alabama	F&W	Pigeon Creek	Claiborne Lock and Dam	5	12.35	miles
AL03160109-0101-150	Riley Maze Creek	Black Warrior	F&W	Tibb Creek	its source	5	4.13	miles
AL03160109-0101-600	Tibb Creek	Black Warrior	F&W	Mulberry Fork	its source	5	5.13	miles
AL03160109-0109-102	Mulberry Fork	Black Warrior	F&W	Broglen River	Blount County Road 6	5	18.23	miles
AL03160109-0203-101	Mulberry Fork	Black Warrior	F&W	Marriott Creek	Mill Creek	5	2.52	miles
AL03160109-0203-102	Mulberry Fork	Black Warrior	F&W	Mill Creek	Broglen River	5	17.27	miles
AL03160109-0403-103	Lost Creek	Black Warrior	F&W	US Highway 78 north of Cedrum	US Highway 78 at Carbon Hill	5	6.53	miles
AL03160109-0404-500	Black Branch	Black Warrior	F&W	Cane Creek	its source	5	4.11	miles
AL03160109-0405-104	Lost Creek	Black Warrior	F&W	Alabama Highway 69 at Oakman	Mill dam at Cedrum	5	17.33	miles
AL03160109-0503-100	Wolf Creek	Black Warrior	S/F&W	Lost Creek	Alabama Highway 102	5	38.40	miles
AL03160109-0602-601	Old Town Creek	Black Warrior	F&W	Mulberry Fork	Pinhook Creek	5	2.71	miles
AL03160109-0604-900	Baker Creek	Black Warrior	F&W	Mulberry Fork	Its source	5	7.01	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160110-0401-100	Blevens Creek	Black Warrior	F&W	Rock Creek	Its source	5	19.14	miles
AL03160111-0208-101	Locust Fork	Black Warrior	F&W	Little Warrior River	Blount County Road 30	5	27.18	miles
AL03160111-0305-102	Locust Fork	Black Warrior	F&W	Kelly Creek	Little Warrior River	5	18.15	miles
AL03160111-0307-400	Black Creek	Black Warrior	F&W	Cunningham Creek	Its source	5	6.36	miles
AL03160111-0308-102	Locust Fork	Black Warrior	PWS/S/F&W	US Highway 31	Kelly Creek	5	14.86	miles
AL03160111-0404-102	Locust Fork	Black Warrior	S/F&W	Jefferson County Road 77	US Highway 31	5	14.25	miles
AL03160111-0405-101	Newfound Creek	Black Warrior	F&W	Fivemile Creek	Newfound Creek Lake dam	5	2.84	miles
AL03160111-0408-102	Village Creek	Black Warrior	LWF	Second Creek	Woodlawn Bridge	5	12.60	miles
AL03160111-0408-103	Village Creek	Black Warrior	LWF	Woodlawn Bridge	Its source	5	4.04	miles
AL03160111-0409-100	Village Creek	Black Warrior	S/F&W	Bankhead Lake	Bayview Lake Dam	5	17.90	miles
AL03160112-0201-102	Big Yellow Creek	Black Warrior	S/F&W	Bankhead Lake	Its source	5	14.59	miles
AL03160112-0304-110	Pegues Creek	Black Warrior	F&W	Holt Lake	Its source	5	4.23	miles
AL03160112-0305-110	Daniel Creek	Black Warrior	F&W	Holt Lake	Its source	5	10.42	miles
AL03160112-0503-100	Cotondale Creek	Black Warrior	F&W	Hurricane Creek	Its source	5	9.58	miles
AL03160113-0704-100	Cottonwood Creek	Black Warrior	F&W	Big Prairie Creek	Its source	5	11.42	miles
AL03160113-0801-200	Needham Creek	Black Warrior	F&W	Dollarhide Creek	Its source	5	8.96	miles
AL03140104-0104-100	Blackwater River	Blackwater	F&W	Alabama-Florida state line	Its source	5	2.78	miles
AL03150202-0503-102	Cahaba River	Cahaba	OAW/S	Alabama Highway 82	lower Little Cahaba River	5	10.58	miles
AL03150202-0506-200	Walton Creek	Cahaba	F&W	Cahaba River	Its source	5	5.45	miles
AL03150202-0901-100	Childers Creek	Cahaba	F&W	Cahaba River	Its source	5	18.79	miles
AL03130002-0907-100	Moore's Creek	Chattahoochee	F&W	Chattahoochee River	Its source	5	11.40	miles
AL03130002-1107-110	Halawakee Creek	Chattahoochee	F&W	Three miles upstream of County Road 79	Its source	5	16.57	miles
AL03130003-0101-100	Mill Creek	Chattahoochee	F&W	Chattahoochee River	Its source	5	9.93	miles
AL03130003-0605-100	Ihgee Creek	Chattahoochee	S/F&W	Chattahoochee River	Its source	5	15.73	miles
AL03130003-1204-100	South Fork Cowikee Creek	Chattahoochee	S/F&W	Walter F George Lake	Its source	5	30.39	miles
AL03130003-1306-101	Barbour Creek	Chattahoochee	F&W	Walter F George Lake	Its source	5	18.77	miles
AL03130004-0206-100	Bennett Mill Creek	Chattahoochee	F&W	Chattahoochee River	Its source	5	5.88	miles
AL03130004-0403-110	Peterman Creek	Chattahoochee	F&W	Abbie Creek	Its source	5	12.43	miles
AL03130004-0405-100	Abbie Creek	Chattahoochee	F&W	Chattahoochee River	Its source	5	42.53	miles
AL03130004-0602-500	Cedar Creek	Chattahoochee	F&W	Omusee Creek	Its source	5	4.04	miles
AL03130004-0801-100	Chattahoochee River	Chattahoochee	F&W	Alabama-Florida state line	Woods Branch	5	14.14	miles
AL03130012-0101-410	Cypress Creek	Chipola	F&W	Limestone Creek	Its source	5	8.11	miles
AL03130012-0203-110	Cowarts Creek	Chipola	F&W	Alabama-Florida state line	Its source	5	21.72	miles
AL03140201-0406-100	West Fork Choctawhatchee River	Choctawhatchee	S/F&W	Judy Creek	Its source	5	32.53	miles
AL03140201-0407-101	West Fork Choctawhatchee River	Choctawhatchee	S/F&W	Choctawhatchee River	The falls approximately one-half mile upstream of Alabama Highway 27	5	5.08	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03140201-0407-102	West Fork Choctawhatchee River	Choctawhatchee	F&W	The falls approximately one-half mile upstream of Alabama Highway 27	Judy Creek	5	1.79	miles
AL03140201-0407-400	Big Creek	Choctawhatchee	F&W	West Fork Choctawhatchee River	its source	5	6.53	miles
AL03140201-0501-201	Beaver Creek	Choctawhatchee	F&W	Newton Creek	Dothan WWTP	5	2.09	miles
AL03140201-0901-100	Harrand Creek	Choctawhatchee	F&W	Claybank Creek	Its source	5	9.71	miles
AL03140201-0901-200	Indian Camp Creek	Choctawhatchee	F&W	Harrand Creek	Its source	5	3.98	miles
AL03140201-1003-102	Choctawhatchee River	Choctawhatchee	F&W	Alabama Highway 12	Brooking Mill Creek	5	6.45	miles
AL03140201-1004-600	Dowling Branch	Choctawhatchee	F&W	Cox Mill Creek	Its source	5	2.10	miles
AL03140201-1102-500	Blanket Creek	Choctawhatchee	F&W	Double Bridges Creek	Its source	5	5.71	miles
AL03140201-1203-101	Choctawhatchee River	Choctawhatchee	S/F&W	Pea River	Alabama Highway 12	5	29.07	miles
AL03140202-0301-200	Buckhorn Creek	Choctawhatchee	F&W	Pea River	Its source	5	15.97	miles
AL03140202-0504-200	Huckleberry Creek	Choctawhatchee	F&W	Pea River	Its source	5	3.47	miles
AL03140202-0505-100	Pea River	Choctawhatchee	S/F&W	Halls Creek	US Highway 231	5	10.85	miles
AL03140202-0601-200	Patrick Creek	Choctawhatchee	F&W	Beaverdam Creek	Its source	5	5.18	miles
AL03140202-0603-101	Pea River	Choctawhatchee	F&W	Bucks Mill Creek	US Highway 84	5	8.09	miles
AL03140202-0603-102	Pea River	Choctawhatchee	S/F&W	US Highway 84	Red Oak Creek	5	11.76	miles
AL03140202-0702-110	Flat Creek	Choctawhatchee	S/F&W	Eightmile Creek	Its source	5	24.26	miles
AL03140202-0906-101	Pea River	Choctawhatchee	F&W	Choctawhatchee River	Laddon Creek	5	3.87	miles
AL03140203-0105-100	Choctawhatchee River	Choctawhatchee	S/F&W	Alabama-Florida state line	Pea River	5	4.45	miles
AL03140203-0201-100	Wrights Creek	Choctawhatchee	F&W	Alabama-Florida state line	Its source	5	8.96	miles
AL03150106-0507-102	Chocolocco Creek	Coosa	PWS/F&W	UT from Boiling Spring	Hillabee Creek	5	2.37	miles
AL03150106-0514-100	Chocolocco Creek	Coosa	F&W	Logan Martin Lake	UT from Boiling Spring	5	33.03	miles
AL03150106-0602-100	Broken Arrow Creek	Coosa	F&W	Coosa River	Its source	5	21.37	miles
AL03150106-0806-100	Wolf Creek	Coosa	F&W	Kelly Creek	Its source	5	16.70	miles
AL03150107-0104-100	Shirtee Creek	Coosa	F&W	Tallaseehatchee Creek	Its source	5	4.67	miles
AL03150107-0106-100	Tallaseehatchee Creek	Coosa	F&W	Lay Lake	Howard dam	5	16.74	miles
AL03150107-0304-700	UT to Dry Branch	Coosa	F&W	Dry Branch	Its source	5	1.58	miles
AL03150107-0405-100	Buxahatchee Creek	Coosa	F&W	Waxahatchee Creek	Its source	5	14.00	miles
AL03150107-0801-100	Yellow Leaf Creek	Coosa	F&W	Mitchell Lake	Its source	5	31.27	miles
AL03140303-0201-101	Rocky Creek	Escambia	F&W	Persimmon Creek	County road north of Chapman	5	9.23	miles
AL03140303-0704-100	Sepulga River	Escambia	F&W	Conecuh River	Robinson Mill Creek	5	14.48	miles
AL03140304-0305-101	Burnt Corn Creek	Escambia	S/F&W	Murder Creek	Sevenmile Creek	5	5.03	miles
AL03140304-0404-101	Murder Creek	Escambia	F&W	Conecuh River	Cedar Creek	5	8.45	miles
AL03140304-0506-100	Conecuh River	Escambia	F&W	Alabama-Florida state line	Mantle Branch	5	12.70	miles
AL03140304-0605-100	Little Escambia Creek	Escambia	F&W	Alabama-Florida state line	Wild Fork Creek	5	12.21	miles
AL03140305-0302-100	Big Escambia Creek	Escambia	F&W	Alabama-Florida state line	Big Spring Creek	5	17.03	miles
AL03170008-0402-110	Escatawpa River	Escatawpa	S/F&W	AL-MS state line	Its source	5	70.66	miles
AL03170008-0502-600	Boggy Branch	Escatawpa	F&W	Big Creek Lake	Its source	5	3.62	miles
AL03170008-0502-800	Collins Creek	Escatawpa	F&W	Big Creek	Its source	5	5.15	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160204-0103-100	Mobile River	Mobile	F&W	Tensaw River	Its source	5	5.72	miles
AL03160204-0105-111	Cold Creek	Mobile	F&W	Mobile River	Dam 1 1/2 miles west of US Highway 43	5	4.21	miles
AL03160204-0106-112	Mobile River	Mobile	F&W	Cold Creek	Barry Steam Plant	5	2.37	miles
AL03160204-0202-200	Middle River	Mobile	F&W	Tensaw River (RM 20.6)	Tensaw River (RM 37.7)	5	9.72	miles
AL03160204-0303-100	Chickasaw Creek	Mobile	S/F&W	Mobile College	Its source	5	26.82	miles
AL03160204-0305-101	Chickasaw Creek	Mobile	LWF	Mobile River	US Highway 43	5	4.43	miles
AL03160204-0305-102	Chickasaw Creek	Mobile	F&W	US Highway 43	Mobile College	5	6.64	miles
AL03160204-0403-112	Mobile River	Mobile	F&W	Spanish River	Cold Creek	5	20.90	miles
AL03160204-0503-102	Bay Minette Creek	Mobile	F&W	Bay Minette	Its source	5	18.15	miles
AL03160204-0504-300	Toulmins Spring Branch	Mobile	F&W	Threemile Creek	Its source	5	3.22	miles
AL03160204-0504-500	UT to Threemile Creek	Mobile	F&W	Threemile Creek	Its source	5	1.04	miles
AL03160204-0505-202	Tensaw River	Mobile	OAW/S/F&W	Junction of Tensaw and Apalachee Rivers	Junction of Briar Lake	5	21.73	miles
AL03160204-0505-500	D'Olive Creek	Mobile	F&W	D'Olive Bay	Its source	5	4.89	miles
AL03160204-0505-505	UT to D'Olive Creek	Mobile	F&W	D'Olive Creek	Its source	5	1.22	miles
AL03160204-0505-800	Joes Branch	Mobile	F&W	D'Olive Creek	Its source	5	1.57	miles
AL03160204-0505-900	Tiawasee Creek	Mobile	F&W	D'Olive Creek	Its source	5	3.54	miles
AL03160204-0505-905	UT to Tiawasee Creek	Mobile	F&W	Tiawasee Creek	Its source	5	1.87	miles
AL03160205-0102-110	Halls Mill Creek	Mobile	F&W	Dog River	Its source	5	11.30	miles
AL03160205-0104-110	Fowl River	Mobile	S/F&W	Mobile Bay	Its source	5	20.56	miles
AL03160205-0105-100	Deer River	Mobile	F&W	Mobile Bay	Its source	5	1.02	miles
AL03160205-0105-300	Middle Fork Deer River	Mobile	F&W	Deer River	Its source	5	2.47	miles
AL03160205-0202-210	Polecat Creek	Mobile	S/F&W	Fish River	Its source	5	7.89	miles
AL03160205-0202-510	Baker Branch	Mobile	F&W	Polecat Creek	Its source	5	6.15	miles
AL03160205-0203-110	Magnolia River	Mobile	OAW/S/F&W	Weeks Bay	Its source	5	12.41	miles
AL03160205-0204-112	Fish River	Mobile	S/F&W	Weeks Bay	Its source	5	30.01	miles
AL03160205-0204-700	Cowpen Creek	Mobile	S/F&W	Fish River	Its source	5	7.12	miles
AL03160205-0206-101	Bon Secour River	Mobile	S/F&W	Bon Secour Bay	One mile upstream from first bridge above its mouth	5	9.12	miles
AL03160205-0206-102	Bon Secour River	Mobile	S/F&W	One mile upstream from first bridge above its mouth	Its source	5	4.38	miles
AL03140106-0302-101	Brushy Creek	Perdido	F&W	Alabama-Florida state line	Boggy Branch	5	0.22	miles
AL03140106-0302-201	Boggy Branch	Perdido	F&W	Brushy Creek	Atmore WWTP	5	1.59	miles
AL03140106-0302-202	Boggy Branch	Perdido	F&W	Atmore WWTP	Masland Carpets WWTP	5	0.14	miles
AL03140106-0302-203	Boggy Branch	Perdido	F&W	Masland Carpets WWTP	Its source	5	0.95	miles
AL03140106-0507-100	Styx River	Perdido	F&W	Perdido River	Hollinger Creek	5	18.52	miles
AL03140106-0603-101	Blackwater River	Perdido	F&W	Perdido River	Narrow Gap Creek	5	3.11	miles
AL03140106-0703-100	Perdido River	Perdido	F&W	Perdido Bay	Jacks Branch	5	21.93	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150108-0405-102	Tallapoosa River	Tallapoosa	OAW/F&W	Cane Creek	Alabama-Georgia state line	5	31.60	miles
AL03150108-0905-103	Little Tallapoosa River	Tallapoosa	F&W	Wolf Creek	Alabama-Georgia state line	5	30.78	miles
AL03150108-0905-400	Wolf Creek	Tallapoosa	F&W	Little Tallapoosa River	Its source	5	5.53	miles
AL03150110-0202-300	Moore's Mill Creek	Tallapoosa	S/F&W	Chewacla Creek	Its source	5	10.51	miles
AL03150110-0406-200	Mill Creek	Tallapoosa	F&W	Tallapoosa River	Its source	5	9.16	miles
AL03150110-0504-101	Calebee Creek	Tallapoosa	F&W	Tallapoosa River	Macon County Road 9	5	10.26	miles
AL03150110-0603-102	Cubahatchee Creek	Tallapoosa	S/F&W	Coon Hop Creek	Its source	5	22.37	miles
AL03150110-0604-100	Cubahatchee Creek	Tallapoosa	S/F&W	Tallapoosa River	Coon Hop Creek	5	22.07	miles
AL03150110-0804-101	Line Creek	Tallapoosa	F&W	Tallapoosa River	Johnsons Creek	5	10.29	miles
AL03150110-0804-102	Line Creek	Tallapoosa	F&W	Johnsons Creek	Panther Creek	5	5.51	miles
AL03150110-0904-300	Jenkins Creek	Tallapoosa	F&W	Tallapoosa River	Its source	5	13.48	miles
AL03150110-0905-112	Tallapoosa River	Tallapoosa	PWS/F&W	US Highway 231	Jenkins Creek	5	10.07	miles
AL06030001-0202-500	Higdon Creek	Tennessee	F&W	Miller Creek	Alabama-Georgia state line	5	4.16	miles
AL06030001-0204-101	Widows Creek	Tennessee	S/F&W	Guntersville Lake	Alabama Highway 277	5	1.29	miles
AL06030001-0306-100	Little Coon Creek	Tennessee	F&W	Coon Creek	Alabama-Tennessee state line	5	16.30	miles
AL06030001-0403-801	Warren Smith Creek	Tennessee	F&W	Dry Creek	Ross Branch	5	3.44	miles
AL06030001-0904-102	Browns Creek	Tennessee	F&W	Guntersville Lake	Its source	5	11.86	miles
AL06030002-0106-101	Guess Creek	Tennessee	F&W	Paint Rock River	Bee Branch	5	11.08	miles
AL06030002-0305-100	Beaverdam Creek	Tennessee	F&W	Brier Fork	Its source	5	22.14	miles
AL06030002-0306-110	Brier Fork	Tennessee	F&W	Flint River	Alabama-Tennessee state line	5	21.89	miles
AL06030002-0403-112	Flint River	Tennessee	F&W	Alabama Highway 72	Mountain Fork	5	15.32	miles
AL06030002-0503-102	Huntsville Spring Branch	Tennessee	F&W	Johnson Road (Huntsville Field)	Broglan Branch	5	1.98	miles
AL06030002-0601-300	Hughes Creek	Tennessee	F&W	Cotaco Creek	Its source	5	2.87	miles
AL06030002-0602-102	West Fork Cotaco Creek	Tennessee	F&W	Alabama Highway 67	Frost Creek	5	8.12	miles
AL06030002-0603-600	Mill Pond Creek	Tennessee	F&W	Cotaco Creek	Its source	5	1.29	miles
AL06030002-1014-103	Flint Creek	Tennessee	PWS/F&W	L&N Railroad	Alabama Highway 36	5	9.10	miles
AL06030002-1101-101	Swan Creek	Tennessee	F&W	Tennessee River	Huntsville Brownsferry Road	5	5.03	miles
AL06030004-0404-102	Anderson Creek	Tennessee	F&W	Snake Road bridge	Its source	5	9.31	miles
AL06030005-0105-100	Big Nance Creek	Tennessee	F&W	Wilson Lake	Its source	5	24.75	miles
AL06030005-0802-100	Pond Creek	Tennessee	A&I	Tennessee River	Its source	5	12.43	miles
AL06030005-0803-400	Sweetwater Creek	Tennessee	F&W	Tennessee River (Florence Canal)	Its source	5	4.41	miles
AL06030006-0102-700	Little Dice Branch	Tennessee	F&W	Bear Creek	Its source	5	3.83	miles
AL06030006-0104-102	Bear Creek	Tennessee	S/F&W	Alabama Highway 187	Mill Creek	5	22.31	miles

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL06030006-0304-102	Bear Creek	Tennessee	F&W	U.S. Highway 72	Alabama-Mississippi state line	5	10.12	miles
AL03160105-0204-102	Luxapallila Creek	Tombigbee	F&W	Alabama-Mississippi state line	Fayette County Road 37	5	25.25	miles
AL03160106-0504-100	Bogue Chitto	Tombigbee	F&W	Tombigbee River	Alabama-Mississippi state line	5	5.42	miles
AL03160108-1102-100	Noxubee River	Tombigbee	F&W	Tombigbee River	Alabama-Mississippi state line	5	23.99	miles
AL03160203-0205-100	Salitpa Creek	Tombigbee	S/F&W	Tombigbee River	Its source	5	43.34	miles
AL03160203-0903-102	Tombigbee River	Tombigbee	F&W	Bassetts Creek	1/2 mile downstream of Southern Railway Crossing	5	7.83	miles
AL03160203-1103-101	Tombigbee River	Tombigbee	F&W	Mobile River	Upper end of Bilbo Island	5	11.89	miles
AL03160203-1103-102	Tombigbee River	Tombigbee	F&W	Upper end of Bilbo Island	Olin Basin canal	5	3.75	miles
AL03160203-1103-700	Bilbo Creek	Tombigbee	S/F&W	Tombigbee River	Its source	5	30.74	miles
AL03140103-0102-700	UT 3-C to Lightwood Knot Creek (Lake Frank Jackson)	Yellow	F&W	Lake Frank Jackson	Its source	5	1.05	miles
AL03140103-0102-800	UT 2-S to Lightwood Knot Creek (Lake Frank Jackson)	Yellow	F&W	Lake Frank Jackson	Its source	5	1.77	miles
AL03140103-0402-100	Yellow River	Yellow	F&W	Alabama-Florida state line	North Creek	5	14.87	miles

**Category 5 - Lake and Reservoir**

AL03150203-0703-101	Alabama River (Claiborne Lake)	Alabama	PWS	Beaver Creek	Rockwest Creek	5	310.63	acres
AL03150203-0802-111	Pursley Creek (Claiborne Lake)	Alabama	S/F&W	Alabama River	end of embayment	5	6.64	acres
AL03150203-0805-101	Alabama River (Claiborne Lake)	Alabama	S/F&W	McCalls Creek	Bear Creek	5	714.80	acres
AL03150203-0805-102	Alabama River (Claiborne Lake)	Alabama	S/F&W	Bear Creek	Frisco Railroad Crossing	5	304.23	acres
AL03150203-0805-103	Alabama River (Claiborne Lake)	Alabama	F&W	Frisco Railroad Crossing	Pursley Creek	5	474.72	acres
AL03150203-0805-104	Alabama River (Claiborne Lake)	Alabama	F&W	Pursley Creek	River Mile 131	5	524.33	acres
AL03150203-0805-105	Alabama River (Claiborne Lake)	Alabama	PWS	River Mile 131	Beaver Creek	5	109.31	acres
AL03150204-0101-111	Tallatchee Creek (Claiborne Lake)	Alabama	S/F&W	Alabama River	end of embayment	5	20.58	acres
AL03150204-0105-100	Alabama River (Claiborne Lake)	Alabama	S/F&W	Claiborne Lock and Dam	McCalls Creek	5	2051.55	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160110-0305-201	Clear Creek (Smith Lake)	Black Warrior	PWS/S/F&W	Sipsey Fork	Coon Creek	5	346.47	acres
AL03160110-0306-201	Sipsey Fork (Smith Lake)	Black Warrior	S/F&W	County Road 41	Brushy Creek	5	1321.71	acres
AL03160110-0306-901	Butler Branch (Smith Lake)	Black Warrior	S/F&W	Sipsey Fork	end of embayment	5	119.74	acres
AL03160110-0408-110	Rock Creek (Smith Lake)	Black Warrior	S/F&W	Sipsey Fork	White Oak Creek	5	1946.62	acres
AL03160110-0505-103	Ryan Creek (Smith Lake)	Black Warrior	S/F&W	Coon Creek	end of embayment	5	4547.96	acres
AL03160111-0413-101	Locust Fork (Bankhead Lake)	Black Warrior	PWS/S/F&W	Black Warrior River	Jefferson County Highway 61	5	625.96	acres
AL03160111-0413-112	Locust Fork (Bankhead Lake)	Black Warrior	F&W	Jefferson County Highway 61	Village Creek	5	462.66	acres
AL03160112-0106-111	Valley Creek (Bankhead Lake)	Black Warrior	PWS/S/F&W	Black Warrior River	end of embayment	5	119.67	acres
AL03160112-0410-111	Binion Creek (Lake Tuscaloosa)	Black Warrior	F&W	North River	end of embayment	5	305.18	acres
AL03160112-0411-101	North River (Lake Tuscaloosa)	Black Warrior	F&W	Binion Creek	extent of reservoir	5	968.62	acres
AL03160112-0413-102	North River (Lake Tuscaloosa)	Black Warrior	PWS/S	Lake Tuscaloosa dam	Binion Creek	5	3797.84	acres
AL03130003-0505-111	Uchee Creek (Walter F George Lake)	Chattahoochee	S/F&W	Chattahoochee River	end of embayment	5	105.15	acres
AL03130003-1205-100	Cowikee Creek (Walter F George Lake)	Chattahoochee	S/F&W	Chattahoochee River	end of embayment	5	1739.13	acres
AL03130003-1307-111	Barbour Creek (Walter F George Lake)	Chattahoochee	F&W	Chattahoochee River	end of embayment	5	656.59	acres
AL03130003-1600-100	Chattahoochee River (Walter F George Lake)	Chattahoochee	S/F&W	Walter F. George Lock and Dam	Cowikee Creek	5	9797.21	acres
AL03150105-1002-102	Coosa River (Weiss Lake)	Coosa	S/F&W	Spring Creek	Alabama-Georgia state line	5	6567.86	acres
AL03150106-0408-111	Cane Creek (Logan Martin Lake)	Coosa	S/F&W	Coosa River	end of embayment	5	35.96	acres
AL03150106-0514-111	Chocolocco Creek (Logan Martin Lake)	Coosa	S/F&W	Coosa River	end of embayment	5	1125.61	acres
AL03150106-0603-111	Coosa River (Logan Martin Lake)	Coosa	PWS/S/F&W	Broken Arrow Creek	Trout Creek	5	1449.31	acres
AL03150106-0603-112	Coosa River (Logan Martin Lake)	Coosa	S/F&W	Trout Creek	Neely Henry Dam	5	783.90	acres
AL03150106-0604-111	Blue Eye Creek (Logan Martin Lake)	Coosa	S/F&W	Coosa River	end of embayment	5	305.45	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03150106-0605-211	Dye Creek (Logan Martin Lake)	Coosa	F&W	Coosa River	end of embayment	5	144.97	acres
AL03150106-0703-111	Talladega Creek (Lay Lake)	Coosa	S/F&W	Coosa River	end of embayment	5	60.66	acres
AL03150106-0802-111	Clear Creek (Logan Martin Lake)	Coosa	S/F&W	Coosa River	end of embayment	5	624.28	acres
AL03150106-0803-100	Coosa River (Logan Martin Lake)	Coosa	S/F&W	Logan Martin Dam	Broken Arrow Creek	5	10945.46	acres
AL03150106-0803-311	Easonville Creek (Logan Martin Lake)	Coosa	S/F&W	Coosa River	end of embayment	5	1260.19	acres
AL03150106-0808-111	Kelly Creek (Lay Lake)	Coosa	PWS/S/F&W	Coosa River	end of embayment	5	6.49	acres
AL03150106-0810-102	Coosa River (Lay Lake)	Coosa	PWS/S/F&W	River Mile 89	Logan Martin Dam	5	698.04	acres
AL03150107-0106-111	Tallaseehatchee Creek (Lay Lake)	Coosa	S/F&W	Coosa River	end of embayment	5	13.46	acres
AL03150107-0205-111	Yellowleaf Creek (Lay Lake)	Coosa	PWS/S/F&W	Coosa River	end of embayment	5	178.73	acres
AL03150107-0301-102	Coosa River (Lay Lake)	Coosa	S/F&W	Southern RR Bridge	River Mile 89	5	803.88	acres
AL03150107-0304-111	Dry Branch (Lay Lake)	Coosa	PWS/S/F&W	Coosa River	end of embayment	5	112.04	acres
AL03150107-0406-111	Waxahatchee Creek (Lay Lake)	Coosa	PWS/S/F&W	Coosa River	end of embayment	5	770.68	acres
AL03150107-0501-111	Peckerwood Creek (Lay Lake)	Coosa	PWS/S/F&W	Coosa River	end of embayment	5	165.92	acres
AL03150107-0503-110	Coosa River (Lay Lake)	Coosa	PWS/S/F&W	Lay Dam	Southern RR Bridge	5	10559.35	acres
AL03140301-0404-111	Conecuh River (Gantt Lake)	Escambia	S/F&W	Gantt Dam	extent of reservoir	5	1,817.43	acres
AL03140301-0405-101	Conecuh River (Point A Lake)	Escambia	S/F&W	Point A Dam	extent of reservoir	5	610.56	acres
AL03140302-0506-101	Patsaliga Creek (Point A Lake)	Escambia	F&W	Conecuh River	Buck Creek	5	154.43	acres
AL03170008-0502-110	Big Creek (Big Creek Lake)	Escatawpa	PWS/F&W	Big Creek Lake dam	Collins Creek	5	2,724.87	acres
AL03170008-0502-211	Hamilton Creek (Big Creek Lake)	Escatawpa	PWS/F&W	Big Creek	end of embayment	5	583.14	acres
AL03150109-0803-301	Sugar Creek (Lake Martin)	Tallapoosa	S/F&W	Elkahatchee Creek	end of embayment	5	58.93	acres
AL03150110-0104-101	Sougahatchee Creek (Yates Lake)	Tallapoosa	PWS/S/F&W	Tallapoosa River	end of embayment	5	203.78	acres
AL03150110-0402-101	Channahatchee Creek (Yates Lake)	Tallapoosa	PWS/S/F&W	Tallapoosa River	end of embayment	5	62.63	acres
AL03150110-0406-102	Tallapoosa River (Thurlow Lake)	Tallapoosa	PWS/S/F&W	Thurlow dam	Yates dam	5	538.60	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL06030001-0203-101	Long Island Creek (Guntersville Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	5	210.43	acres
AL06030001-0204-111	Widows Creek (Guntersville Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	5	97.65	acres
AL06030001-0205-102	Tennessee River (Guntersville Lake)	Tennessee	PWS/S/F&W	Pump Spring Branch	Alabama-Tennessee state line	5	2400.28	acres
AL06030001-0705-111	Town Creek (Guntersville Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	5	1584.07	acres
AL06030001-0904-101	Browns Creek (Guntersville Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	5	5915.66	acres
AL06030002-0505-111	Indian Creek (Wheeler Lake)	Tennessee	PWS/F&W	Tennessee River	end of embayment	5	257.28	acres
AL06030002-0606-111	Cotaco Creek (Wheeler Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	5	492.48	acres
AL06030002-0902-100	Tennessee River (Wheeler Lake)	Tennessee	S/F&W	Flint River	Guntersville Dam	5	1345.77	acres
AL06030002-0904-100	Tennessee River (Wheeler Lake)	Tennessee	PWS/F&W	Indian Creek	Flint River	5	2779.95	acres
AL06030002-0906-102	Tennessee River (Wheeler Lake)	Tennessee	PWS/S/F&W	Cotaco Creek	Indian Creek	5	334.49	acres
AL06030002-0906-600	Limestone Creek (Wheeler Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	5	2338.94	acres
AL06030002-1014-101	Flint Creek (Wheeler Lake)	Tennessee	F&W	Tennessee River	Alabama Highway 67	5	851.41	acres
AL06030002-1101-111	Swan Creek (Wheeler Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	5	772.38	acres
AL06030002-1102-102	Tennessee River (Wheeler Lake)	Tennessee	PWS/S/F&W	US Highway 31	Flint Creek	5	2587.33	acres
AL06030002-1102-103	Tennessee River (Wheeler Lake)	Tennessee	S/F&W	Flint Creek	Cotaco Creek	5	4271.34	acres
AL06030002-1102-211	Bakers Creek (Wheeler Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	5	157.02	acres
AL06030002-1102-311	Dry Branch (Wheeler Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	5	84.15	acres
AL06030002-1103-111	Round Island Creek (Wheeler Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	5	408.15	acres
AL06030002-1107-102	Tennessee River (Wheeler Lake)	Tennessee	S/F&W	five miles upstream of Elk River (RM 289.3)	US Highway 31	5	19221.29	acres
AL06030002-1201-111	Spring Creek (Wheeler Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	5	1111.87	acres
AL06030002-1204-101	Second Creek (Wheeler Lake)	Tennessee	S/F&W	Tennessee River	First bridge upstream from US Highway 72	5	610.22	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL06030002-1205-100	Tennessee River (Wheeler Lake)	Tennessee	PWS/S/F&W	Wheeler Dam	five miles upstream of Elk River (RM 289.3)	5	13441.12	acres
AL06030004-0405-101	Elk River (Wheeler Lake)	Tennessee	S/F&W	Tennessee River	Anderson Creek	5	1569.21	acres
AL06030005-0105-111	Big Nance Creek (Wilson Lake)	Tennessee	F&W	Tennessee River	end of embayment	5	44.57	acres
AL06030005-0605-111	Cypress Creek (Pickwick Lake)	Tennessee	PWS/F&W	Tennessee River	end of embayment	5	57.00	acres
AL06030005-0703-111	Spring Creek (Pickwick Lake)	Tennessee	F&W	Tennessee River	end of embayment	5	18.34	acres
AL06030005-0801-100	Tennessee River (Wilson Lake)	Tennessee	PWS/S/F&W	Wilson Dam	Wheeler Dam	5	13363.37	acres
AL06030005-0801-201	McKiernan Creek (Wilson Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	5	212.45	acres
AL06030005-0807-111	Cane Creek (Pickwick Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	5	41.43	acres
AL06030005-0808-103	Tennessee River (Pickwick Lake)	Tennessee	F&W	lower end of Seven Mile Island	Sheffield water intake	5	2424.33	acres
AL06030005-0808-104	Tennessee River (Pickwick Lake)	Tennessee	PWS/F&W	Sheffield water intake	Wilson Dam	5	1112.21	acres
AL06030005-0902-111	Second Creek (Pickwick Lake)	Tennessee	PWS/S/F&W	Tennessee River	end of embayment	5	677.22	acres
AL06030005-1203-100	Tennessee River (Pickwick Lake)	Tennessee	PWS/S/F&W	Alabama-Tennessee state line	lower end of Seven Mile Island	5	19370.33	acres
AL06030006-0102-102	Bear Creek (Upper Bear Creek Lake)	Tennessee	PWS/S/F&W	Pretty Branch	Alabama Highway 243	5	249.44	acres
AL06030006-0103-104	Bear Creek (Upper Bear Creek Lake)	Tennessee	PWS/S/F&W	Upper Bear Creek dam	Pretty Branch	5	1462.58	acres
AL06030006-0104-101	Bear Creek (Bear Creek Lake)	Tennessee	PWS/S/F&W	Bear Creek Lake dam	Alabama Highway 187	5	653.54	acres
AL06030006-0203-101	Cedar Creek (Cedar Creek Lake)	Tennessee	PWS/S/F&W	Cedar Creek Lake dam	extent of reservoir	5	4063.07	acres
AL06030006-0205-111	Little Bear Creek (Little Bear Creek Lake)	Tennessee	PWS/S/F&W	Little Bear Creek dam	Scott Branch	5	1435.05	acres
AL06030006-0307-111	Bear Creek (Pickwick Lake)	Tennessee	S/F&W	Tennessee River	end of embayment	5	5811.82	acres
AL03160107-0306-101	Sipsey River (Gainesville Lake)	Tombigbee	F&W	Tombigbee River	extent of reservoir	5	383.92	acres
AL03160201-0401-103	Tombigbee River (Coffeeville Lake)	Tombigbee	F&W	Sucarnoochee River	Demopolis Lock and Dam	5	668.76	acres
AL03160202-0703-111	Sucarnoochee River (Coffeeville Lake)	Tombigbee	F&W	Tombigbee River	end of embayment	5	10.81	acres

**Categorization of Alabama Waters**

Assessment Unit ID	Waterbody Name	River Basin	Classification	Downstream	Upstream	Cat.	Size	S-Type
AL03160203-1103-800	Olin Basin	Tombigbee	F&W	Olin Basin		5	85.73	acres
AL03140103-0102-102	Lightwood Knot Creek (Lake Frank Jackson)	Yellow	F&W	Lake Frank Jackson dam	extent of reservoir	5	956.26	acres
AL03140103-0601-300	Lake Jackson	Yellow	S/F&W	Within Florida and north of AL-FL state line		5	415.46	acres

**Category 5 - Ocean and Estuary**

AL03170009-0201-100	Mississippi Sound	Escatawpa	SH/S/F&W	Mississippi Sound		5	94.62	sq. miles
AL03170009-0201-200	Portersville Bay	Escatawpa	SH/S/F&W	1000 feet west of outfall	Bayou la Batre Utilities outfall	5	18.81	sq. miles
AL03170009-0201-300	Grand Bay	Escatawpa	SH/S/F&W	Grand Bay		5	30.73	sq. miles
AL03160204-0202-300	Mifflin Lake	Mobile	F&W	Tensaw River	Its source	5	0.73	sq. miles
AL03160205-0208-100	Oyster Bay	Mobile	SH/F&W	Oyster Bay		5	0.95	sq. miles
AL03160205-0300-102	Mobile Bay	Mobile	SH/F&W	All except out to 1000 feet offshore from Mullet Point to Ragged Point		5	168.29	sq. miles
AL03160205-0300-202	Bon Secour Bay	Mobile	SH/S/F&W	Bon Secour Bay except out to 1000 feet offshore from Fish River Point to Mullet Point		5	102.96	sq. miles
AL-Gulf-of-Mexico	Gulf of Mexico	Mobile	SH/S/F&W	Mississippi	Florida	5	201.02	sq. miles
AL03140107-0103-100	Perdido Bay	Perdido	SH/S/F&W	Lillian Bridge	Its source	5	4.21	sq. miles
AL03140107-0204-302	Perdido Bay	Perdido	SH/S/F&W	Suarez Point	Lillian Bridge	5	1.29	sq. miles
AL03140107-0204-400	Arnica Bay	Perdido	SH/S/F&W	Perdido Bay	Bay la Launch	5	1.27	sq. miles

## **Appendix C**

### **Alabama's 2016 § 303(d) List Fact Sheet**



## *Alabama's Final 2016 §303(d) List Fact Sheet*

### **Background**

Section 303(d) of the Clean Water Act requires that each state identify those waters that do not currently support designated uses, and to establish a priority ranking of these waters by taking into account the severity of the pollution and the designated uses of such waters. For each waterbody on the list, the state is required to establish a total maximum daily load (TMDL) for the pollutant or pollutants of concern at a level necessary to implement the applicable water quality standards. Current Environmental Protection Agency (EPA) guidance encourages states to establish and focus on priority areas for restoration through TMDL development. Alabama has developed a TMDL Prioritization Framework Document that details the Department's recent TMDL prioritization process. This Framework and a list of waters prioritized for TMDL development during 2016-2022 are included with this fact sheet.

### **Alabama's 2016 §303(d) List**

Alabama's final 2016 §303(d) List includes segments of rivers, streams, lakes, reservoirs, and estuaries that do not fully support their currently designated use or uses. Most of the waterbodies on the final 2016 §303(d) List also appeared on Alabama's 2014 §303(d) List as submitted to EPA in April 2014. The Department has attempted to obtain and evaluate all existing and readily available water quality-related data and information. The notice soliciting information is included in **Appendix A**. The notice was published in Alabama's four major daily newspapers, appeared on the Department's web page, and was mailed to the Department's general mailing list. Data in the Department's multiple databases, information from §319 nonpoint assessments, special watershed studies, other federal and state agencies, industries, and watershed initiatives were evaluated as the final 2016 §303(d) List was compiled. Any individual or organization may submit additional data or information during the advertised comment period relative to water quality impairment in waterbodies in Alabama. Chemical, physical, and biological data collected primarily during the previous six years have been considered in the preparation of the final §303(d) List, consistent with the Department's water quality assessment and listing methodology. Comments on the methodology were solicited in the public notice included in **Appendix A**. Alabama's water quality assessment and listing methodology may be found at the Department's web page at: <http://www.adem.alabama.gov/programs/water/wquality/2016WAM.pdf> Data sources include the Alabama Department of Environmental Management, the Alabama Department of Public Health, the Geological Survey of Alabama, the United States Geological Survey, the Tennessee Valley Authority, other public agencies, universities, county and municipal governments, and industries.

The list contains information such as the waterbody name, county(s) in which the listed segments are located, cause(s) for the use impairment, the source(s) of the pollutant(s) causing the impairment, the size of the impaired segments, and the location of the listed waterbodies.

**Changes since the 2014 §303(d) List**

A number of differences exist between the final 2016 §303(d) List and the Final Approved 2014 §303(d) List. Some of the changes were to correct errors or omissions in the 2014 List and to provide additional or updated information about waterbodies on the list. Other significant changes since 2014 include the addition and deletion of waterbodies. **Table 1** shows the new waterbody/pollutant combinations that are being added to Alabama's §303(d) List and the justification for the additions. **Table 2** provides the waterbody/pollutant combinations that are being removed from the list and placed in a different category and the corresponding justification for each removal.

**Table 3** provides a listing of other changes appearing on the 2016 §303(d) List. Many of these changes result from corrections to Assessment Unit numbers or corrections to causes and sources. Also, we have made changes to our River Basin naming scheme and how we name certain lakes and reservoirs.

**Table 4** provides revisions made between the draft 2016 §303(d) List and the final 2016 §303(d) List submitted to EPA. These revisions were made to the list as a result of comments received during the public notice period or as a result of errors identified by ADEM staff since the draft 2016 §303(d) List was public noticed.

**Table 1**  
**Alabama's Draft 2016 §303(d) List**  
**New Waterbody/Pollutant Combinations Appearing on the draft 2016 List**

The waterbody/pollutant combinations listed in the following table are proposed for addition to Alabama's draft 2016 §303(d) List for the reasons presented in the table.

<b>Assessment Unit</b>	<b>Waterbody Name</b>	<b>River Basin</b>	<b>County</b>	<b>Causes</b>	<b>Basis for Addition to the List</b>	<b>Source / Date of Data</b>
AL03150201-1006-101	Mulberry Creek	Alabama	Autauga Dallas	Pathogens (E. coli)	Records at ADEM station MULD-1 from 2010-2013 show that the E. coli criterion was exceeded in 6 out of 15 samples.	ADEM 2010- 2013
AL03150203-0101-100	Washington Creek	Alabama	Dallas Perry	Pathogens (E. coli)	Records at ADEM station WASP-1 from 2010-2013 show that the E. coli criterion was exceeded in 4 out of 11 samples.	ADEM 2010- 2013
AL03160110-0401-100	Blevens Creek	Black Warrior	Cullman Winston	Pathogens (E. coli)	Records at ADEM station BLVC-1 from 2012 show that the E. coli criterion was exceeded in 2 out of 8 samples.	ADEM 2012

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Assessment Unit	Waterbody Name	River Basin	County	Causes	Basis for Addition to the List	Source / Date of Data
AL03160112-0106-111	Valley Creek (Bankhead Lake)	Black Warrior	Jefferson	Nutrients	Historical Data from ADEM stations VALJ-8 and VA-1 indicate phosphorus and nitrogen concentrations are elevated in comparison to ecoregional data. This causes hypereutrophic conditions in the Valley Creek embayment, which are shown in data collected at ADEM station BANT-6. These include chlorophyll-a growing season mean values of 36.17 µg/L in 1998 and 43.23 µg/L in 2007. Also in 2007, a chlorophyll-a value of 101.46 µg /L was recorded. Supersaturated dissolved oxygen concentrations have also been observed. During 2007, growing season average surface (0.2 meters) DO concentration was 13.37 mg/L and a maximum of 18.07 mg/l was recorded. In 2012, a maximum DO value of 18.38 mg/l was recorded. Elevated levels of pH have also been recorded; 10 of the 14 growing season samples collected during 2007 and 2012 exceeded the pH criterion of 8.5. These are all indicators of nutrient overenrichment.	ADEM 2012
AL03160112-0503-100	Cottondale Creek	Black Warrior	Tuscaloosa	Pathogens (E. coli)	Records at ADEM station CTNT-1 from 2012 show that the E. coli criterion was exceeded in 2 out of 8 samples.	ADEM 2012
AL03150202-0503-102	Cahaba River	Cahaba	Bibb	Pathogens (E. coli)	Records at ADEM station CABB-1 from 2009-2014 show that the E. coli criterion was exceeded in 10 out of 63 samples.	ADEM 2009-2014
AL03150202-0506-200	Walton Creek	Cahaba	Bibb Perry	Pathogens (E. coli)	Records at ADEM station WLTB-1 from 2012 show that the E. coli criterion was exceeded in 3 out of 8 samples.	ADEM 2012
AL03130003-0605-100	Ihagee Creek	Chattahoochee	Russell	Pathogens (E. coli)	Records at ADEM station IHGR-1 from 2014 show that the E. coli criterion was exceeded in 4 out of 8 samples.	ADEM 2014
AL03130003-1204-100	South Fork Cowikee Creek	Chattahoochee	Barbour	Pathogens (E. coli)	Records at ADEM station SFCB-1 from 2009-2014 show that the E. coli criterion was exceeded in 5 out of 15 samples.	ADEM 2009-2014

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Assessment Unit	Waterbody Name	River Basin	County	Causes	Basis for Addition to the List	Source / Date of Data
AL03130003-1307-111	Barbour Creek (Walter F George Lake)	Chattahoochee	Barbour	Metals (Mercury)	A fish consumption advisory issued by the Alabama Department of Public Health in 2015 based on records from ADEM station GEOH-12.	ADPH 2015
AL03130003-1600-100	Chattahoochee River (Walter F George Lake)	Chattahoochee	Barbour Henry	Metals (Mercury)	A fish consumption advisory issued by the Alabama Department of Public Health in 2015 based on records from ADEM station GEOH-1.	ADPH 2015
AL03130004-0801-100	Chattahoochee River	Chattahoochee	Houston	Metals (Mercury)	A fish consumption advisory issued by the Alabama Department of Public Health in 2015 based on records from ADEM station CHTH-1.	ADPH 2015
AL03130004-0206-100	Bennett Mill Creek	Chattahoochee	Henry	Pathogens (E. coli)	Records at ADEM station BMCH-1 from 2014 show that the E. coli criterion was exceeded in 3 out of 8 samples.	ADEM 2014
AL03130004-0405-100	Abbie Creek	Chattahoochee	Barbour Henry	Pathogens (E. coli)	Records at ADEM station ABIH-2 from 2014 show that the E. coli criterion was exceeded in 2 out of 8 samples.	ADEM 2014
AL03130004-0403-110	Peterman Creek	Chattahoochee	Henry	Pathogens (E. coli)	Records at ADEM station PTRH-1 from 2014 show that the E. coli criterion was exceeded in 4 out of 8 samples.	ADEM 2014
AL03130012-0203-110	Cowarts Creek	Chipola	Houston	Pathogens (E. coli)	Records from 2014 at ADEM stations CWTH-4 and CWTH-6 show that the E. coli criterion was exceeded in 3 out of 8 samples and in 2 out of 8 samples at ADEM station CWTH-5.	ADEM 2014
AL03140201-0407-101	West Fork Choctawhatchee River	Choctawhatchee	Dale	Pathogens (E. coli)	Records at ADEM station WFCD-10 from 2014 show that the E. coli criterion was exceeded in 2 out of 8 samples.	ADEM 2014
AL03140201-0407-102	West Fork Choctawhatchee River	Choctawhatchee	Dale	Pathogens (E. coli)	Records at ADEM station WFCD-10 from 2014 show that the E. coli criterion was exceeded in 2 out of 8 samples.	ADEM 2014

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Assessment Unit	Waterbody Name	River Basin	County	Causes	Basis for Addition to the List	Source / Date of Data
AL03140201-0406-100	West Fork Choctawhatchee River	Choctawhatchee	Barbour Dale	Pathogens (E. coli)	Records from 2014 at ADEM station WCHB-1A show that the E. coli criterion was exceeded in 2 out of 8 samples. During this period, it was also exceeded in 4 out of 8 samples at ADEM stations WFCD-4 and in 3 out of 8 samples at ADEM station WFCD-12.	ADEM 2014
AL03140201-0407-400	Big Creek	Choctawhatchee	Dale	Pathogens (E. coli)	Records at ADEM station BGCD-1 from 2014 show that the E. coli criterion was exceeded in 2 out of 8 samples.	ADEM 2014
AL03140202-0505-100	Pea River	Choctawhatchee	Coffee Dale	Pathogens (E. coli)	Records at ADEM station PEAC-6 from 2014 show that the E. coli criterion was exceeded in 2 out of 8 samples.	ADEM 2014
AL03140202-0301-200	Buckhorn Creek	Choctawhatchee	Pike	Pathogens (E. coli)	Records at ADEM station BKHP-2 from 2014 show that the E. coli criterion was exceeded in 6 out of 8 samples.	ADEM 2014
AL03140202-0504-200	Huckleberry Creek	Choctawhatchee	Coffee Dale	Pathogens (E. coli)	Records at ADEM station HUCC-1 from 2014 show that the E. coli criterion was exceeded in 3 out of 8 samples.	ADEM 2014
AL03140202-0601-200	Patrick Creek	Choctawhatchee	Coffee	Pathogens (E. coli)	Records at ADEM station PATC-1 from 2014 show that the E. coli criterion was exceeded in 2 out of 8 samples.	ADEM 2014
AL03140202-0702-110	Flat Creek	Choctawhatchee	Coffee Covington Geneva	Pathogens (E. coli)	Records at ADEM station FTCCG-25 from 2014 show that the E. coli criterion was exceeded in 2 out of 8 samples.	ADEM 2014
AL03140203-0201-100	Wrights Creek	Choctawhatchee	Geneva	Pathogens (E. coli)	Records at ADEM station WRSG-2 from 2014 show that the E. coli criterion was exceeded in 2 out of 8 samples.	ADEM 2014
AL03150105-1002-102	Coosa River (Weiss Lake)	Coosa	Cherokee	Pathogens (E. coli)	Records at ADEM station WEIC-12 from 2009-2014 show that the E. coli criterion was exceeded in 10 out of 60 samples.	ADEM 2009-2014
AL03150107-0405-100	Buxahatchee Creek	Coosa	Chilton Shelby	Pathogens (E. coli)	Records from 2013-2014 at ADEM station BXHS-2 show that the E. coli criterion was exceeded in 3 out of 18 samples and at ADEM station BXHS-3 in 5 out of 20 samples. The E. coli geomean criterion was also exceeded at ADEM station BXHS-3 in 2014.	ADEM 2013-2014

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Assessment Unit	Waterbody Name	River Basin	County	Causes	Basis for Addition to the List	Source / Date of Data
AL03140106-0302-202	Boggy Branch	Perdido	Escambia	Pathogens (E. coli)	Records at ADEM station BOB-2 from 2014 show that the E. coli geomean criterion was exceeded.	ADEM 2014
AL03140106-0302-203	Boggy Branch	Perdido	Escambia	Pathogens (E. coli)	Records at ADEM station BOB-1 from 2014 show that the E. coli geomean criterion was exceeded.	ADEM 2014
AL03140106-0302-203	Boggy Branch	Perdido	Escambia	Metals (Lead)	Records at ADEM station BOB-1 from 2014 show that the Lead criterion was exceeded in 4 out of 8 samples.	ADEM 2014
AL03140107-0103-100	Perdido Bay	Perdido	Baldwin	Metals (Mercury)	A fish consumption advisory issued by the Alabama Department of Public Health in 2015 based on records from ADEM station PDBB-3.	ADPH 2015
AL03150108-0405-102	Tallapoosa River	Tallapoosa	Cleburne	Pathogens (E. coli)	Records at ADEM station TA-2 from 2009-2014 show that the E. coli criterion was exceeded in 5 out of 19 samples.	ADEM 2009-2014
AL03150110-0104-101	Sougahatchee Creek (Yates Lake)	Tallapoosa	Tallapoosa	Metals (Mercury)	A fish consumption advisory issued by the Alabama Department of Public Health in 2014 based on records from ADEM station YATE-2.	ADPH 2014
AL06030001-0705-111	Town Creek (Lake Guntersville)	Tennessee	Marshall	Metals (Mercury)	A fish consumption advisory issued by the Alabama Department of Public Health in 2014 based on records from ADEM station GUNM-7B.	ADPH 2014
AL06030002-1102-211	Bakers Creek (Wheeler Lake)	Tennessee	Limestone	PFOS	A fish consumption advisory issued by the Alabama Department of Public Health in 2014 based on records from ADEM station WHEL-11.	ADEM 2014
AL06030002-1103-111	Round Island Creek (Wheeler Lake)	Tennessee	Limestone	Metals (Mercury)	A fish consumption advisory issued by the Alabama Department of Public Health in 2014 based on records from ADEM station WHEL-8.	ADPH 2014

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Assessment Unit	Waterbody Name	River Basin	County	Causes	Basis for Addition to the List	Source / Date of Data
AL06030005-0801-100	Tennessee River (Wilson Lake)	Tennessee	Colbert Lauderdale Lawrence	Nutrients	The chlorophyll <i>a</i> mean growing season criterion for Wilson Lake was exceeded in 2009, 2011 and 2013 and the exceedances were not the result of unusual or extreme hydrologic conditions.	TVA 2009- 13
AL06030005-0105-111	Big Nance Creek (Wilson Lake)	Tennessee	Lawrence	Metals (Mercury)	A fish consumption advisory issued by the Alabama Department of Public Health in 2014 based on records from ADEM station WILL-1.	ADPH 2014
AL06030005-0605-111	Cypress Creek (Pickwick Lake)	Tennessee	Lauderdale	Metals (Mercury)	A fish consumption advisory issued by the Alabama Department of Public Health in 2014 based on records from ADEM station PICL-1.	ADPH 2014
AL06030005-0803-400	Sweetwater Creek	Tennessee	Lauderdale	Habitat alteration	A Habitat assessment of Sweetwater Creek shows that it is channelized over much of its length and has a lack on bank cover in much of this area.	ADEM 2009- 2013
AL06030006-0102-102	Bear Creek (Upper Bear Creek Lake)	Tennessee	Franklin Winston	Organic enrichment (CBOD, NBOD)	Records at ADEM Station PSYF-1 from 2013 show that the dissolved oxygen criterion was exceeded in 4 out of 8 samples.	ADEM 2013
AL06030006-0304-102	Bear Creek	Tennessee	Colbert	Metals (Mercury)	A fish consumption advisory issued by the Alabama Department of Public Health in 2014 based on records from ADEM station PICL-6.	ADPH 2013
AL03160105-0204-102	Luxapallila Creek	Tombigbee	Fayette Lamar	Pathogens (E. coli)	Records at ADEM station LUXL-1 from 2009-2014 show that the E. coli criterion was exceeded in 4 out of 17 samples.	ADEM 2009- 2014
AL03160108-1102-100	Noxubee River	Tombigbee	Sumter	Pathogens (E. coli)	Records at ADEM station NXBS-50 from 2010-2014 show that the E. coli criterion was exceeded in 3 out of 16 samples.	ADEM 2010- 2014
AL03160203-0205-100	Salitpa Creek	Tombigbee	Clarke	Pathogens (E. coli)	Records at ADEM station LT-12 from 2009-2014 show that the E. coli criterion was exceeded in 4 out of 17 samples.	ADEM 2009- 2014
AL03160203-0903-102	Tombigbee River	Tombigbee	Clarke Washington	Metals (Mercury)	A fish consumption advisory issued by the Alabama Department of Public Health in 2015 based on records from ADEM station TOMW-4.	ADPH 2015

**Table 2**  
**Alabama's Draft 2016 §303(d) List**  
**Waterbody/Pollutants Removed from the 2014 List**

The waterbody/pollutant combinations in the following table are currently listed on Alabama's 2014 §303(d) List and are proposed for removal from Alabama's draft 2016 §303(d) List for the reasons presented. Waterbody/pollutant combinations for which EPA has approved a TMDL will be included in Category 4A of the 2016 Integrated Water Quality Report.

Assessment Unit	Waterbody Name	River Basin	County	Cause (Pollutant)	Good Cause Justification for Removal
AL03160111-0203-100	<a href="#">Dry Creek</a>	Black Warrior	Blount	Nutrients	Available data for Dry Creek indicates that impairment for nutrients does not currently exist. Therefore, ADEM will not develop a TMDL due to "more recent data" which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03160111-0203-100	<a href="#">Dry Creek</a>	Black Warrior	Blount	Organic enrichment (CBOD, NBOD)	Available data for Dry Creek indicates that impairment for organic enrichment does not currently exist. Therefore, ADEM will not develop a TMDL due to "more recent data" which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03160111-0408-102	Village Creek	Black Warrior	Jefferson	Pathogens	<a href="#">TMDL</a> Approved by EPA on 10/5/2015.
AL03160111-0408-103	Village Creek	Black Warrior	Jefferson	Pathogens	<a href="#">TMDL</a> Approved by EPA on 10/5/2015.
AL03160112-0411-102	North River	Black Warrior	Fayette Tuscaloosa	Metals (Mercury)	Based on data from ADEM station TUST-4, the Alabama Department of Public Health (ADPH) has determined that no restrictions on consumption of fish are necessary. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015</a> .
AL03130003-0505-101	Uchee Creek	Chattahoochee	Russell	Metals (Mercury)	Based on data from ADEM station GEOH-16, the Alabama Department of Public Health (ADPH) has determined that no restrictions on consumption of fish are necessary. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015</a> .
AL03140201-0603-100	Choctawhatchee River	Choctawhatchee	Dale	Metals (Mercury)	Based on data from ADEM station CTWD-1 and CTWG-1A, the Alabama Department of Public Health (ADPH) has determined that no restrictions on consumption of fish are

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Assessment Unit	Waterbody Name	River Basin	County	Cause (Pollutant)	Good Cause Justification for Removal
					necessary. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03140202-0906-102	Pea River	Choctawhatchee	Geneva	Metals (Mercury)	This Assessment Unit was split from AL03140202-0906-100 due to a use classification change. The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for sections of the Pea River is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03140202-0904-102	Pea River	Choctawhatchee	Geneva	Metals (Mercury)	This Assessment Unit was split from AL03140202-0906-100 due to a use classification change. The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for sections of the Pea River is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03140202-0610-101	Pea River	Choctawhatchee	Geneva	Metals (Mercury)	This Assessment Unit was split from AL03140202-0906-100 due to a use classification change. The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for sections of the Pea River is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03140202-0610-102	Pea River	Choctawhatchee	Coffee Geneva	Metals (Mercury)	This Assessment Unit was split from AL03140202-0906-100 due to a use classification change. The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for sections of the Pea River is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03140202-0506-100	Pea River	Choctawhatchee	Coffee	Metals (Mercury)	This Assessment Unit was split from AL03140202-0906-100 due to a use classification change. The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for sections of the Pea River is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03140202-0505-100	Pea River	Choctawhatchee	Coffee Dale	Metals (Mercury)	This Assessment Unit was split from AL03140202-0906-100 due to a use classification change. The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for sections of the Pea River is no

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Assessment Unit	Waterbody Name	River Basin	County	Cause (Pollutant)	Good Cause Justification for Removal
					longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03140202-0504-102	Pea River	Choctawhatchee	Dale Pike	Metals (Mercury)	This Assessment Unit was split from AL03140202-0906-100 due to a use classification change. The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for sections of the Pea River is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03140202-0502-102	Pea River	Choctawhatchee	Pike	Metals (Mercury)	This Assessment Unit was split from AL03140202-0906-100 due to a use classification change. The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for sections of the Pea River is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03140202-0502-103	Pea River	Choctawhatchee	Pike	Metals (Mercury)	This Assessment Unit was split from AL03140202-0906-100 due to a use classification change. The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for sections of the Pea River is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03140202-0301-102	Pea River	Choctawhatchee	Barbour	Metals (Mercury)	This Assessment Unit was split from AL03140202-0906-100 due to a use classification change. The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for sections of the Pea River is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03140202-0207-102	Pea River	Choctawhatchee	Barbour Bullock Pike	Metals (Mercury)	This Assessment Unit was split from AL03140202-0906-100 due to a use classification change. The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for sections of the Pea River is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>
AL03150106-0204-101	Coosa River (Neely Henry Lake)	Coosa	Etowah	Priority organics (PCBs)	Based on data from ADEM station NEES-13, the Alabama Department of Public Health (ADPH) has determined that no restrictions on consumption of fish are necessary. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015.</a>

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Assessment Unit	Waterbody Name	River Basin	County	Cause (Pollutant)	Good Cause Justification for Removal
AL03150106-0204-102	Coosa River (Neely Henry Lake)	Coosa	Etowah Cherokee	Priority organics (PCBs)	Based on data from ADEM station NEES-13, the Alabama Department of Public Health (ADPH) has determined that no restrictions on consumption of fish are necessary. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015</a> .
AL03160204-0505-201	Tensaw River	Mobile	Baldwin	Metals (Mercury)	The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for the Tensaw River, which is based on data from ADEM station TE-1, is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015</a> .
AL03160204-0106-302	Tensaw River	Mobile	Baldwin	Metals (Mercury)	The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for the Tensaw River, which is based on data from ADEM station TE-1, is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015</a> .
AL03160204-0106-303	Tensaw River	Mobile	Baldwin Mobile	Metals (Mercury)	The current fish consumption advisory issued by the Alabama Department of Public Health (ADPH) for the Tensaw River, which is based on data from ADEM station TE-1, is no longer applicable to this waterbody segment. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015</a> .
AL03160205-0300-501	Mobile Bay	Mobile	Baldwin	Pathogens	<a href="#">TMDL</a> Approved by EPA on 10/5/2015.
AL03140106-0302-101	<a href="#">Brushy Creek</a>	Perdido	Escambia	Organic enrichment (CBOD, NBOD)	Available data for Brushy Creek indicates that impairment for organic enrichment does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03140106-0302-201	<a href="#">Boggy Branch</a>	Perdido	Escambia	Pathogens	Available data for Boggy Branch indicates that impairment for pathogens does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03140106-0302-201	<a href="#">Boggy Branch</a>	Perdido	Escambia	Metals (Copper)	Available data for Boggy Branch indicates that impairment for Copper does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).

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Assessment Unit	Waterbody Name	River Basin	County	Cause (Pollutant)	Good Cause Justification for Removal
AL03140106-0302-201	<a href="#">Boggy Branch</a>	Perdido	Escambia	Metals (Lead)	Available data for Boggy Branch indicates that impairment for Lead does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03140106-0302-202	<a href="#">Boggy Branch</a>	Perdido	Escambia	Organic enrichment (CBOD, NBOD)	Available data for Boggy Branch indicates that impairment for organic enrichment does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03140106-0302-202	<a href="#">Boggy Branch</a>	Perdido	Escambia	Metals (Zinc)	Available data for Boggy Branch indicates that impairment for Zinc does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03140106-0302-202	<a href="#">Boggy Branch</a>	Perdido	Escambia	Chlorides	Available data for Boggy Branch indicates that impairment for chlorides does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03140106-0302-202	<a href="#">Boggy Branch</a>	Perdido	Escambia	Metals (Mercury)	Available data for Boggy Branch indicates that impairment for Mercury does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03140106-0302-202	<a href="#">Boggy Branch</a>	Perdido	Escambia	Ammonia	Available data for Boggy Branch indicates that impairment for Ammonia does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03140106-0504-100	Styx River	Perdido	Baldwin	Metals (Mercury)	Based on data from ADEM station STXB-5, the Alabama Department of Public Health (ADPH) has determined that no restrictions on consumption of fish are necessary. See the <a href="#">ADPH Alabama Fish Consumption Advisory list for 2015</a> .

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Assessment Unit	Waterbody Name	River Basin	County	Cause (Pollutant)	Good Cause Justification for Removal
AL06030001-0904-102	<a href="#">Browns Creek</a>	Tennessee	Marshall	Total dissolved solids	Available data for Browns Creek indicates that impairment for total dissolved solids does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL06030002-0602-200	<a href="#">Mud Creek</a>	Tennessee	Morgan	Organic enrichment (CBOD, NBOD)	Available data for Mud Creek indicates that impairment for organic enrichment does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL06030002-0602-800	<a href="#">Widner Creek</a>	Tennessee	Cullman Morgan	Organic enrichment (CBOD, NBOD)	Available data for Widner Creek indicates that impairment for organic enrichment does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL06030002-0602-900	<a href="#">Fall Creek</a>	Tennessee	Cullman Morgan	Organic enrichment (CBOD, NBOD)	Available data for Fall Creek indicates that impairment for organic enrichment does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL06030004-0403-800	<a href="#">Sulphur Creek</a>	Tennessee	Limestone	Nutrients	Available data for Sulphur Creek indicates that impairment for nutrients does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL06030005-0803-400	<a href="#">Sweetwater Creek</a>	Tennessee	Lauderdale	Nutrients	Available data for Sweetwater Creek indicates that impairment for nutrients does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03160106-0702-101	<a href="#">Factory Creek</a>	Tombigbee	Sumter	Organic enrichment	Available data for Factory Creek indicates that impairment for organic enrichment does not currently exist. Therefore,

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Assessment Unit	Waterbody Name	River Basin	County	Cause (Pollutant)	Good Cause Justification for Removal
				(CBOD, NBOD)	ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).
AL03160106-0702-101	<a href="#">Factory Creek</a>	Tombigbee	Sumter	Nutrients	Available data for Factory Creek indicates that impairment for nutrients does not currently exist. Therefore, ADEM will not develop a TMDL due to “more recent data” which is a just cause for delisting waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).

**Table 3**  
**List of Other Changes Appearing on Alabama's Draft 2016 §303(d) List**

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03150203-0805-101	Alabama River (Claiborne Lake)	Alabama	Clarke Monroe Wilcox	The waterbody name was changed from Alabama River (Claiborne Reservoir) to Alabama River (Claiborne Lake).
AL03150203-0805-102	Alabama River (Claiborne Lake)	Alabama	Wilcox	The waterbody name was changed from Alabama River (Claiborne Reservoir) to Alabama River (Claiborne Lake).
AL03150203-0805-103	Alabama River (Claiborne Lake)	Alabama	Wilcox	The waterbody name was changed from Alabama River (Claiborne Reservoir) to Alabama River (Claiborne Lake).
AL03150203-0805-104	Alabama River (Claiborne Lake)	Alabama	Wilcox	The waterbody name was changed from Alabama River (Claiborne Reservoir) to Alabama River (Claiborne Lake).
AL03150203-0805-105	Alabama River (Claiborne Lake)	Alabama	Wilcox	The waterbody name was changed from Alabama River (Claiborne Reservoir) to Alabama River (Claiborne Lake).
AL03150203-0703-101	Alabama River (Claiborne Lake)	Alabama	Wilcox	The waterbody name was changed from Alabama River (Claiborne Reservoir) to Alabama River (Claiborne Lake).
AL03150204-0105-100	Alabama River (Claiborne Lake)	Alabama	Clarke Monroe	The waterbody name was changed from Alabama River (Claiborne Reservoir) to Alabama River (Claiborne Lake).
AL03160110-0305-201	Clear Creek (Smith Lake)	Black Warrior	Winston	The waterbody name was changed from Clear Creek (Lewis Smith Lake) to Clear Creek (Smith Lake).
AL03160110-0306-201	Sipsey Fork (Smith Lake)	Black Warrior	Winston	The waterbody name was changed from Sipsey Fork (Lewis Smith Lake) to Sipsey Fork (Smith Lake).
AL03160110-0306-901	Butler Branch (Smith Lake)	Black Warrior	Winston	The waterbody name was changed from Butler Branch (Lewis Smith Lake) to Butler Branch (Smith Lake). Also, the downstream and upstream locations were clarified.
AL03160110-0408-110	Rock Creek (Smith Lake)	Black Warrior	Cullman Winston	The waterbody name was changed from Rock Creek (Lewis Smith Lake) to Rock Creek (Smith Lake).
AL03160110-0505-103	Ryan Creek (Smith Lake)	Black Warrior	Cullman	The waterbody name was changed from Ryan Creek (Lewis Smith Lake) to Ryan Creek (Smith Lake).
AL03160111-0413-101	Locust Fork (Bankhead Lake)	Black Warrior	Jefferson	The waterbody name was changed from Locust Fork to Locust Fork (Bankhead Lake). This segment has been recategorized as a Lake/Reservoir, so the size was changed to 625.96 acres and the upstream location was clarified as Black Warrior River.
AL03160111-0413-112	Locust Fork (Bankhead Lake)	Black Warrior	Jefferson	The waterbody name was changed from Locust Fork to Locust Fork (Bankhead Lake). This segment has been recategorized as a Lake/Reservoir, so the size was changed to 462.66 acres.

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Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03160112-0410-111	Binion Creek	Black Warrior	Tuscaloosa	This assessment unit was split from AL03160112-0411-101 to account for the portion which is a Reservoir embayment.
AL03160112-0413-102	North River (Lake Tuscaloosa)	Black Warrior	Tuscaloosa	The upstream location has been clarified to Lake Tuscaloosa dam.
AL03140104-0104-100	Blackwater River	Blackwater	Baldwin	The River Basin name was changed to Blackwater River Basin.
AL03130003-1205-100	Cowikee Creek (Walter F George Lake)	Chattahoochee	Barbour	The waterbody name was changed from Cowikee Creek (Walter F. George Reservoir) to Cowikee Creek (Walter F George Lake). Also, the downstream and upstream locations were clarified.
AL03130003-0505-111	Uchee Creek (Walter F George lake)	Chattahoochee	Russell	This assessment unit was split from AL03130003-0505-101 to account for the portion which is a Reservoir embayment.
AL03130003-1307-111	Barbour Creek (Walter F George Lake)	Chattahoochee	Barbour	This assessment unit was split from AL03130003-1307-100 to account for the portion which is a Reservoir embayment.
AL03130003-1306-101	Barbour Creek (Walter F George Lake)	Chattahoochee	Barbour	This assessment unit was split from AL03130003-1307-100 to account for the portion which is not in the reservoir.
AL03140202-0906-101	Pea River	Choctawhatchee	Geneva	This assessment unit was split from Assessment Unit AL03140202-0906-100.
AL03140202-0603-101	Pea River	Choctawhatchee	Coffee	This assessment unit was split from Assessment Unit AL03140202-0906-100.
AL03140202-0603-102	Pea River	Choctawhatchee	Coffee	This assessment unit was split from Assessment Unit AL03140202-0906-100.
AL03150106-0514-111	Choccolocco Creek (Logan Martin Lake)	Coosa	Talladega	This assessment unit was split from AL03150106-0514-100 to account for the portion that is a Reservoir embayment. The size has been adjusted to 1125.61 acres.
AL03140301-0404-111	Conecuh River (Gantt Lake)	Escambia	Covington	The waterbody name was changed from Conecuh River (Gantt Reservoir) to Conecuh River (Gantt Lake). Also, the River Basin name was changed to the Escambia River Basin.
AL03140301-0405-101	Conecuh River (Point A Lake)	Escambia	Covington	The waterbody name was changed from Conecuh River (Point A Reservoir) to Conecuh River (Point A Lake). Also, the River Basin name was changed to the Escambia River Basin.
AL03140302-0506-101	Patsaliga Creek (Point A Lake)	Escambia	Covington	The waterbody name was changed from Patsaliga Creek (Point A Reservoir) to Patsaliga Creek (Point A Lake). Also, the River Basin name was changed to the Escambia River Basin.
AL03140303-0201-101	Rocky Creek	Escambia	Butler	The River Basin name was changed to the Escambia River Basin.
AL03140303-0704-100	Sepulga River	Escambia	Conecuh	The River Basin name was changed to the Escambia River Basin.
AL03140304-0506-100	Conecuh River	Escambia	Escambia	The River Basin name was changed to the Escambia River Basin.

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Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03140304-0404-101	Murder Creek	Escambia	Escambia	The River Basin name was changed to the Escambia River Basin.
AL03140304-0305-101	Burnt Corn Creek	Escambia	Escambia	The River Basin name was changed to the Escambia River Basin.
AL03140304-0605-100	Little Escambia Creek	Escambia	Escambia	The River Basin name was changed to the Escambia River Basin.
AL03140305-0302-100	Big Escambia Creek	Escambia	Escambia	The River Basin name was changed to the Escambia River Basin.
AL03170008-0502-110	Big Creek (Big Creek Lake)	Escatawpa	Mobile	The waterbody name was changed from Big Creek (Big Creek Reservoir) to Big Creek (Big Creek Lake). Also, The upstream location was clarified to Big Creek Lake dam.
AL03140106-0302-101	Brushy Creek	Perdido	Escambia	The River Basin name was changed to the Perdido River Basin.
AL03140106-0302-201	Boggy Branch	Perdido	Escambia	The River Basin name was changed to the Perdido River Basin.
AL03140106-0507-100	Styx River	Perdido	Baldwin	The River Basin name was changed to the Perdido River Basin.
AL03140106-0603-101	Blackwater River	Perdido	Baldwin	The River Basin name was changed to the Perdido River Basin.
AL03140106-0703-100	Perdido River	Perdido	Baldwin	The River Basin name was changed to the Perdido River Basin.
AL03140107-0204-400	Arnica Bay	Perdido	Baldwin	The River Basin name was changed to the Perdido River Basin.
AL03140107-0204-302	Perdido Bay	Perdido	Baldwin	The River Basin name was changed to the Perdido River Basin.
AL06030001-0204-101	Widows Creek	Tennessee	Jackson	The downstream location was clarified to Guntersville Lake.
AL06030002-0906-600	Limestone Creek (Wheeler Lake)	Tennessee	Limestone	The downstream and upstream locations were clarified.
AL06030001-0204-111	Widows Creek (Lake Guntersville)	Tennessee	Jackson	This assessment unit was split from Assessment Unit AL06030001-0205-102.
AL06030006-0104-101	Bear Creek (Bear Creek Lake)	Tennessee	Franklin	The waterbody name was changed from Bear Creek (Bear Creek Reservoir) to Bear Creek (Bear Creek Lake).
AL06030006-0103-104	Bear Creek (Upper Bear Creek Lake)	Tennessee	Franklin Marion Winston	The waterbody name was changed from Bear Creek (Upper Bear Creek Reservoir) to Bear Creek (Upper Bear Creek Lake).
AL06030006-0203-101	Cedar Creek (Cedar Creek Lake)	Tennessee	Franklin	The waterbody name was changed from Cedar Creek (Cedar Creek Reservoir) to Cedar Creek (Cedar Creek Lake).
AL06030006-0205-111	Little Bear Creek (Little Bear Creek Lake)	Tennessee	Franklin	The waterbody name was changed from Littler Bear Creek (Little Bear Creek Reservoir) to Little Bear Creek (Little Bear Creek Lake).
AL03160106-0504-100	Luxapallila Creek	Tombigbee	Fayette Lamar	The River Basin name was changed to Tombigbee River Basin.
AL03160106-0204-102	Bogue Chitto	Tombigbee	Pickens	The River Basin name was changed to Tombigbee River Basin.

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Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03160107-0306-101	Sipsey River (Gainesville Lake)	Tombigbee	Greene Pickens	The waterbody name was changed from Sipsey River (Gainesville Reservoir) to Sipsey River (Gainesville Lake). Also, the River Basin name was changed to Tombigbee River Basin.
AL03160201-0401-103	Tombigbee River (Coffeerville Lake)	Tombigbee	Marengo Sumter	The waterbody name was changed from Tombigbee River (Coffeerville Reservoir) to Tombigbee River (Coffeerville Lake). Also, the River Basin name was changed to Tombigbee River Basin.
AL03160203-1103-101	Tombigbee River	Tombigbee	Baldwin Clarke Mobile Washington	The River Basin name was changed to Tombigbee River Basin.
AL03160203-1103-102	Tombigbee River	Tombigbee	Clarke Washington	The River Basin name was changed to Tombigbee River Basin.
AL03160203-1103-700	Bilbo Creek	Tombigbee	Washington	The River Basin name was changed to Tombigbee River Basin.
AL03160203-1103-800	Olin Basin	Tombigbee	Washington	The River Basin name was changed to Tombigbee River Basin.
AL03140103-0102-102	Lightwood Knot Creek (Lake Frank Jackson)	Yellow	Covington	The River Basin name was changed to Yellow River Basin.
AL03140103-0102-700	UT to Lake Frank Jackson 3-C	Yellow	Covington	The River Basin name was changed to Yellow River Basin.
AL03140103-0102-800	UT to Lake Frank Jackson 2-S	Yellow	Covington	The River Basin name was changed to Yellow River Basin.
AL03140103-0402-100	Yellow River	Yellow	Covington	The River Basin name was changed to Yellow River Basin.
AL03140103-0601-300	Lake Jackson	Yellow	Covington	The River Basin name was changed to Yellow River Basin.

**Table 4**  
**Additional Revisions made between the Draft 2016 §303(d) List and the Final 2016 §303(d) List**

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03150201-0104-302	Three Mile Branch	Alabama	Montgomery	The cause of impairment was specified as E. coli.
AL03150203-0103-200	Coffee Creek	Alabama	Dallas Perry	The cause of impairment was specified as E. coli.
AL03150203-0805-101	Alabama River (Claiborne Lake)	Alabama	Clarke Monroe Wilcox	The waterbody size was changed to 714.80 acres.
AL03150203-0805-102	Alabama River (Claiborne Lake)	Alabama	Wilcox	The waterbody size was adjusted to 304.23 acres.
AL03150203-0805-103	Alabama River (Claiborne Lake)	Alabama	Wilcox	The waterbody size was adjusted to 474.72 acres.
AL03150203-0805-104	Alabama River (Claiborne Lake)	Alabama	Wilcox	The waterbody size was adjusted to 524.33 acres.
AL03150203-0805-105	Alabama River (Claiborne Lake)	Alabama	Wilcox	The waterbody size was adjusted to 109.31 acres.
AL03150203-0703-101	Alabama River (Claiborne Lake)	Alabama	Wilcox	The waterbody size was adjusted to 310.63 acres.
AL03150203-0802-111	Pursley Creek (Claiborne Lake)	Alabama	Wilcox	This segment was created from assessment unit AL03150203-0805-104 as part of the Reservoir Embayment project.
AL03150204-0105-100	Alabama River (Claiborne Lake)	Alabama	Clarke Monroe	The waterbody size was adjusted to 2,051.55 acres.
AL03150204-0101-111	Tallatchee Creek (Claiborne Lake)	Alabama	Monroe	This segment was created from assessment unit AL03150204-0105-100 as part of the Reservoir Embayment project.
AL03150105-1002-102	Coosa River (Weiss Lake)	Coosa	Cherokee	The waterbody size was adjusted to 6,567.86 acres.
AL03150106-0803-100	Coosa River (Logan Martin Lake)	Coosa	St. Clair Talladega	The waterbody size was adjusted to 10,945.46 acres.
AL03150106-0603-111	Coosa River (Logan Martin Lake)	Coosa	Calhoun St. Clair Talladega	The waterbody size was adjusted to 1,449.31 acres.

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Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03150106-0603-112	Coosa River (Logan Martin Lake)	Coosa	St. Clair Calhoun	The waterbody size was adjusted to 783.90 acres.
AL03150106-0802-111	Clear Creek (Logan Martin Lake)	Coosa	Talladega	This segment was created from assessment unit AL03150106-0803-100 as part of the Reservoir Embayment project.
AL03150106-0803-311	Easonville Creek (Logan Martin Lake)	Coosa	St. Clair	This segment was created from assessment unit AL03150106-0803-100 as part of the Reservoir Embayment project.
AL03150106-0605-211	Dye Creek (Logan Martin Lake)	Coosa	St. Clair	This segment was created from assessment unit AL03150106-0803-100 as part of the Reservoir Embayment project.
AL03150106-0604-111	Blue Eye Creek (Logan Martin Lake)	Coosa	St. Clair	This segment was created from assessment unit AL03150106-0803-100 as part of the Reservoir Embayment project.
AL03150106-0408-111	Cane Creek (Logan Martin Lake)	Coosa	Calhoun	This segment was created from assessment unit AL03150106-0603-112 as part of the Reservoir Embayment project.
AL03150106-0810-102	Coosa River (Lay Lake)	Coosa	Shelby St. Clair Talladega	The waterbody size was adjusted to 698.04 acres.
AL03150107-0503-110	Coosa River (Lay Lake)	Coosa	Chilton Coosa Shelby Talladega	The waterbody size was adjusted to 10,559.35 acres.
AL03150107-0301-102	Coosa River (Lay Lake)	Coosa	Shelby Talladega	The waterbody size was adjusted to 803.88 acres.
AL03150107-0406-111	Waxahatchee Creek (Lay Lake)	Coosa	Chilton Shelby	This segment was created from assessment unit AL03150107-0503-110 as part of the Reservoir Embayment project.
AL03150107-0501-111	Peckerwood Creek (Lay Lake)	Coosa	Coosa Talladega	This segment was created from assessment unit AL03150107-0503-110 as part of the Reservoir Embayment project.
AL03150107-0304-111	Dry Branch (Lay Lake)	Coosa	Shelby	This segment was created from assessment unit AL03150107-0503-110 as part of the Reservoir Embayment project.
AL03150107-0205-111	Yellowleaf Creek (Lay Lake)	Coosa	Shelby	This segment was created from assessment unit AL03150107-0503-110 as part of the Reservoir Embayment project.
AL03150107-0106-111	Tallaseehatchee Creek (Lay Lake)	Coosa	Talladega	This segment was created from assessment unit AL03150107-0301-102 as part of the Reservoir Embayment project.
AL03150106-0703-111	Talladega Creek (Lay Lake)	Coosa	Talladega	This segment was created from assessment unit AL03150107-0301-102 as part of the Reservoir Embayment project.
AL03150106-0808-111	Kelly Creek (Lay Lake)	Coosa	St. Clair	This segment was created from assessment unit AL03150106-0810-102 as part of the Reservoir Embayment project.
AL03140303-0201-101	Rocky Creek	Escambia	Butler	The cause of impairment was specified as E. coli.
AL03170008-0502-110	Big Creek (Big Creek Lake)	Escatawpa	Mobile	The waterbody size was adjusted to 2,724.87 acres.

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Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL03170008-0502-211	Hamilton Creek (Big Creek Lake)	Escatawpa	Mobile	This segment was created from assessment unit AL03170008-0502-110 as part of the Reservoir Embayment project.
AL03170008-0502-600	Boggy Branch	Escatawpa	Mobile	The downstream location was corrected to Big Creek Lake and the size was adjusted to 3.62 miles.
AL03170009-0201-100	Mississippi Sound	Escatawpa	Mobile	The cause of impairment was specified as Enterococcus.
AL03170009-0201-200	Portersville Bay	Escatawpa	Mobile	The cause of impairment was specified as Enterococcus.
AL03170009-0201-300	Grand Bay	Escatawpa	Mobile	The cause of impairment was specified as Enterococcus.
AL03160205-0105-100	Deer River	Mobile	Mobile	This assessment unit was properly identified as Deer River and the size was adjusted to 1.02 miles.
AL03160205-0105-300	Middle Fork Deer River	Mobile	Mobile	This segment was created from assessment unit AL03160205-0105-100 to correct an incorrectly identified assessment unit.
AL03160205-0300-102	Mobile Bay	Mobile	Mobile	The cause of impairment was specified as Enterococcus.
AL03160205-0300-202	Bon Secour Bay	Mobile	Baldwin	The cause of impairment was specified as Enterococcus.
AL03160205-0208-100	Oyster Bay	Mobile	Baldwin	The cause of impairment was specified as Enterococcus.
AL03140106-0302-201	Boggy Branch	Perdido	Escambia	The waterbody size was adjusted to 1.59 miles.
AL03140106-0302-202	Boggy Branch	Perdido	Escambia	The waterbody size was adjusted to 0.14 miles.
AL03140107-0204-400	Arnica Bay	Perdido	Baldwin	The cause of impairment was specified as Enterococcus.
AL03140107-0204-302	Perdido Bay	Perdido	Baldwin	The cause of impairment was specified as Enterococcus.
AL03150108-0905-103	Little Tallapoosa River	Tallapoosa	Cleburne Randolph	The cause of impairment was specified as E. coli.
AL06030001-0205-102	Tennessee River (Lake Guntersville)	Tennessee	Jackson	The waterbody size was adjusted to 2,400.28 acres.
AL06030001-0203-101	Long Island Creek (Lake Guntersville)	Tennessee	Jackson	This segment was created from assessment unit AL06030001-0205-102 as part of the Reservoir Embayment project.
AL06030001-0904-101	Browns Creek (Lake Guntersville)	Tennessee	Marshall	The waterbody size was adjusted to 5,915.66 acres.
AL06030001-0204-101	Widows Creek	Tennessee	Jackson	The waterbody size was adjusted to 1.29 miles.
AL06030002-0904-100	Tennessee River (Wheeler Lake)	Tennessee	Madison Marshall Morgan	The waterbody size was adjusted to 2,779.95 acres

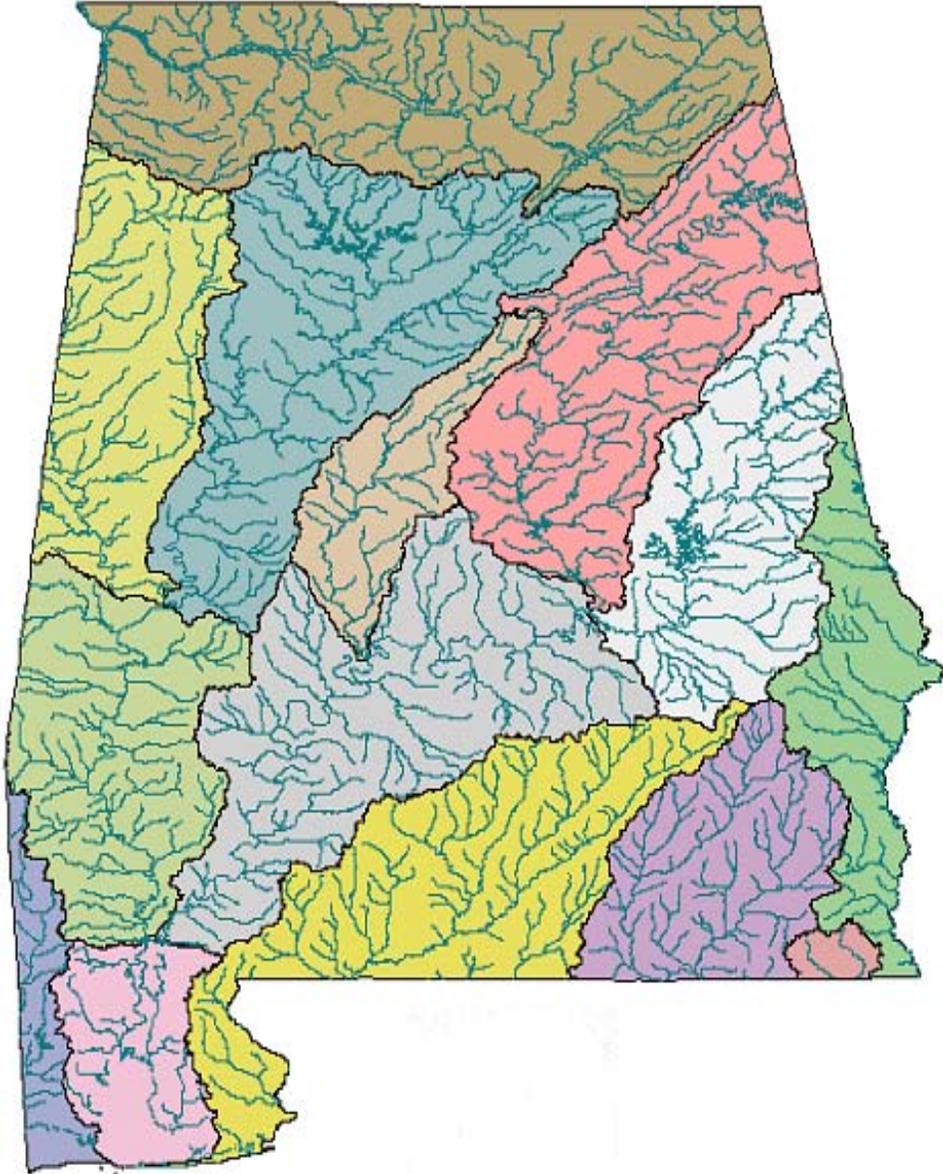
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Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL06030002-1102-103	Tennessee River (Wheeler Lake)	Tennessee	Limestone Madison Morgan	The waterbody size was adjusted to 4,271.34 acres
AL06030002-1107-102	Tennessee River (Wheeler Lake)	Tennessee	Lawrence Limestone Morgan	The waterbody size was adjusted to 19,221.29 acres.
AL06030002-1205-100	Tennessee River (Wheeler Lake)	Tennessee	Lawrence Lauderdale Limestone	The waterbody size was adjusted to 13,441.12 acres.
AL06030002-0906-600	Limestone Creek (Wheeler Lake)	Tennessee	Limestone	The waterbody size was adjusted to 2,338.94 acres.
AL06030002-0505-111	Indian Creek (Wheeler Lake)	Tennessee	Madison	This segment was created from assessment unit AL06030002-0904-100 as part of the Reservoir Embayment project.
AL06030002-1014-101	Flint Creek (Wheeler Lake)	Tennessee	Morgan	This segment was created from assessment unit AL06030002-1102-103 as part of the Reservoir Embayment project.
AL06030002-0606-111	Cotaco Creek Wheeler Lake)	Tennessee	Morgan	This segment was created from assessment unit AL06030002-1102-103 as part of the Reservoir Embayment project.
AL06030002-1101-111	Swan Creek (Wheeler Lake)	Tennessee	Limestone	This segment was created from assessment unit AL06030002-1107-102 as part of the Reservoir Embayment project.
AL06030002-1101-101	Swan Creek	Tennessee	Limestone	The waterbody size was adjusted to 5.03 miles.
AL06030002-1102-211	Bakers Creek (Wheeler Lake)	Tennessee	Limestone	This segment was created from assessment unit AL06030002-1107-102 as part of the Reservoir Embayment project.
AL06030002-1102-311	Dry Branch (Wheeler Lake)	Tennessee	Limestone	This segment was created from assessment unit AL06030002-1107-102 as part of the Reservoir Embayment project.
AL06030002-1201-111	Spring Creek (Wheeler Lake)	Tennessee	Lawrence	This segment was created from assessment unit AL06030002-1205-100 as part of the Reservoir Embayment project.
AL06030002-1204-101	Second Creek (Wheeler Lake)	Tennessee	Lauderdale	This segment was created from assessment unit AL06030002-1205-100 as part of the Reservoir Embayment project.
AL06030005-0105-100	Big Nance Creek	Tennessee	Lawrence	The waterbody size was adjusted to 24.75 miles.
AL06030005-0801-100	Tennessee River (Wilson Lake)	Tennessee	Colbert Lauderdale Lawrence	The waterbody size was adjusted to 13,363.37 acres.
AL06030005-0808-104	Tennessee River (Pickwick Lake)	Tennessee	Colbert Lauderdale	The waterbody size was adjusted to 1,112.21 acres.
AL06030005-1203-100	Tennessee River (Pickwick Lake)	Tennessee	Colbert Lauderdale	The waterbody size was adjusted to 19,370.33 acres.

Appendix C

Assessment Unit ID	Waterbody Name	River Basin	County	Revision
AL06030005-0605-111	Cypress Creek (Pickwick Lake)	Tennessee	Lauderdale	This segment was created from assessment unit AL06030005-0808-104 as part of the Reservoir Embayment project.
AL06030005-0703-111	Spring Creek (Pickwick Lake)	Tennessee	Colbert	This segment was created from assessment unit AL06030005-0808-103 as part of the Reservoir Embayment project.
AL06030005-0807-111	Cane Creek (Pickwick Lake)	Tennessee	Colbert	This segment was created from assessment unit AL06030005-1203-100 as part of the Reservoir Embayment project.
AL06030005-0902-111	Second Creek (Pickwick Lake)	Tennessee	Lauderdale	This segment was created from assessment unit AL06030005-1203-100 as part of the Reservoir Embayment project.
AL06030006-0307-111	Bear Creek (Pickwick Lake)	Tennessee	Colbert	This segment was created from assessment unit AL06030005-1203-100 as part of the Reservoir Embayment project.
AL06030006-0104-101	Bear Creek (Bear Creek Lake)	Tennessee	Franklin	The downstream location was corrected to Bear Creek Lake dam.
AL03160201-0703-111	Sucarnoochee River (Coffeerville Lake)	Tombigbee	Sumter	This segment was created from assessment unit AL03160201-0401-103 as part of the Reservoir Embayment project.
AL03140103-0102-700	UT to Lake Frank Jackson 3-C	Yellow	Covington	The source Feedlots was changed to Animal feeding operations.
AL03140103-0102-800	UT to Lake Frank Jackson 2-S	Yellow	Covington	The source Feedlots was changed to Animal feeding operations.

# State of Alabama Prioritization Framework Document



## Alabama Department of Environmental Management January 2016

Section 303(d) of the Clean Water Act requires states to identify waterbodies within their boundaries that are not in compliance with applicable water quality standards. For those waterbodies identified as not meeting water quality standards, states are required to develop a Total Maximum Daily Load (TMDL) for the pollutant which is not in compliance with the applicable standard. A TMDL is the maximum amount of a pollutant (from point and nonpoint sources) that can be released into a waterbody without causing a violation of water quality standards.

The United States Environmental Protection Agency (EPA) has recently developed a new framework for implementing the Section 303(d) program – “A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program.” The Vision encourages states to establish and focus on priority waters for restoration or protection.

The Alabama Department of Environmental Management (Department) utilized EPA’s Recovery Potential Screening (RPS) Tool for prioritizing waters for restoration through TMDL development or through an alternative approach. The tool utilizes Microsoft Excel and provides us with a mechanism to rank our impaired (§303(d) listed) waterbodies.

The Department has a significant number of waterbodies on the §303(d) list with impairments for nutrients and/or siltation. As such, the Department has chosen to focus a significant amount of effort during the Vision process on addressing a number of the waterbodies with these impairments. In order to prioritize these waterbodies, several indicators were selected for input into the RPS tool. The indicators fell under one of three categories: ecological, stressor, or social. For siltation, each of the HUC12 watersheds that contained a waterbody segment impaired for siltation was selected in the RPS tool. A number of indicators, several supplied by EPA and several input by the Department, were utilized in the RPS tool. The following indicators were identified as significant factors related to siltation impairments and were selected in the RPS tool:

- Ecological – percent barren land in watershed; slope, mean value in watershed; percent of watershed in a strategic habitat unit; watershed stream length of critical habitat for threatened and endangered species
- Stressor – percent developed, high intensity in watershed; percent agriculture in watershed; percent human use change in watershed; number of road crossings in watershed; number of permitted mining outfalls in watershed; mean soil erodibility
- Social – percent of watershed in Clean Water Partnership HUC12; number of stations sampled (2009-2014) in watershed; environmental justice area in watershed; watershed stream length classified as public water supply; watershed stream length classified as swimming

For nutrients, the same process was utilized, except the indicators were modified to reflect factors deemed impactful to nutrient impairments. The following indicators were identified as significant factors related to nutrient impairments and were selected in the RPS tool:

- Ecological –percent of watershed in a strategic habitat unit; watershed stream length of critical habitat for threatened and endangered species; macroinvertebrate scores in watershed

- Stressor – percent contiguous agriculture in watershed; percent contiguous urban in watershed; total nitrogen deposition in watershed; number of concentrated animal feeding operations in watershed; number of wasteload allocations completed for municipal facilities in watershed
- Social – percent of watershed in Clean Water Partnership HUC12; number of stations sampled (2009-2014) in watershed; environmental justice area in watershed; watershed stream length classified as public water supply; watershed stream length classified as swimming

The RPS tool generated rankings for recovery potential based on the indicators that were selected. The results (rankings) from the RPS tool were then evaluated by the Department's TMDL staff to determine which of the ranked waterbodies would be selected as priorities for TMDL development. There were many waterbodies considered by the RPS tool; it was determined that the Department could not include all nutrient and/or siltation impairments on the priorities list based on available resources. As such, the top ranked waterbodies from each of the RPS tool runs (nutrients and siltation) were evaluated for inclusion on the priorities list. Some factors that were considered included: available resources for TMDL development, ability to develop TMDL within timeframe of Vision (data concerns, modeling limitations, etc.), and the presence of stakeholders that may be interested in TMDL implementation.

In addition to the nutrient and/or siltation impaired waterbodies selected for prioritization based on the RPS tool, several waterbodies with other impairments were evaluated for inclusion on the priorities list. Waterbodies where quality data was available, the source(s) of impairment were thought to be known, or with pathogen impairments were considered as possibilities for prioritization. The best professional judgment of the Department's TMDL staff was utilized to determine which of these waterbodies should be chosen as priorities.

Alabama has a significant number of waterbodies on the §303(d) list that are impaired for mercury due to atmospheric deposition. These waterbodies will not be listed as official priorities at this time due to the fact that the Department has plans to develop a statewide mercury TMDL in the future that will address all of these impairments at once.

TMDL development will most likely begin with those waterbodies for which data is readily available and any required modeling is already underway. TMDLs that will require model development and/or additional data collection will follow in the upcoming years.

EPA's National and Regional priorities were considered as we determined which indicators would be used in our execution of the RPS tool. Several of these priorities, such as environmental justice, source water protection, and effluent-dominated waterbodies, were included in the RPS tool scenarios.

In order to ensure that the public has some involvement in our prioritization process, the Department also included as an indicator in the RPS tool those HUC12s nominated during the Alabama Clean Water Partnership's stream prioritization project. Stakeholders nominated waterbodies for inclusion on the Clean Water Partnership's list, and those were considered as we prioritized waterbodies through the RPS tool.

Another way we plan to involve the public is to include our priority areas with the 2016 Integrated Report, which is made available for public review and comment. The Department will consider any comments we receive regarding our priority list and make any changes that may be warranted based on the comments provided.

Over the last several years, the Department has utilized a five year rotating basin approach for water quality monitoring and TMDL development. Under this approach, each of the state's five major basins was sampled once every five years. TMDLs were typically scheduled to be drafted two years after the basin containing the impaired waterbody was sampled.

In FY2015, the Department transitioned to an annual statewide monitoring plan, where monitoring occurs at various locations throughout the state during each year. This should allow the Department to utilize our resources more efficiently and provide for more targeted monitoring according to the data needs of various sections within the Department. TMDLs will most likely still be scheduled to be drafted two years after monitoring is conducted; however, we should have the ability to plan our monitoring throughout the state according to our TMDL priorities instead of waiting until a particular basin is scheduled to be sampled once every five years.

One goal of the new Vision is integration among programs within the Department and with other agencies. As mentioned above, the TMDL program is already working closely with the monitoring program in order to ensure that data needs for TMDL development will be met. In addition, the TMDL program will work closely with the nonpoint source program to try to align goals so that we can utilize our resources in the most efficient manner possible. The Department will also work with EPA Region 4 throughout the process of determining priorities and developing plans for restoration of our impaired waterbodies. As the Vision process continues, the Department will attempt to include the programs within our own agency and any other agencies that may be affected by or have an interest in our prioritization plan and plans for restoration.

The prioritization list will need to be revisited periodically due to the fact that the §303(d) list is updated every two years. As new waterbodies are added to the §303(d) list, they will be evaluated using the RPS tool or the best professional judgment of Departmental staff to determine if they should be added to our list of prioritized waterbodies. If new waterbodies need to be added, the Department will work with EPA to make sure these new priorities can be appropriately captured in our reporting of progress. In addition, the Department recognizes that some of our priority waterbodies may be delisted or could possibly be replaced by newly listed waterbodies that need to be given higher priority. If this occurs, the Department will communicate with EPA to ensure that any changes in our prioritization areas are appropriately captured.

The Department's TMDL program is looking forward to continually working with stakeholders and other affected programs and agencies in the prioritization of our restoration efforts throughout the state. We believe that our strategy will be effective in determining which waterbodies should be prioritized for restoration, and we are hopeful that the new Vision will allow us to use all of our resources efficiently and effectively to bring about improvements in water quality.

Appendix C  
TMDL Priorities 2016 - 2022

Assessment Unit ID	Waterbody Name	Type	River Basin	County	Uses	Causes	Size	Downstream / Upstream Locations
AL03150201-0101-200	Callaway Creek	R	Alabama	Elmore	Fish & Wildlife	Nutrients	13.02 miles	Bouldin tailrace canal / its source
AL03160109-0604-900	Baker Creek	R	Black Warrior	Walker	Fish & Wildlife	Siltation (habitat alteration)	7.01 miles	Mulberry Fork / its source
AL03160112-0201-102	Big Yellow Creek	R	Black Warrior	Tuscaloosa	Swimming Fish & Wildlife	Metals (Chromium, Lead)	14.59 miles	Bankhead Lake / its source
AL03160109-0404-500	Black Branch	R	Black Warrior	Walker	Fish & Wildlife	Metals (Aluminum) pH	4.11 miles	Cane Creek / its source
AL03160111-0307-400	Black Creek	R	Black Warrior	Jefferson	Fish & Wildlife	pH	6.36 miles	Cunningham Creek / its source
AL03160111-0208-101	Locust Fork	R	Black Warrior	Blount	Fish & Wildlife	Siltation (habitat alteration)	27.18 miles	Little Warrior River / Blount County Road 30
AL03160111-0305-102	Locust Fork	R	Black Warrior	Blount Jefferson	Fish & Wildlife	Nutrients	18.15 miles	County road between Hayden and County Line / Little Warrior River
AL03160111-0305-102	Locust Fork	R	Black Warrior	Blount Jefferson	Fish & Wildlife	Siltation (habitat alteration)	18.15 miles	County road between Hayden and County Line / Little Warrior River
AL03160111-0308-102	Locust Fork	R	Black Warrior	Blount Jefferson	Public Water Supply Fish & Wildlife	Nutrients	14.86 miles	US Highway 31 / County road between Hayden and County Line
AL03160111-0308-102	Locust Fork	R	Black Warrior	Blount Jefferson	Public Water Supply Fish & Wildlife	Siltation (habitat alteration)	14.86 miles	US Highway 31 / County road between Hayden and County Line
AL03160111-0404-102	Locust Fork	R	Black Warrior	Blount Jefferson	Fish & Wildlife	Nutrients	14.25 miles	Jefferson County Road 77 / US Highway 31
AL03160111-0404-102	Locust Fork	R	Black Warrior	Blount Jefferson	Fish & Wildlife	Siltation (habitat alteration)	14.25 miles	Jefferson County Road 77 / US Highway 31
AL03160111-0413-101	Locust Fork	R	Black Warrior	Jefferson	Public Water Supply Swimming Fish & Wildlife	Nutrients	6.88 miles	Junction of Locust and Mulberry Forks / Jefferson County Hwy 61
AL03160111-0413-112	Locust Fork	R	Black Warrior	Jefferson	Fish & Wildlife	Nutrients	13.06 miles	Jefferson County Hwy 61 / Village Creek
AL03160109-0109-102	Mulberry Fork	R	Black Warrior	Blount Cullman	Fish & Wildlife	Siltation (habitat alteration)	18.23 miles	Broglen River / Blount County Road 6
AL03160109-0203-101	Mulberry Fork	R	Black Warrior	Blount Cullman	Fish & Wildlife	Nutrients	2.52 miles	Marriott Creek / Mill Creek

Appendix C  
TMDL Priorities 2016 - 2022

Assessment Unit ID	Waterbody Name	Type	River Basin	County	Uses	Causes	Size	Downstream / Upstream Locations
AL03160109-0203-102	Mulberry Fork	R	Black Warrior	Blount Cullman	Fish & Wildlife	Nutrients	17.27 miles	Mill Creek / Broglan River
AL03160109-0203-102	Mulberry Fork	R	Black Warrior	Blount Cullman	Fish & Wildlife	Siltation (habitat alteration)	17.27 miles	Mill Creek / Broglan River
AL03160109-0101-150	Riley Maze Creek	R	Black Warrior	Cullman Marshall	Fish & Wildlife	Total dissolved solids	4.13 miles	Tibb Creek / Its source
AL03160109-0101-600	Tibb Creek	R	Black Warrior	Cullman Marshall	Fish & Wildlife	Total dissolved solids	5.13 miles	Mulberry Fork / Its source
AL03160111-0409-100	Village Creek	R	Black Warrior	Jefferson	Fish & Wildlife	Nutrients	17.9 miles	Locust Fork / Bayview Lake dam
AL03150202-0901-100	Childers Creek	R	Cahaba	Dallas	Fish & Wildlife	Siltation (habitat alteration)	18.79 miles	Cahaba River / its source
AL03130003-0605-100	Ihagee Creek	R	Chattahoochee	Russell	Swimming Fish & Wildlife	Siltation (habitat alteration)	15.73 miles	Chattahoochee River / its source
AL03130012-0101-410	Cypress Creek	R	Chipola	Houston	Fish & Wildlife	Nutrients Organic enrichment (CBOD, NBOD)	8.11 miles	Limestone Creek / its source
AL03150107-0104-100	Shirtee Creek	R	Coosa	Talladega	Fish & Wildlife	Total dissolved solids	4.94 miles	Tallaseehatchee Creek / its source
AL03150107-0106-100	Tallaseehatchee Creek	R	Coosa	Talladega	Fish & Wildlife	Total dissolved solids	17.51 miles	Coosa River / City of Sylacauga's water supply dam
AL03170008-0502-800	Collins Creek	R	Escatawpa	Mobile	Fish & Wildlife	Metals (Arsenic)	5.15 miles	Big Creek / its source
AL03140303-0201-101	Rocky Creek	R	Escambia	Butler	Fish & Wildlife	Pathogens	9.23 miles	Persimmon Creek / County Road north of Chapman
AL03150108-0905-103	Little Tallapoosa River	R	Tallapoosa	Cleburne Randolph	Fish & Wildlife	Pathogens	30.78 miles	Wolf Creek / AL-GA state line
AL03150110-0406-200	Mill Creek	R	Tallapoosa	Macon Tallapoosa	Fish & Wildlife	Siltation (habitat alteration)	9.16 miles	Tallapoosa River / its source
AL06030006-0103-104	Bear Creek (Upper Bear Creek Lake)	L	Tennessee	Franklin Marion Winston	Public Water Supply Swimming Fish & Wildlife	Organic enrichment (CBOD, NBOD)	1462.58 acres	Upper Bear Creek Dam / Pretty Branch
AL06030004-0405-101	Elk River (Wheeler Lake)	L	Tennessee	Lauderdale Limestone	Swimming Fish & Wildlife	Nutrients	1569.21 acres	Tennessee River / Anderson Creek
AL06030004-0405-101	Elk River (Wheeler Lake)	L	Tennessee	Lauderdale Limestone	Swimming Fish & Wildlife	pH	1569.21 acres	Tennessee River / Anderson Creek
AL06030006-0205-111	Little Bear Creek (Little Bear Creek Lake)	L	Tennessee	Franklin	Public Water Supply Swimming Fish & Wildlife	Nutrients	1435.05 acres	Little Bear Creek Dam / Scott Branch

## **Appendix D**

### **Alabama's 2016 §303(d) List**



2016 Alabama §303(d) List

Assessment Unit ID	Waterbody Name	Type	River Basin	County	Uses	Causes	Sources	Size	Unit Type	Downstream / Upstream Locations	Year Listed	Priority
AL03150201-0101-200	Callaway Creek	R	Alabama	Elmore	Fish & Wildlife	Nutrients	Agriculture Municipal	13.02	miles	Bouldin tailrace canal / its source	2010	H
AL03150201-0104-302	Three Mile Branch	R	Alabama	Montgomery	Fish & Wildlife	Pathogens (E. coli)	Urban development	7.65	miles	Lower Wetumpka Road / its source	2010	L
AL03150201-0104-302	Three Mile Branch	R	Alabama	Montgomery	Fish & Wildlife	Pesticides (Dieldrin)	Unknown source	7.65	miles	Lower Wetumpka Road / its source	2002	L
AL03150201-0104-302	Three Mile Branch	R	Alabama	Montgomery	Fish & Wildlife	Siltation (habitat alteration)	Urban development	7.65	miles	Lower Wetumpka Road / its source	2010	L
AL03150201-0105-300	Mill Creek	R	Alabama	Autauga Elmore	Fish & Wildlife	Siltation (habitat alteration)	Urban development	8.71	miles	Still Creek / its source	2010	L
AL03150201-1006-101	Mulberry Creek	R	Alabama	Autauga Dallas	Swimming Fish & Wildlife	Pathogens (E. coli)	Pasture grazing	22.20	miles	Alabama River / Harris Branch	2016	L
AL03150201-1207-301	Sixmile Creek	R	Alabama	Dallas	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	1.23	miles	Alabama River / Fourmile Creek	2012	L
AL03150203-0103-200	Coffee Creek	R	Alabama	Dallas Perry	Fish & Wildlife	Nutrients	Pasture grazing	7.67	miles	Taylor Creek / its source	2010	L
AL03150203-0103-200	Coffee Creek	R	Alabama	Dallas Perry	Fish & Wildlife	Pathogens (E. coli)	Pasture grazing	7.67	miles	Taylor Creek / its source	2010	L
AL03150203-0103-200	Coffee Creek	R	Alabama	Dallas Perry	Fish & Wildlife	Siltation (habitat alteration)	Pasture grazing	7.67	miles	Taylor Creek / its source	2010	L
AL03150203-0805-101	Alabama River (Claiborne Lake)	L	Alabama	Clarke Monroe Wilcox	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	714.80	acres	McCalls Creek / Bear Creek	2008	L
AL03150203-0805-102	Alabama River (Claiborne Lake)	L	Alabama	Wilcox	Swimming Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Dam construction Flow regulation/modification	304.23	acres	Bear Creek / Frisco Railroad Crossing	1996	L
AL03150203-0805-103	Alabama River (Claiborne Lake)	L	Alabama	Wilcox	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Dam construction Flow regulation/modification	474.72	acres	Frisco Railroad Crossing / Pursley Creek	1996	L
AL03150203-0805-104	Alabama River (Claiborne Lake)	L	Alabama	Wilcox	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Dam construction Flow regulation/modification	524.33	acres	Pursley Creek / River Mile 131	2000	L
AL03150203-0805-105	Alabama River (Claiborne Lake)	L	Alabama	Wilcox	Public Water Supply	Organic enrichment (CBOD, NBOD)	Dam construction Flow regulation/modification	109.31	acres	River Mile 131 / Beaver Creek	2000	L
AL03150203-0703-101	Alabama River (Claiborne Lake)	L	Alabama	Wilcox	Public Water Supply	Organic enrichment (CBOD, NBOD)	Dam construction Flow regulation/modification	310.63	acres	Beaver Creek / Rockwest Creek	1996	L
AL03150203-0802-111	Pursley Creek (Claiborne Lake)	L	Alabama	Wilcox	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	6.64	acres	Alabama River / end of embayment	1996	L
AL03150203-0110-100	Bogue Chitto Creek	R	Alabama	Dallas Perry	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Pasture grazing	60.49	miles	Alabama River / its source	2010	L
AL03150203-0101-100	Washington Creek	R	Alabama	Dallas Perry	Fish & Wildlife	Pathogens (E. coli)	On-site wastewater systems Pasture grazing	17.24	miles	Bogue Chitto Creek / its source	2016	L
AL03150204-0405-102	Alabama River	R	Alabama	Clarke Monroe	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	12.35	miles	Pigeon Creek / Claiborne Lock and Dam	2012	L
AL03150204-0105-100	Alabama River (Claiborne Lake)	L	Alabama	Clarke Monroe	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	2,051.55	acres	Claiborne Lock and Dam / McCalls Creek	2008	L
AL03150204-0101-111	Tallatchee Creek (Claiborne Lake)	L	Alabama	Monroe	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	20.58	acres	Alabama River / end of embayment	2008	L
AL03160109-0203-101	Mulberry Fork	R	Black Warrior	Blount Cullman	Fish & Wildlife	Nutrients	Agriculture Industrial Municipal	2.52	miles	Marriott Creek / Mill Creek	1998	H
AL03160109-0203-102	Mulberry Fork	R	Black Warrior	Blount Cullman	Fish & Wildlife	Nutrients	Agriculture Industrial Municipal	17.27	miles	Mill Creek / Broglen River	1998	H
AL03160109-0203-102	Mulberry Fork	R	Black Warrior	Blount Cullman	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Industrial Municipal	17.27	miles	Mill Creek / Broglen River	1998	M
AL03160109-0109-102	Mulberry Fork	R	Black Warrior	Blount Cullman	Fish & Wildlife	Siltation (habitat alteration)	Agriculture	18.23	miles	Broglen River / Blount County Road 6	1998	M
AL03160109-0101-150	Riley Maze Creek	R	Black Warrior	Cullman Marshall	Fish & Wildlife	Total dissolved solids	Municipal	4.13	miles	Tibb Creek / its source	2006	H
AL03160109-0101-600	Tibb Creek	R	Black Warrior	Cullman Marshall	Fish & Wildlife	Total dissolved solids	Municipal	5.13	miles	Mulberry Fork / its source	2006	H
AL03160109-0403-103	Lost Creek	R	Black Warrior	Walker	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	6.53	miles	US Highway 78 north of Cedrum / US Highway 78 at Carbon Hill	1998	L

2016 Alabama §303(d) List

Assessment Unit ID	Waterbody Name	Type	River Basin	County	Uses	Causes	Sources	Size	Unit Type	Downstream / Upstream Locations	Year Listed	Priority
AL03160109-0404-500	Black Branch	R	Black Warrior	Walker	Fish & Wildlife	Metals (Aluminum)	Surface mining-abandoned	4.11	miles	Cane Creek / its source	1998	H
AL03160109-0404-500	Black Branch	R	Black Warrior	Walker	Fish & Wildlife	pH	Surface mining-abandoned	4.11	miles	Cane Creek / its source	1998	H
AL03160109-0405-104	Lost Creek	R	Black Warrior	Walker	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	17.33	miles	Alabama Highway 69 at Oakman / Mill dam at Cedrum	1998	L
AL03160109-0503-100	Wolf Creek	R	Black Warrior	Walker	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	38.40	miles	Lost Creek / Alabama Highway 102	1998	L
AL03160109-0602-601	Old Town Creek	R	Black Warrior	Walker	Fish & Wildlife	Nutrients	Surface mining-abandoned	2.71	miles	Mulberry Fork / Pinhook Creek	2006	L
AL03160109-0602-601	Old Town Creek	R	Black Warrior	Walker	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	2.71	miles	Mulberry Fork / Pinhook Creek	2006	L
AL03160109-0604-900	Baker Creek	R	Black Warrior	Walker	Fish & Wildlife	Siltation (habitat alteration)	Unknown source	7.01	miles	Mulberry Fork / its source	2006	M
AL03160110-0305-201	Clear Creek (Smith Lake)	L	Black Warrior	Winston	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	346.47	acres	Sipsey Fork / Coon Creek	2010	L
AL03160110-0306-201	Sipsey Fork (Smith Lake)	L	Black Warrior	Winston	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	1,321.71	acres	County Road 41 / Brushy Creek	2010	L
AL03160110-0306-901	Butler Branch (Smith Lake)	L	Black Warrior	Winston	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	119.74	acres	Sipsey Fork / end of embayment	2010	L
AL03160110-0408-110	Rock Creek (Smith Lake)	L	Black Warrior	Cullman Winston	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	1,946.62	acres	Sipsey Fork / Crooked Creek	2010	L
AL03160110-0505-103	Ryan Creek (Smith Lake)	L	Black Warrior	Cullman	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	4,547.96	acres	Coon Creek / Rock Creek	2010	L
AL03160110-0401-100	Blevens Creek	R	Black Warrior	Cullman Winston	Fish & Wildlife	Pathogens (E. coli)	Animal feeding operations Pasture grazing	19.14	miles	Rock Creek / its source	2016	L
AL03160111-0413-101	Locust Fork (Bankhead Lake)	L	Black Warrior	Jefferson	Public Water Supply Swimming Fish & Wildlife	Nutrients	Industrial Municipal Urban runoff/storm sewers	625.96	acres	Black Warrior River / Jefferson County Hwy 61	2012	H
AL03160111-0413-112	Locust Fork (Bankhead Lake)	L	Black Warrior	Jefferson	Fish & Wildlife	Nutrients	Industrial Municipal Urban runoff/storm sewers	462.66	acres	Jefferson County Hwy 61 / Village Creek	2012	H
AL03160111-0404-102	Locust Fork	R	Black Warrior	Blount Jefferson	Fish & Wildlife	Nutrients	Agriculture Surface mining-abandoned	14.25	miles	Jefferson County Road 77 / US Highway 31	1998	H
AL03160111-0404-102	Locust Fork	R	Black Warrior	Blount Jefferson	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining-abandoned	14.25	miles	Jefferson County Road 77 / US Highway 31	1998	M
AL03160111-0308-102	Locust Fork	R	Black Warrior	Blount Jefferson	Public Water Supply Fish & Wildlife	Nutrients	Agriculture Surface mining-abandoned	14.86	miles	US Highway 31 / County road between Hayden and County Line	1998	H
AL03160111-0308-102	Locust Fork	R	Black Warrior	Blount Jefferson	Public Water Supply Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining-abandoned	14.86	miles	US Highway 31 / County road between Hayden and County Line	1998	M
AL03160111-0305-102	Locust Fork	R	Black Warrior	Blount Jefferson	Fish & Wildlife	Nutrients	Agriculture Surface mining-abandoned	18.15	miles	County road between Hayden and County Line / Little Warrior River	1998	H
AL03160111-0305-102	Locust Fork	R	Black Warrior	Blount Jefferson	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining-abandoned	18.15	miles	County road between Hayden and County Line / Little Warrior River	1998	M
AL03160111-0208-101	Locust Fork	R	Black Warrior	Blount	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining-abandoned	27.18	miles	Little Warrior River / Blount County Road 30	1998	M
AL03160111-0307-400	Black Creek	R	Black Warrior	Jefferson	Fish & Wildlife	pH	Surface mining-abandoned	6.36	miles	Cunningham Creek / its source	2014	M
AL03160111-0405-101	Newfound Creek	R	Black Warrior	Jefferson	Fish & Wildlife	Siltation (habitat alteration)	Urban runoff/storm sewers	2.76	miles	Fivemile Creek / Impoundment	1998	L
AL03160111-0409-100	Village Creek	R	Black Warrior	Jefferson	Fish & Wildlife	Nutrients	Industrial Municipal Urban runoff/storm sewers	17.90	miles	Locust Fork / Bayview Lake dam	2012	M
AL03160111-0408-102	Village Creek	R	Black Warrior	Jefferson	Limited Warmwater Fishery	Pesticides (Dieldrin)	Urban runoff/storm sewers	12.60	miles	Second Creek / Woodlawn Bridge	2006	L
AL03160111-0408-103	Village Creek	R	Black Warrior	Jefferson	Limited Warmwater Fishery	Pesticides (Dieldrin)	Urban runoff/storm sewers	4.04	miles	Woodlawn Bridge / its source	2006	L

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Assessment Unit ID	Waterbody Name	Type	River Basin	County	Uses	Causes	Sources	Size	Unit Type	Downstream / Upstream Locations	Year Listed	Priority
AL03160112-0106-111	Valley Creek (Bankhead Lake)	L	Black Warrior	Jefferson	Public Water Supply Swimming Fish & Wildlife	Nutrients	Municipal	119.67	acres	Black Warrior River / end of embayment	2016	L
AL03160112-0201-102	Big Yellow Creek	R	Black Warrior	Tuscaloosa	Swimming Fish & Wildlife	Metals (Chromium)	Surface mining-abandoned	14.59	miles	Bankhead Lake / its source	1998	H
AL03160112-0201-102	Big Yellow Creek	R	Black Warrior	Tuscaloosa	Swimming Fish & Wildlife	Metals (Lead)	Surface mining-abandoned	14.59	miles	Bankhead Lake / its source	1998	H
AL03160112-0304-110	Pegues Creek	R	Black Warrior	Tuscaloosa	Fish & Wildlife	Metals (Chromium)	Surface mining-abandoned	4.23	miles	Black Warrior River / its source	2006	L
AL03160112-0304-110	Pegues Creek	R	Black Warrior	Tuscaloosa	Fish & Wildlife	Metals (Lead)	Surface mining-abandoned	4.23	miles	Black Warrior River / its source	2006	L
AL03160112-0304-110	Pegues Creek	R	Black Warrior	Tuscaloosa	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	4.23	miles	Black Warrior River / its source	2006	L
AL03160112-0305-110	Daniel Creek	R	Black Warrior	Tuscaloosa	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	10.42	miles	Black Warrior River / its source	2014	L
AL03160112-0305-110	Daniel Creek	R	Black Warrior	Tuscaloosa	Fish & Wildlife	Total dissolved solids	Surface mining-abandoned	10.42	miles	Black Warrior River / its source	2014	L
AL03160112-0413-102	North River (Lake Tuscaloosa)	L	Black Warrior	Tuscaloosa	Public Water Supply Swimming	Metals (Mercury)	Atmospheric deposition	3,840.14	acres	Lake Tuscaloosa dam / Binion Creek	2010	L
AL03160112-0411-101	North River (Lake Tuscaloosa)	L	Black Warrior	Tuscaloosa	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	968.62	acres	Binion Creek / extent of reservoir	2010	L
AL03160112-0410-111	Binion Creek (Lake Tuscaloosa)	L	Black Warrior	Tuscaloosa	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	305.18	acres	North River / end of embayment	2010	L
AL03160112-0503-100	Cottondale Creek	R	Black Warrior	Tuscaloosa	Fish & Wildlife	Pathogens (E. coli)	On-site wastewater systems Pasture grazing	9.58	miles	Hurricane Creek / its source	2016	L
AL03160113-0704-100	Cottonwood Creek	R	Black Warrior	Hale Marengo Perry	Fish & Wildlife	Organic Enrichment (CBOD, NBOD)	Municipal Pasture grazing	11.42	miles	Big Prairie Creek / its source	2006	L
AL03160113-0704-100	Cottonwood Creek	R	Black Warrior	Hale Marengo Perry	Fish & Wildlife	Siltation (habitat alteration)	Municipal Pasture grazing	11.42	miles	Big Prairie Creek / its source	2006	L
AL03160113-0704-100	Cottonwood Creek	R	Black Warrior	Hale Marengo Perry	Fish & Wildlife	Nutrients	Municipal Pasture grazing	11.42	miles	Big Prairie Creek / its source	2006	L
AL03160113-0801-200	Needham Creek	R	Black Warrior	Greene	Fish & Wildlife	Total dissolved solids	Aquaculture	8.96	miles	Dollarhide Creek / its source	2014	L
AL03140104-0104-100	Blackwater River	R	Blackwater	Escambia	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	2.78	miles	AL-FL state line / its source	2004	L
AL03150202-0503-102	Cahaba River	R	Cahaba	Bibb	Outstanding Alabama Water Swimming	Pathogens (E. coli)	Municipal Pasture grazing Urban runoff/storm sewers	10.58	miles	AL Hwy 82 / lower Little Cahaba River	2016	L
AL03150202-0506-200	Walton Creek	R	Cahaba	Bibb Perry	Fish & Wildlife	Pathogens (E. coli)	Pasture grazing	5.45	miles	Cahaba River / its source	2016	L
AL03150202-0901-100	Childers Creek	R	Cahaba	Dallas	Fish & Wildlife	Siltation (habitat alteration)	Pasture grazing	18.79	miles	Cahaba River / its source	2006	M
AL03130002-0907-100	Moores Creek	R	Chattahoochee	Chambers	Fish & Wildlife	Siltation (habitat alteration)	Land development	11.40	miles	Chattahoochee River / its source	2012	L
AL03130002-1107-110	Halawakee Creek	R	Chattahoochee	Chambers Lee	Fish & Wildlife	Siltation (habitat alteration)	Land development	16.57	miles	Three miles upstream of County Road 79 / its source	2012	L
AL03130003-0101-100	Mill Creek	R	Chattahoochee	Lee Russell	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Urban development	9.93	miles	Chattahoochee River / its source	2006	L
AL03130003-0505-111	Uchee Creek (Walter F George Lake)	L	Chattahoochee	Russell	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	105.15	acres	Chattahoochee River / end of embayment	2010	L
AL03130003-0605-100	Ihagee Creek	R	Chattahoochee	Russell	Swimming Fish & Wildlife	Siltation (habitat alteration)	Land development Silviculture activities	15.73	miles	Chattahoochee River / its source	2012	M
AL03130003-0605-100	Ihagee Creek	R	Chattahoochee	Russell	Swimming Fish & Wildlife	Pathogens (E. coli)	Collection system failure On-site wastewater systems Pasture grazing	15.73	miles	Chattahoochee River / its source	2016	L
AL03130003-1205-100	Cowikee Creek (Walter F George Lake)	L	Chattahoochee	Barbour	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	1,739.13	acres	Chattahoochee River / end of embayment	2010	L
AL03130003-1204-100	South Fork Cowikee Creek	R	Chattahoochee	Barbour	Swimming Fish & Wildlife	Pathogens (E. coli)	Pasture grazing	32.51	miles	Walter F George Lake / its source	2016	L

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AL03130003-1307-111	Barbour Creek (Walter F George Lake)	L	Chattahoochee	Barbour	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	656.59	acres	Chattahoochee River / end of embayment	2016	L
AL03130003-1307-111	Barbour Creek (Walter F George Lake)	L	Chattahoochee	Barbour	Swimming Fish & Wildlife	Siltation (habitat alteration)	Agriculture	656.59	acres	Chattahoochee River / end of embayment	1998	L
AL03130003-1306-101	Barbour Creek	R	Chattahoochee	Barbour	Fish & Wildlife	Siltation (habitat alteration)	Agriculture	18.77	miles	Walter F George Lake / its source	1998	L
AL03130003-1600-100	Chattahoochee River (Walter F George Lake)	L	Chattahoochee	Barbour Henry	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	10,029.53	acres	Walter F George dam / Cowikee Creek	2016	L
AL03130004-0801-100	Chattahoochee River	R	Chattahoochee	Houston	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	14.14	miles	AL-FL state line / Woods Branch	2016	L
AL03130004-0206-100	Bennett Mill Creek	R	Chattahoochee	Henry	Fish & Wildlife	Pathogens (E. coli)	Pasture grazing	5.81	miles	Chattahoochee River / its source	2016	L
AL03130004-0405-100	Abbie Creek	R	Chattahoochee	Barbour Henry	Fish & Wildlife	Pathogens (E. coli)	Animal feeding operations Municipal Pasture grazing	42.53	miles	Chattahoochee River / its source	2016	L
AL03130004-0403-110	Peterman Creek	R	Chattahoochee	Henry	Fish & Wildlife	Pathogens (E. coli)	Pasture grazing	12.43	miles	Abbie Creek / its source	2016	L
AL03130004-0602-500	Cedar Creek	R	Chattahoochee	Henry Houston	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	4.04	miles	Omusee Creek / its source	2008	L
AL03130012-0101-410	Cypress Creek	R	Chipola	Houston	Fish & Wildlife	Nutrients	Municipal Urban runoff/storm sewers	8.11	miles	Limestone Creek / its source	1998	H
AL03130012-0101-410	Cypress Creek	R	Chipola	Houston	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Municipal Urban runoff/storm sewers	8.11	miles	Limestone Creek / its source	1998	H
AL03130012-0203-110	Cowarts Creek	R	Chipola	Houston	Fish & Wildlife	Pathogens (E. coli)	Animal feeding operations Municipal Pasture grazing	21.72	miles	AL-FL state line / its source	2016	L
AL03140201-0501-201	Beaver Creek	R	Choctawhatchee	Houston	Fish & Wildlife	Nutrients	Municipal Urban runoff/storm sewers	2.09	miles	Newton Creek / Dothan WWTP	1998	L
AL03140201-0501-201	Beaver Creek	R	Choctawhatchee	Houston	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Municipal Urban runoff/storm sewers	2.09	miles	Newton Creek / Dothan WWTP	1998	L
AL03140201-1004-600	Dowling Branch	R	Choctawhatchee	Geneva	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Agriculture Municipal Urban runoff/storm sewers	2.10	miles	Cox Mill Creek / its source	1998	L
AL03140201-0901-100	Harrand Creek	R	Choctawhatchee	Coffee Dale	Fish & Wildlife	Siltation (habitat alteration)	Urban runoff/storm sewers	9.71	miles	Claybank Creek / its source	2006	L
AL03140201-0901-200	Indian Camp Creek	R	Choctawhatchee	Coffee	Fish & Wildlife	Siltation (habitat alteration)	Land development Urban runoff/storm sewers	3.98	miles	Harrand Creek / its source	2004	L
AL03140201-1203-101	Choctawhatchee River	R	Choctawhatchee	Dale Geneva Houston	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	29.07	miles	Pea River / Alabama Highway 12	2010	L
AL03140201-1003-102	Choctawhatchee River	R	Choctawhatchee	Dale Houston	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	6.45	miles	Alabama Highway 12 / Brooking Mill Creek	2010	L
AL03140201-0407-101	West Fork Choctawhatchee River	R	Choctawhatchee	Dale	Swimming Fish & Wildlife	Pathogens (E. coli)	Animal feeding operations Pasture grazing	5.08	miles	Choctawhatchee River / falls 1/2 mile upstream of AL Hwy 27	2016	L
AL03140201-0407-102	West Fork Choctawhatchee River	R	Choctawhatchee	Dale	Fish & Wildlife	Pathogens (E. coli)	Animal feeding operations Pasture grazing	1.79	miles	falls 1/2 mile upstream of AL Hwy 27 / Judy Creek	2016	L
AL03140201-0406-100	West Fork Choctawhatchee River	R	Choctawhatchee	Barbour Dale	Swimming Fish & Wildlife	Pathogens (E. coli)	Animal feeding operations Pasture grazing	32.53	miles	Judy Creek / its source	2016	L
AL03140201-0407-400	Big Creek	R	Choctawhatchee	Dale	Fish & Wildlife	Pathogens (E. coli)	Animal feeding operations Pasture grazing	6.53	miles	West Fork Choctawhatchee River / its source	2016	L
AL03140201-1102-500	Blanket Creek	R	Choctawhatchee	Coffee	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Municipal	5.71	miles	Double Bridges Creek / its source	2010	L
AL03140202-0906-101	Pea River	R	Choctawhatchee	Geneva	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	3.87	miles	Choctawhatchee River / Laddon Creek	2010	L
AL03140202-0603-101	Pea River	R	Choctawhatchee	Coffee	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	8.09	miles	Bucks Mill Creek / US Highway 84	2010	L
AL03140202-0603-102	Pea River	R	Choctawhatchee	Coffee	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	11.76	miles	US Highway 84 / Red Oak Creek	2010	L
AL03140202-0505-100	Pea River	R	Choctawhatchee	Coffee Dale	Swimming Fish & Wildlife	Pathogens (E. coli)	Animal feeding operations Pasture grazing	10.85	miles	Halls Creek / US Hwy 231	2016	L

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AL03140202-0301-200	Buckhorn Creek	R	Choctawhatchee	Pike	Fish & Wildlife	Pathogens (E. coli)	Animal feeding operations Pasture grazing	15.97	miles	Pea River / its source	2016	L
AL03140202-0504-200	Huckleberry Creek	R	Choctawhatchee	Coffee Dale	Fish & Wildlife	Pathogens (E. coli)	Pasture grazing	3.47	miles	Pea River / its source	2016	L
AL03140202-0601-200	Patrick Creek	R	Choctawhatchee	Coffee	Fish & Wildlife	Pathogens (E. coli)	Pasture grazing	5.18	miles	Beaverdam Creek / its source	2016	L
AL03140202-0702-110	Flat Creek	R	Choctawhatchee	Coffee Covington Geneva	Swimming Fish & Wildlife	Pathogens (E. coli)	Animal feeding operations Pasture grazing	24.26	miles	Eightmile Creek / its source	2016	L
AL03140203-0105-100	Choctawhatchee River	R	Choctawhatchee	Geneva	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	4.45	miles	AL-FL state line / Pea River	2010	L
AL03140203-0201-100	Wrights Creek	R	Choctawhatchee	Geneva	Fish & Wildlife	Pathogens (E. coli)	Animal feeding operations Pasture grazing	8.96	miles	AL-FL state line / its source	2016	L
AL03150105-1002-102	Coosa River (Weiss Lake)	L	Coosa	Cherokee	Swimming Fish & Wildlife	Pathogens (E. coli)	Sources outside state	6,567.86	acres	Spring Creek / AL-GA state line	2016	L
AL03150106-0803-100	Coosa River (Logan Martin Lake)	L	Coosa	St. Clair Talladega	Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	10,945.46	acres	Logan Martin Dam / Broken Arrow Creek	1998	*
AL03150106-0603-111	Coosa River (Logan Martin Lake)	L	Coosa	Calhoun St. Clair Talladega	Public Water Supply Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	1,449.31	acres	Broken Arrow Creek / Trout Creek	1998	*
AL03150106-0603-112	Coosa River (Logan Martin Lake)	L	Coosa	St. Clair Calhoun	Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	783.90	acres	Trout Creek / Neely Henry Dam	1998	*
AL03150106-0802-111	Clear Creek (Logan Martin Lake)	L	Coosa	Talladega	Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	624.28	acres	Coosa River / end of embayment	1998	*
AL03150106-0803-311	Easonville Creek (Logan Martin Lake)	L	Coosa	St. Clair	Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	1,260.19	acres	Coosa River / end of embayment	1998	*
AL03150106-0514-111	Chocolocco Creek (Logan Martin Lake)	L	Coosa	Talladega	Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	1,125.61	acres	Coosa River / end of embayment	2014	*
AL03150106-0605-211	Dye Creek (Logan Martin Lake)	L	Coosa	St. Clair	Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	144.97	acres	Coosa River / end of embayment	1998	*
AL03150106-0604-111	Blue Eye Creek (Logan Martin Lake)	L	Coosa	St. Clair	Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	305.45	acres	Coosa River / end of embayment	1998	*
AL03150106-0408-111	Cane Creek (Logan Martin Lake)	L	Coosa	Calhoun	Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	35.96	acres	Coosa River / end of embayment	1998	*
AL03150106-0602-100	Broken Arrow Creek	R	Coosa	St. Clair	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Pasture grazing	21.37	miles	Coosa River / its source	2010	L
AL03150106-0514-100	Chocolocco Creek	R	Coosa	Calhoun Talladega	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	39.85	miles	Logan Martin Lake / UT from Boiling Spring	2010	L
AL03150106-0514-100	Chocolocco Creek	R	Coosa	Calhoun Talladega	Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	39.85	miles	Logan Martin Lake / UT from Boiling Spring	1996	*
AL03150106-0507-102	Chocolocco Creek	R	Coosa	Calhoun	Public Water Supply Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	2.37	miles	UT from Boiling Spring / Hillabee Creek	2010	L
AL03150106-0507-102	Chocolocco Creek	R	Coosa	Calhoun	Public Water Supply Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	2.37	miles	UT from Boiling Spring / Hillabee Creek	1996	*
AL03150106-0806-100	Wolf Creek	R	Coosa	Shelby St. Clair	Fish & Wildlife	Siltation (habitat alteration)	Surface mining Urban development	16.70	miles	Kelly Creek / its source	2010	L
AL03150106-0806-100	Wolf Creek	R	Coosa	Shelby St. Clair	Fish & Wildlife	Turbidity	Surface mining Urban development	16.70	miles	Kelly Creek / its source	2010	L
AL03150107-0106-100	Tallaseehatchee Creek	R	Coosa	Talladega	Fish & Wildlife	Total dissolved solids	Industrial Municipal	17.51	miles	Coosa River / City of Sylacauga's water supply dam	2010	M
AL03150107-0104-100	Shirtee Creek	R	Coosa	Talladega	Fish & Wildlife	Total dissolved solids	Industrial Municipal	4.94	miles	Tallaseehatchee Creek / its source	2010	M
AL03150107-0503-110	Coosa River (Lay Lake)	L	Coosa	Chilton Coosa Shelby Talladega	Public Water Supply Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	10,559.35	acres	Lay Dam / Southern RR Bridge	1996	*
AL03150107-0301-102	Coosa River (Lay Lake)	L	Coosa	Shelby Talladega	Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	803.88	acres	Southern RR Bridge / River Mile 89	1996	*
AL03150107-0301-102	Coosa River (Lay Lake)	L	Coosa	Shelby Talladega	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	803.88	acres	Southern RR Bridge / River Mile 89	2010	L
AL03150106-0810-102	Coosa River (Lay Lake)	L	Coosa	Shelby St. Clair Talladega	Public Water Supply Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	698.04	acres	River Mile 89 / Logan Martin Dam	1996	*

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AL03150106-0810-102	Coosa River (Lay Lake)	L	Coosa	Shelby St. Clair Talladega	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	698.04	acres	River Mile 89 / Logan Martin Dam	2010	L
AL03150107-0406-111	Waxahatchee Creek (Lay Lake)	L	Coosa	Chilton Shelby	Public Water Supply Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	770.68	acres	Coosa River / end of embayment	1996	*
AL03150107-0501-111	Peckerwood Creek (Lay Lake)	L	Coosa	Coosa Talladega	Public Water Supply Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	165.92	acres	Coosa River / end of embayment	1996	*
AL03150107-0304-111	Dry Branch (Lay Lake)	L	Coosa	Shelby	Public Water Supply Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	112.04	acres	Coosa River / end of embayment	1996	*
AL03150107-0205-111	Yellowleaf Creek (Lay Lake)	L	Coosa	Shelby	Public Water Supply Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	178.73	acres	Coosa River / end of embayment	1996	*
AL03150107-0106-111	Tallaseehatchee Creek (Lay Lake)	L	Coosa	Talladega	Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	13.46	acres	Coosa River / end of embayment	1996	*
AL03150107-0106-111	Tallaseehatchee Creek (Lay Lake)	L	Coosa	Talladega	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	13.46	acres	Coosa River / end of embayment	2010	L
AL03150106-0703-111	Talladega Creek (Lay Lake)	L	Coosa	Talladega	Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	60.66	acres	Coosa River / end of embayment	1996	*
AL03150106-0703-111	Talladega Creek (Lay Lake)	L	Coosa	Talladega	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	60.66	acres	Coosa River / end of embayment	2010	L
AL03150106-0808-111	Kelly Creek (Lay Lake)	L	Coosa	St. Clair	Public Water Supply Swimming Fish & Wildlife	Priority organics (PCBs)	Contaminated sediments	6.49	acres	Coosa River / end of embayment	1996	*
AL03150106-0808-111	Kelly Creek (Lay Lake)	L	Coosa	St. Clair	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	6.49	acres	Coosa River / end of embayment	2010	L
AL03150107-0405-100	Buxahatchee Creek	R	Coosa	Chilton Shelby	Fish & Wildlife	Pathogens (E. coli)	Collection system failure Municipal	14.00	miles	Waxahatchee Creek / its source	2016	L
AL03150107-0801-100	Yellow Leaf Creek	R	Coosa	Chilton	Fish & Wildlife	Siltation (habitat alteration)	Agriculture	31.27	miles	Coosa River / its source	2010	L
AL03150107-0304-700	UT to Dry Branch	R	Coosa	Shelby	Fish & Wildlife	Nutrients	Municipal Urban runoff/storm sewers	1.58	miles	Dry Branch / its source	1996	L
AL03140301-0404-111	Conecuh River (Gantt Lake)	L	Escambia	Covington	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	1,817.43	acres	Gantt Dam / extent of reservoir	2010	L
AL03140301-0405-101	Conecuh River (Point A Lake)	L	Escambia	Covington	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	610.56	acres	Point A Dam / extent of reservoir	2010	L
AL03140302-0506-101	Patsaliga Creek (Point A Lake)	L	Escambia	Covington	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	154.43	acres	Conecuh River / Buck Creek	2010	L
AL03140303-0201-101	Rocky Creek	R	Escambia	Butler	Fish & Wildlife	Pathogens (E. coli)	Unknown source	9.23	miles	Persimmon Creek / County Road north of Chapman	1998	H
AL03140303-0704-100	Sepulga River	R	Escambia	Conecuh	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	14.48	miles	Conecuh River / Robinson Mill Creek	2010	L
AL03140304-0506-100	Conecuh River	R	Escambia	Escambia	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	12.70	miles	AL-FL state line / Mantle Branch	2004	L
AL03140304-0404-101	Murder Creek	R	Escambia	Escambia	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	8.45	miles	Conecuh River / Cedar Creek	2014	L
AL03140304-0305-101	Burnt Corn Creek	R	Escambia	Escambia	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	5.03	miles	Murder Creek / Sevenmile Creek	2010	L
AL03140304-0605-100	Little Escambia Creek	R	Escambia	Escambia	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	12.21	miles	AL-FL state line / Wild Fork Creek	2004	L
AL03140305-0302-100	Big Escambia Creek	R	Escambia	Escambia	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	17.03	miles	AL-FL state line / Big Spring Creek	2004	L
AL03170008-0402-110	Escatawpa River	R	Escatawpa	Mobile	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	70.66	miles	AL-MS state line / its source	2002	L
AL03170008-0502-110	Big Creek (Big Creek Lake)	L	Escatawpa	Mobile	Public Water Supply Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	2,724.87	acres	Big Creek Lake dam / Collins Creek	2008	L
AL03170008-0502-211	Hamilton Creek (Big Creek Lake)	L	Escatawpa	Mobile	Public Water Supply Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	583.14	acres	Big Creek / end of embayment	2008	L
AL03170008-0502-600	Boggy Branch	R	Escatawpa	Mobile	Fish & Wildlife	Metals (Iron)	Natural Wet weather discharge	3.62	miles	Big Creek Lake / its source	1998	L

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AL03170008-0502-600	Boggy Branch	R	Escatawpa	Mobile	Fish & Wildlife	Metals (Lead)	Natural Wet weather discharge	3.62	miles	Big Creek Lake / its source	1998	L
AL03170008-0502-800	Collins Creek	R	Escatawpa	Mobile	Fish & Wildlife	Metals (Arsenic)	Unknown source	5.15	miles	Big Creek / its source	2006	M
AL03170009-0201-100	Mississippi Sound	E	Escatawpa	Mobile	Shellfish Harvesting Swimming Fish & Wildlife	Metals (Thallium)	Industrial	94.62	square miles	Segment classified for shellfish harvesting	2010	L
AL03170009-0201-100	Mississippi Sound	E	Escatawpa	Mobile	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens (Enterococcus)	Urban runoff/storm sewers	94.62	square miles	Segment classified for shellfish harvesting	1998	L
AL03170009-0201-200	Portersville Bay	E	Escatawpa	Mobile	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens (Enterococcus)	Municipal	18.81	square miles	Portersville Bay	1998	L
AL03170009-0201-300	Grand Bay	E	Escatawpa	Mobile	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens (Enterococcus)	On-site wastewater systems	30.73	square miles	Grand Bay	2006	L
AL03160204-0403-112	Mobile River	R	Mobile	Baldwin Mobile	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	20.90	miles	Spanish River / Cold Creek	2000	L
AL03160204-0106-112	Mobile River	R	Mobile	Mobile	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	2.37	miles	Cold Creek / Barry Steam Plant	2014	L
AL03160204-0103-100	Mobile River	R	Mobile	Baldwin Mobile	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	5.72	miles	Tensaw River / its source	2014	L
AL03160204-0105-111	Cold Creek	R	Mobile	Mobile	Fish & Wildlife	Metals (Mercury)	Contaminated sediments	4.21	miles	Mobile River / Dam 1 1/2 miles west of US Highway 43	1996	L
AL03160204-0305-101	Chickasaw Creek	R	Mobile	Mobile	Limited Warmwater Fishery	Metals (Mercury)	Atmospheric deposition	4.43	miles	Mobile River / US Highway 43	2000	L
AL03160204-0305-102	Chickasaw Creek	R	Mobile	Mobile	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	6.64	miles	US Highway 43 / Mobile College	2000	L
AL03160204-0303-100	Chickasaw Creek	R	Mobile	Mobile	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	26.82	miles	Mobile College / its source	2000	L
AL03160204-0503-102	Bay Minette Creek	R	Mobile	Mobile	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	18.15	miles	Bay Minette / its source	2014	L
AL03160204-0504-300	Toulmins Spring Branch	R	Mobile	Mobile	Fish & Wildlife	Nutrients	Urban runoff/storm sewers	3.22	miles	Threemile Creek / its source	2008	L
AL03160204-0504-500	UT to Threemile Creek	R	Mobile	Mobile	Fish & Wildlife	Nutrients	Urban runoff/storm sewers	1.04	miles	Threemile Creek / its source	2008	L
AL03160204-0505-202	Tensaw River	R	Mobile	Baldwin	Outstanding Alabama Water Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	21.73	miles	Junction of Tensaw and Apalachee Rivers / Junction of Briar Lake	2002	L
AL03160204-0505-500	D'Olive Creek	R	Mobile	Baldwin	Fish & Wildlife	Siltation (habitat alteration)	Land development	4.89	miles	D'Olive Bay / its source	2008	L
AL03160204-0505-800	Joes Branch	R	Mobile	Baldwin	Fish & Wildlife	Siltation (habitat alteration)	Land development	1.57	miles	D'Olive Creek / its source	2008	L
AL03160204-0505-900	Tiawasee Creek	R	Mobile	Baldwin	Fish & Wildlife	Siltation (habitat alteration)	Land development	3.54	miles	D'Olive Creek / its source	2008	L
AL03160204-0505-905	UT to Tiawasee Creek	R	Mobile	Baldwin	Fish & Wildlife	Siltation (habitat alteration)	Land development	1.87	miles	Tiawasee Creek / its source	2008	L
AL03160204-0505-505	UT to D'Olive Creek	R	Mobile	Baldwin	Fish & Wildlife	Siltation (habitat alteration)	Land development	1.22	miles	D'Olive Creek / its source	2008	L
AL03160204-0202-200	Middle River	R	Mobile	Baldwin Mobile	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	9.72	miles	Tensaw River (RM 20.6) / Tensaw River (RM 37.7)	2014	L
AL03160204-0202-300	Mifflin Lake	E	Mobile	Baldwin	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	0.73	square miles	Tensaw River / its source	2014	L
AL03160205-0203-110	Magnolia River	R	Mobile	Baldwin	Outstanding Alabama Water Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	12.41	miles	Weeks Bay / its source	2014	L

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AL03160205-0300-102	Mobile Bay	E	Mobile	Mobile	Shellfish Harvesting Fish & Wildlife	Pathogens (Enterococcus)	Urban runoff/storm sewers	168.29	square miles	Mobile Bay south of a line extending east from East Fowl River to lighted beacon FL2 and then to lighted beacon FLG 4 and then northeast to Daphne, except out 1000 feet offshore from Mullet Point to Ragged Point	1998	L
AL03160205-0300-202	Bon Secour Bay	E	Mobile	Baldwin	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens (Enterococcus)	On-site wastewater systems Urban runoff/storm sewers	102.96	square miles	Bon Secour Bay east and south of a line from Mullet Point to Engineers Point, except out 1000 feet offshore from Fish River Point to Mullet Point	1998	L
AL03160205-0102-110	Halls Mill Creek	R	Mobile	Mobile	Fish & Wildlife	Siltation (habitat alteration)	Land development	11.30	miles	Dog River / its source	2012	L
AL03160205-0105-100	Deer River	R	Mobile	Mobile	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Collection system failure Urban runoff/storm sewers	1.02	miles	Mobile Bay / its source	2006	L
AL03160205-0105-300	Middle Fork Deer River	R	Mobile	Mobile	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Collection system failure Urban runoff/storm sewers	2.47	miles	Deer River / its source	2006	L
AL03160205-0104-110	Fowl River	R	Mobile	Mobile	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	20.56	miles	Mobile Bay / its source	2000	L
AL03160205-0202-210	Polecat Creek	R	Mobile	Baldwin	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	7.89	miles	Fish River / its source	2006	L
AL03160205-0202-510	Baker Branch	R	Mobile	Baldwin	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Pasture grazing	6.15	miles	Polecat Creek / its source	2006	L
AL03160205-0204-112	Fish River	R	Mobile	Baldwin	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	30.01	miles	Weeks Bay / its source	1998	L
AL03160205-0204-700	Cowpen Creek	R	Mobile	Baldwin	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	7.12	miles	Fish River / its source	2008	L
AL03160205-0206-101	Bon Secour River	R	Mobile	Baldwin	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	9.12	miles	Bon Secour Bay / One mile upstream from first bridge above its mouth	2006	L
AL03160205-0206-102	Bon Secour River	R	Mobile	Baldwin	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	4.38	miles	One mile upstream from first bridge above its mouth / its source	2006	L
AL03160205-0208-100	Oyster Bay	E	Mobile	Baldwin	Shellfish Harvesting Fish & Wildlife	Pathogens (Enterococcus)	Unknown source	0.95	square miles	Oyster Bay	2006	L
AL-Gulf-of-Mexico	Gulf of Mexico	E	Mobile	Baldwin Mobile	Shellfish Harvesting Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	201.02	square miles	Mississippi / Florida	1998	L
AL03140106-0302-101	Brushy Creek	R	Perdido	Escambia	Fish & Wildlife	Metals (Lead)	Industrial Municipal	0.22	miles	AL-FL state line / Boggy Branch	2006	L
AL03140106-0302-201	Boggy Branch	R	Perdido	Escambia	Fish & Wildlife	Metals (Mercury)	Industrial Municipal	1.59	miles	Brushy Creek / Atmore WWTP	2008	L
AL03140106-0302-202	Boggy Branch	R	Perdido	Escambia	Fish & Wildlife	Pathogens (E. coli)	Collection system failure Urban runoff/storm sewers	0.14	miles	Atmore WWTP / Masland Carpets WWTP	2016	L
AL03140106-0302-203	Boggy Branch	R	Perdido	Escambia	Fish & Wildlife	Metals (lead)	Urban runoff/storm sewers	0.95	miles	Masland Carpets WWTP / its source	2016	L
AL03140106-0302-203	Boggy Branch	R	Perdido	Escambia	Fish & Wildlife	Pathogens (E. coli)	Collection system failure Urban runoff/storm sewers	0.95	miles	Masland Carpets WWTP / its source	2016	L
AL03140106-0507-100	Styx River	R	Perdido	Baldwin	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	18.52	miles	Perdido River / Hollinger Creek	2002	L
AL03140106-0603-101	Blackwater River	R	Perdido	Baldwin	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	3.11	miles	Perdido River / Narrow Gap Creek	2004	L
AL03140106-0703-100	Perdido River	R	Perdido	Baldwin	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	21.93	miles	Perdido Bay / Jacks Branch	2006	L
AL03140107-0204-400	Arnica Bay	E	Perdido	Baldwin	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens (Enterococcus)	On-site wastewater systems	1.27	square miles	Perdido Bay / Bay la launch	2012	L
AL03140107-0204-302	Perdido Bay	E	Perdido	Baldwin	Shellfish Harvesting Swimming Fish & Wildlife	Pathogens (Enterococcus)	Collection system failure On-site wastewater systems	1.29	square miles	Suarez Point / Lillian Bridge	2012	L

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AL03140107-0103-100	Perdido Bay	E	Perdido	Baldwin	Shellfish Harvesting Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	4.21	square miles	Lillian Bridge / its source	2016	L
AL03150108-0405-102	Tallapoosa River	R	Tallapoosa	Cleburne	Outstanding Alabama Water Fish & Wildlife	Pathogens (E. coli)	Pasture grazing Sources outside state	31.60	miles	Cane Creek / AL-GA state line	2016	L
AL03150108-0905-103	Little Tallapoosa River	R	Tallapoosa	Cleburne Randolph	Fish & Wildlife	Pathogens (E. coli)	Pasture grazing Sources outside state	30.78	miles	Wolf Creek / AL-GA state line	2010	H
AL03150108-0905-400	Wolf Creek	R	Tallapoosa	Randolph	Fish & Wildlife	pH	Agriculture	5.53	miles	Tallapoosa River / its source	2014	L
AL03150109-0803-301	Sugar Creek (Lake Martin)	L	Tallapoosa	Tallapoosa	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	58.93	acres	Elkahatchee Creek / end of embayment	2012	L
AL03150110-0104-101	Sougahatchee Creek (Yates Lake)	L	Tallapoosa	Tallapoosa	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	203.78	acres	Tallapoosa River / end of embayment	2016	L
AL03150110-0402-101	Channahatchee Creek (Yates Lake)	L	Tallapoosa	Elmore	Public Water Supply Swimming Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Nonpoint source runoff	62.63	acres	Tallapoosa River / end of embayment	2012	L
AL03150110-0202-300	Moore's Mill Creek	R	Tallapoosa	Lee	Swimming Fish & Wildlife	Siltation (habitat alteration)	Land development Urban runoff/storm sewers	10.51	miles	Chewacla Creek / its source	2000	L
AL03150110-0406-102	Tallapoosa River (Thurlow Lake)	L	Tallapoosa	Elmore Tallapoosa	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	538.60	acres	Thurlow dam / Yates dam	2012	L
AL03150110-0406-200	Mill Creek	R	Tallapoosa	Macon Tallapoosa	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Pasture grazing	9.16	miles	Tallapoosa River / its source	2010	M
AL03150110-0504-101	Calebee Creek	R	Tallapoosa	Macon	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining	10.26	miles	Tallapoosa River / Macon County Road 9	1998	L
AL03150110-0604-100	Cubahatchee Creek	R	Tallapoosa	Macon	Swimming Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining	22.07	miles	Tallapoosa River / Coon Hop Creek	1998	L
AL03150110-0603-102	Cubahatchee Creek	R	Tallapoosa	Bullock Macon	Swimming Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining	22.37	miles	Coon Hop Creek / its source	1998	L
AL03150110-0804-101	Line Creek	R	Tallapoosa	Macon Montgomery	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining	10.29	miles	Tallapoosa River / Johnsons Creek	1998	L
AL03150110-0804-102	Line Creek	R	Tallapoosa	Macon Montgomery	Fish & Wildlife	Siltation (habitat alteration)	Agriculture Surface mining	5.51	miles	Johnsons Creek / Panther Creek	1998	L
AL03150110-0905-112	Tallapoosa River	R	Tallapoosa	Elmore Montgomery	Public Water Supply Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	10.07	miles	US Highway 231 / Jenkins Creek	2012	L
AL03150110-0904-300	Jenkins Creek	R	Tallapoosa	Montgomery	Fish & Wildlife	Siltation (habitat alteration)	Urban development	13.48	miles	Tallapoosa River / its source	2010	L
AL06030001-0204-111	Widows Creek (Lake Guntersville)	L	Tennessee	Jackson	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	97.65	acres	Tennessee River / end of embayment	2012	L
AL06030001-0204-101	Widows Creek	R	Tennessee	Jackson	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	1.29	miles	Lake Guntersville / Alabama Highway 277	2012	L
AL06030001-0205-102	Tennessee River (Lake Guntersville)	L	Tennessee	Jackson	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	2,400.28	acres	Pump Spring Branch / AL-TN state line	2012	L
AL06030001-0203-101	Long Island Creek (Lake Guntersville)	L	Tennessee	Jackson	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	210.43	acres	Tennessee River / end of embayment	2012	L
AL06030001-0306-100	Little Coon Creek	R	Tennessee	Jackson	Fish & Wildlife	Siltation (habitat alteration)	Non-irrigated crop production Pasture grazing	16.30	miles	Coon Creek / AL-TN state line	2012	M
AL06030001-0403-801	Warren Smith Creek	R	Tennessee	Jackson	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	3.44	miles	Dry Creek / Ross Branch	1998	L
AL06030001-0202-500	Higdon Creek	R	Tennessee	DeKalb Jackson	Fish & Wildlife	Siltation (habitat alteration)	Pasture grazing Silviculture activities	4.16	miles	Miller Creek / AL-GA state line	2012	L
AL06030001-0705-111	Town Creek (Lake Guntersville)	L	Tennessee	Marshall	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	1,584.07	acres	Tennessee River / end of embayment	2016	L
AL06030001-0904-101	Browns Creek (Lake Guntersville)	L	Tennessee	Marshall	Public Water Supply Swimming Fish & Wildlife	Nutrients	Agriculture	5,915.66	acres	Tennessee River / end of embayment	2012	L
AL06030001-0904-102	Browns Creek	R	Tennessee	Marshall	Fish & Wildlife	Nutrients	Agriculture Mining	11.86	miles	Lake Guntersville / its source	2012	L
AL06030002-0106-101	Guess Creek	R	Tennessee	Jackson	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Pasture grazing Unknown source	11.08	miles	Paint Rock River / Bee Branch	1998	L

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AL06030002-0106-101	Guess Creek	R	Tennessee	Jackson	Fish & Wildlife	Unknown toxicity	Pasture grazing Unknown source	11.08	miles	Paint Rock River / Bee Branch	1998	L
AL06030002-0305-100	Beaverdam Creek	R	Tennessee	Madison	Fish & Wildlife	Siltation (habitat alteration)	Land development Non-irrigated crop production	22.14	miles	Brier Fork / its source	1998	L
AL06030002-0306-110	Brier Fork	R	Tennessee	Madison	Fish & Wildlife	Siltation (habitat alteration)	Land development Non-irrigated crop production	21.89	miles	Flint River / AL-TN state line	1998	L
AL06030002-0403-112	Flint River	R	Tennessee	Madison	Fish & Wildlife	Turbidity	Agriculture Land development	15.32	miles	Alabama Highway 72 / Mountain Fork	2006	L
AL06030002-0503-102	Huntsville Spring Branch	R	Tennessee	Madison	Fish & Wildlife	Metals (Arsenic)	Urban runoff/storm sewers	1.98	miles	Johnson Road (Huntsville Field) / Broglan Branch	2006	L
AL06030002-0503-102	Huntsville Spring Branch	R	Tennessee	Madison	Fish & Wildlife	Metals (Mercury)	Urban runoff/storm sewers	1.98	miles	Johnson Road (Huntsville Field) / Broglan Branch	2006	L
AL06030002-0601-300	Hughes Creek	R	Tennessee	Marshall Morgan	Fish & Wildlife	Siltation (habitat alteration)	Agriculture	2.87	miles	Cotaco Creek / its source	1998	L
AL06030002-0603-600	Mill Pond Creek	R	Tennessee	Marshall	Fish & Wildlife	Siltation (habitat alteration)	Agriculture	1.29	miles	Hog Jaw Creek / its source	1998	L
AL06030002-0602-102	West Fork Cotaco Creek	R	Tennessee	Morgan	Fish & Wildlife	Siltation (habitat alteration)	Agriculture	8.12	miles	Alabama Highway 67 / Frost Creek	1998	L
AL06030002-0902-100	Tennessee River (Wheeler Lake)	L	Tennessee	Madison Marshall	Swimming Fish & Wildlife	Nutrients	Agriculture	1,345.77	acres	Flint River / Guntersville dam	2014	L
AL06030002-0904-100	Tennessee River (Wheeler Lake)	L	Tennessee	Madison Marshall Morgan	Public Water Supply Fish & Wildlife	Nutrients	Agriculture	2,779.95	acres	Indian Creek / Flint River	2014	L
AL06030002-0906-102	Tennessee River (Wheeler Lake)	L	Tennessee	Madison Marshall	Public Water Supply Swimming Fish & Wildlife	Nutrients	Agriculture	334.49	acres	Cotaco Creek / Indian Creek	2014	L
AL06030002-1102-102	Tennessee River (Wheeler Lake)	L	Tennessee	Limestone Morgan	Public Water Supply Swimming Fish & Wildlife	Nutrients	Agriculture	2,587.33	acres	US Highway 31 / Flint Creek	2014	L
AL06030002-1102-103	Tennessee River (Wheeler Lake)	L	Tennessee	Limestone Madison Morgan	Swimming Fish & Wildlife	Nutrients	Agriculture	4,271.34	acres	Flint Creek / Cotaco Creek	2014	L
AL06030002-1107-102	Tennessee River (Wheeler Lake)	L	Tennessee	Lawrence Limestone Morgan	Swimming Fish & Wildlife	Nutrients	Agriculture	19,221.29	acres	five miles upstream of Elk River / US Highway 31	2014	L
AL06030002-1107-102	Tennessee River (Wheeler Lake)	L	Tennessee	Lawrence Limestone Morgan	Swimming Fish & Wildlife	PFOS	Industrial	19,221.29	acres	five miles upstream of Elk River / US Highway 31	2014	L
AL06030002-1205-100	Tennessee River (Wheeler Lake)	L	Tennessee	Lawrence Lauderdale Limestone	Public Water Supply Swimming Fish & Wildlife	Nutrients	Agriculture	13,441.12	acres	Wheeler dam / five miles upstream of Elk River	2014	L
AL06030002-0906-600	Limestone Creek (Wheeler Lake)	L	Tennessee	Limestone	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	2,338.94	acres	Tennessee River / end of embayment	2012	L
AL06030002-0505-111	Indian Creek (Wheeler Lake)	L	Tennessee	Madison	Public Water Supply Fish & Wildlife	Nutrients	Agriculture	257.28	acres	Tennessee River / end of embayment	2014	L
AL06030002-1014-101	Flint Creek (Wheeler Lake)	L	Tennessee	Morgan	Fish & Wildlife	Nutrients	Agriculture	851.41	acres	Tennessee River / Alabama Highway 67	2014	L
AL06030002-1014-103	Flint Creek	R	Tennessee	Morgan	Public Water Supply Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	9.10	miles	L&N Railroad / Alabama Highway 36	2012	L
AL06030002-0606-111	Cotaco Creek Wheeler Lake)	L	Tennessee	Morgan	Swimming Fish & Wildlife	Nutrients	Agriculture	492.48	acres	Tennessee River / end of embayment	2014	L
AL06030002-1101-111	Swan Creek (Wheeler Lake)	L	Tennessee	Limestone	Swimming Fish & Wildlife	Nutrients	Agriculture	772.38	acres	Tennessee River / end of embayment	2014	L
AL06030002-1101-101	Swan Creek	R	Tennessee	Limestone	Fish & Wildlife	Nutrients	Agriculture Municipal Urban runoff/storm sewers	5.03	miles	Wheeler Lake / Alabama Highway 24	2008	L
AL06030002-1102-211	Bakers Creek (Wheeler Lake)	L	Tennessee	Limestone	Swimming Fish & Wildlife	Nutrients	Agriculture	157.02	acres	Tennessee River / end of embayment	2014	L
AL06030002-1102-211	Bakers Creek (Wheeler Lake)	L	Tennessee	Limestone	Swimming Fish & Wildlife	PFOS	Industrial	157.02	acres	Tennessee River / end of embayment	2016	L
AL06030002-1102-311	Dry Branch (Wheeler Lake)	L	Tennessee	Limestone	Swimming Fish & Wildlife	Nutrients	Agriculture	84.15	acres	Tennessee River / end of embayment	2014	L
AL06030002-1103-111	Round Island Creek (Wheeler Lake)	L	Tennessee	Limestone	Swimming Fish & Wildlife	Nutrients	Agriculture	408.15	acres	Tennessee River / end of embayment	2014	L

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AL06030002-1103-111	Round Island Creek (Wheeler Lake)	L	Tennessee	Limestone	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	408.15	acres	Tennessee River / end of embayment	2016	L
AL06030002-1201-111	Spring Creek (Wheeler Lake)	L	Tennessee	Lawrence	Public Water Supply Swimming Fish & Wildlife	Nutrients	Agriculture	1,111.87	acres	Tennessee River / end of embayment	2014	L
AL06030002-1204-101	Second Creek (Wheeler Lake)	L	Tennessee	Lauderdale	Swimming Fish & Wildlife	Nutrients	Agriculture	610.22	acres	Tennessee River / end of embayment	2014	L
AL06030004-0404-102	Anderson Creek	R	Tennessee	Lauderdale	Fish & Wildlife	Siltation (habitat alteration)	Non-irrigated crop production Pasture grazing	9.31	miles	Snake Road bridge / its source	1998	L
AL06030004-0405-101	Elk River (Wheeler Lake)	L	Tennessee	Lauderdale Limestone	Swimming Fish & Wildlife	pH	Non-irrigated crop production Pasture grazing	1,569.21	acres	Tennessee River / Anderson Creek	1996	M
AL06030004-0405-101	Elk River (Wheeler Lake)	L	Tennessee	Lauderdale Limestone	Swimming Fish & Wildlife	Nutrients	Non-irrigated crop production Pasture grazing	1,569.21	acres	Tennessee River / Anderson Creek	2004	M
AL06030005-0801-100	Tennessee River (Wilson Lake)	L	Tennessee	Colbert Lauderdale Lawrence	Public Water Supply Swimming Fish & Wildlife	Nutrients	Agriculture	13,363.37	acres	Wilson dam / Wheeler dam	2016	L
AL06030005-0105-111	Big Nance Creek (Wilson Lake)	L	Tennessee	Lawrence	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	44.57	acres	Tennessee River / end of embayment	2016	L
AL06030005-0105-100	Big Nance Creek	R	Tennessee	Lawrence	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	24.75	miles	Wilson Lake / its source	2012	L
AL06030005-0801-201	McKiernan Creek (Wilson Lake)	L	Tennessee	Colbert	Public Water Supply Swimming Fish & Wildlife	Nutrients	Agriculture	212.45	acres	Tennessee River / end of embayment	1998	M
AL06030005-0801-201	McKiernan Creek (Wilson Lake)	L	Tennessee	Colbert	Public Water Supply Swimming Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Agriculture	212.45	acres	Tennessee River / end of embayment	1998	M
AL06030005-0801-201	McKiernan Creek (Wilson Lake)	L	Tennessee	Colbert	Public Water Supply Swimming Fish & Wildlife	Siltation (habitat alteration)	Agriculture	212.45	acres	Tennessee River / end of embayment	1998	M
AL06030005-0802-100	Pond Creek	R	Tennessee	Colbert	Agricultural & Industrial	Organic enrichment (CBOD, NBOD)	Non-irrigated crop production Urban runoff/storm sewers Natural	12.43	miles	Tennessee River / its source	1996	L
AL06030005-0802-100	Pond Creek	R	Tennessee	Colbert	Agricultural & Industrial	Metals (Arsenic)	Non-irrigated crop production Urban runoff/storm sewers Natural	12.43	miles	Tennessee River / its source	2006	L
AL06030005-0802-100	Pond Creek	R	Tennessee	Colbert	Agricultural & Industrial	Metals (Cyanide)	Non-irrigated crop production Urban runoff/storm sewers Natural	12.43	miles	Tennessee River / its source	2006	L
AL06030005-0802-100	Pond Creek	R	Tennessee	Colbert	Agricultural & Industrial	Metals (Mercury)	Non-irrigated crop production Urban runoff/storm sewers Natural	12.43	miles	Tennessee River / its source	2006	L
AL06030005-0803-400	Sweetwater Creek	R	Tennessee	Lauderdale	Fish & Wildlife	Habitat alteration	Channelization Streambank modification	4.41	miles	Tennessee River (Florence Canal) / its source	2016	L
AL06030005-0808-103	Tennessee River (Pickwick Lake)	L	Tennessee	Colbert Lauderdale	Fish & Wildlife	Nutrients	Agriculture	2,424.33	acres	lower end of Seven Mile Island / Sheffield Water Intake	2014	L
AL06030005-0808-104	Tennessee River (Pickwick Lake)	L	Tennessee	Colbert Lauderdale	Public Water Supply Fish & Wildlife	Nutrients	Agriculture	1,170.03	acres	Sheffield Water Intake / Wilson Dam	2014	L
AL06030005-1203-100	Tennessee River (Pickwick Lake)	L	Tennessee	Colbert Lauderdale	Public Water Supply Swimming Fish & Wildlife	Nutrients	Agriculture	19,370.33	acres	AL-TN state line / lower end of Seven Mile Island	2014	L
AL06030005-0605-111	Cypress Creek (Pickwick Lake)	L	Tennessee	Lauderdale	Public Water Supply Fish & Wildlife	Nutrients	Agriculture	57.00	acres	Tennessee River / end of embayment	2014	L
AL06030005-0605-111	Cypress Creek (Pickwick Lake)	L	Tennessee	Lauderdale	Public Water Supply Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	57.00	acres	Tennessee River / end of embayment	2016	L
AL06030005-0703-111	Spring Creek (Pickwick Lake)	L	Tennessee	Colbert	Fish & Wildlife	Nutrients	Agriculture	18.34	acres	Tennessee River / end of embayment	2014	L
AL06030005-0807-111	Cane Creek (Pickwick Lake)	L	Tennessee	Colbert	Public Water Supply Swimming Fish & Wildlife	Nutrients	Agriculture	41.43	acres	Tennessee River / end of embayment	2014	L
AL06030005-0902-111	Second Creek (Pickwick Lake)	L	Tennessee	Lauderdale	Public Water Supply Swimming Fish & Wildlife	Nutrients	Agriculture	677.22	acres	Tennessee River / end of embayment	2014	L

2016 Alabama §303(d) List

Assessment Unit ID	Waterbody Name	Type	River Basin	County	Uses	Causes	Sources	Size	Unit Type	Downstream / Upstream Locations	Year Listed	Priority
AL06030006-0102-700	Little Dice Branch	R	Tennessee	Franklin	Fish & Wildlife	Siltation (habitat alteration)	Surface mining-abandoned	3.83	miles	Bear Creek / its source	1998	M
AL06030006-0307-111	Bear Creek (Pickwick Lake)	L	Tennessee	Colbert	Swimming Fish & Wildlife	Nutrients	Agriculture	5,811.82	acres	Tennessee River / end of embayment	2014	L
AL06030006-0104-101	Bear Creek (Bear Creek Lake)	L	Tennessee	Franklin	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	653.54	acres	Bear Creek Lake dam / Alabama Highway 187	2006	L
AL06030006-0104-102	Bear Creek	R	Tennessee	Franklin Marion	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	22.31	miles	Alabama Highway 187 / Mill Creek	2014	L
AL06030006-0103-104	Bear Creek (Upper Bear Creek Lake)	L	Tennessee	Franklin Marion Winston	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	1,462.58	acres	Upper Bear Creek Dam / Pretty Branch	2008	L
AL06030006-0103-104	Bear Creek (Upper Bear Creek Lake)	L	Tennessee	Franklin Marion Winston	Public Water Supply Swimming Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Agriculture	1,462.58	acres	Upper Bear Creek Dam / Pretty Branch	2010	M
AL06030006-0102-102	Bear Creek (Upper Bear Creek Lake)	L	Tennessee	Franklin Winston	Public Water Supply Swimming Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Agriculture	249.44	acres	Pretty Branch / Alabama Hwy 243	2016	M
AL06030006-0203-101	Cedar Creek (Cedar Creek Lake)	L	Tennessee	Franklin	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	4,063.07	acres	Cedar Creek dam / extent of reservoir	2012	L
AL06030006-0205-111	Little Bear Creek (Little Bear Creek Lake)	L	Tennessee	Franklin	Public Water Supply Swimming Fish & Wildlife	Nutrients	Unknown source	1,435.05	acres	Little Bear Creek Dam / Scott Branch	2006	M
AL06030006-0205-111	Little Bear Creek (Little Bear Creek Lake)	L	Tennessee	Franklin	Public Water Supply Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	1,435.05	acres	Little Bear Creek Dam / Scott Branch	2012	L
AL06030006-0304-102	Bear Creek	R	Tennessee	Colbert	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	10.12	miles	Pickwick Lake / AL-MS state line	2016	L
AL03160105-0204-102	Luxapallila Creek	R	Tombigbee	Fayette Lamar	Fish & Wildlife	Pathogens (E. coli)	Pasture grazing Municipal	25.25	miles	AL-MS state line / Fayette County Road 37	2016	L
AL03160106-0504-100	Bogue Chitto	R	Tombigbee	Pickens	Fish & Wildlife	Nutrients	Agriculture	5.42	miles	Tombigbee River / AL-MS state line	2014	L
AL03160107-0306-101	Sipsey River (Gainesville Lake)	L	Tombigbee	Greene Pickens	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	383.92	acres	Tombigbee River / end of embayment	2010	L
AL03160108-1102-100	Noxubee River	R	Tombigbee	Sumter	Fish & Wildlife	Pathogens (E. coli)	Pasture grazing	23.99	miles	Tombigbee River / AL-MS state line	2016	L
AL03160201-0401-103	Tombigbee River (Coffeetown Lake)	L	Tombigbee	Marengo Sumter	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	668.76	acres	Sucarnochee River / Demopolis Lock and Dam	2012	L
AL03160202-0703-111	Sucarnochee River (Coffeetown Lake)	L	Tombigbee	Sumter	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	10.81	acres	Tombigbee River / end of embayment	2012	L
AL03160203-0205-100	Salitpa Creek	R	Tombigbee	Clarke	Swimming Fish & Wildlife	Pathogens (E. coli)	Pasture grazing	43.34	miles	Tombigbee River / its source	2016	L
AL03160203-0903-102	Tombigbee River	R	Tombigbee	Clarke Washington	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	7.83	miles	Bassetts Creek / 1/2 mile downstream of Southern Railway Crossing	2016	L
AL03160203-1103-101	Tombigbee River	R	Tombigbee	Baldwin Clarke Mobile Washington	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	11.89	miles	Mobile River / upper end of Bilbo Island	2012	L
AL03160203-1103-102	Tombigbee River	R	Tombigbee	Clarke Washington	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition Contaminated sediments	3.75	miles	Upper end of Bilbo Island / Olin Basin canal	2004	L
AL03160203-1103-700	Bilbo Creek	R	Tombigbee	Washington	Swimming Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Unknown source	30.74	miles	Tombigbee River / its source	2004	L
AL03160203-1103-700	Bilbo Creek	R	Tombigbee	Washington	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	30.74	miles	Tombigbee River / its source	2008	L
AL03160203-1103-800	Olin Basin	L	Tombigbee	Washington	Fish & Wildlife	Pesticides (DDT)	Contaminated sediments	85.73	acres	all of Olin Basin	1996	*
AL03160203-1103-800	Olin Basin	L	Tombigbee	Washington	Fish & Wildlife	Metals (Mercury)	Contaminated sediments	85.73	acres	all of Olin Basin	1996	L
AL03140103-0102-102	Lightwood Knot Creek (Lake Frank Jackson)	L	Yellow	Covington	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	956.26	acres	Frank Jackson Lake dam / extent of reservoir	2010	L
AL03140103-0102-700	UT to Lake Frank Jackson 3-C	R	Yellow	Covington	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Animal feeding operations Pasture grazing	1.05	miles	Lake Frank Jackson / its source	1998	L
AL03140103-0102-800	UT to Lake Frank Jackson 2-S	R	Yellow	Covington	Fish & Wildlife	Organic enrichment (CBOD, NBOD)	Animal feeding operations Pasture grazing	1.77	miles	Lake Frank Jackson / its source	1998	L

**2016 Alabama §303(d) List**

Assessment Unit ID	Waterbody Name	Type	River Basin	County	Uses	Causes	Sources	Size	Unit Type	Downstream / Upstream Locations	Year Listed	Priority
AL03140103-0402-100	Yellow River	R	Yellow	Covington	Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	14.87	miles	AL-FL state line / North Creek	2004	L
AL03140103-0601-300	Lake Jackson	L	Yellow	Covington	Swimming Fish & Wildlife	Metals (Mercury)	Atmospheric deposition	415.46	acres	Within Florida and north of the Alabama-Florida stste line	2010	L

\* TMDL development for this pollutant is to be determined based upon ongoing RCRA/CERCLA program activities.

**Appendix E**  
**2016 Summary of Alabama's Active Trend Stations**  
**(Ambient Monitoring)**

## **Ambient Trend Stations**

Currently, there are 99 stations in ADEM's ambient trend station network. Sampling frequency occurs three times a year during the months of June, August, and October or May, July, and September. Selected sites are sampled more frequently.

### **River Basin Information (2-6)**

Details given about each of the 16 river basins include area, major land uses, major tributaries, physiography, and stations located in each river basin.

### **Ambient Trend Station Charts (Pages 7-13)**

The Ambient Trend Station Charts include information about each trend station, including the Station ID, Waterbody, River Basin, County, Latitude and Longitude, Sample Protocol (wadeable or non-wadeable), and Use Classification. Stations are listed based on the river basin in which they are located.

### **Trend Station Network Map (Page 14)**

The Trend Station Network map displays the location of each individual trend station while also showing the assessed waterbodies throughout the state and the boundary of each river basin.

### **River Basin Maps (Pages 15-29)**

Included in this report are individual river basin maps. These maps show the name and location of each trend station. Also, they include the waterbodies contained in each river basin.

### **Ambient Data Summaries (Pages 30-51) and Trend Graphs (Pages 52-347)**

The data summaries are based on nine parameters for each station. Parameters for each station include Temperature (°C), pH (su), Dissolved Oxygen (mg/L), Specific Conductance (µmhos), Turbidity (NTU), Total Suspended Solids (mg/L), Nitrate + Nitrite Nitrogen (mg/L), Total Nitrogen (mg/L), and Total Phosphorus (mg/L). The time frame varies for each trend station, but each dataset contains the entire life of that station. Older stations include data from 1978, and most stations include data through 2015. The statistics for each trend station include the number of samples (N), the minimum (Min) and maximum (Max) values, the median (Med), the average (Avg), and the standard deviation (SD).

Each of the nine parameters is also represented in the trend graphs. For those nine parameters, each data point represents the yearly median. The initial graph for each station displays temperature, pH, dissolved oxygen, and specific conductance. It is then followed by individual graphs which display the remaining five parameters

## **River Basin Information**

### **Alabama River Basin**

Area	6,067 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture, open land, urban
Major Tributaries	Coosa River, Tallapoosa River, Cahaba River
Physiography	East Gulf Coast Plain
Ambient Monitoring Stations	CATM-3, MULD-1, W DFA-2A

### **Black Warrior River Basin**

Area	6,273 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture, urban, open land
Major Tributaries	Mulberry Fork, Locust Fork, Sipsev Fork
Physiography	Cumberland Plateau, Alabama Valley and Ridge, East Gulf Coastal Plain
Ambient Monitoring Stations	FM CJ-1B, FM CJ-6, H-1, LFKB-1, LFKJ-6, LOS W-7, MBFB-1, NRRT-1, SF-1, SF-6, VALJ-8, VC-5, VI-3, VLGJ-5

### **Blackwater River Basin**

Area	146 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture, open land, urban
Major Tributaries	Bear Creek
Physiography	East Gulf Coastal Plain
Ambient Monitoring Stations	BKRE-1

## **Cahaba River Basin**

Area	1,822 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture, urban
Major Tributaries	Little Cahaba River, Buck Creek, Shades Creek, Shoal Creek
Physiography	Alabama Valley and Ridge, East Gulf Coastal Plain
Ambient Monitoring Stations	B-1, C-1, C-2, C-3, CABB-1, CAHS-1, LC-1

## **Chattahoochee River Basin**

Area	2,565 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture
Major Tributaries	Uchee Creek, Cowikee Creek, Abbie Creek, Omussee Creek
Physiography	Southern Piedmont, East Gulf Coastal Plain
Ambient Monitoring Stations	CHTH-1

## **Choctawhatchee River Basin**

Area	3,122 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture, urban, open land
Major Tributaries	Pea River
Physiography	East Gulf Coastal Plain
Ambient Monitoring Stations	CHO-9, PEAG-2

## **Coosa River Basin**

Area	5,393 <i>mi</i> <sup>2</sup>
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Major Land Uses	Forest, agriculture, open land, urban
Major Tributaries	Chattooga River, Terapin Creek, Big Wills Creek, Choccolocco Creek
Physiography	Alabama Valley and Ridge, East Gulf Coastal Plain
Ambient Monitoring Stations	BWCE-1, CHAC-1, CHOC-10, CHOT-1, CO-12, COSE-1, HATC-1, SHRT-1, TERC-1, TH-1, WEIC-12

### **Escambia River Basin**

Area	3,835 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture, open land, urban
Major Tributaries	Conecuh River, Yellow River
Physiography	East Gulf Coastal Plain
Ambient Monitoring Stations	BEC-1, CONC-3, CONE-1, CONE-2, CNRC-2, PALC-2, SPLC-3

### **Escatawpa River Basin**

Area	874 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture
Major Tributaries	Big Creek
Physiography	East Gulf Coastal Plain
Ambient Monitoring Stations	BLB-1, BLBM-1, E-1, MB-1A

### **Mobile River Basin**

Area	1,390 <i>mi</i> <sup>2</sup>
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Major Land Uses	Forest, agriculture, open land, urban
Major Tributaries	Chickasaw Creek, Bayou Sara, Cedar Creek
Physiography	East Gulf Coastal Plain
Ambient Monitoring Stations	BS-1, CHANNEL-1A, CHANNEL-2, CKSM-3, CS-1, CS-2, DGRM-1, DR-1, FI-1, FR-1, MB-2A, MB-3A, MO-1A- MO-2, MOBM-1, TC-1, TENB-2, TM-1, TMCM-3, WB-1

### **Perdido River Basin**

Area	810 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture, open land, urban
Major Tributaries	Blackwater River
Physiography	East Gulf Coastal Plain
Ambient Monitoring Stations	IC-1A, PDBB-0, PDBB-5, STXB-3, WO-1A

### **Tallapoosa River Basin**

Area	4,035 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture, open land, urban
Major Tributaries	Little Tallapoosa River, Hillabee Creek, Sougahatchee Creek, Uphapee Creek
Physiography	Southern Piedmont, East Gulf Coastal Plain
Ambient Monitoring Stations	HILT-2, LTRR-1, SOGL-1, TA-2, TARE-1, TART-1, UPHM-3

## **Tennessee River Basin**

Area	6,820 <i>mi</i> <sup>2</sup>
Major Land Uses	Agriculture, forest, open land, urban
Major Tributaries	Bear Creek, Town Creek, Elk River, Flint River, Paint Rock River
Physiography	East Gulf Coastal Plain, Highland Rim, Cumberland Plateau
Ambient Monitoring Stations	BGNL-1, FLIM-2A, FTCM-6, INDM-249, LIML-300, PRRJ-1, TENR-417, TN-4A

## **Tombigbee River Basin**

Area	7,691 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture, open land, urban
Major Tributaries	Sucarnoochee River, Okatuppa Creek, Bassetts Creek Buttahatchee River, Sipseey River
Physiography	East Gulf Coastal Plain, Cumberland Plateau
Ambient Monitoring Stations	BCTP-1, BDKS-48, BUTL-2A, LUXL-1, LT-12, SUCS-1, NXBS-50, SPYG-3

## **Yellow River Basin**

Area	515 <i>mi</i> <sup>2</sup>
Major Land Uses	Forest, agriculture, open land, urban
Major Tributaries	Lightwood Knot Creek, Five Runs Creek
Physiography	East Gulf Coastal Plain
Ambient Monitoring Stations	YERC-3

# Ambient Trend Stations

Station ID	Waterbody	River Basin	County	Latitude	Longitude	Sample Protocol	Use Class
<b>CATM-3</b>	Catoma Creek	Alabama R	Montgomery	32.3073	-87.3074	WADEABLE-BIOASSESSMENTS	F&W
<b>MULD-1</b>	Mulberry Creek	Alabama R	Dallas	32.58278	-86.90361	WADEABLE-BIOASSESSMENTS	S/F&W
<b>W DFA-2A</b>	Woodruff Reservoir	Alabama R	Elmore	32.41142	-86.40836	NONWADEABLE BOAT	F&W
<b>FMCJ-1B</b>	Five Mile Creek	Black Warrior R	Jefferson	33.60191	-86.75527	WADEABLE-BIOASSESSMENTS	F&W
<b>FMCJ-6</b>	Five Mile Creek	Black Warrior R	Jefferson	33.66341	-86.97465	WADEABLE-WATER QUALITY SAMPLING	F&W
<b>H-1</b>	Hurricane Creek	Black Warrior R	Tuscaloosa	33.229826	-87.46181	WADEABLE-BIOASSESSMENTS	F&W
<b>LFKB-1</b>	Locust Fork	Black Warrior R	Blount	34.023696	-86.573336	WADEABLE-BIOASSESSMENTS	F&W
<b>LFKJ-6</b>	Locust Fork	Black Warrior R	Jefferson	33.587257	-87.109325	NONWADEABLE BOAT	F&W
<b>LOSW-7</b>	Lost Creek	Black Warrior R	Walker	33.742472	-87.326722	WADEABLE-BIOASSESSMENTS	F&W
<b>MBFB-1</b>	Mulberry Fork	Black Warrior R	Blount	33.872403	-86.923778	WADEABLE-BIOASSESSMENTS	F&W
<b>NRRT-1</b>	North River	Black Warrior R	Tuscaloosa	33.4798	-87.596806	WADEABLE-BIOASSESSMENTS	F&W
<b>SF-1</b>	Sipsey Fork	Black Warrior R	Winston	34.285583	-87.399056	WADEABLE-BIOASSESSMENTS	F&W

<b>Station ID</b>	<b>Waterbody</b>	<b>River Basin</b>	<b>County</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample Protocol</b>	<b>Use Class</b>
<b>SF-6</b>	Sipsey Fork	Black Warrior R	Cullman	33.908644	-87.082258	NONWADEABLE GRAB-SHALLOW	PWS/F&W
<b>VALJ-8</b>	Valley Creek	Black Warrior R	Jefferson	33.44722	-87.12222	WADEABLE- BIOASSESSMENTS	F&W
<b>VC-5</b>	Valley Creek	Black Warrior R	Jefferson	33.420027	-86.963056	WADEABLE- BIOASSESSMENTS	LWF
<b>VI-3</b>	Village Creek	Black Warrior R	Jefferson	33.547974	-86.925667	WADEABLE- BIOASSESSMENTS	LWF
<b>VLGJ-5</b>	Village Creek	Black Warrior R	Jefferson	33.627286	-87.053335	WADEABLE- BIOASSESSMENTS	F&W
<b>BKRE-1</b>	Blackwater River	Black Water R	Escambia	31.026555	-86.710005	NONWADEABLE GRAB-SHALLOW	F&W
<b>B-1</b>	Buck Creek	Cahaba R	Shelby	33.296944	-86.842639	WADEABLE- BIOASSESSMENTS	F&W
<b>C-1</b>	Cahaba River	Cahaba R	St Clair	33.60503	-86.54924	WADEABLE- BIOASSESSMENTS	F&W
<b>C-2</b>	Cahaba River	Cahaba R	Shelby	33.41546	-86.74002	WADEABLE- BIOASSESSMENTS	F&W
<b>C-3</b>	Cahaba River	Cahaba R	Shelby	33.284	-86.88193	WADEABLE- BIOASSESSMENTS	OAW/F&W
<b>CABB-1</b>	Cahaba River	Cahaba R	Bibb	32.94456	-87.139827	WADEABLE- BIOASSESSMENTS	OAW/S
<b>CAHS-1</b>	Cahaba River	Cahaba R	Shelby	33.3635	-86.8132	WADEABLE- BIOASSESSMENTS	F&W
<b>LC-1</b>	Little Cahaba River	Cahaba R	Jefferson	33.52444	-86.575277	WADEABLE- BIOASSESSMENTS	F&W
<b>CHTH-1</b>	Chattahoochee River	Chattahoochee R	Houston	31.038392	-85.008617	NONWADEABLE BOAT	F&W
<b>CHO-9</b>	Choctawhatchee River	Choctawhatchee R	Geneva	31.15917	-85.78472	NONWADEABLE GRAB-SHALLOW	F&W

<b>Station ID</b>	<b>Waterbody</b>	<b>River Basin</b>	<b>County</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample Protocol</b>	<b>Use Class</b>
<b>PEAG-2</b>	Pea River	Choctawhatchee R	Geneva	31.112002	-86.09937	NONWADEABLE GRAB-SHALLOW	F&W
<b>BWCE-1</b>	Big Wills Creek	Coosa R	Etowah	34.09805	-86.03809	WADEABLE-BIOASSESSMENTS	F&W
<b>CHAC-1</b>	Chattooga River	Coosa R	Cherokee	34.290278	-85.509167	NONWADEABLE GRAB-SHALLOW	F&W
<b>CHOC-10</b>	Chocolocco Creek	Coosa R	Calhoun	33.606111	-85.790111	WADEABLE-BIOASSESSMENTS	PWS/F&W
<b>CHOT-1</b>	Chocolocco Creek	Coosa R	Talladega	33.54818	-86.0966	NONWADEABLE GRAB-SHALLOW	F&W
<b>CO-12</b>	Little River	Coosa R	Cherokee	34.28186	-85.67244	WADEABLE-BIOASSESSMENTS	PWS/S/F&W
<b>COSE-1</b>	Coosa River	Coosa R	Elmore	32.61396	-86.25498	NONWADEABLE BOAT	F&W
<b>HATC-1</b>	Hatchet Creek	Coosa R	Coosa	32.91821	-86.26938	WADEABLE-BIOASSESSMENTS	OAW/S/F&W
<b>SHRT-1</b>	Shirtee Creek	Coosa R	Talladega	33.21202	-86.27324	WADEABLE-BIOASSESSMENTS	F&W
<b>TERC-1</b>	Terrapin Creek	Coosa R	Cherokee	34.06294	-85.61227	NONWADEABLE GRAB-SHALLOW	F&W
<b>TH-1</b>	Tallasseehatchee Creek	Coosa R	Talladega	33.255339	-86.259666	WADEABLE-BIOASSESSMENTS	F&W
<b>WEIC-12</b>	Coosa River	Coosa R	Cherokee	34.202441	-85.452402	NONWADEABLE BOAT	S/F&W
<b>BEC-1</b>	Big Escambia Creek	Escambia R	Escambia	31.0106	-87.2629	WADEABLE-BIOASSESSMENTS	F&W
<b>CNRC-2</b>	Conecuh River	Escambia R	Covington	31.348369	-86.529417	NONWADEABLE BOAT	F&W

<b>Station ID</b>	<b>Waterbody</b>	<b>River Basin</b>	<b>County</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample Protocol</b>	<b>Use Class</b>
<b>CONC-3</b>	Conecuh River	Escambia R	Crenshaw	31.57519705	-86.25226423	NONEWADABLE GRAB-SHALLOW	F&W
<b>CONE-1</b>	Conecuh River	Escambia R	Escambia	30.99865457	-87.163	NONEWADABLE BOAT	F&W
<b>CONE-2</b>	Conecuh River	Escambia R	Escambia	31.068271	-87.058419	NONWADEABLE BOAT	F&W
<b>PALC-2</b>	Patsaliga Creek	Escambia R	Crenshaw	31.5959	-86.40407	NONWADEABLE GRAB-SHALLOW	F&W
<b>SPLC-3</b>	Sepulga River	Escambia R	Conecuh	31.45362	-86.7868	NONWADEABLE GRAB-SHALLOW	F&W
<b>BLB-1</b>	Bayou La Batre	Escatawpa R	Mobile	30.4059	-88.2481	NONWADEABLE BOAT	F&W
<b>BLBM-1</b>	Bayou La Batre	Escatawpa R	Mobile	30.3867	-88.27	NONWADEABLE BOAT	F&W
<b>E-1</b>	Escatawpa River	Escatawpa R	Mobile	30.862741	-88.417868	NONWADEABLE GRAB-SHALLOW	S/F&W
<b>MB-1A</b>	Intracoastal Waterway	Escatawpa R	Mobile	30.27308	-88.17317	NONWADEABLE BOAT	SH/F&W
<b>BS-1</b>	Bon Secour River	Mobile R	Baldwin	30.30221	-87.73575	NONWADEABLE BOAT	S/F&W
<b>CHANNEL-1A</b>	Mobile Ship Channel	Mobile R	Mobile	30.62973	-88.03263	NONWADEABLE BOAT	F&W
<b>CHANNEL-2</b>	Mobile Ship Channel	Mobile R	Mobile	30.46437	-88.01577	NONWADEABLE BOAT	S/F&W
<b>CKSM-3</b>	Chickasaw Creek	Mobile R	Mobile	30.80297	-88.14334	WADEABLE- BIOASSESSMENTS	S/F&W
<b>CS-1</b>	Chickasaw Creek	Mobile R	Mobile	30.78224	-88.072481	NONWADEABLE BOAT	LWF
<b>CS-2</b>	Chickasaw Creek	Mobile R	Mobile	30.73925	-88.04571	NONWADEABLE BOAT	LWF

<b>Station ID</b>	<b>Waterbody</b>	<b>River Basin</b>	<b>County</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample Protocol</b>	<b>Use Class</b>
<b>DGRM-1</b>	Dog River	Mobile R	Mobile	30.5651	-88.0878	NONWADEABLE BOAT	S/F&W
<b>DR-1</b>	Dog River	Mobile R	Mobile	30.62845	-88.10166	NONWADEABLE BOAT	F&W
<b>FI-1</b>	Fish River	Mobile R	Baldwin	30.5458	-87.7983	WADEABLE- BIOASSESSMENTS	S/F&W
<b>FR-1</b>	Fowl River	Mobile R	Mobile	30.444166	-88.113056	NONWADEABLE BOAT	S/F&W
<b>MB-2A</b>	Mobile Ship Channel	Mobile R	Baldwin	30.1718	-88.04895	NONWADEABLE BOAT	SH/S/F&W
<b>MB-3A</b>	Intracoastal Waterway	Mobile R	Baldwin	30.28407	-87.85137	NONWADEABLE BOAT	SH/S/F&W
<b>MO-1A</b>	Mobile River	Mobile R	Baldwin	30.8364	-87.94406	NONWADEABLE BOAT	F&W
<b>MO-2</b>	Mobile River	Mobile R	Mobile	30.69137	-88.03646	NONWADEABLE BOAT	LWF
<b>MOBM-1</b>	Mobile River	Mobile R	Mobile	31.0137	-88.01853	NONWADEABLE BOAT	PWS/F&W
<b>TC-1</b>	Theodore	Mobile R	Mobile	30.533333	-88.123889	NONWADEABLE BOAT	F&W
<b>TENB-2</b>	Tensaw River	Mobile R	Baldwin	30.75291	-87.91987	NONWADEABLE BOAT	OAW/S/F&W
<b>TM-1</b>	Three Mile Creek	Mobile R	Mobile	30.723983	-88.059119	NONWADEABLE BOAT	A&I
<b>TMCM-3</b>	Threemile Creek	Mobile R	Mobile	30.7063	-88.15111	WADEABLE-WATER QUALITY SAMPLING	A&I
<b>WB-1</b>	Weeks Bay	Mobile R	Baldwin	30.41469	-87.82583	NONWADEABLE BOAT	S/F&W
<b>IC-1A</b>	Intracoastal	Perdido R	Baldwin	30.2793	-87.687	NONWADEABLE BOAT	F&W

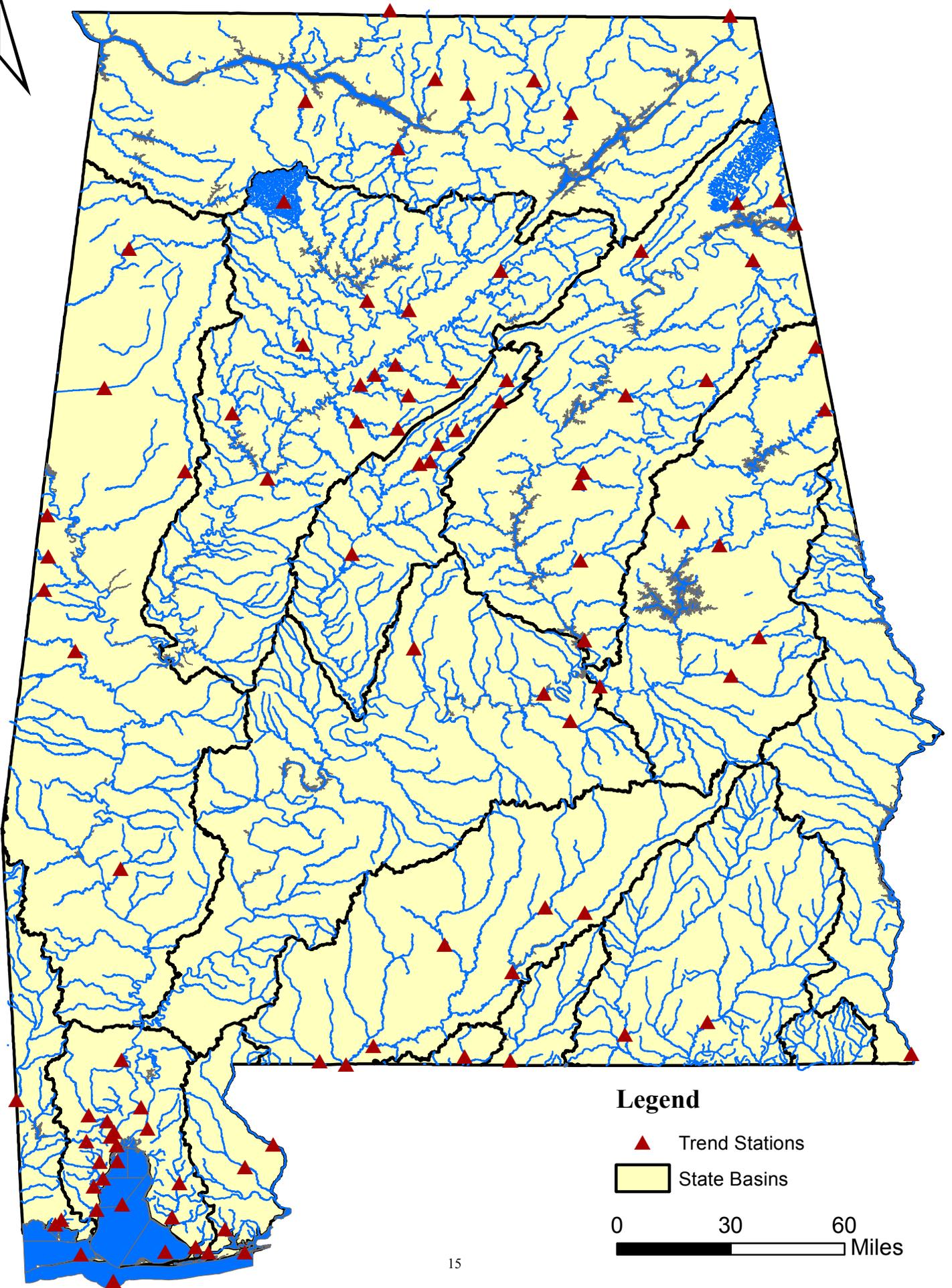
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<b>PDBB-0</b>	Perdido Bay	Perdido R	Baldwin	30.27968	-87.54948	NONWADEABLE BOAT	SH/S/F&W
<b>PDBB-5</b>	Perdido River	Perdido R	Baldwin	30.69047	-87.44026	NONWADEABLE GRAB-SHALLOW	F&W
<b>STXB-3</b>	Styx River	Perdido R	Baldwin	30.60532	-87.547	WADEABLE-WATER QUALITY SAMPLING	F&W
<b>WO-1A</b>	Wolf Creek	Perdido R	Baldwin	30.371668	-87.630556	NONWADEABLE GRAB-SHALLOW	F&W
<b>HILT-2</b>	Hillabee Creek	Tallapoosa R	Tallapoosa	33.06635	-85.87993	WADEABLE- BIOASSESSMENTS	F&W
<b>LTRR-1</b>	Little Tallapoosa River	Tallapoosa R	Randolph	33.49466	-85.33788	NONWADEABLE GRAB-SHALLOW	F&W
<b>SOGL-1</b>	Sougahatchee Creek	Tallapoosa R	Lee	32.6267	-85.588	WADEABLE- BIOASSESSMENTS	F&W
<b>TA-2</b>	Tallapoosa River	Tallapoosa R	Cleburne	33.732723	-85.372167	WADEABLE- BIOASSESSMENTS	F&W
<b>TARE-1</b>	Tallapoosa River	Tallapoosa R	Montgomery	32.43972	-86.19556	NONWADEABLE BOAT	PWS/F&W
<b>TART-1</b>	Tallapoosa River	Tallapoosa R	Tallapoosa	32.97734	-85.73968	NONWADEABLE GRAB-SHALLOW	F&W
<b>UPHM-3</b>	Uphapee Creek	Tallapoosa R	Macon	32.47751	-85.69554	WADEABLE- BIOASSESSMENTS	F&W
<b>BGNL-1</b>	Big Nance Creek	Tennessee R	Lawrence	34.67	-87.31722	NONWADEABLE GRAB-SHALLOW	F&W
<b>FLIM-2A</b>	Flint River	Tennessee R	Madison	34.74926	-86.44666	NONWADEABLE GRAB-SHALLOW	F&W
<b>FTCM-6</b>	Flint Creek	Tennessee R	Morgan	34.491139	-86.965389	NONWADEABLE BOAT	PWS/F&W

<b>Station ID</b>	<b>Waterbody</b>	<b>River Basin</b>	<b>County</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample Protocol</b>	<b>Use Class</b>
<b>INDM-249</b>	Indian Creek	Tennessee R	Madison	34.69731	-86.7	WADEABLE-BIOASSESSMENTS	F&W
<b>LIML-300</b>	Limestone Creek	Tennessee R	Limestone	34.7521	-86.8232	WADEABLE-BIOASSESSMENTS	F&W
<b>PRRJ-1</b>	Paint Rock River	Tennessee R	Jackson	34.62417	-86.30639	NONWADEABLE GRAB-SHALLOW	F&W
<b>TENR-417</b>	Tennessee River	Tennessee R	Jackson	34.994014	-85.698327	NONWADEABLE BOAT	PWS/S/F&W
<b>TN-4A</b>	Elk River	Tennessee R	Giles	35.01415	-86.99465	NONWADEABLE BOAT	PWS/F&W
<b>BCTP-1</b>	Bogue Chitto Creek	Tombigbee R	Pickens	33.09222	-88.300641	WADEABLE-BIOASSESSMENTS	F&W
<b>LT-12</b>	Satilpa Creek	Tombigbee R	Clarke	31.74444	-88.02133	WADEABLE-BIOASSESSMENTS	S/F&W
<b>SUCS-1</b>	Sucarnoochee River	Tombigbee R	Sumter	32.5739	-88.1942	WADEABLE-BIOASSESSMENTS	PWS/S/F&W
<b>BDKS-48</b>	Bodka Creek	Tombigbee R	Sumter	32.806787	-88.312129	WADEABLE-BIOASSESSMENTS	F&W
<b>BUTL-2A</b>	Buttahatchee River	Tombigbee R	Marion	34.10597	-87.98869	WADEABLE-WATER QUALITY SAMPLING	F&W
<b>LUXL-1</b>	Luxapallila Creek	Tombigbee R	Lamar	33.575	-88.0834	WADEABLE-BIOASSESSMENTS	F&W
<b>NXBS-50</b>	Noxubee Creek	Tombigbee R	Sumter	32.932681	-88.297789	WADEABLE-BIOASSESSMENTS	F&W
<b>SPYG-3</b>	Sipsey River	Tombigbee R	Tuscaloosa	33.256764	-87.781692	NONWADEABLE GRAB-SHALLOW	F&W

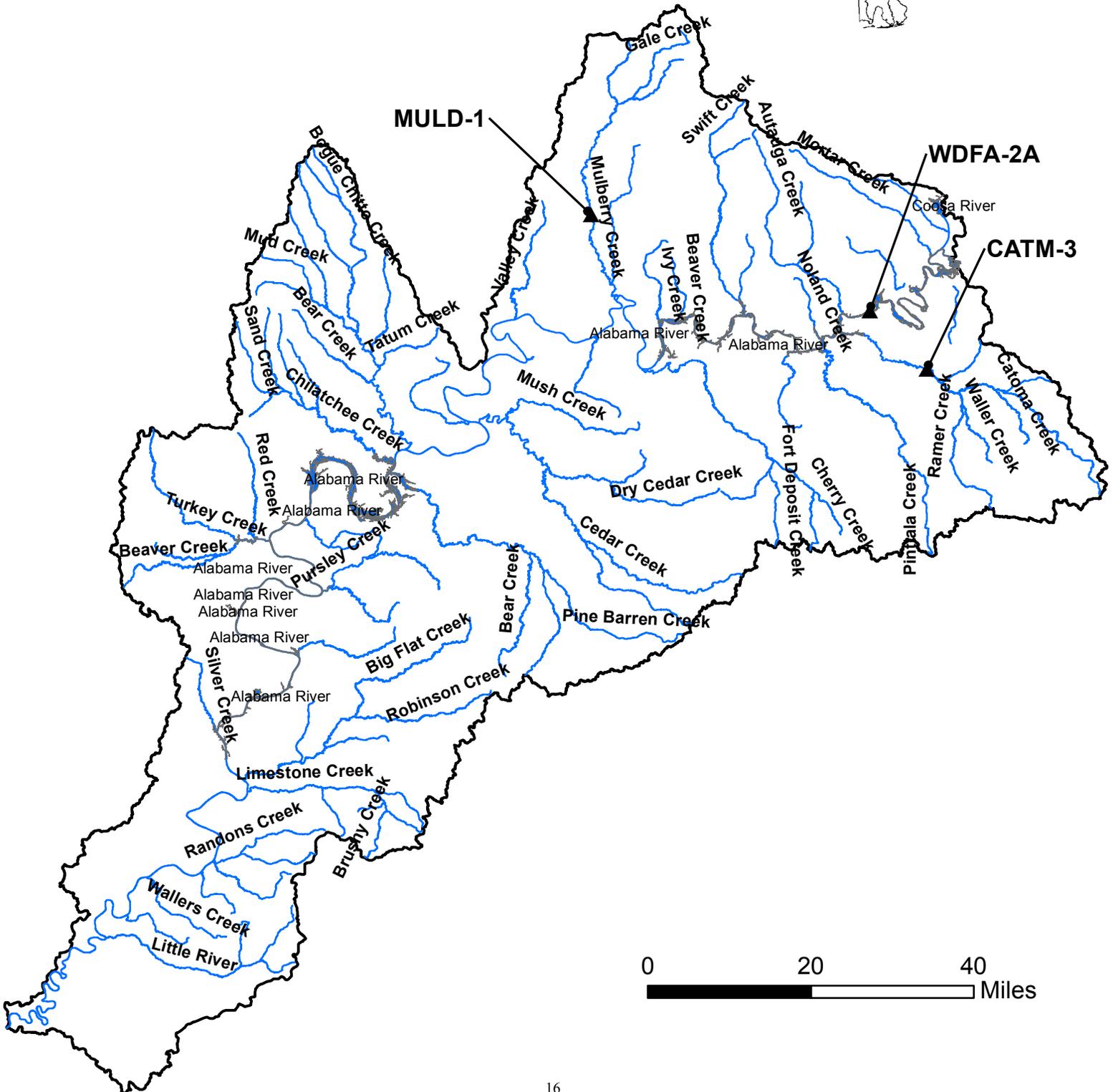
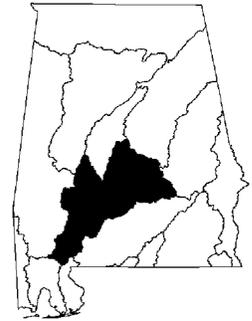
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YERC-3	Yellow River	Yellow R	Covington	31.0107	-86.5375	NONWADEABLE GRAB-SHALLOW	F&W

N

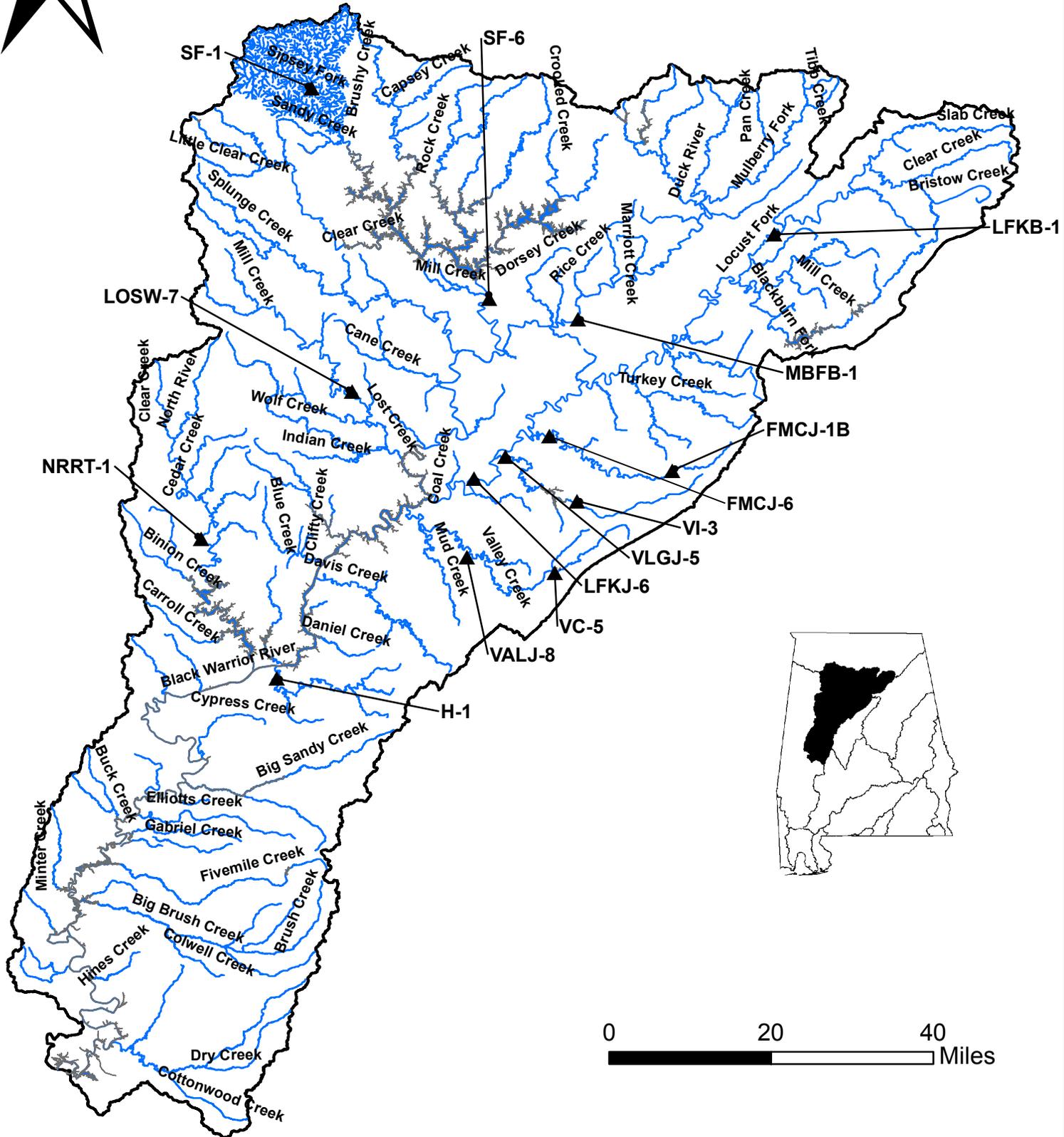
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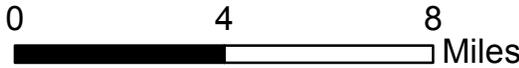
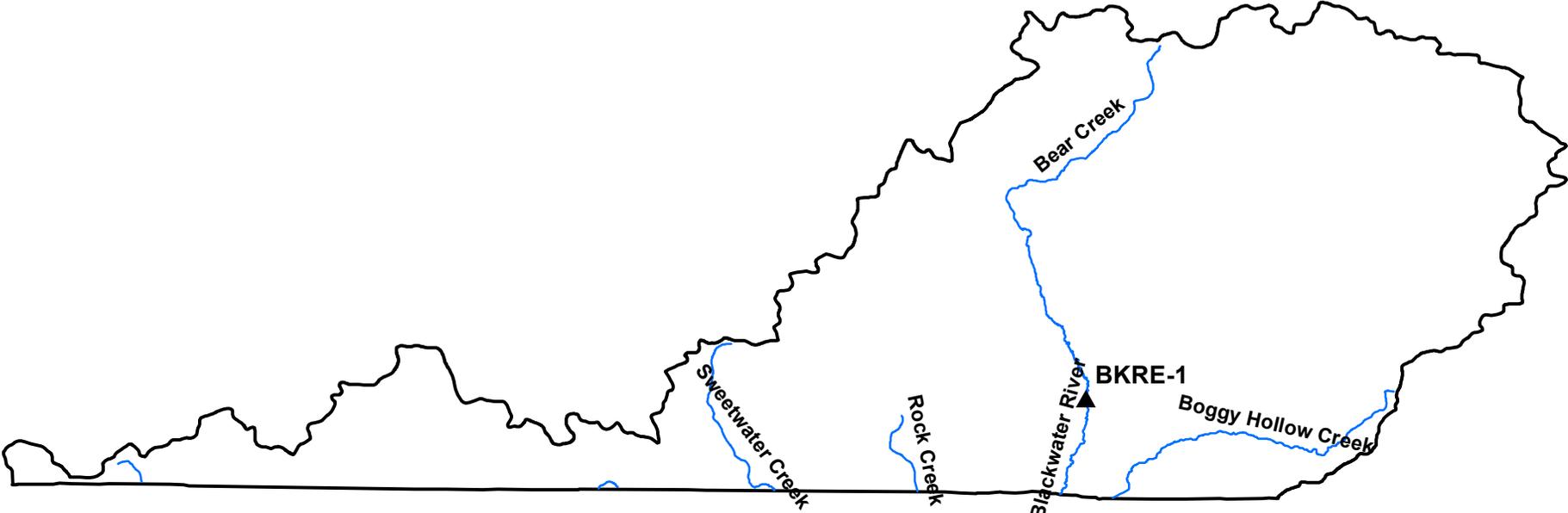
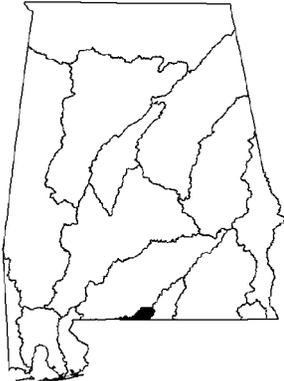
# Alabama River Basin



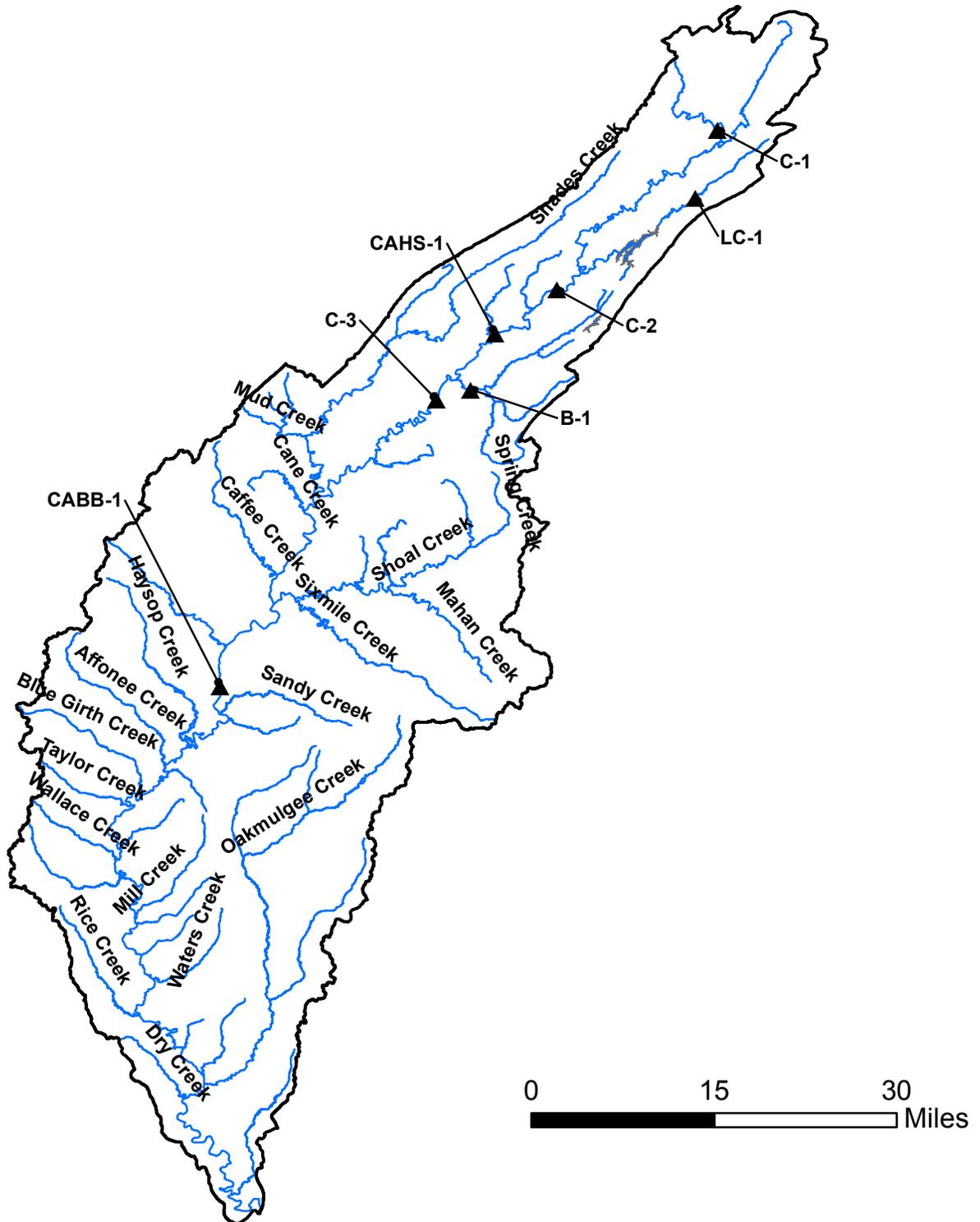
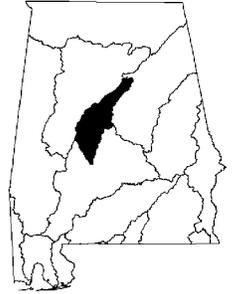
# Black Warrior River Basin



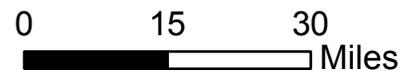
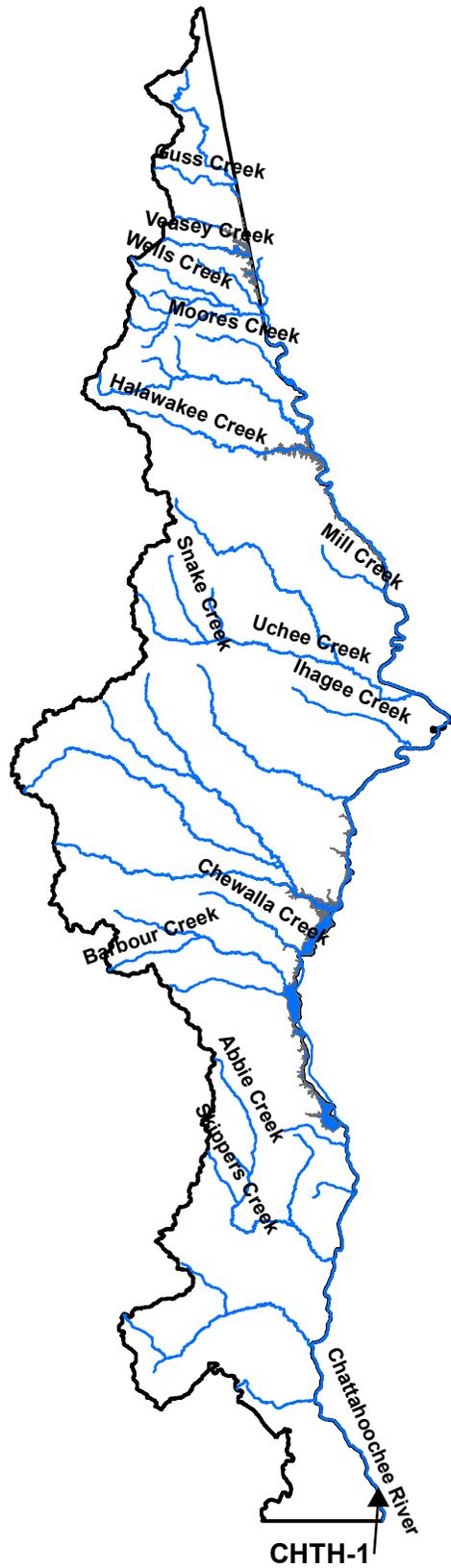
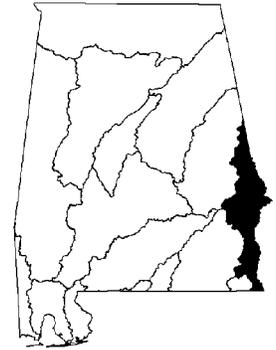
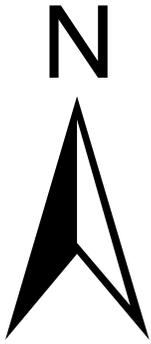
# Blackwater River Basin



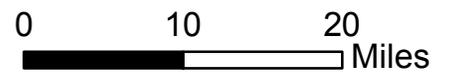
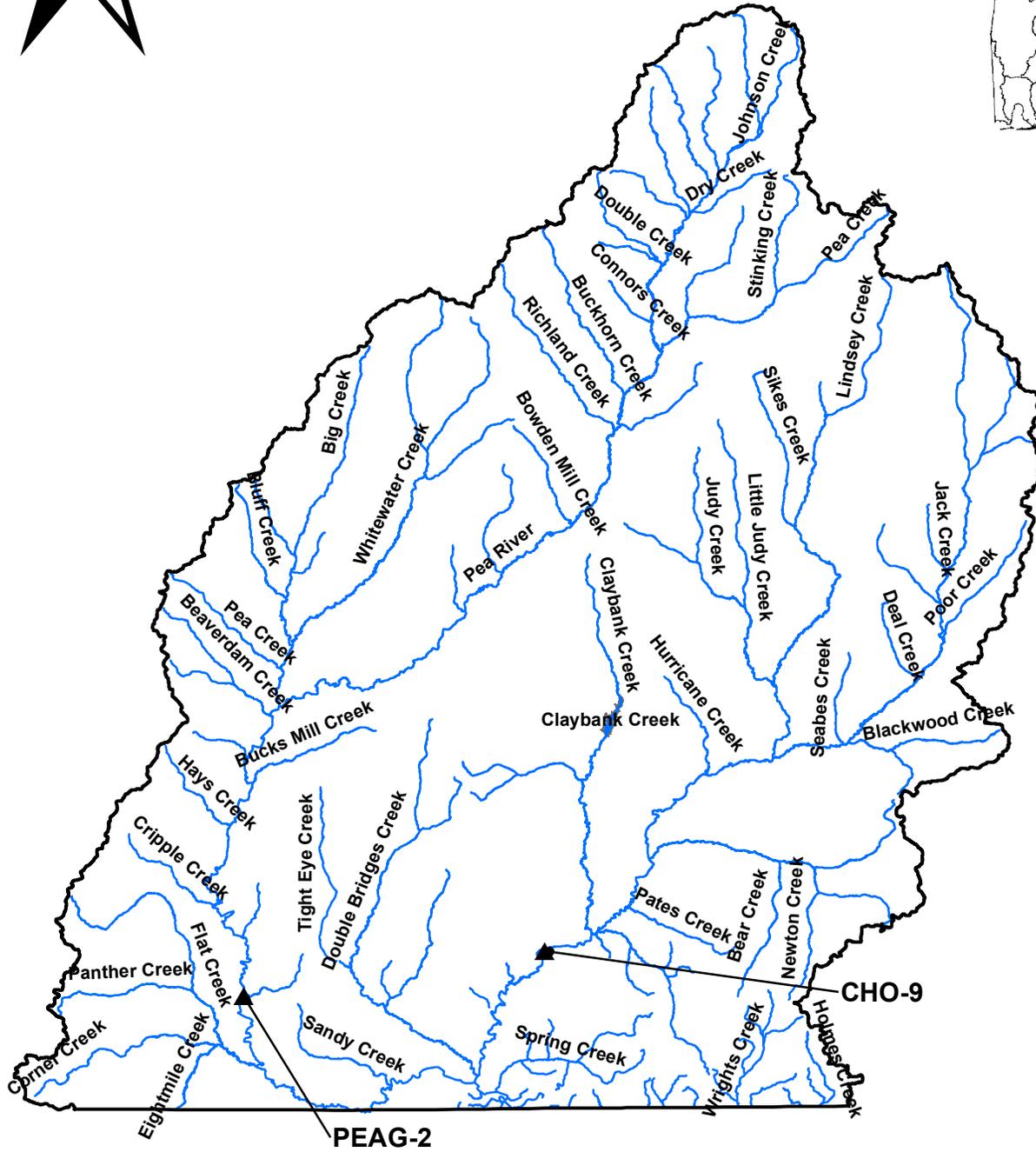
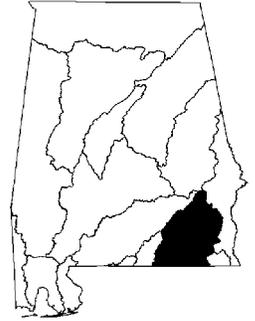
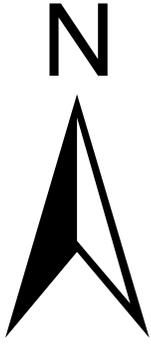
# Cahaba River Basin



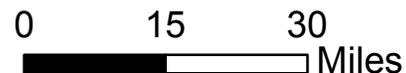
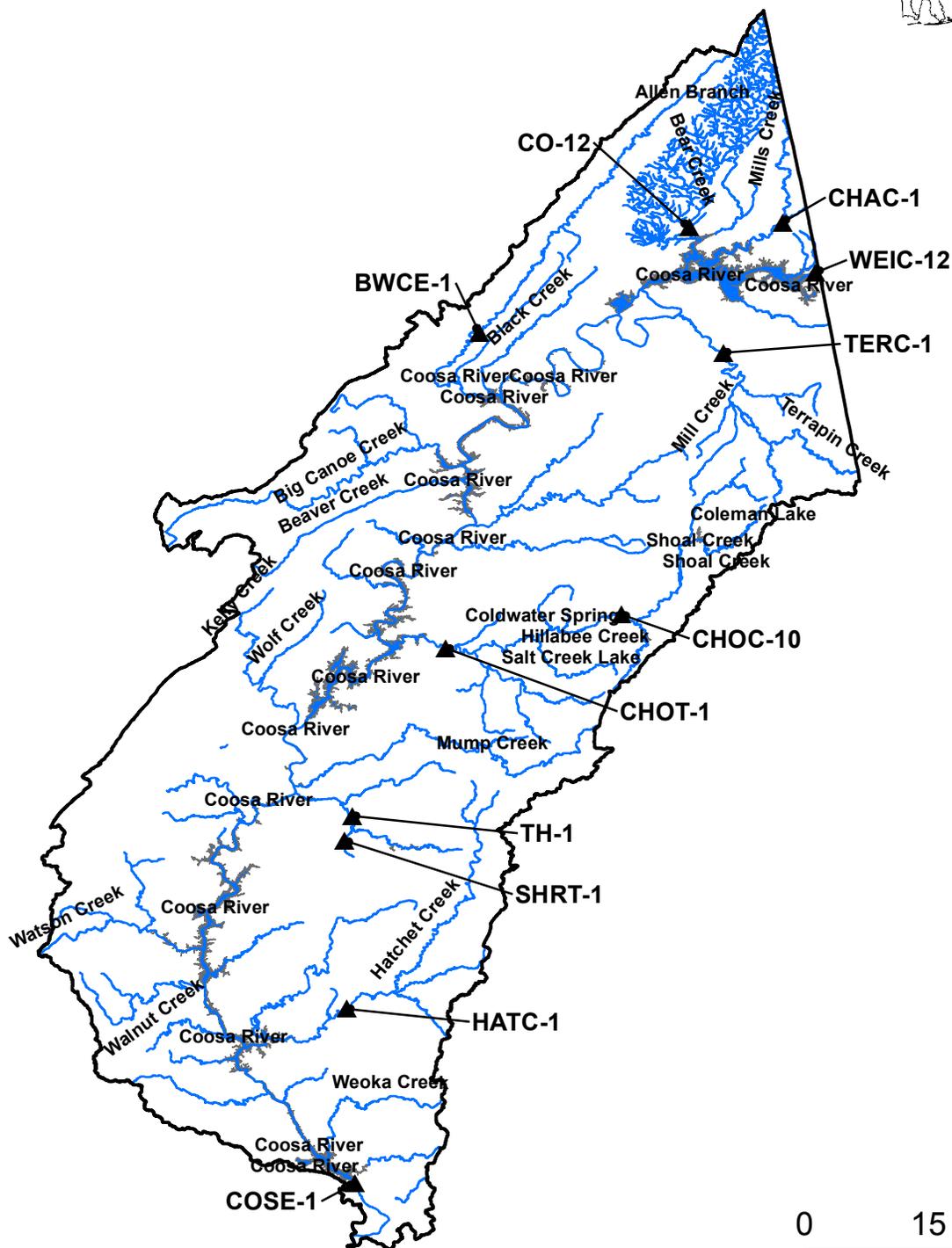
# Chattahoochee River Basin



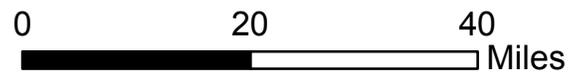
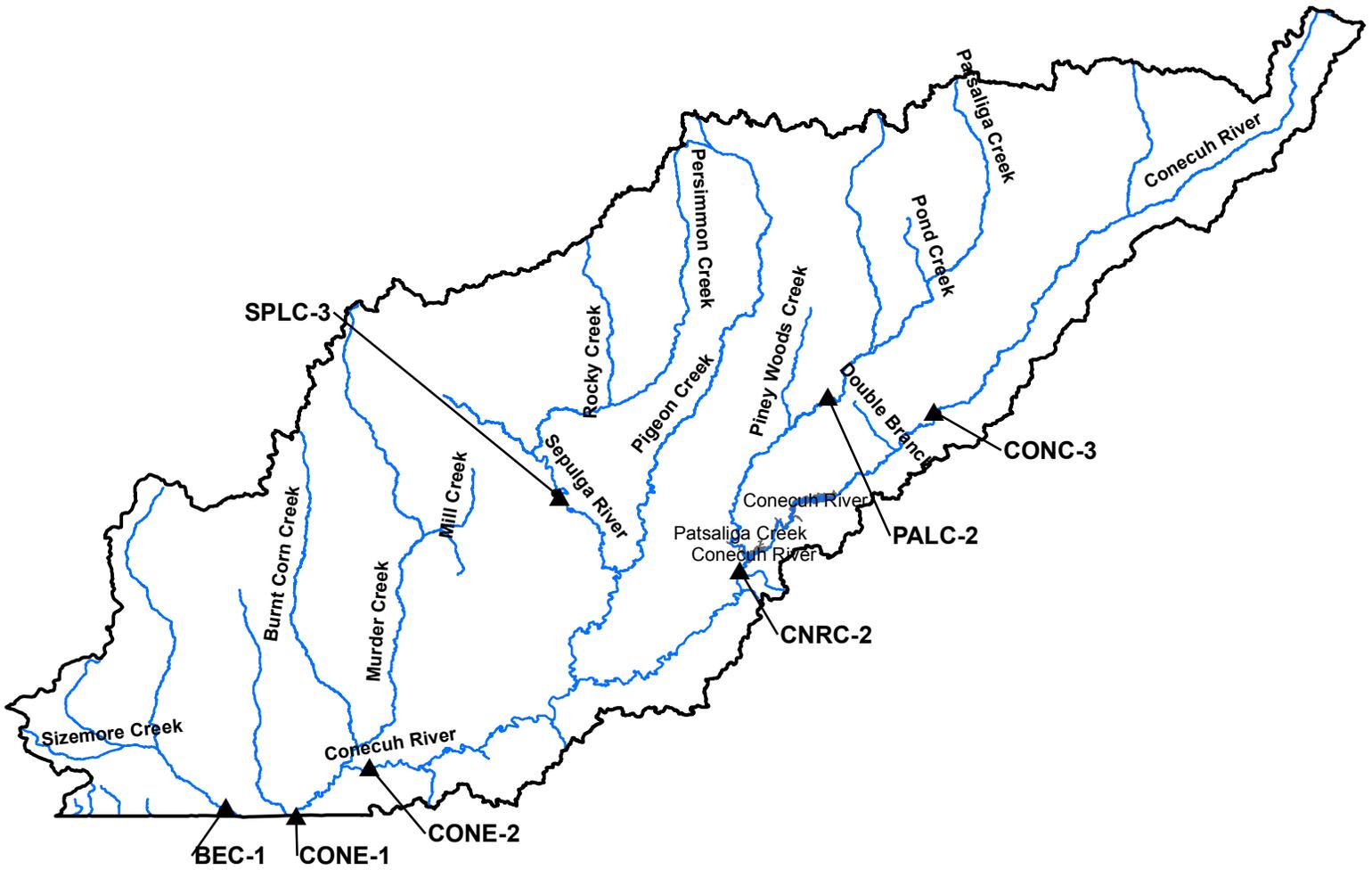
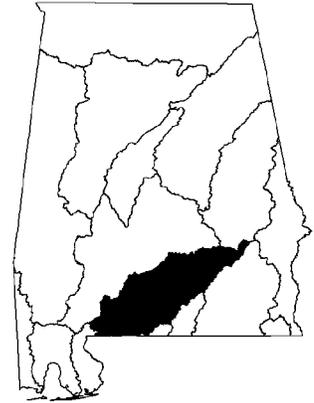
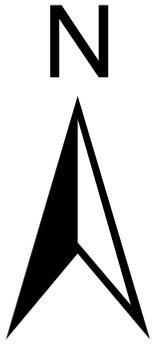
# Choctawhatchee River Basin



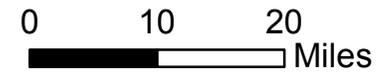
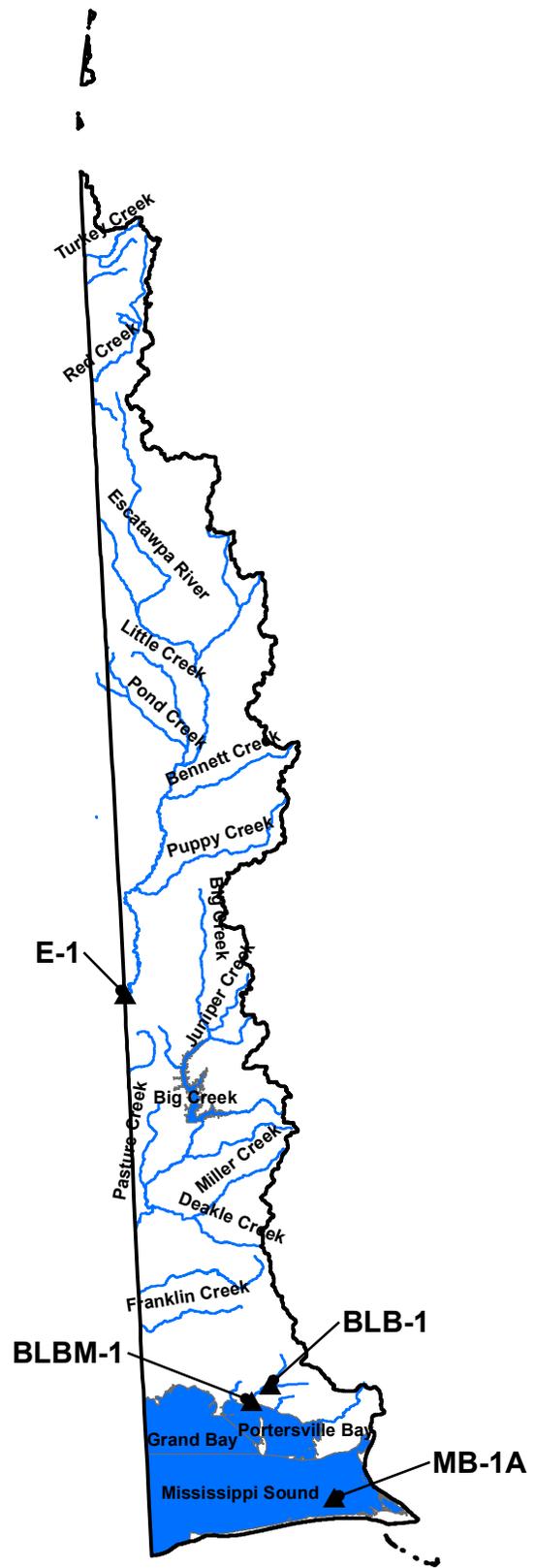
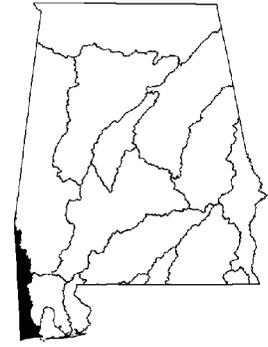
# Coosa River Basin



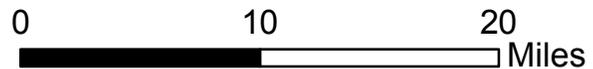
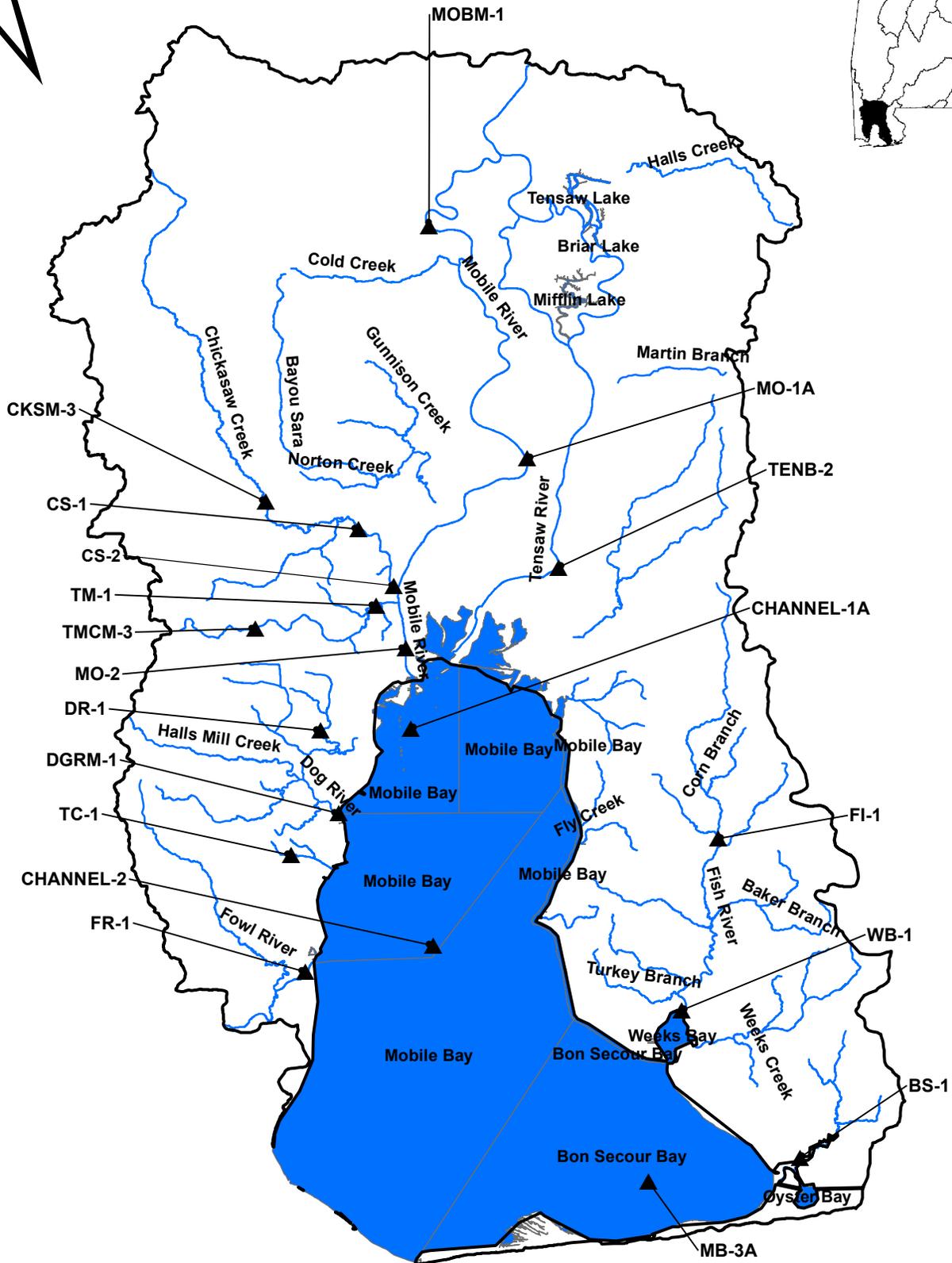
# Escambia River Basin



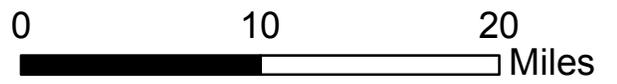
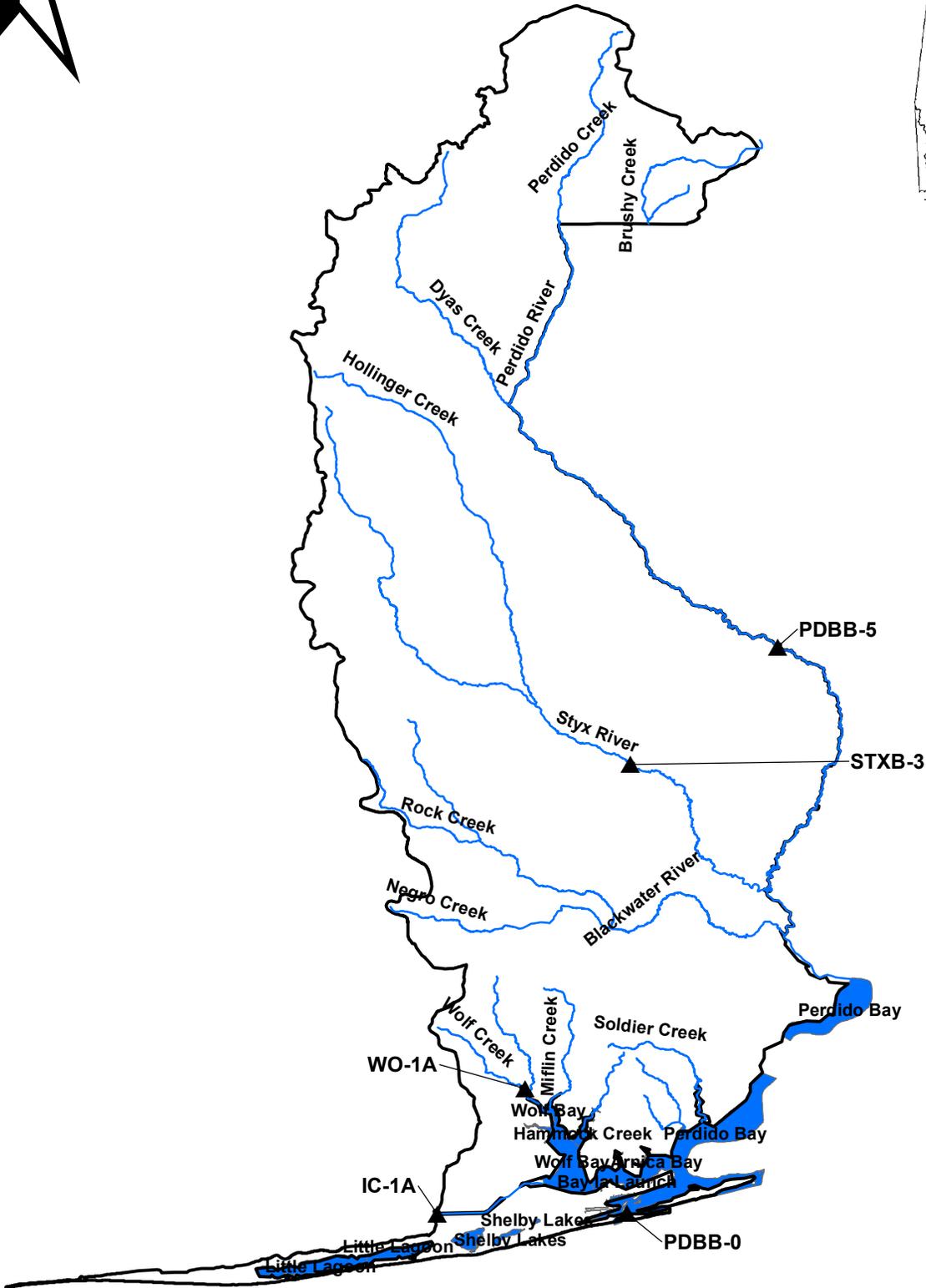
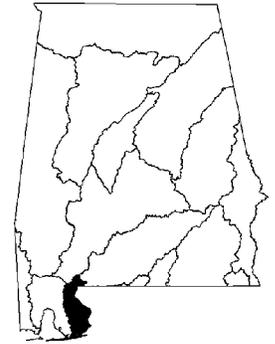
# Escatawpa River Basin



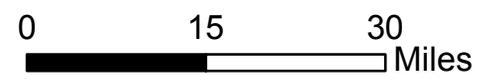
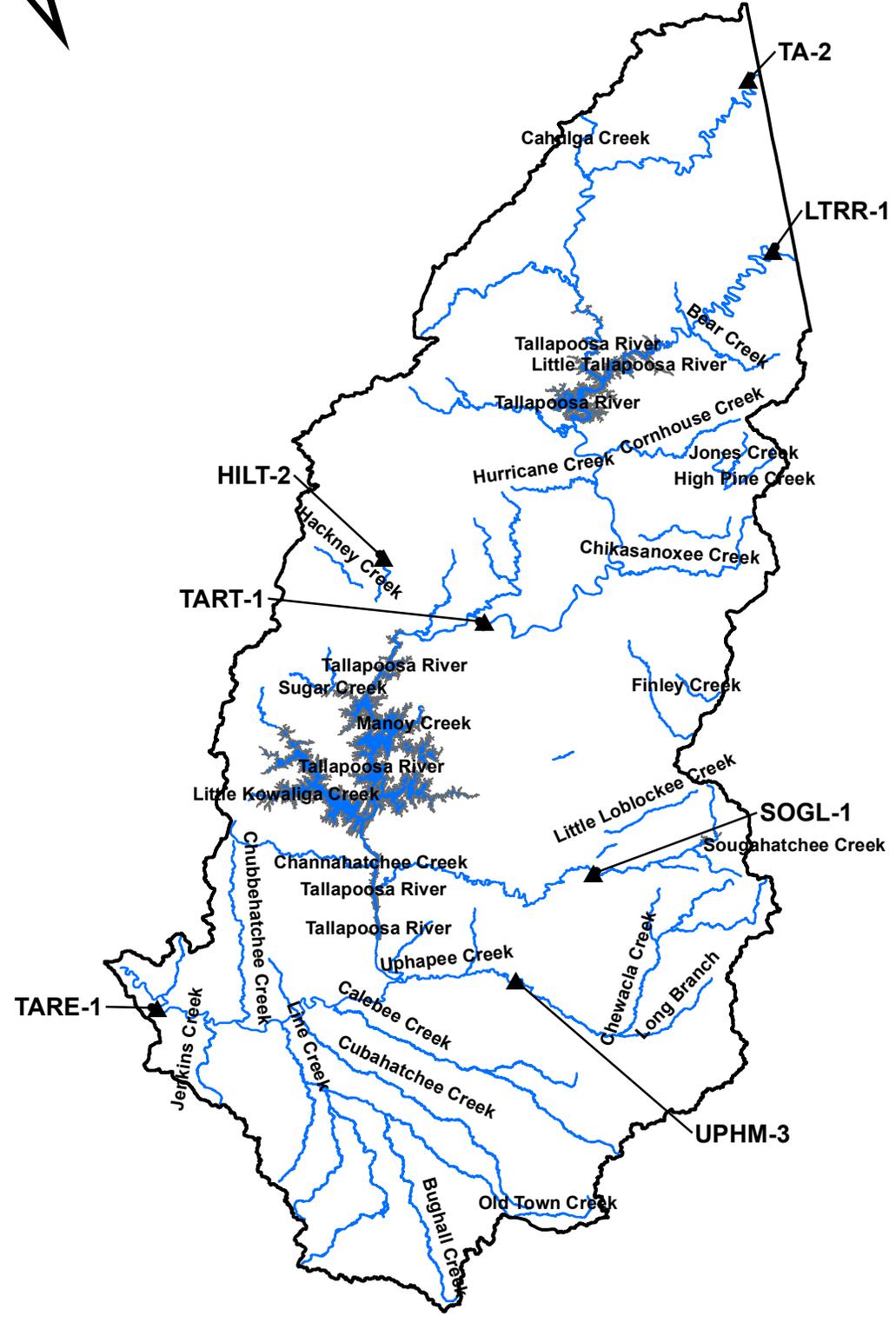
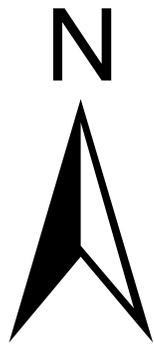
# Mobile River Basin



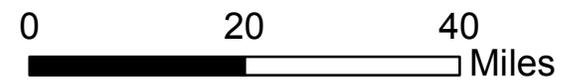
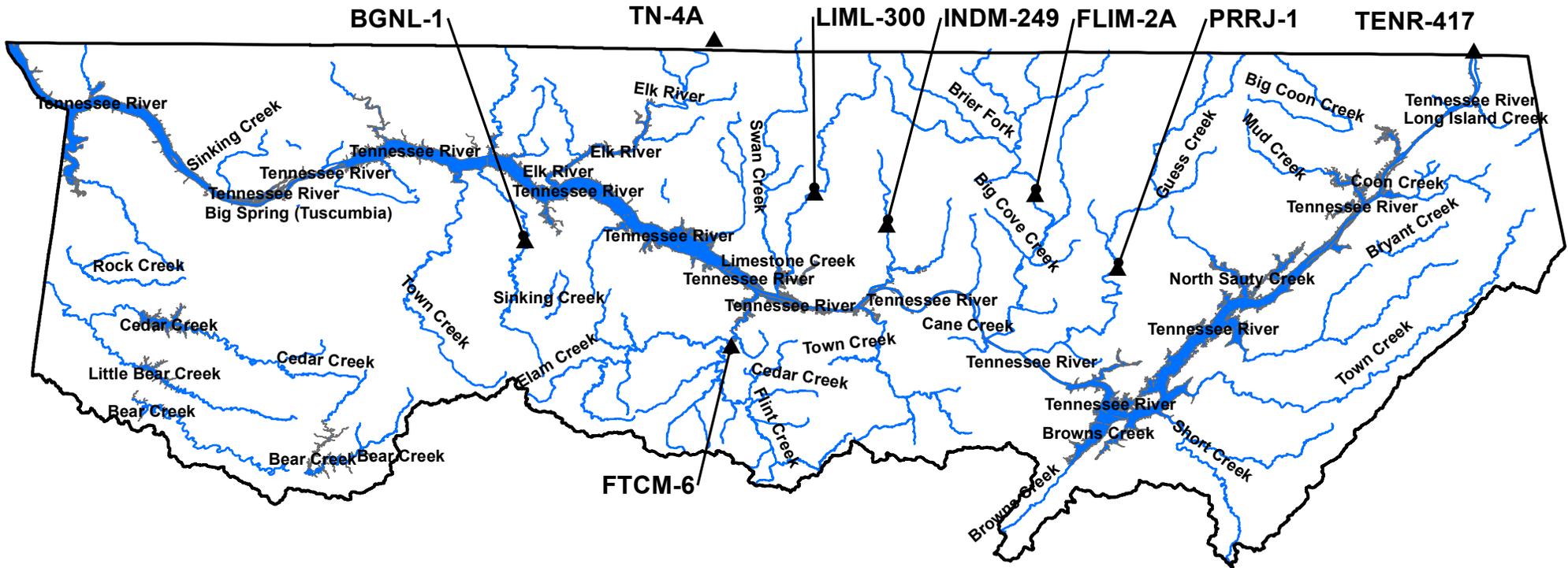
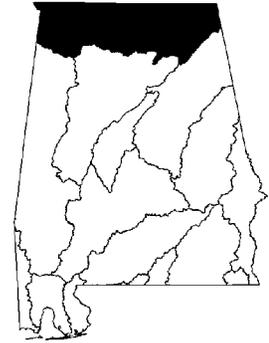
# Perdido River Basin



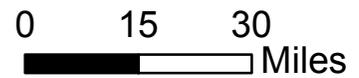
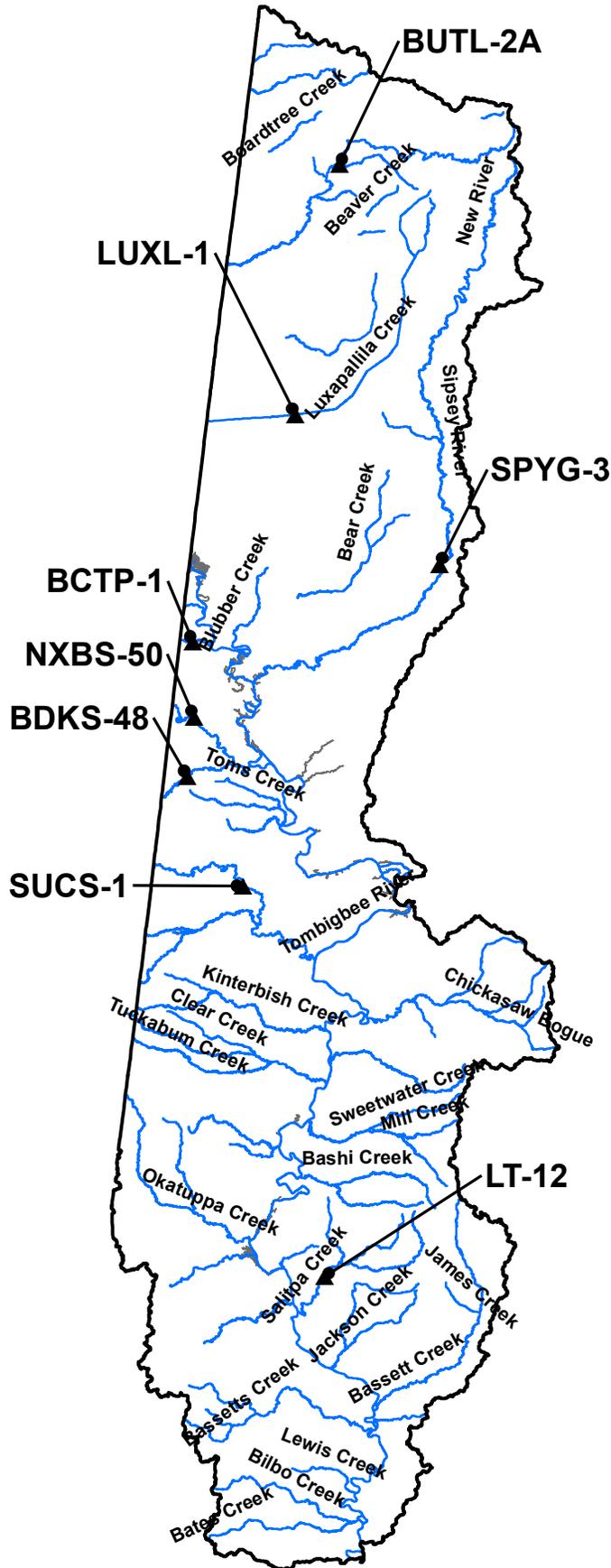
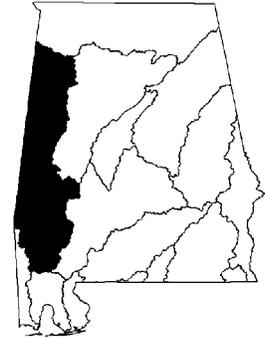
# Tallapoosa River Basin



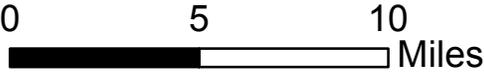
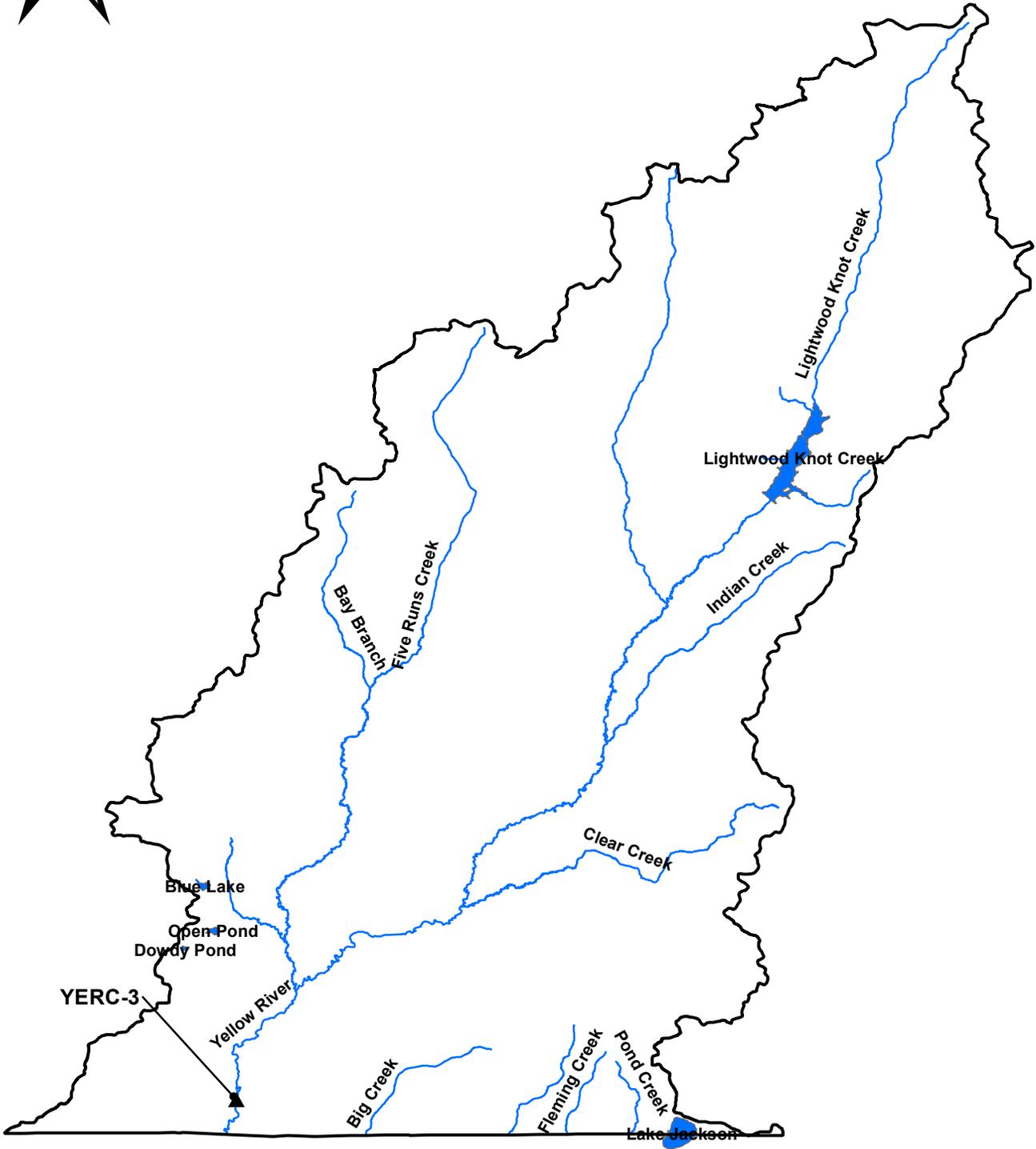
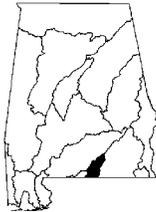
# Tennessee River Basin



# Tombigbee River Basin



# Yellow River Basin



## Ambient Trend Data Summaries

<b>B-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	235	6.0	30.0	21.4	19.7	5.3
pH (su)	235	6.0	9.1	7.9	7.8	0.4
Dissolved Oxygen (mg/L)	161	7.4	13.6	9.4	9.8	1.5
Specific Conductance (µmhos)	160	5.0	683.0	378.0	370.0	110.7
Turbidity (NTU)	129	0.8	289.0	6.9	19.6	40.1
Total Suspended Solids (mg/L)	205	< 0.3	572.0	8.0	20.6	53.7
Total Nitrogen (mg/L)	156	< 0.019	16.855	1.916	2.584	2.368
Total Phosphorus (mg/L)	173	< 0.018	1.980	0.245	0.372	0.395
<b>BCTP-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	31	13.1	36.5	29.0	27.6	6.1
pH (su)	31	6.9	9.0	8.3	8.3	0.4
Dissolved Oxygen (mg/L)	30	5.6	17.0	11.1	11.3	2.6
Specific Conductance (µmhos)	31	114.8	606.0	409.0	379.5	98.1
Turbidity (NTU)	30	3.4	957.0	12.4	70.5	210.3
Total Suspended Solids (mg/L)	30	1.0	2470.0	9.0	132.4	465.2
Total Nitrogen (mg/L)	27	< 0.003	7.772	1.821	2.443	1.868
Total Phosphorus (mg/L)	27	< 0.006	0.793	0.055	0.139	0.220
<b>BDKS-48</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	38	12.3	30.1	25.2	23.8	4.7
pH (su)	38	6.9	8.2	7.6	7.6	0.3
Dissolved Oxygen (mg/L)	36	3.6	14.0	6.6	7.0	2.0
Specific Conductance (µmhos)	36	88.4	555.0	273.9	278.5	102.3
Turbidity (NTU)	36	2.4	249.0	8.6	22.2	45.4
Total Suspended Solids (mg/L)	37	2.0	161.0	8.0	17.9	28.0
Total Nitrogen (mg/L)	34	< 0.021	2.820	0.763	0.953	0.692
Total Phosphorus (mg/L)	34	< 0.042	0.245	0.070	0.086	0.046
<b>BEC-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	64	9.4	29.0	21.2	19.9	5.7
pH (su)	64	5.3	7.3	6.1	6.2	0.4
Dissolved Oxygen (mg/L)	57	7.7	12.6	9.2	9.4	1.2
Specific Conductance (µmhos)	57	23.7	41.0	31.7	31.5	3.0
Turbidity (NTU)	56	1.0	87.3	4.4	8.9	14.5
Total Suspended Solids (mg/L)	61	< 1.0	123.0	4.0	9.1	19.3
Total Nitrogen (mg/L)	64	< 0.254	1.534	0.621	0.656	0.240
Total Phosphorus (mg/L)	63	< 0.005	0.055	0.013	0.016	0.009
<b>BGNL-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	36	12.9	37.4	21.5	21.2	4.2

pH (su)	36	7.2	9.3	7.4	7.5	0.4
Dissolved Oxygen (mg/L)	36	4.1	10.5	6.4	6.6	1.5
Specific Conductance (µmhos)	36	129.0	396.0	316.0	298.5	72.9
Turbidity (NTU)	36	0.9	393.0	3.7	20.2	66.1
Total Suspended Solids (mg/L)	35	< 0.3	116.0	3.0	9.9	22.3
Total Nitrogen (mg/L)	23	< 0.002	92.400	2.487	2.340	0.701
Total Phosphorus (mg/L)	23	< 0.006	0.335	0.050	0.070	0.084
<b>BKRE-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	66	8.9	25.2	21.7	19.9	4.7
pH (su)	66	4.0	5.6	4.7	4.7	0.5
Dissolved Oxygen (mg/L)	66	6.1	10.4	8.0	8.3	1.0
Specific Conductance (µmhos)	65	0.0	46.7	22.3	22.9	10.2
Turbidity (NTU)	65	1.1	18.5	2.3	3.3	2.8
Total Suspended Solids (mg/L)	65	< 1.0	35.0	1.0	4.1	6.0
Total Nitrogen (mg/L)	65	< 0.106	0.901	0.450	0.467	0.171
Total Phosphorus (mg/L)	65	0.005	0.064	0.009	0.015	0.013
<b>BLB-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	292	5.0	32.1	23.0	22.1	6.0
pH (su)	292	4.2	8.0	6.6	6.6	0.7
Dissolved Oxygen (mg/L)	64	0.3	9.6	2.8	3.6	2.4
Specific Conductance (µmhos)	62	14.9	50356.0	29524.5	24704.8	15789.5
Turbidity (NTU)	61	2.0	20.1	5.6	6.1	3.4
Total Suspended Solids (mg/L)	280	< 1.0	124.0	7.0	9.7	11.1
Total Nitrogen (mg/L)	193	< 0.040	6.002	0.611	0.722	0.615
Total Phosphorus (mg/L)	293	< 0.005	0.390	0.040	0.048	0.046
<b>BLBM-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	50	15.0	32.1	28.1	26.7	4.4
pH (su)	49	6.0	8.4	7.5	7.3	0.6
Dissolved Oxygen (mg/L)	42	1.8	10.4	5.5	5.5	1.7
Specific Conductance (µmhos)	40	21.2	48378.7	37092.0	35331.4	8549.2
Turbidity (NTU)	38	4.1	22.5	8.8	9.0	3.5
Total Suspended Solids (mg/L)	45	< 5.0	44.0	17.0	18.6	9.9
Total Nitrogen (mg/L)	45	< 0.040	5.518	0.682	0.815	0.802
Total Phosphorus (mg/L)	45	0.025	0.170	0.052	0.059	0.031
<b>BS-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	321	6.5	33.0	23.0	23.1	6.3
pH (su)	319	5.8	8.9	7.7	7.6	0.5
Dissolved Oxygen (mg/L)	106	2.7	13.1	7.4	7.6	2.5
Specific Conductance (µmhos)	96	9.6	36002.9	23174.8	21877.6	8518.4
Turbidity (NTU)	88	3.0	42.0	12.0	13.2	6.0
Total Suspended Solids (mg/L)	320	2.0	68.0	20.0	22.8	11.6
Total Nitrogen (mg/L)	208	< 0.052	5.560	1.128	1.335	0.816

Total Phosphorus (mg/L)	319	< 0.020	4.500	0.100	0.180	0.341
<b>BUTL-2A</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	34	9.6	31.2	24.3	23.5	4.4
pH (su)	35	5.9	8.6	7.2	7.3	0.5
Dissolved Oxygen (mg/L)	29	6.9	11.0	8.4	8.5	0.8
Specific Conductance (µmhos)	28	30.7	67.0	37.7	39.1	6.7
Turbidity (NTU)	29	2.8	38.0	6.2	8.2	7.2
Total Suspended Solids (mg/L)	30	< 1.0	53.0	4.0	7.2	10.7
Total Nitrogen (mg/L)	29	< 0.180	2.010	0.500	0.591	0.376
Total Phosphorus (mg/L)	29	< 0.006	0.100	0.017	0.024	0.018
<b>BWCE-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	38	11.8	26.0	22.0	20.4	3.1
pH (su)	38	7.2	8.0	7.8	7.7	0.2
Dissolved Oxygen (mg/L)	38	5.7	11.4	7.6	7.8	1.2
Specific Conductance (µmhos)	37	40.0	582.0	334.0	331.8	130.7
Turbidity (NTU)	31	5.8	55.5	21.5	20.4	10.2
Total Suspended Solids (mg/L)	38	5.0	182.0	20.0	25.8	29.8
Total Nitrogen (mg/L)	35	< 0.609	3.231	1.628	1.649	0.626
Total Phosphorus (mg/L)	35	0.097	1.490	0.672	0.676	0.351
<b>C-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	212	2.6	31.1	19.0	18.2	6.8
pH (su)	212	3.8	9.0	7.9	7.8	0.5
Dissolved Oxygen (mg/L)	139	6.1	16.7	9.9	10.3	2.0
Specific Conductance (µmhos)	141	95.0	1852.0	210.0	231.0	156.9
Turbidity (NTU)	124	1.1	440.0	5.2	20.6	56.7
Total Suspended Solids (mg/L)	208	< 0.3	295.0	5.0	11.1	27.4
Total Nitrogen (mg/L)	108	< 0.002	7.505	1.306	1.735	1.302
Total Phosphorus (mg/L)	177	< 0.002	5.950	0.167	0.304	0.516
<b>C-2</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	214	3.4	31.0	21.1	19.9	7.1
pH (su)	213	6.5	8.7	7.7	7.7	0.3
Dissolved Oxygen (mg/L)	140	6.2	15.9	9.0	9.4	1.9
Specific Conductance (µmhos)	142	75.0	435.0	227.5	236.6	73.9
Turbidity (NTU)	125	1.8	225.0	6.8	13.2	23.2
Total Suspended Solids (mg/L)	194	< 0.3	220.0	6.0	10.4	19.8
Total Nitrogen (mg/L)	146	< 0.002	48.930	0.960	1.890	4.155
Total Phosphorus (mg/L)	164	< 0.010	1.640	0.125	0.296	0.372
<b>C-3</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	255	4.2	30.6	21.9	20.1	6.5
pH (su)	255	6.0	8.7	7.8	7.8	0.4
Dissolved Oxygen (mg/L)	181	6.0	15.6	8.7	9.3	1.9
Specific Conductance (µmhos)	181	123.0	545.0	268.0	274.4	83.0

Turbidity (NTU)	143	1.4	354.0	7.3	23.9	50.4
Total Suspended Solids (mg/L)	218	< 0.3	1540.0	8.0	29.8	113.5
Total Nitrogen (mg/L)	170	< 0.369	23.097	1.506	1.871	1.131
Total Phosphorus (mg/L)	187	< 0.027	1.160	0.190	0.261	0.240
<b>CABB-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	109	4.8	29.2	20.0	19.3	6.9
pH (su)	109	6.5	8.8	8.0	7.9	0.4
Dissolved Oxygen (mg/L)	106	6.2	15.3	9.5	9.6	1.8
Specific Conductance (µmhos)	108	113.0	345.0	237.0	234.9	59.8
Turbidity (NTU)	106	2.3	378.0	7.6	24.4	47.6
Total Suspended Solids (mg/L)	106	< 0.3	262.0	7.5	22.2	41.3
Total Nitrogen (mg/L)	75	< 0.002	2.566	0.528	0.640	0.421
Total Phosphorus (mg/L)	76	< 0.002	0.371	0.038	0.049	0.050
<b>CAHS-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	171	3.6	29.0	21.9	20.0	6.6
pH (su)	170	6.1	8.5	7.7	7.7	0.3
Dissolved Oxygen (mg/L)	168	3.3	14.7	8.2	8.9	2.1
Specific Conductance (µmhos)	167	118.0	528.0	244.0	262.5	88.6
Turbidity (NTU)	137	1.9	400.0	7.0	20.1	44.8
Total Suspended Solids (mg/L)	135	< 0.3	398.0	7.0	21.0	48.0
Total Nitrogen (mg/L)	103	< 0.002	7.925	1.340	1.789	1.437
Total Phosphorus (mg/L)	104	< 0.026	1.900	0.148	0.312	0.378
<b>CHAC-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	111	4.8	28.3	17.4	16.9	6.3
pH (su)	111	6.5	8.7	7.8	7.8	0.3
Dissolved Oxygen (mg/L)	111	4.9	14.3	8.5	8.7	1.8
Specific Conductance (µmhos)	110	34.8	877.9	370.8	415.8	185.6
Turbidity (NTU)	112	1.7	297.0	9.2	16.4	38.5
Total Suspended Solids (mg/L)	114	< 0.3	103.0	10.0	12.0	12.2
Total Nitrogen (mg/L)	108	< 0.130	2.700	0.894	0.935	0.364
Total Phosphorus (mg/L)	108	< 0.006	0.797	0.196	0.239	0.159
<b>CHANNEL-1A</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	76	7.3	30.7	23.8	22.7	6.4
pH (su)	76	5.3	8.2	7.6	7.4	0.6
Dissolved Oxygen (mg/L)	77	4.0	11.4	7.2	7.4	1.7
Specific Conductance (µmhos)	67	10.8	40341.7	15246.6	15541.4	10652.3
Turbidity (NTU)	81	4.7	75.7	11.3	16.5	13.2
Total Suspended Solids (mg/L)	84	< 1.0	70.0	13.0	15.3	10.2
Total Nitrogen (mg/L)	76	< 0.060	7.820	0.761	0.879	0.901
Total Phosphorus (mg/L)	84	0.019	0.120	0.053	0.056	0.021
<b>CHANNEL-2</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	82	6.3	31.0	25.0	22.8	6.5

pH (su)	83	6.8	8.7	8.0	7.9	0.4
Dissolved Oxygen (mg/L)	83	0.0	12.6	8.0	8.4	1.8
Specific Conductance (µmhos)	73	1530.0	37838.5	18860.0	17777.2	10882.1
Turbidity (NTU)	91	2.9	98.0	9.0	13.7	14.2
Total Suspended Solids (mg/L)	94	< 2.0	53.0	11.0	12.9	7.7
Total Nitrogen (mg/L)	86	< 0.052	2.710	0.624	0.676	0.417
Total Phosphorus (mg/L)	94	0.014	0.168	0.043	0.048	0.029
<b>CHO-9</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	34	13.4	29.6	26.0	24.5	4.2
pH (su)	34	5.4	8.2	7.1	7.1	0.5
Dissolved Oxygen (mg/L)	29	0.3	9.7	7.5	7.4	1.6
Specific Conductance (µmhos)	29	40.9	127.8	87.4	86.6	20.4
Turbidity (NTU)	30	5.6	32.6	14.1	15.7	7.7
Total Suspended Solids (mg/L)	30	< 1.0	33.0	10.0	12.0	9.0
Total Nitrogen (mg/L)	33	< 0.375	1.736	0.938	0.961	0.267
Total Phosphorus (mg/L)	33	0.017	0.135	0.053	0.057	0.024
<b>CHOC-10</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	30	14.9	27.6	23.6	22.3	3.7
pH (su)	30	7.0	8.0	7.6	7.6	0.2
Dissolved Oxygen (mg/L)	30	6.0	9.8	7.8	7.7	1.0
Specific Conductance (µmhos)	30	50.7	188.3	144.3	134.4	34.4
Turbidity (NTU)	30	4.0	120.0	8.3	13.8	20.8
Total Suspended Solids (mg/L)	30	< 1.0	93.0	8.5	13.2	17.1
Total Nitrogen (mg/L)	27	< 0.086	0.914	0.318	0.368	0.196
Total Phosphorus (mg/L)	27	< 0.004	0.137	0.035	0.042	0.029
<b>CHOT-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	38	15.8	27.8	23.8	22.5	3.8
pH (su)	38	6.3	8.3	7.8	7.7	0.4
Dissolved Oxygen (mg/L)	38	6.6	10.2	8.3	8.4	0.8
Specific Conductance (µmhos)	37	102.5	320.0	218.5	207.4	50.4
Turbidity (NTU)	37	5.0	45.6	9.6	11.9	9.2
Total Suspended Solids (mg/L)	38	< 1.0	31.0	7.5	9.5	7.2
Total Nitrogen (mg/L)	35	< 0.485	6.401	1.064	1.218	1.019
Total Phosphorus (mg/L)	35	< 0.043	0.206	0.098	0.101	0.043
<b>CHTH-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	32	9.5	30.2	24.7	23.2	5.6
pH (su)	32	6.4	7.6	7.0	6.1	0.2
Dissolved Oxygen (mg/L)	32	3.3	11.8	7.8	8.0	1.7
Specific Conductance (µmhos)	32	0.1	164.6	93.7	82.5	50.2
Turbidity (NTU)	32	2.0	27.1	7.6	8.7	5.6
Total Suspended Solids (mg/L)	32	< 1.0	15.0	6.0	5.7	3.1
Total Nitrogen (mg/L)	32	< 0.373	1.400	0.757	0.790	0.231

Total Phosphorus (mg/L)	32	0.012	0.071	0.037	0.037	0.016
<b>CKSM-3</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	31	15.0	28.0	23.8	22.9	3.3
pH (su)	31	4.9	6.7	5.9	5.9	0.5
Dissolved Oxygen (mg/L)	31	7.4	10.2	7.9	8.1	0.7
Specific Conductance (µmhos)	31	25.0	35.0	31.0	30.8	2.8
Turbidity (NTU)	31	2.0	29.0	4.5	6.5	6.0
Total Suspended Solids (mg/L)	29	< 3.0	45.0	6.0	7.7	8.7
Total Nitrogen (mg/L)	29	< 0.101	0.904	0.449	0.472	0.209
Total Phosphorus (mg/L)	29	< 0.004	0.038	0.016	0.017	0.009
<b>CNRC-2</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	36	5.9	29.3	20.7	20.6	6.7
pH (su)	35	6.7	7.8	7.0	7.1	0.3
Dissolved Oxygen (mg/L)	35	4.8	12.3	7.2	7.8	2.1
Specific Conductance (µmhos)	36	41.2	92.0	79.2	74.6	13.7
Turbidity (NTU)	33	3.0	33.8	8.0	11.8	8.9
Total Suspended Solids (mg/L)	32	< 1.0	16.0	2.0	3.6	3.7
Total Nitrogen (mg/L)	33	0.185	1.247	0.573	0.590	0.232
Total Phosphorus (mg/L)	33	0.010	0.054	0.024	0.026	0.011
<b>CO-12</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	120	3.8	30.9	17.2	17.0	7.6
pH (su)	120	4.8	8.6	7.1	7.2	0.6
Dissolved Oxygen (mg/L)	115	6.2	12.8	9.6	9.7	1.6
Specific Conductance (µmhos)	115	23.1	82.0	37.2	38.6	10.1
Turbidity (NTU)	114	0.3	37.3	1.4	2.8	5.2
Total Suspended Solids (mg/L)	113	< 0.3	42.0	1.0	2.7	5.0
Total Nitrogen (mg/L)	110	< 0.049	4.790	0.314	0.412	0.492
Total Phosphorus (mg/L)	110	< 0.002	0.232	0.007	0.015	0.027
<b>CONC-3</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	22	11.3	28.0	24.6	23.1	4.3
pH (su)	22	6.5	7.7	7.2	7.2	0.3
Dissolved Oxygen (mg/L)	22	5.3	10.2	7.3	7.4	0.9
Specific Conductance (µmhos)	22	0.1	191.6	69.4	75.5	64.7
Turbidity (NTU)	22	3.4	57.8	16.0	21.4	14.6
Total Suspended Solids (mg/L)	21	< 1.0	54.0	11.0	13.6	12.8
Total Nitrogen (mg/L)	21	< 0.227	1.345	0.712	0.707	0.255
Total Phosphorus (mg/L)	21	0.013	0.090	0.032	0.038	0.020
<b>CONE-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	37	5.7	30.2	24.1	22.1	6.5
pH (su)	38	6.4	7.6	7.1	7.1	0.3
Dissolved Oxygen (mg/L)	38	4.0	11.7	7.2	7.8	1.5
Specific Conductance (µmhos)	39	0.1	240.6	135.9	117.4	74.8

Turbidity (NTU)	37	3.2	64.5	12.0	16.0	13.2
Total Suspended Solids (mg/L)	35	< 1.0	55.0	15.0	15.1	13.7
Total Nitrogen (mg/L)	36	< 0.176	1.361	0.668	0.680	0.259
Total Phosphorus (mg/L)	36	0.034	0.098	0.056	0.059	0.015
<b>CONE-2</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	73	5.5	31.5	22.6	21.5	7.0
pH (su)	73	6.3	8.9	7.2	7.2	0.4
Dissolved Oxygen (mg/L)	74	6.2	12.2	8.1	8.5	1.4
Specific Conductance (µmhos)	74	0.1	125.7	92.0	81.1	36.4
Turbidity (NTU)	72	2.3	50.0	9.8	13.2	10.7
Total Suspended Solids (mg/L)	70	< 1.0	55.0	6.0	11.2	13.0
Total Nitrogen (mg/L)	71	< 0.076	1.130	0.474	0.497	0.252
Total Phosphorus (mg/L)	71	0.006	0.074	0.021	0.025	0.015
<b>COSE-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	111	5.6	31.5	21.5	20.4	7.2
pH (su)	111	6.7	8.1	7.3	7.3	0.3
Dissolved Oxygen (mg/L)	111	4.6	12.3	8.0	8.3	2.0
Specific Conductance (µmhos)	111	53.1	259.9	141.1	151.2	41.6
Turbidity (NTU)	111	0.9	21.0	3.7	5.1	3.9
Total Suspended Solids (mg/L)	111	< 1.0	10.0	3.0	3.1	2.5
Total Nitrogen (mg/L)	111	< 0.190	1.100	0.480	0.513	0.183
Total Phosphorus (mg/L)	111	< 0.004	0.104	0.033	0.035	0.014
<b>CS-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	286	6.0	33.0	22.9	21.1	6.2
pH (su)	288	4.7	7.9	6.2	6.3	0.5
Dissolved Oxygen (mg/L)	47	2.4	11.1	5.5	5.8	1.9
Specific Conductance (µmhos)	45	45.0	29382.9	538.0	4947.0	7551.0
Turbidity (NTU)	47	2.0	23.0	4.9	7.2	5.2
Total Suspended Solids (mg/L)	287	< 1.0	84.0	6.0	7.5	9.3
Total Nitrogen (mg/L)	290	< 0.059	4.360	0.630	0.708	0.498
Total Phosphorus (mg/L)	292	< 0.005	1.650	0.040	0.053	0.111
<b>CS-2</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	269	8.0	33.0	24.2	22.9	6.7
pH (su)	270	4.4	7.9	6.9	6.9	0.5
Dissolved Oxygen (mg/L)	52	2.6	11.3	5.8	6.3	1.9
Specific Conductance (µmhos)	50	179.7	33841.5	4754.8	8217.1	8577.5
Turbidity (NTU)	47	2.0	111.0	8.5	14.5	19.8
Total Suspended Solids (mg/L)	284	< 2.0	94.0	13.0	16.3	12.7
Total Nitrogen (mg/L)	265	< 0.094	4.574	0.910	1.014	0.559
Total Phosphorus (mg/L)	283	< 0.005	0.600	0.080	0.101	0.080
<b>DGRM-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	30	14.2	31.2	26.8	25.4	5.2

pH (su)	30	6.0	9.0	7.8	7.6	0.6
Dissolved Oxygen (mg/L)	22	5.1	10.0	7.1	7.2	1.2
Specific Conductance (µmhos)	22	2908.9	25960.0	12368.0	12502.2	7270.6
Turbidity (NTU)	22	7.0	26.0	13.3	14.1	5.4
Total Suspended Solids (mg/L)	30	5.0	37.0	14.0	15.7	6.2
Total Nitrogen (mg/L)	30	< 0.338	2.005	0.701	0.764	0.325
Total Phosphorus (mg/L)	30	0.027	0.086	0.052	0.054	0.014
<b>DR-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	283	7.0	34.0	24.0	23.2	6.3
pH (su)	286	4.6	8.4	6.9	6.9	0.5
Dissolved Oxygen (mg/L)	56	0.9	15.0	5.9	6.1	2.1
Specific Conductance (µmhos)	53	76.0	21431.0	2539.0	4276.1	5403.6
Turbidity (NTU)	46	5.0	131.0	9.0	12.0	18.2
Total Suspended Solids (mg/L)	288	< 1.0	94.0	12.0	14.0	10.3
Total Nitrogen (mg/L)	176	< 0.052	4.220	0.958	1.027	0.524
Total Phosphorus (mg/L)	289	< 0.005	0.900	0.102	0.128	0.093
<b>E-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	303	3.0	31.0	20.8	19.9	6.0
pH (su)	305	3.2	8.3	5.3	5.3	0.8
Dissolved Oxygen (mg/L)	60	6.3	10.7	7.9	8.2	1.0
Specific Conductance (µmhos)	59	21.0	345.0	31.0	37.8	42.1
Turbidity (NTU)	63	2.5	62.0	8.2	11.3	11.9
Total Suspended Solids (mg/L)	302	< 1.0	163.0	9.0	13.7	16.9
Total Nitrogen (mg/L)	70	< 0.211	2.176	0.561	0.671	0.376
Total Phosphorus (mg/L)	310	< 0.001	0.380	0.025	0.035	0.039
<b>FI-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	200	11.7	25.0	20.6	19.7	3.3
pH (su)	200	5.1	7.8	6.0	6.1	0.5
Dissolved Oxygen (mg/L)	112	6.4	12.6	8.1	8.3	0.8
Specific Conductance (µmhos)	113	36.0	125.0	57.0	57.0	13.8
Turbidity (NTU)	105	1.0	159.0	4.3	9.6	19.3
Total Suspended Solids (mg/L)	173	< 1.0	73.0	6.0	9.1	11.3
Total Nitrogen (mg/L)	176	< 0.210	3.800	1.740	1.718	0.532
Total Phosphorus (mg/L)	176	< 0.005	0.317	0.060	0.071	0.053
<b>FLIM-2A</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	106	2.7	27.8	16.9	17.1	6.1
pH (su)	106	6.8	8.7	7.7	7.7	0.3
Dissolved Oxygen (mg/L)	106	6.6	13.3	9.5	9.4	1.6
Specific Conductance (µmhos)	106	74.0	231.0	173.5	169.8	28.6
Turbidity (NTU)	106	0.9	421.0	6.6	15.9	43.4
Total Suspended Solids (mg/L)	106	< 0.3	225.0	6.0	12.3	26.9
Total Nitrogen (mg/L)	77	< 0.002	5.356	1.955	2.066	0.742

Total Phosphorus (mg/L)	77	< 0.002	0.384	0.046	0.064	0.069
<b>FMCJ-1B</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	27	16.8	25.2	22.3	21.7	2.2
pH (su)	27	7.7	8.6	8.2	8.2	0.2
Dissolved Oxygen (mg/L)	27	8.4	12.6	10.2	10.3	0.9
Specific Conductance (µmhos)	27	250.0	376.0	357.0	347.2	28.4
Turbidity (NTU)	27	1.0	20.1	1.8	3.2	4.2
Total Suspended Solids (mg/L)	27	< 0.3	12.0	2.0	2.6	2.4
Total Nitrogen (mg/L)	18	< 0.604	4.252	1.130	1.161	0.318
Total Phosphorus (mg/L)	18	< 0.002	0.100	0.010	0.020	0.020
<b>FMCJ-6</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	8	14.4	26.5	21.1	20.7	5.2
pH (su)	8	7.6	8.1	8.1	8.0	0.2
Dissolved Oxygen (mg/L)	8	9.0	12.7	10.1	10.3	1.2
Specific Conductance (µmhos)	8	283.0	557.0	455.0	453.2	85.4
Turbidity (NTU)	1				6.2	
Total Suspended Solids (mg/L)	8	3.0	17.0	7.5	8.2	5.5
Total Nitrogen (mg/L)	8	< 0.987	4.309	2.072	2.222	1.008
Total Phosphorus (mg/L)	8	0.042	0.223	0.114	0.120	0.054
<b>FR-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	198	6.0	33.0	24.4	23.1	6.6
pH (su)	199	5.6	8.6	7.4	7.3	0.5
Dissolved Oxygen (mg/L)	62	0.6	12.0	6.3	6.5	2.3
Specific Conductance (µmhos)	59	76.4	33289.8	13826.9	15024.2	8800.1
Turbidity (NTU)	52	6.0	40.3	14.4	16.5	8.0
Total Suspended Solids (mg/L)	196	< 1.0	74.0	15.0	18.3	10.9
Total Nitrogen (mg/L)	186	< 0.041	4.982	0.670	0.752	0.520
Total Phosphorus (mg/L)	197	< 0.005	0.502	0.045	0.051	0.047
<b>FTCM-6</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	59	5.1	28.0	17.5	17.7	6.6
pH (su)	59	6.9	7.9	7.5	7.4	0.2
Dissolved Oxygen (mg/L)	59	2.7	11.6	6.0	6.2	2.3
Specific Conductance (µmhos)	59	120.0	314.0	226.0	224.7	39.6
Turbidity (NTU)	57	5.4	40.2	12.1	13.7	6.8
Total Suspended Solids (mg/L)	57	< 0.3	32.0	11.0	12.1	6.3
Total Nitrogen (mg/L)	37	< 0.002	2.087	0.951	1.030	0.367
Total Phosphorus (mg/L)	38	0.030	0.309	0.054	0.080	0.066
<b>H-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	167	2.0	32.0	20.0	19.2	7.2
pH (su)	167	4.5	8.9	7.4	7.3	0.6
Dissolved Oxygen (mg/L)	97	0.2	24.8	9.7	10.0	2.5
Specific Conductance (µmhos)	98	97.0	1218.0	299.5	372.0	216.5

Turbidity (NTU)	96	0.9	258.0	6.0	19.6	41.7
Total Suspended Solids (mg/L)	166	< 0.3	1133.0	4.0	31.6	110.9
Total Nitrogen (mg/L)	139	< 0.002	2.772	0.392	0.520	0.417
Total Phosphorus (mg/L)	153	< 0.002	0.790	0.018	0.052	0.113
<b>HATC-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	132	4.8	31.3	19.4	18.7	7.0
pH (su)	132	6.0	8.6	7.2	7.2	0.3
Dissolved Oxygen (mg/L)	132	6.6	12.8	9.4	9.4	1.5
Specific Conductance (µmhos)	130	23.2	63.8	41.6	41.0	7.1
Turbidity (NTU)	132	1.6	185.0	4.9	11.0	24.6
Total Suspended Solids (mg/L)	125	< 0.5	197.0	2.0	8.4	23.6
Total Nitrogen (mg/L)	125	< 0.022	3.060	0.168	0.261	0.387
Total Phosphorus (mg/L)	125	< 0.004	0.107	0.015	0.024	0.022
<b>HILT-2</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	36	14.4	29.4	23.5	22.9	3.8
pH (su)	36	5.8	7.6	6.8	6.8	0.4
Dissolved Oxygen (mg/L)	36	5.4	9.5	7.8	7.7	0.9
Specific Conductance (µmhos)	36	19.4	49.5	37.0	36.3	5.6
Turbidity (NTU)	35	5.2	272.0	8.6	25.4	48.5
Total Suspended Solids (mg/L)	32	< 1.0	152.0	4.0	15.6	29.8
Total Nitrogen (mg/L)	32	< 0.072	0.973	0.329	0.374	0.247
Total Phosphorus (mg/L)	32	< 0.011	0.170	0.018	0.030	0.032
<b>IC-1A</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	82	6.1	32.6	25.4	23.9	6.4
pH (su)	82	6.0	8.5	7.7	7.5	0.5
Dissolved Oxygen (mg/L)	82	2.7	12.6	6.3	6.8	1.8
Specific Conductance (µmhos)	72	10.3	37034.0	27049.1	24840.0	8938.6
Turbidity (NTU)	82	1.0	29.0	12.1	13.0	6.0
Total Suspended Solids (mg/L)	82	7.0	42.0	18.0	19.5	6.9
Total Nitrogen (mg/L)	75	< 0.058	3.116	0.852	0.885	0.467
Total Phosphorus (mg/L)	82	0.017	0.400	0.068	0.074	0.048
<b>INDM-249</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	55	12.1	27.8	22.3	20.9	4.3
pH (su)	55	7.0	8.7	7.8	7.8	0.2
Dissolved Oxygen (mg/L)	55	4.4	12.5	7.5	7.7	1.7
Specific Conductance (µmhos)	55	104.7	288.0	242.0	237.6	34.8
Turbidity (NTU)	59	1.4	76.0	7.8	12.2	14.2
Total Suspended Solids (mg/L)	40	< 0.3	60.0	6.0	8.2	10.0
Total Nitrogen (mg/L)	33	< 0.502	1.847	1.201	1.229	0.361
Total Phosphorus (mg/L)	33	< 0.006	0.175	0.039	0.047	0.035
<b>LC-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	208	7.6	30.3	18.4	18.1	4.8

pH (su)	207	6.3	8.7	7.7	7.6	0.3
Dissolved Oxygen (mg/L)	130	5.9	14.8	9.0	9.2	1.6
Specific Conductance (µmhos)	130	40.0	466.0	382.0	368.1	65.5
Turbidity (NTU)	122	1.1	152.0	3.5	7.8	17.2
Total Suspended Solids (mg/L)	198	< 0.3	117.0	4.0	7.1	12.5
Total Nitrogen (mg/L)	99	< 0.002	5.835	2.060	2.308	1.117
Total Phosphorus (mg/L)	171	< 0.004	8.000	0.060	0.146	0.614
<b>LFKB-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	35	8.4	28.6	24.7	21.9	6.1
pH (su)	35	6.8	8.8	7.8	7.9	0.5
Dissolved Oxygen (mg/L)	35	6.5	11.8	8.5	8.9	1.5
Specific Conductance (µmhos)	35	91.0	544.0	209.0	251.5	141.1
Turbidity (NTU)	28	1.3	14.1	3.2	4.1	2.9
Total Suspended Solids (mg/L)	25	< 1.0	45.0	4.0	8.7	12.1
Total Nitrogen (mg/L)	25	< 1.495	9.230	2.559	3.300	1.784
Total Phosphorus (mg/L)	25	0.056	5.930	0.398	0.687	1.168
<b>LFKJ-6</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	107	5.2	34.0	21.9	21.1	7.5
pH (su)	107	6.4	9.5	7.6	7.8	0.6
Dissolved Oxygen (mg/L)	61	4.6	18.8	10.0	9.8	2.6
Specific Conductance (µmhos)	60	128.0	669.0	360.2	362.7	137.3
Turbidity (NTU)	54	4.2	92.4	8.0	16.0	20.1
Total Suspended Solids (mg/L)	109	< 1.0	64.0	8.0	11.4	11.1
Total Nitrogen (mg/L)	82	< 0.394	16.410	1.416	1.444	0.414
Total Phosphorus (mg/L)	100	< 0.004	0.670	0.055	0.078	0.084
<b>LIML-300</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	39	12.6	29.3	22.9	21.6	4.1
pH (su)	39	6.8	8.1	7.6	7.6	0.3
Dissolved Oxygen (mg/L)	36	6.7	10.2	8.1	8.2	0.9
Specific Conductance (µmhos)	36	92.7	156.0	129.1	126.3	16.1
Turbidity (NTU)	40	1.7	61.5	4.6	7.4	9.6
Total Suspended Solids (mg/L)	38	< 0.3	37.0	3.0	4.8	6.4
Total Nitrogen (mg/L)	31	< 0.754	2.396	1.272	1.298	0.290
Total Phosphorus (mg/L)	31	< 0.005	0.159	0.050	0.065	0.036
<b>LOSW-7</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	39	6.4	28.6	19.5	18.0	6.6
pH (su)	39	6.8	9.0	8.0	8.0	0.4
Dissolved Oxygen (mg/L)	39	5.2	10.8	8.2	8.4	1.5
Specific Conductance (µmhos)	39	285.1	2004.0	970.2	934.4	480.4
Turbidity (NTU)	39	1.9	320.0	6.7	22.1	51.6
Total Suspended Solids (mg/L)	39	< 1.0	507.0	6.0	27.4	81.6
Total Nitrogen (mg/L)	33	< 0.004	1.564	0.356	0.445	0.343

Total Phosphorus (mg/L)	33	0.008	0.094	0.016	0.021	0.016
<b>LT-12</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	39	13.3	28.0	24.4	23.2	3.8
pH (su)	39	6.3	7.8	7.2	7.2	0.4
Dissolved Oxygen (mg/L)	34	6.7	10.1	7.6	7.8	0.8
Specific Conductance (µmhos)	34	46.2	175.6	134.8	124.9	34.3
Turbidity (NTU)	34	5.0	113.2	11.0	21.4	27.1
Total Suspended Solids (mg/L)	35	< 1.0	120.0	8.0	15.7	24.8
Total Nitrogen (mg/L)	36	< 0.074	2.690	0.556	0.613	0.548
Total Phosphorus (mg/L)	36	0.010	0.115	0.022	0.037	0.032
<b>LTRR-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	50	11.8	27.5	23.9	23.0	3.4
pH (su)	50	6.2	8.1	7.0	7.0	0.4
Dissolved Oxygen (mg/L)	50	5.1	10.8	7.0	7.0	1.1
Specific Conductance (µmhos)	50	46.4	120.0	70.7	72.7	15.6
Turbidity (NTU)	51	9.3	425.0	17.0	31.2	62.6
Total Suspended Solids (mg/L)	40	< 1.0	231.0	10.5	22.9	44.1
Total Nitrogen (mg/L)	37	< 0.253	1.313	0.712	0.762	0.206
Total Phosphorus (mg/L)	37	< 0.032	0.381	0.051	0.074	0.063
<b>LUXL-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	45	6.2	29.6	22.5	21.8	5.0
pH (su)	45	5.8	8.6	6.8	6.9	0.5
Dissolved Oxygen (mg/L)	32	7.4	10.4	8.3	8.3	0.7
Specific Conductance (µmhos)	32	26.7	152.6	39.0	43.4	21.3
Turbidity (NTU)	35	5.3	500.0	11.1	37.9	93.7
Total Suspended Solids (mg/L)	39	< 1.0	236.0	8.0	19.2	38.4
Total Nitrogen (mg/L)	41	< 0.167	3.110	0.496	0.620	0.551
Total Phosphorus (mg/L)	41	< 0.002	0.218	0.021	0.031	0.038
<b>MB-1A</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	88	6.8	31.9	25.6	23.6	6.3
pH (su)	89	5.4	8.4	8.0	7.9	0.5
Dissolved Oxygen (mg/L)	88	3.5	12.2	7.5	7.7	1.7
Specific Conductance (µmhos)	79	32.2	51664.2	35799.4	34529.8	9548.0
Turbidity (NTU)	77	4.3	30.1	11.0	12.4	5.1
Total Suspended Solids (mg/L)	80	8.0	39.0	18.0	19.2	6.9
Total Nitrogen (mg/L)	73	< 0.030	1.469	0.476	0.491	0.333
Total Phosphorus (mg/L)	80	0.012	0.790	0.036	0.052	0.093
<b>MB-2A</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	78	10.3	31.0	24.5	23.5	5.5
pH (su)	77	6.9	8.3	8.0	8.0	0.3
Dissolved Oxygen (mg/L)	78	2.0	10.9	7.4	7.2	1.5
Specific Conductance (µmhos)	69	23470.1	52565.5	45249.6	45337.0	5225.4

Turbidity (NTU)	76	0.1	32.5	2.8	3.1	4.2
Total Suspended Solids (mg/L)	80	< 5.0	58.0	14.0	15.0	6.9
Total Nitrogen (mg/L)	73	< 0.038	2.808	0.408	0.552	0.595
Total Phosphorus (mg/L)	80	< 0.003	0.200	0.026	0.030	0.029
<b>MB-3A</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	88	4.2	31.6	25.6	23.2	6.7
pH (su)	88	5.9	8.3	8.0	7.8	0.5
Dissolved Oxygen (mg/L)	88	3.8	13.4	7.5	7.8	1.8
Specific Conductance (µmhos)	78	16.8	43491.1	26880.6	26160.9	10366.0
Turbidity (NTU)	80	2.4	75.7	11.9	16.2	12.9
Total Suspended Solids (mg/L)	82	7.0	85.0	20.5	22.8	13.0
Total Nitrogen (mg/L)	75	< 0.052	2.629	0.642	0.735	0.525
Total Phosphorus (mg/L)	82	0.023	1.200	0.051	0.068	0.128
<b>MBFB-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	65	5.8	30.7	24.1	22.1	7.0
pH (su)	65	7.0	9.1	7.6	7.6	0.4
Dissolved Oxygen (mg/L)	59	5.0	13.2	8.1	8.5	1.9
Specific Conductance (µmhos)	59	88.0	357.9	177.0	187.6	71.7
Turbidity (NTU)	59	4.2	137.0	10.8	18.1	25.1
Total Suspended Solids (mg/L)	60	< 1.0	199.0	12.0	24.7	40.6
Total Nitrogen (mg/L)	51	0.312	4.871	1.890	2.004	0.892
Total Phosphorus (mg/L)	51	0.008	0.570	0.172	0.225	0.149
<b>MO-1A</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	341	7.0	35.0	23.4	22.3	7.4
pH (su)	337	5.1	8.1	7.1	7.1	0.5
Dissolved Oxygen (mg/L)	93	1.9	12.3	7.1	7.5	2.0
Specific Conductance (µmhos)	84	106.8	24774.0	287.2	2467.9	4773.8
Turbidity (NTU)	98	3.0	132.0	18.5	29.3	28.2
Total Suspended Solids (mg/L)	356	< 1.0	317.0	18.5	33.2	39.4
Total Nitrogen (mg/L)	342	< 0.058	35.540	0.770	0.948	1.954
Total Phosphorus (mg/L)	354	< 0.010	0.631	0.070	0.089	0.069
<b>MO-2</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	317	7.0	32.0	23.0	21.9	7.0
pH (su)	318	5.3	8.9	7.2	7.1	0.5
Dissolved Oxygen (mg/L)	91	2.2	12.1	6.4	7.0	2.1
Specific Conductance (µmhos)	82	122.5	37441.4	6359.2	10686.6	10104.4
Turbidity (NTU)	92	2.0	78.0	12.0	17.0	16.8
Total Suspended Solids (mg/L)	332	< 1.0	82.0	12.0	16.9	14.4
Total Nitrogen (mg/L)	312	< 0.082	4.400	0.780	0.819	0.404
Total Phosphorus (mg/L)	330	< 0.015	0.573	0.066	0.077	0.049
<b>MOBM-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	120	5.5	34.1	23.3	22.3	7.6

pH (su)	119	5.2	8.2	7.0	6.9	0.6
Dissolved Oxygen (mg/L)	118	5.3	12.8	8.0	8.3	1.8
Specific Conductance (µmhos)	110	108.1	5190.9	196.6	247.3	479.3
Turbidity (NTU)	121	3.0	198.0	20.0	29.7	28.7
Total Suspended Solids (mg/L)	128	6.0	227.0	17.0	27.1	32.0
Total Nitrogen (mg/L)	120	< 0.197	4.462	0.814	0.860	0.462
Total Phosphorus (mg/L)	128	0.026	0.370	0.069	0.079	0.046
<b>MULD-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	31	15.1	29.9	23.9	23.7	3.7
pH (su)	31	6.2	7.5	6.8	6.8	0.4
Dissolved Oxygen (mg/L)	31	7.5	9.7	8.3	8.4	0.6
Specific Conductance (µmhos)	31	0.0	526.0	40.1	54.2	88.0
Turbidity (NTU)	31	3.1	274.0	12.1	31.9	54.4
Total Suspended Solids (mg/L)	30	< 1.0	276.0	14.5	33.9	56.2
Total Nitrogen (mg/L)	29	< 0.069	0.695	0.258	0.308	0.147
Total Phosphorus (mg/L)	30	< 0.006	0.100	0.022	0.029	0.019
<b>NRRT-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	76	5.8	31.0	22.3	20.8	6.8
pH (su)	77	6.5	9.3	7.9	7.9	0.5
Dissolved Oxygen (mg/L)	77	5.8	13.4	8.6	9.0	1.8
Specific Conductance (µmhos)	76	69.0	4595.0	298.6	745.3	1089.9
Turbidity (NTU)	75	1.9	254.0	5.9	18.6	42.7
Total Suspended Solids (mg/L)	72	< 1.0	308.0	4.0	17.0	46.8
Total Nitrogen (mg/L)	71	< 0.076	1.801	0.420	0.542	0.413
Total Phosphorus (mg/L)	71	< 0.006	0.210	0.025	0.034	0.030
<b>NXBS-50</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	30	14.1	32.0	26.5	25.5	4.5
pH (su)	30	6.7	8.6	8.0	7.9	0.5
Dissolved Oxygen (mg/L)	29	5.0	8.8	7.0	7.1	0.9
Specific Conductance (µmhos)	30	55.1	205.8	145.4	147.0	27.5
Turbidity (NTU)	31	13.6	548.0	37.9	86.8	128.0
Total Suspended Solids (mg/L)	31	< 1.0	410.0	36.0	80.0	109.2
Total Nitrogen (mg/L)	28	< 0.002	3.543	0.828	1.119	0.830
Total Phosphorus (mg/L)	28	< 0.049	0.441	0.092	0.126	0.102
<b>PALC-2</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	34	8.8	30.0	25.0	23.8	4.3
pH (su)	34	6.4	8.2	7.5	7.4	0.4
Dissolved Oxygen (mg/L)	31	5.8	10.7	7.6	7.6	1.0
Specific Conductance (µmhos)	31	41.8	219.8	127.0	127.0	44.0
Turbidity (NTU)	31	2.8	49.6	9.5	13.0	11.3
Total Suspended Solids (mg/L)	30	< 1.0	29.0	2.8	6.7	7.9
Total Nitrogen (mg/L)	33	< 0.086	1.373	0.481	0.493	0.270

Total Phosphorus (mg/L)	33	< 0.004	0.061	0.024	0.026	0.014
<b>PDBB-0</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	35	17.3	31.1	26.3	25.8	4.1
pH (su)	33	6.2	8.1	8.0	7.8	0.4
Dissolved Oxygen (mg/L)	34	5.4	8.9	7.0	7.0	0.8
Specific Conductance (µmhos)	35	27371.6	54860.6	47558.6	45501.6	7251.1
Turbidity (NTU)	31	0.0	11.0	1.4	2.0	1.1
Total Suspended Solids (mg/L)	34	7.0	69.0	13.0	15.3	10.9
Total Nitrogen (mg/L)	34	< 0.029	2.102	0.206	0.432	0.528
Total Phosphorus (mg/L)	34	< 0.003	0.069	0.026	0.025	0.020
<b>PDBB-5</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	34	14.8	27.0	23.0	22.8	2.8
pH (su)	34	3.4	6.5	5.1	5.3	0.7
Dissolved Oxygen (mg/L)	34	6.5	9.3	8.0	7.9	0.6
Specific Conductance (µmhos)	33	20.7	39.0	26.2	26.7	3.0
Turbidity (NTU)	37	1.5	15.6	3.2	4.4	3.3
Total Suspended Solids (mg/L)	35	< 1.0	15.0	2.5	4.2	2.9
Total Nitrogen (mg/L)	35	< 0.329	1.605	0.610	0.675	0.280
Total Phosphorus (mg/L)	35	0.008	0.064	0.021	0.024	0.013
<b>PEAG-2</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	30	13.2	30.0	25.6	25.2	4.1
pH (su)	30	6.3	9.1	7.3	7.3	0.5
Dissolved Oxygen (mg/L)	30	6.7	9.9	7.8	7.9	0.8
Specific Conductance (µmhos)	30	55.1	165.2	116.7	113.0	31.0
Turbidity (NTU)	30	1.8	157.0	8.3	19.0	28.6
Total Suspended Solids (mg/L)	30	< 1.0	82.0	4.0	15.3	20.8
Total Nitrogen (mg/L)	30	< 0.276	1.266	0.919	0.853	0.269
Total Phosphorus (mg/L)	30	0.007	0.133	0.028	0.039	0.031
<b>PRRJ-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	30	12.1	27.3	22.7	21.6	3.6
pH (su)	30	7.4	8.2	7.6	7.6	0.2
Dissolved Oxygen (mg/L)	30	4.5	9.5	6.6	6.4	1.2
Specific Conductance (µmhos)	30	236.0	403.0	308.5	306.6	37.1
Turbidity (NTU)	30	1.3	69.3	7.2	11.8	14.5
Total Suspended Solids (mg/L)	30	3.0	40.0	6.0	8.5	7.9
Total Nitrogen (mg/L)	24	< 0.350	2.540	0.912	0.960	0.506
Total Phosphorus (mg/L)	24	< 0.006	0.100	0.023	0.026	0.017
<b>SF-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	40	0.2	28.6	19.2	18.2	6.6
pH (su)	40	6.9	8.7	7.6	7.6	0.3
Dissolved Oxygen (mg/L)	40	7.2	14.5	9.1	9.2	1.6
Specific Conductance (µmhos)	40	46.0	129.0	86.5	83.8	18.3

Turbidity (NTU)	43	1.7	11.9	2.7	3.6	2.3
Total Suspended Solids (mg/L)	38	< 1.0	9.0	2.0	2.3	2.1
Total Nitrogen (mg/L)	38	< 0.034	1.320	0.217	0.309	0.277
Total Phosphorus (mg/L)	38	< 0.006	1.000	0.010	0.024	0.080
<b>SF-6</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	32	7.4	16.8	13.2	12.8	2.6
pH (su)	32	6.4	9.5	7.7	7.7	0.8
Dissolved Oxygen (mg/L)	32	5.1	10.5	7.6	7.8	1.5
Specific Conductance (µmhos)	32	47.0	320.8	62.5	89.0	68.2
Turbidity (NTU)	32	0.8	47.4	1.9	4.7	8.6
Total Suspended Solids (mg/L)	32	< 1.0	22.0	2.0	3.3	4.1
Total Nitrogen (mg/L)	32	< 0.294	1.122	0.472	0.539	0.205
Total Phosphorus (mg/L)	32	< 0.004	0.043	0.008	0.010	0.008
<b>SHRT-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	68	5.0	27.0	22.6	21.6	4.2
pH (su)	71	7.3	8.5	7.9	7.8	0.2
Dissolved Oxygen (mg/L)	44	5.7	10.5	7.9	8.0	1.0
Specific Conductance (µmhos)	45	106.7	1303.0	384.9	497.7	255.4
Turbidity (NTU)	45	1.2	154.0	3.8	8.4	22.5
Total Suspended Solids (mg/L)	64	< 0.3	925.0	7.0	22.5	115.2
Total Nitrogen (mg/L)	46	< 1.018	7.019	3.263	3.491	1.227
Total Phosphorus (mg/L)	61	0.037	15.400	0.823	2.238	3.033
<b>SOGL-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	68	5.8	31.0	22.7	21.1	5.4
pH (su)	68	6.6	9.8	7.3	7.4	0.5
Dissolved Oxygen (mg/L)	52	6.0	10.9	7.5	7.7	1.1
Specific Conductance (µmhos)	52	58.5	1376.0	216.2	262.3	207.4
Turbidity (NTU)	53	2.8	340.0	10.5	21.9	47.0
Total Suspended Solids (mg/L)	64	< 1.0	450.0	9.5	22.5	58.0
Total Nitrogen (mg/L)	60	< 0.491	9.678	2.862	3.442	2.332
Total Phosphorus (mg/L)	60	0.004	1.870	0.338	0.477	0.440
<b>SPLC-3</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	31	16.0	32.0	25.0	24.6	3.6
pH (su)	31	6.4	8.3	7.1	7.1	0.4
Dissolved Oxygen (mg/L)	28	5.5	8.3	7.3	7.2	0.6
Specific Conductance (µmhos)	28	29.0	179.7	74.9	82.1	32.7
Turbidity (NTU)	29	1.6	60.9	10.9	15.3	13.0
Total Suspended Solids (mg/L)	29	< 1.0	93.0	3.0	11.2	19.6
Total Nitrogen (mg/L)	32	< 0.076	0.986	0.422	0.468	0.236
Total Phosphorus (mg/L)	32	< 0.004	0.058	0.025	0.026	0.013
<b>SPYG-3</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	44	4.0	30.3	22.8	22.2	6.3

pH (su)	44	6.0	8.0	7.0	7.0	0.5
Dissolved Oxygen (mg/L)	33	5.5	10.5	7.2	7.4	0.9
Specific Conductance (µmhos)	30	52.0	189.4	118.2	115.9	36.2
Turbidity (NTU)	37	2.3	61.1	19.0	20.0	10.8
Total Suspended Solids (mg/L)	48	1.0	50.0	13.5	15.7	10.3
Total Nitrogen (mg/L)	47	< 0.092	1.857	0.459	0.516	0.287
Total Phosphorus (mg/L)	47	< 0.004	0.100	0.038	0.037	0.019
<b>STXB-3</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	35	16.2	27.0	22.9	22.5	2.5
pH (su)	35	4.6	6.8	5.3	5.5	0.5
Dissolved Oxygen (mg/L)	35	5.9	9.5	8.3	8.3	0.6
Specific Conductance (µmhos)	34	22.0	44.9	34.0	33.6	4.9
Turbidity (NTU)	38	2.1	42.7	5.4	8.8	9.5
Total Suspended Solids (mg/L)	35	< 5.0	48.0	6.0	7.9	8.0
Total Nitrogen (mg/L)	35	< 0.328	1.492	0.833	0.840	0.242
Total Phosphorus (mg/L)	35	0.005	0.071	0.022	0.024	0.014
<b>SUCS-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	47	5.3	30.0	25.1	23.1	6.2
pH (su)	47	5.7	8.2	7.2	7.2	0.5
Dissolved Oxygen (mg/L)	31	6.6	9.6	7.4	7.8	0.8
Specific Conductance (µmhos)	31	46.0	96.1	62.8	64.4	13.2
Turbidity (NTU)	31	10.1	211.0	27.2	43.8	48.8
Total Suspended Solids (mg/L)	47	3.0	259.7	23.0	39.6	52.8
Total Nitrogen (mg/L)	44	< 0.004	1.947	0.316	0.474	0.402
Total Phosphorus (mg/L)	44	< 0.002	0.140	0.050	0.056	0.035
<b>TA-2</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	150	-1.8	34.0	20.9	19.2	6.6
pH (su)	151	5.7	8.7	7.0	7.0	0.5
Dissolved Oxygen (mg/L)	63	6.0	12.6	8.5	8.7	1.4
Specific Conductance (µmhos)	63	28.4	85.0	45.7	46.1	8.2
Turbidity (NTU)	64	5.2	458.0	12.1	28.9	60.3
Total Suspended Solids (mg/L)	151	< 1.0	292.0	10.0	22.6	38.2
Total Nitrogen (mg/L)	79	< 0.095	9.460	0.357	0.599	1.174
Total Phosphorus (mg/L)	143	< 0.004	2.210	0.040	0.069	0.192
<b>TARE-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	108	5.6	30.1	19.1	18.7	5.9
pH (su)	108	5.9	10.0	6.9	6.9	0.4
Dissolved Oxygen (mg/L)	107	6.6	11.8	8.9	9.0	1.2
Specific Conductance (µmhos)	108	36.1	85.5	50.4	51.4	8.8
Turbidity (NTU)	106	2.7	232.0	9.7	20.0	34.2
Total Suspended Solids (mg/L)	109	< 1.0	131.0	8.0	17.9	25.6
Total Nitrogen (mg/L)	109	< 0.143	1.986	0.391	0.444	0.234

Total Phosphorus (mg/L)	109	< 0.004	0.176	0.022	0.033	0.032
<b>TART-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	18	14.9	32.5	25.6	24.4	5.6
pH (su)	18	6.5	7.2	6.9	6.8	0.2
Dissolved Oxygen (mg/L)	18	6.4	10.2	8.0	8.0	1.0
Specific Conductance (µmhos)	18	33.9	48.7	41.2	41.1	3.9
Turbidity (NTU)	17	3.0	12.5	6.0	6.9	3.0
Total Suspended Solids (mg/L)	16	< 1.0	9.0	1.0	2.4	2.9
Total Nitrogen (mg/L)	16	< 0.102	0.791	0.360	0.362	0.173
Total Phosphorus (mg/L)	16	0.009	0.021	0.014	0.015	0.004
<b>TC-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	202	6.0	37.0	26.0	24.0	6.3
pH (su)	202	5.9	9.4	7.7	7.7	0.6
Dissolved Oxygen (mg/L)	65	2.3	12.4	7.0	7.2	2.5
Specific Conductance (µmhos)	62	2451.0	38639.9	20699.8	20369.0	9841.3
Turbidity (NTU)	64	3.0	104.0	6.6	10.9	15.0
Total Suspended Solids (mg/L)	202	< 3.0	80.0	13.0	16.1	12.4
Total Nitrogen (mg/L)	186	< 0.038	5.760	1.045	1.383	1.064
Total Phosphorus (mg/L)	202	< 0.012	3.350	0.140	0.232	0.321
<b>TENB-2</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	76	7.9	33.2	24.7	23.4	6.6
pH (su)	76	6.7	7.9	7.4	7.4	0.2
Dissolved Oxygen (mg/L)	75	4.6	12.2	7.5	7.8	1.8
Specific Conductance (µmhos)	66	97.1	6814.0	394.6	1441.9	1871.6
Turbidity (NTU)	80	3.0	66.0	12.0	15.1	11.4
Total Suspended Solids (mg/L)	79	< 1.0	69.0	9.0	11.8	9.4
Total Nitrogen (mg/L)	78	< 0.114	2.082	0.688	0.722	0.320
Total Phosphorus (mg/L)	79	0.017	0.140	0.051	0.055	0.021
<b>TENR-417</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	70	5.7	30.5	19.3	18.8	7.6
pH (su)	70	7.2	8.9	7.6	7.6	0.3
Dissolved Oxygen (mg/L)	70	4.4	13.1	8.2	8.2	2.5
Specific Conductance (µmhos)	70	129.3	232.0	186.5	186.0	21.1
Turbidity (NTU)	70	2.5	44.9	5.4	7.0	6.0
Total Suspended Solids (mg/L)	69	< 0.3	44.0	4.0	5.4	5.8
Total Nitrogen (mg/L)	45	< 0.137	2.295	0.630	0.695	0.347
Total Phosphorus (mg/L)	45	0.015	0.170	0.031	0.037	0.026
<b>TERC-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	42	13.0	27.8	23.4	21.8	4.1
pH (su)	42	6.7	8.9	7.7	7.8	0.5
Dissolved Oxygen (mg/L)	37	6.2	10.4	8.0	8.1	1.0
Specific Conductance (µmhos)	37	27.0	300.0	189.8	180.2	58.1

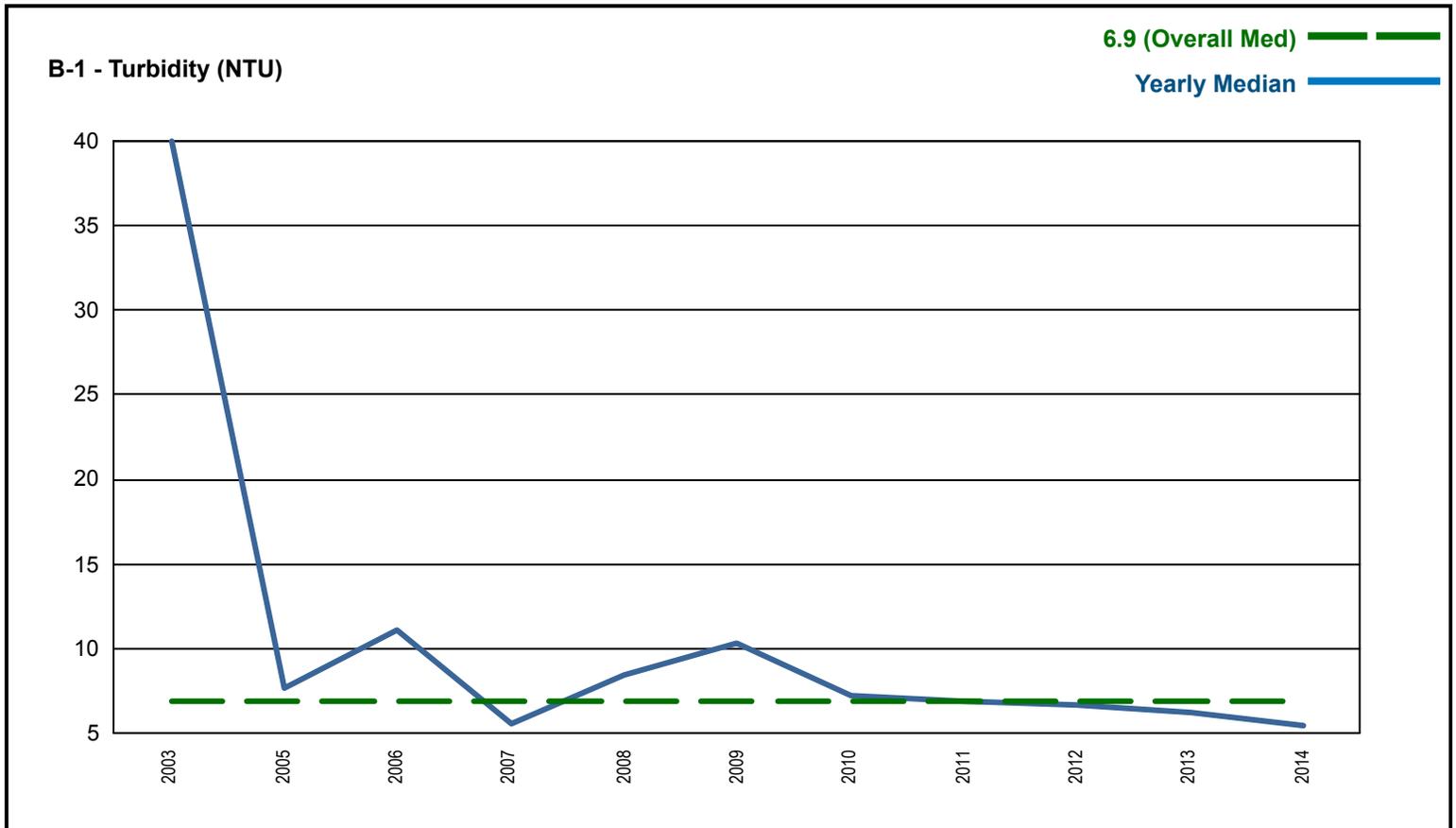
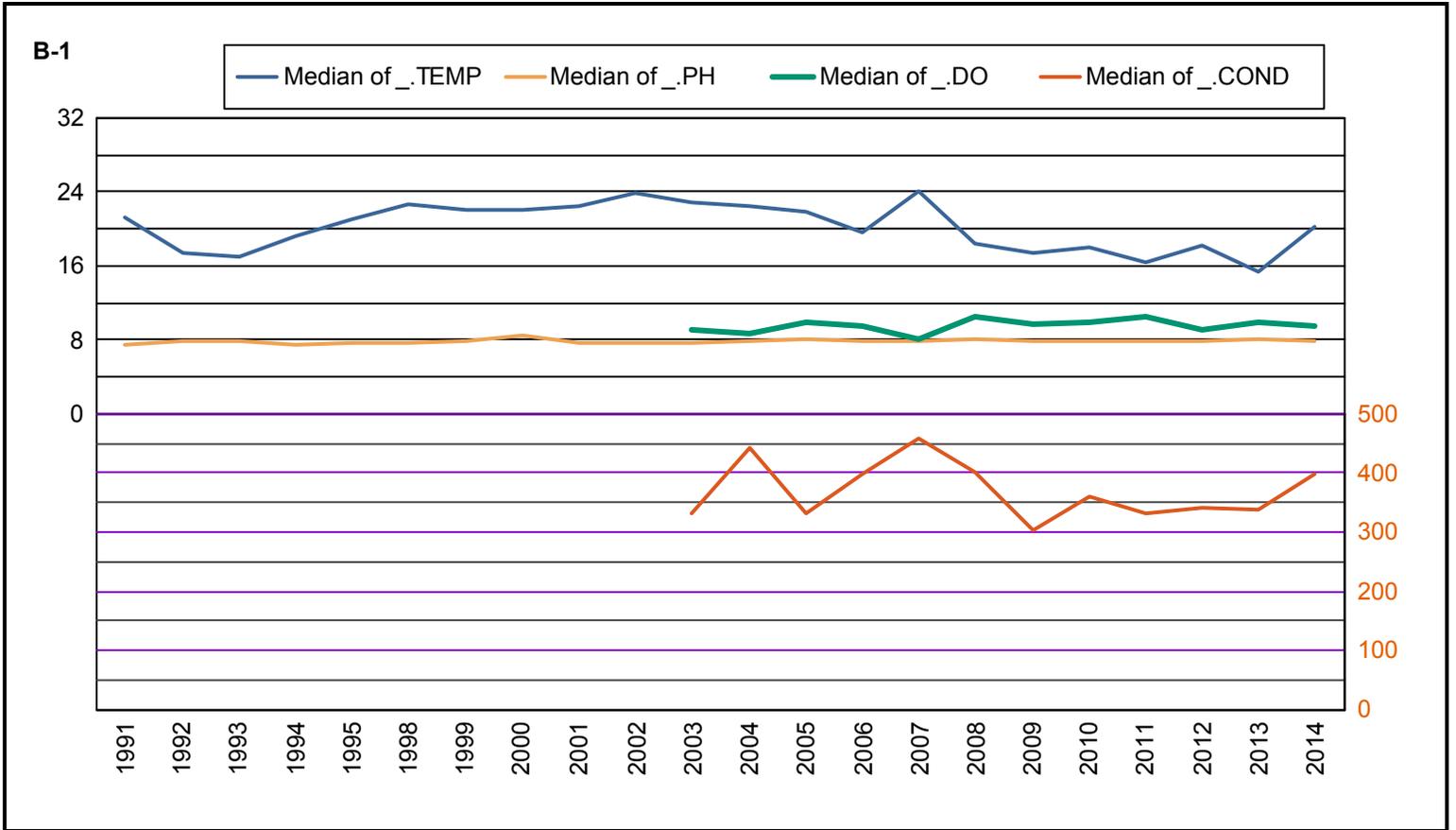
Turbidity (NTU)	30	1.3	21.4	4.2	5.6	4.3
Total Suspended Solids (mg/L)	38	< 1.0	165.0	4.0	9.6	27.2
Total Nitrogen (mg/L)	38	< 0.142	0.952	0.407	0.442	0.175
Total Phosphorus (mg/L)	38	< 0.004	0.224	0.022	0.031	0.038
<b>TH-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	114	6.0	29.0	21.0	19.4	5.8
pH (su)	116	6.4	8.6	7.7	7.6	0.4
Dissolved Oxygen (mg/L)	38	6.1	9.6	7.3	7.4	0.8
Specific Conductance (µmhos)	37	40.1	712.0	307.4	317.2	150.5
Turbidity (NTU)	39	2.6	40.7	6.2	7.9	6.3
Total Suspended Solids (mg/L)	112	< 1.0	293.0	8.0	13.5	29.6
Total Nitrogen (mg/L)	93	< 0.197	5.260	1.412	1.782	1.177
Total Phosphorus (mg/L)	109	< 0.004	7.830	0.304	0.838	1.424
<b>TM-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	319	8.0	33.0	24.0	23.0	6.0
pH (su)	320	5.8	8.8	6.8	6.8	0.4
Dissolved Oxygen (mg/L)	101	1.7	12.8	5.3	5.5	2.3
Specific Conductance (µmhos)	93	122.6	32922.4	4625.0	8202.6	8624.6
Turbidity (NTU)	106	2.8	34.1	7.0	8.5	5.8
Total Suspended Solids (mg/L)	321	< 1.0	214.0	13.0	16.8	18.7
Total Nitrogen (mg/L)	318	< 0.170	10.460	3.335	3.685	1.851
Total Phosphorus (mg/L)	325	0.092	5.240	0.510	0.697	0.595
<b>TMCM-3</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	79	10.0	33.0	25.7	23.2	6.2
pH (su)	79	5.0	10.1	7.1	6.9	0.9
Dissolved Oxygen (mg/L)	77	6.7	12.0	8.2	8.6	1.2
Specific Conductance (µmhos)	79	0.0	117.0	74.0	69.2	26.0
Turbidity (NTU)	80	1.0	96.0	3.9	8.9	14.2
Total Suspended Solids (mg/L)	76	< 1.0	19.0	2.5	3.8	3.2
Total Nitrogen (mg/L)	76	< 0.113	1.859	0.552	0.602	0.308
Total Phosphorus (mg/L)	76	0.005	0.130	0.022	0.027	0.019
<b>TN-4A</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	112	5.0	29.9	16.8	17.0	6.6
pH (su)	113	6.7	9.0	7.9	8.0	0.3
Dissolved Oxygen (mg/L)	115	3.8	13.1	9.2	9.2	1.6
Specific Conductance (µmhos)	107	208.0	326.0	267.0	265.8	30.4
Turbidity (NTU)	120	0.5	271.0	12.2	19.0	27.0
Total Suspended Solids (mg/L)	116	1.0	206.0	14.0	22.3	25.8
Total Nitrogen (mg/L)	82	< 0.147	7.930	1.282	1.372	0.703
Total Phosphorus (mg/L)	82	< 0.002	1.100	0.154	0.182	0.136
<b>UPHM-3</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	36	11.1	31.7	25.5	24.2	5.0

pH (su)	36	6.5	9.0	7.4	7.5	0.5
Dissolved Oxygen (mg/L)	36	6.7	13.0	8.5	8.6	1.3
Specific Conductance (µmhos)	36	38.0	247.7	170.5	157.0	59.8
Turbidity (NTU)	36	0.6	121.0	5.2	15.1	25.2
Total Suspended Solids (mg/L)	35	< 1.0	107.0	4.0	13.2	24.1
Total Nitrogen (mg/L)	35	< 0.366	2.017	0.951	1.013	0.467
Total Phosphorus (mg/L)	35	< 0.004	0.116	0.020	0.030	0.027
<b>VALJ-8</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	30	14.7	29.5	24.8	24.2	3.4
pH (su)	30	7.4	8.4	8.2	8.1	0.3
Dissolved Oxygen (mg/L)	30	6.9	13.0	8.9	9.0	1.3
Specific Conductance (µmhos)	30	453.0	1295.0	844.0	811.4	193.4
Turbidity (NTU)	30	1.2	149.0	2.8	10.9	27.0
Total Suspended Solids (mg/L)	30	< 0.3	185.0	4.0	13.0	34.6
Total Nitrogen (mg/L)	21	< 0.808	8.680	4.896	4.821	2.075
Total Phosphorus (mg/L)	21	< 0.100	0.910	0.453	0.463	0.226
<b>VC-5</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	53	11.8	28.6	23.4	22.4	3.7
pH (su)	53	6.2	8.3	7.8	7.7	0.4
Dissolved Oxygen (mg/L)	29	5.0	11.3	8.3	8.4	1.5
Specific Conductance (µmhos)	29	131.0	497.2	421.0	388.4	99.4
Turbidity (NTU)	29	0.9	59.1	2.5	5.3	10.7
Total Suspended Solids (mg/L)	48	< 0.3	58.0	3.0	4.4	8.4
Total Nitrogen (mg/L)	26	< 0.458	6.120	1.059	1.053	0.308
Total Phosphorus (mg/L)	41	< 0.004	0.158	0.029	0.035	0.030
<b>VI-3</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	54	13.6	28.2	24.6	23.4	3.5
pH (su)	54	6.6	8.2	7.6	7.5	0.3
Dissolved Oxygen (mg/L)	35	5.0	10.5	7.5	7.4	1.4
Specific Conductance (µmhos)	35	120.0	486.0	439.0	414.5	74.2
Turbidity (NTU)	35	1.9	33.8	3.9	6.8	7.5
Total Suspended Solids (mg/L)	54	< 1.0	54.0	5.0	8.2	10.7
Total Nitrogen (mg/L)	32	< 0.652	22.411	5.736	6.192	2.496
Total Phosphorus (mg/L)	45	0.203	1.820	0.697	0.724	0.352
<b>VLGJ-5</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	59	5.8	29.5	22.9	21.2	6.4
pH (su)	59	7.3	9.4	8.2	8.3	0.4
Dissolved Oxygen (mg/L)	59	7.4	17.3	9.7	10.2	2.0
Specific Conductance (µmhos)	59	314.0	989.0	578.0	579.7	129.6
Turbidity (NTU)	59	1.2	34.5	4.2	6.8	6.8
Total Suspended Solids (mg/L)	59	< 1.0	49.0	5.0	8.3	9.3
Total Nitrogen (mg/L)	50	0.953	14.247	3.173	3.186	0.974

Total Phosphorus (mg/L)	50	0.019	0.517	0.199	0.197	0.120
<b>WB-1</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	248	9.0	32.6	24.0	23.3	5.7
pH (su)	248	5.3	8.8	7.1	7.2	0.7
Dissolved Oxygen (mg/L)	103	3.8	12.4	7.1	7.6	1.9
Specific Conductance (µmhos)	104	98.0	33238.3	9503.2	10770.5	8237.1
Turbidity (NTU)	89	2.4	48.2	10.0	13.4	9.7
Total Suspended Solids (mg/L)	218	< 1.0	70.0	12.5	14.7	11.0
Total Nitrogen (mg/L)	211	< 0.349	5.184	1.230	1.352	0.636
Total Phosphorus (mg/L)	220	< 0.005	0.310	0.055	0.060	0.044
<b>W DFA-2A</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	112	6.8	32.3	21.5	20.7	7.2
pH (su)	112	6.6	8.6	7.4	7.4	0.4
Dissolved Oxygen (mg/L)	112	6.5	12.6	9.1	9.2	1.2
Specific Conductance (µmhos)	112	65.2	222.5	116.2	123.2	31.2
Turbidity (NTU)	112	3.6	42.1	7.2	10.2	7.1
Total Suspended Solids (mg/L)	111	< 1.0	62.0	8.0	9.4	8.6
Total Nitrogen (mg/L)	112	< 0.080	1.003	0.547	0.544	0.195
Total Phosphorus (mg/L)	112	< 0.004	0.114	0.034	0.037	0.016
<b>WEIC-12</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	247	5.6	33.7	21.1	20.7	7.5
pH (su)	247	5.8	9.0	7.5	7.5	0.5
Dissolved Oxygen (mg/L)	129	4.2	11.9	8.5	8.6	1.5
Specific Conductance (µmhos)	129	0.1	246.8	163.9	147.4	67.2
Turbidity (NTU)	127	6.7	237.0	12.8	20.2	25.2
Total Suspended Solids (mg/L)	242	< 1.0	213.0	11.0	17.4	22.4
Total Nitrogen (mg/L)	193	< 0.065	1.612	0.754	0.771	0.260
Total Phosphorus (mg/L)	241	< 0.004	0.990	0.096	0.120	0.107
<b>WO-1A</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	272	8.0	30.0	21.0	20.5	3.9
pH (su)	271	4.5	8.4	6.3	6.3	0.5
Dissolved Oxygen (mg/L)	53	0.1	9.3	7.4	7.0	1.9
Specific Conductance (µmhos)	52	77.0	23383.0	106.6	1108.5	4205.1
Turbidity (NTU)	55	0.0	41.6	3.2	5.1	6.2
Total Suspended Solids (mg/L)	257	< 1.0	54.0	3.0	4.7	6.6
Total Nitrogen (mg/L)	275	< 0.319	6.570	1.930	2.008	0.683
Total Phosphorus (mg/L)	279	< 0.018	2.000	0.210	0.252	0.200
<b>YERC-3</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Med</b>	<b>Avg</b>	<b>SD</b>
Temperature (°C)	70	8.8	27.6	21.9	20.4	5.6
pH (su)	71	5.9	7.8	7.1	7.1	0.4
Dissolved Oxygen (mg/L)	72	6.2	11.1	8.2	8.4	1.2
Specific Conductance (µmhos)	71	0.0	167.9	96.7	84.5	41.9

Turbidity (NTU)	68	2.1	60.8	6.4	10.1	10.1
Total Suspended Solids (mg/L)	68	< 1.0	53.0	4.0	8.1	10.7
Total Nitrogen (mg/L)	68	< 0.118	1.001	0.388	0.401	0.213
Total Phosphorus (mg/L)	68	< 0.005	0.092	0.020	0.025	0.017

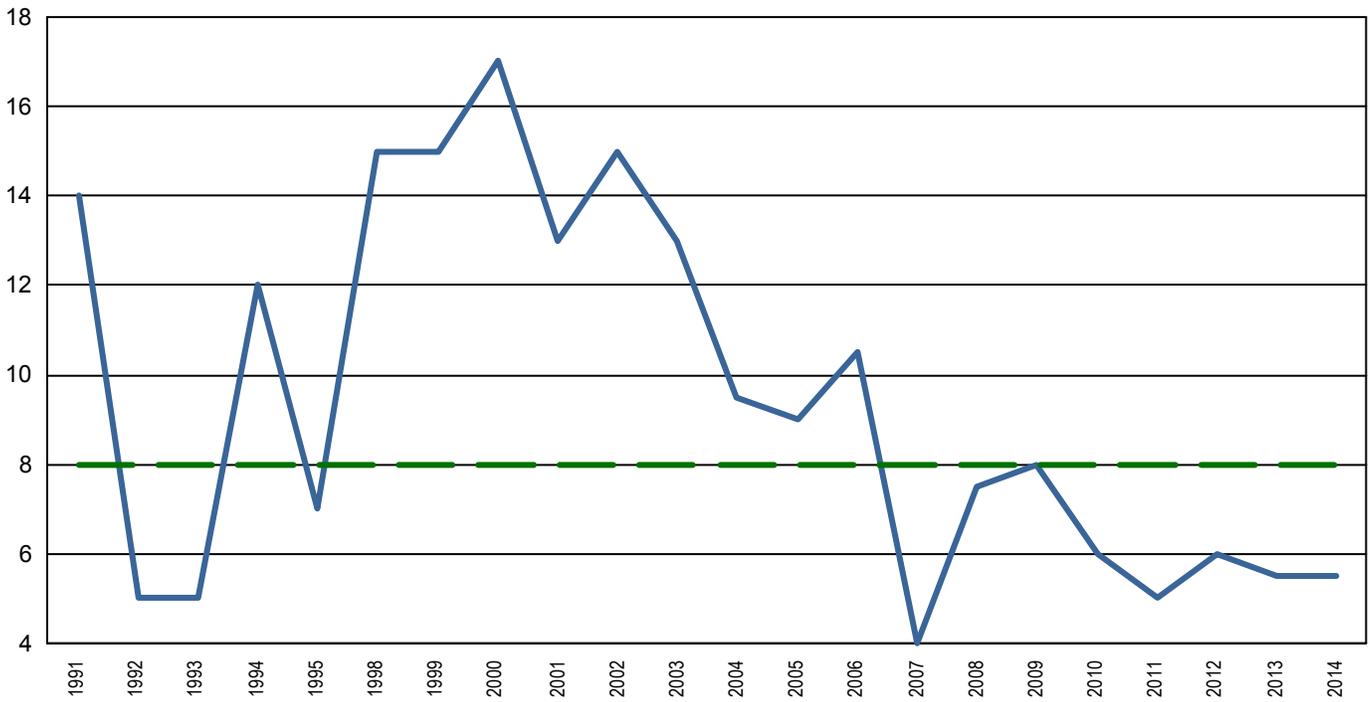
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

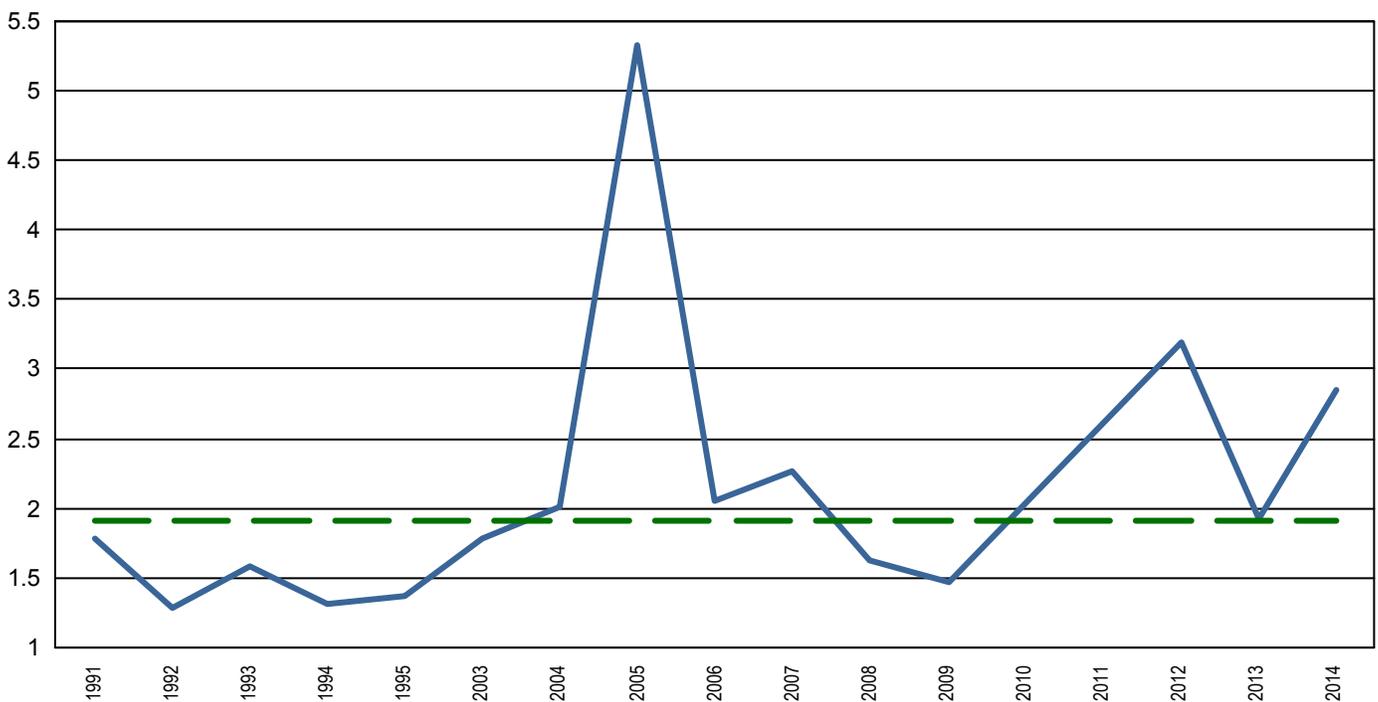
**B-1 - Total Suspended Solids (mg/L)**

8.0 (Overall Med)   
 Yearly Median 

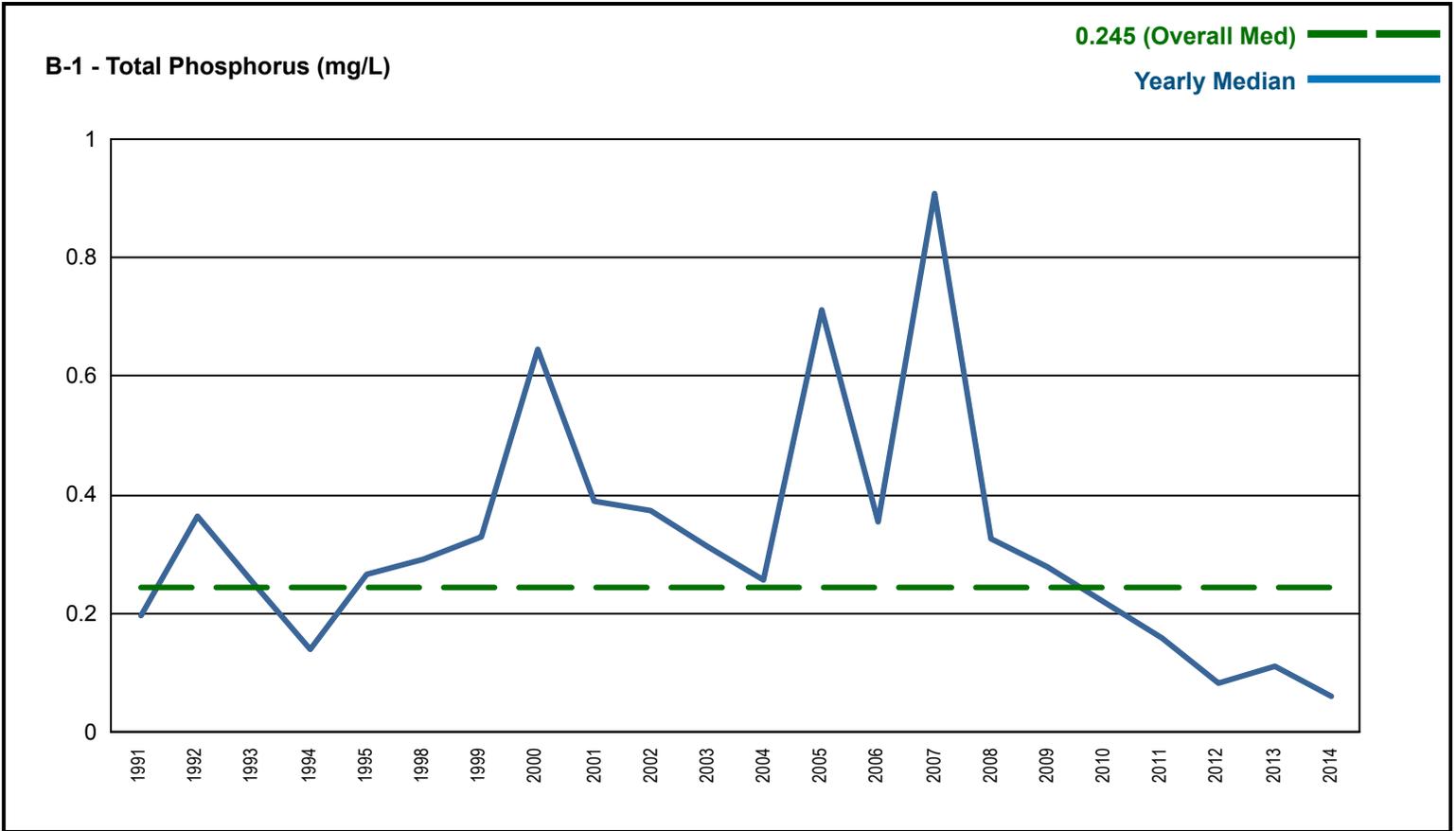


**B-1 - Total Nitrogen (mg/L)**

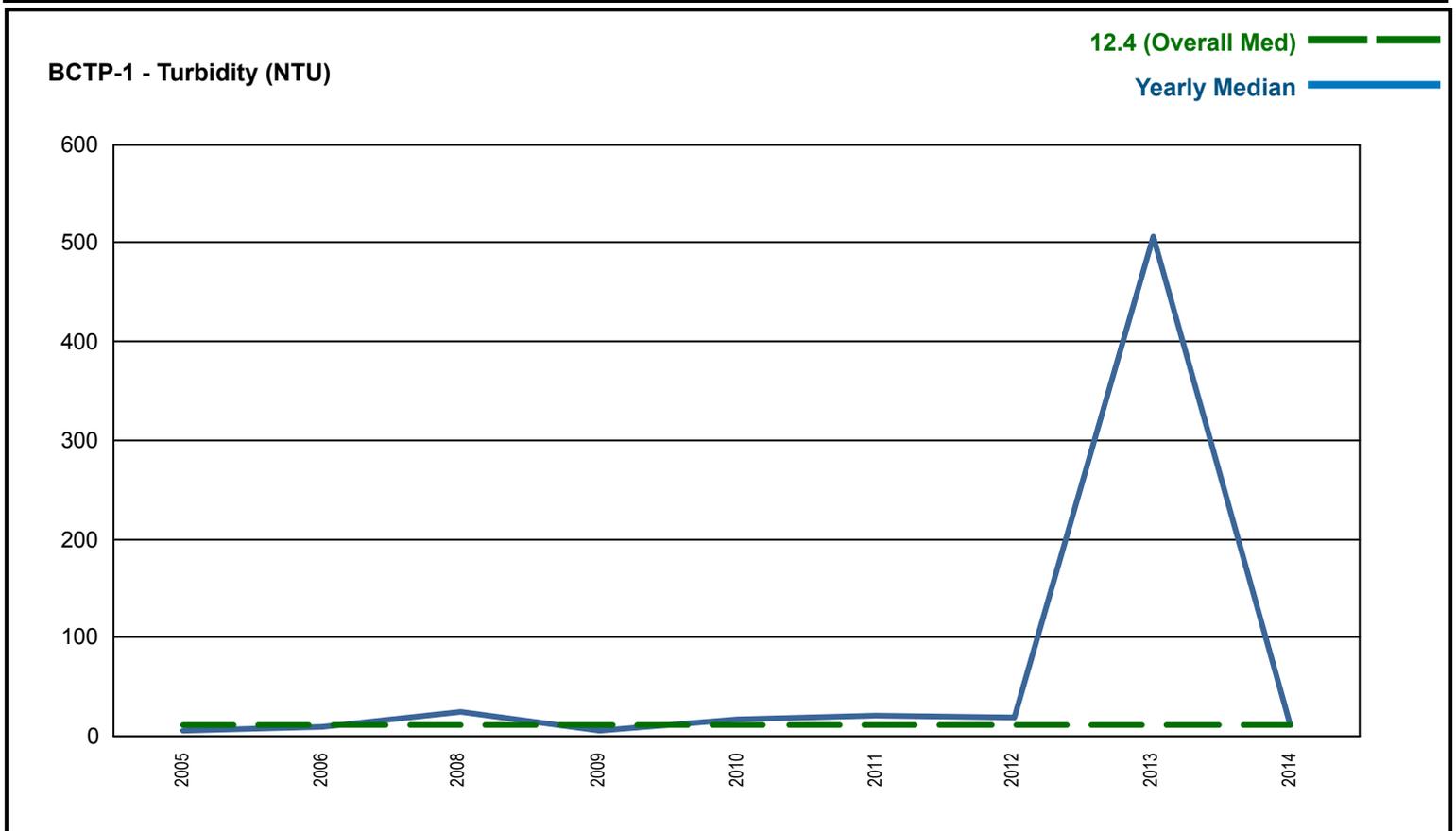
1.916 (Overall Med)   
 Yearly Median 



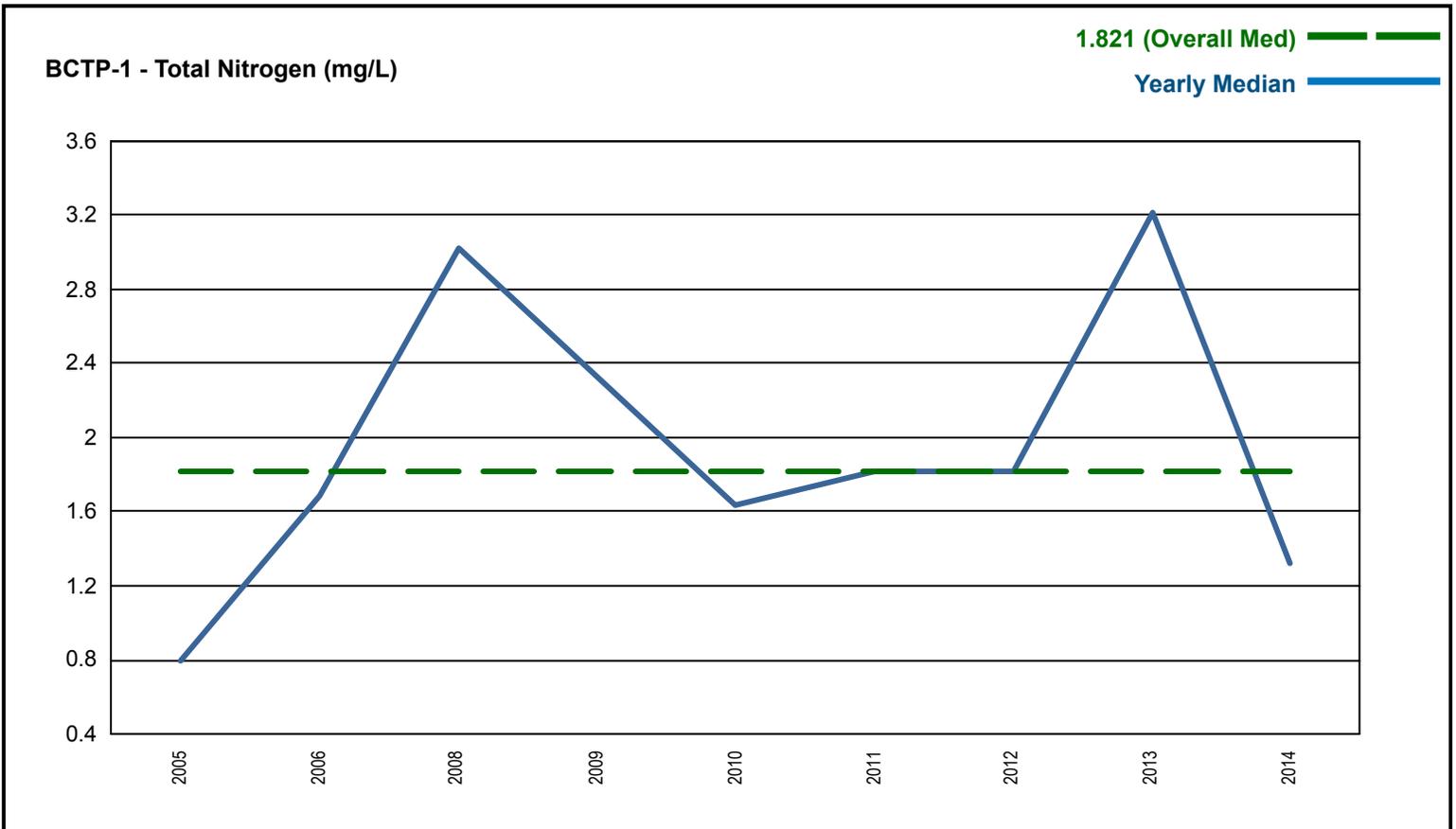
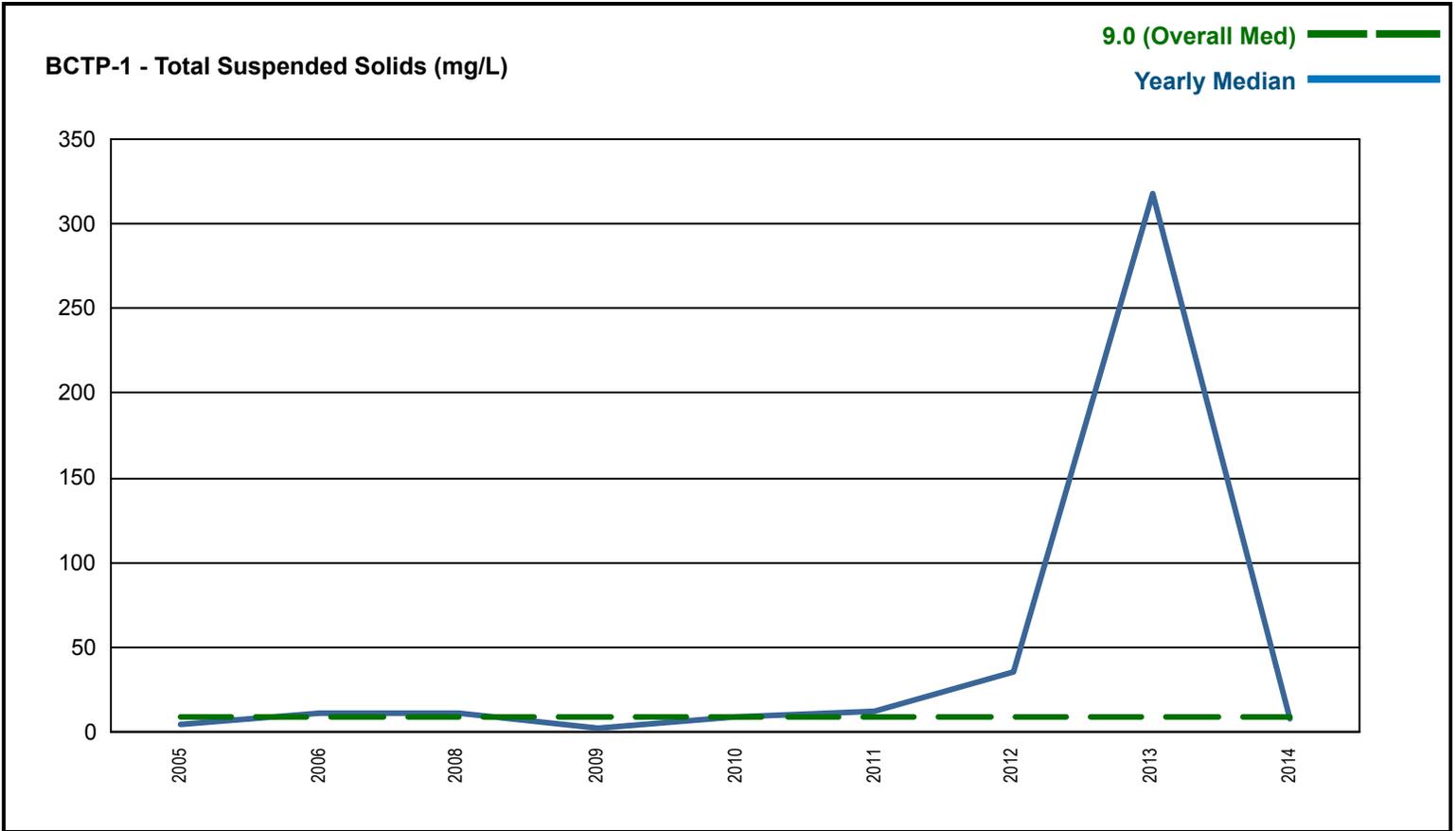
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



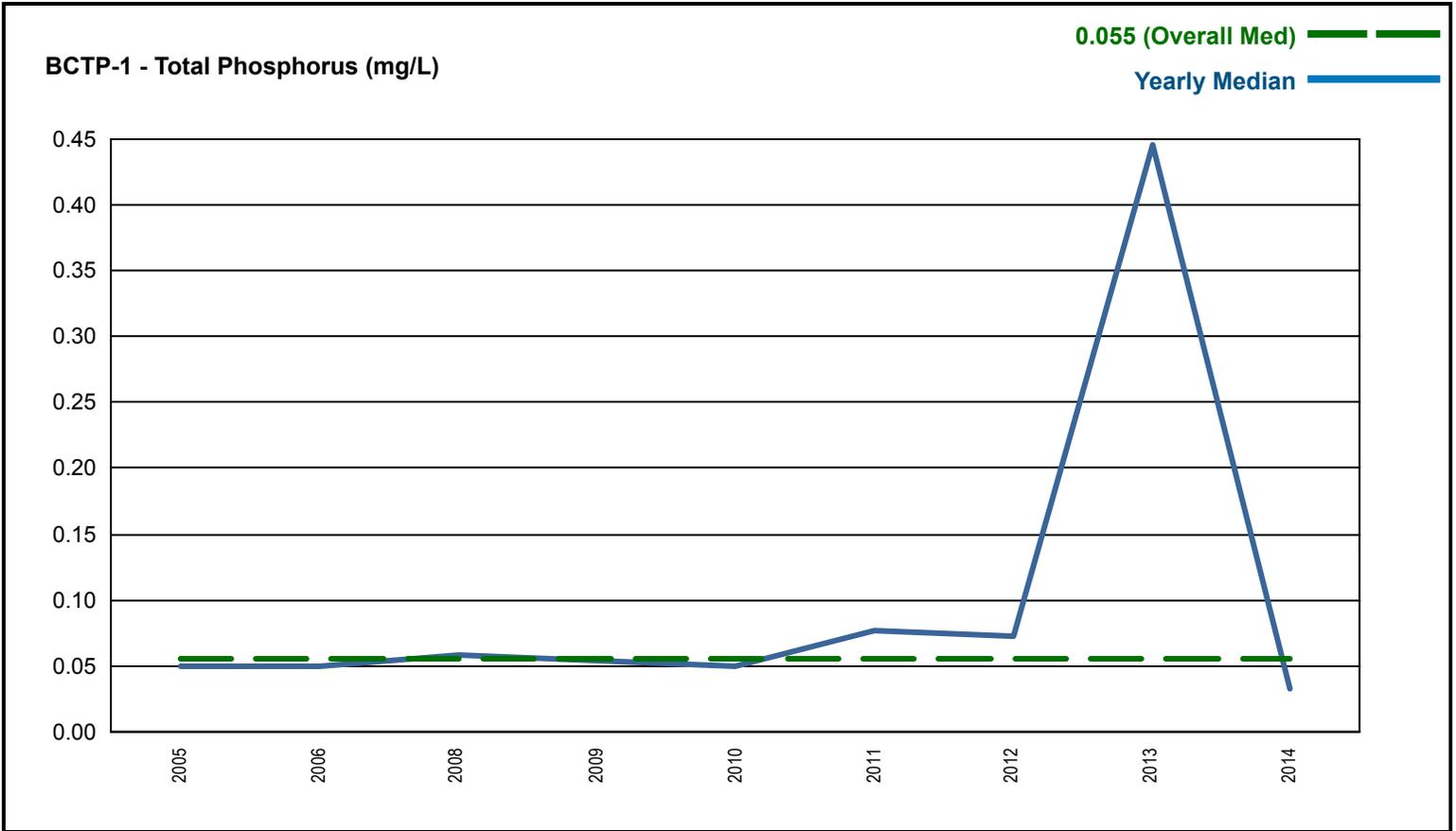
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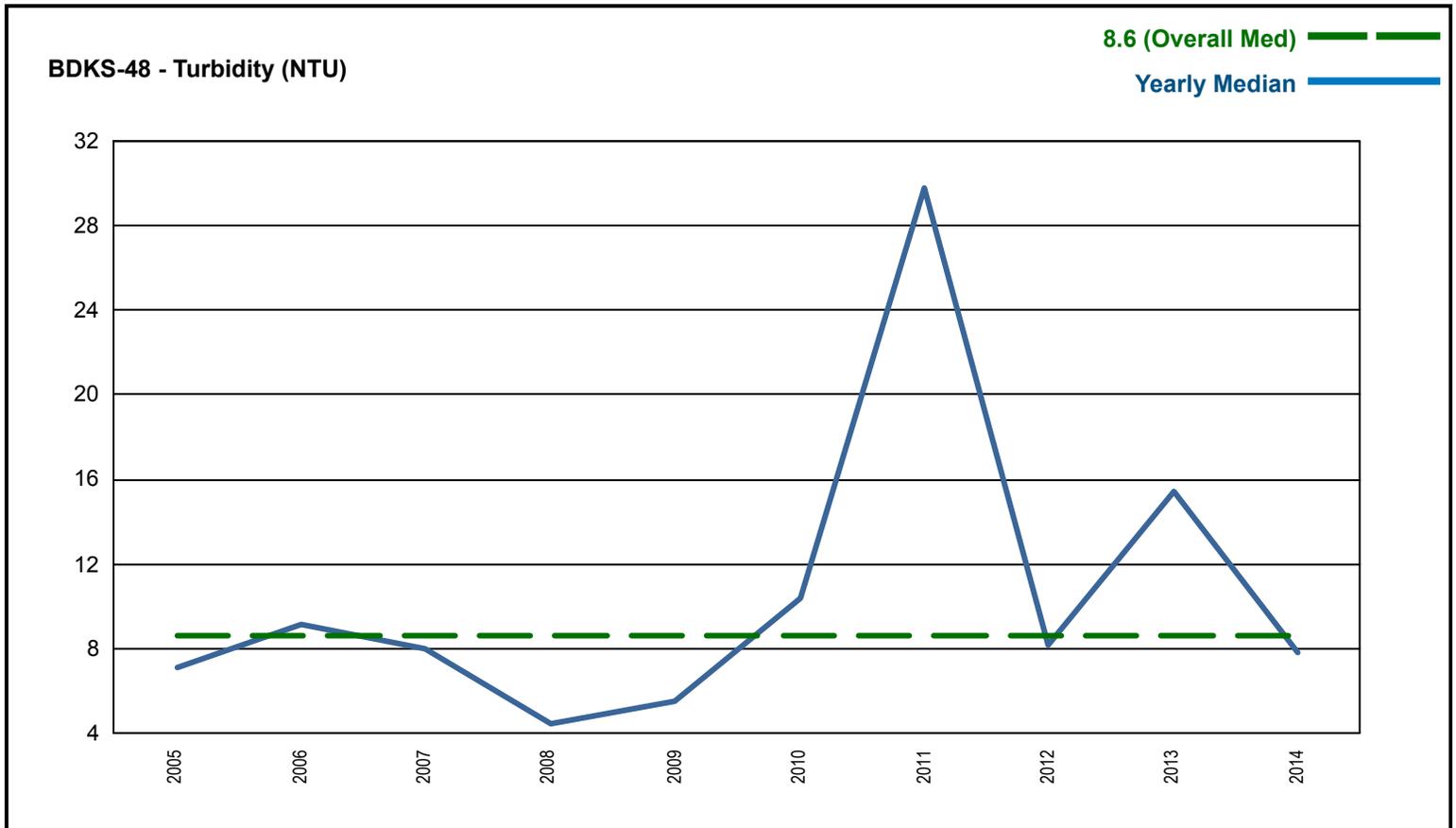
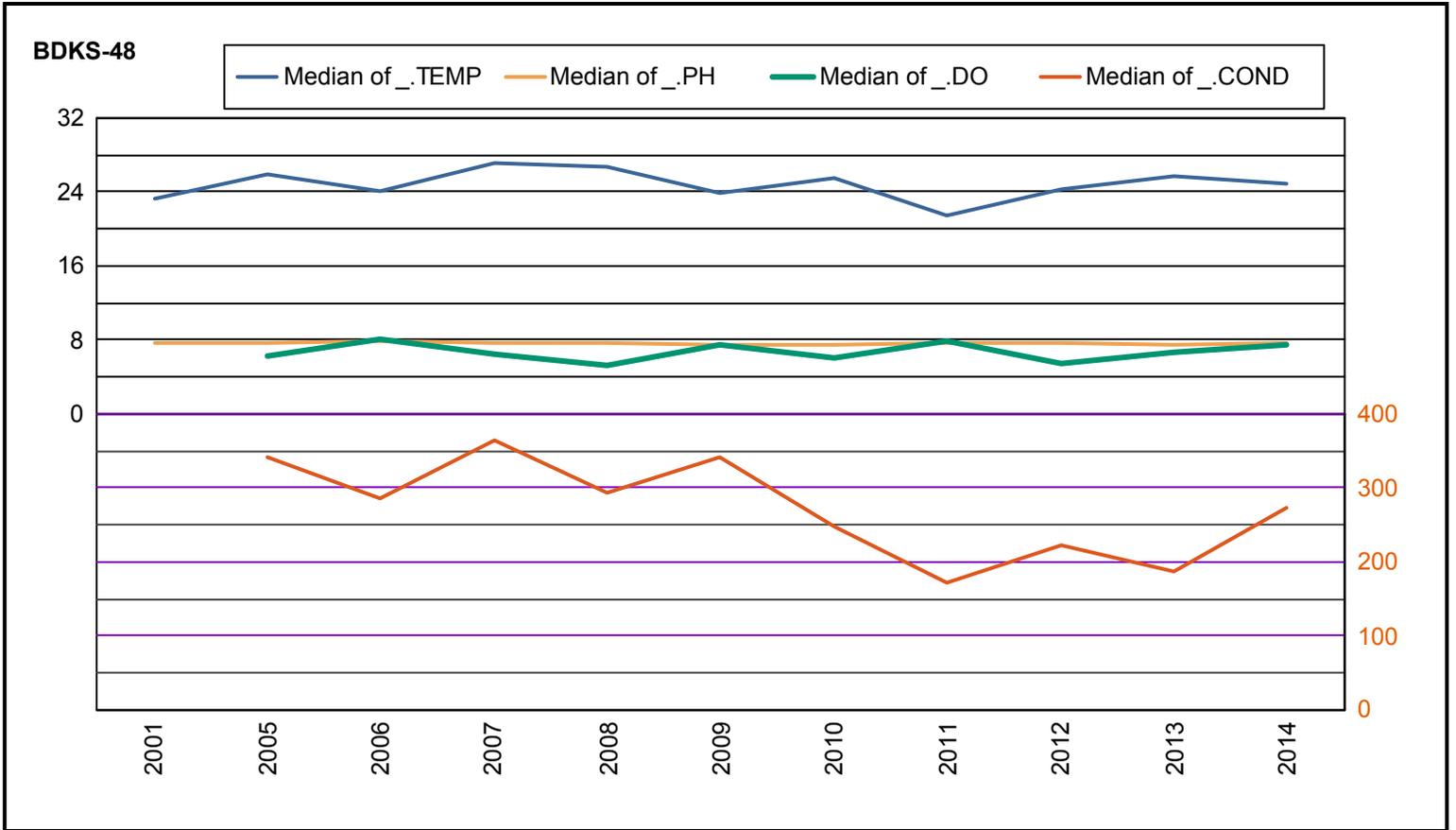
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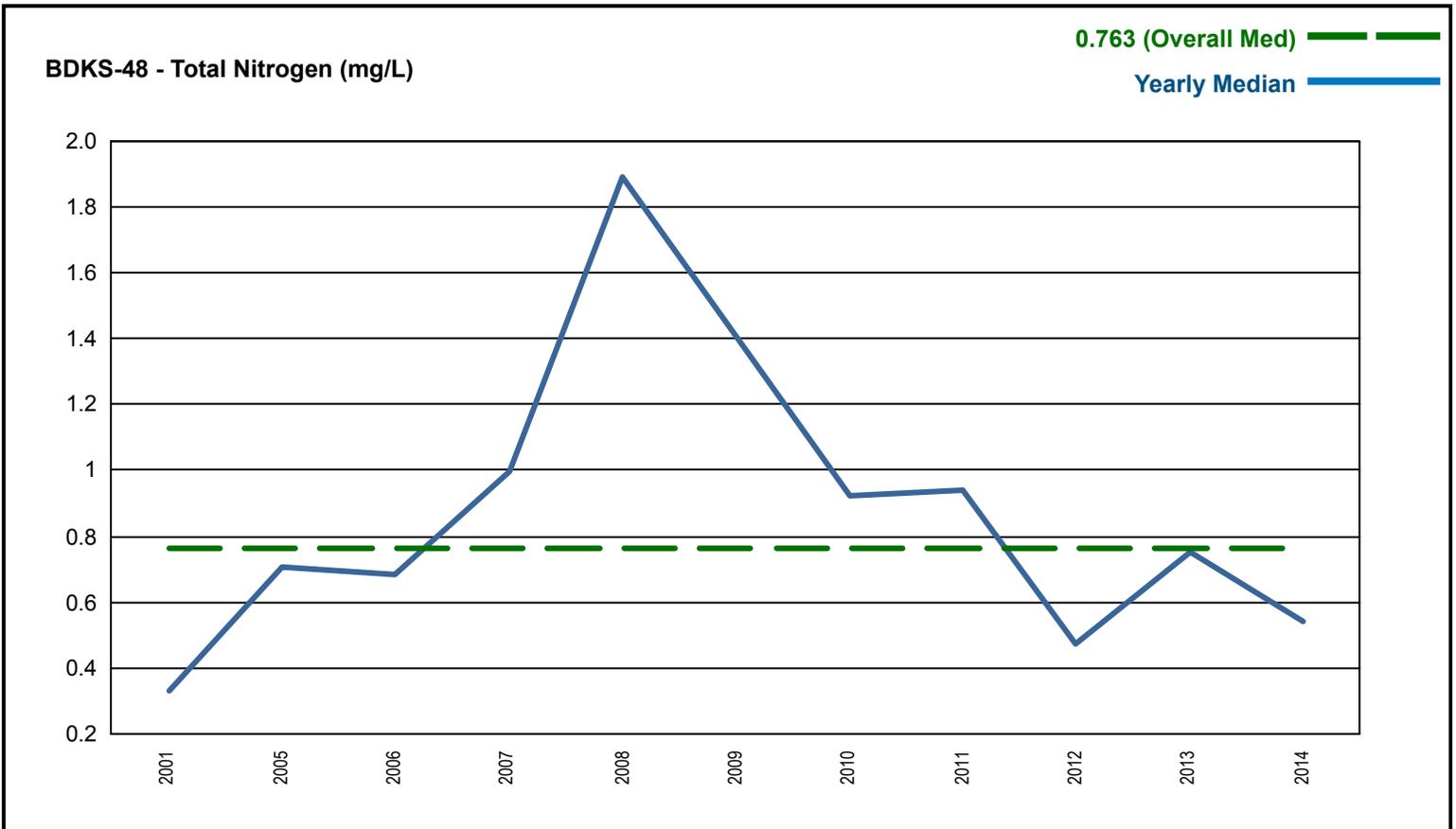
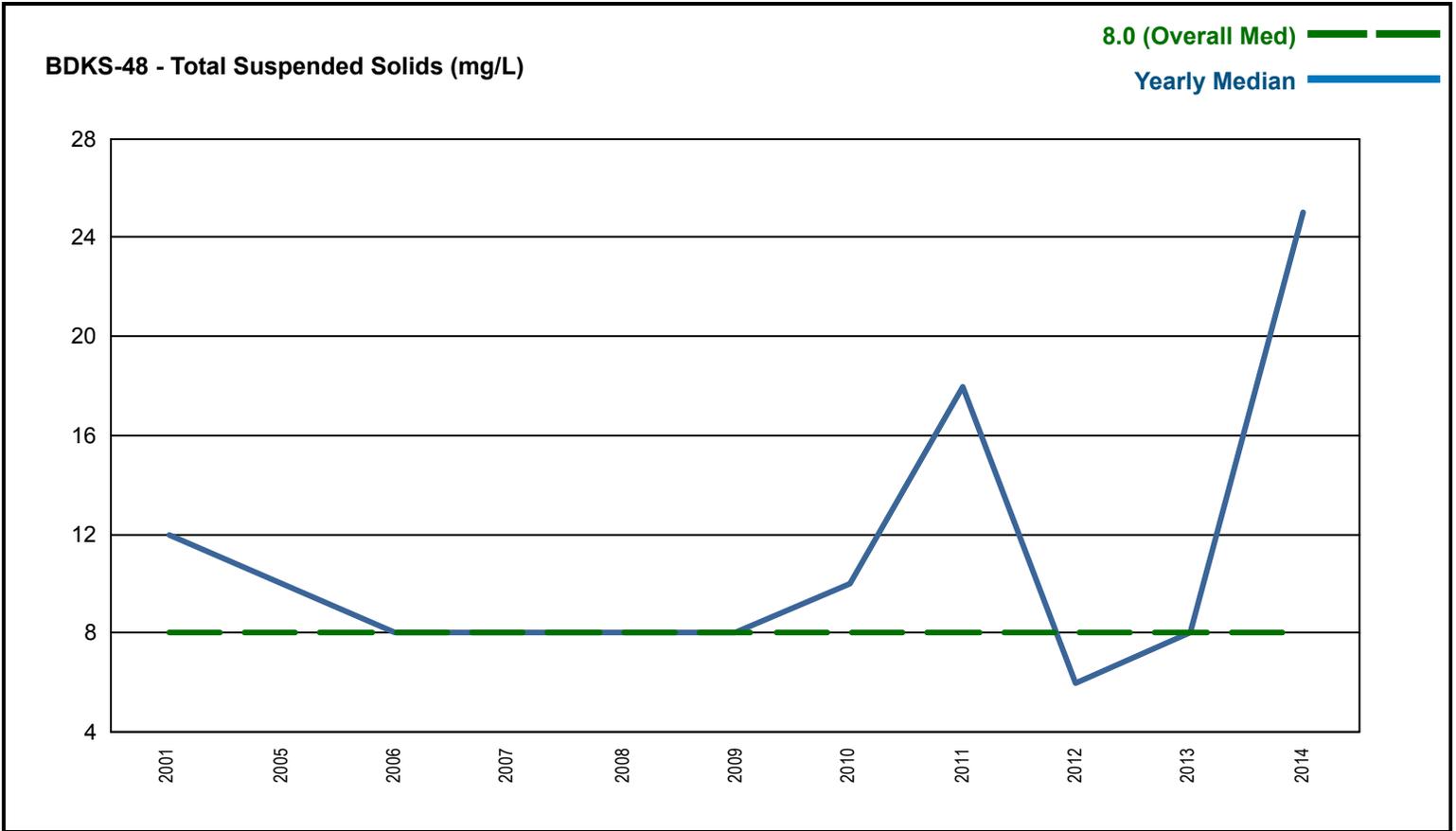
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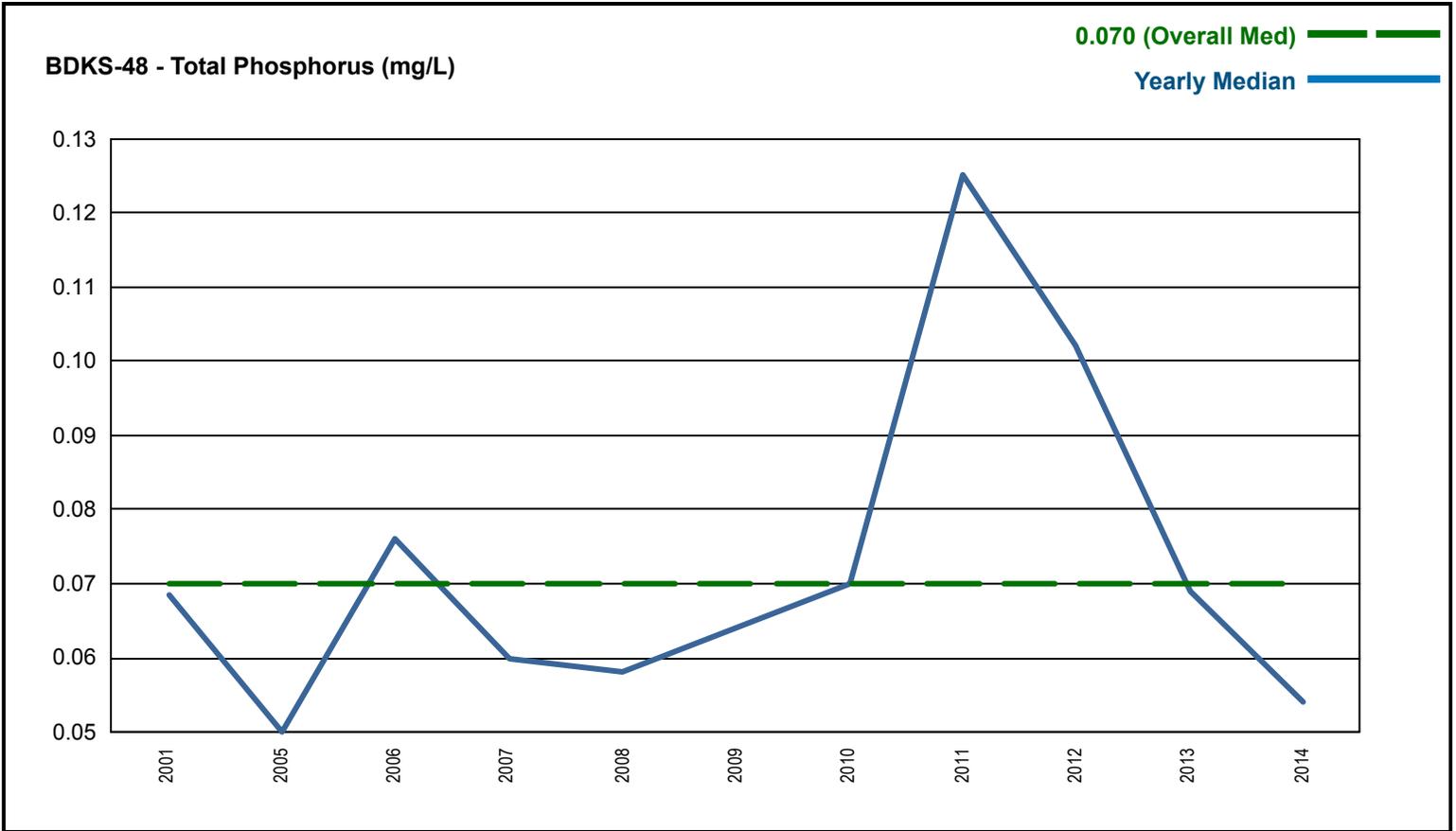
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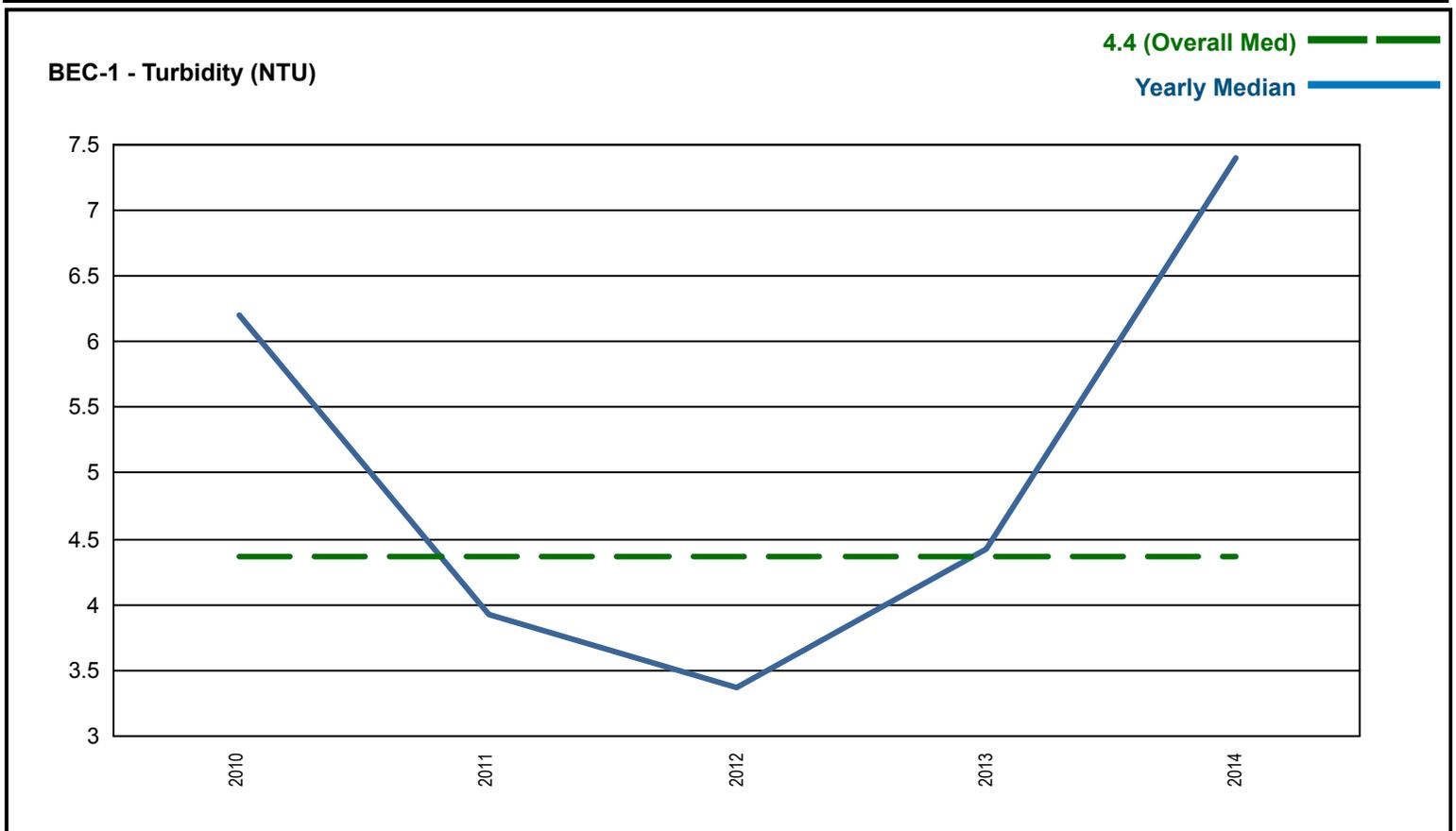
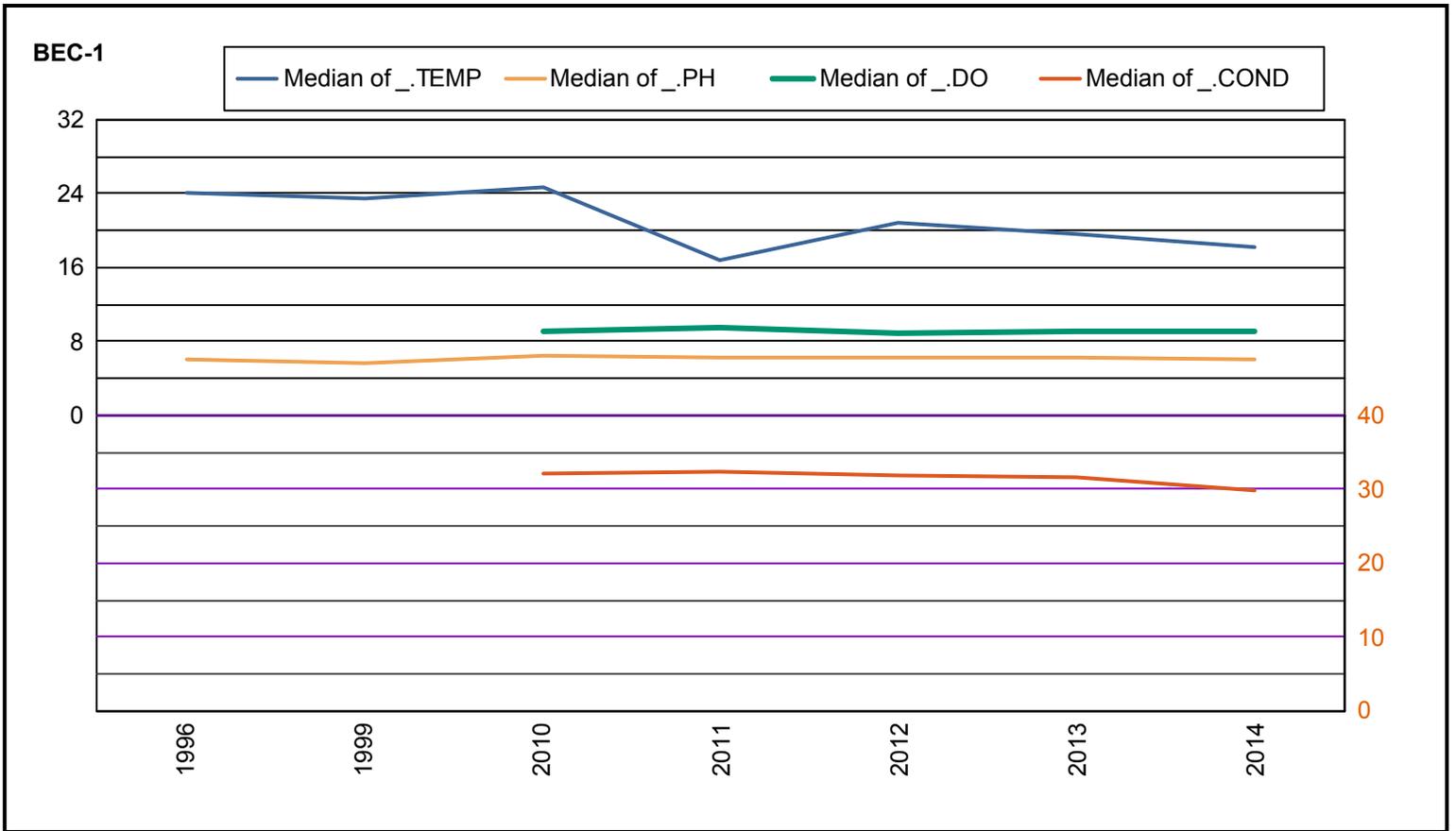
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# ADEM Ambient Trend Stations - Sampled 1977 - 2014



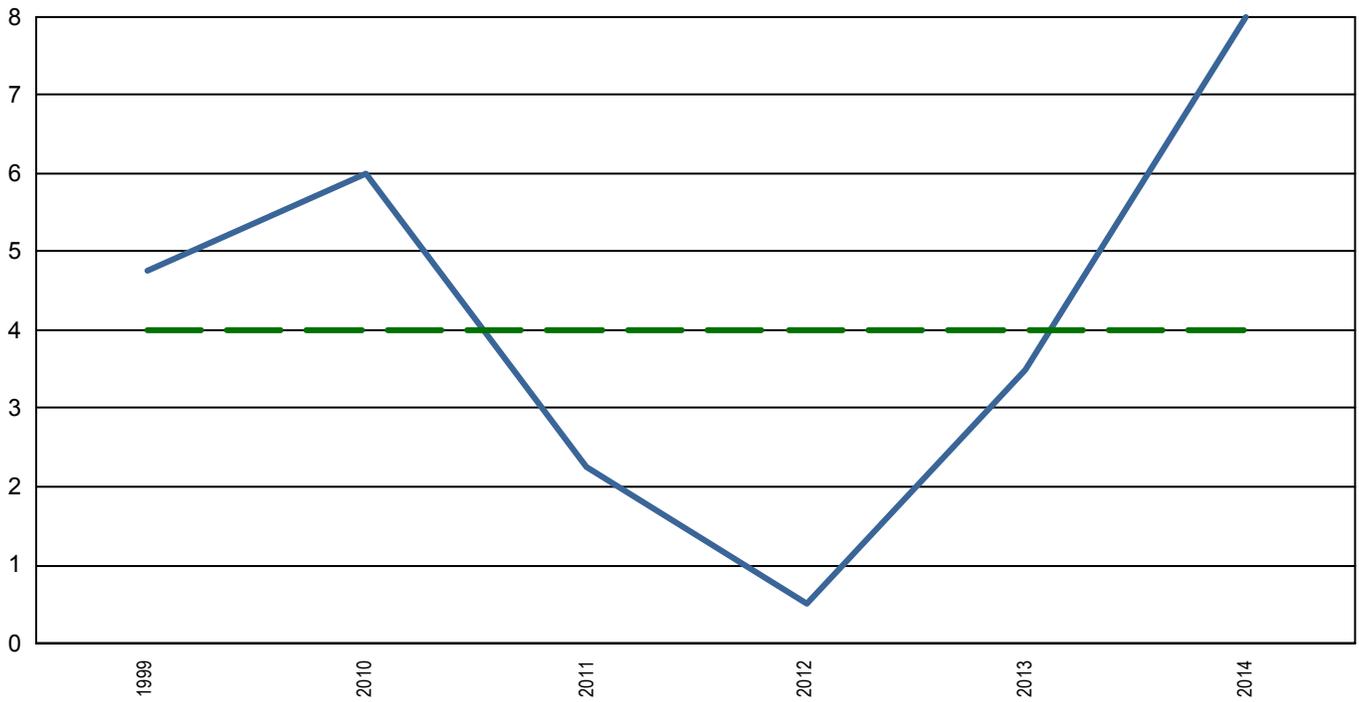
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# ADEM Ambient Trend Stations - Sampled 1977 - 2014

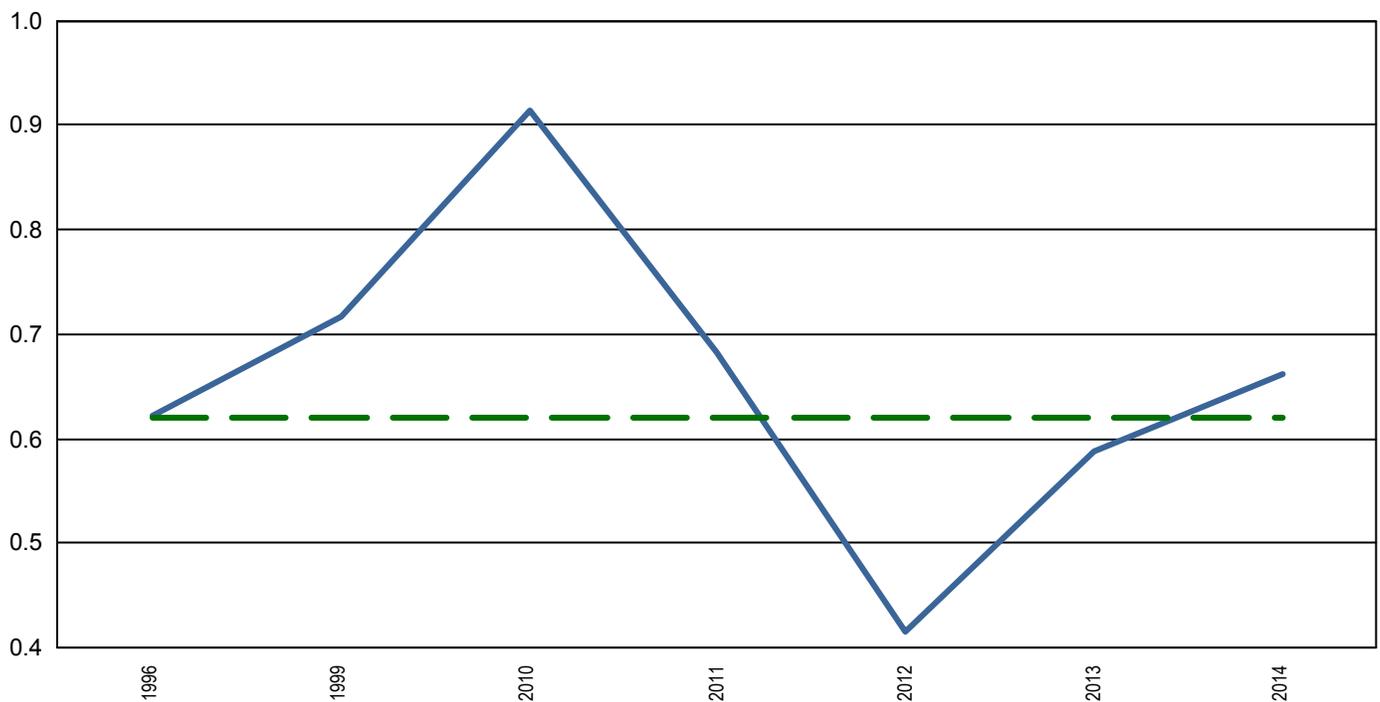
## BEC-1 - Total Suspended Solids (mg/L)

4.0 (Overall Med)   
Yearly Median 

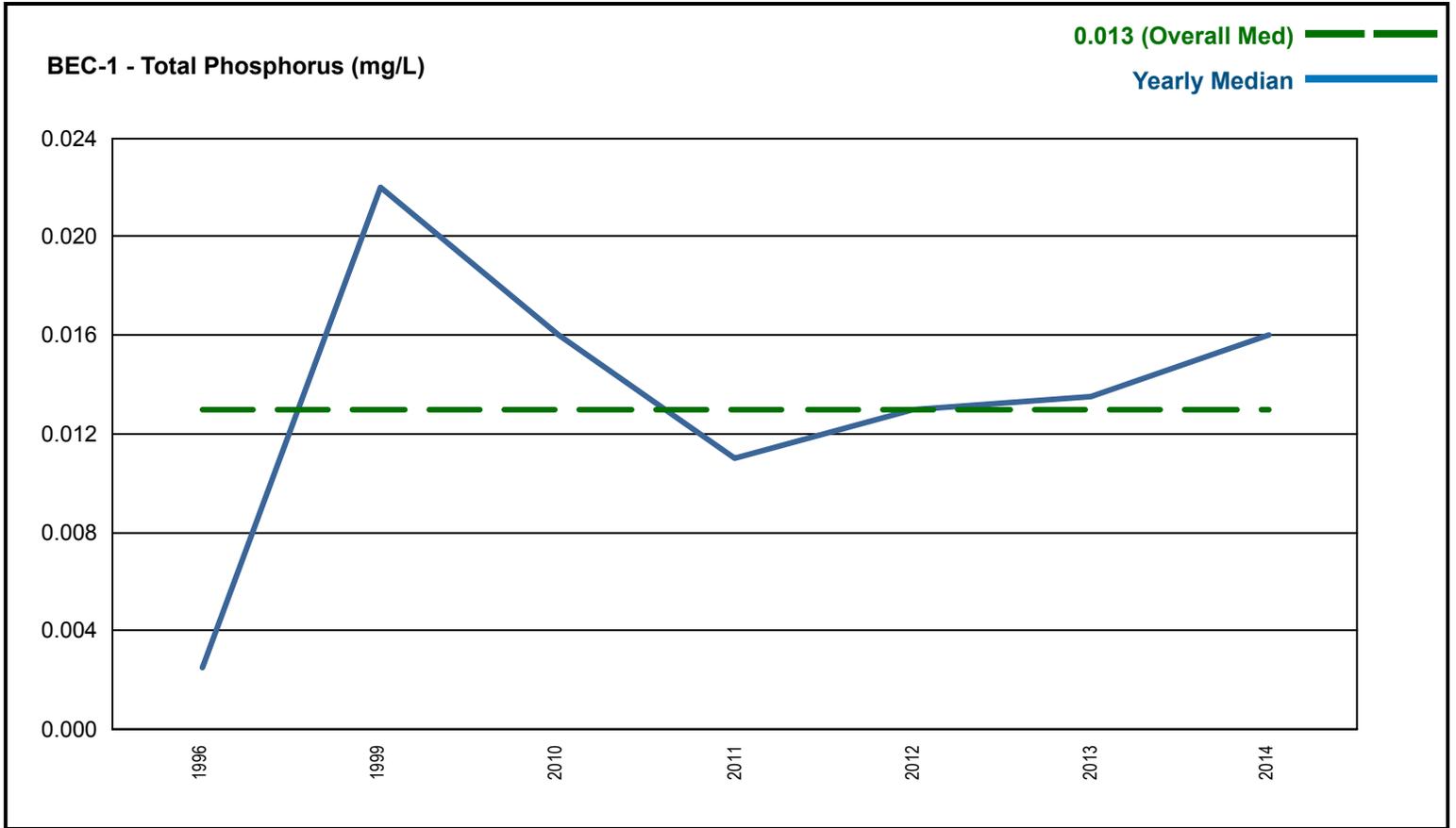


## BEC-1 - Total Nitrogen (mg/L)

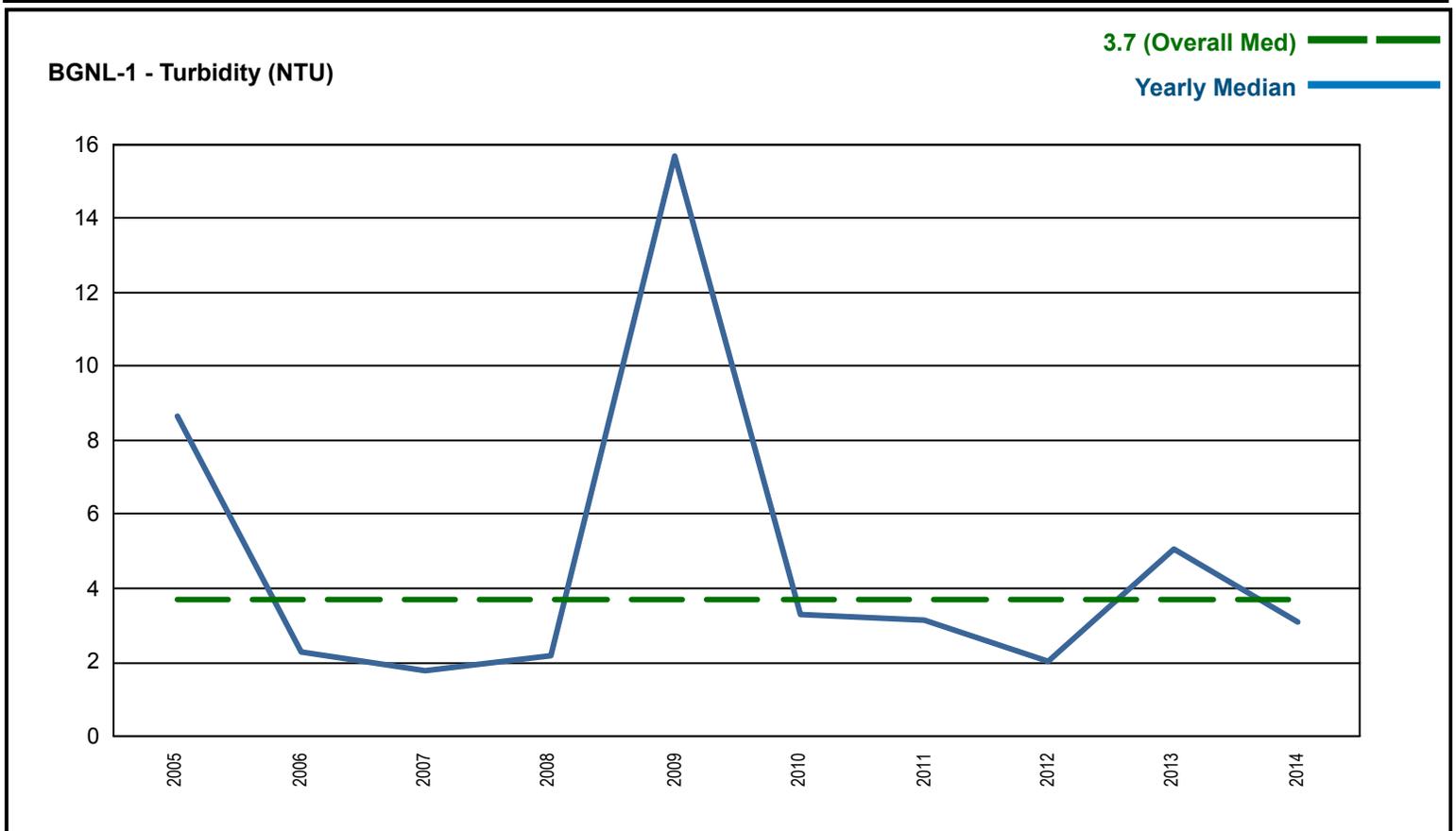
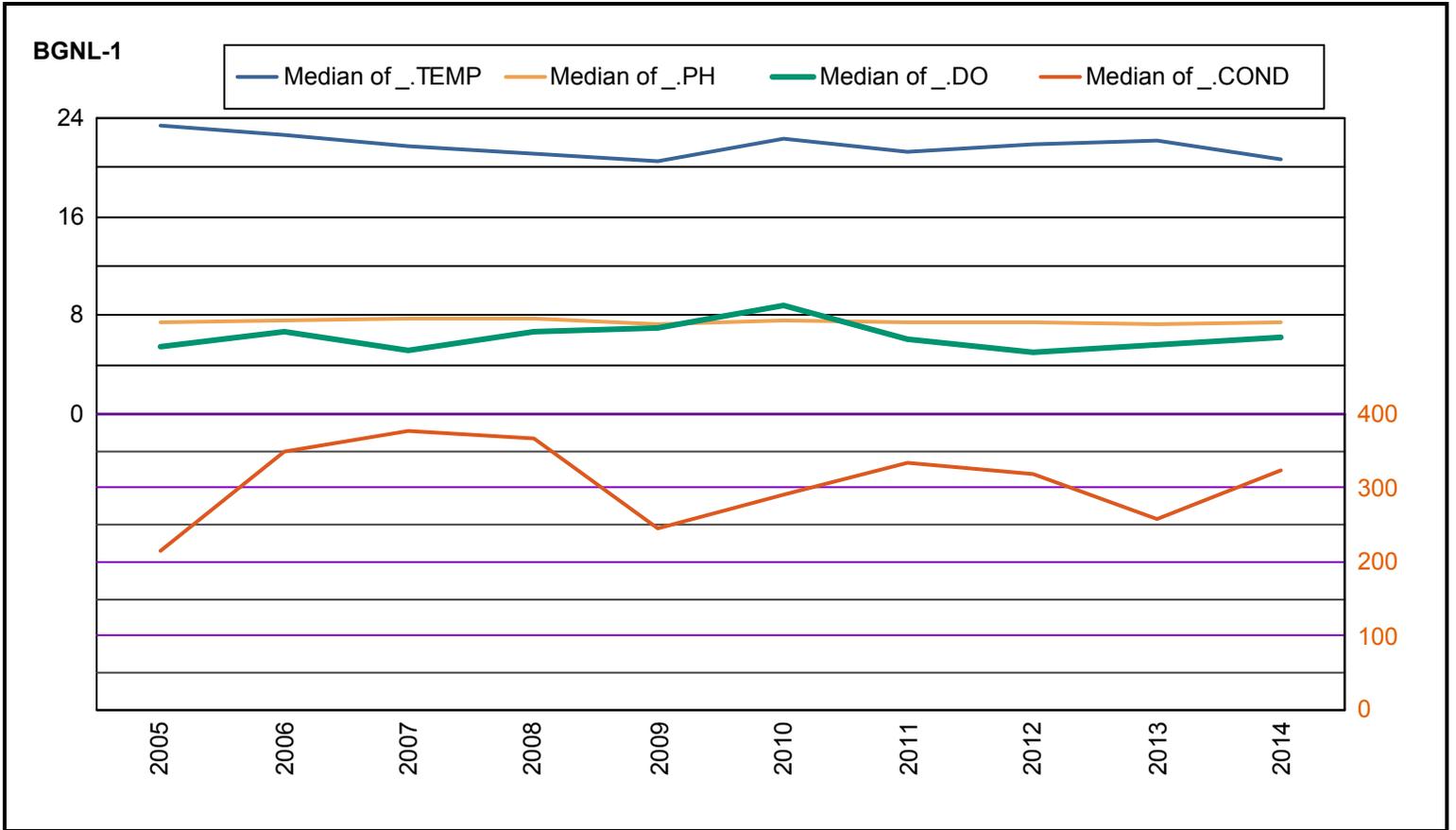
0.621 (Overall Med)   
Yearly Median 



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



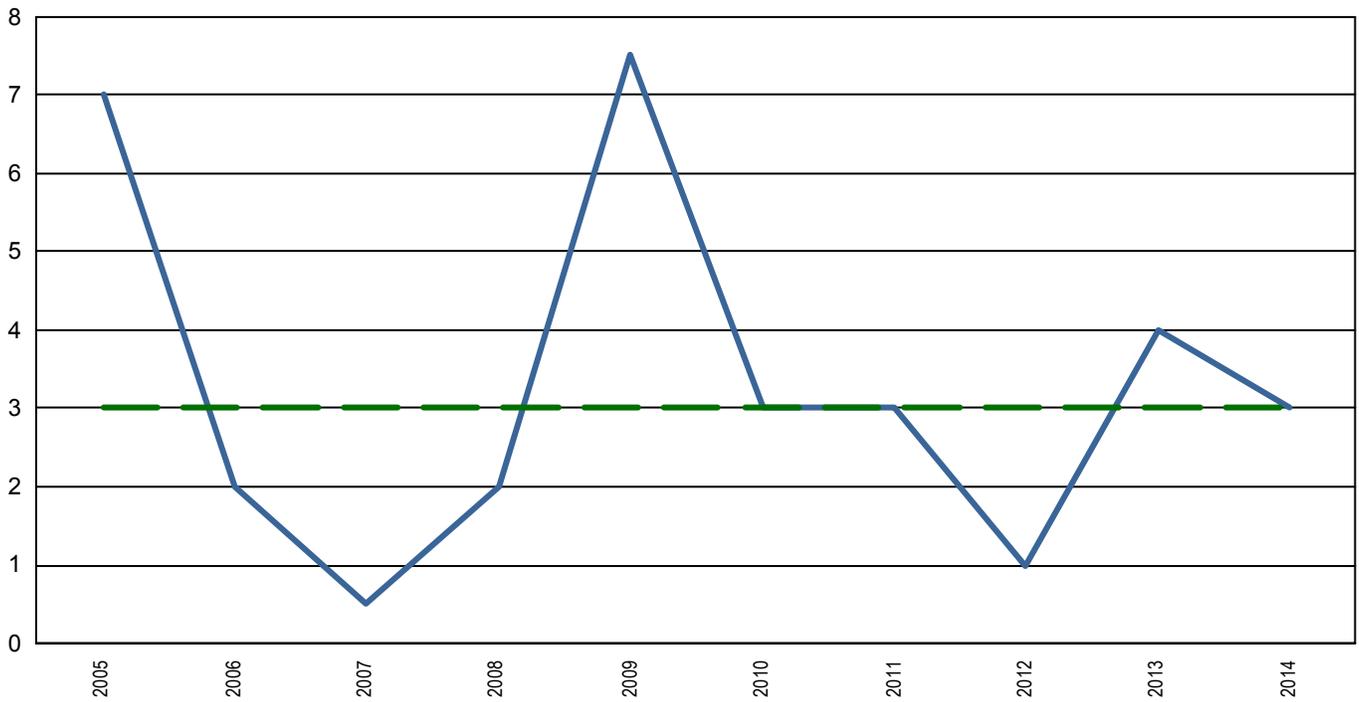
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

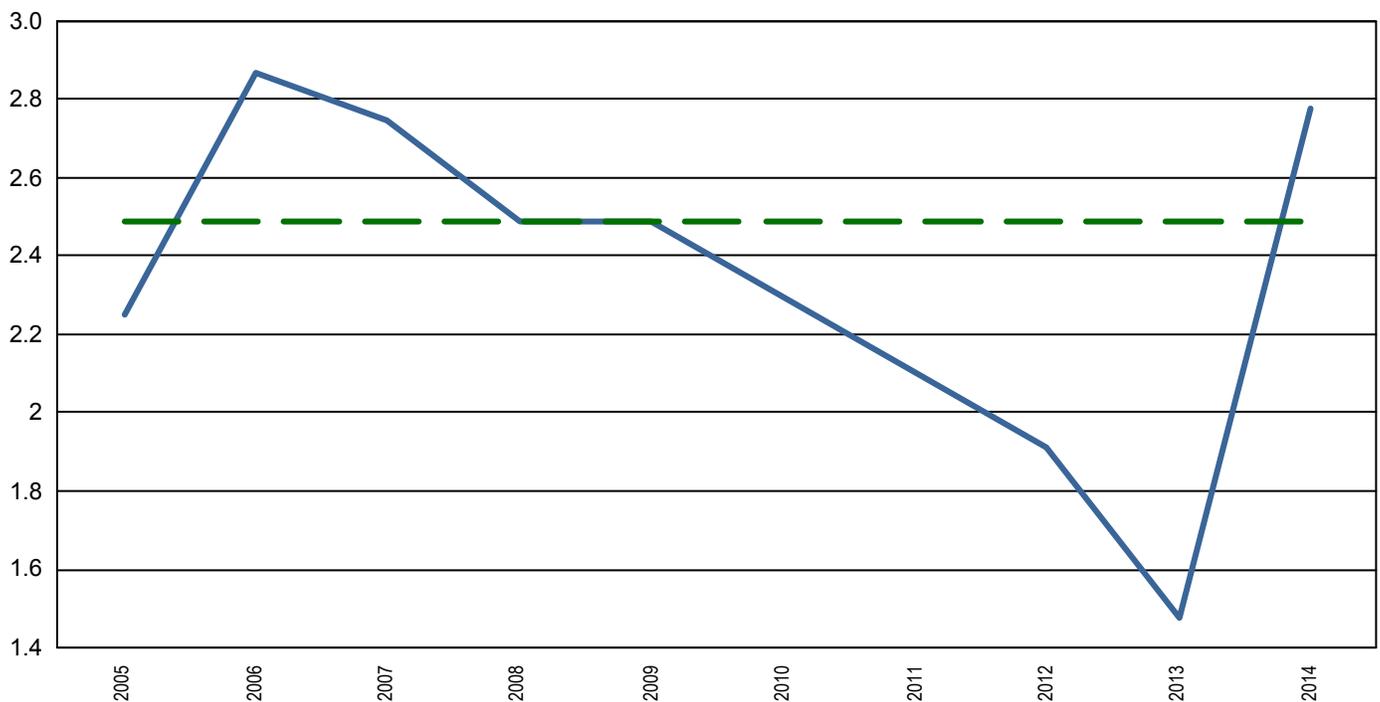
## BGNL-1 - Total Suspended Solids (mg/L)

3.0 (Overall Med)   
Yearly Median 

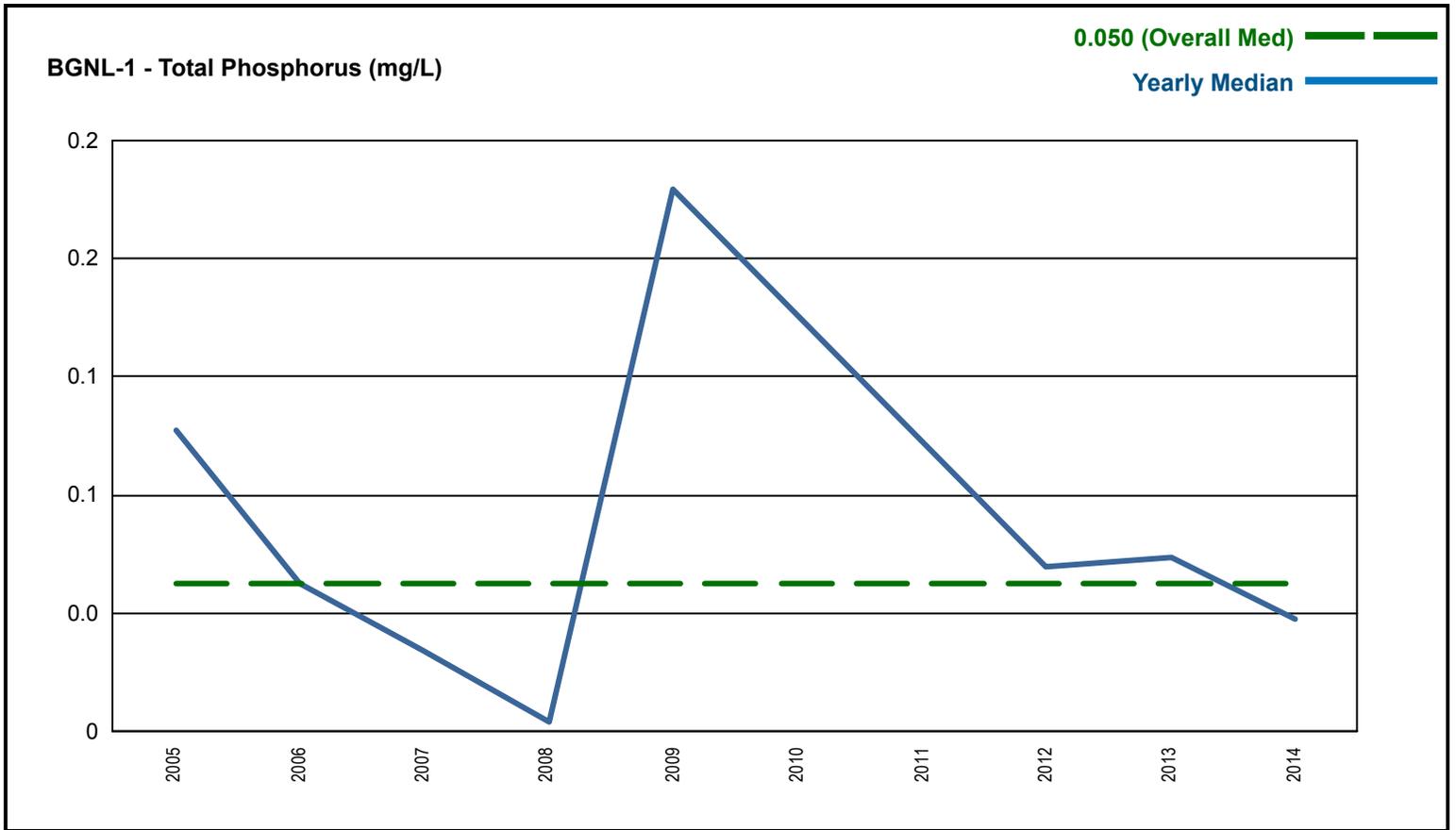


## BGNL-1 - Total Nitrogen (mg/L)

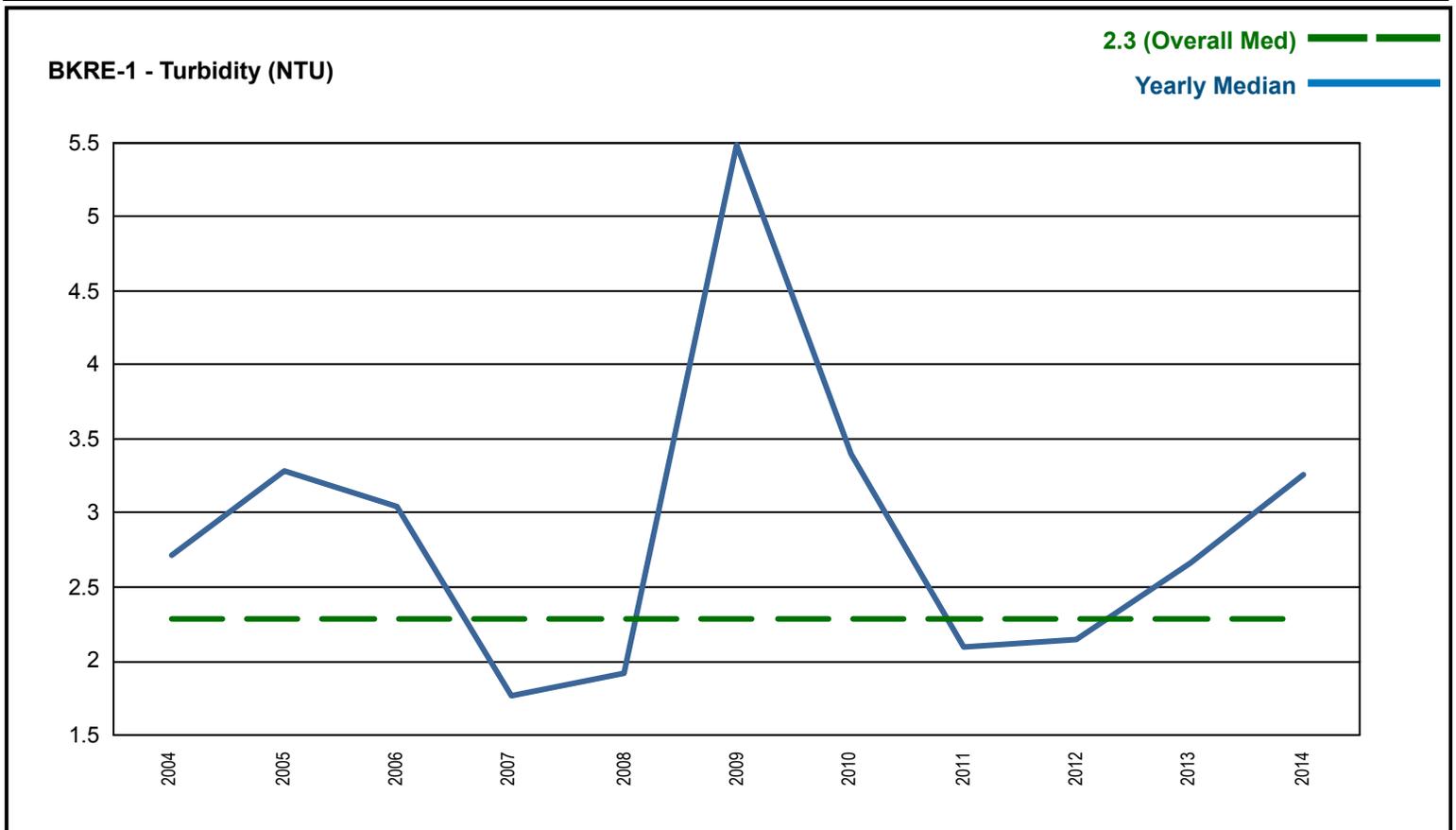
2.487 (Overall Med)   
Yearly Median 



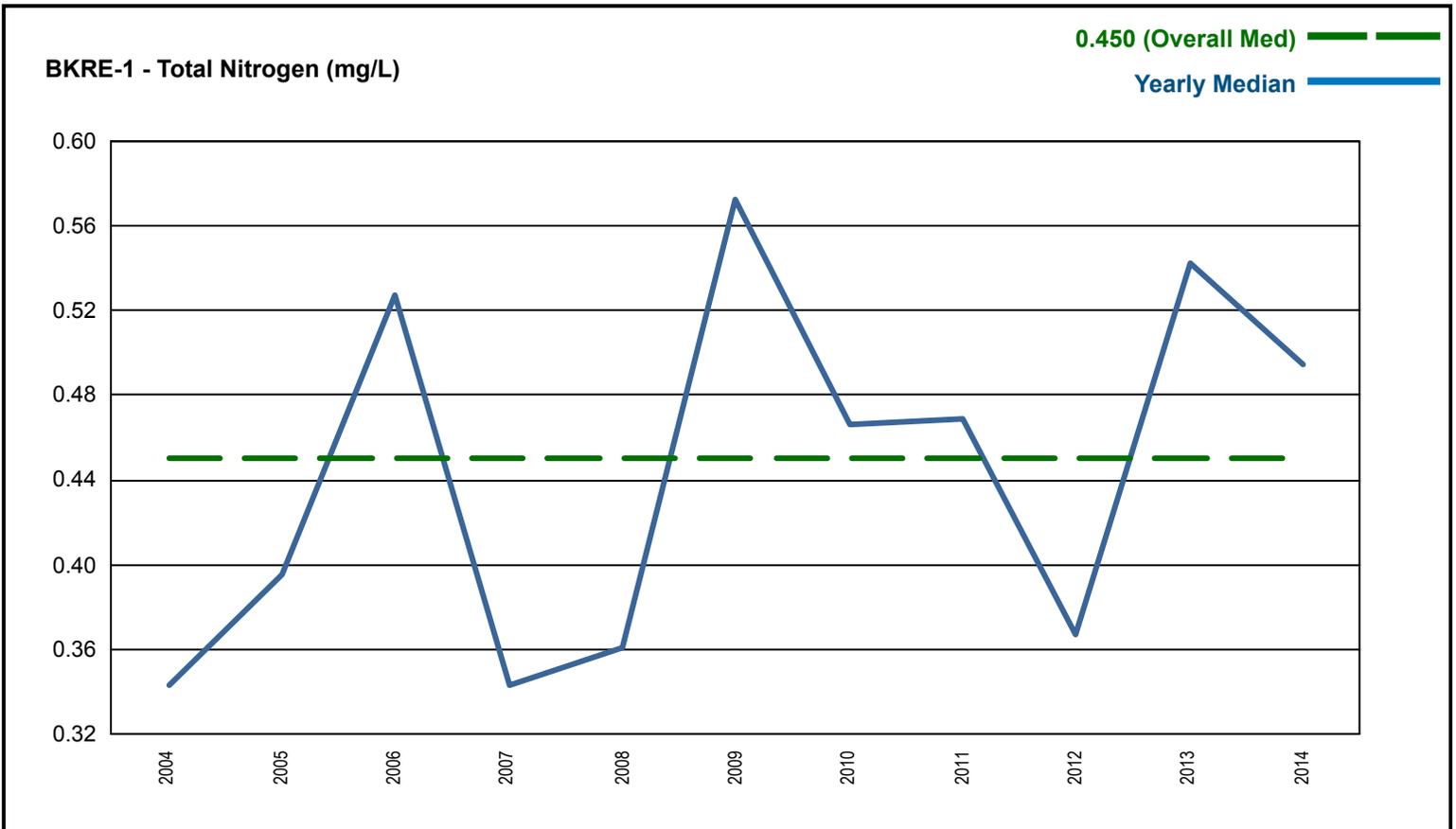
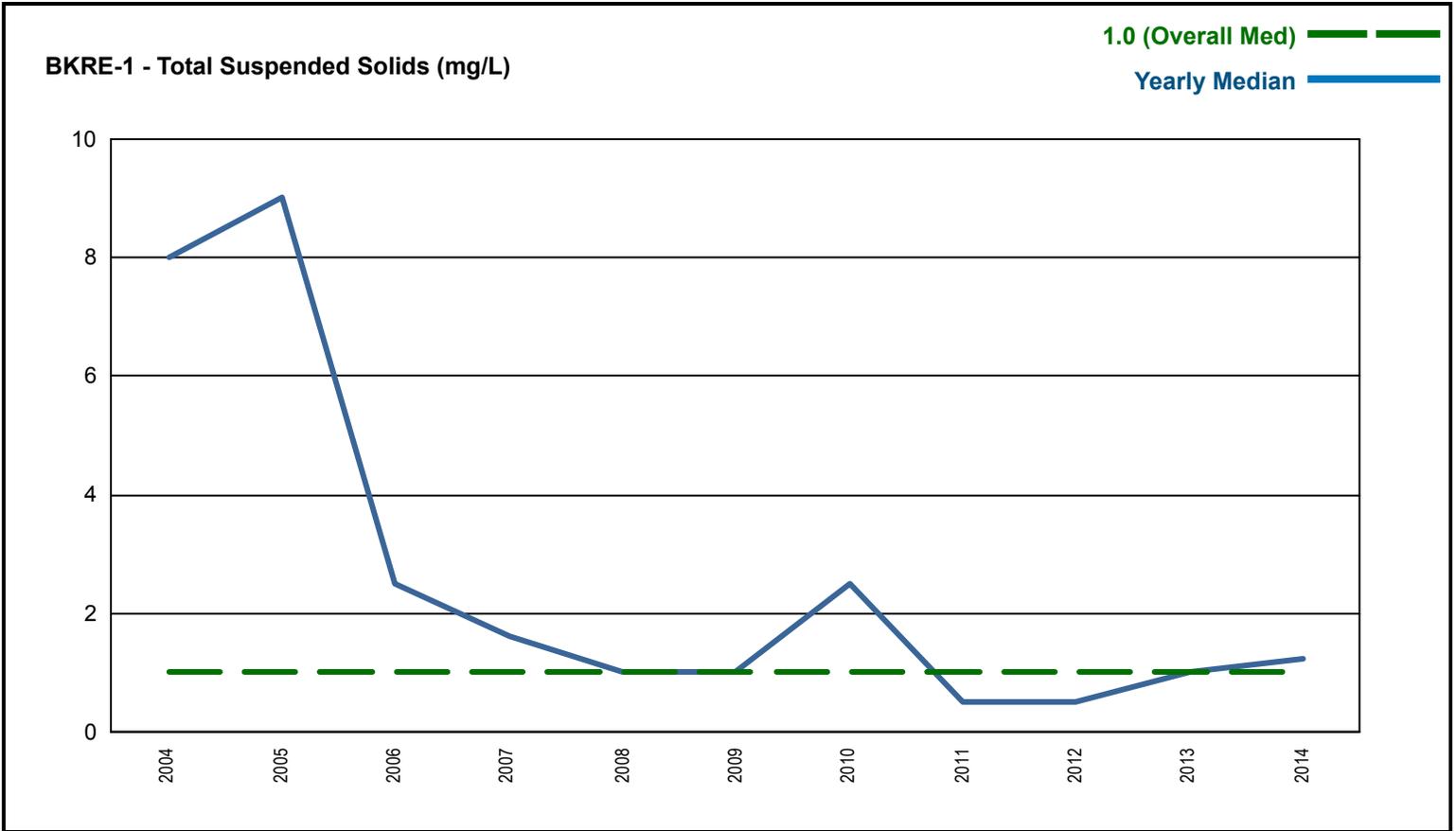
ADEM Ambient Trend Stations - Sampled 1977 - 2014



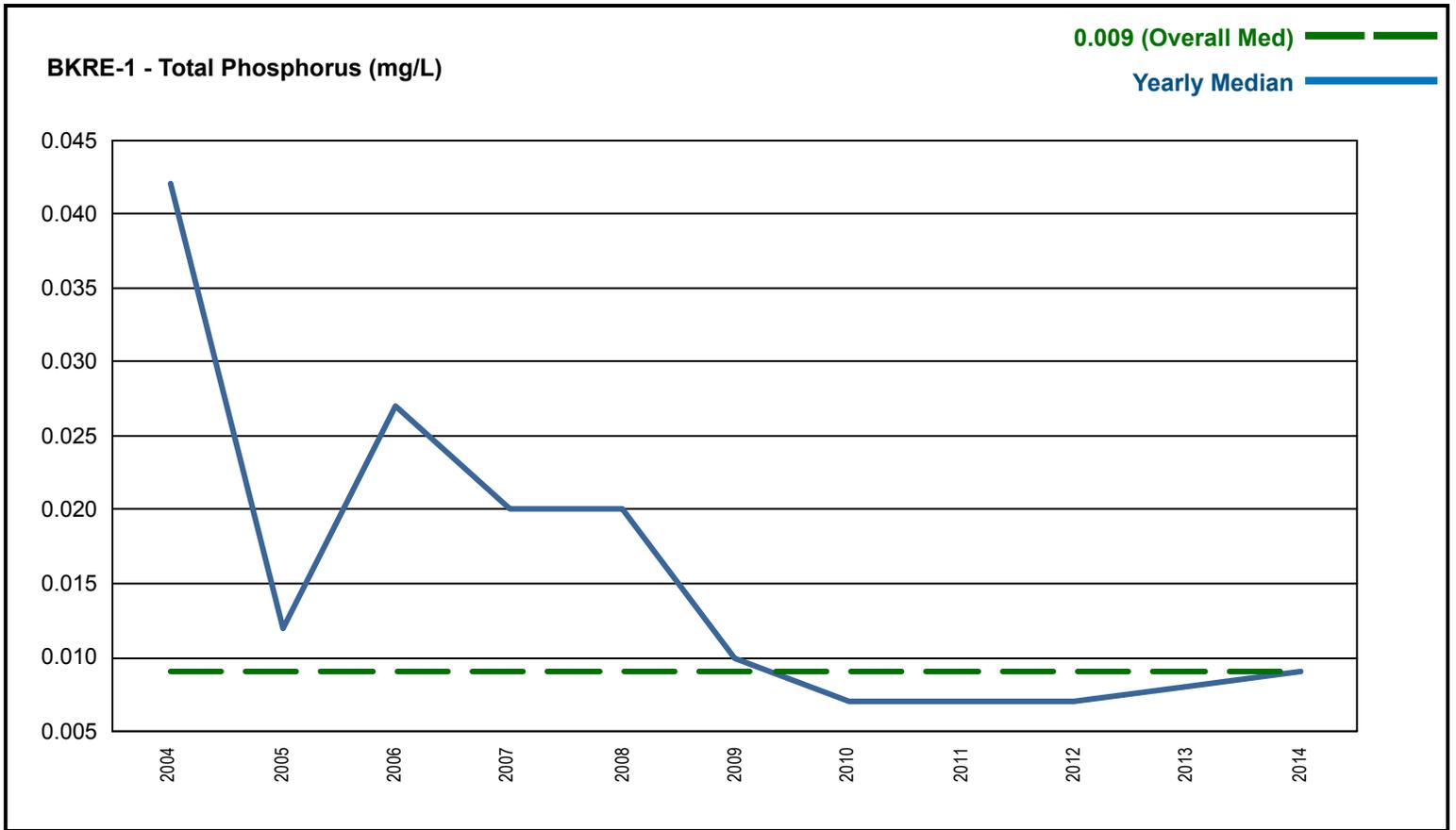
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



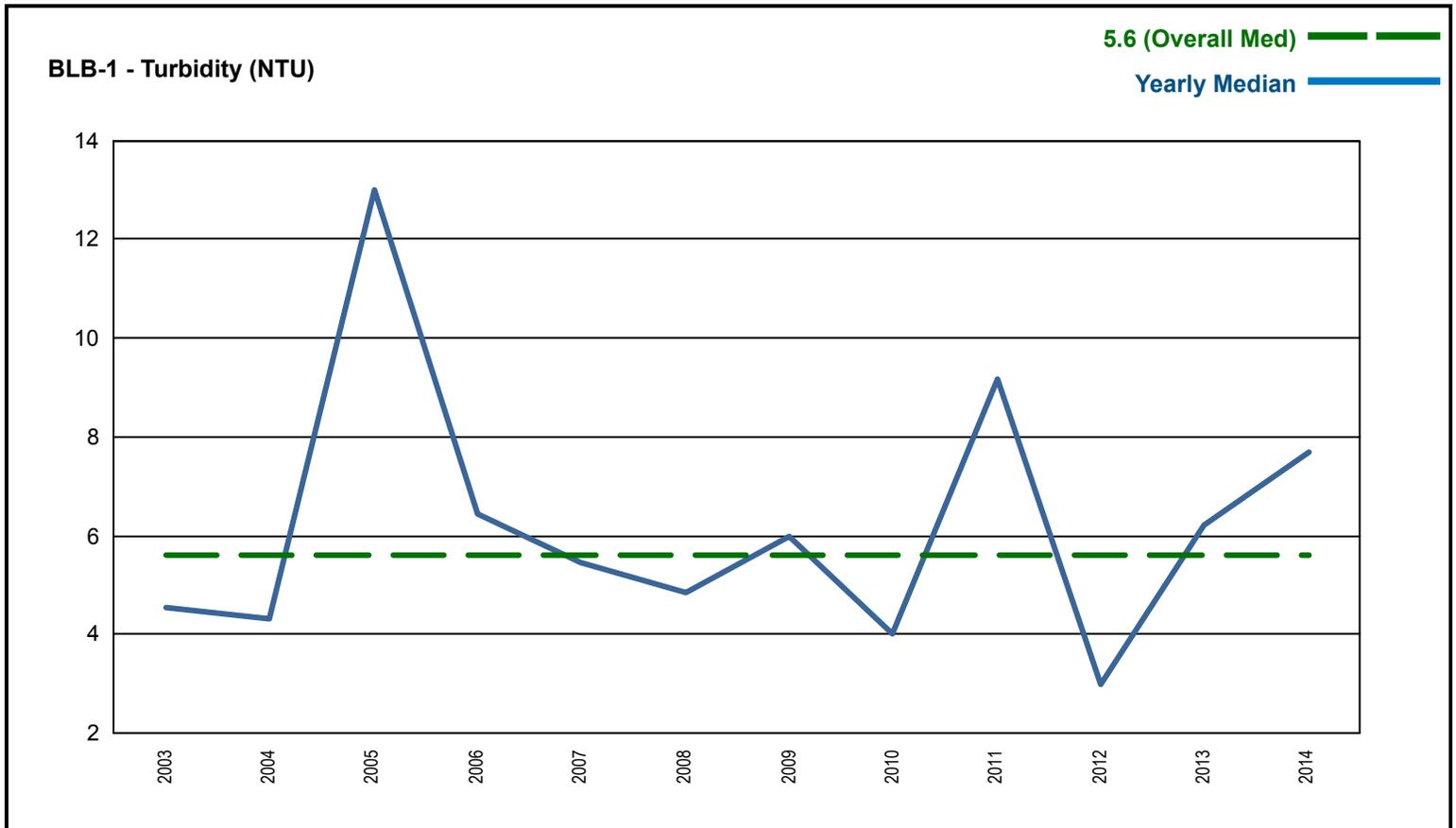
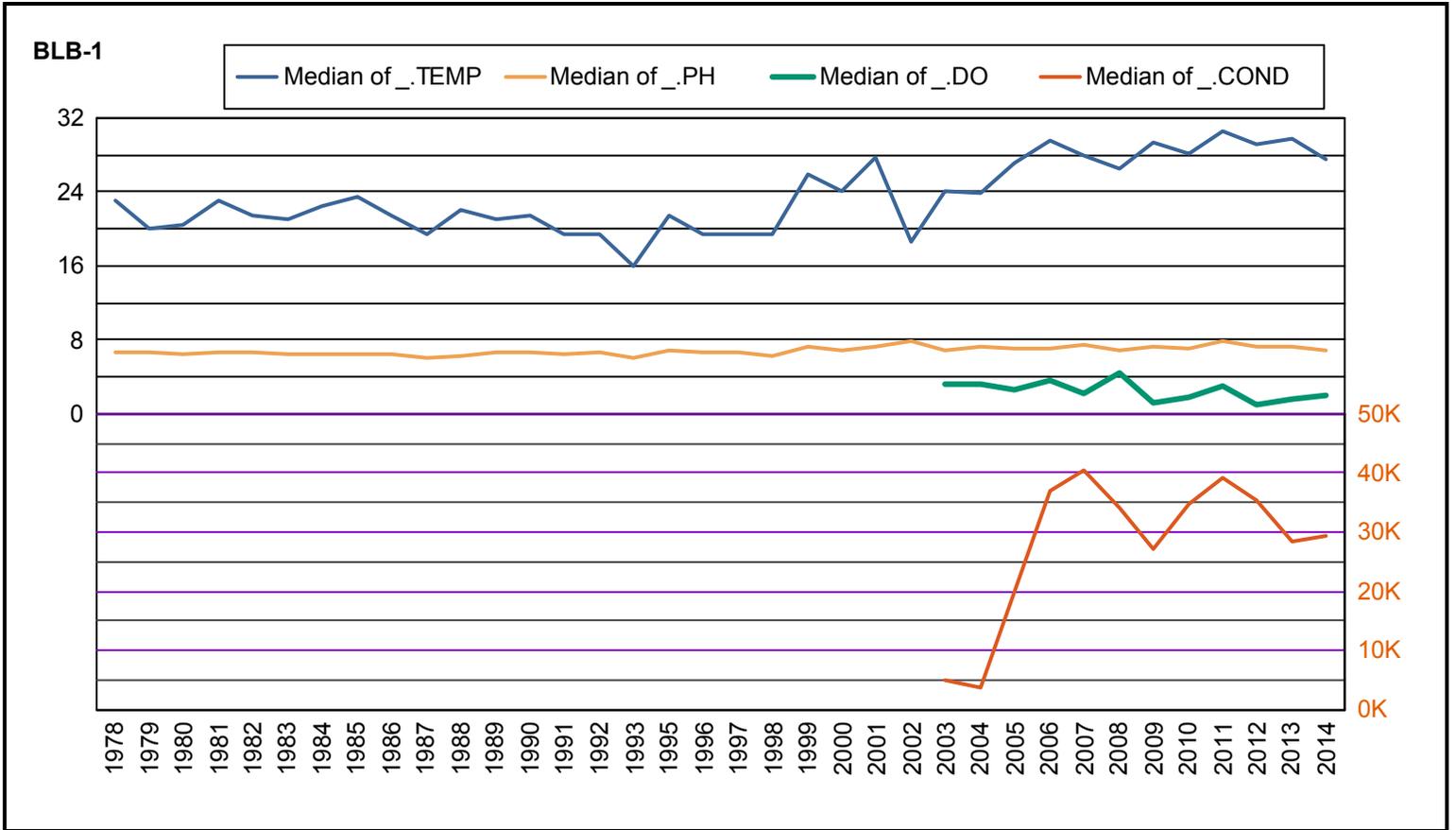
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



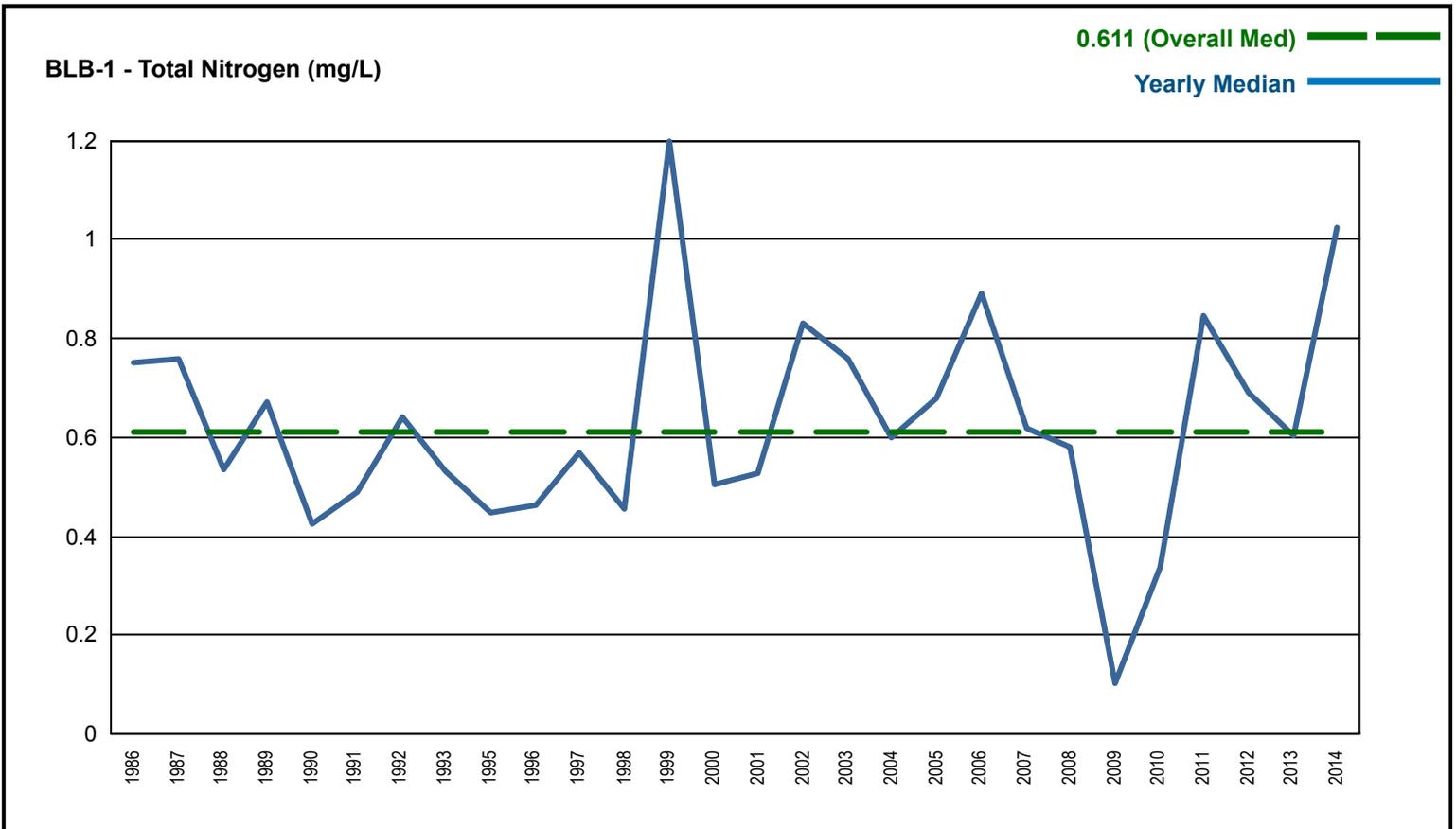
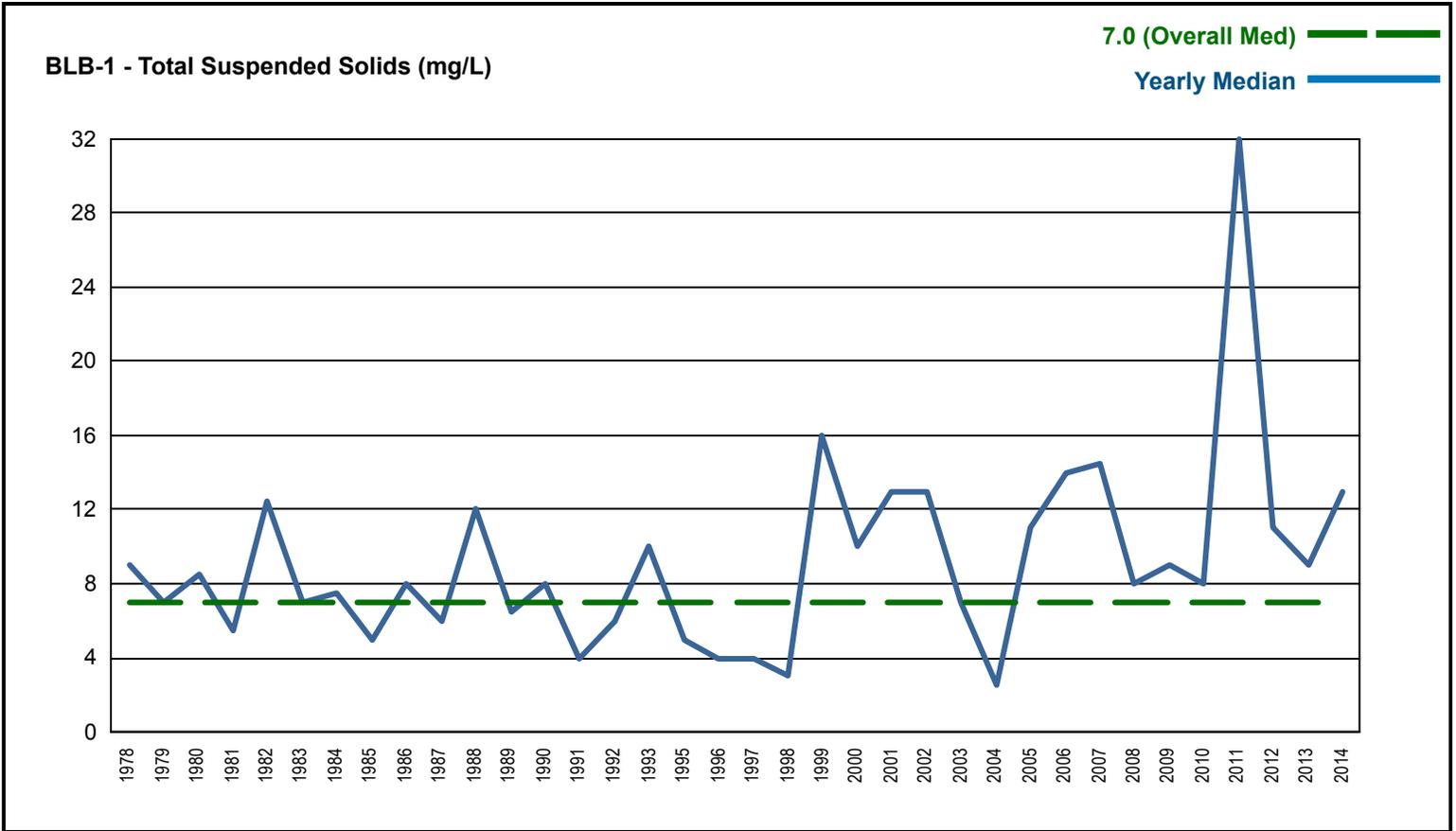
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



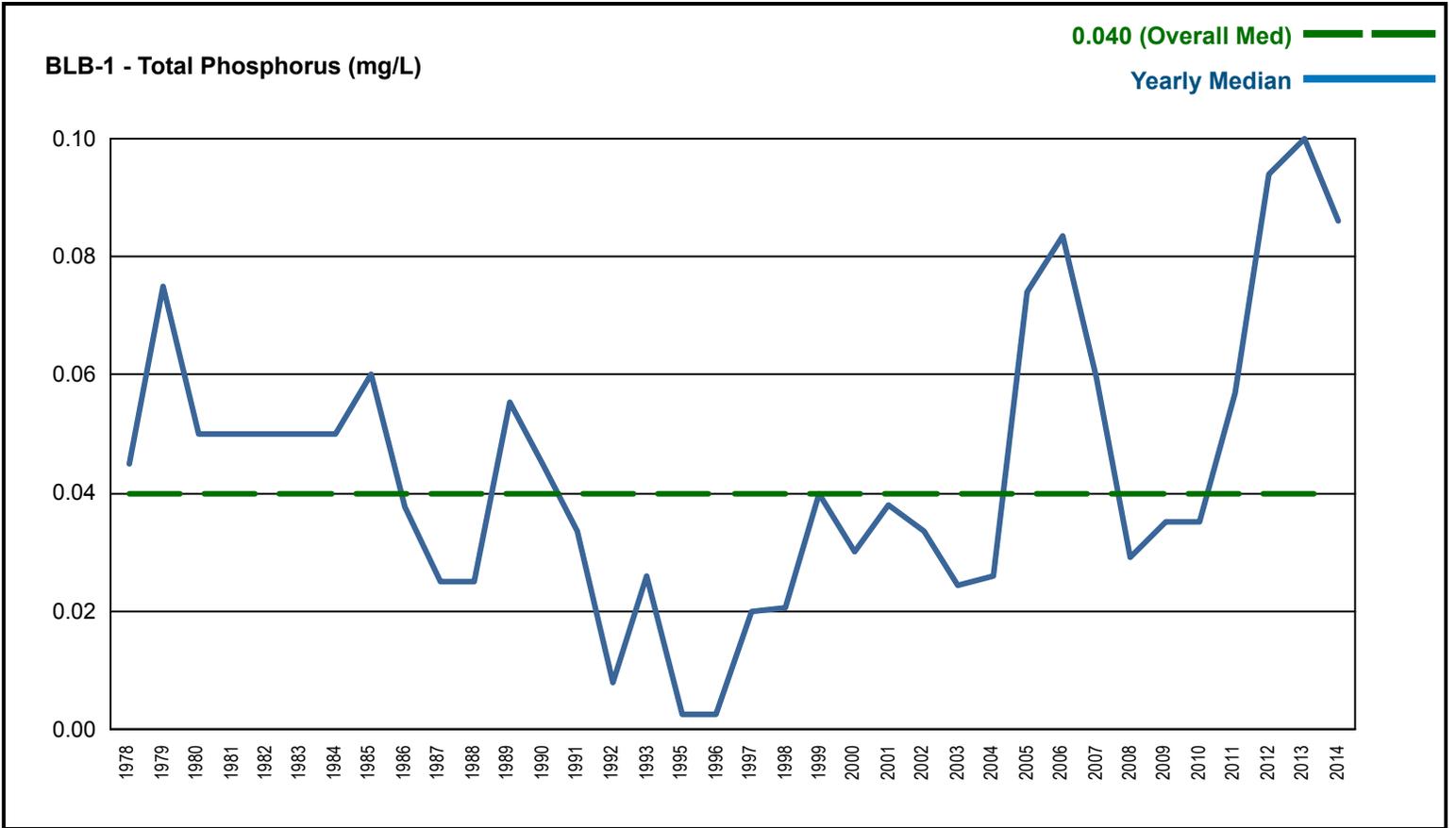
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



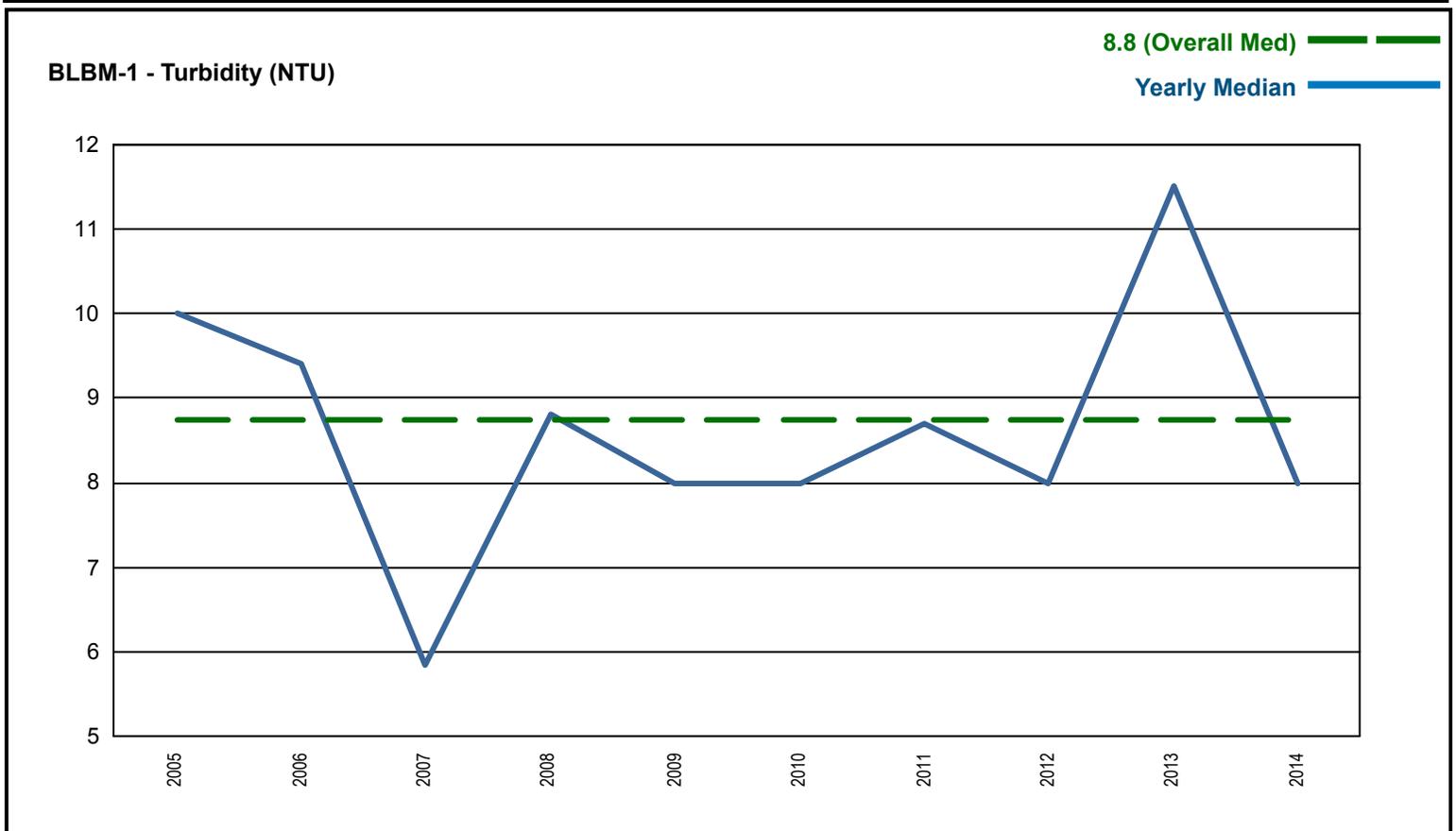
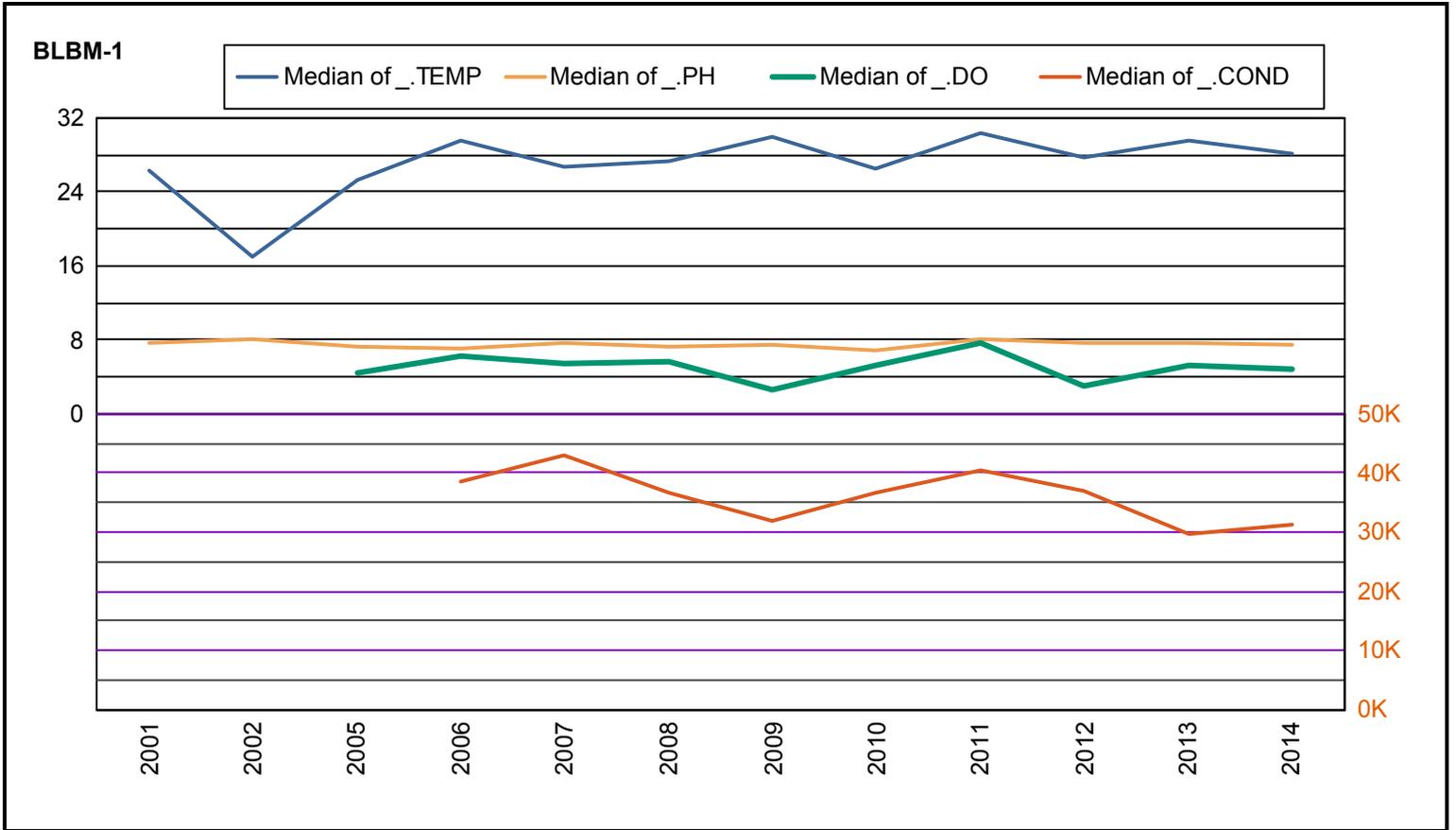
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



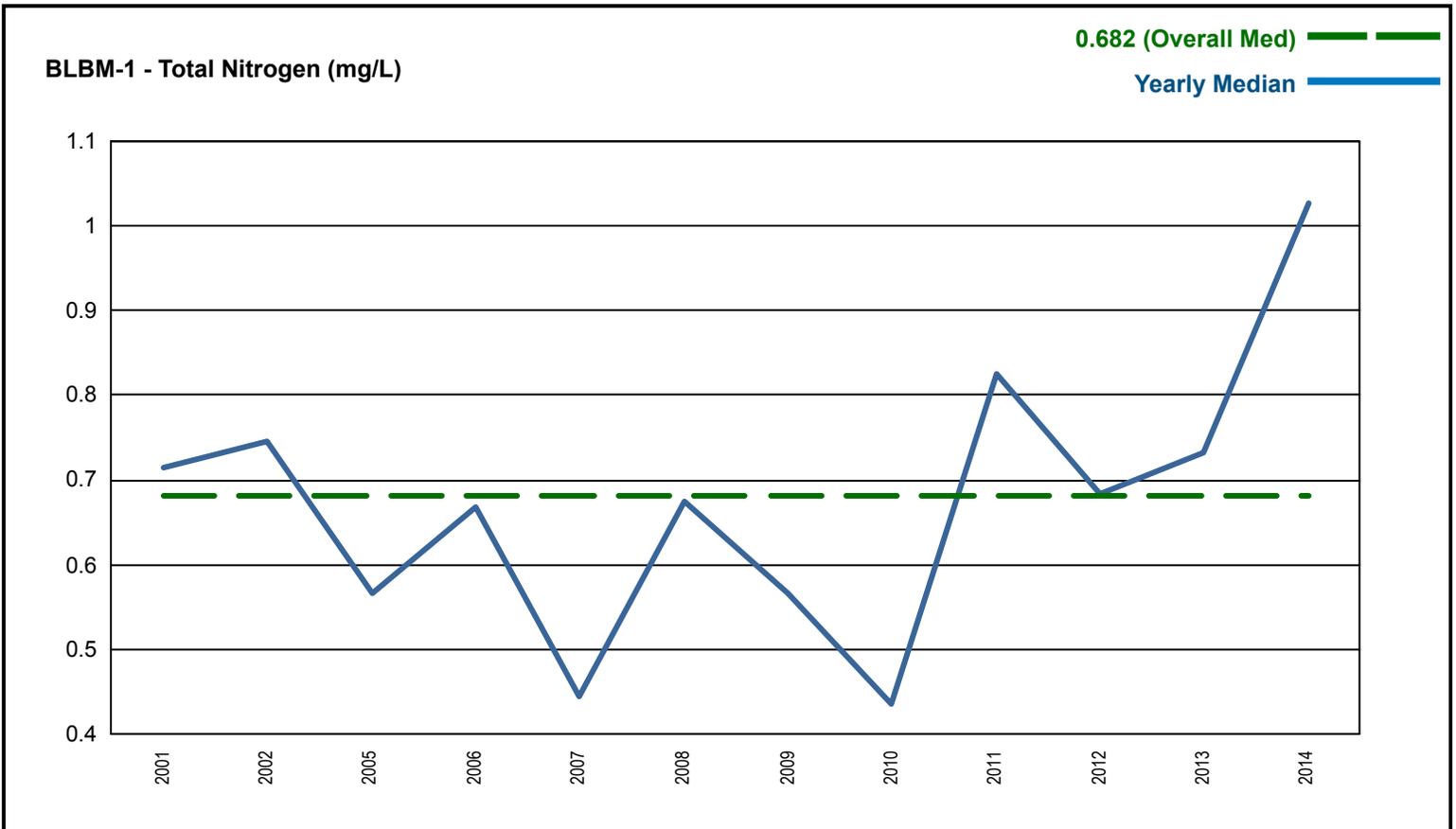
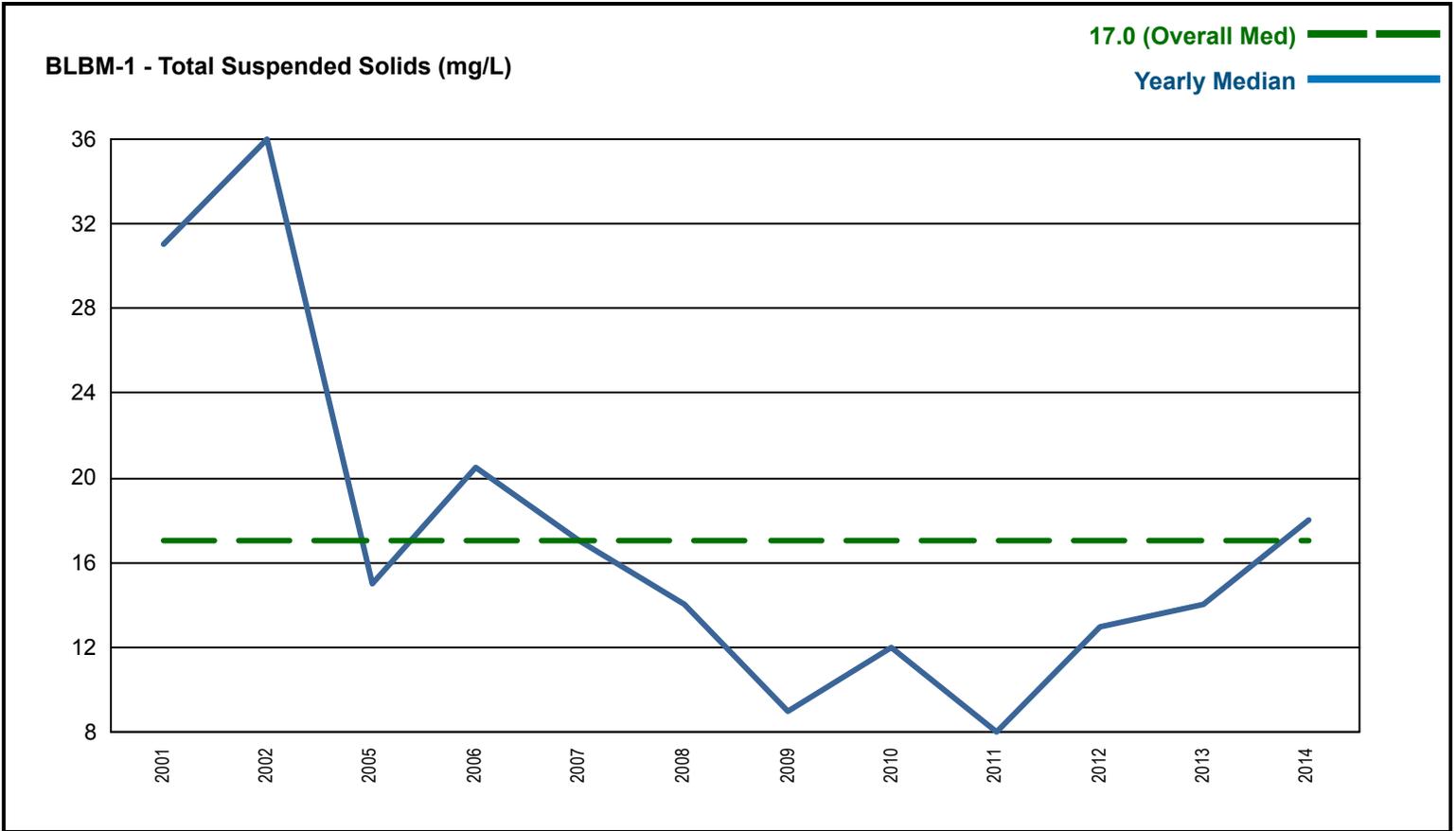
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



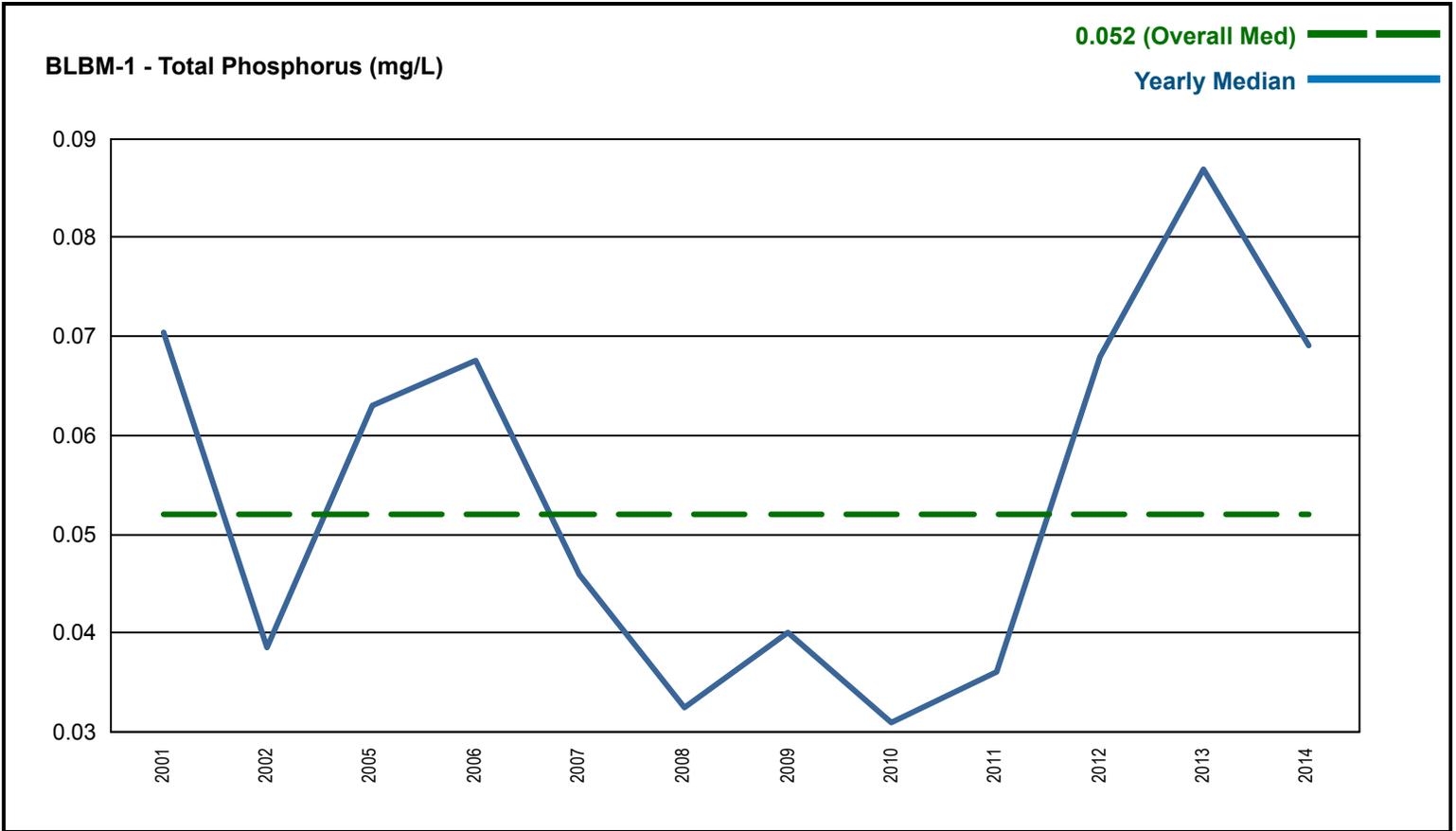
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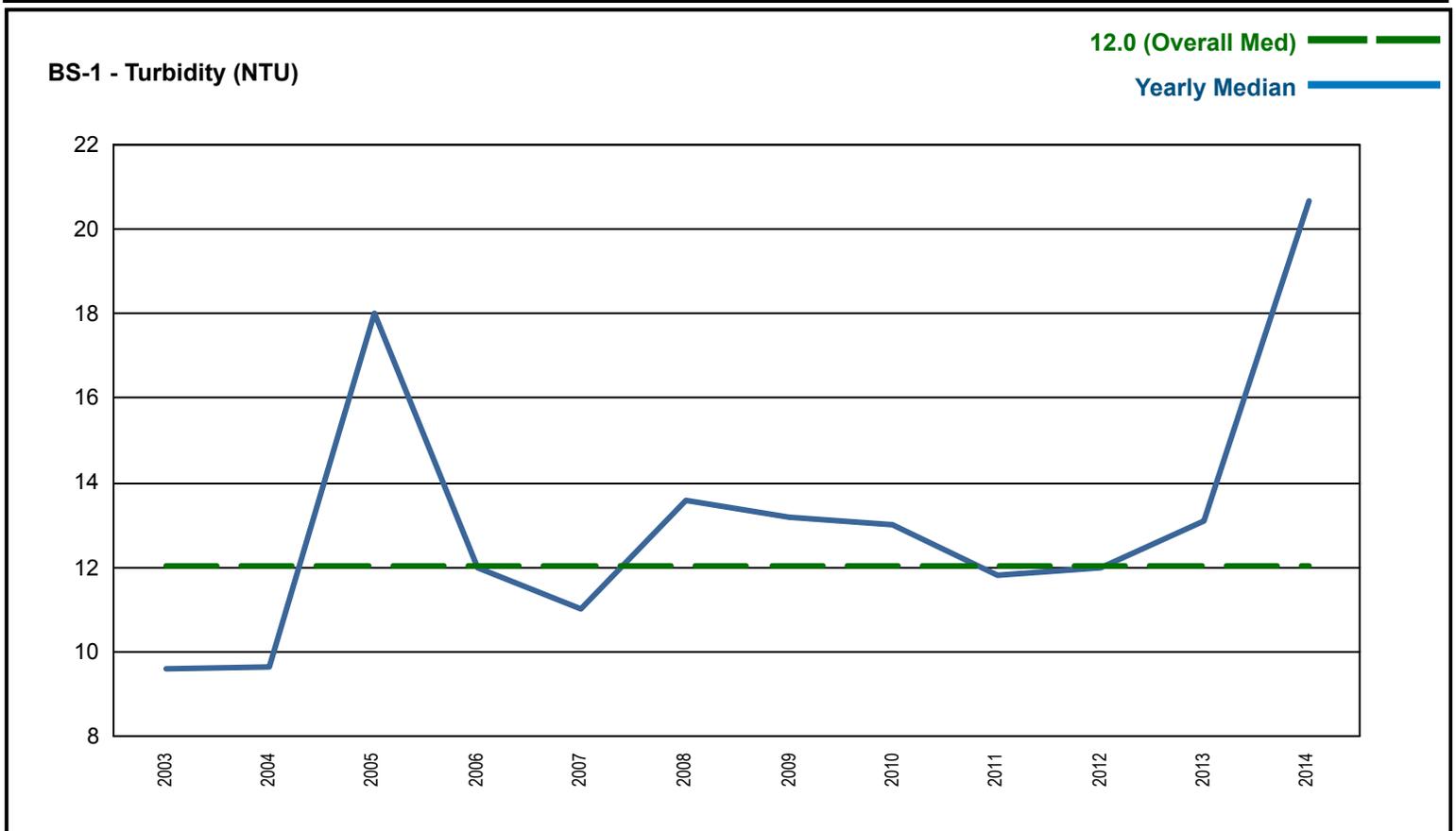
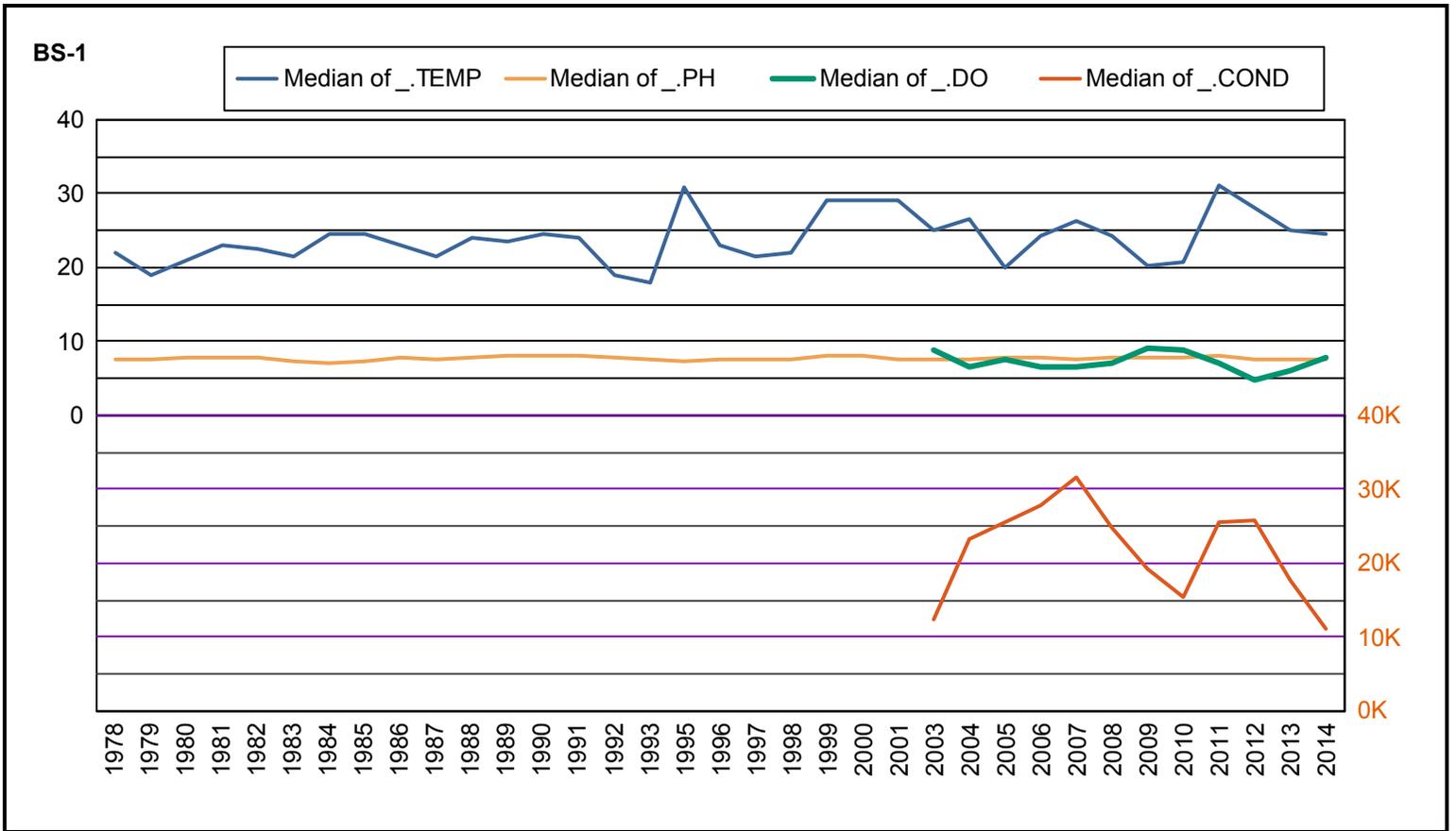
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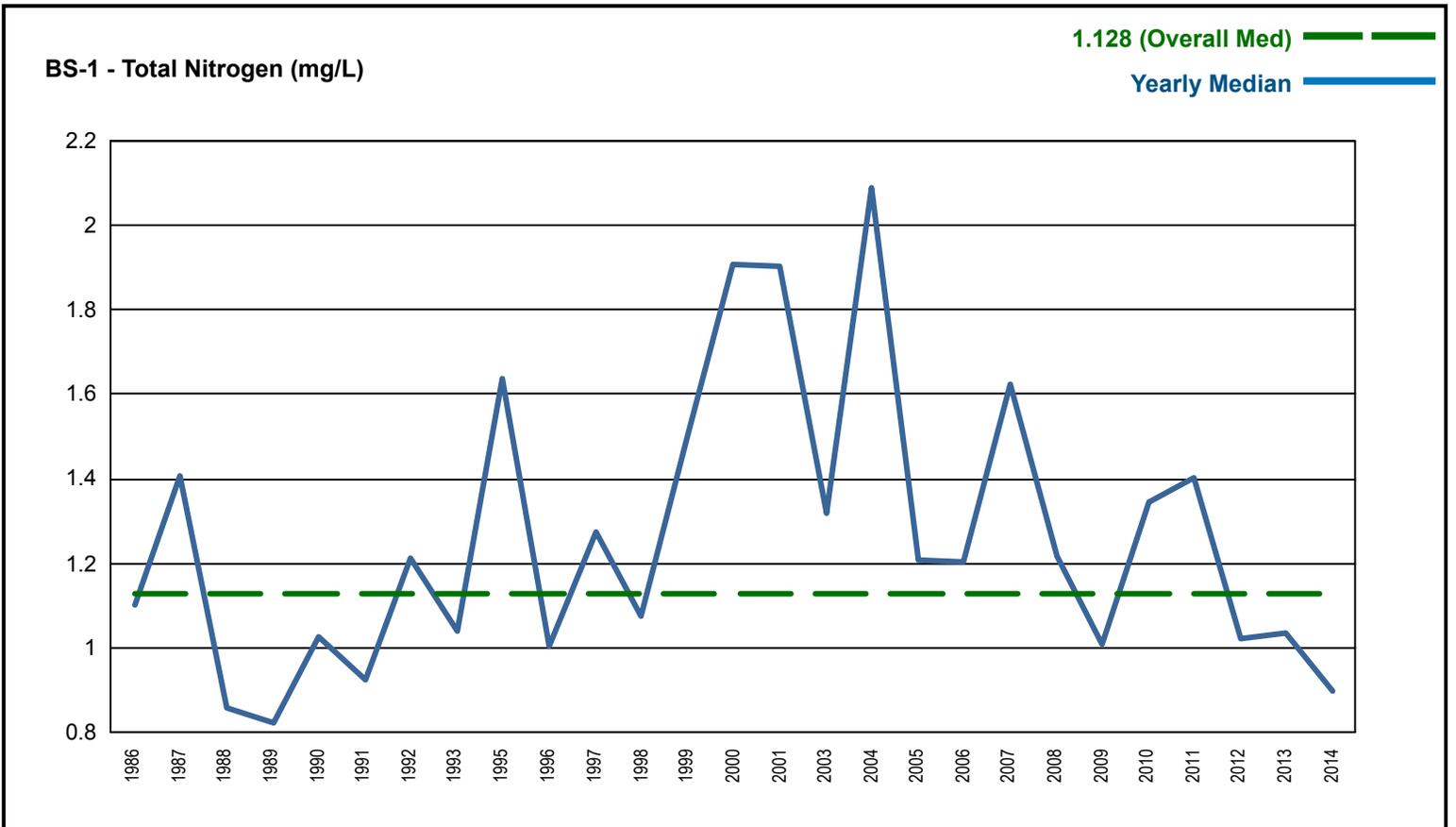
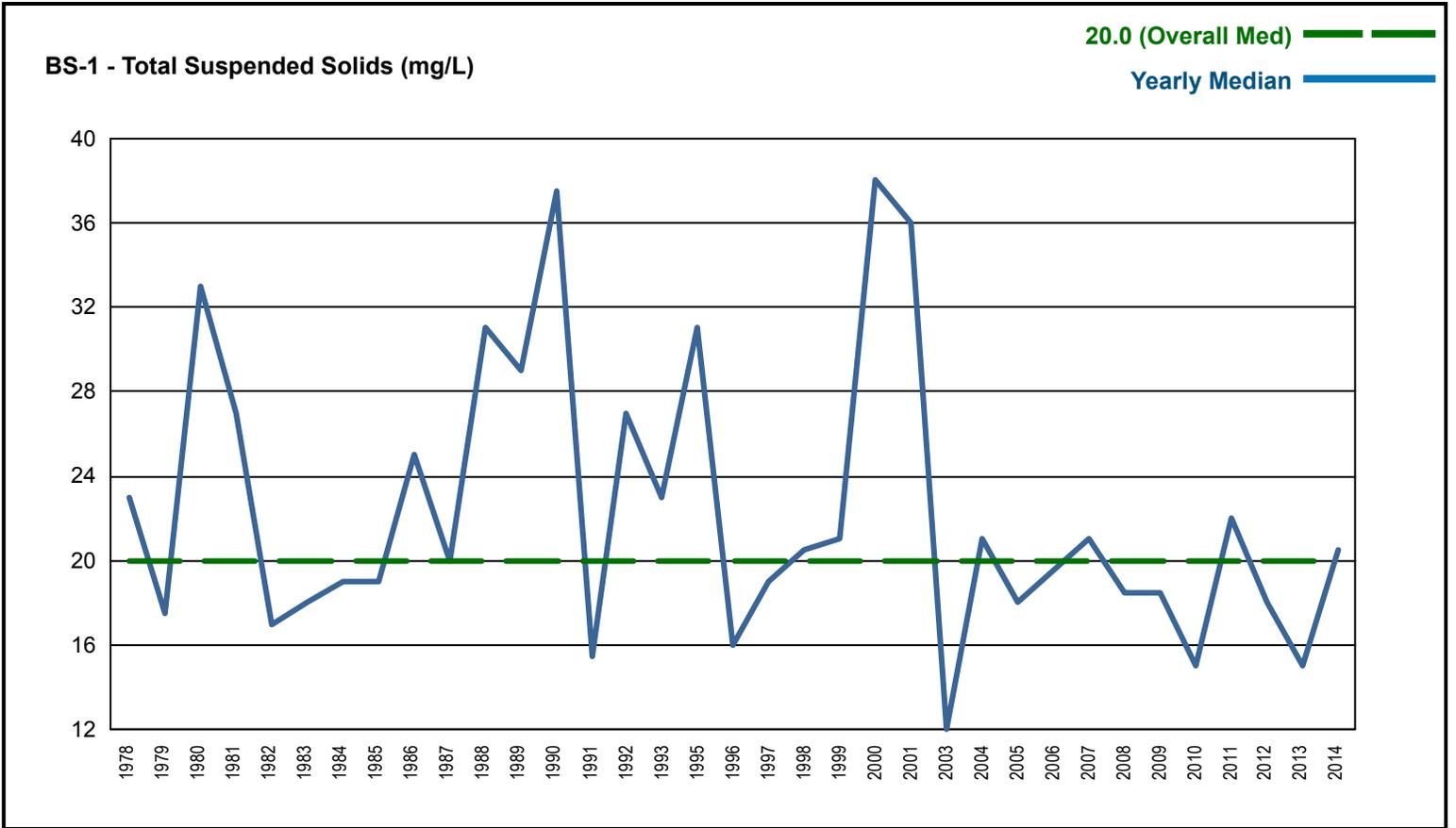
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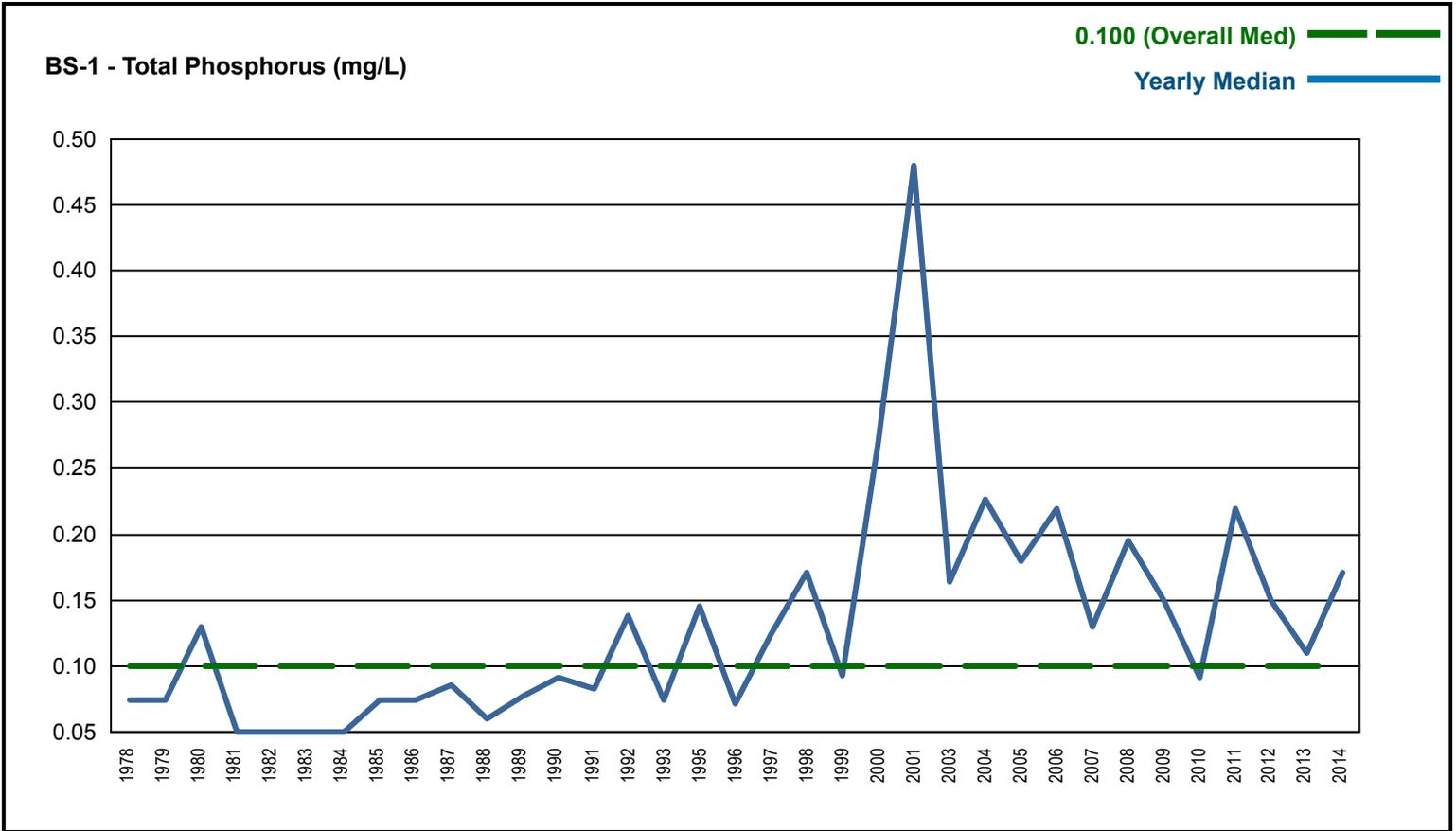
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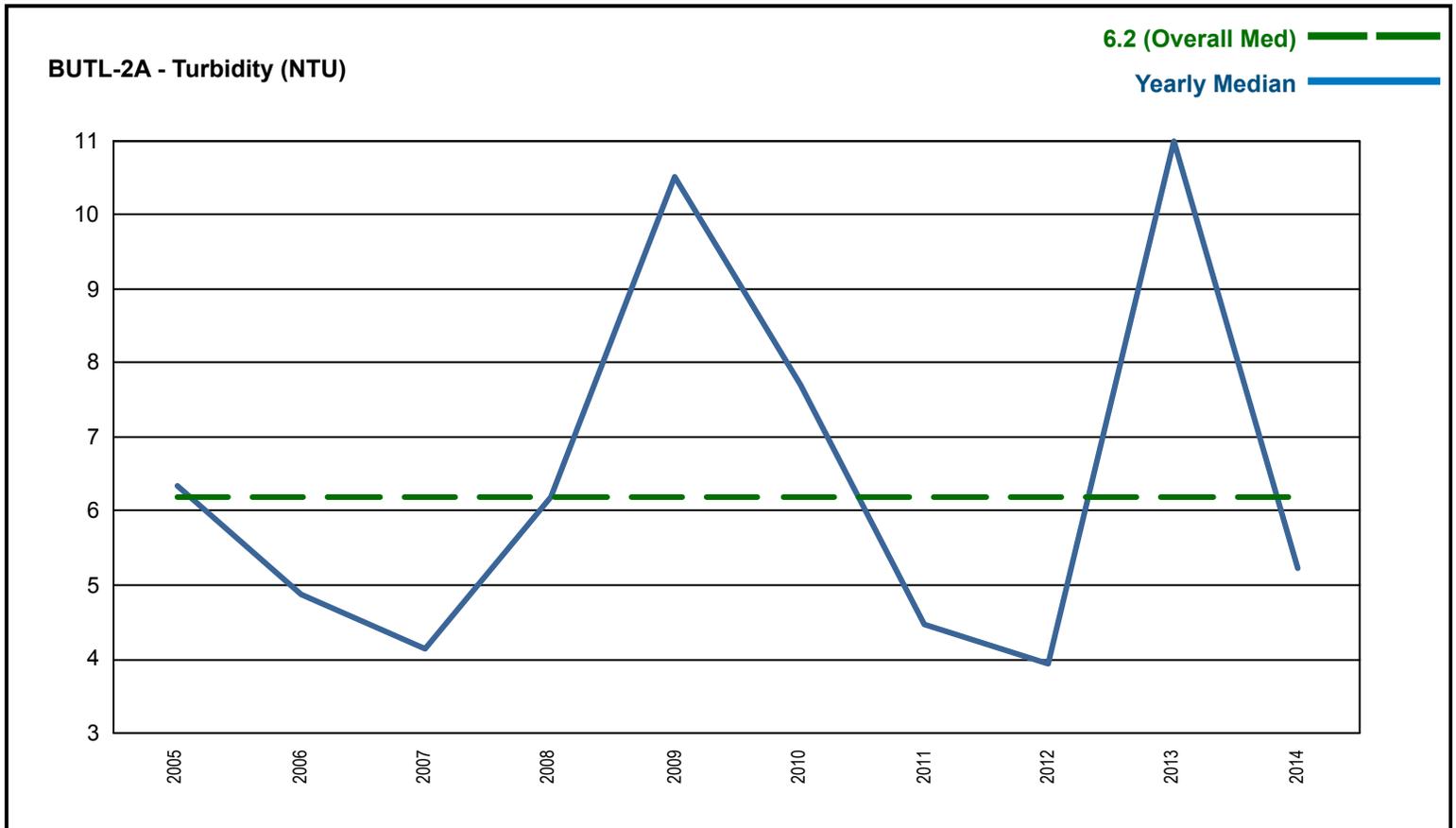
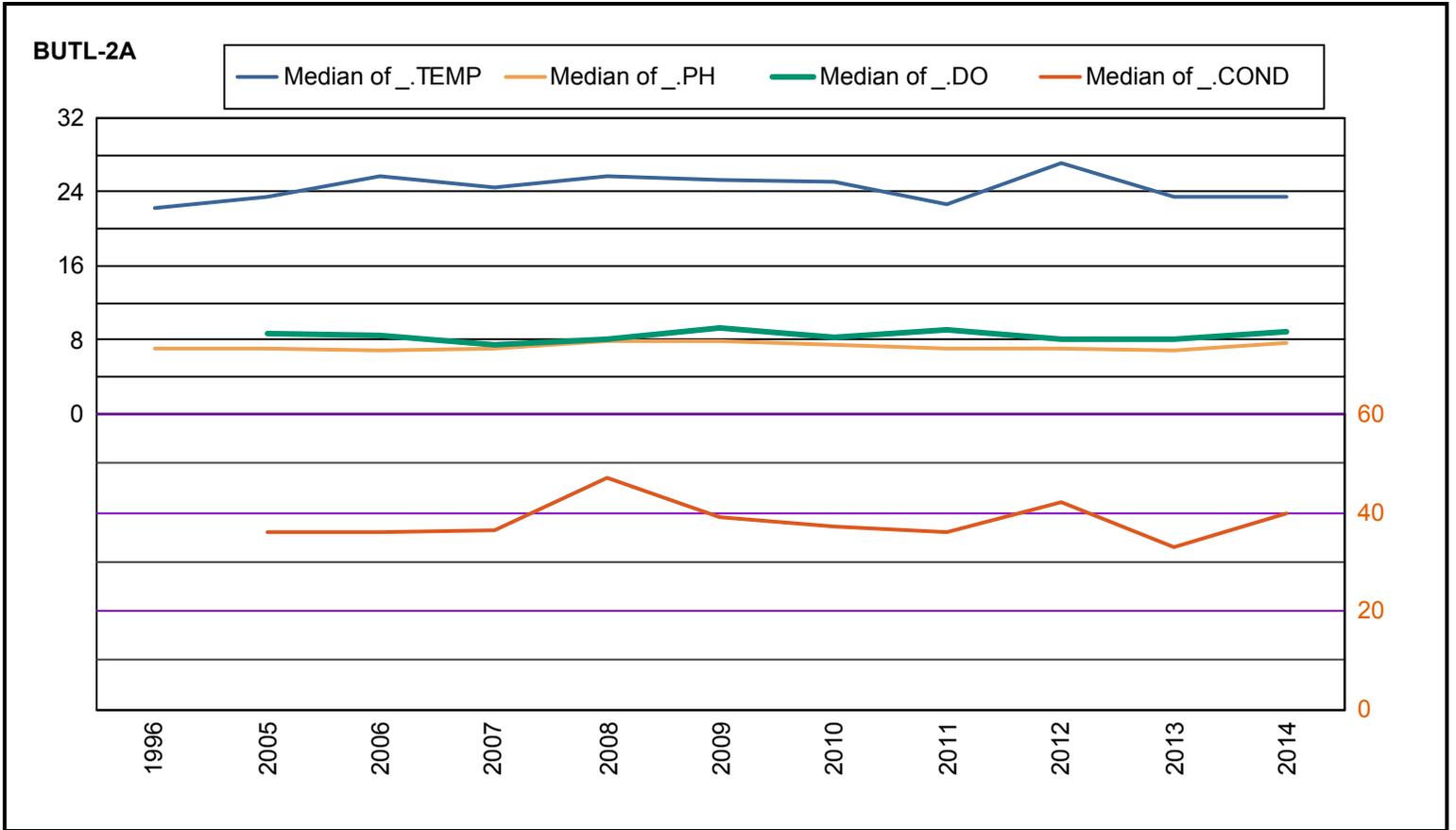
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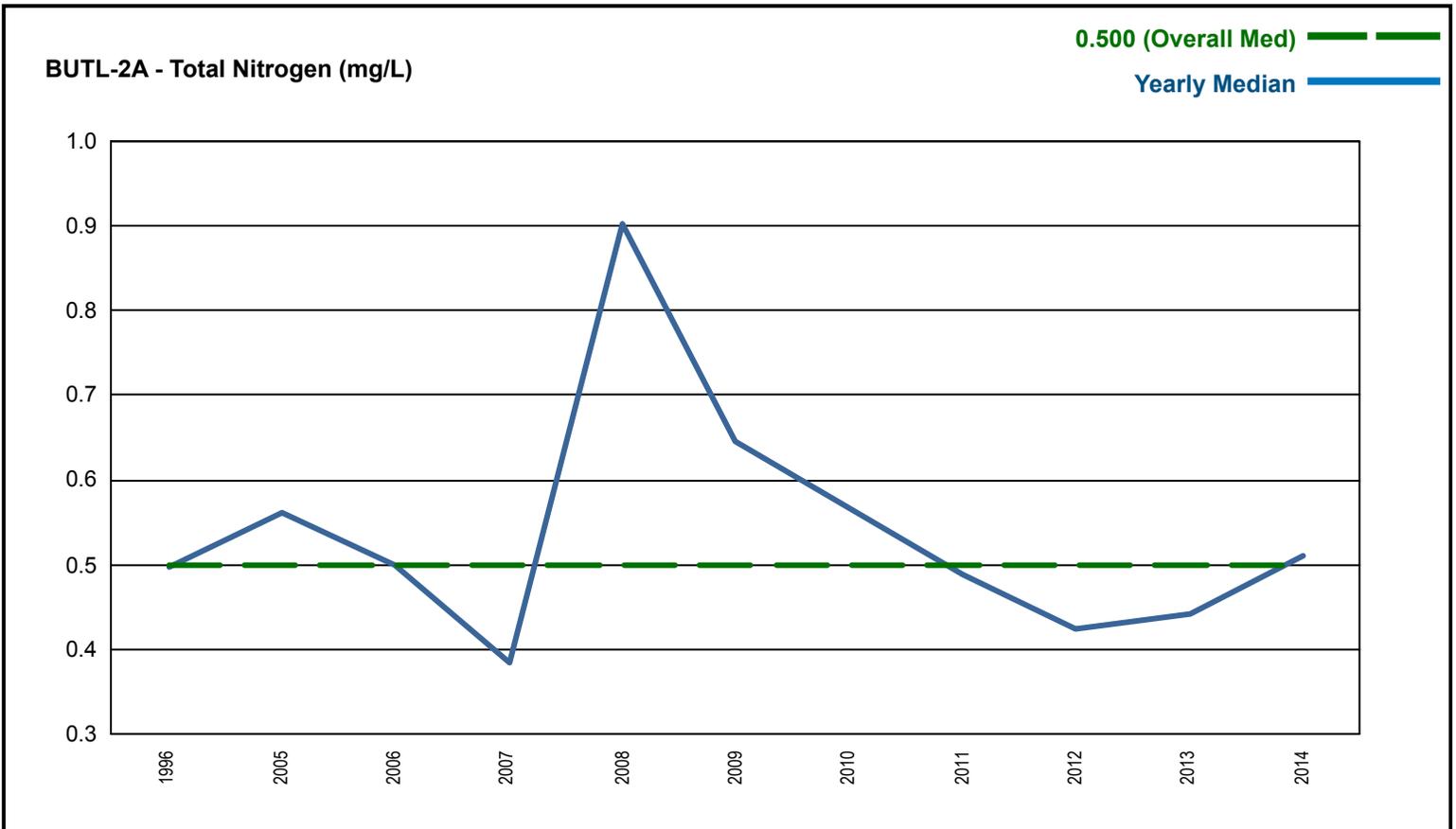
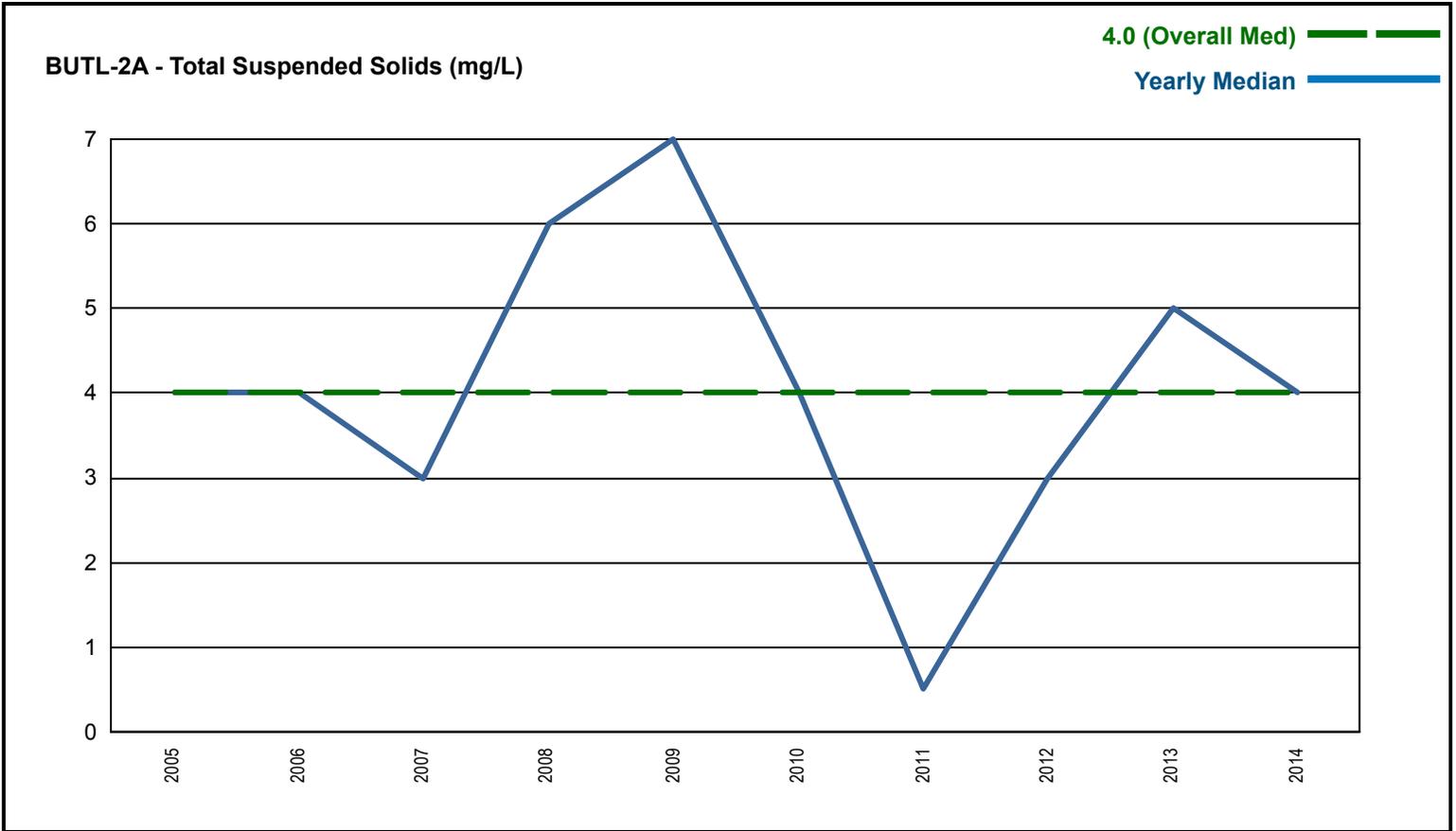
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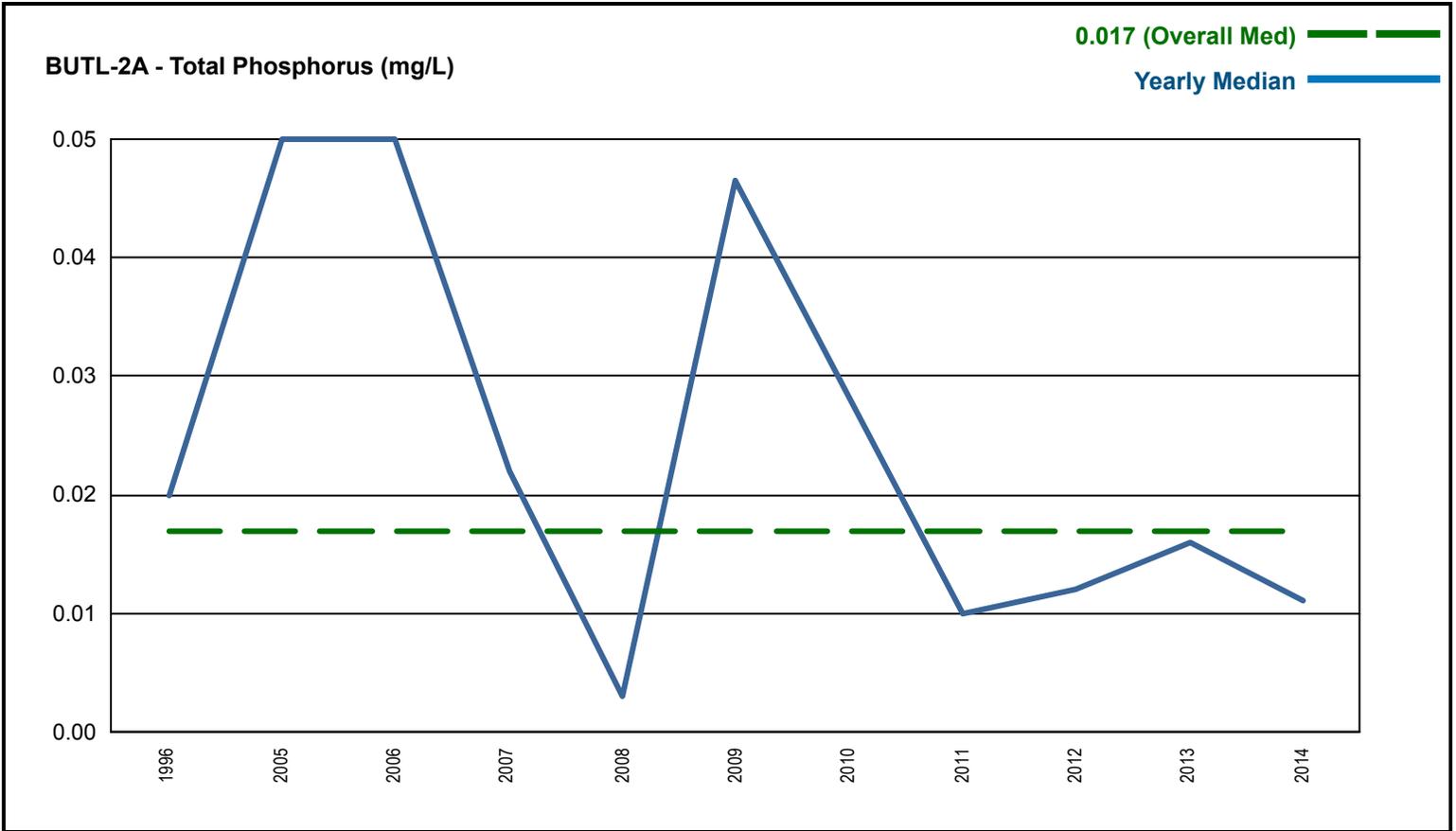
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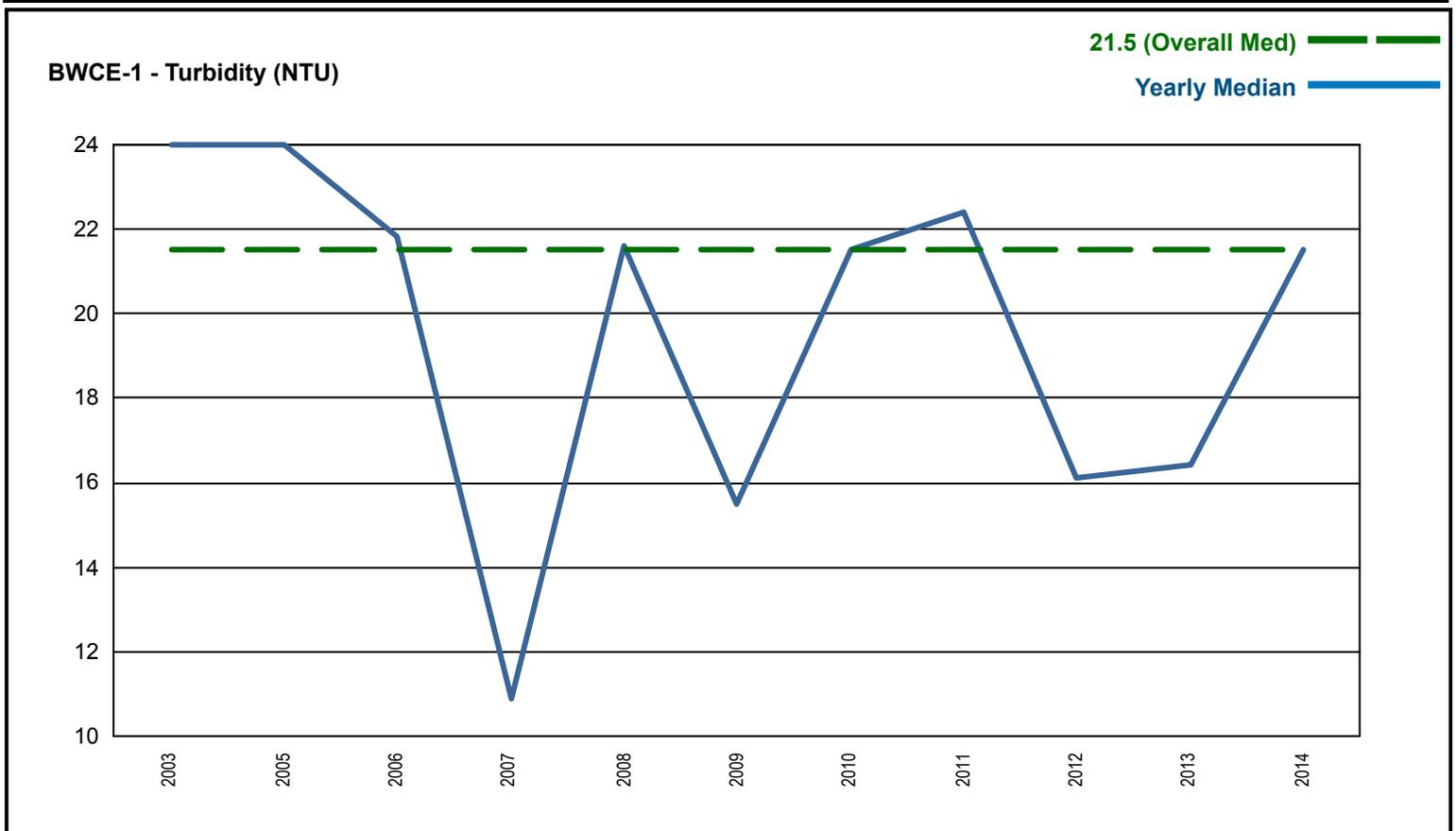
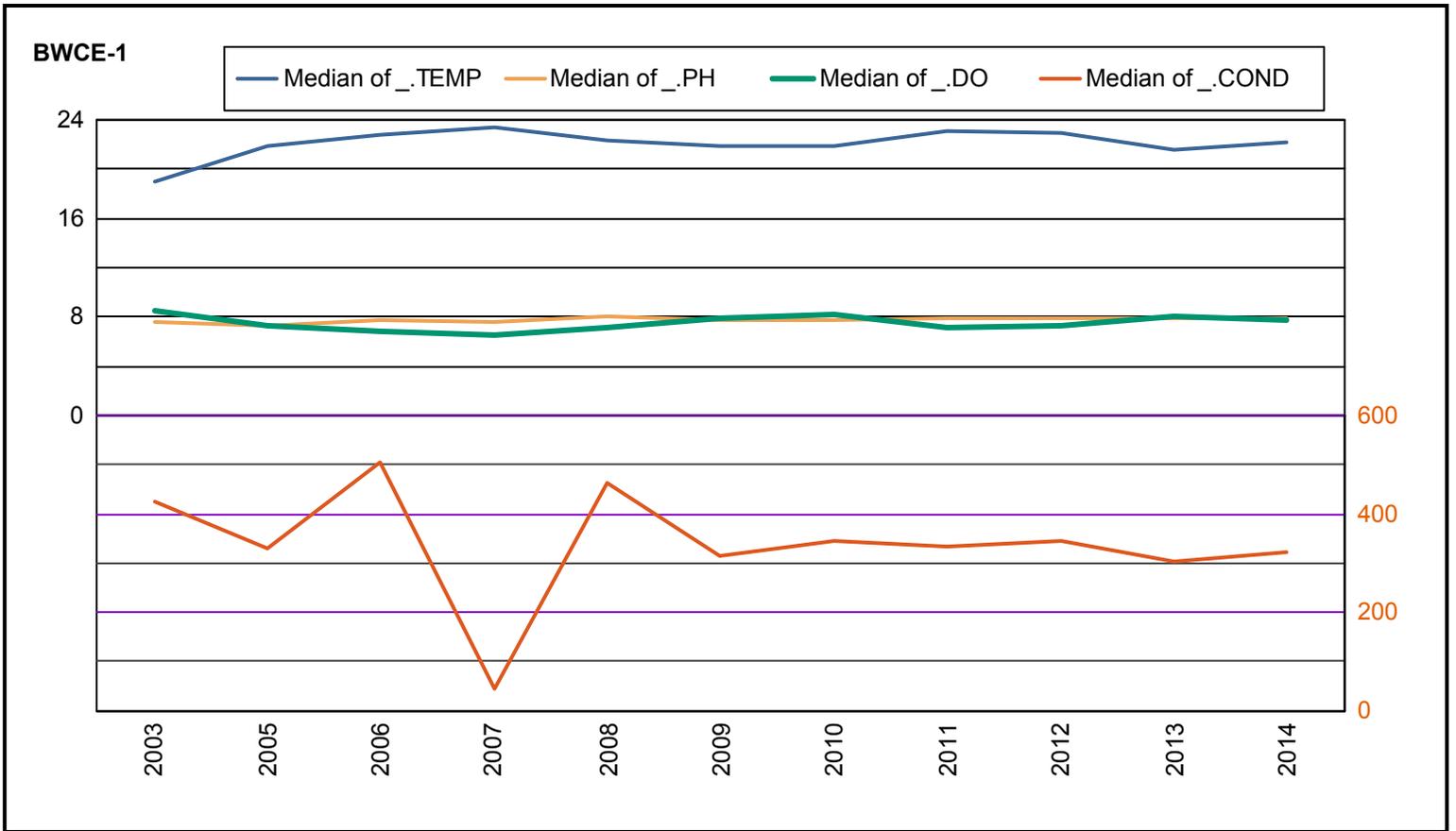
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014

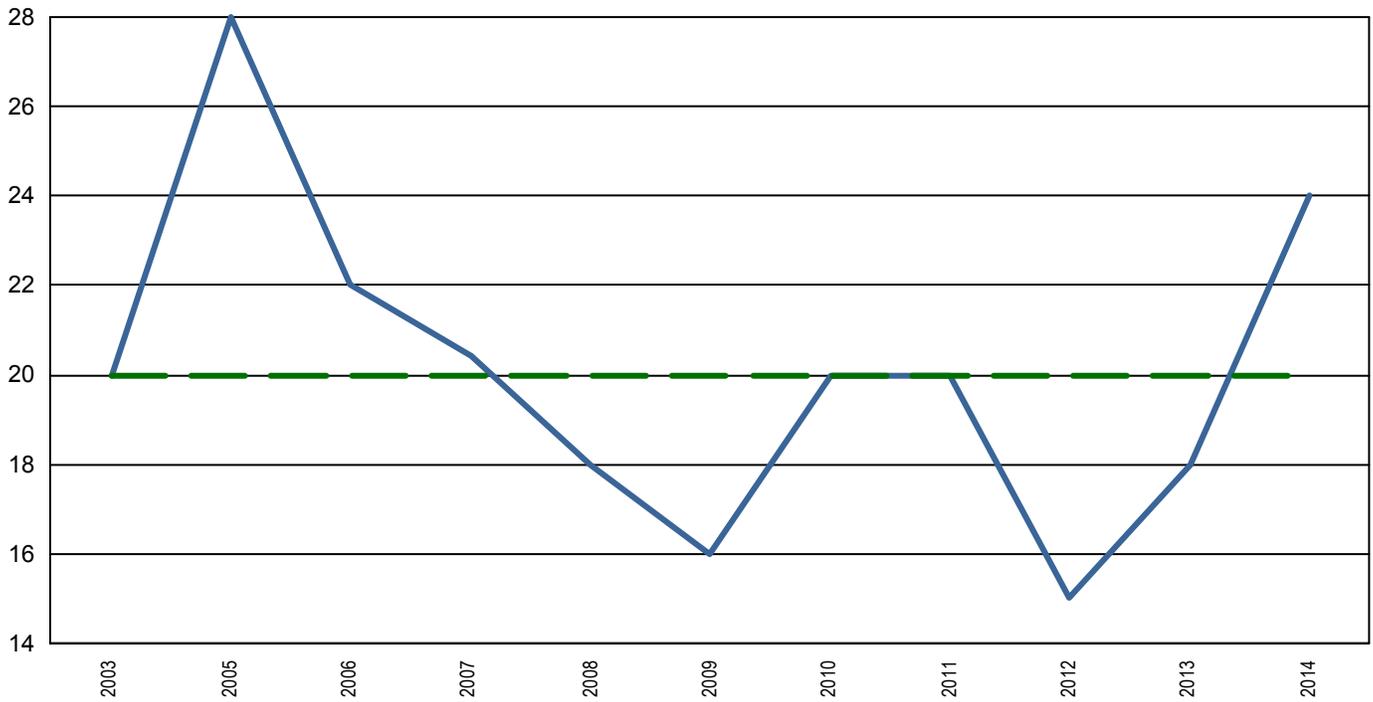


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

## BWCE-1 - Total Suspended Solids (mg/L)

20.0 (Overall Med) 

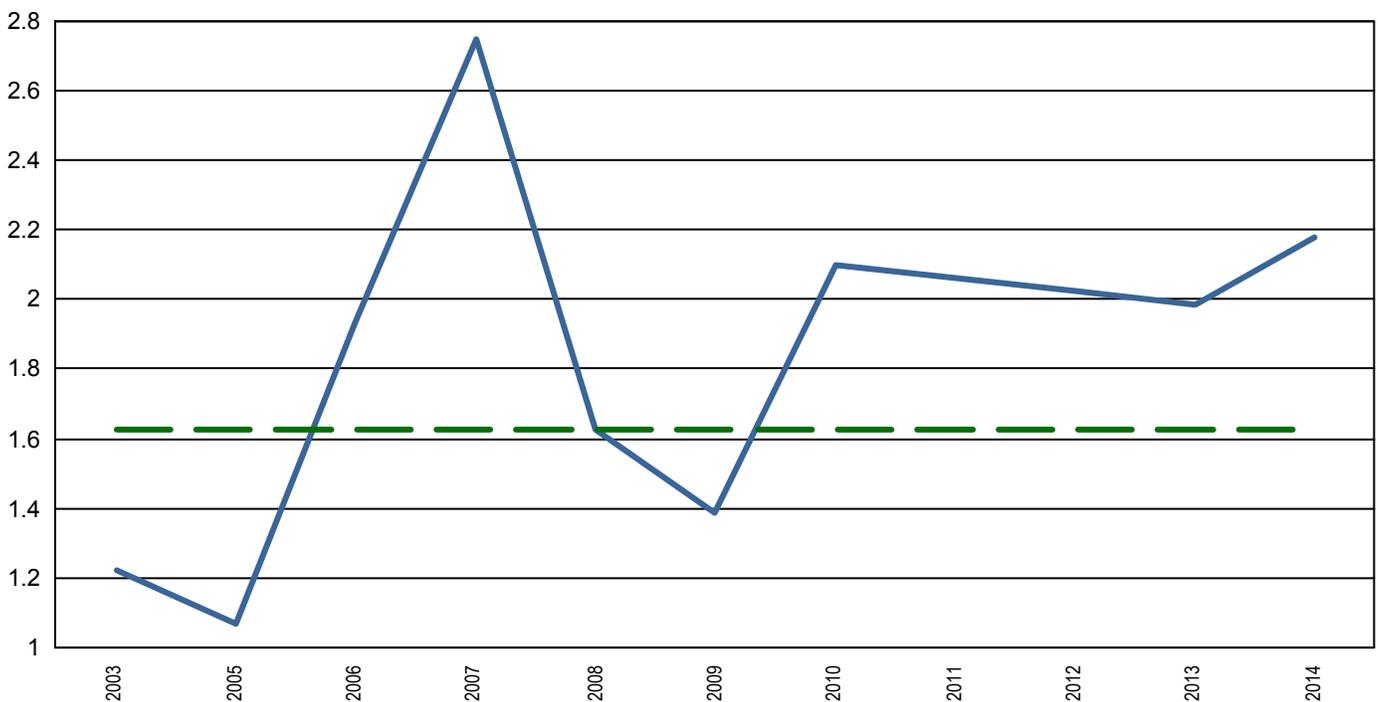
Yearly Median 



## BWCE-1 - Total Nitrogen (mg/L)

1.628 (Overall Med) 

Yearly Median 

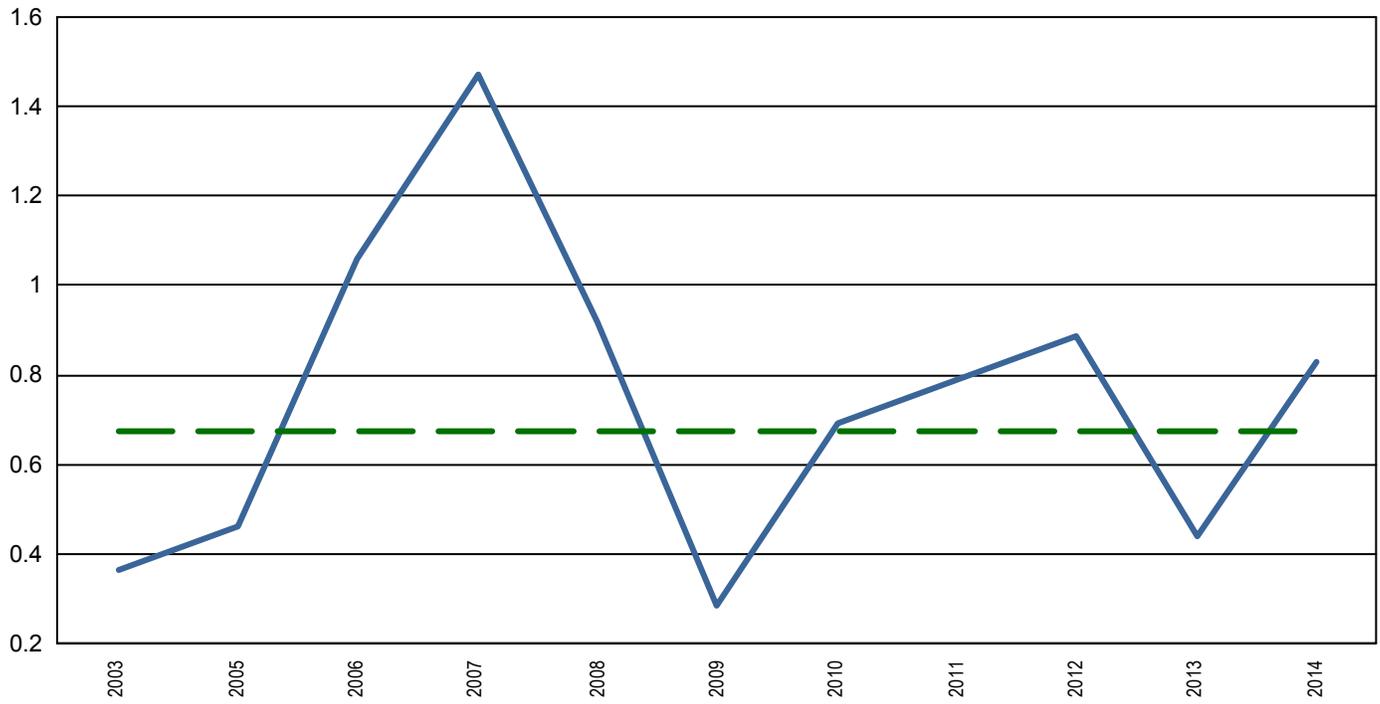


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

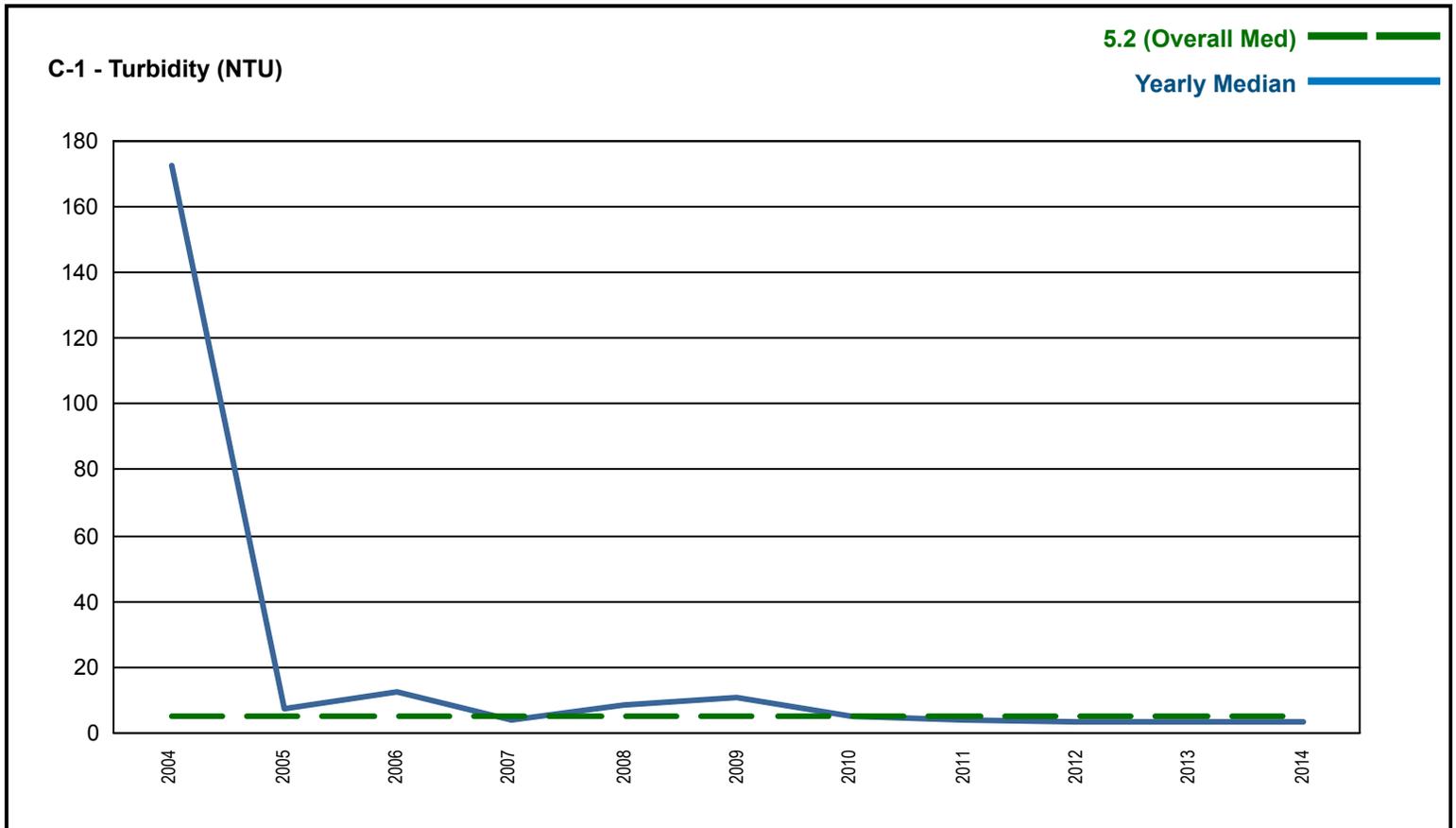
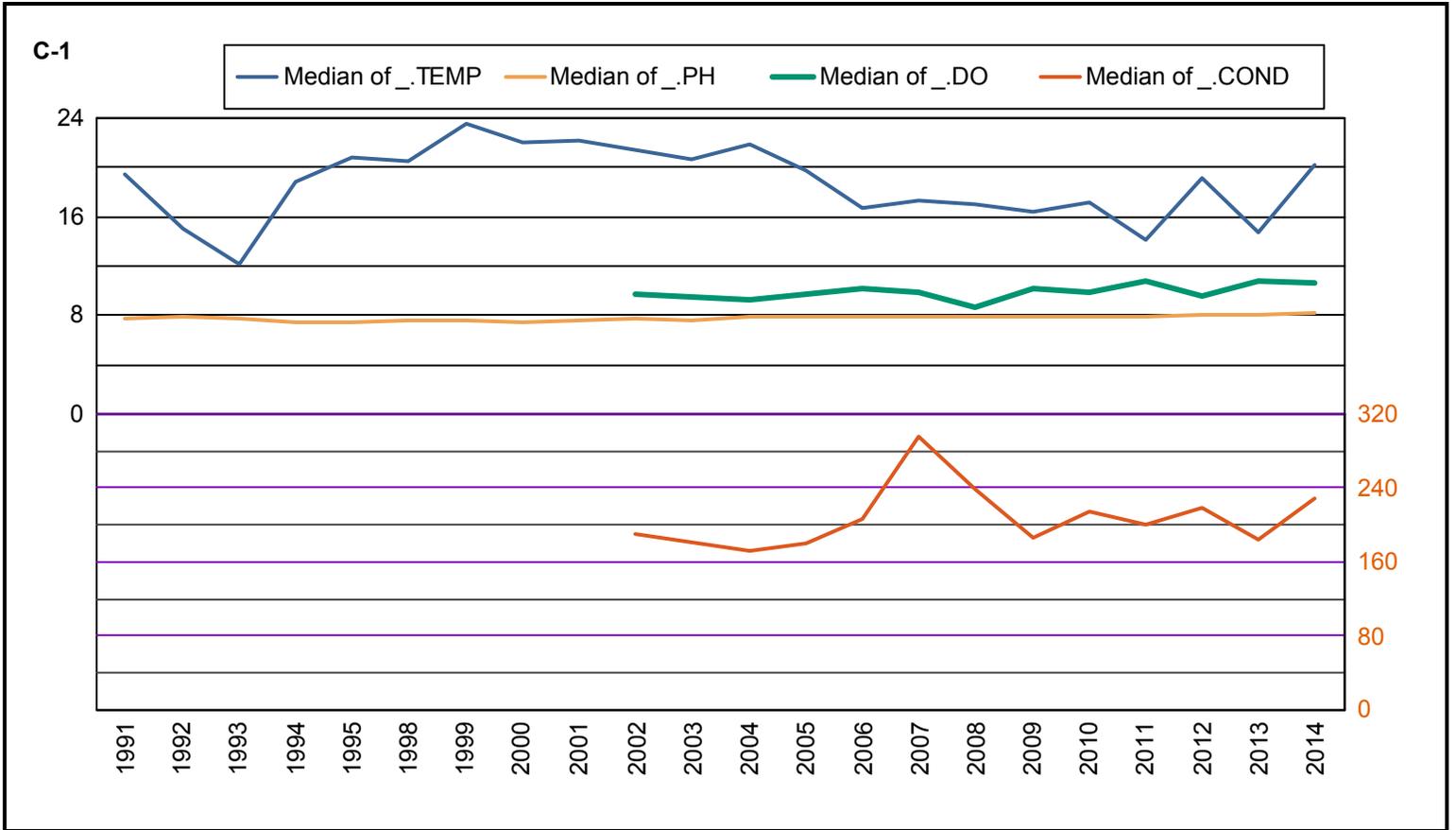
**BWCE-1 - Total Phosphorus (mg/L)**

0.672 (Overall Med) 

Yearly Median 



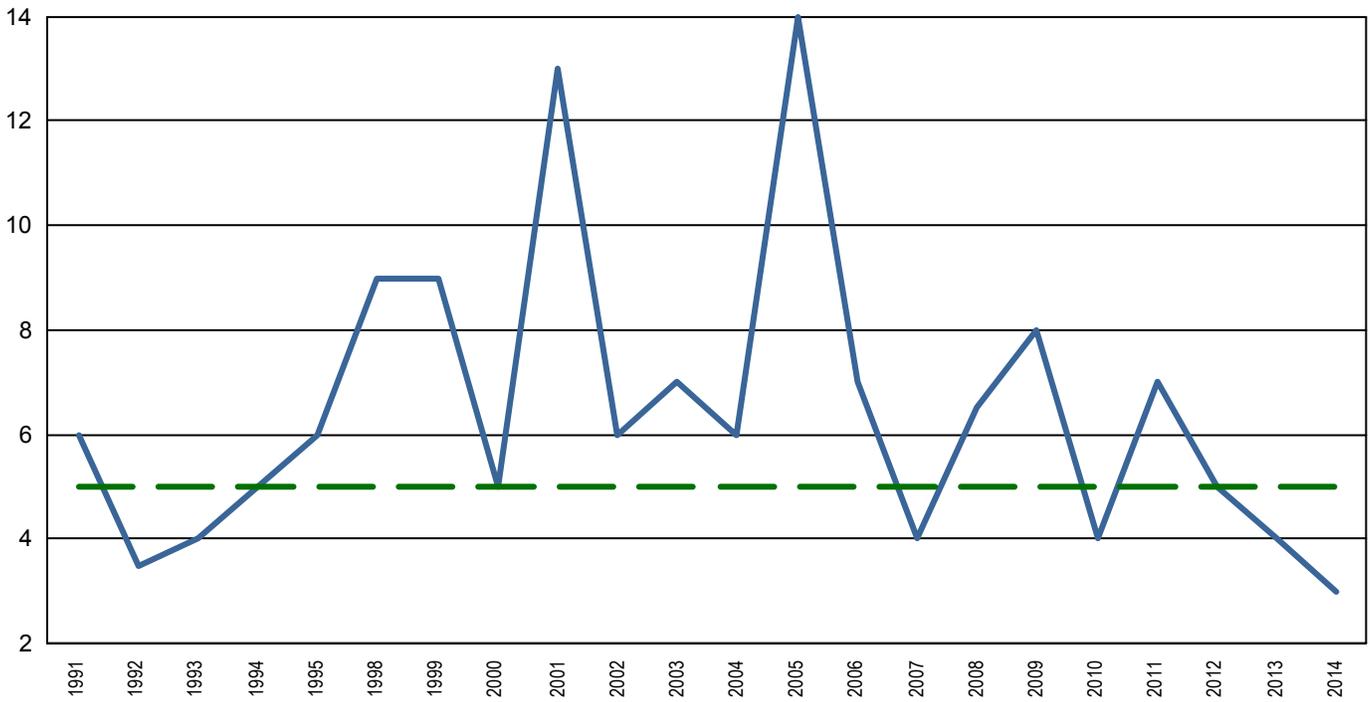
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

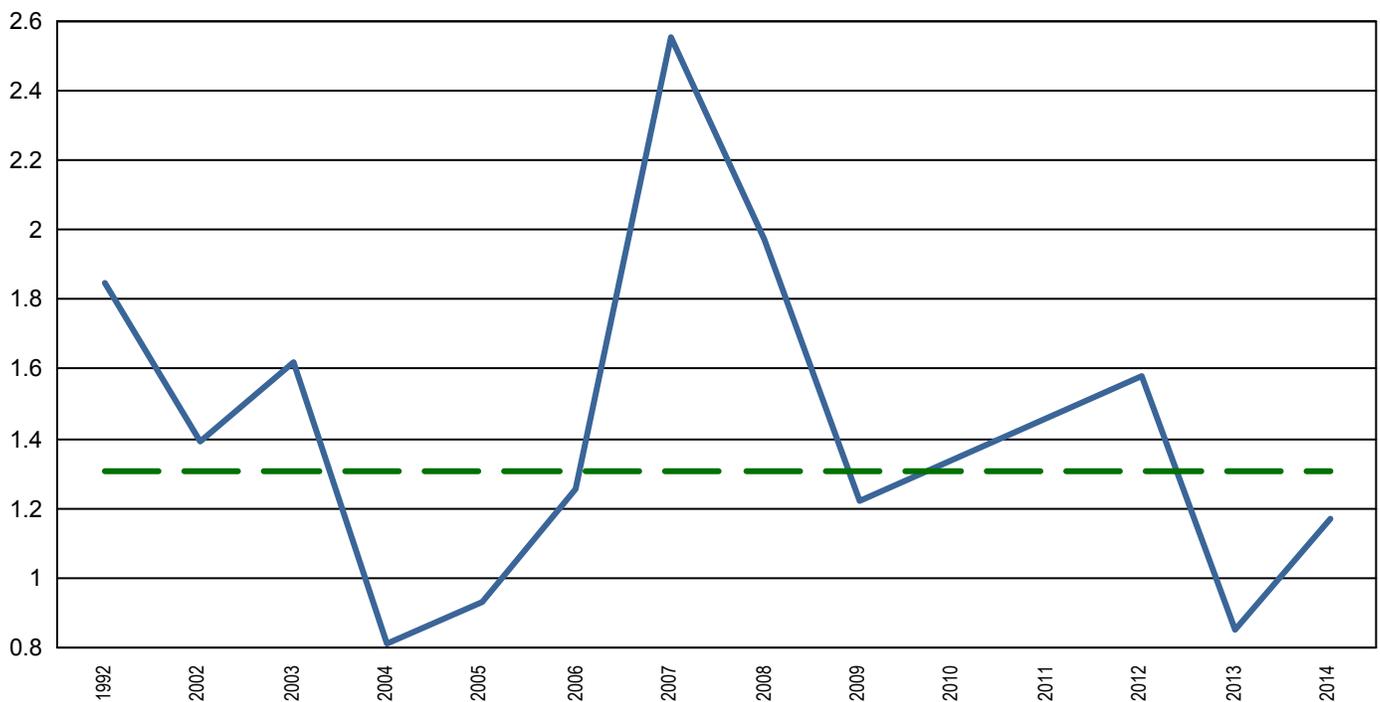
## C-1 - Total Suspended Solids (mg/L)

5.0 (Overall Med)   
Yearly Median 

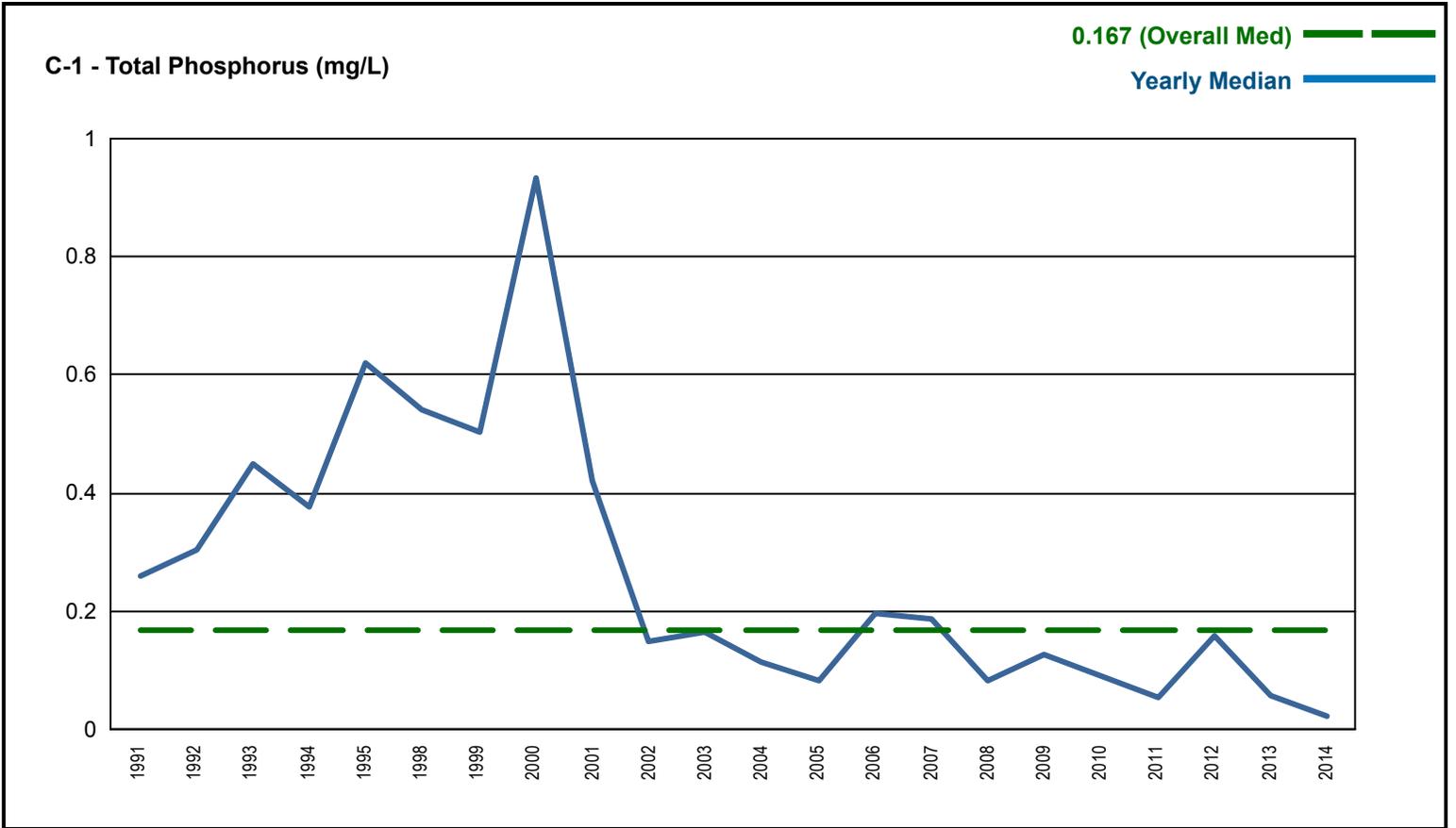


## C-1 - Total Nitrogen (mg/L)

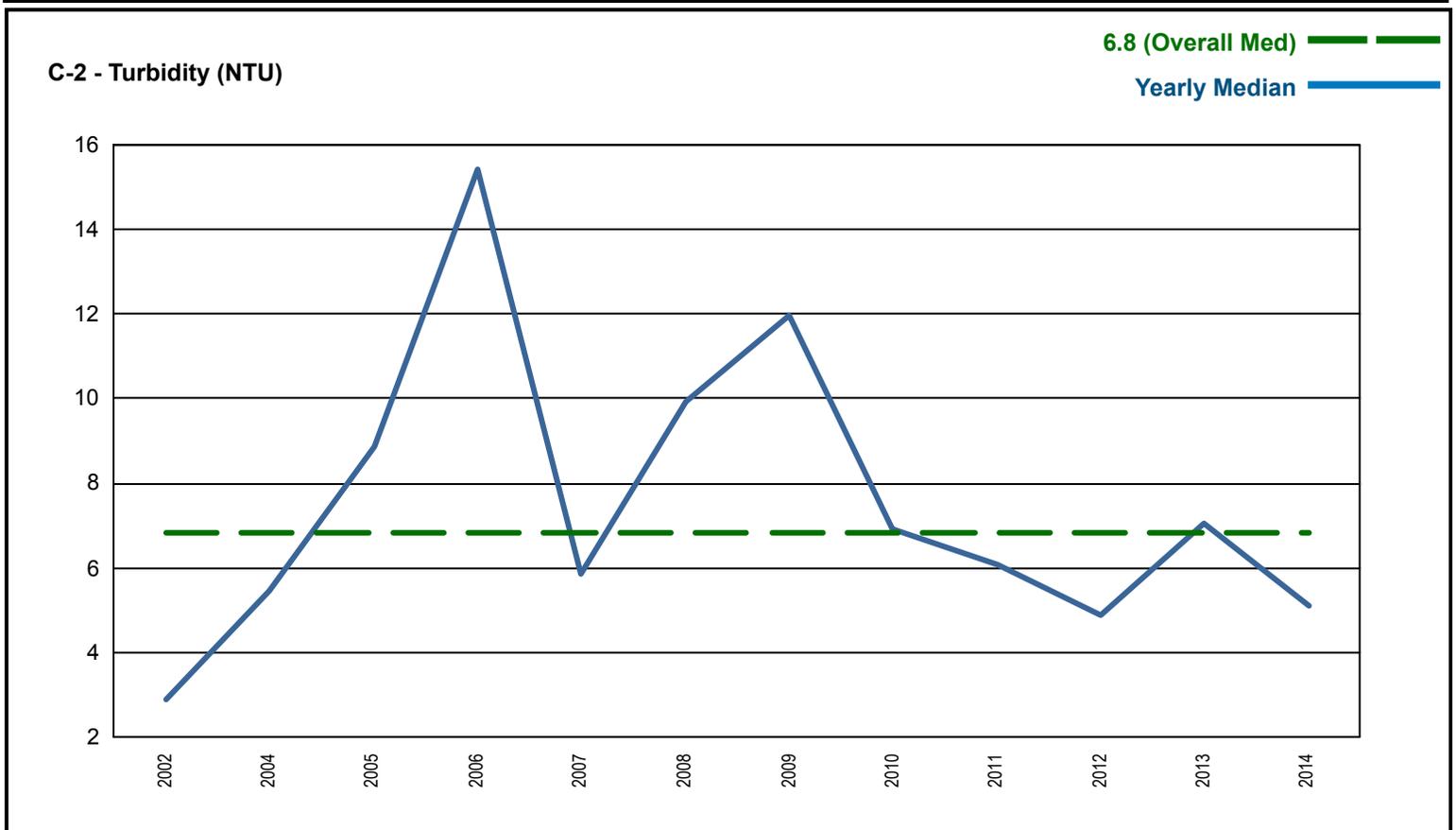
1.306 (Overall Med)   
Yearly Median 



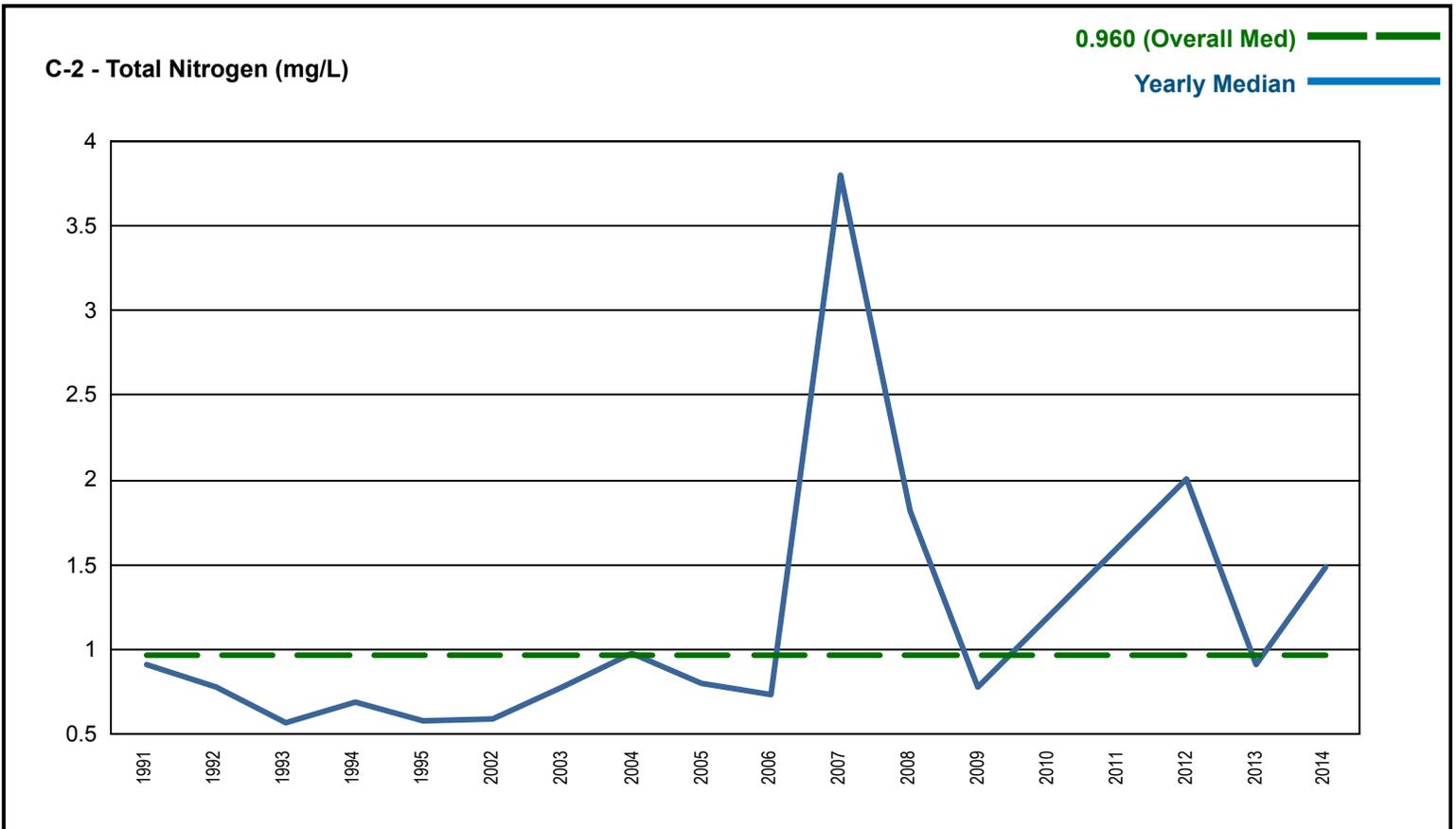
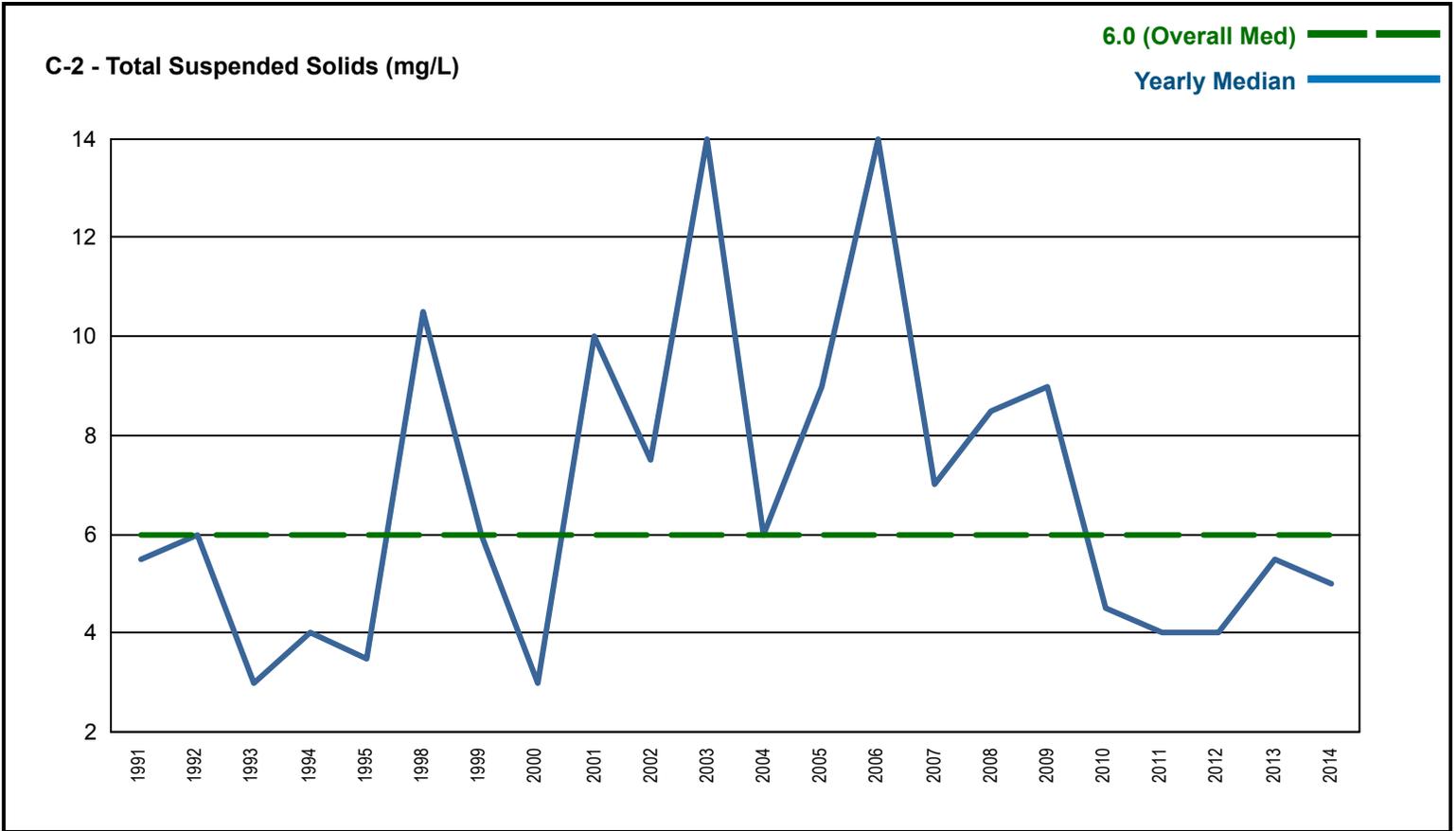
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



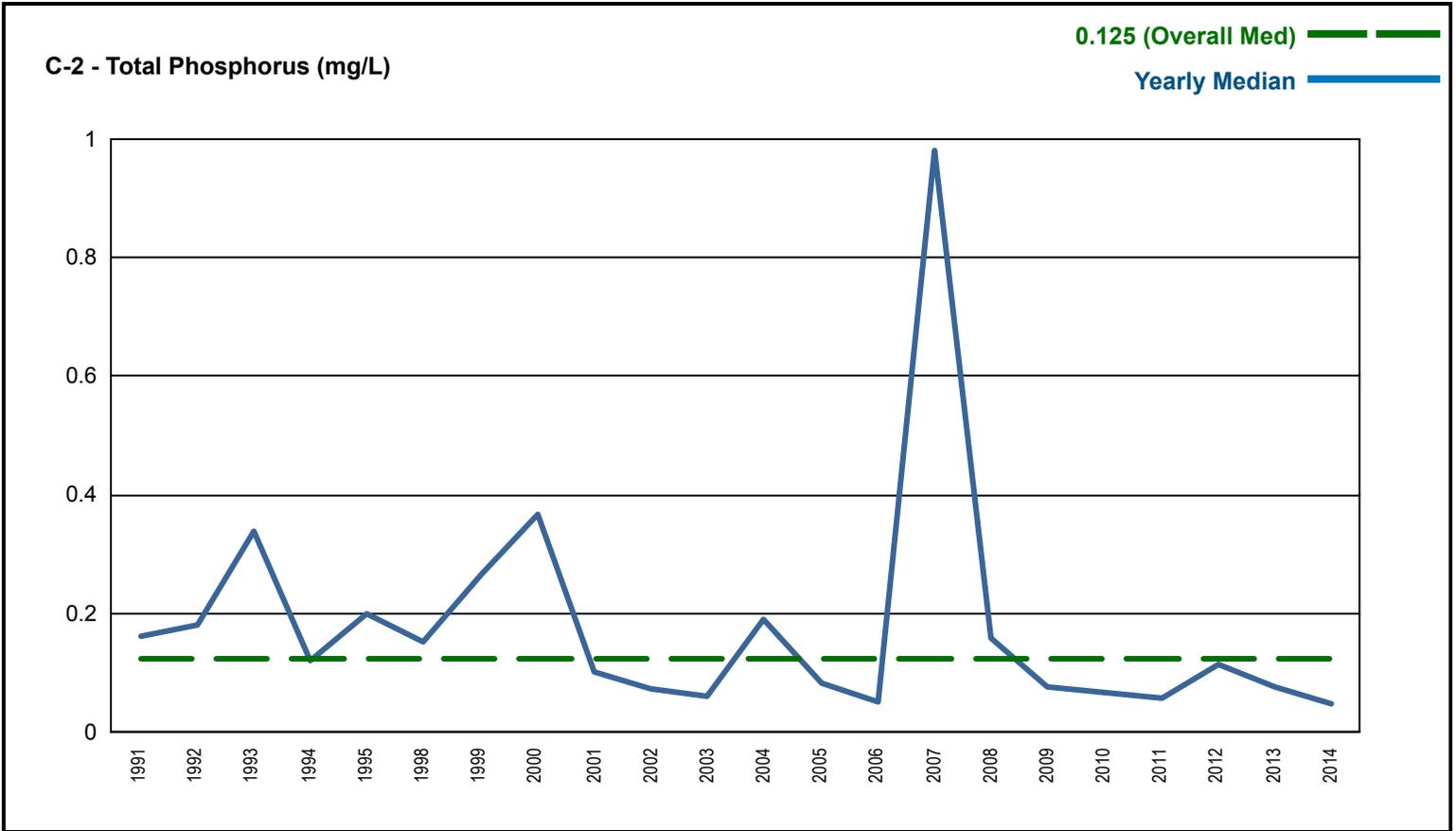
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



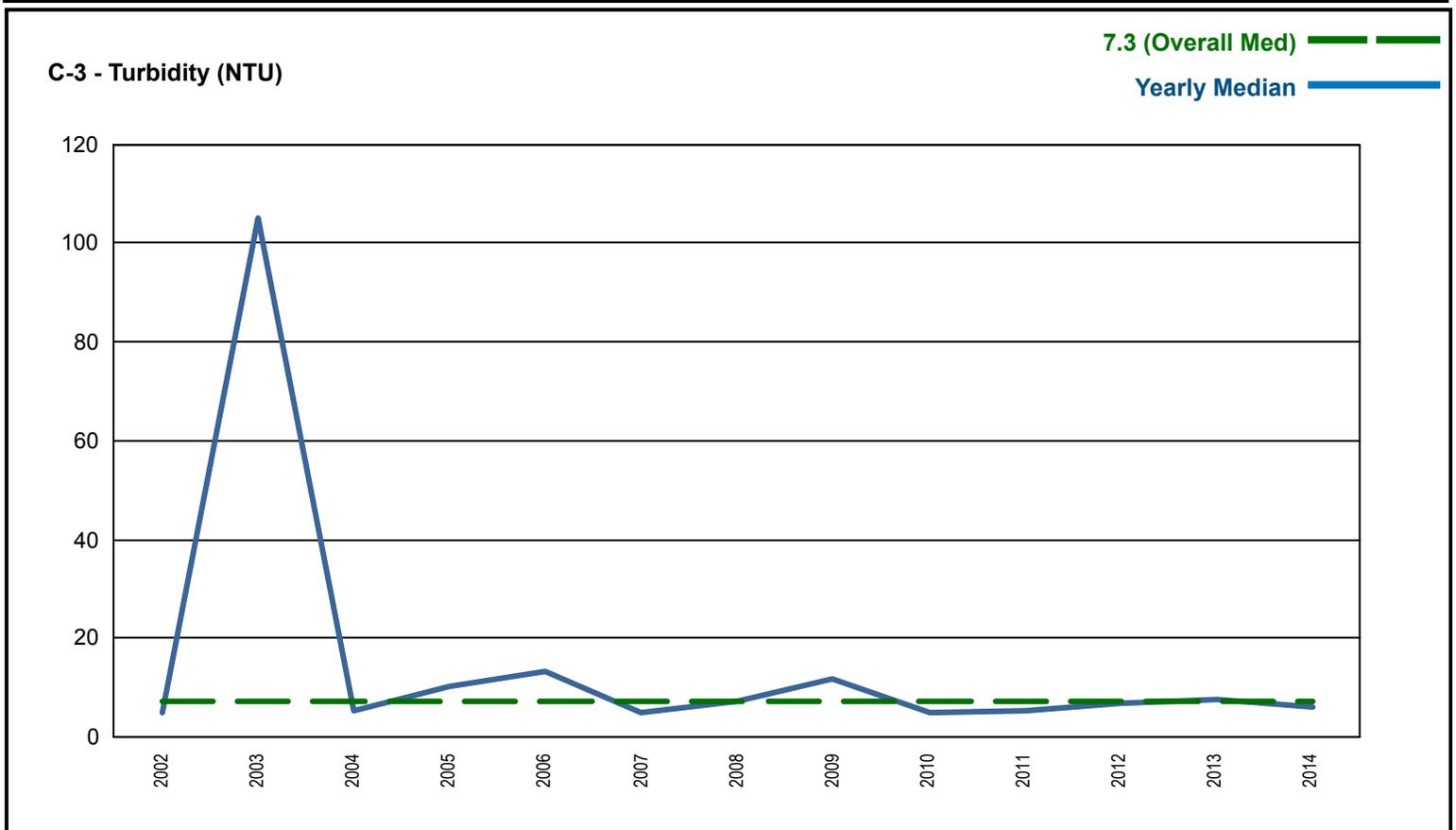
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



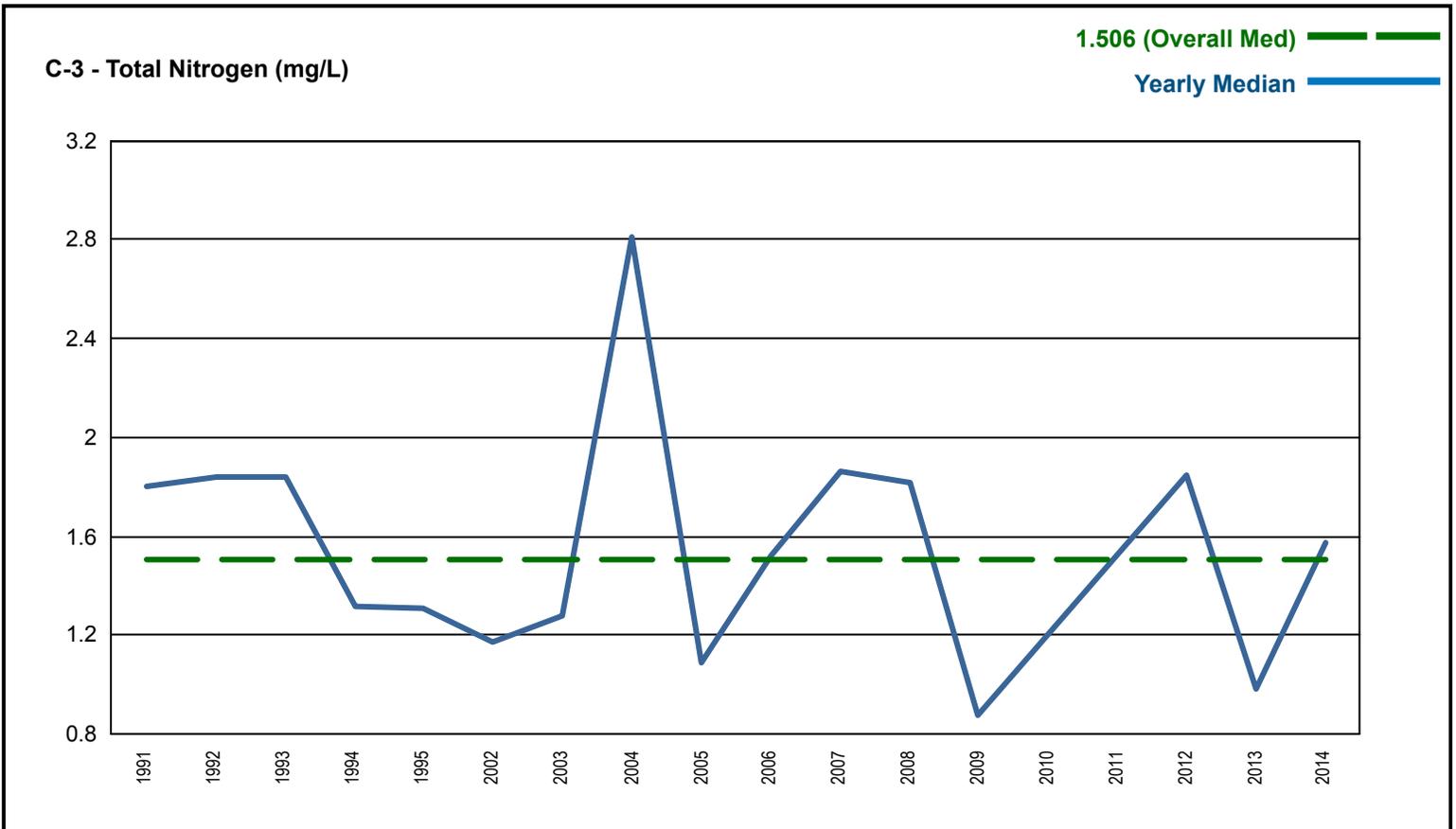
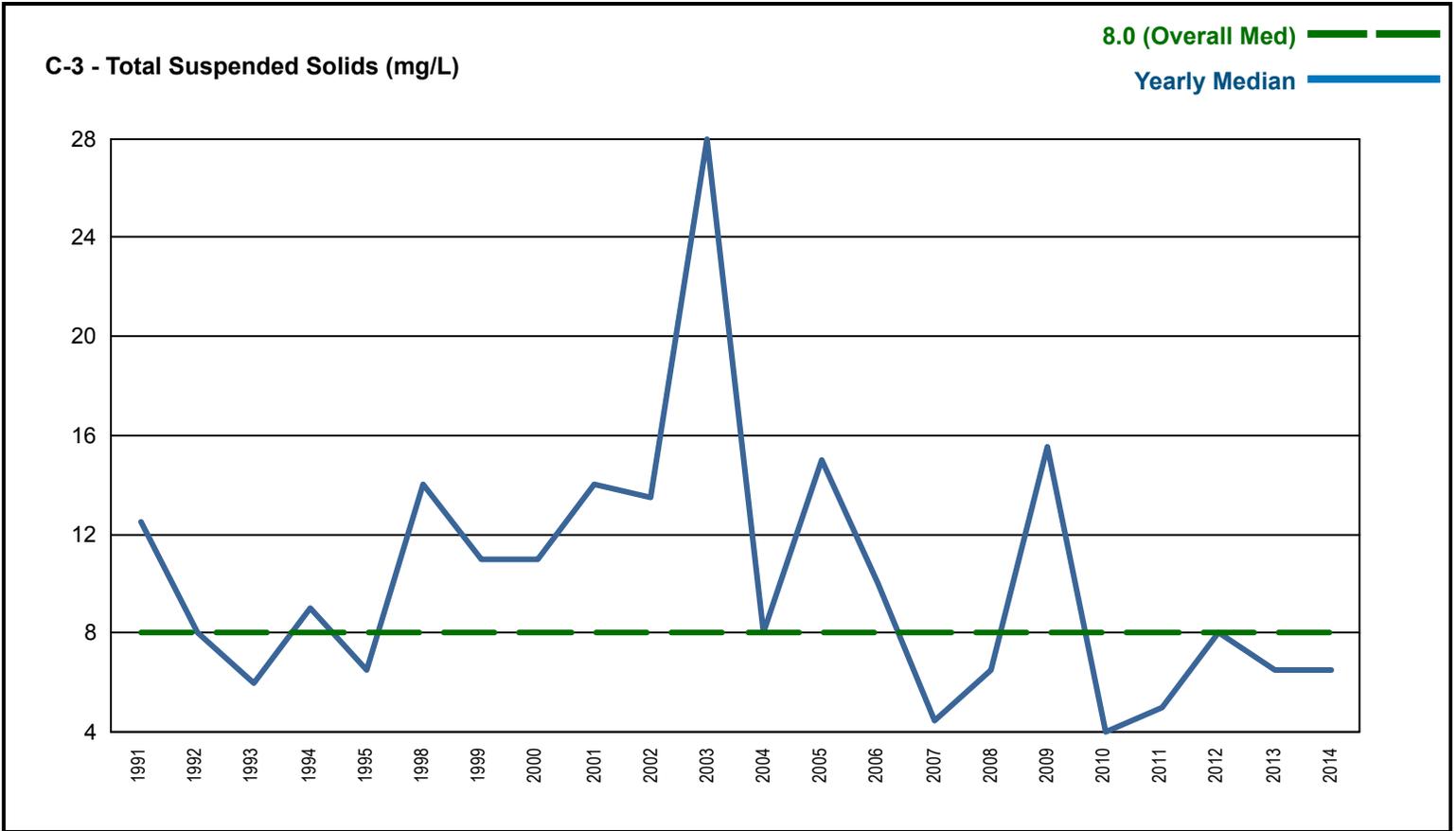
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



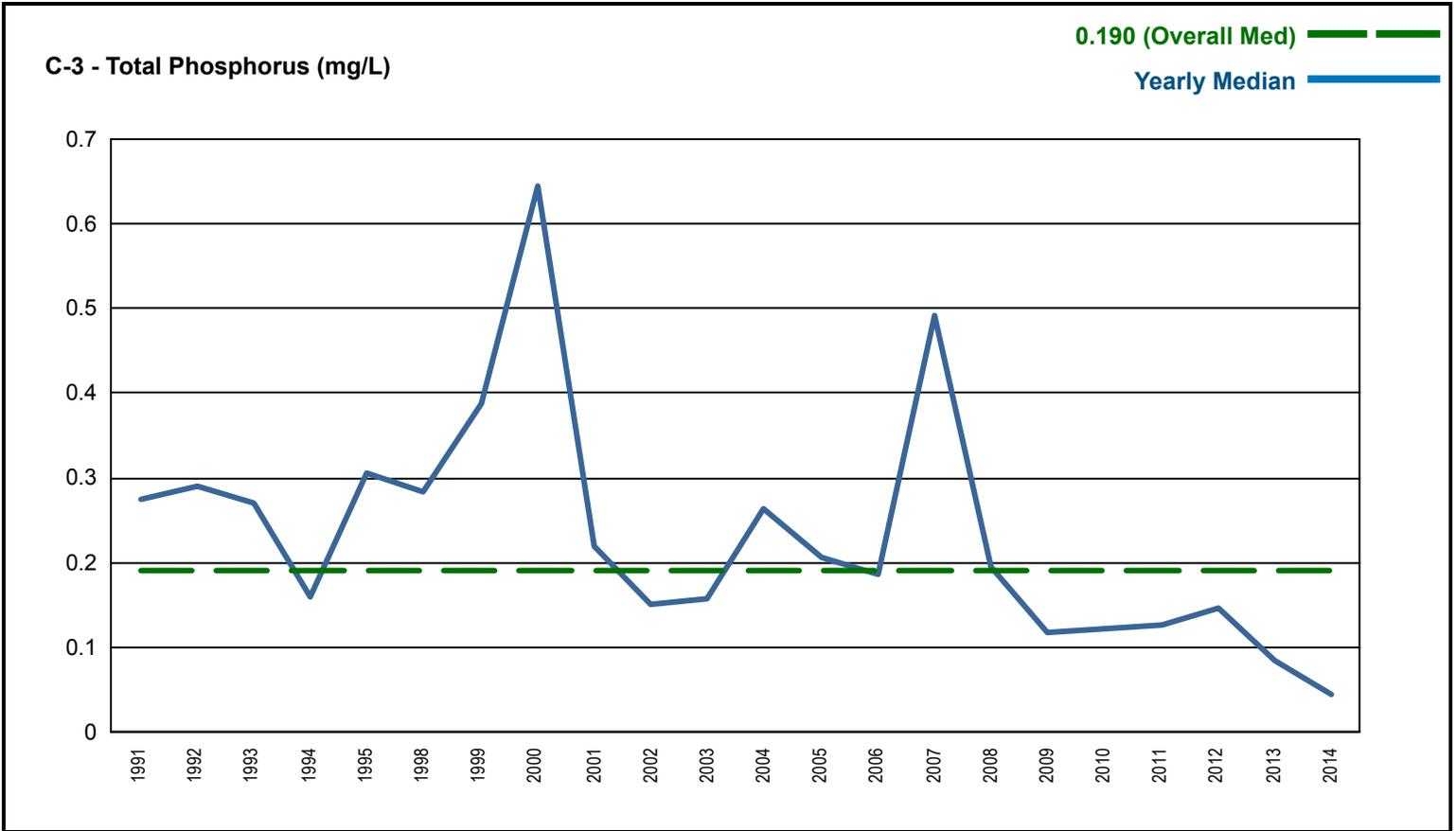
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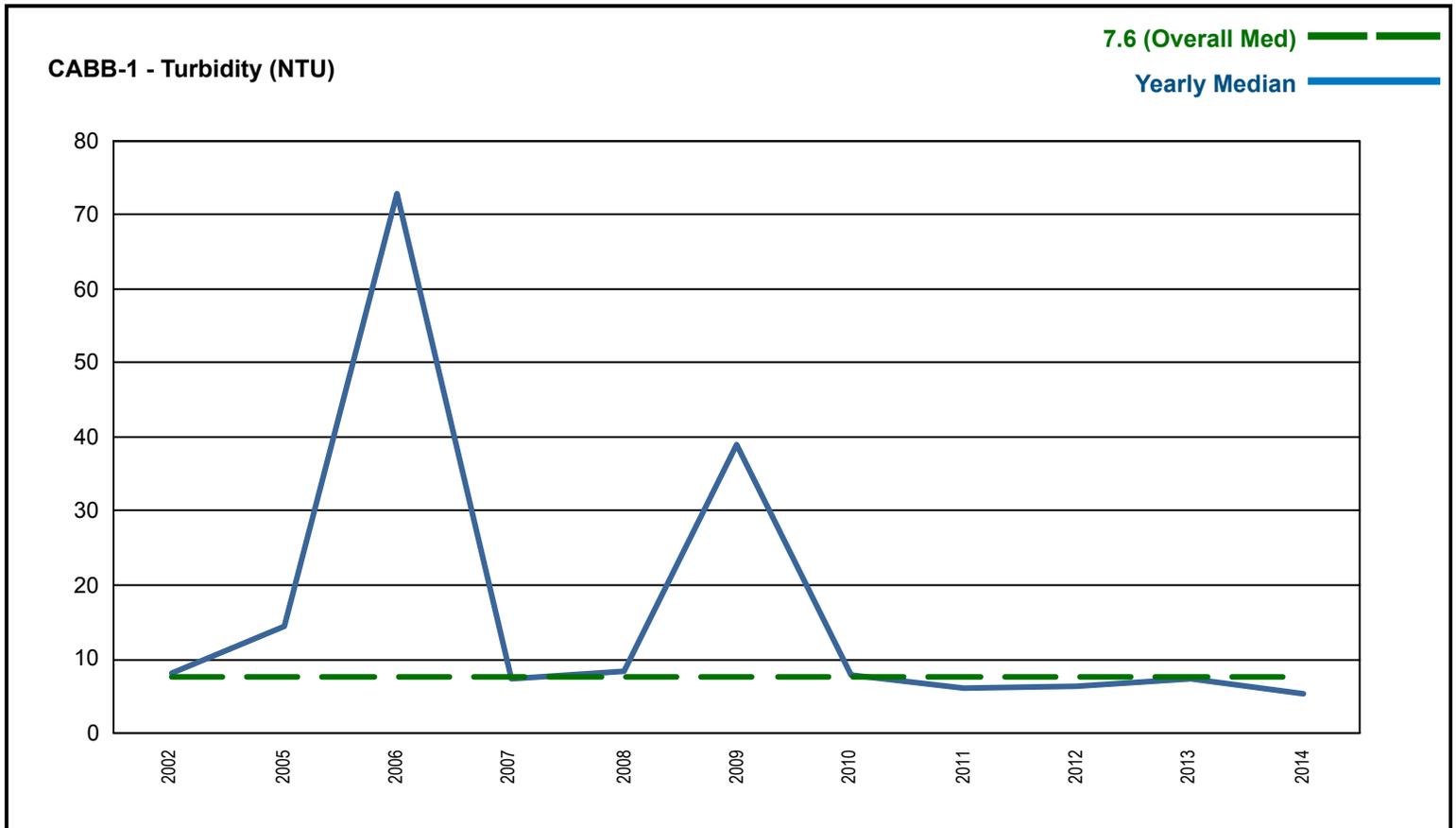
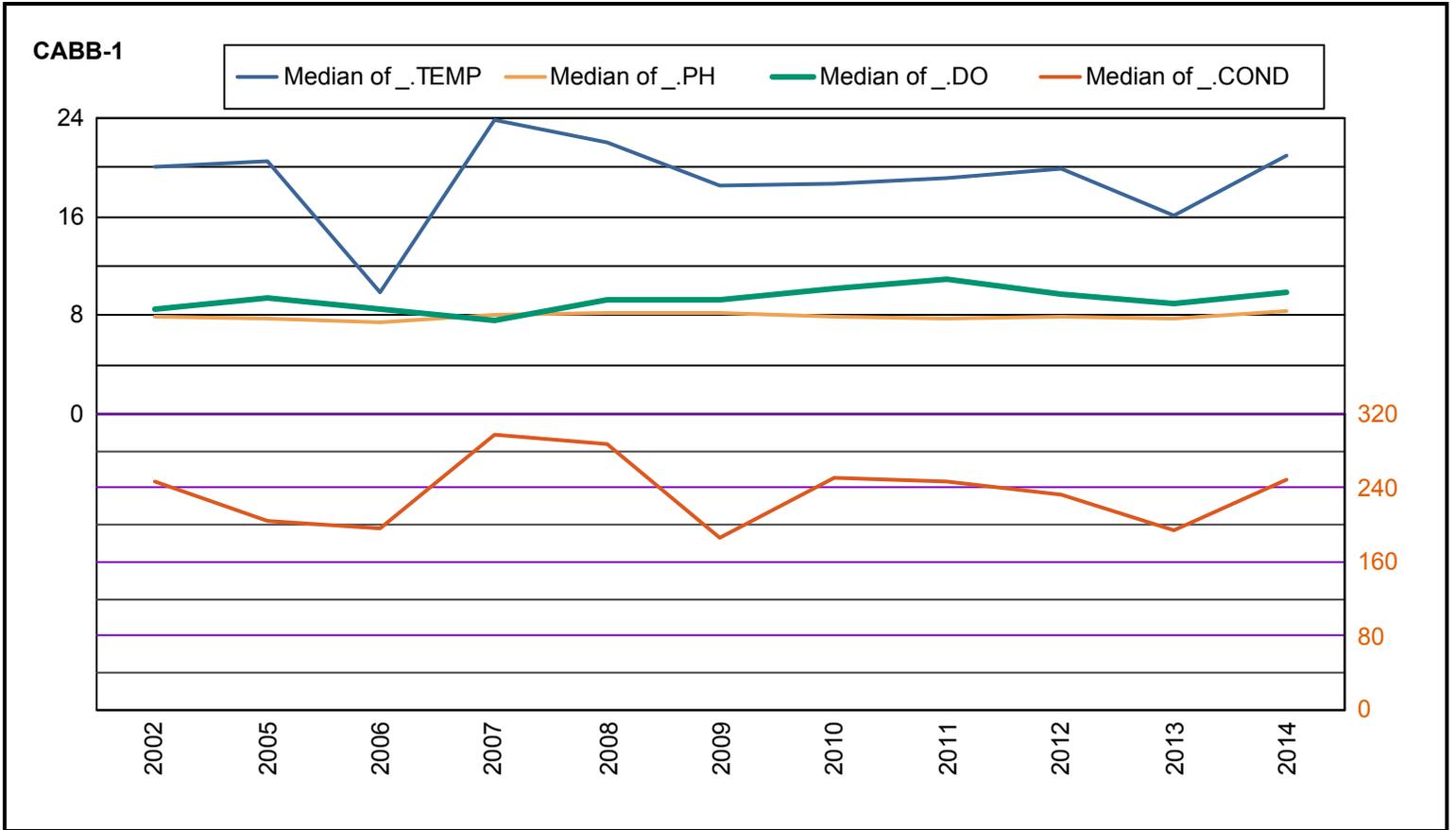
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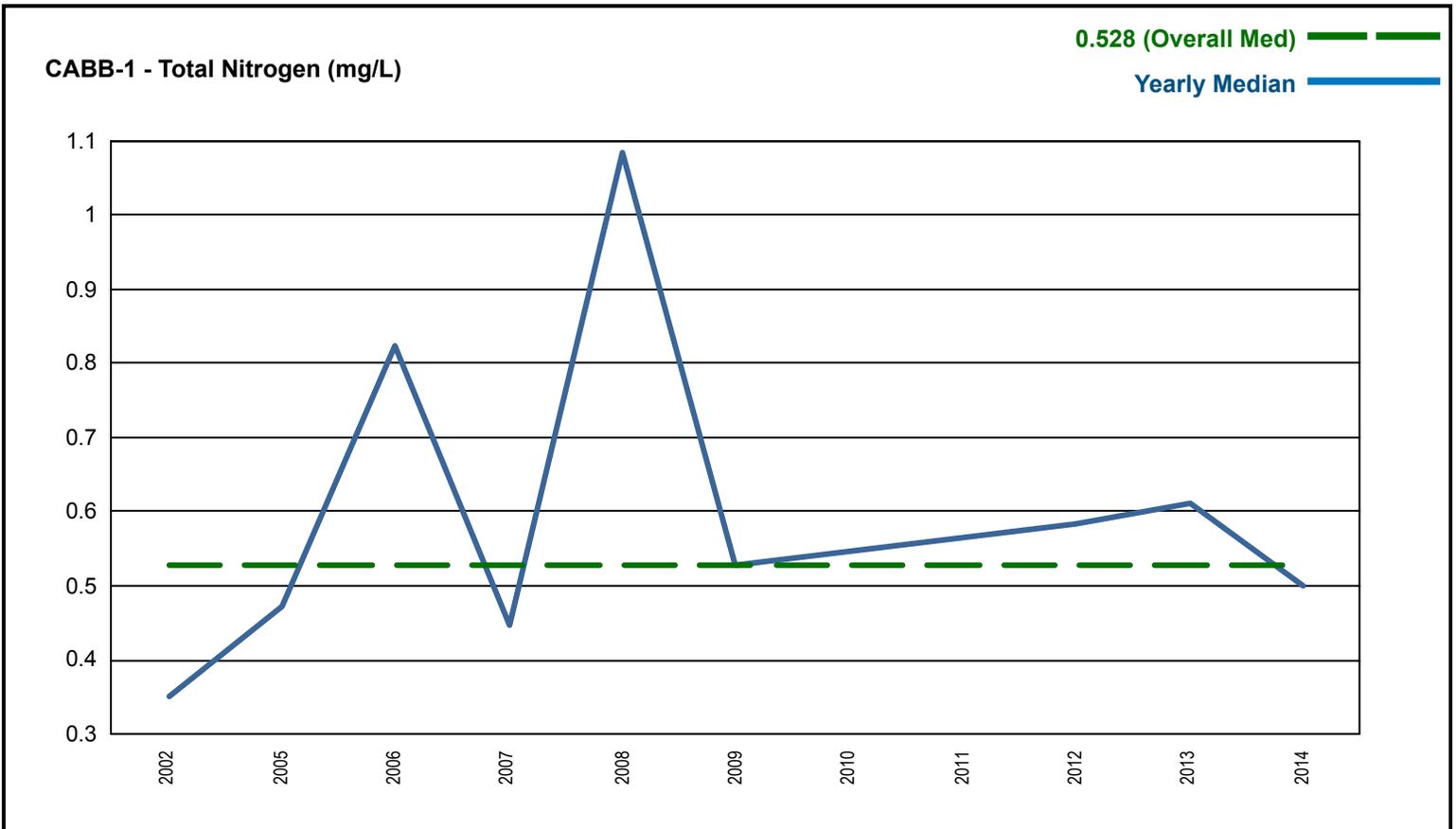
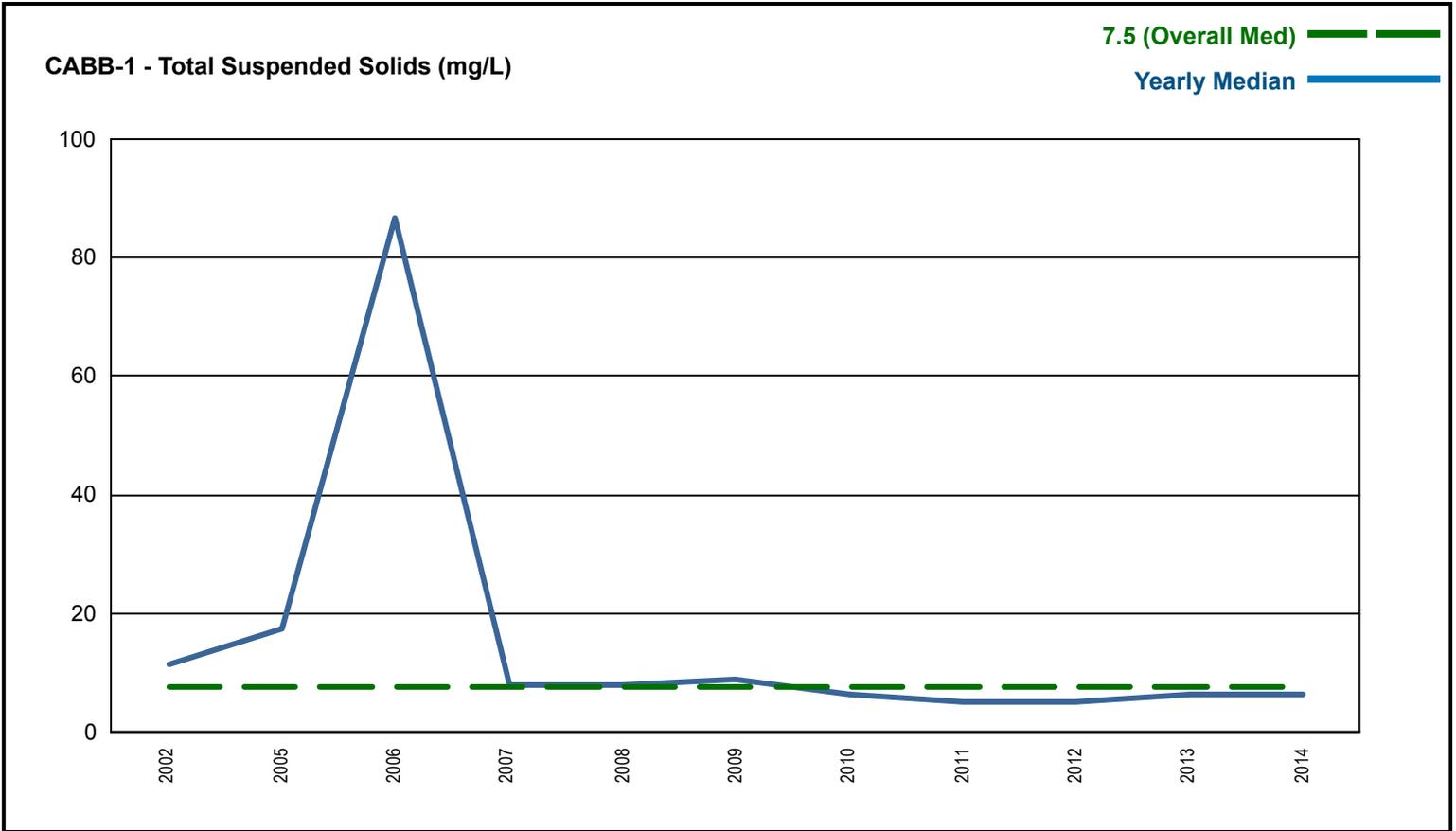
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



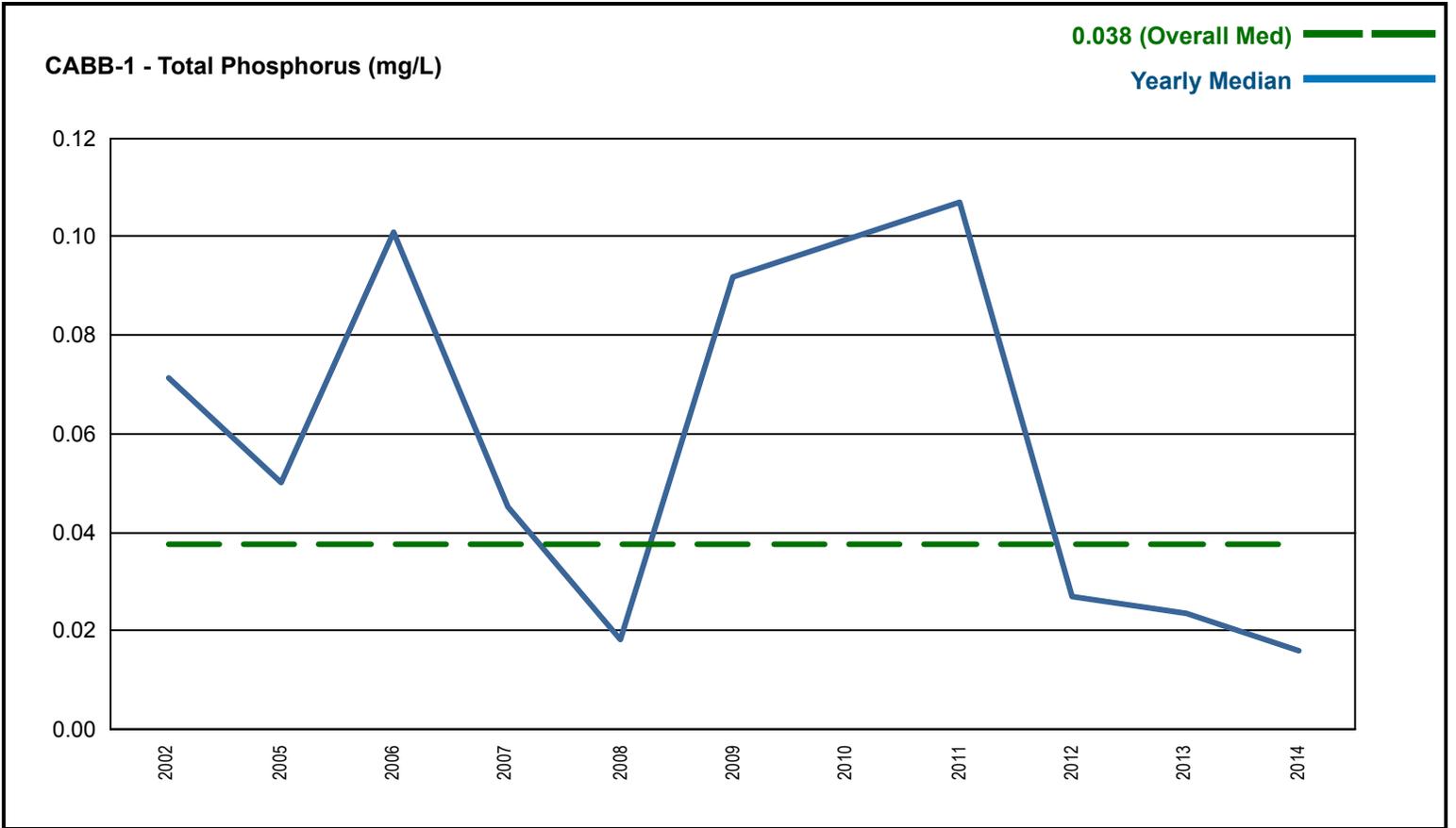
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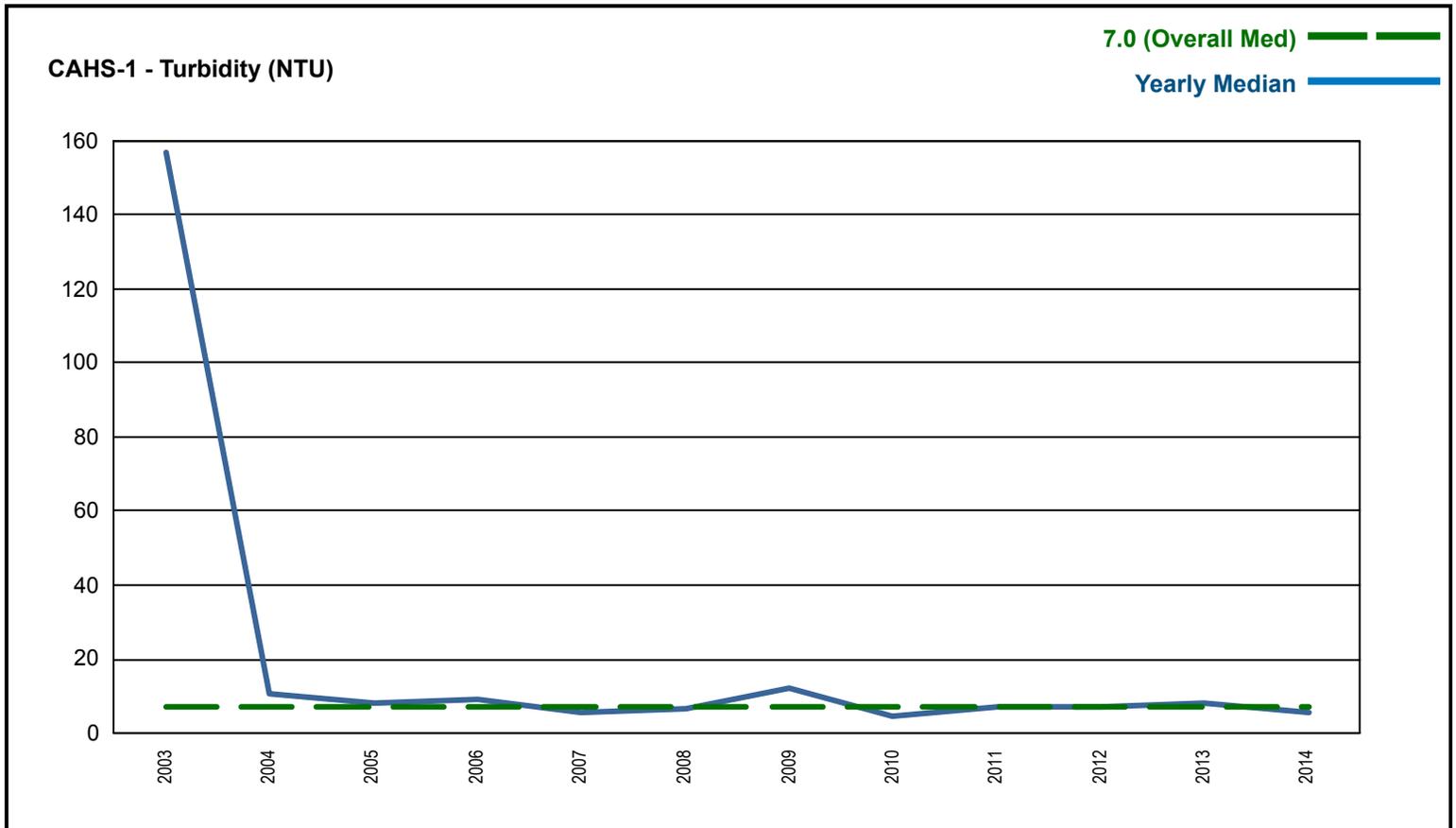
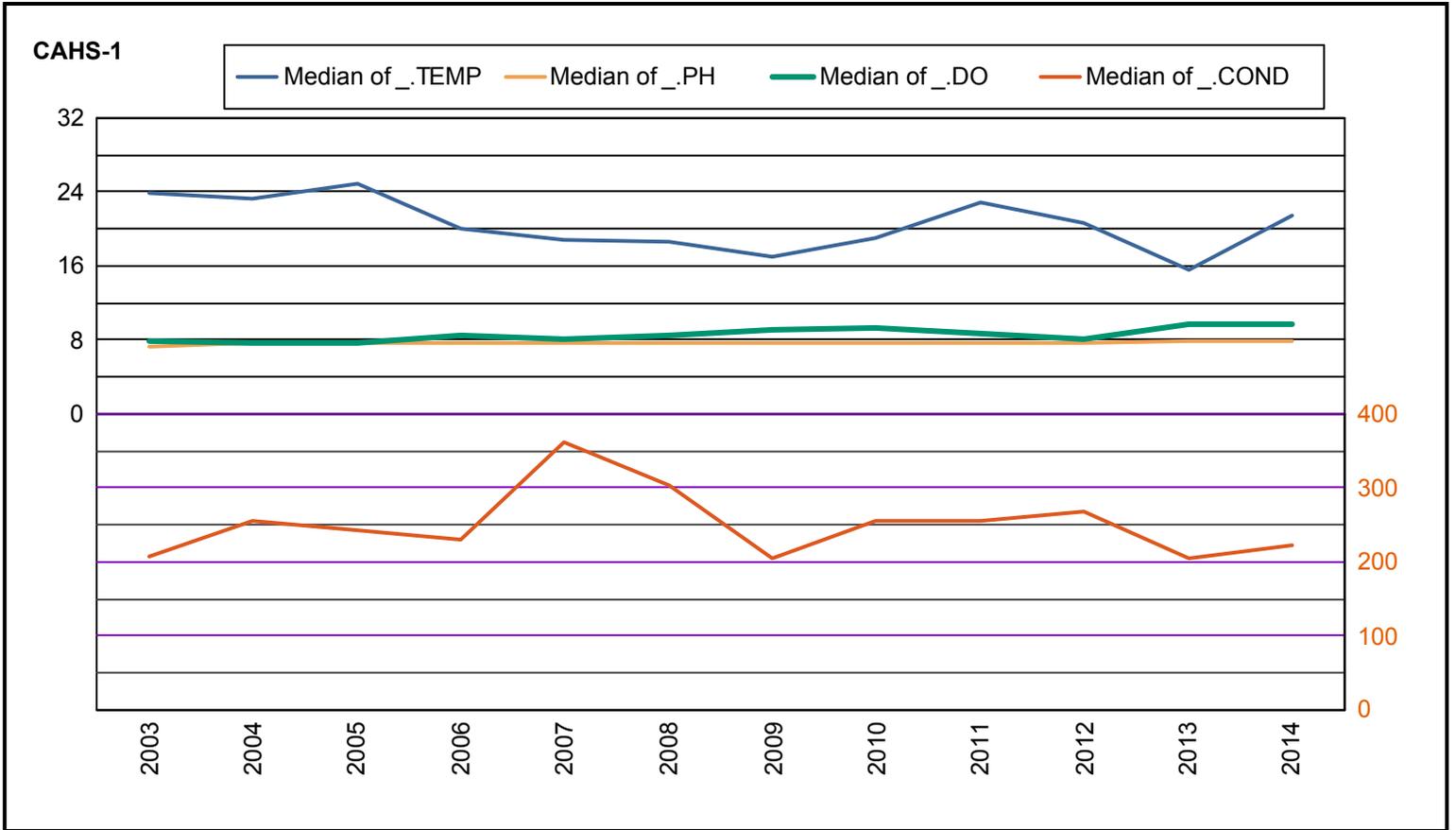
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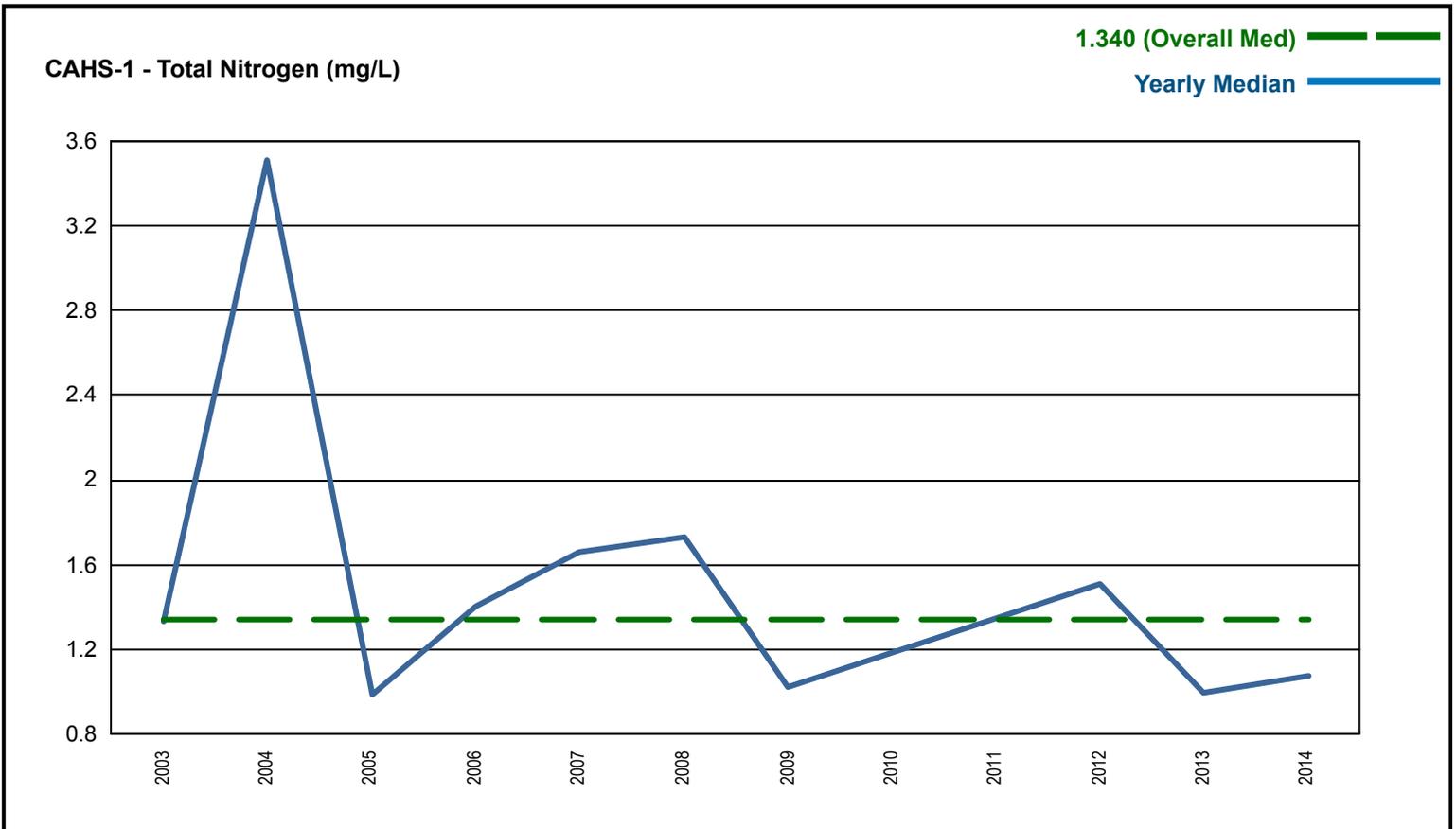
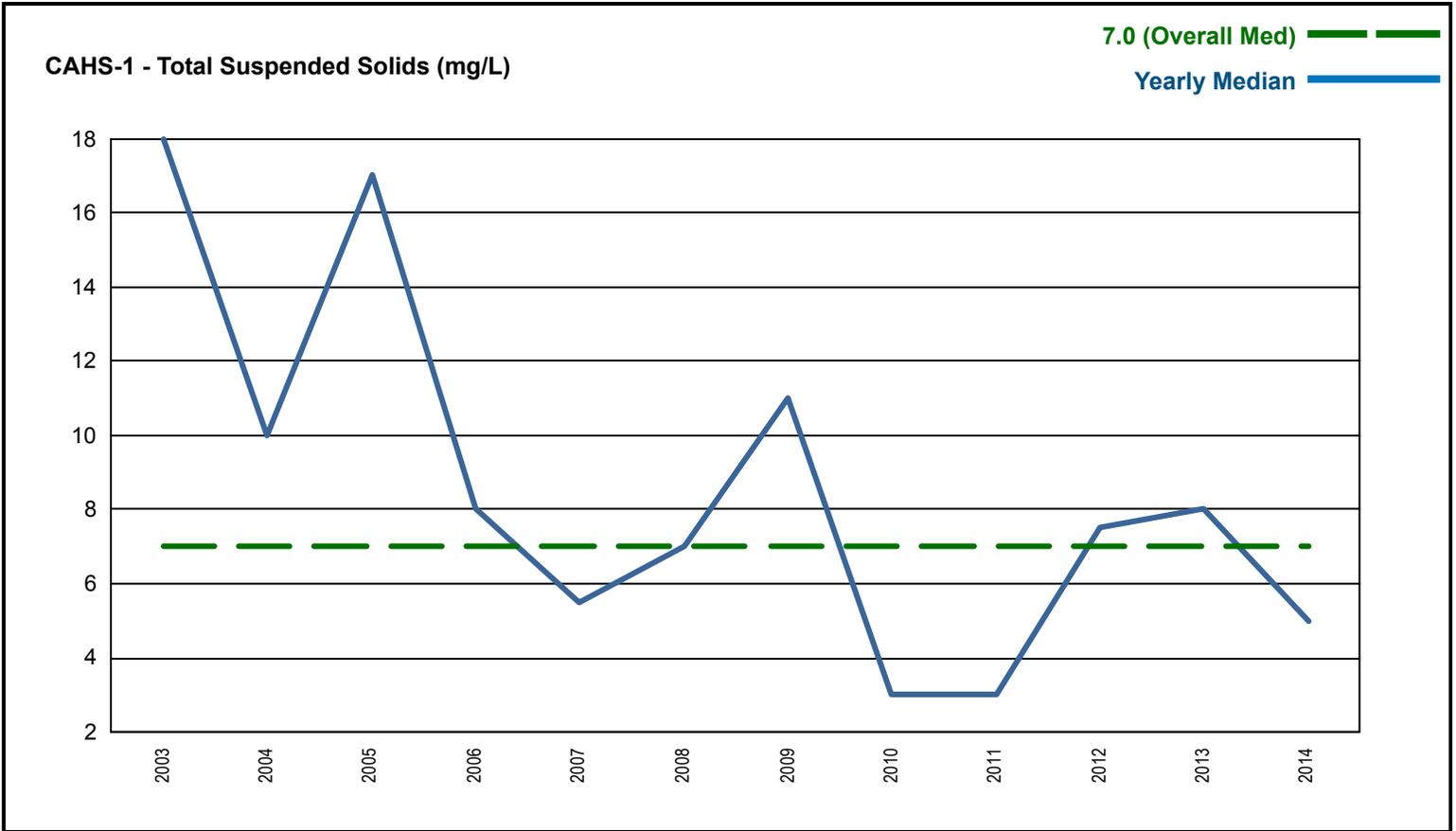
ADEM Ambient Trend Stations - Sampled 1977 - 2014



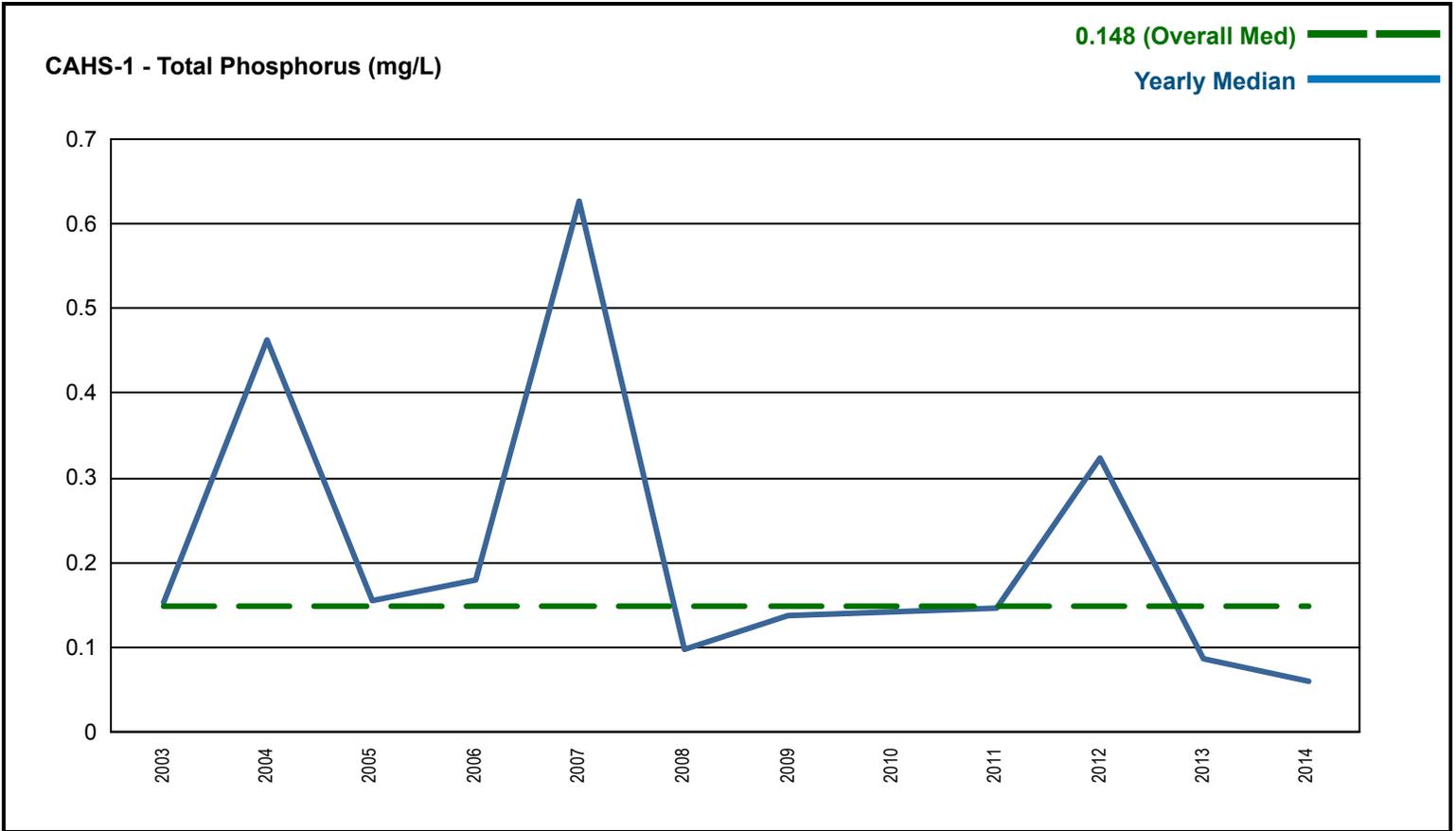
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



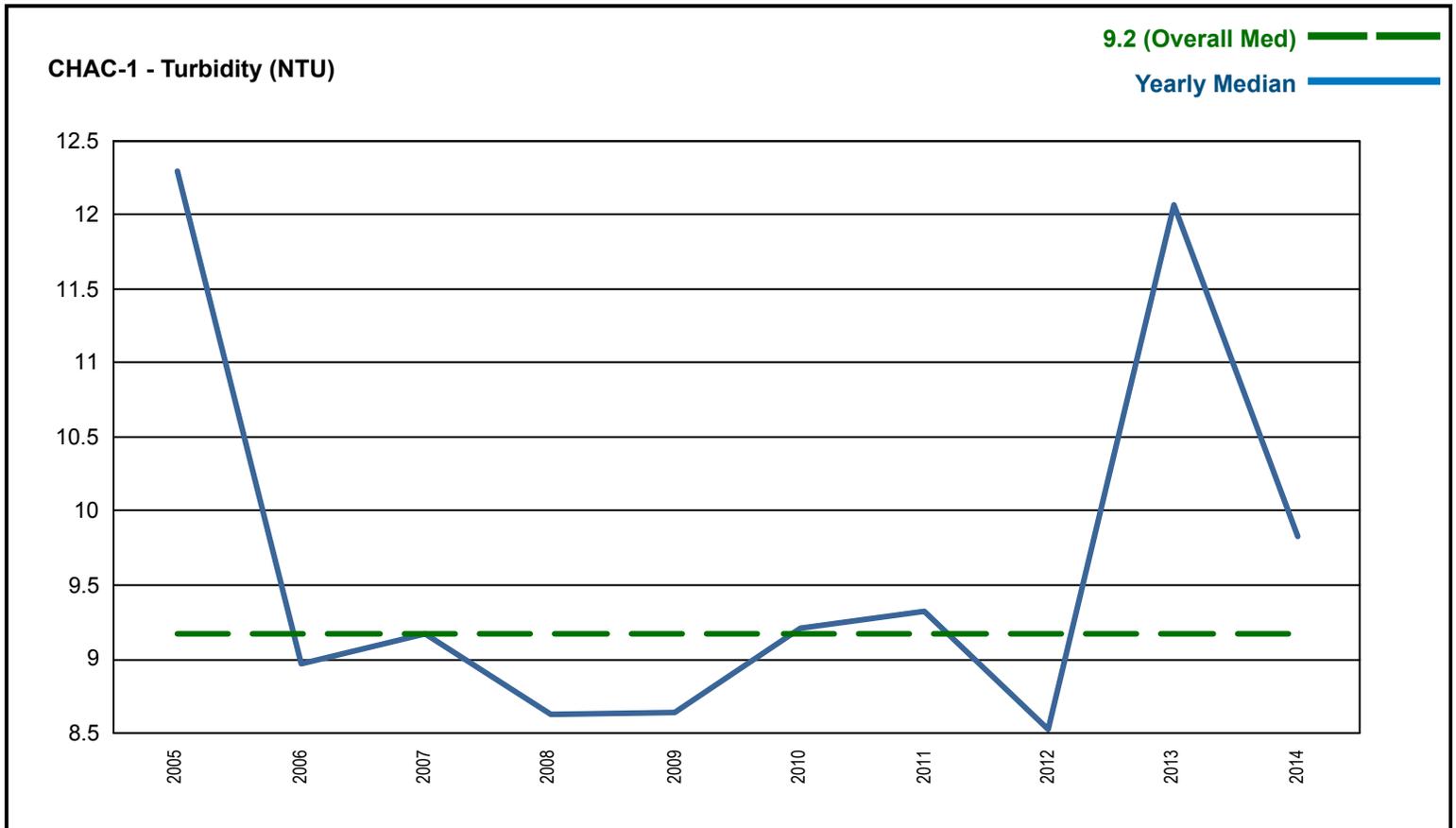
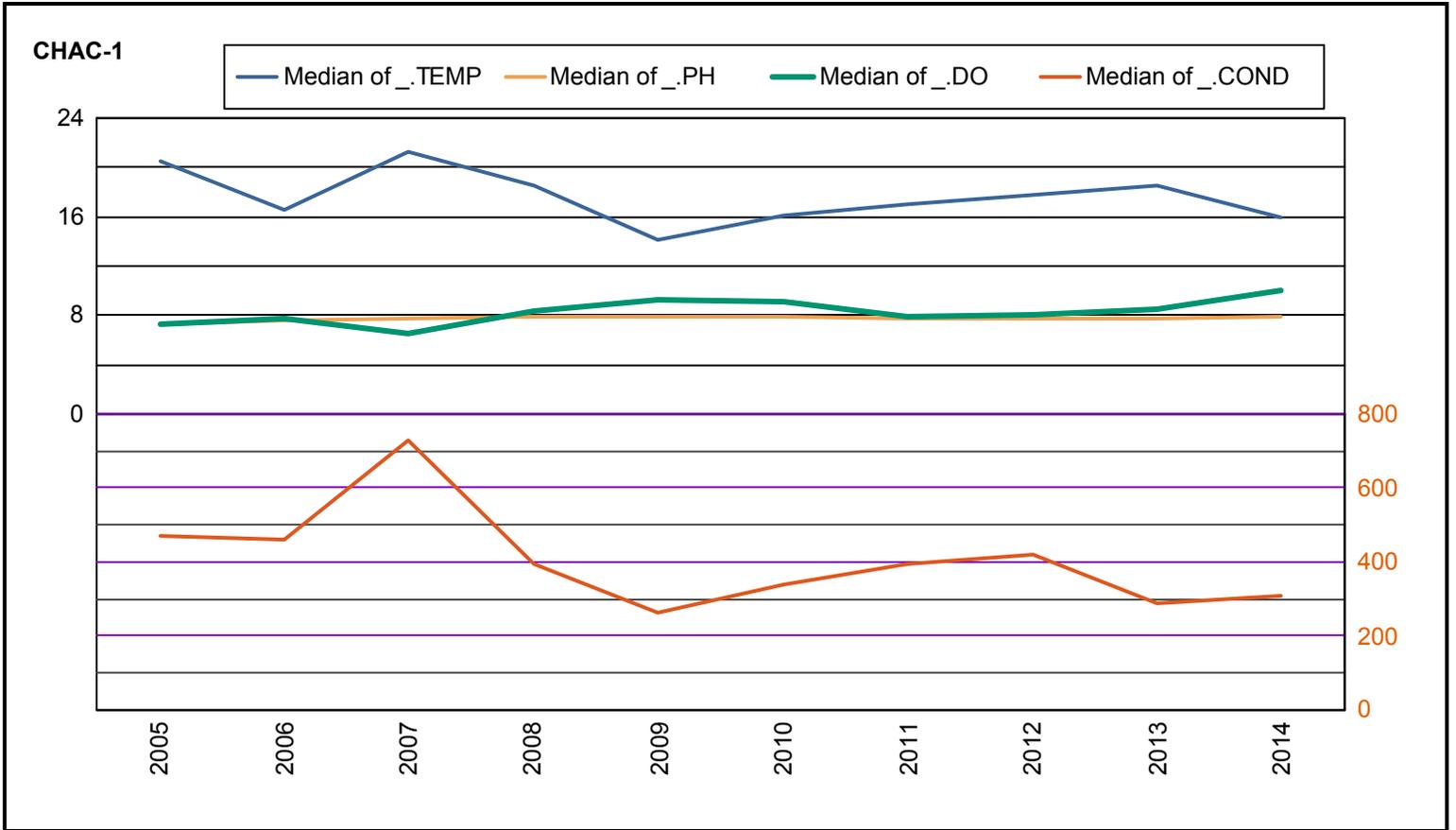
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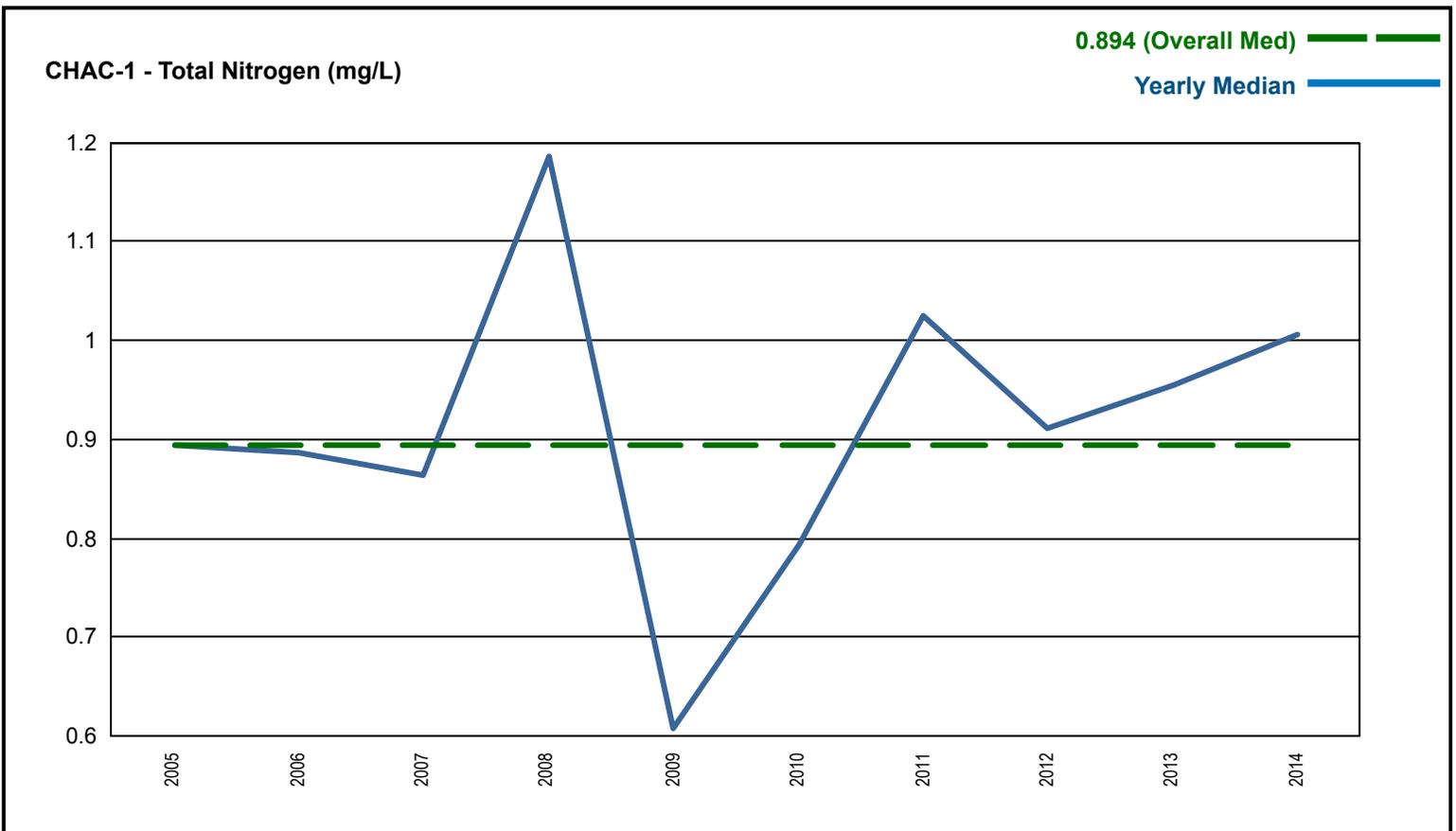
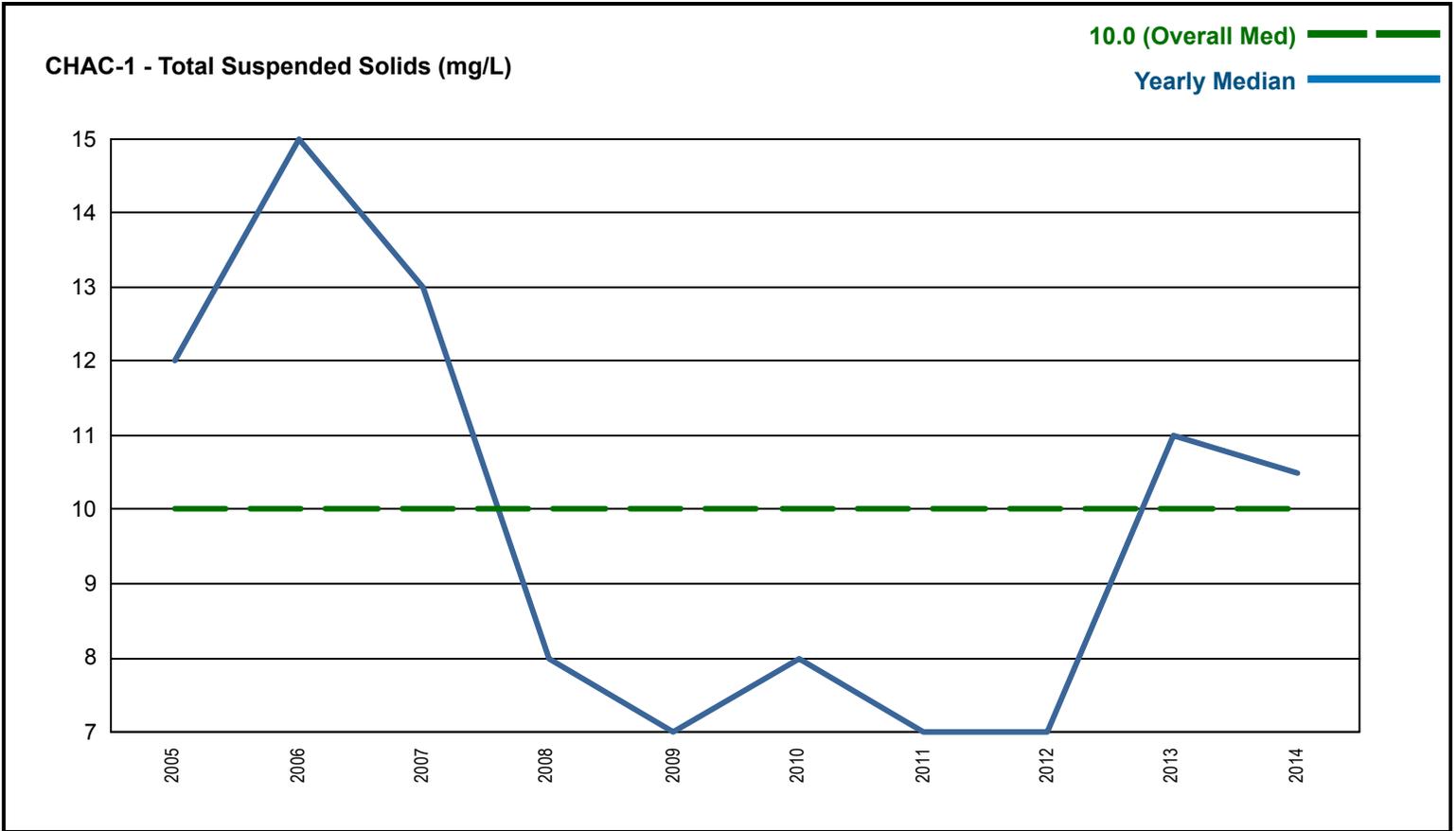
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



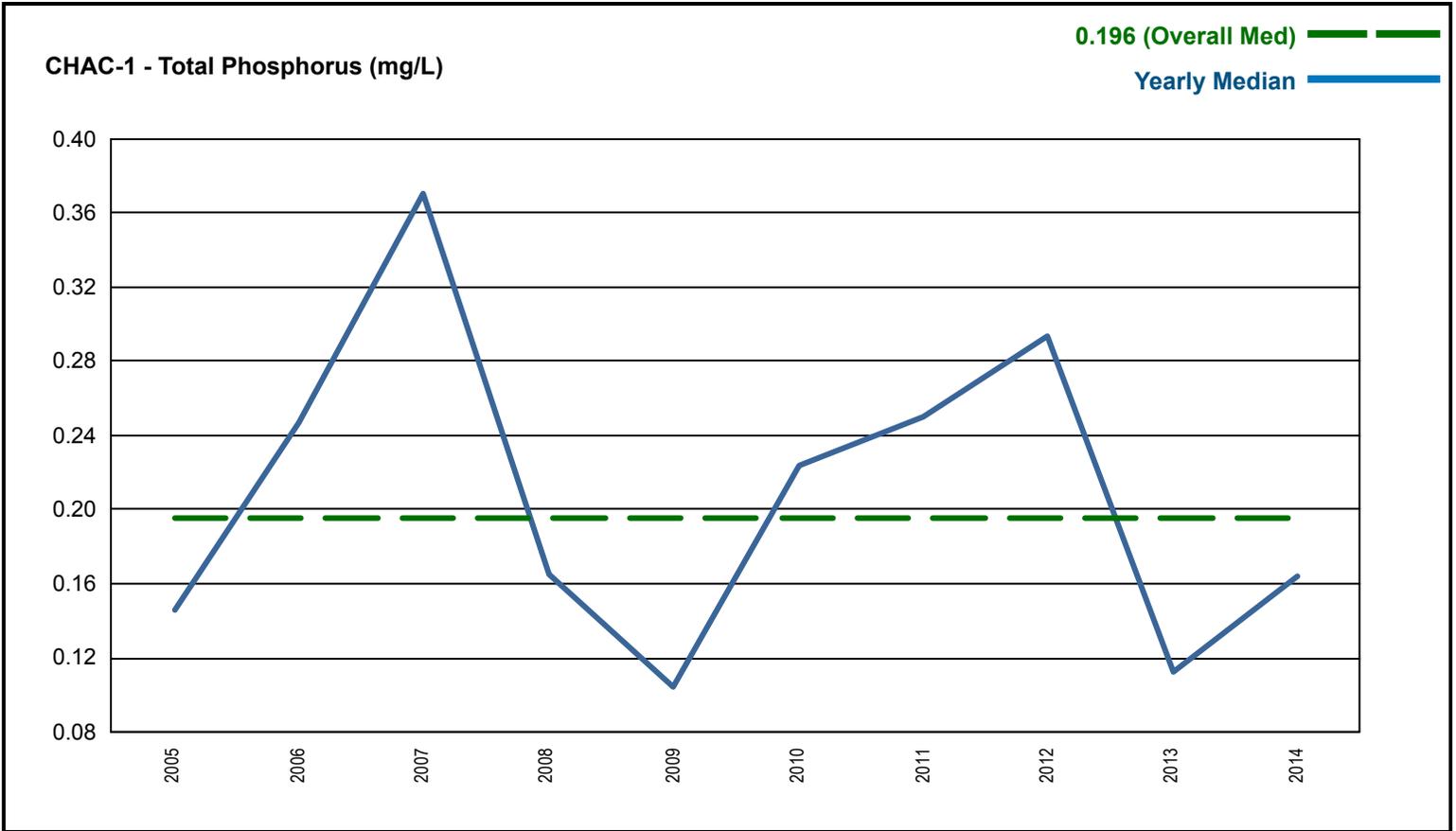
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



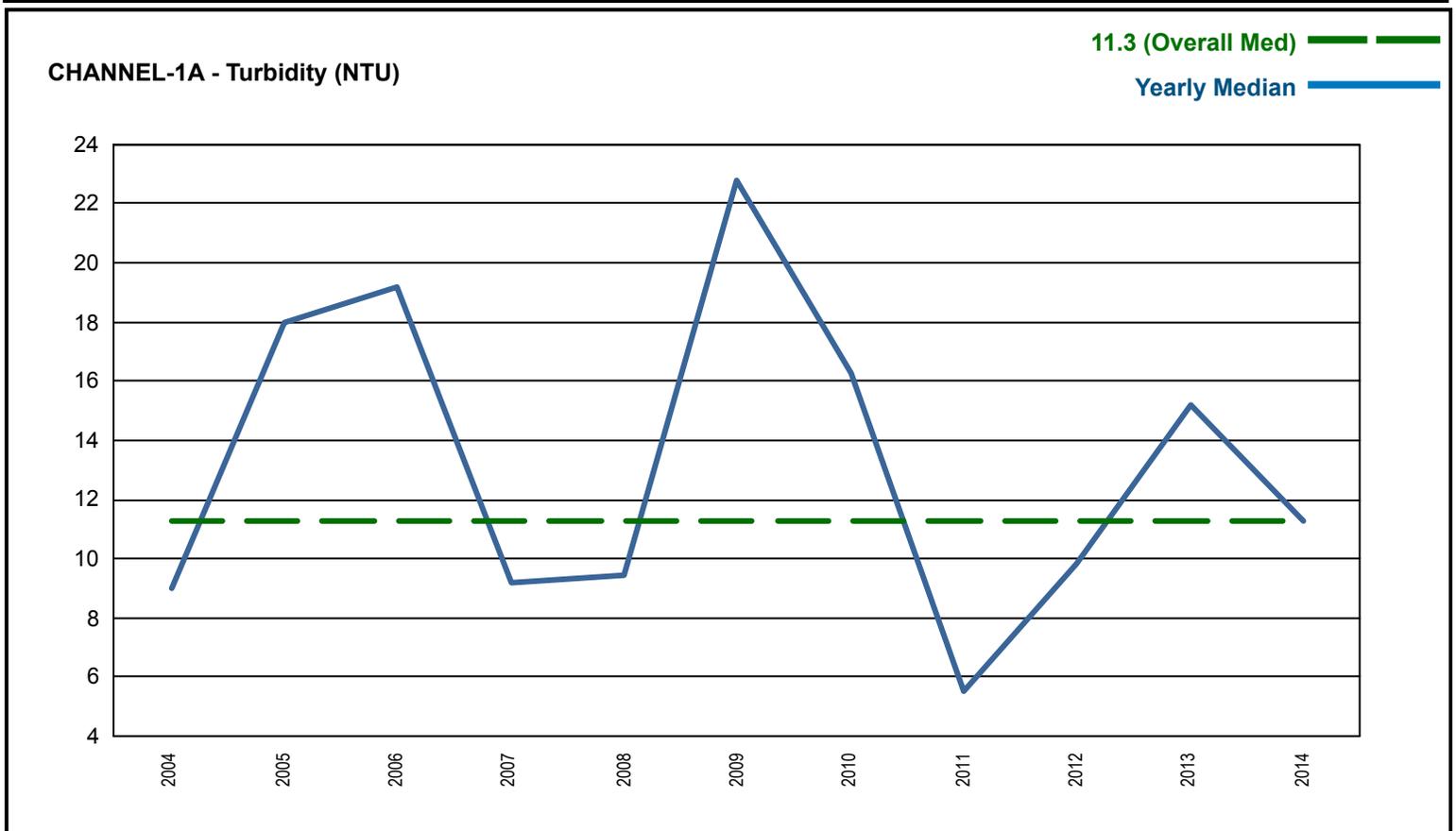
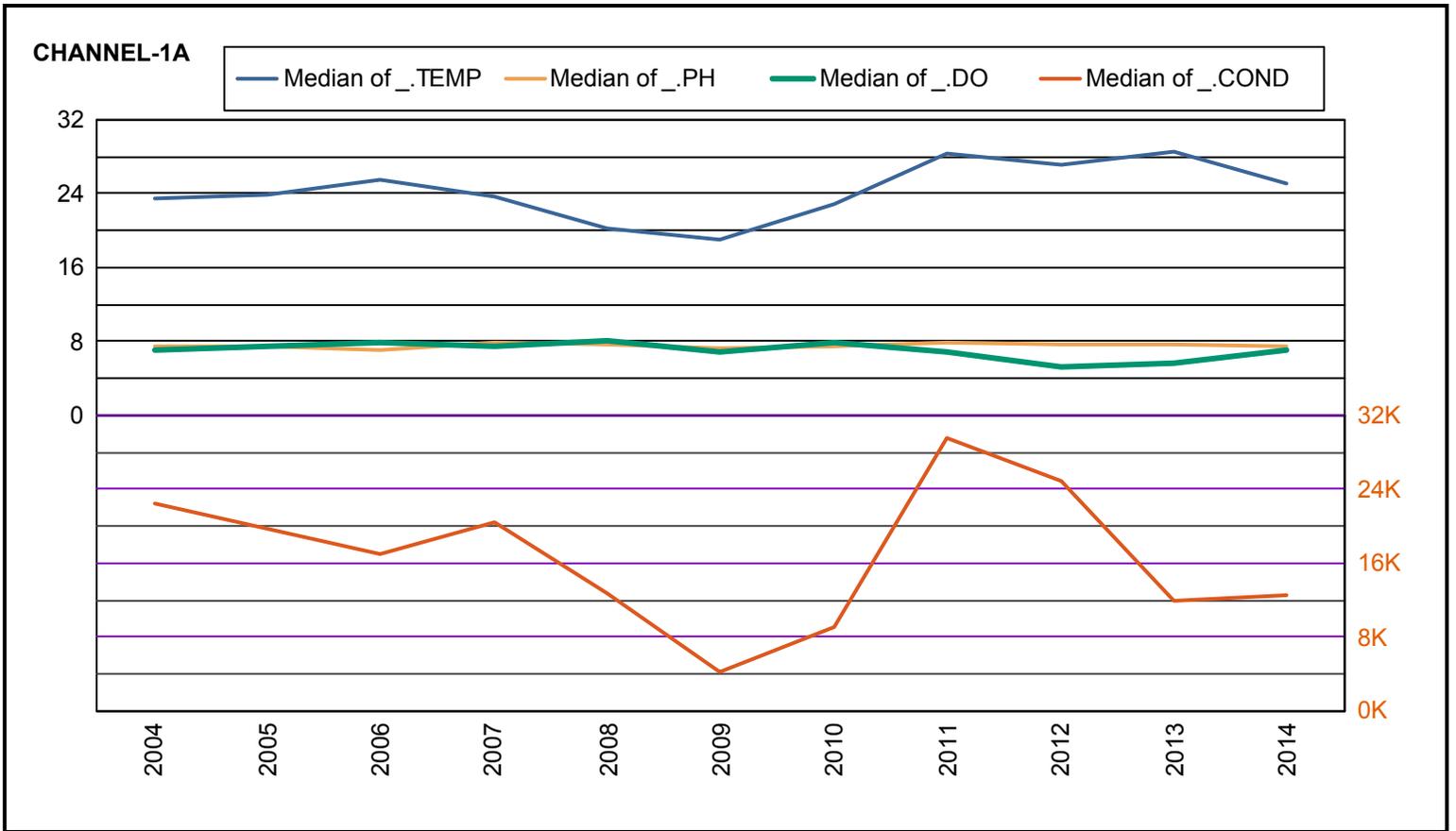
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



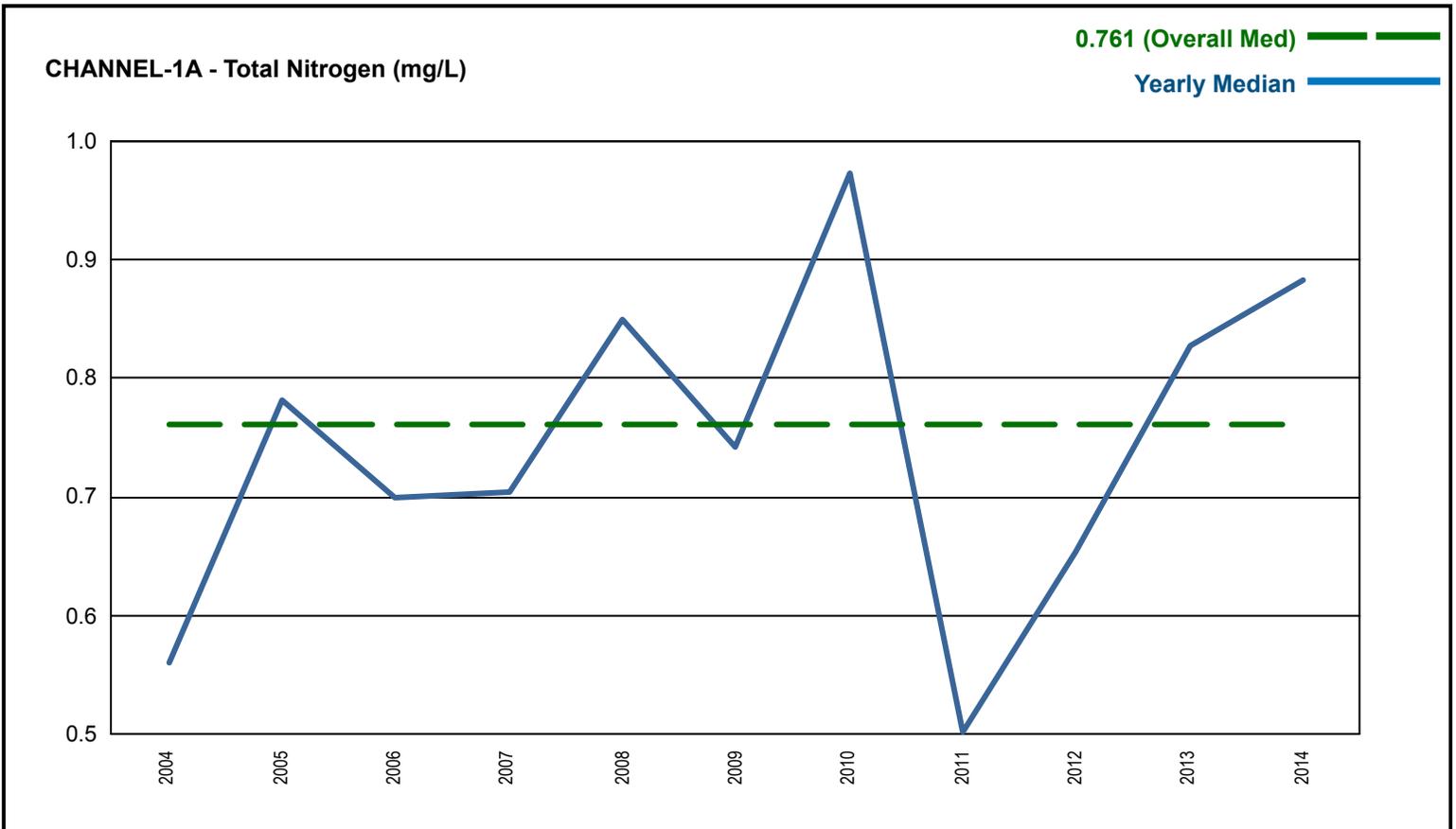
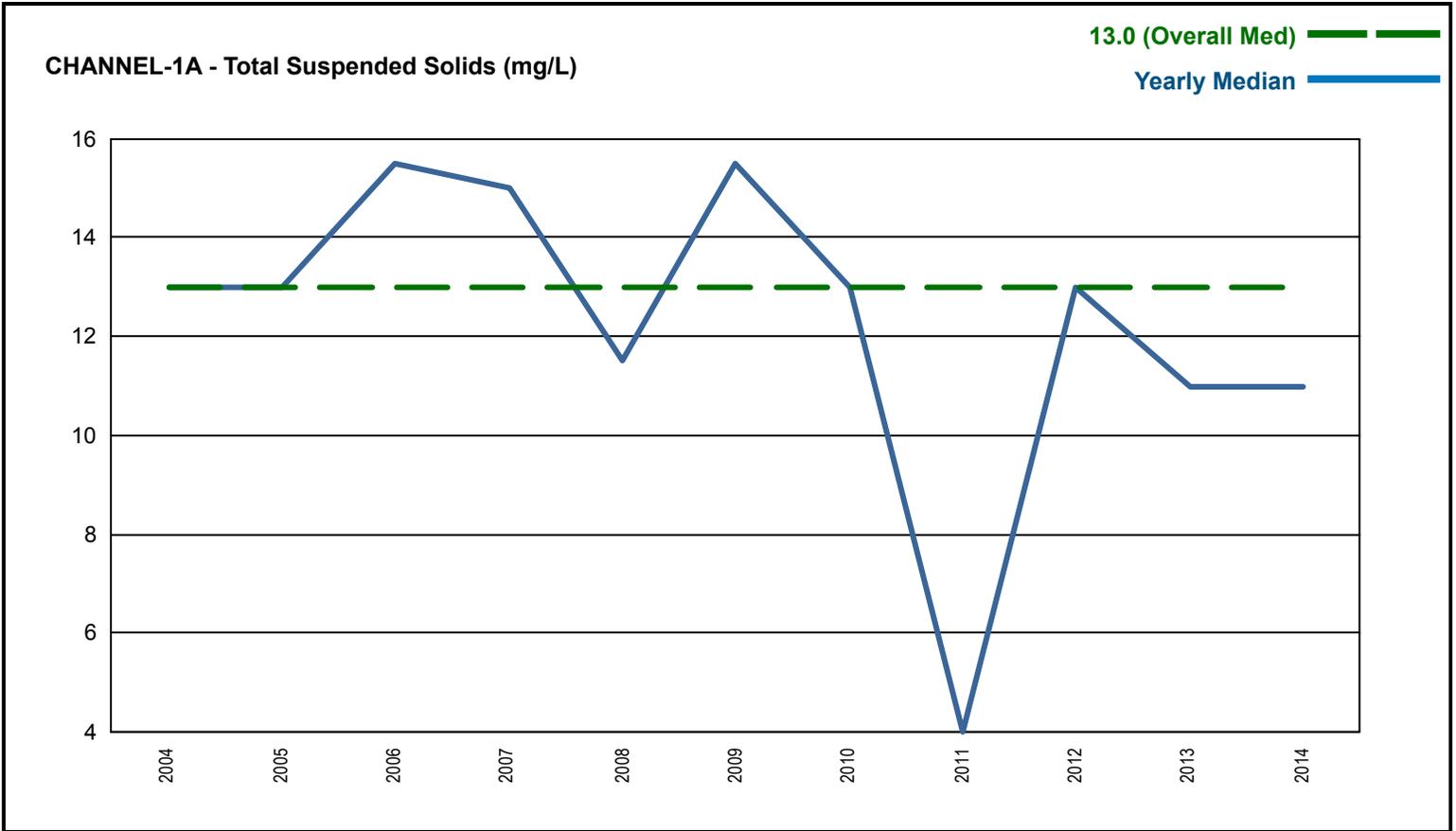
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



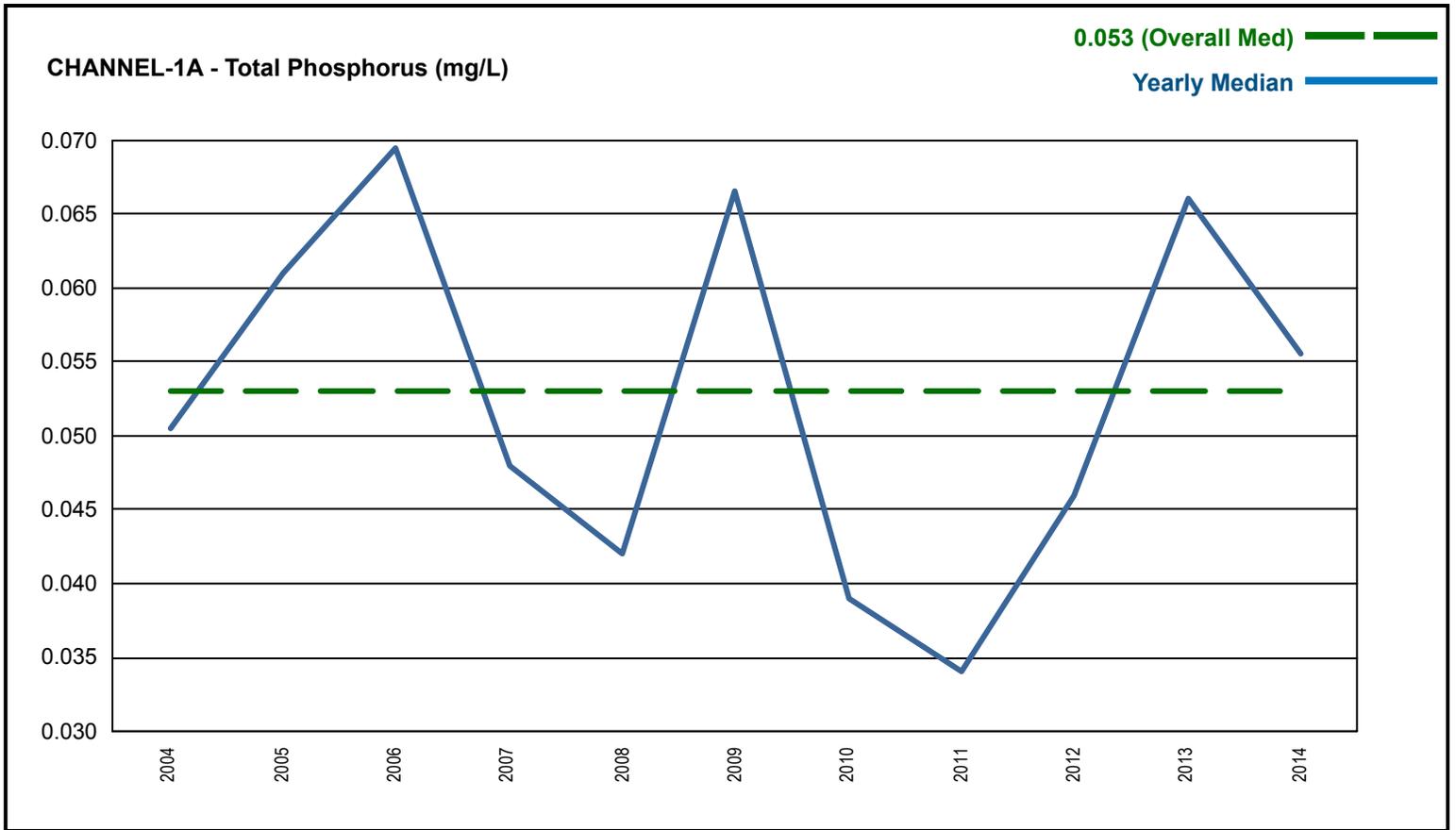
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



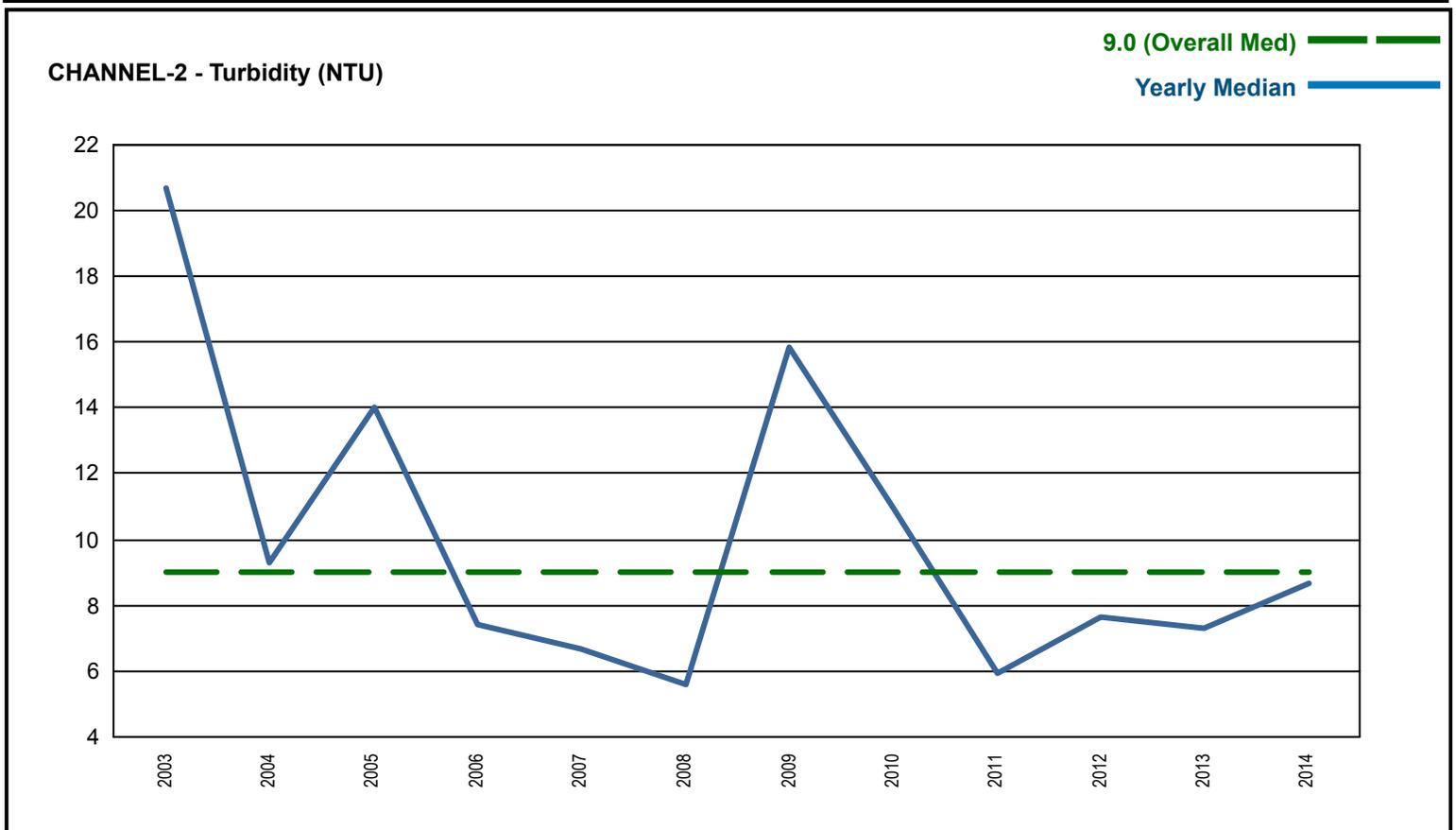
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



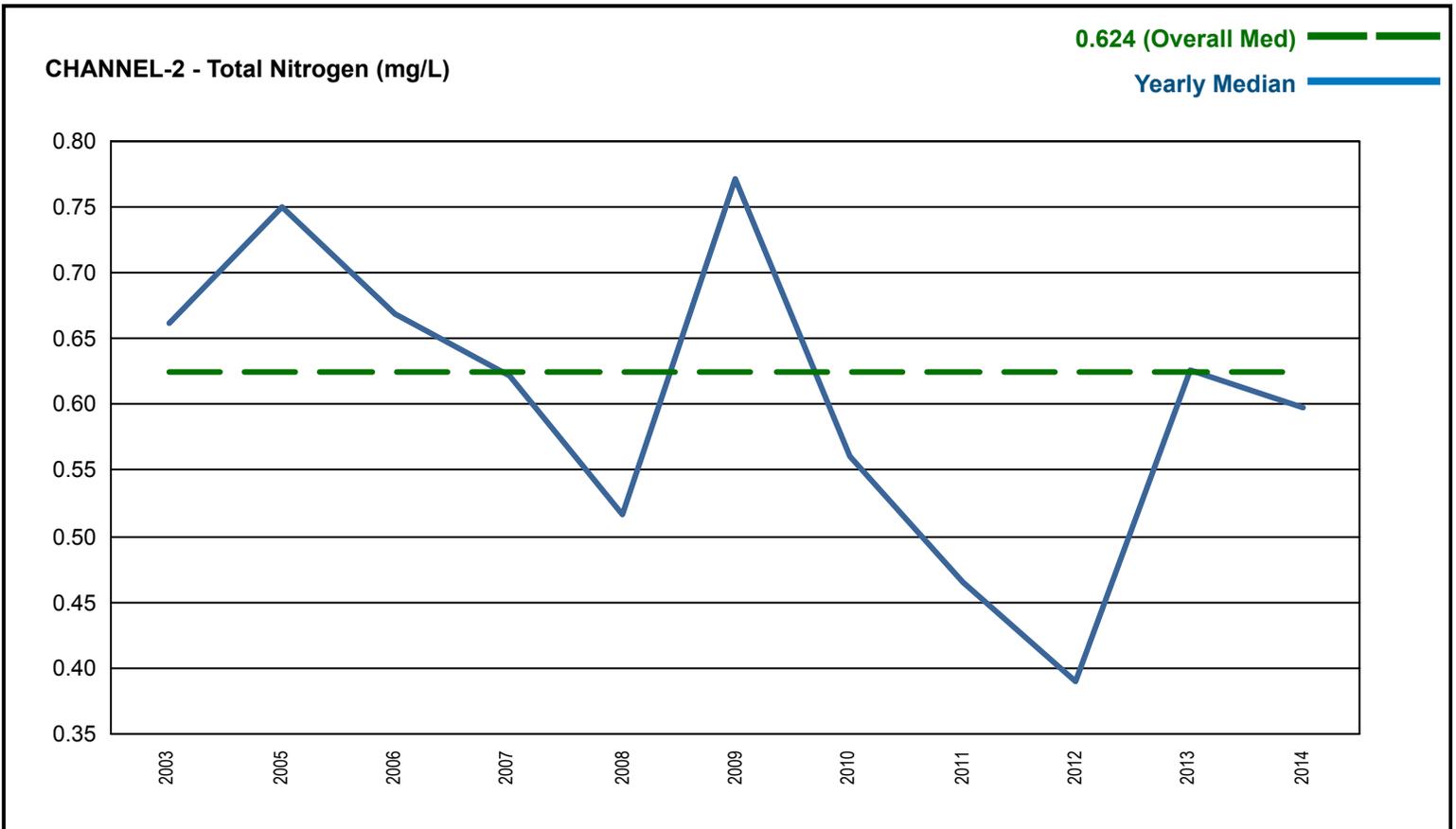
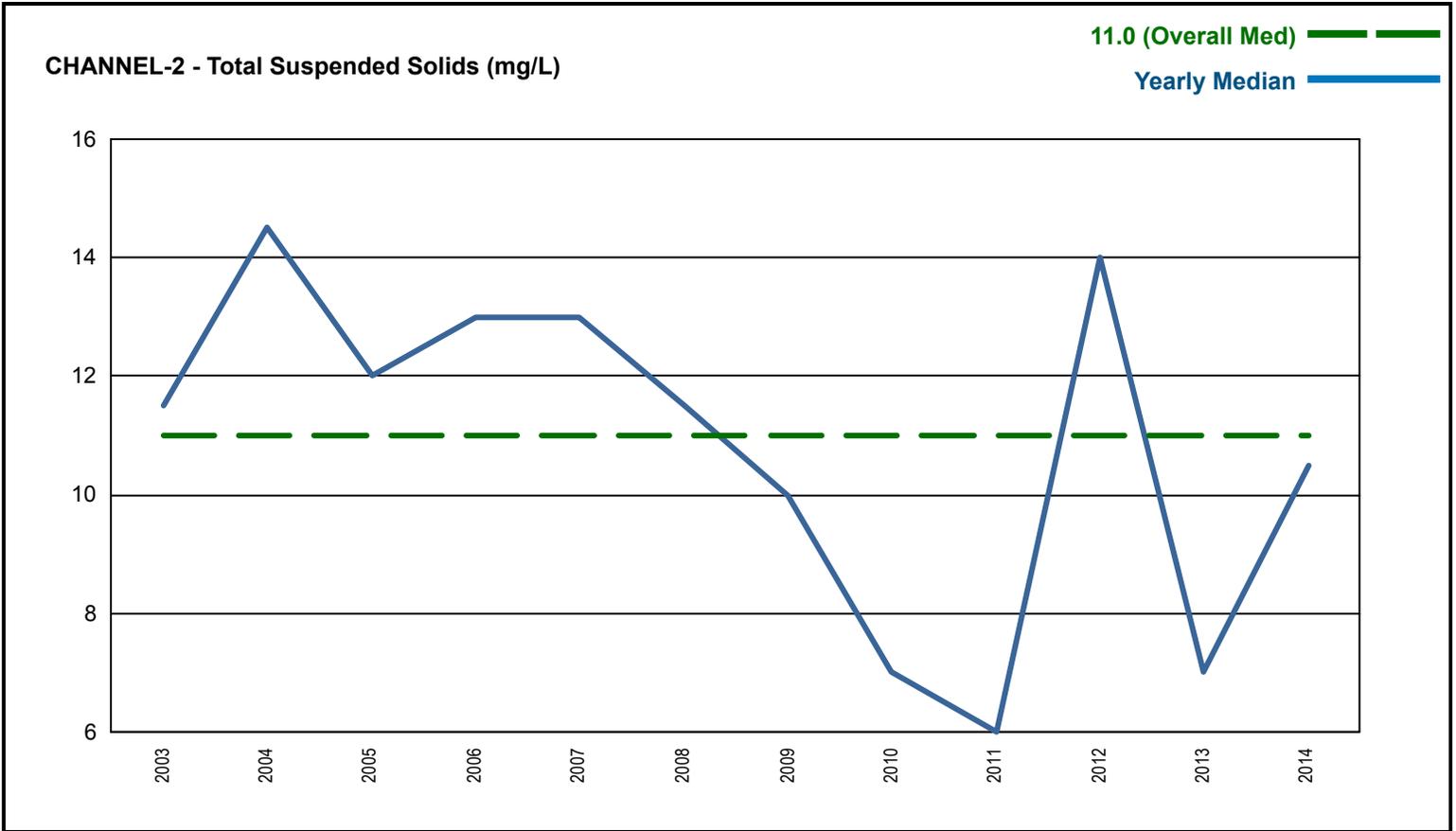
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



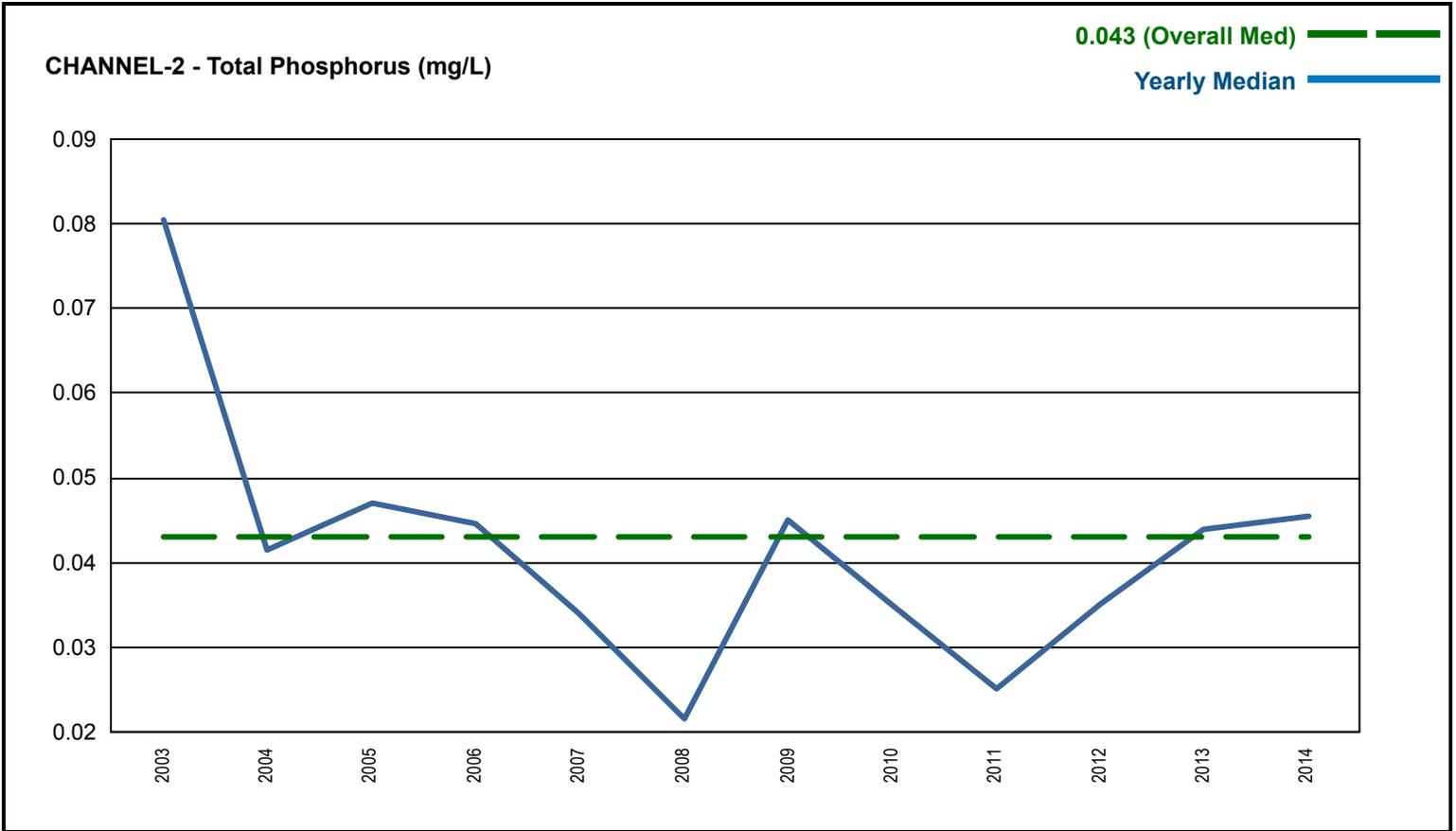
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



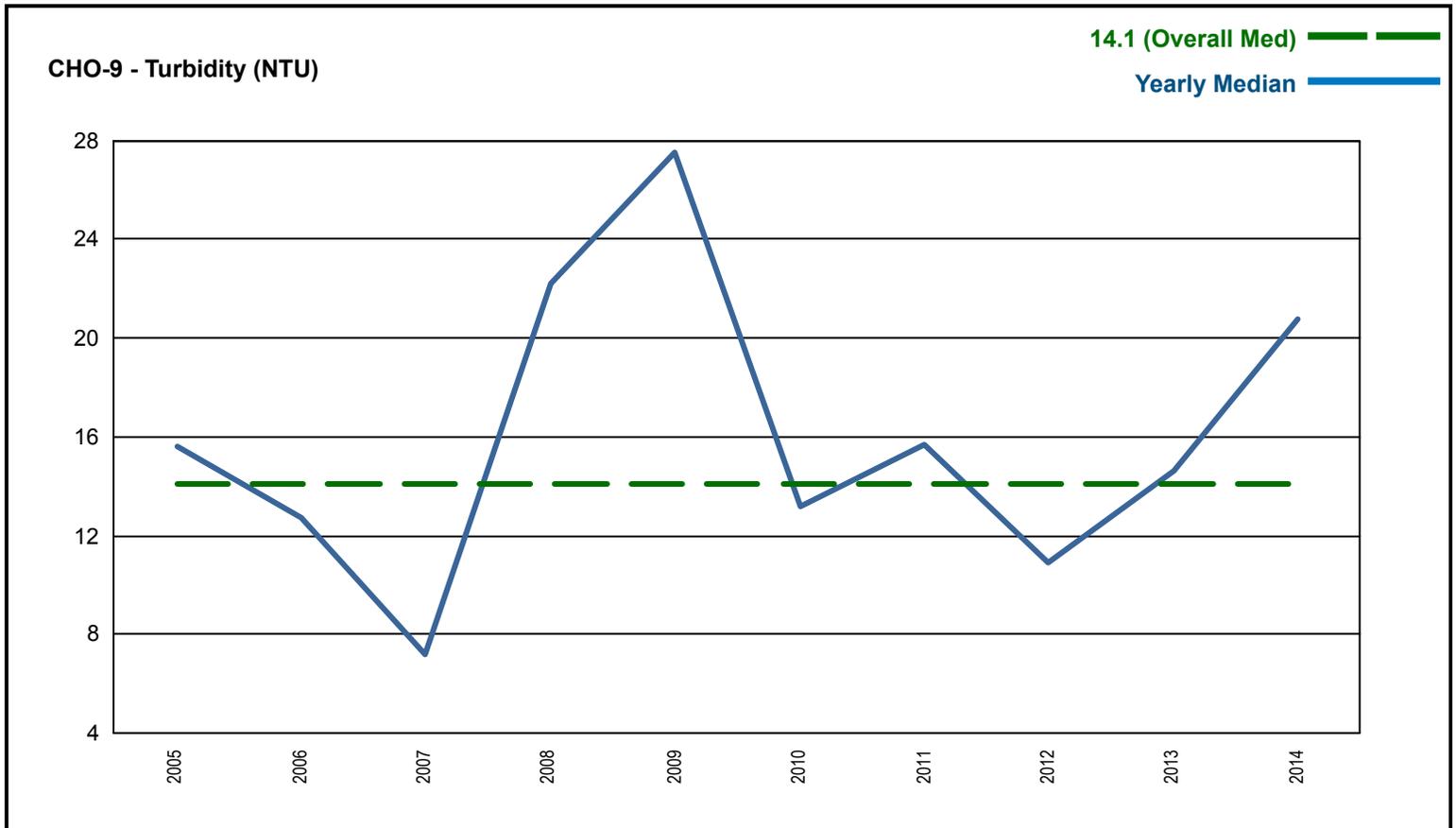
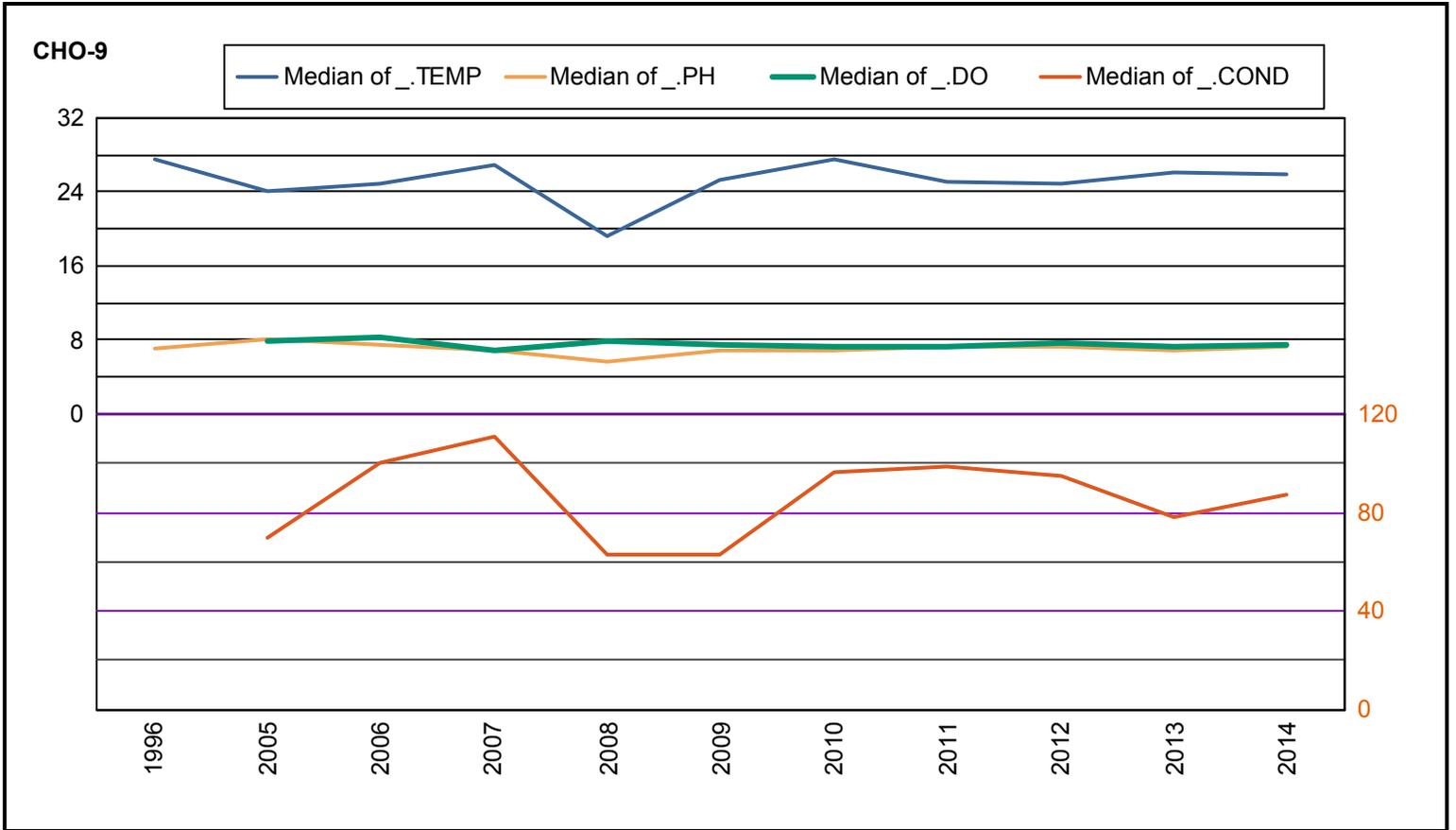
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



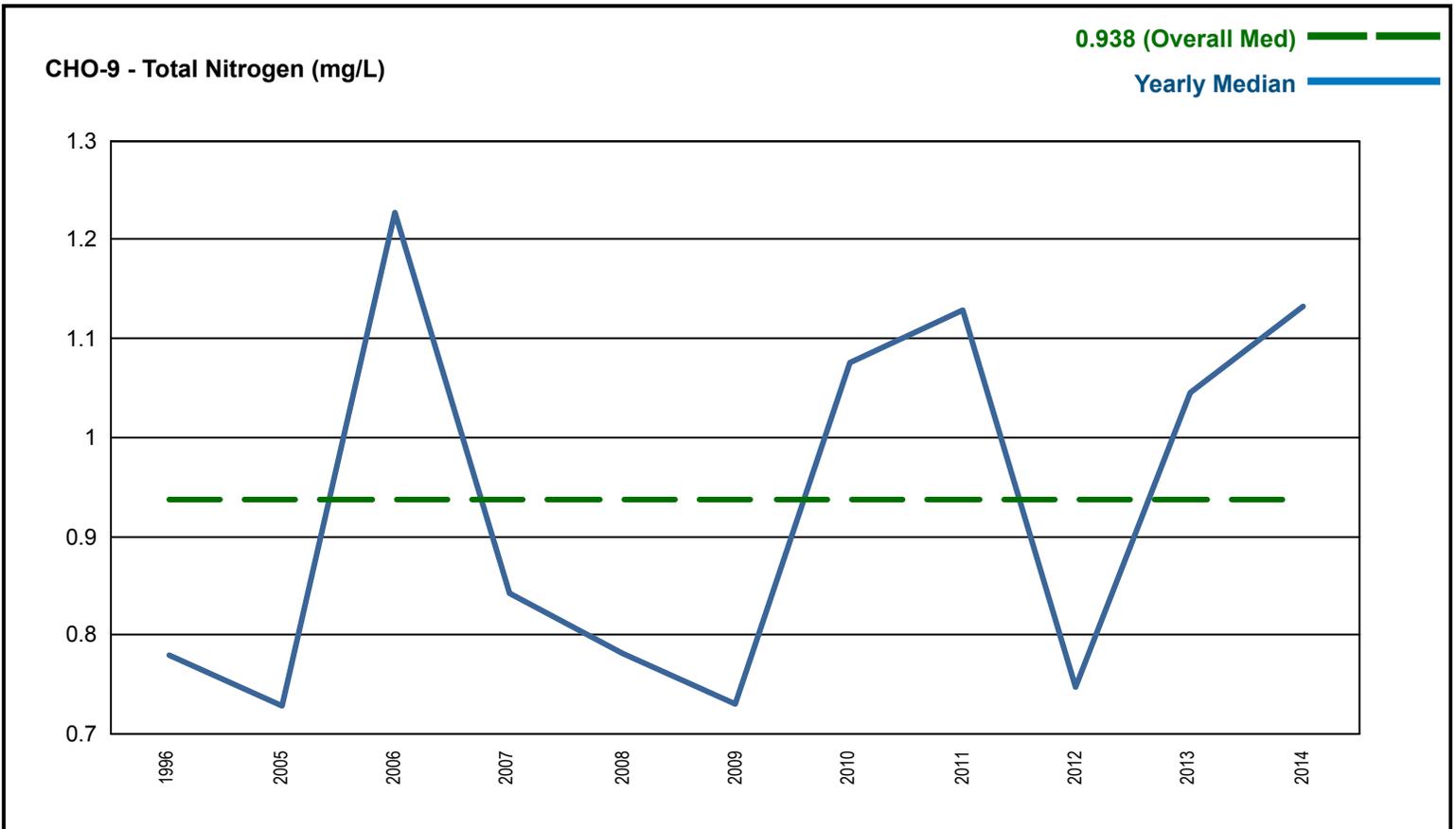
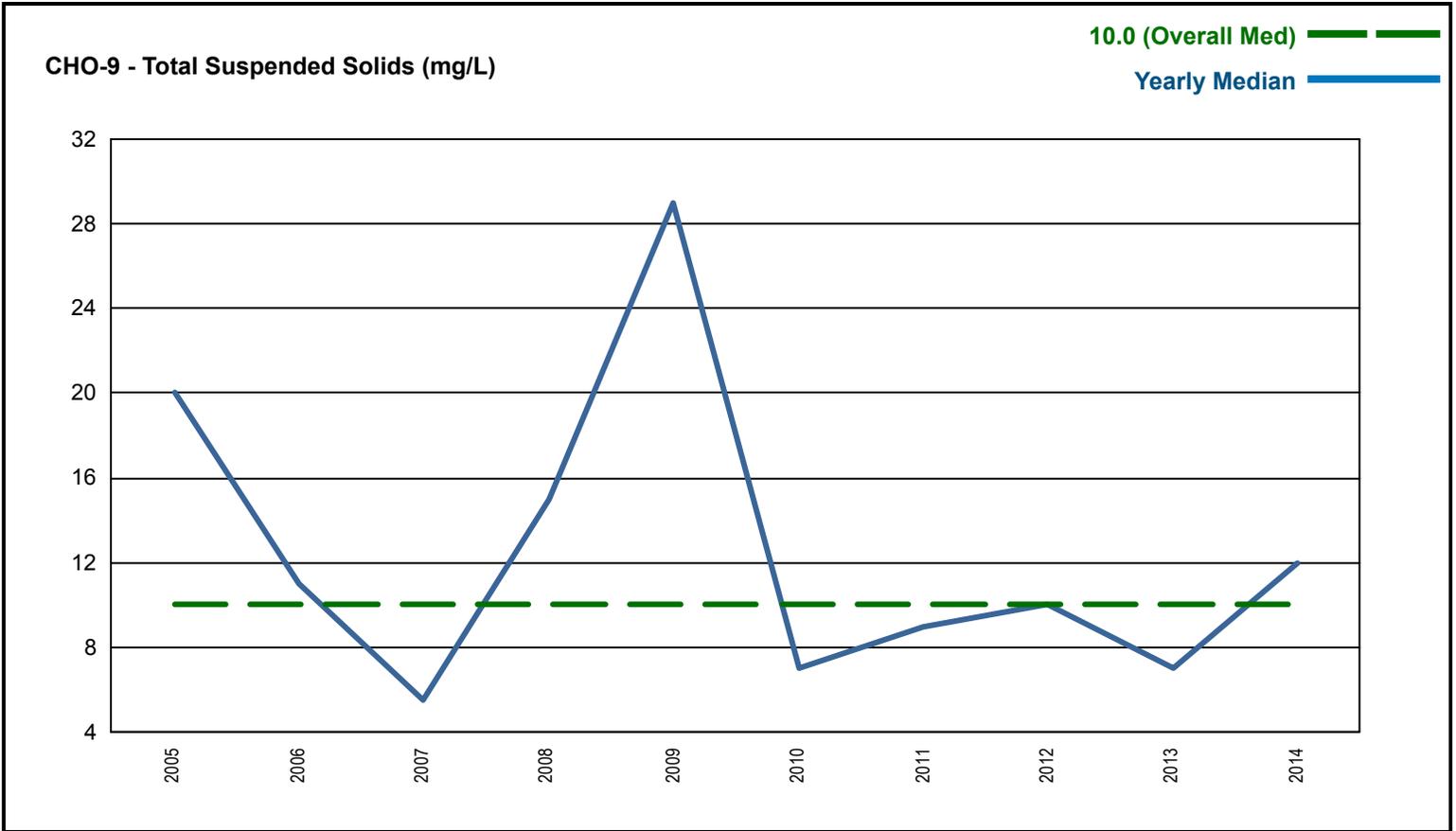
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



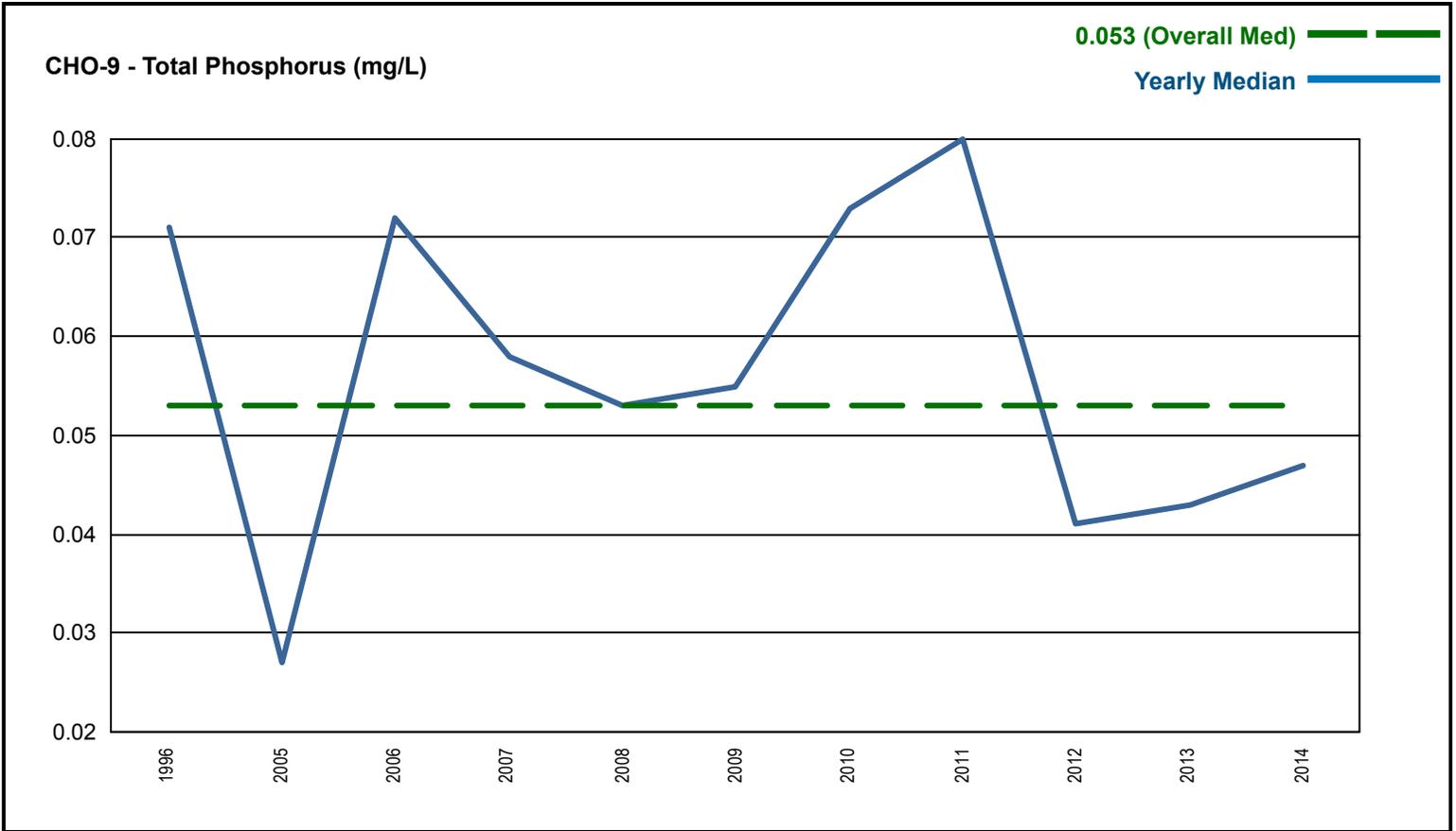
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



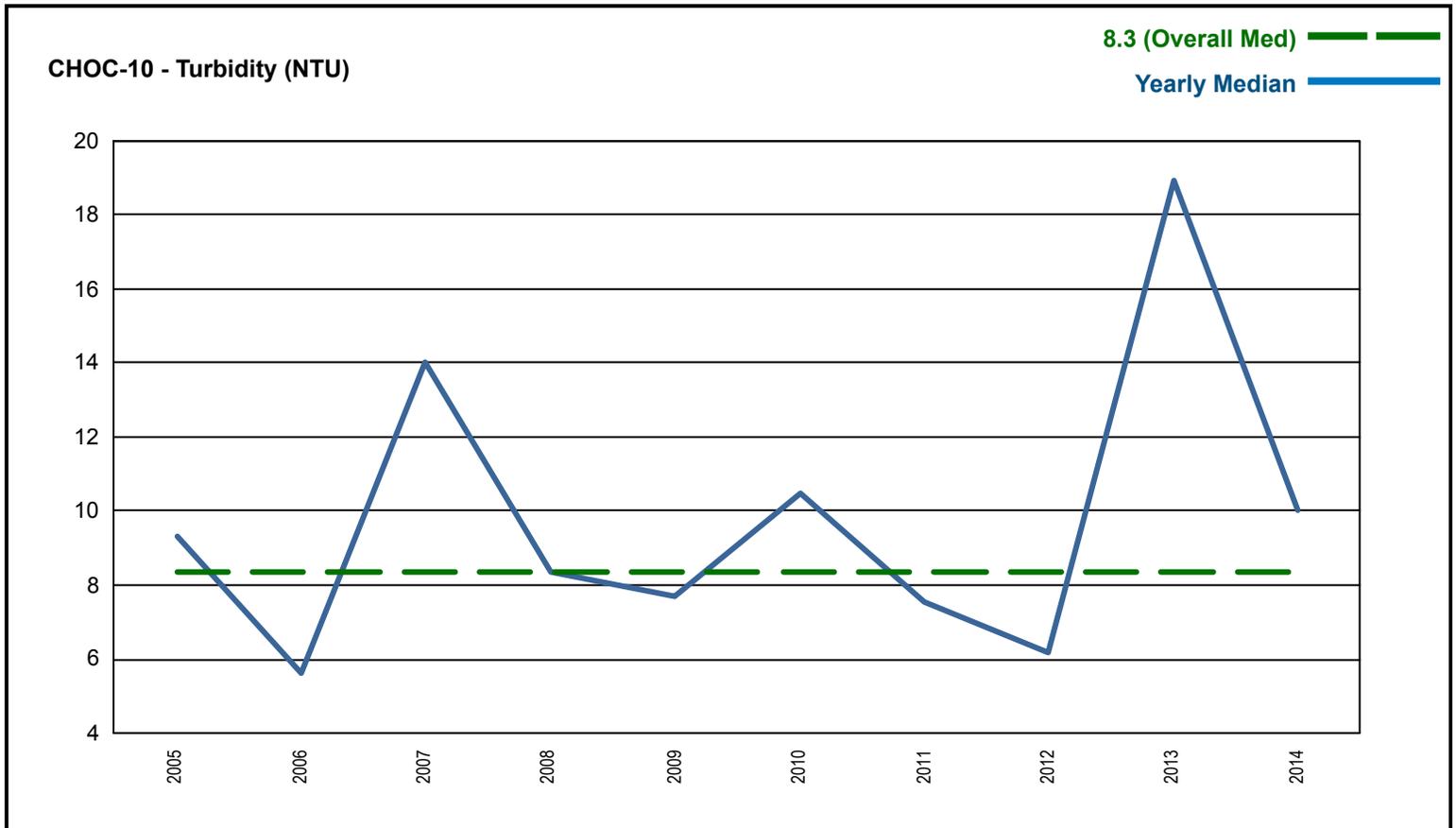
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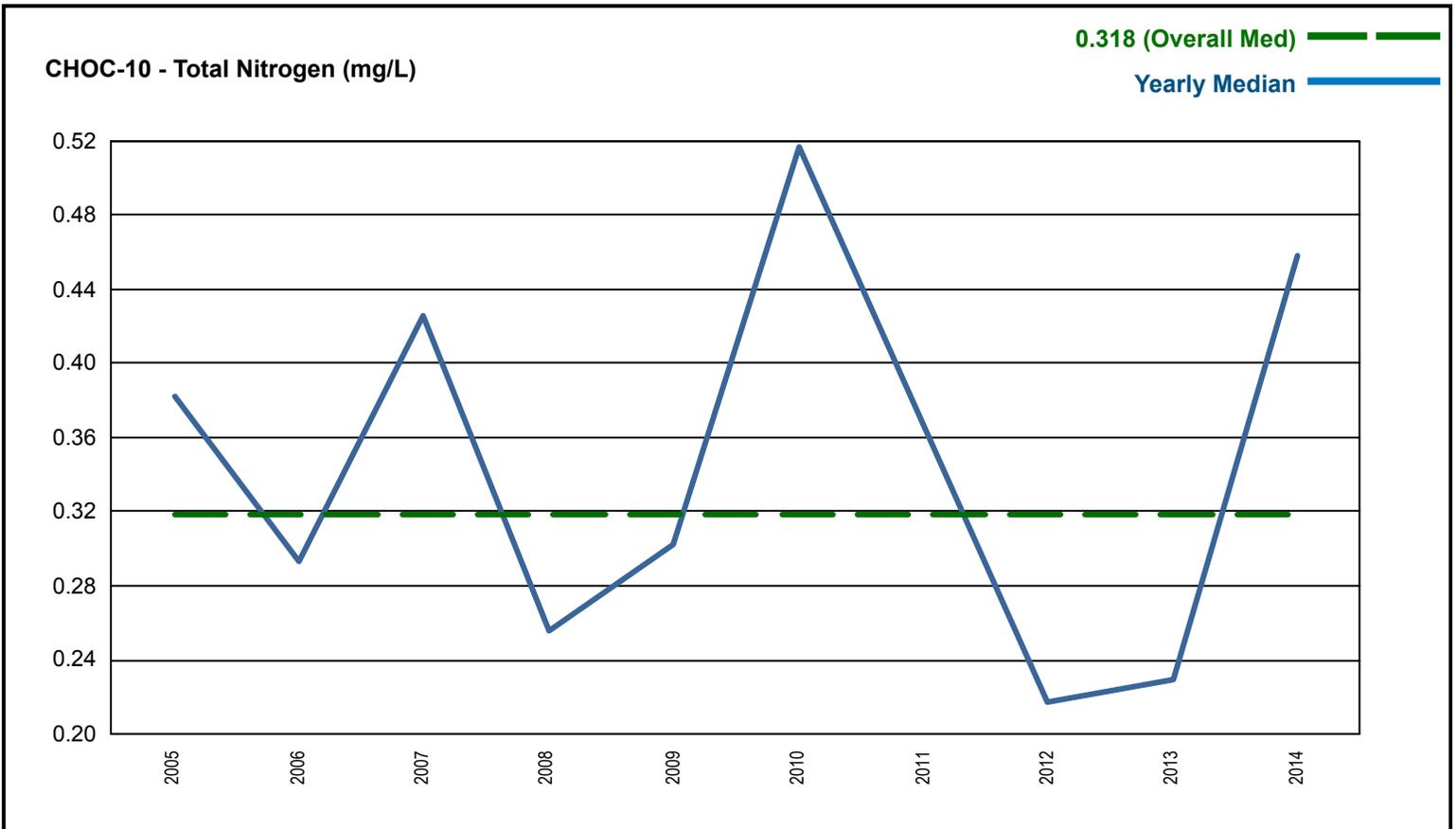
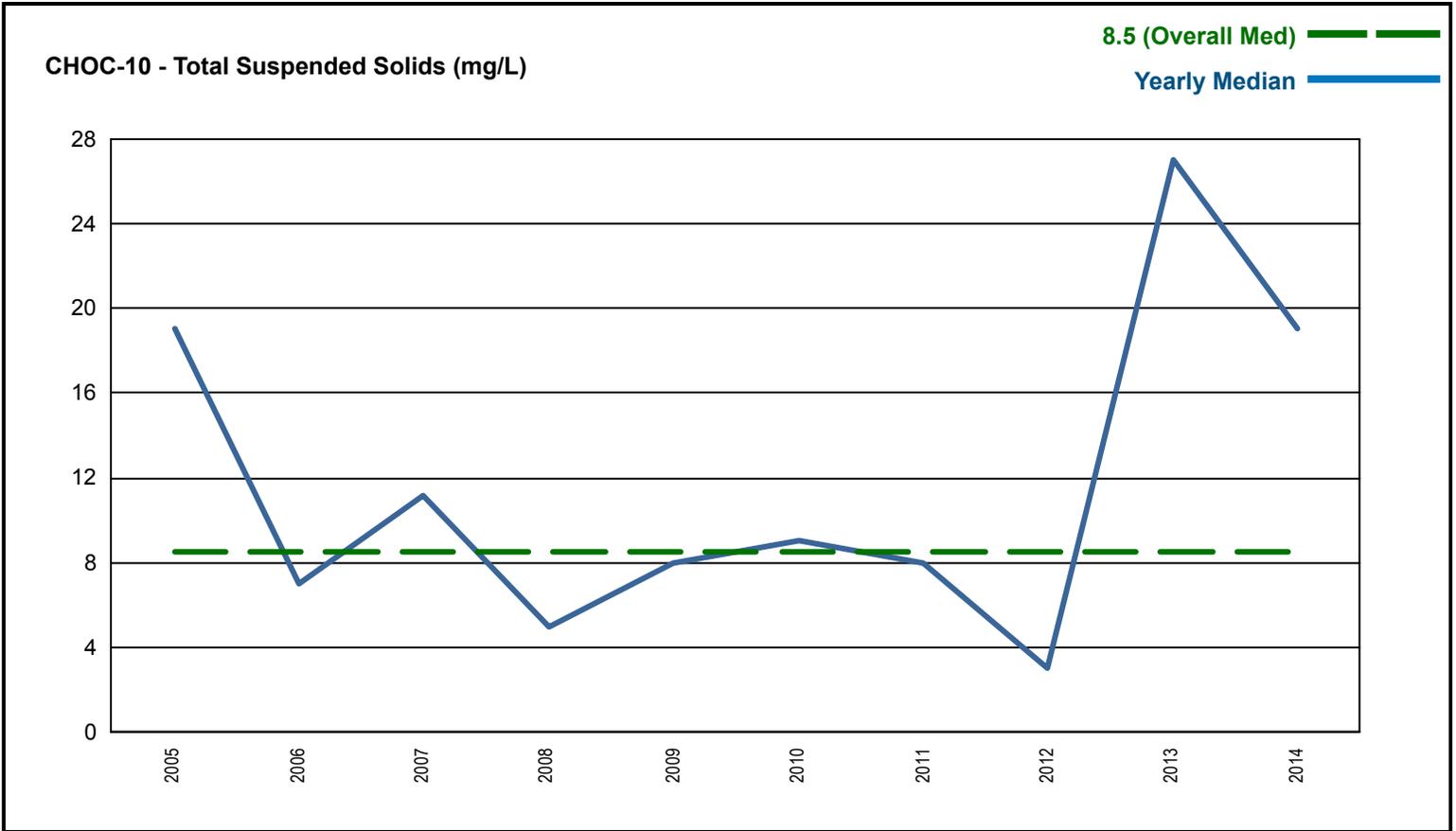
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



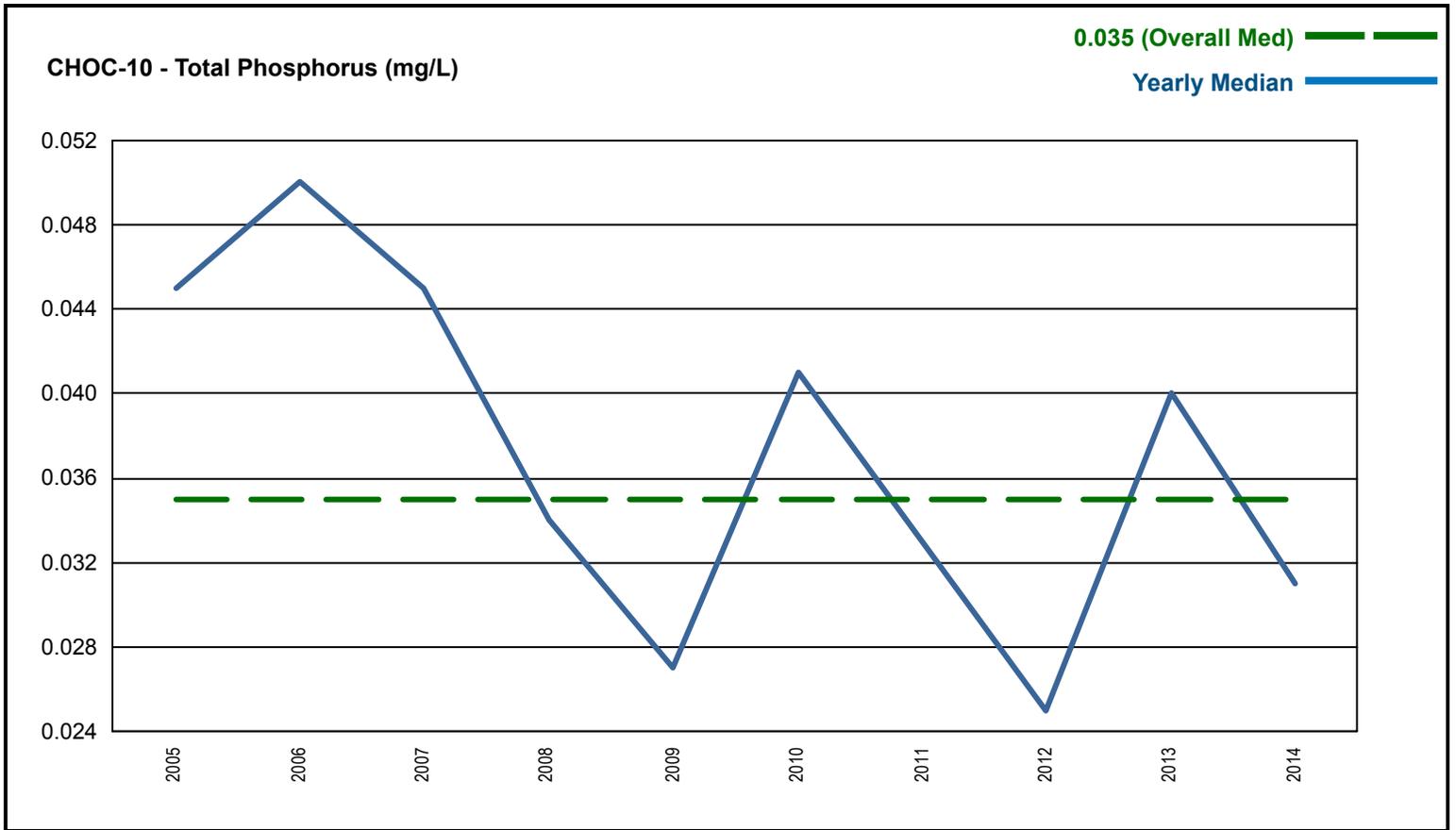
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



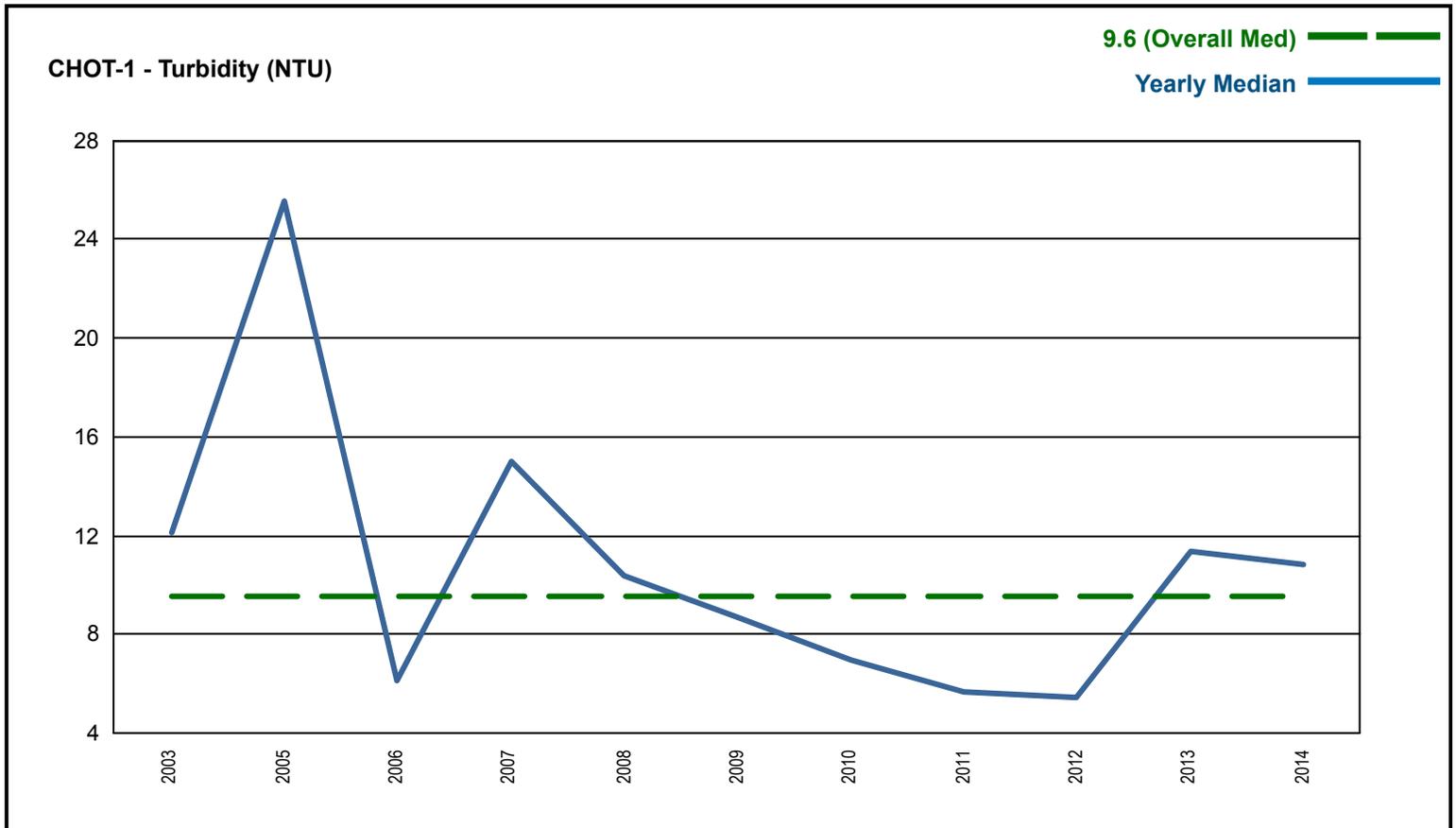
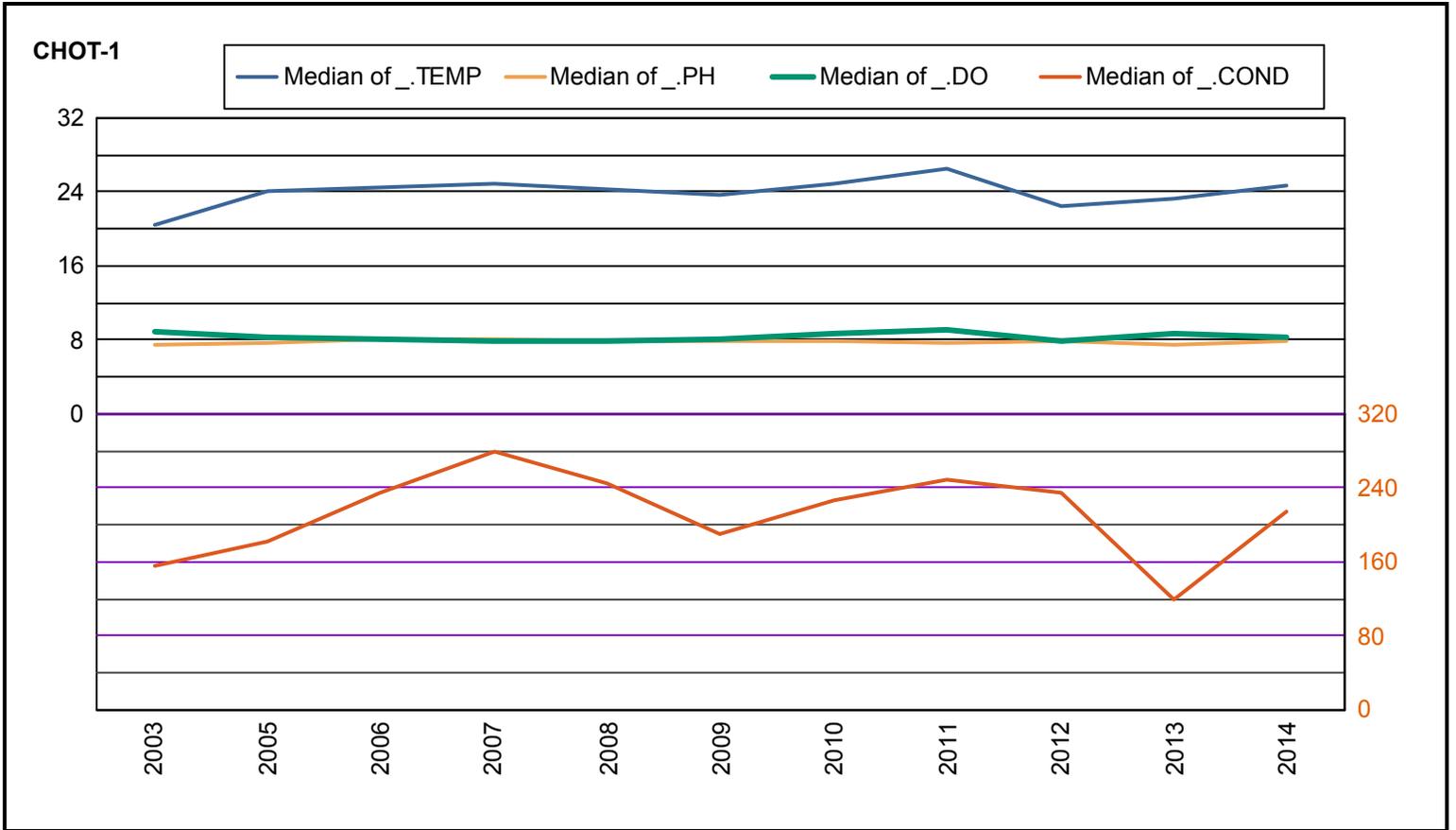
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014

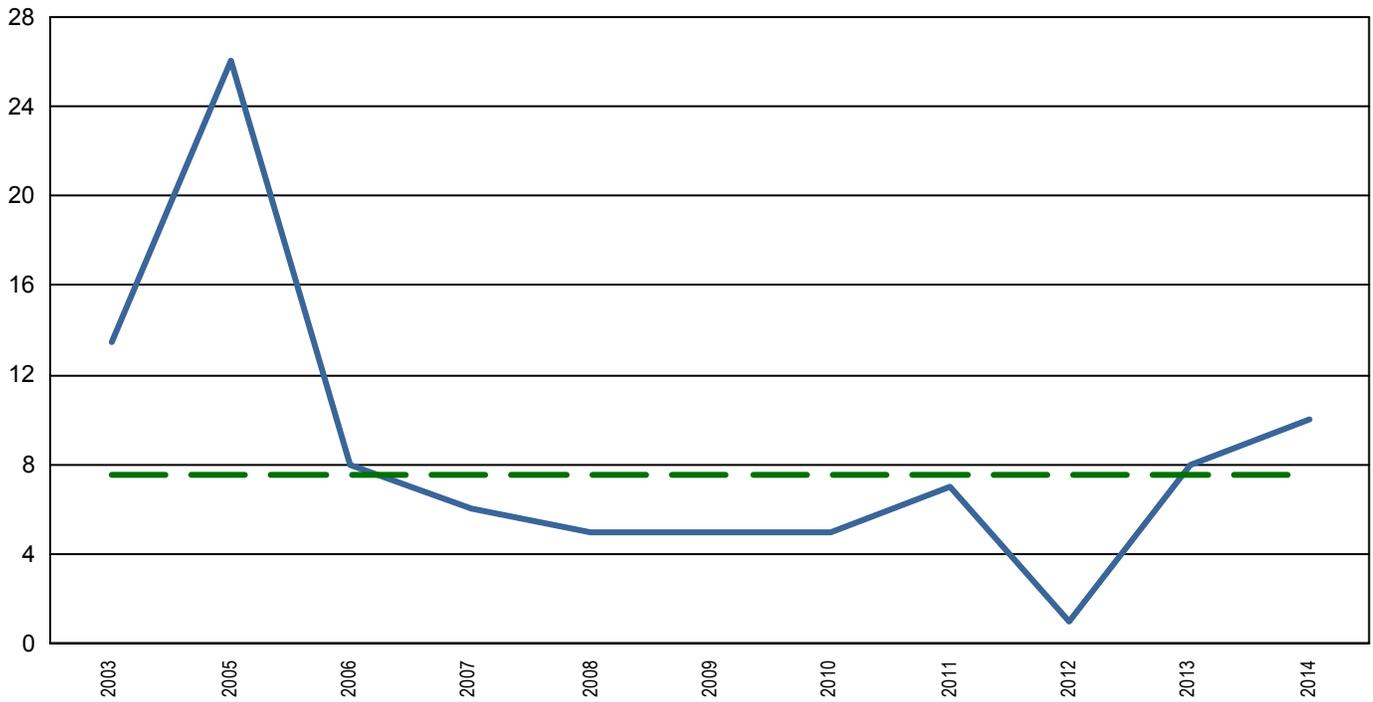


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

## CHOT-1 - Total Suspended Solids (mg/L)

7.5 (Overall Med) 

Yearly Median 



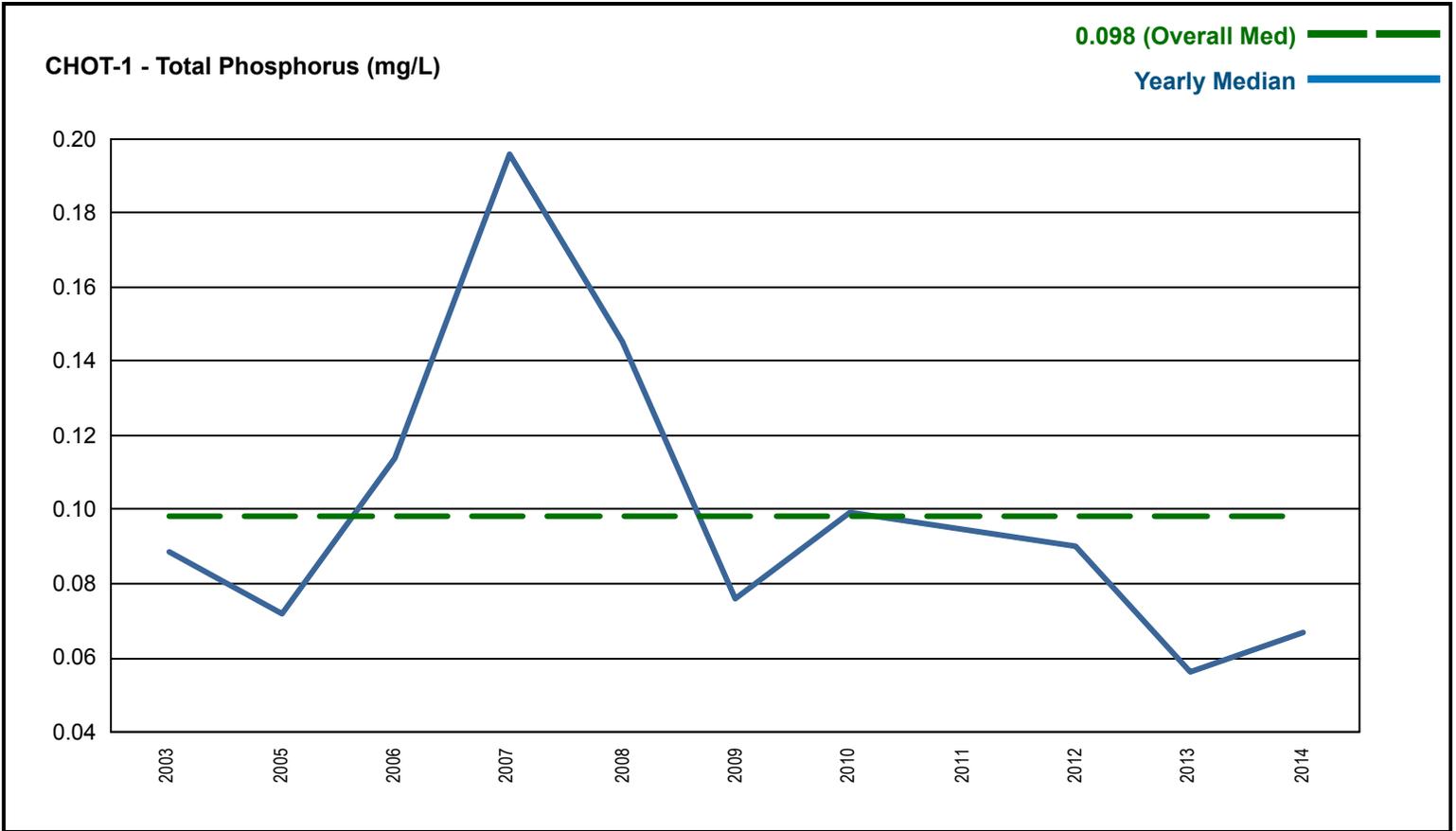
## CHOT-1 - Total Nitrogen (mg/L)

1.064 (Overall Med) 

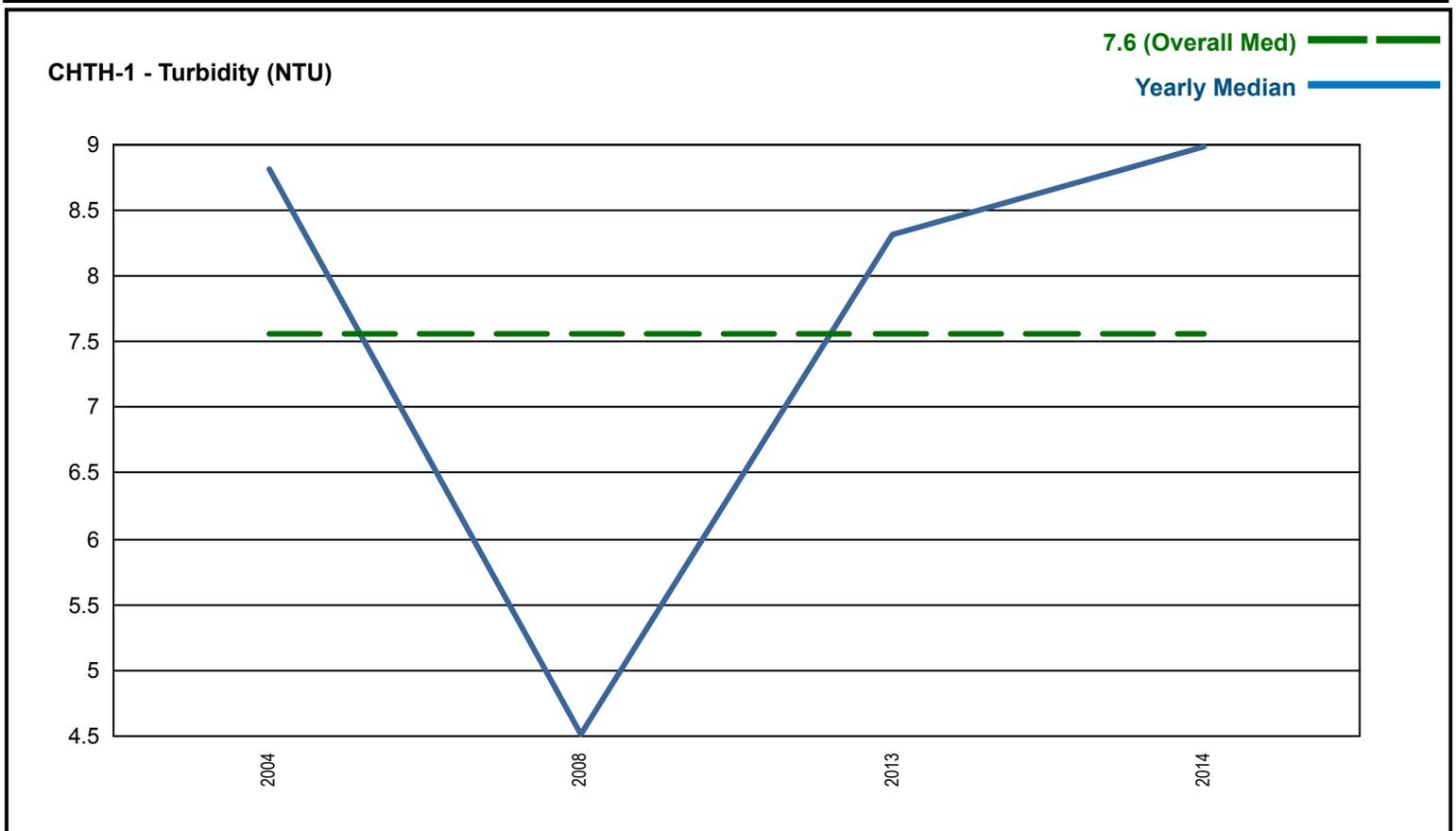
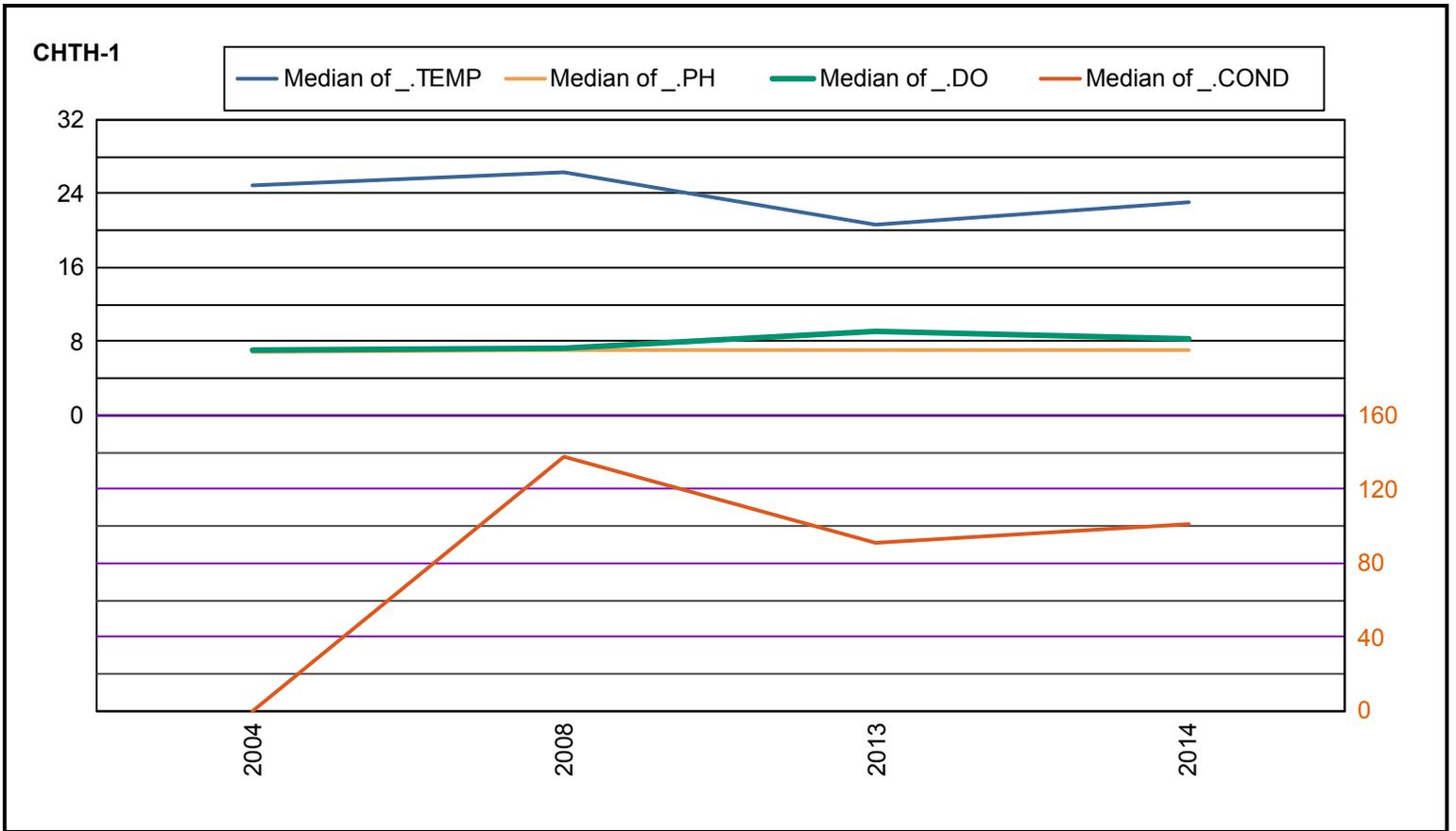
Yearly Median 



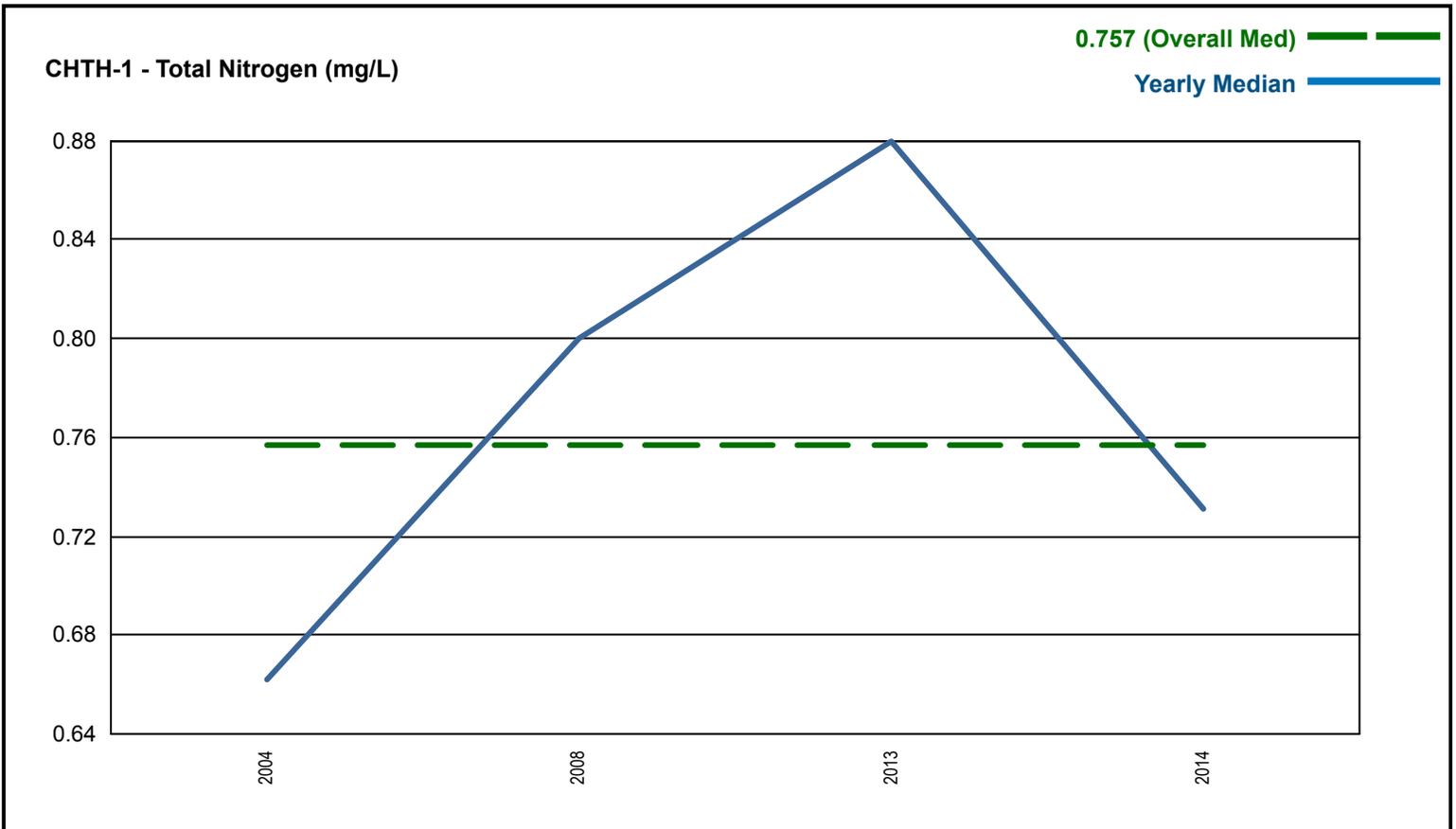
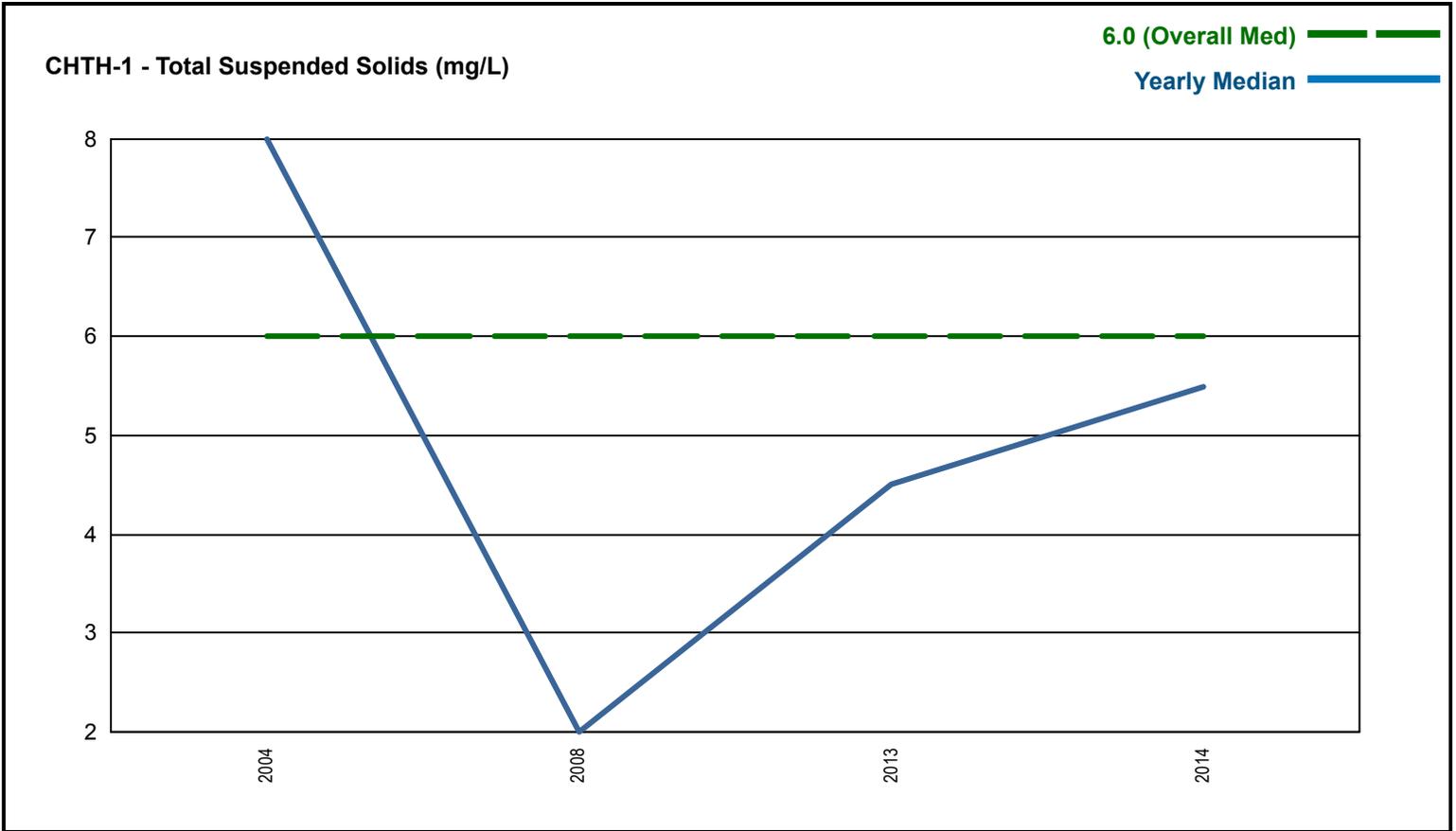
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



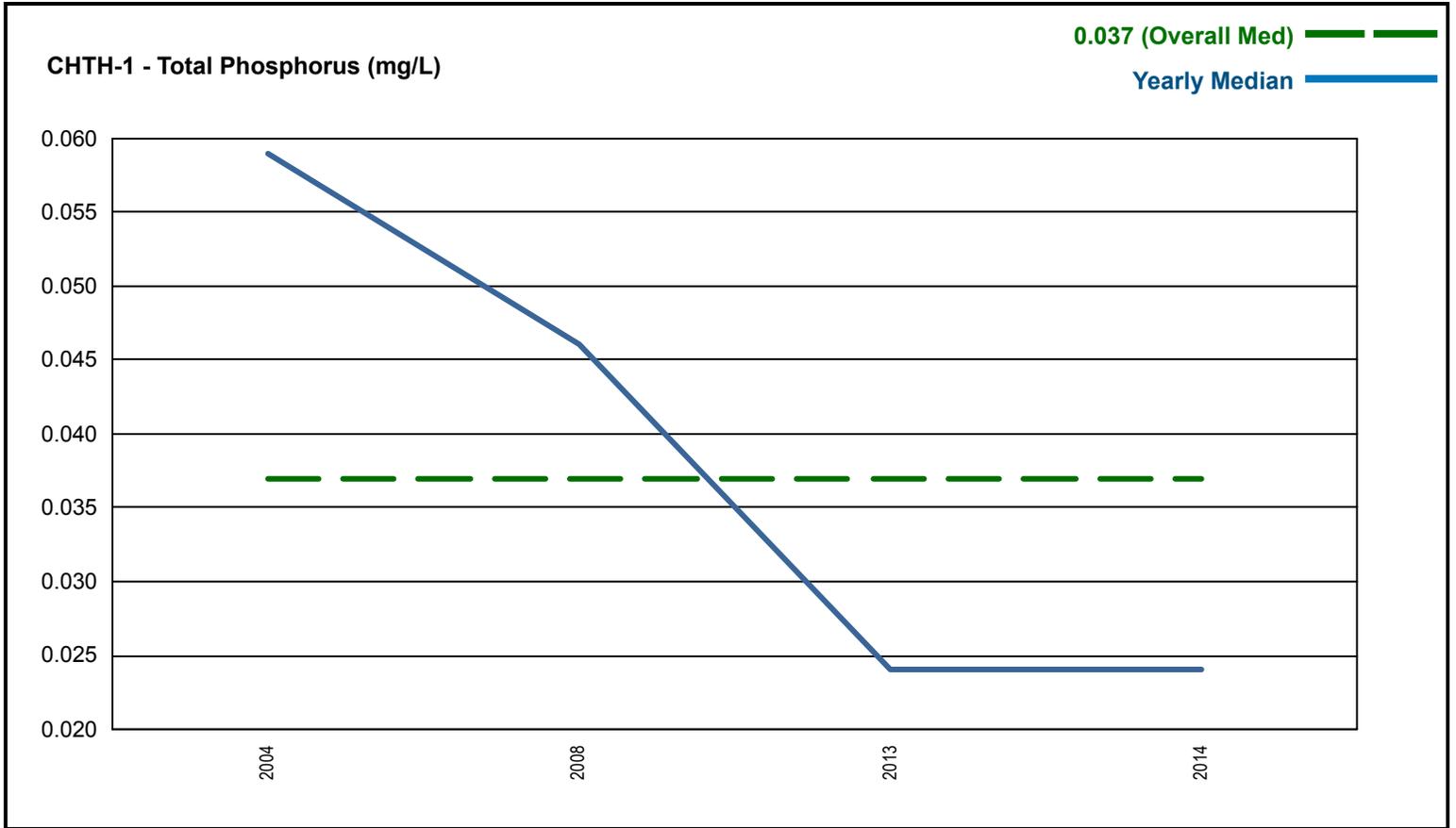
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



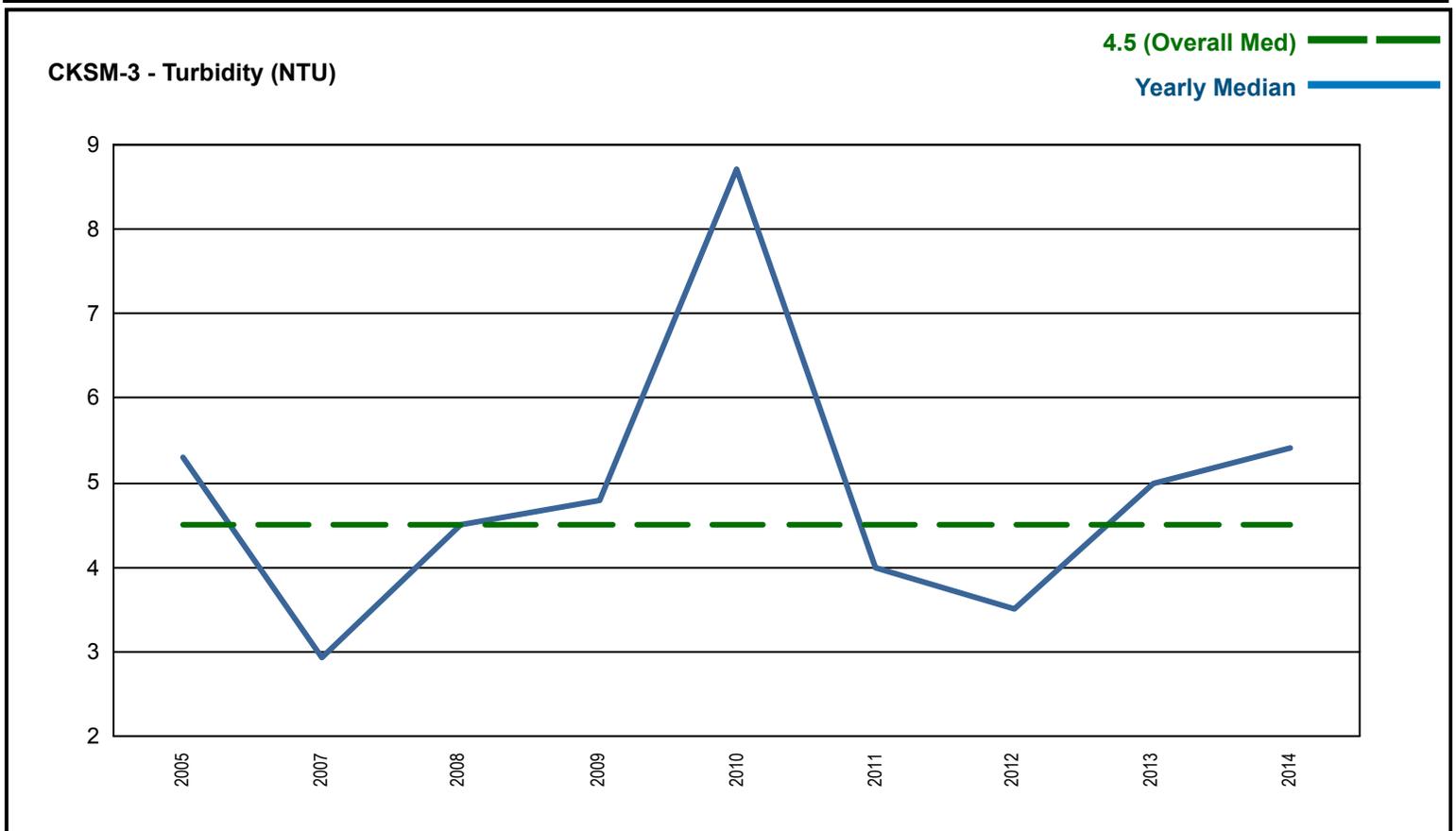
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



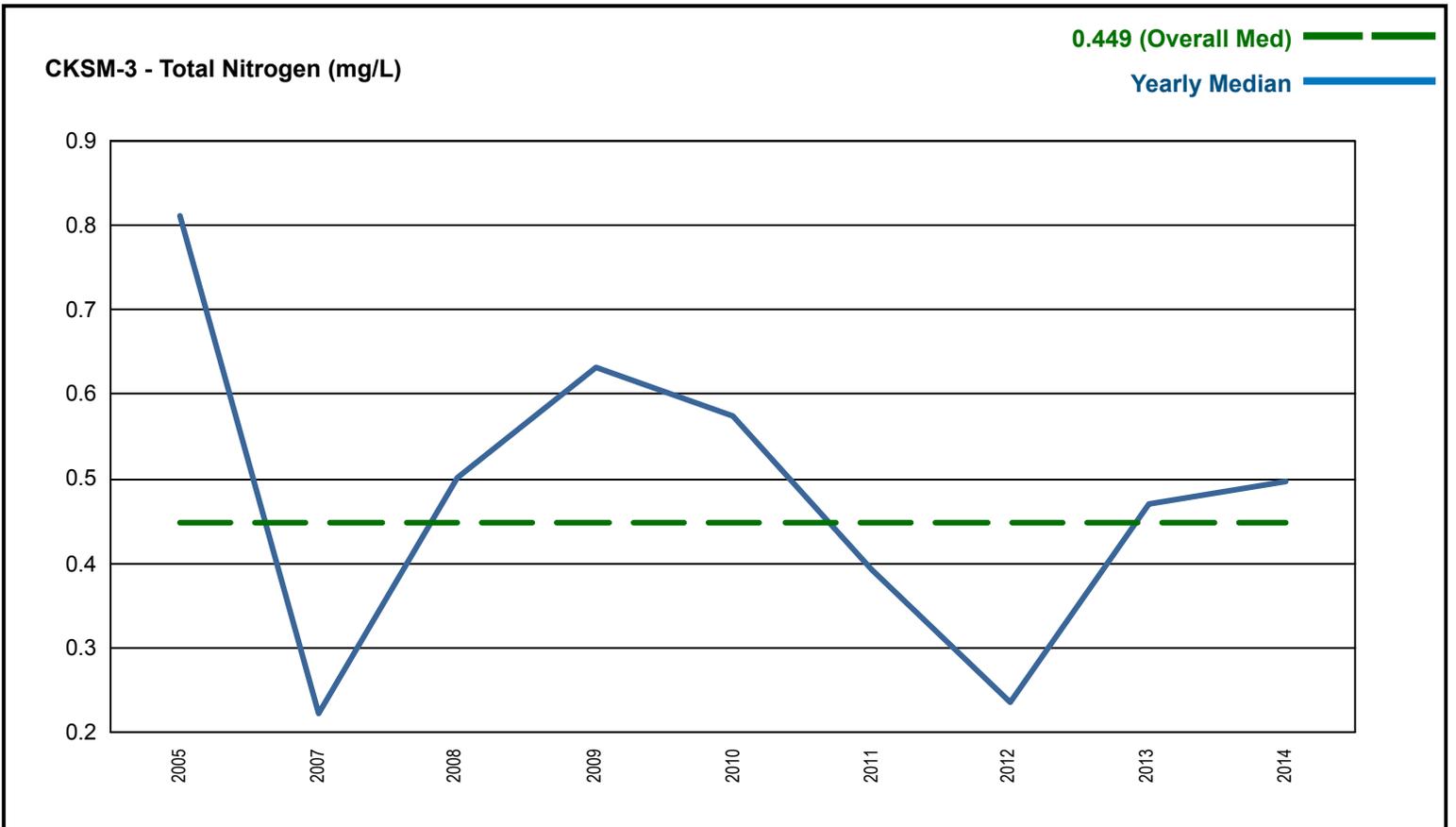
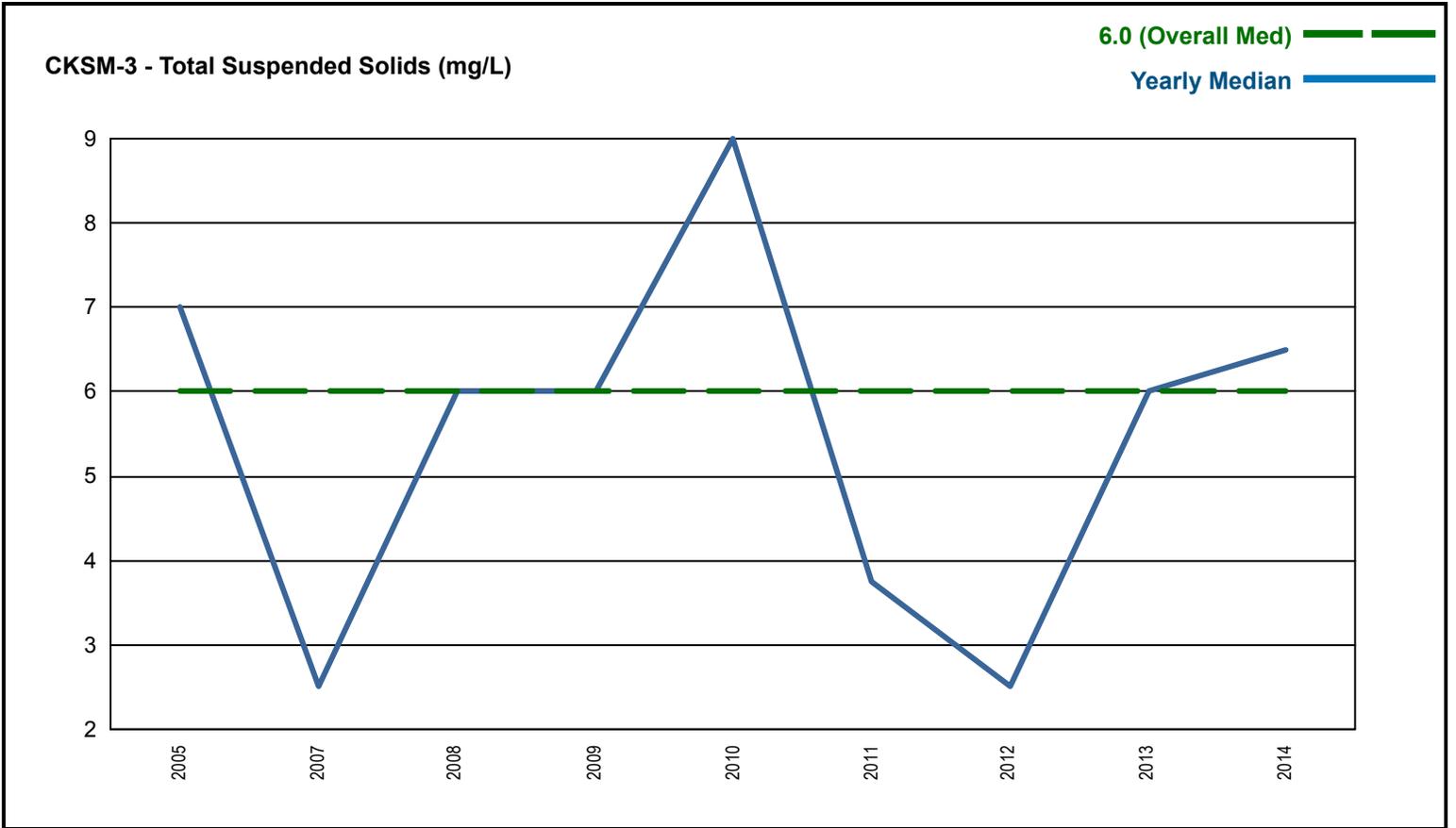
ADEM Ambient Trend Stations - Sampled 1977 - 2014



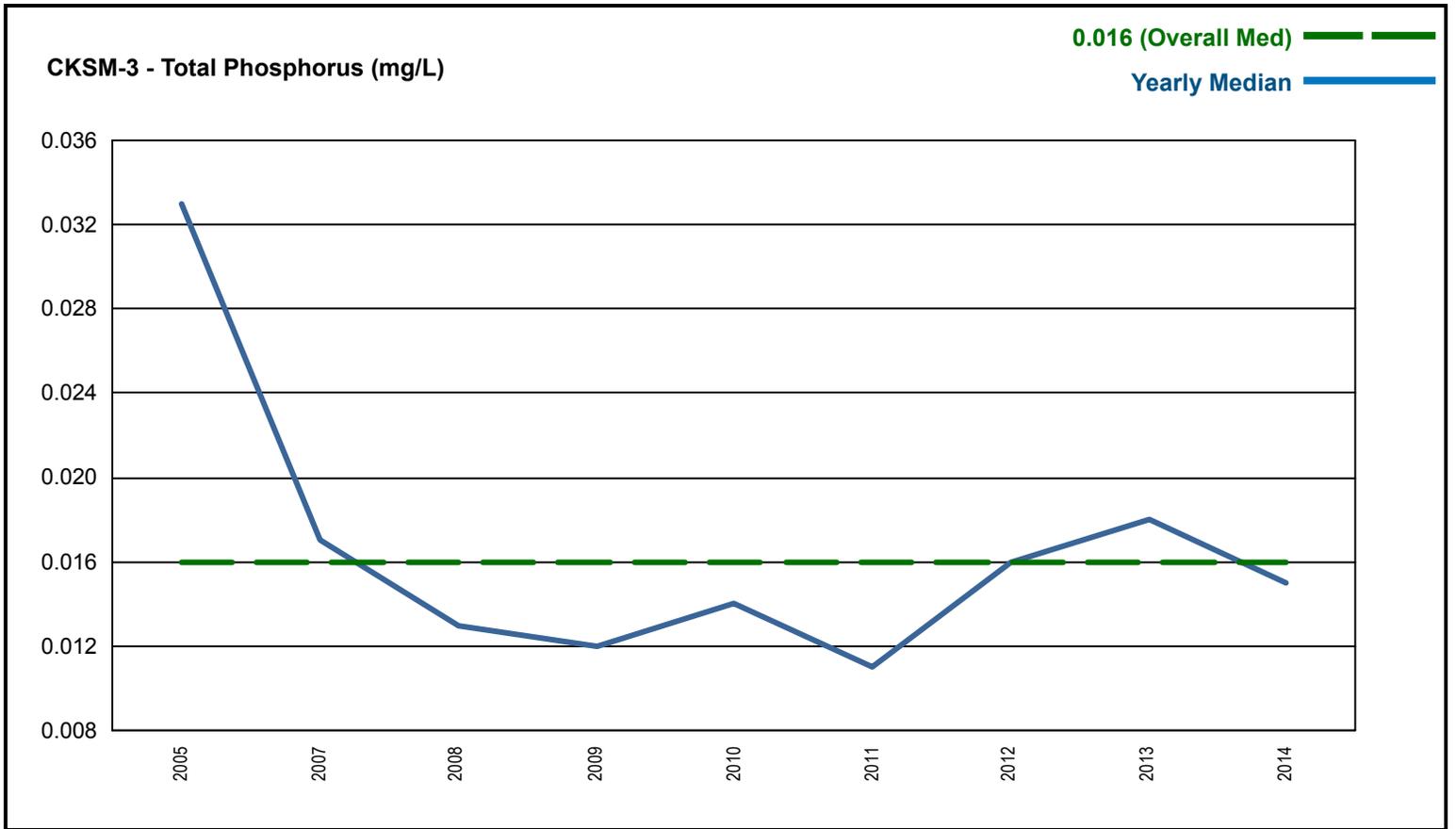
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



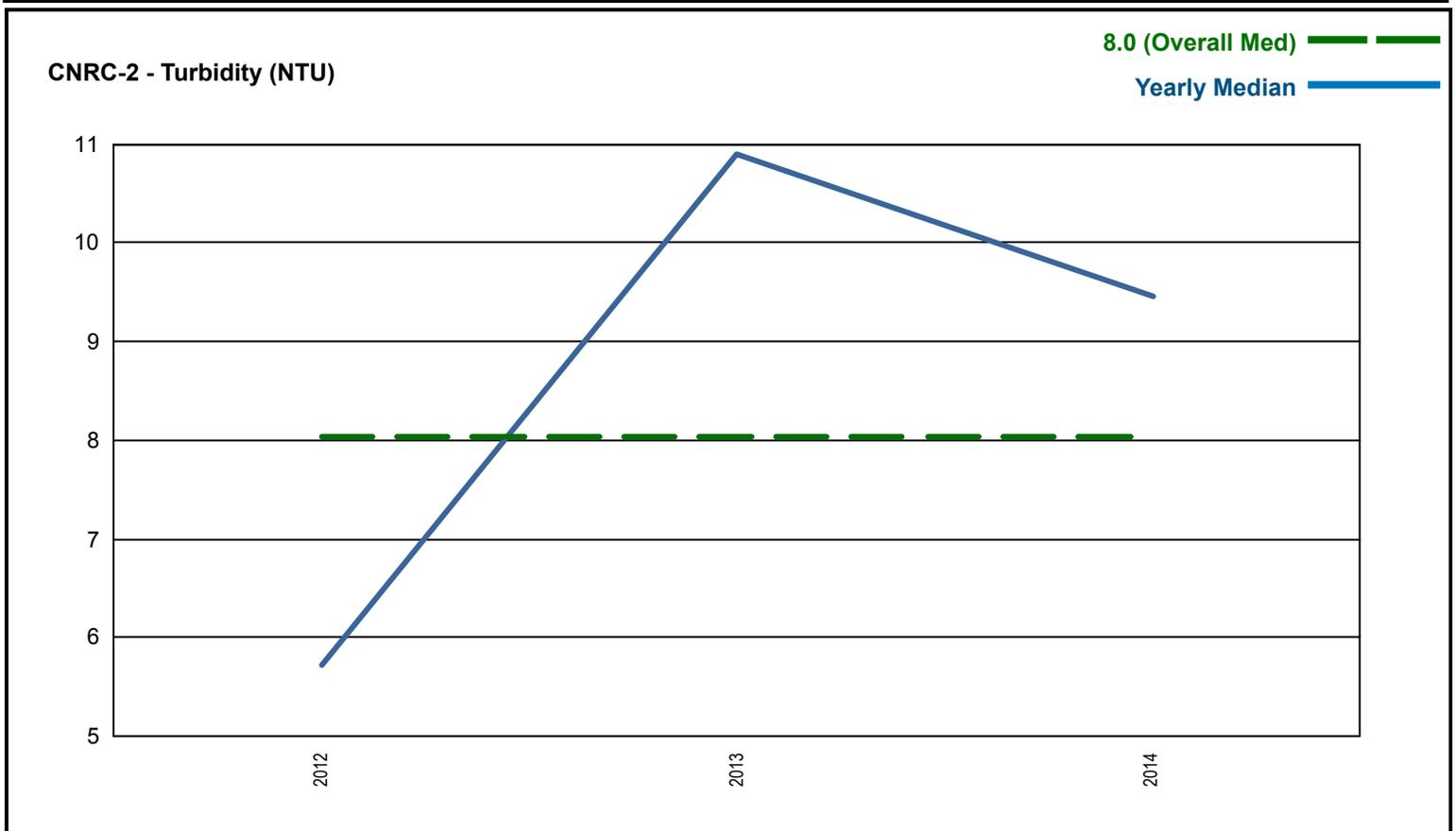
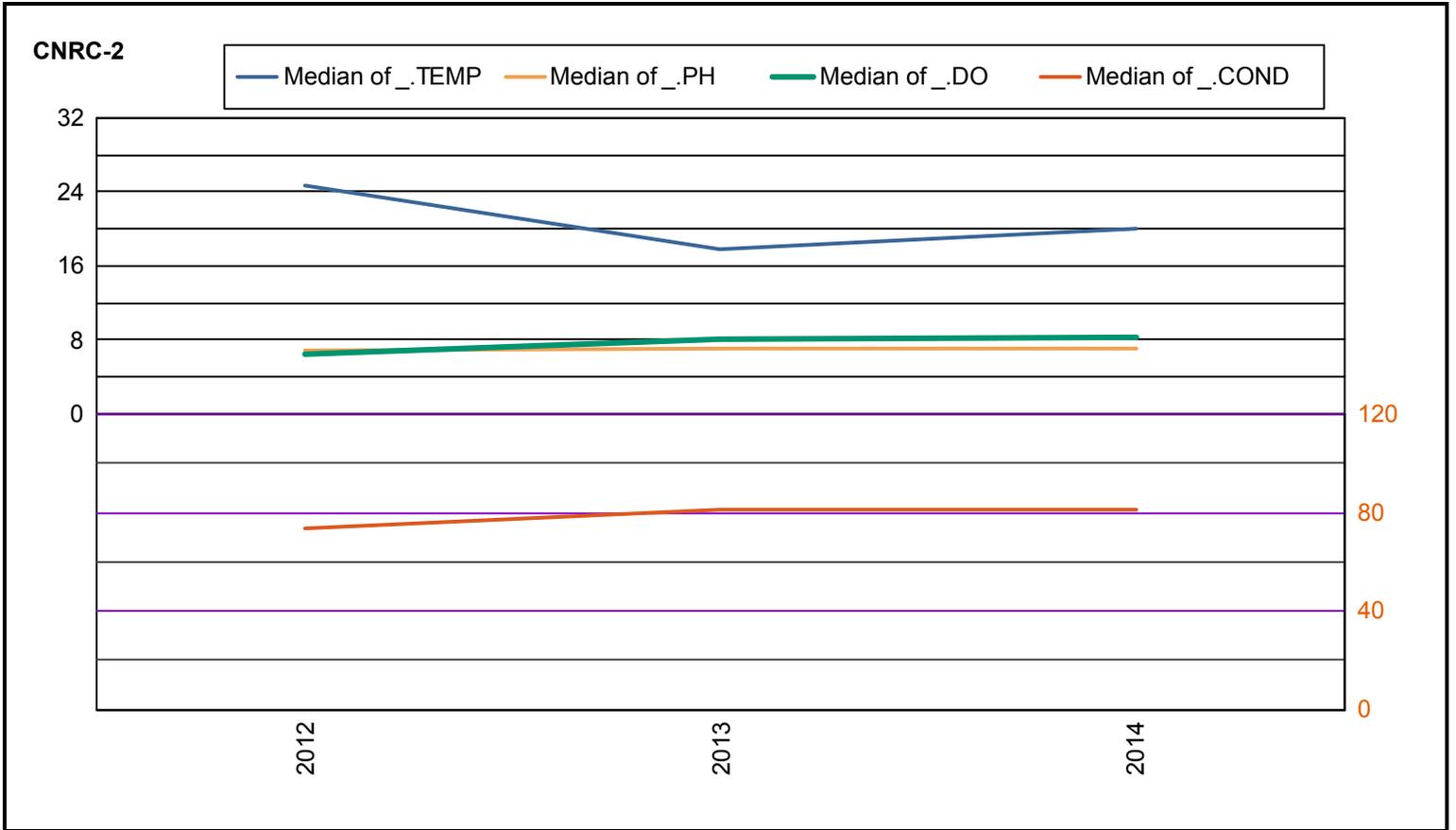
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



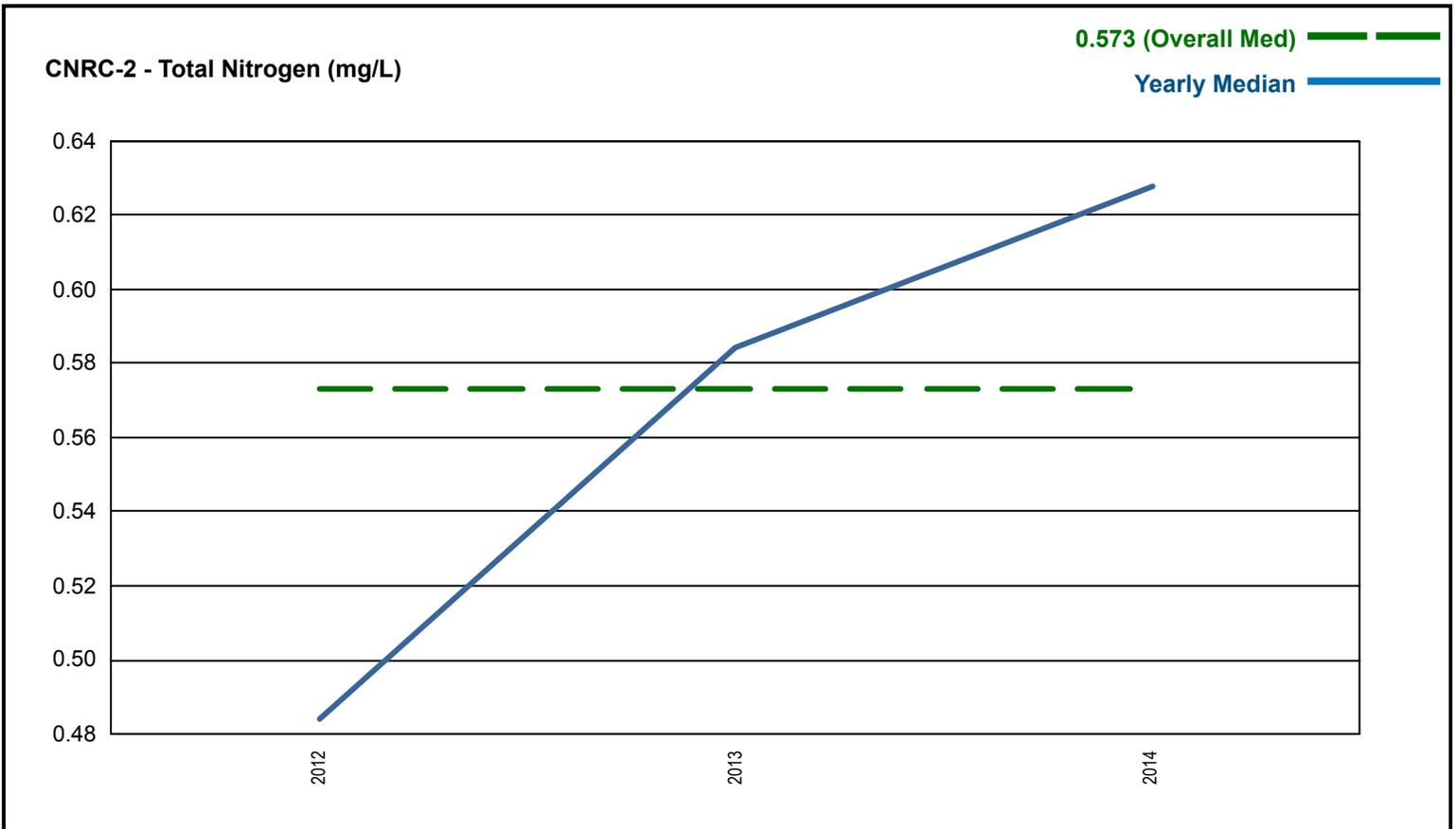
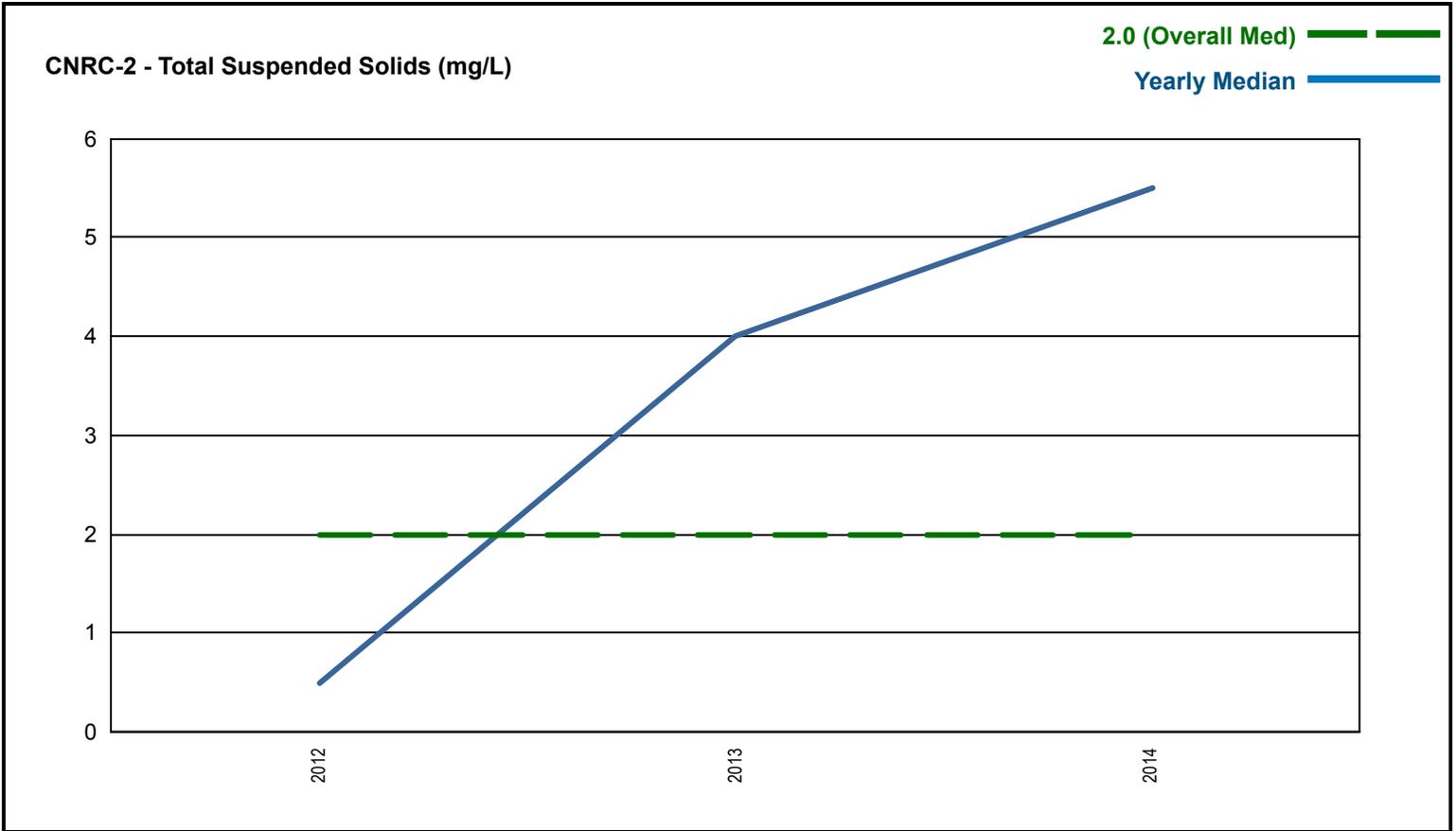
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



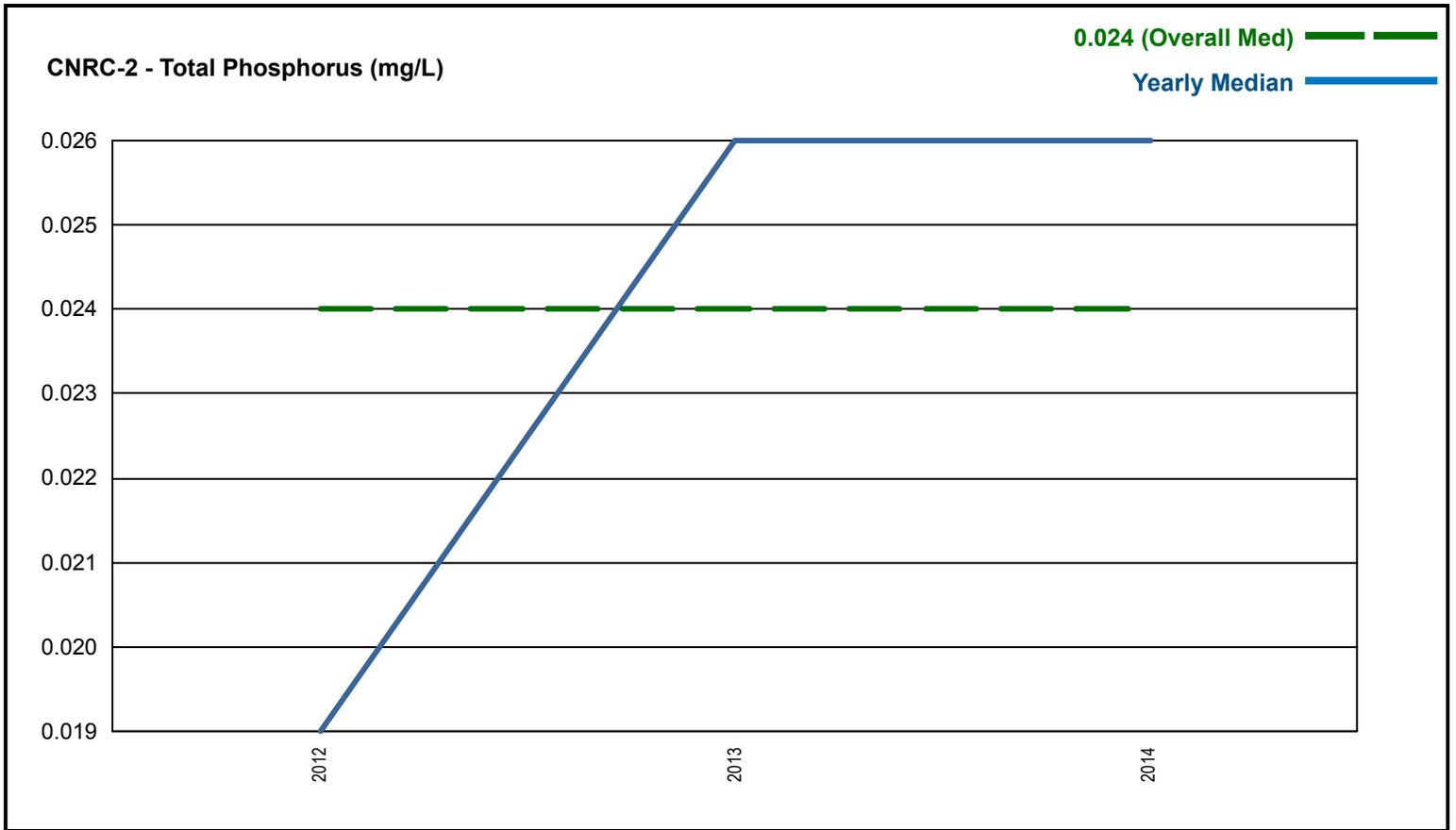
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



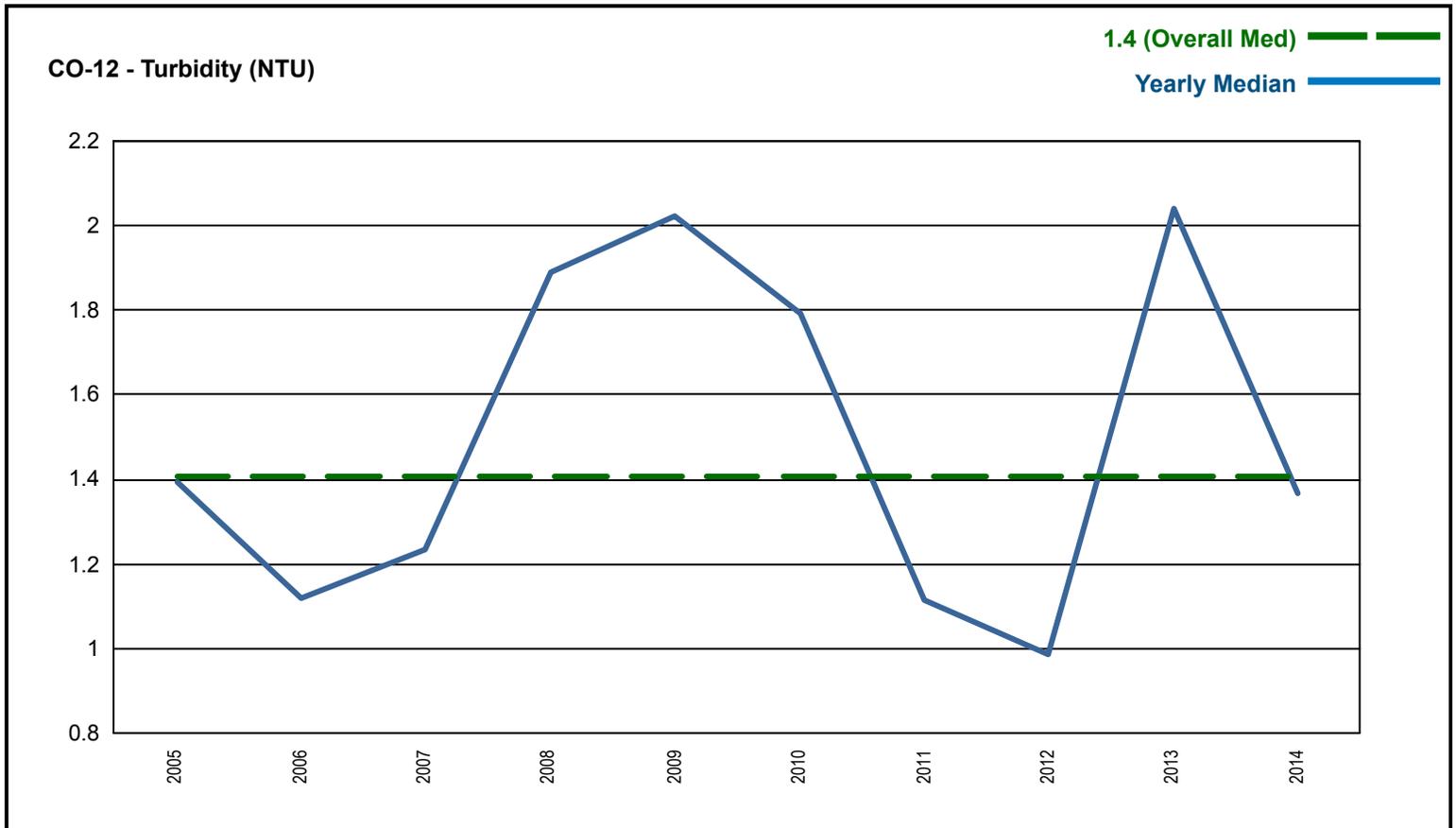
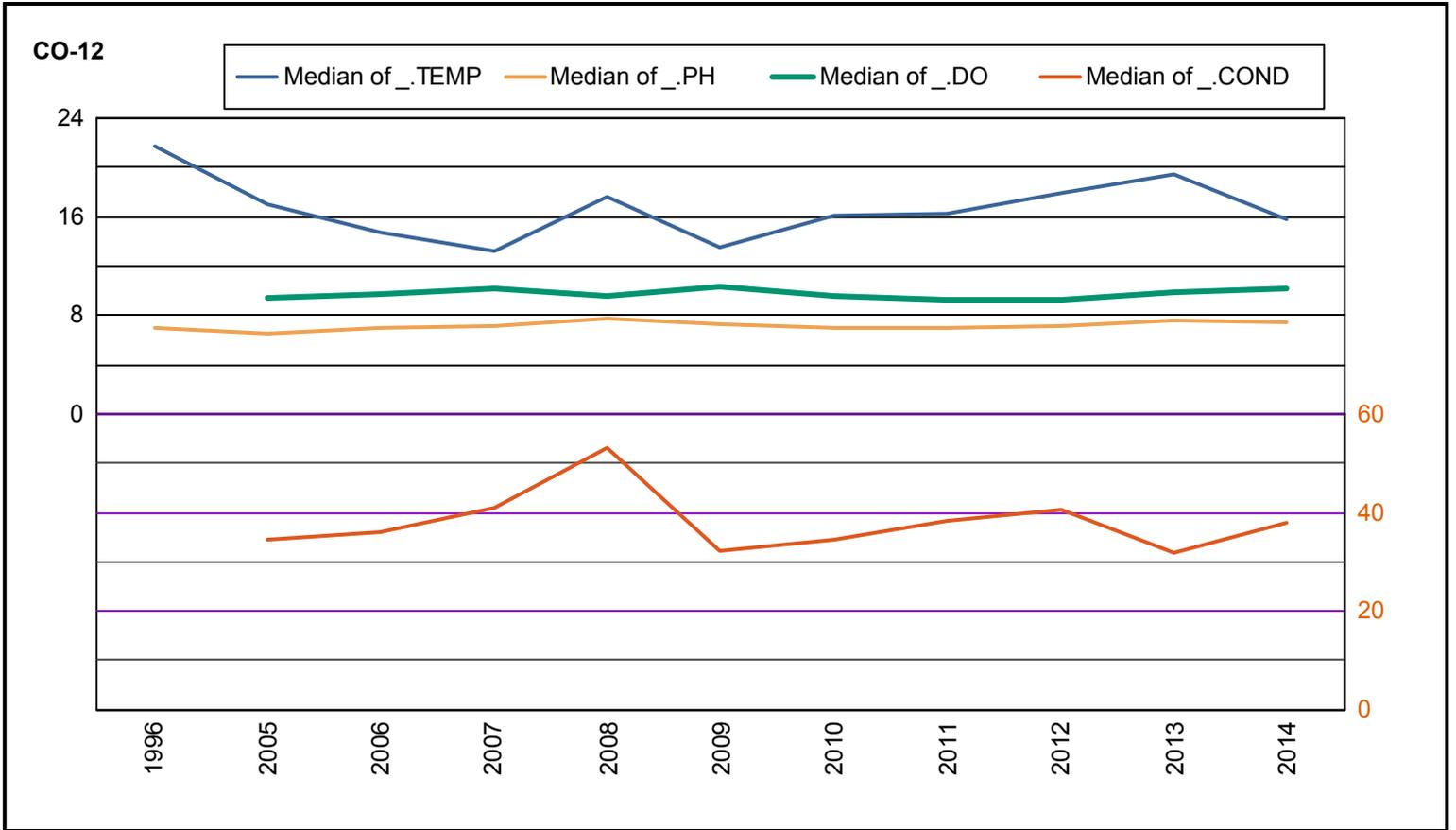
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



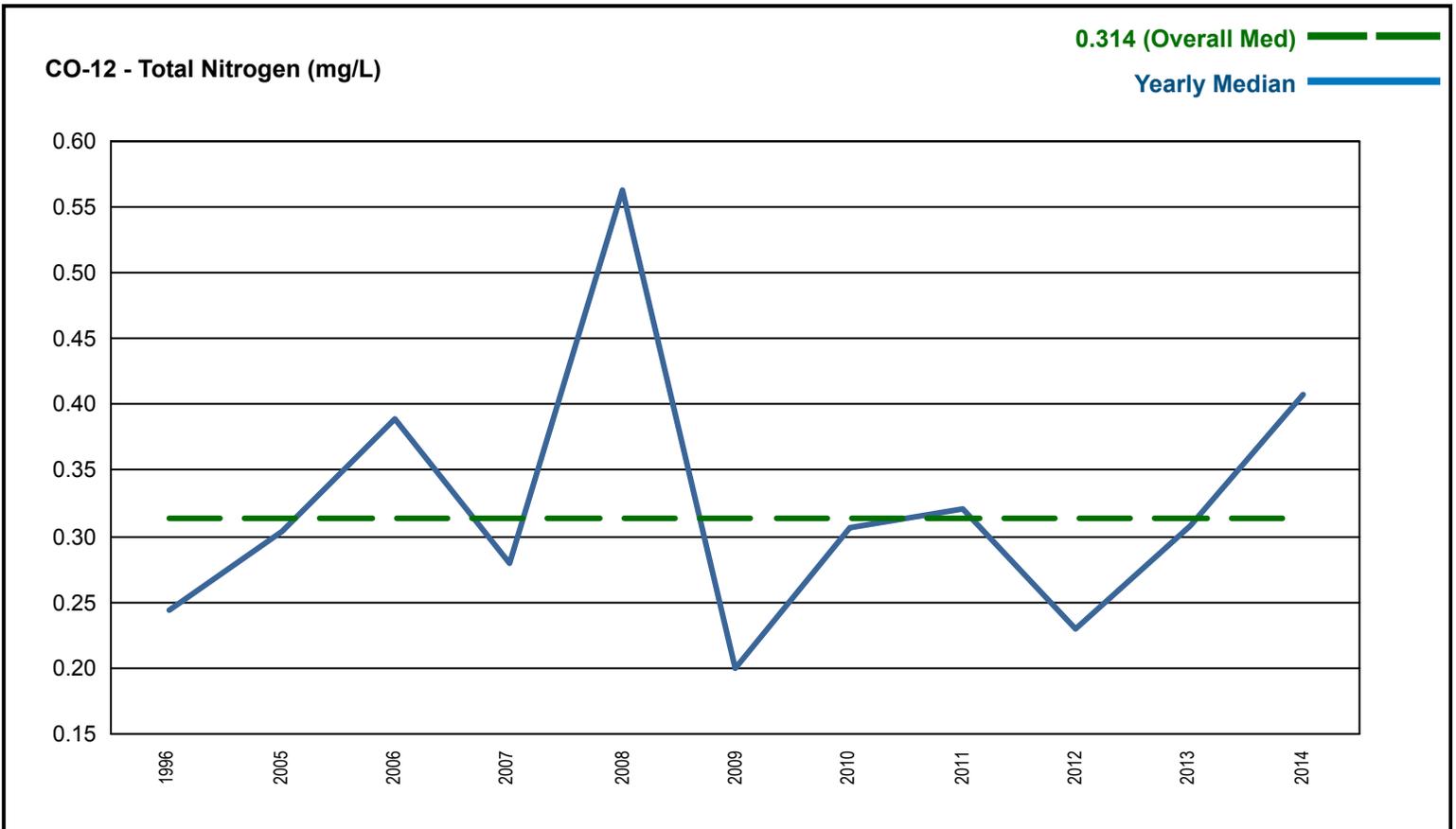
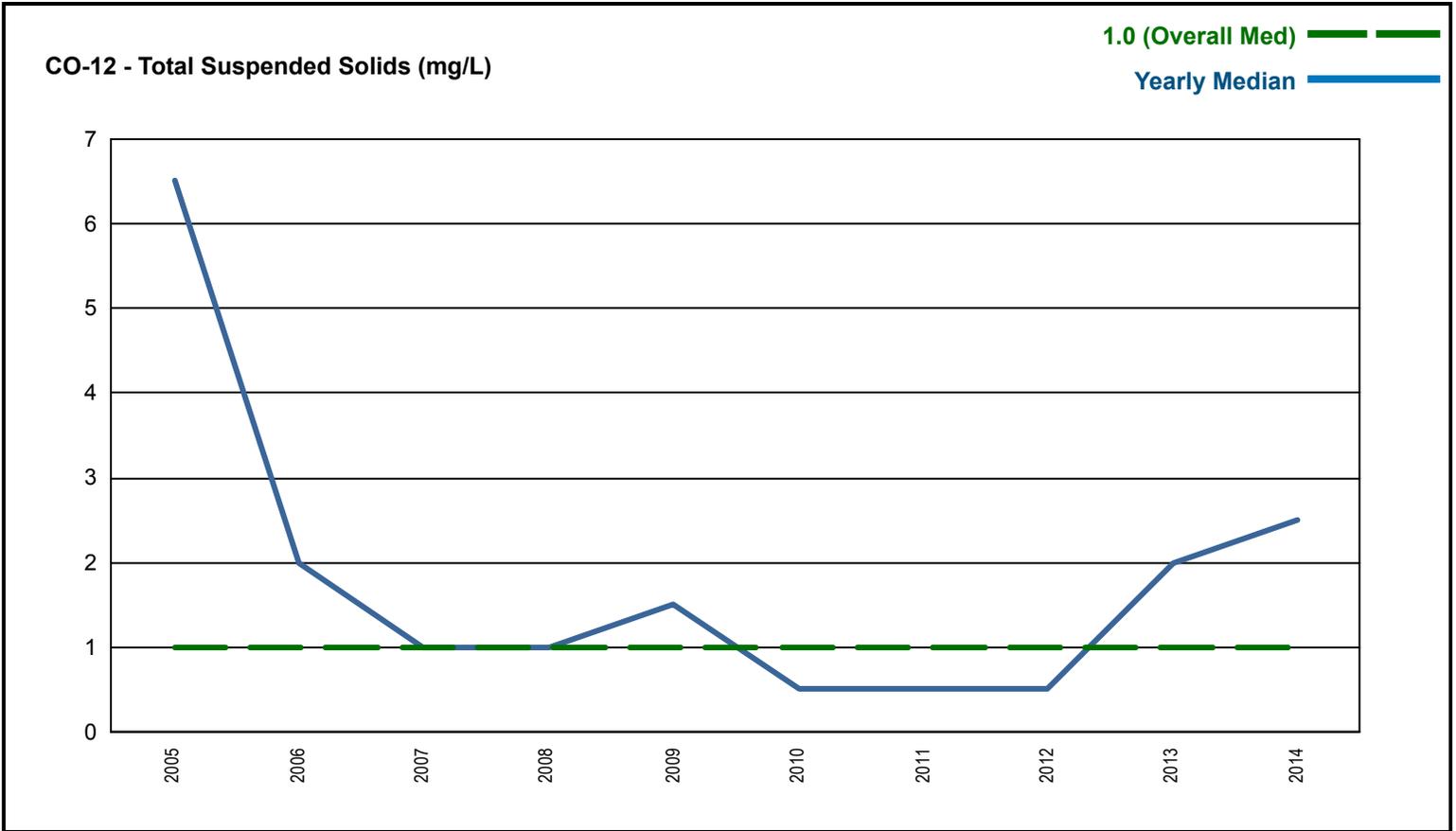
ADEM Ambient Trend Stations - Sampled 1977 - 2014



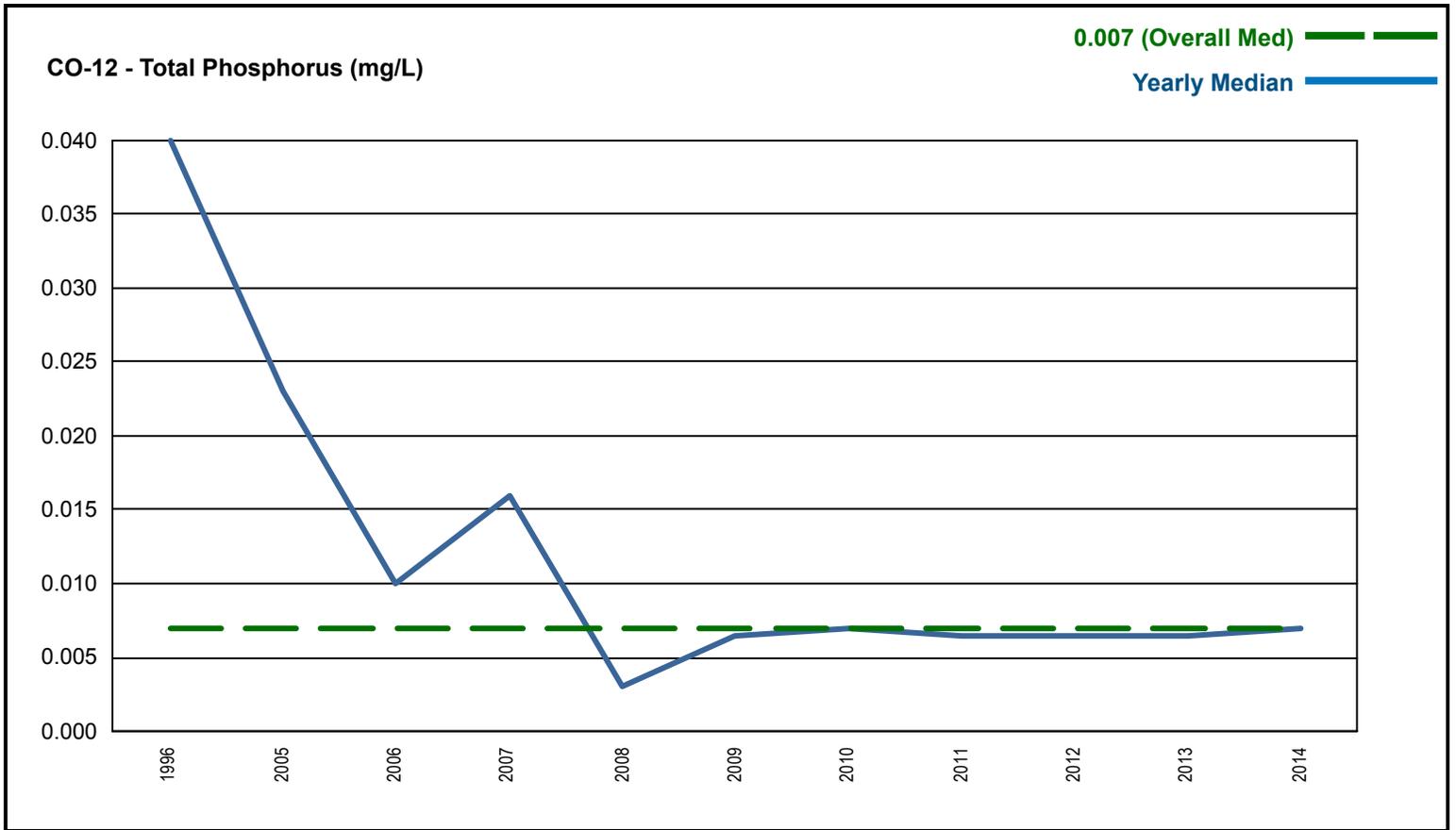
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



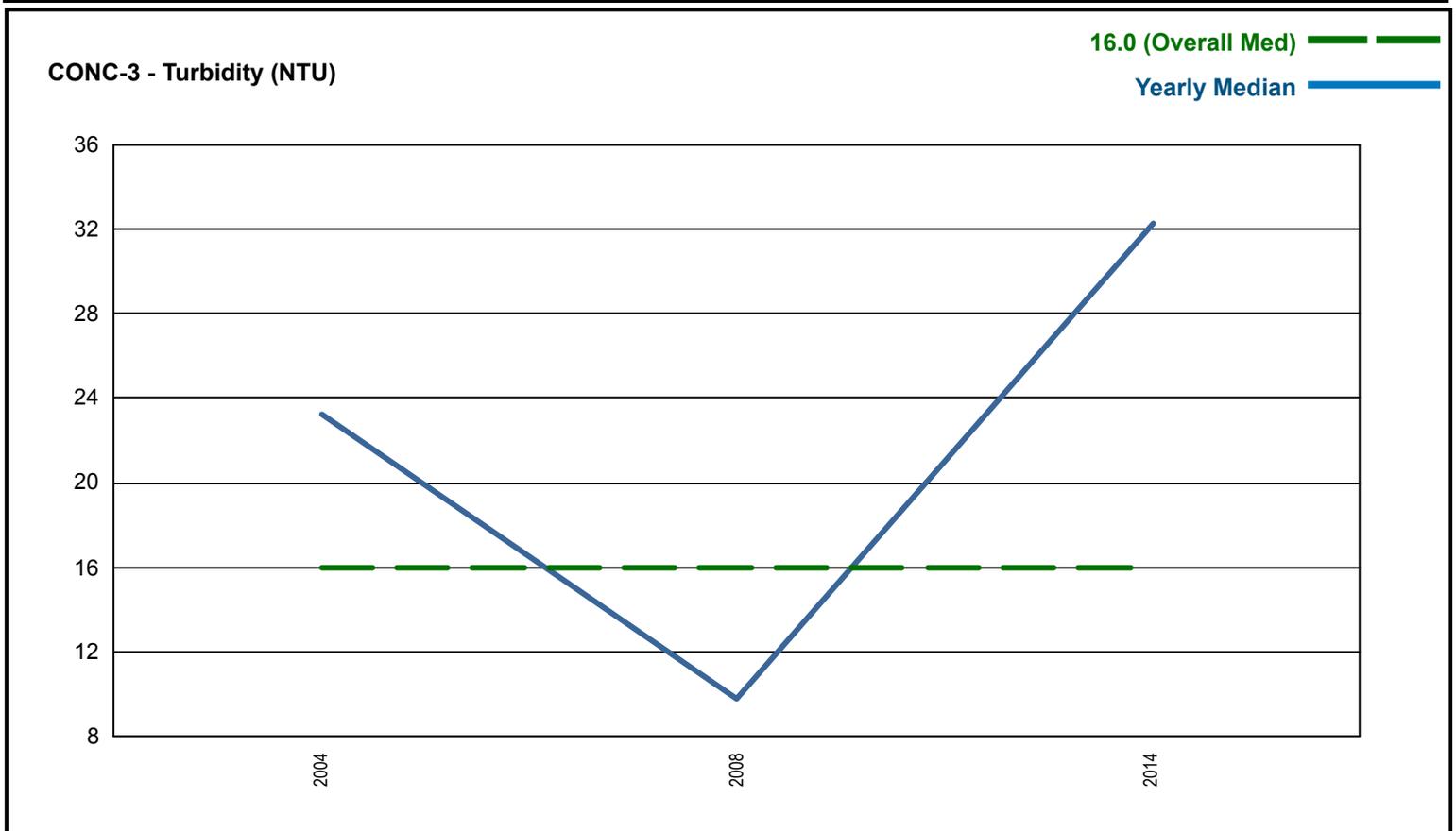
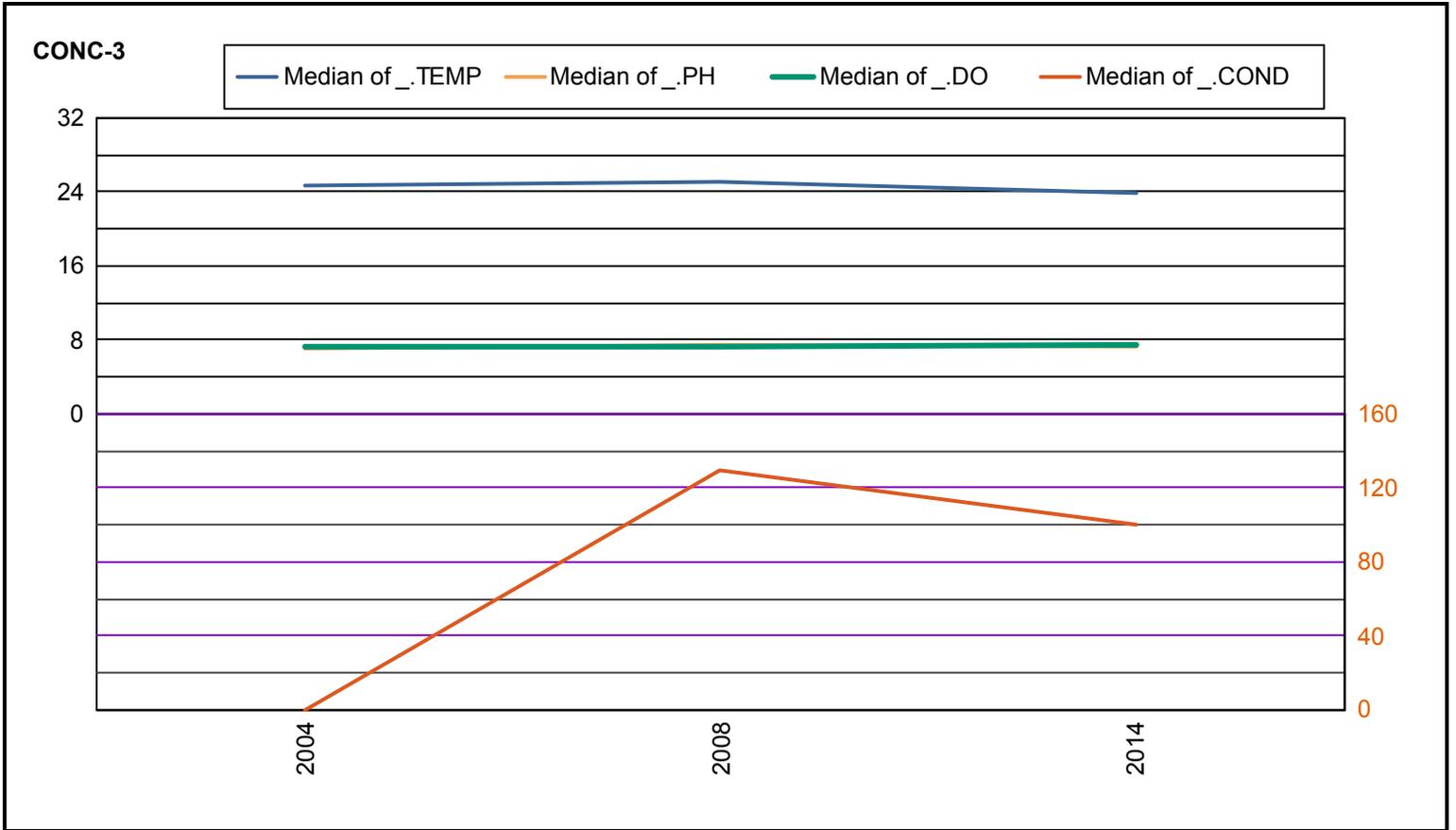
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

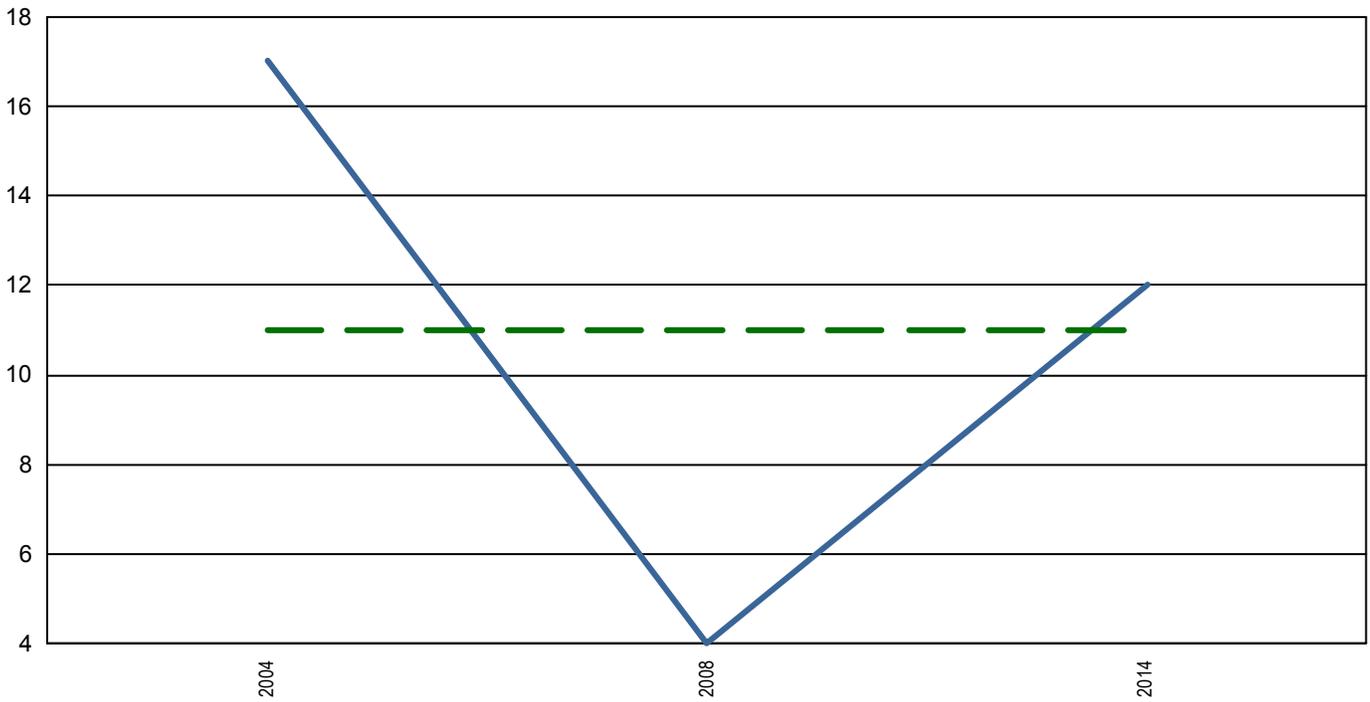


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

## CONC-3 - Total Suspended Solids (mg/L)

11.0 (Overall Med) 

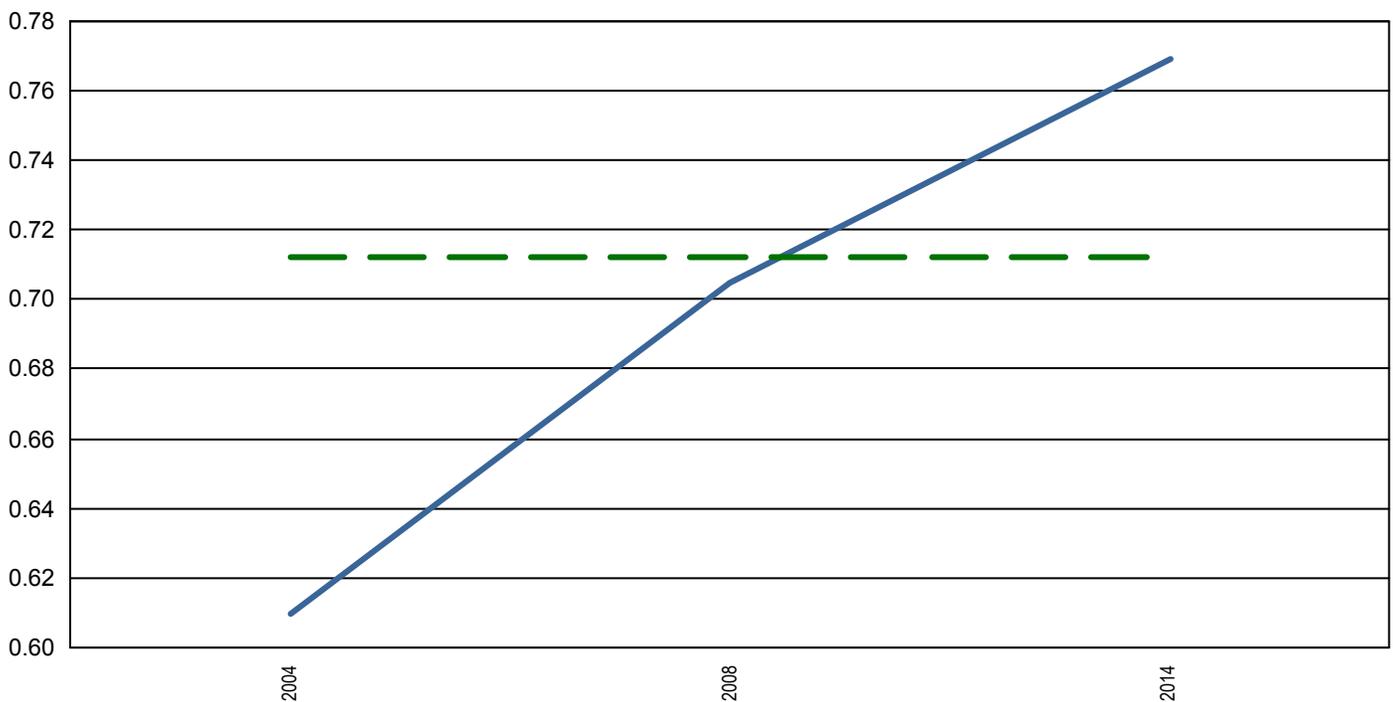
Yearly Median 



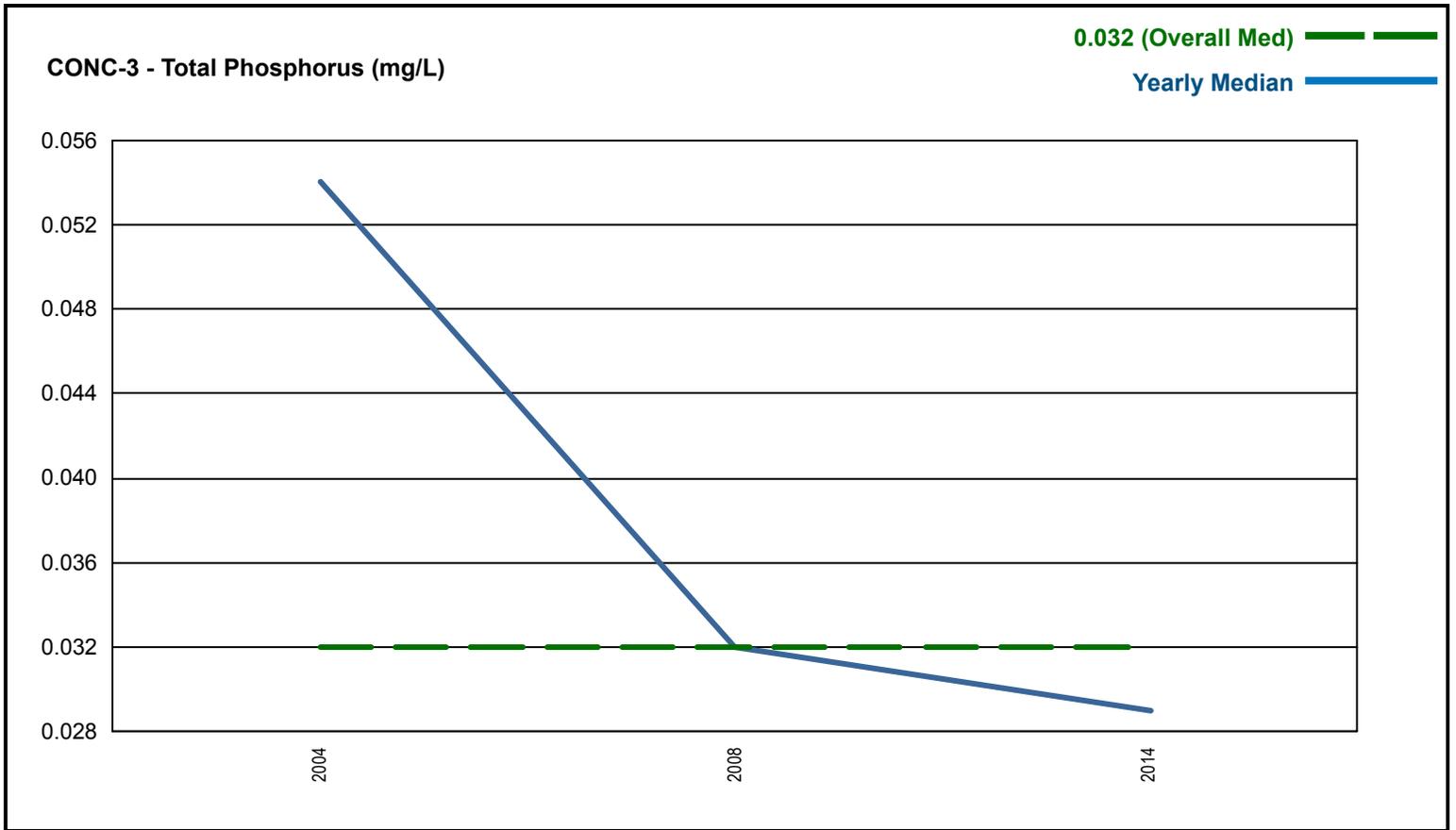
## CONC-3 - Total Nitrogen (mg/L)

0.712 (Overall Med) 

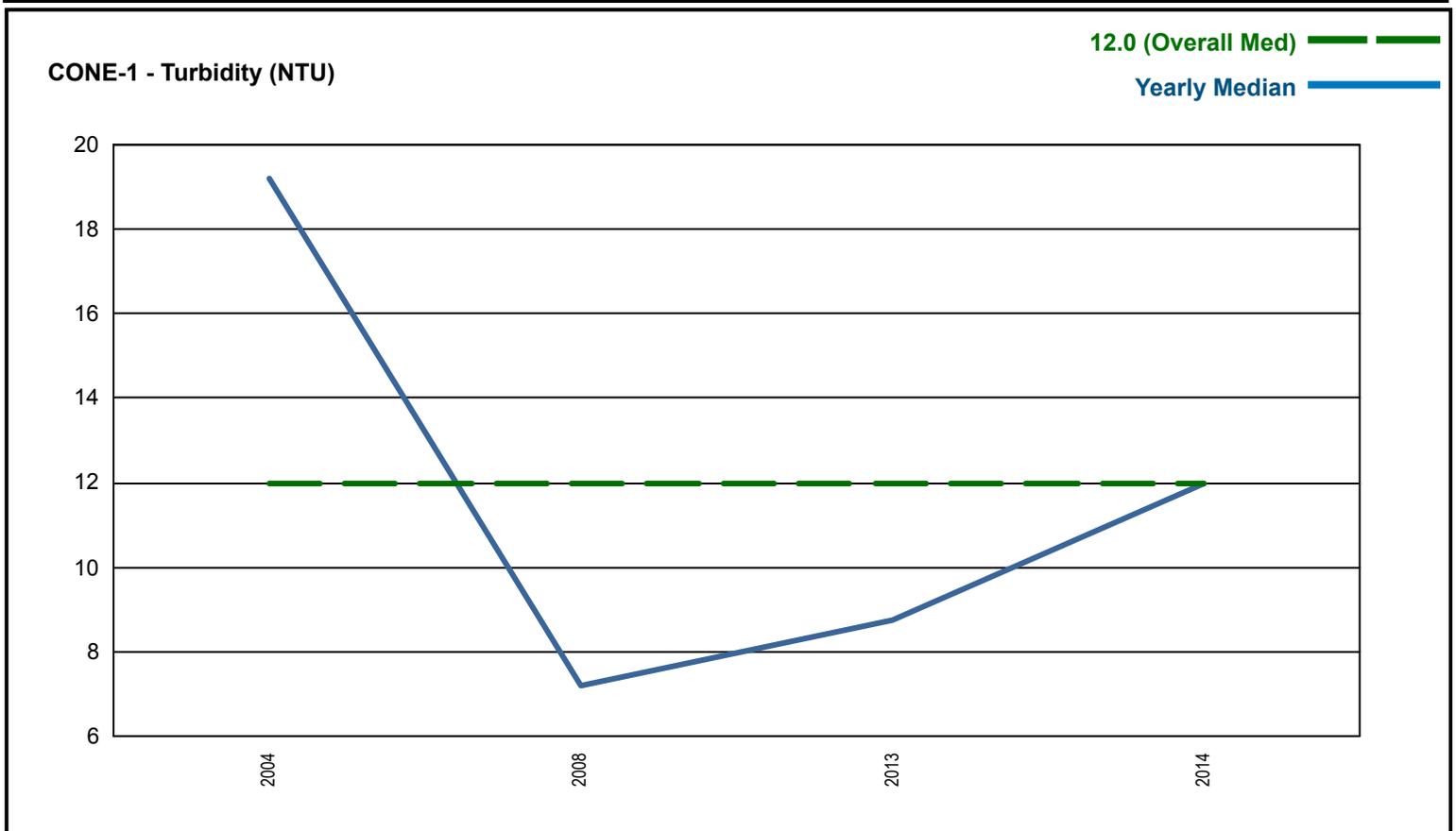
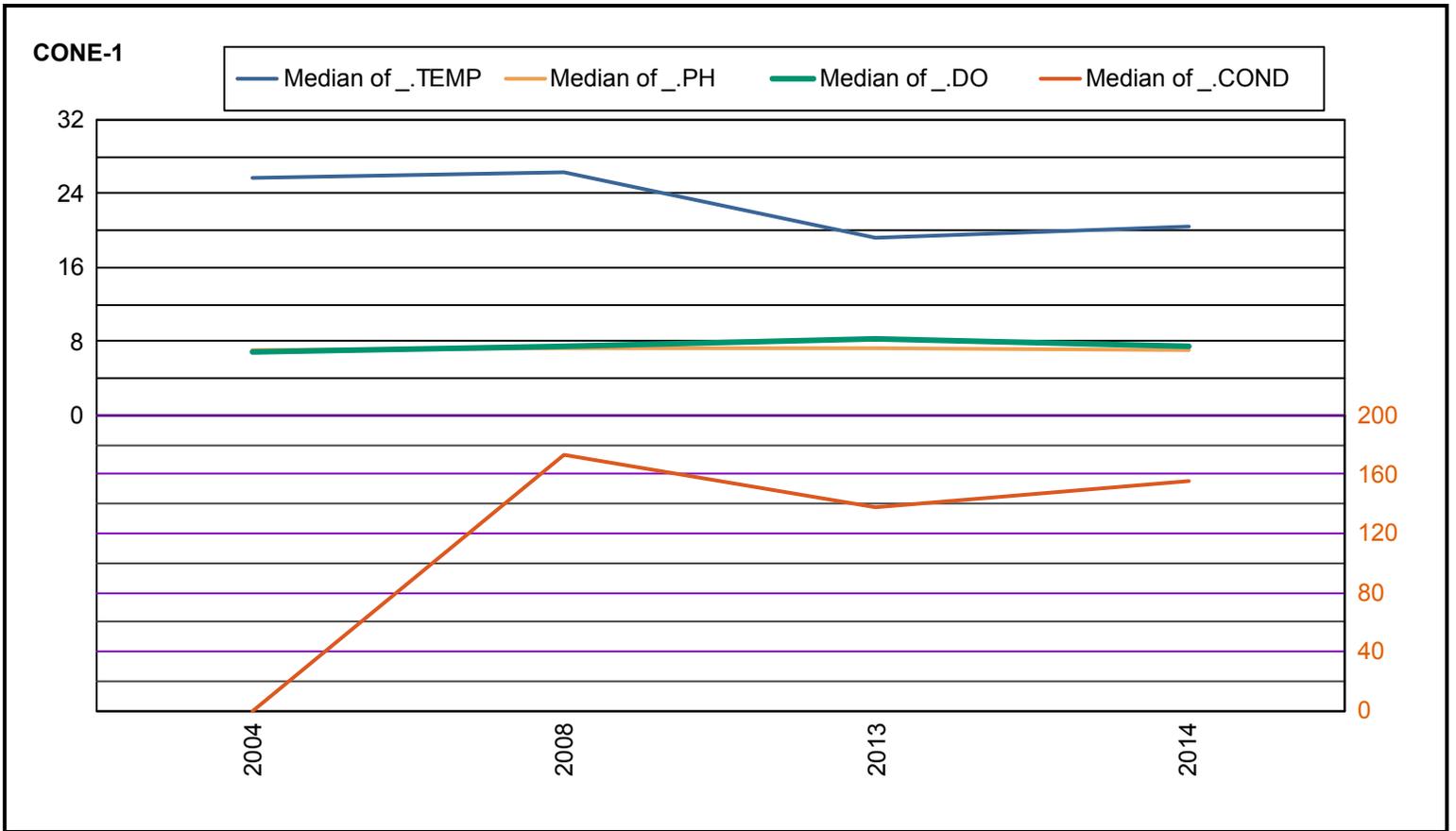
Yearly Median 



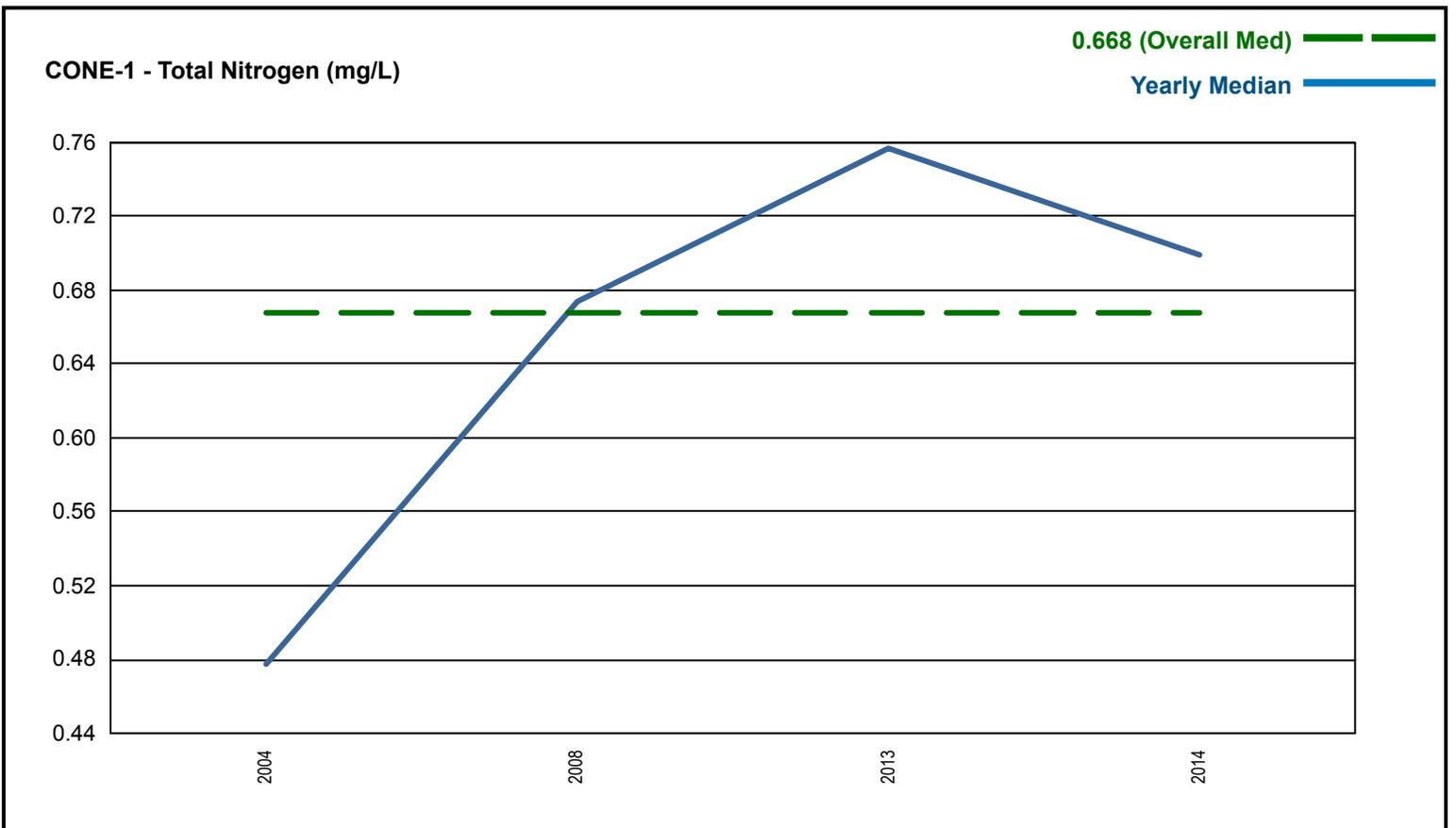
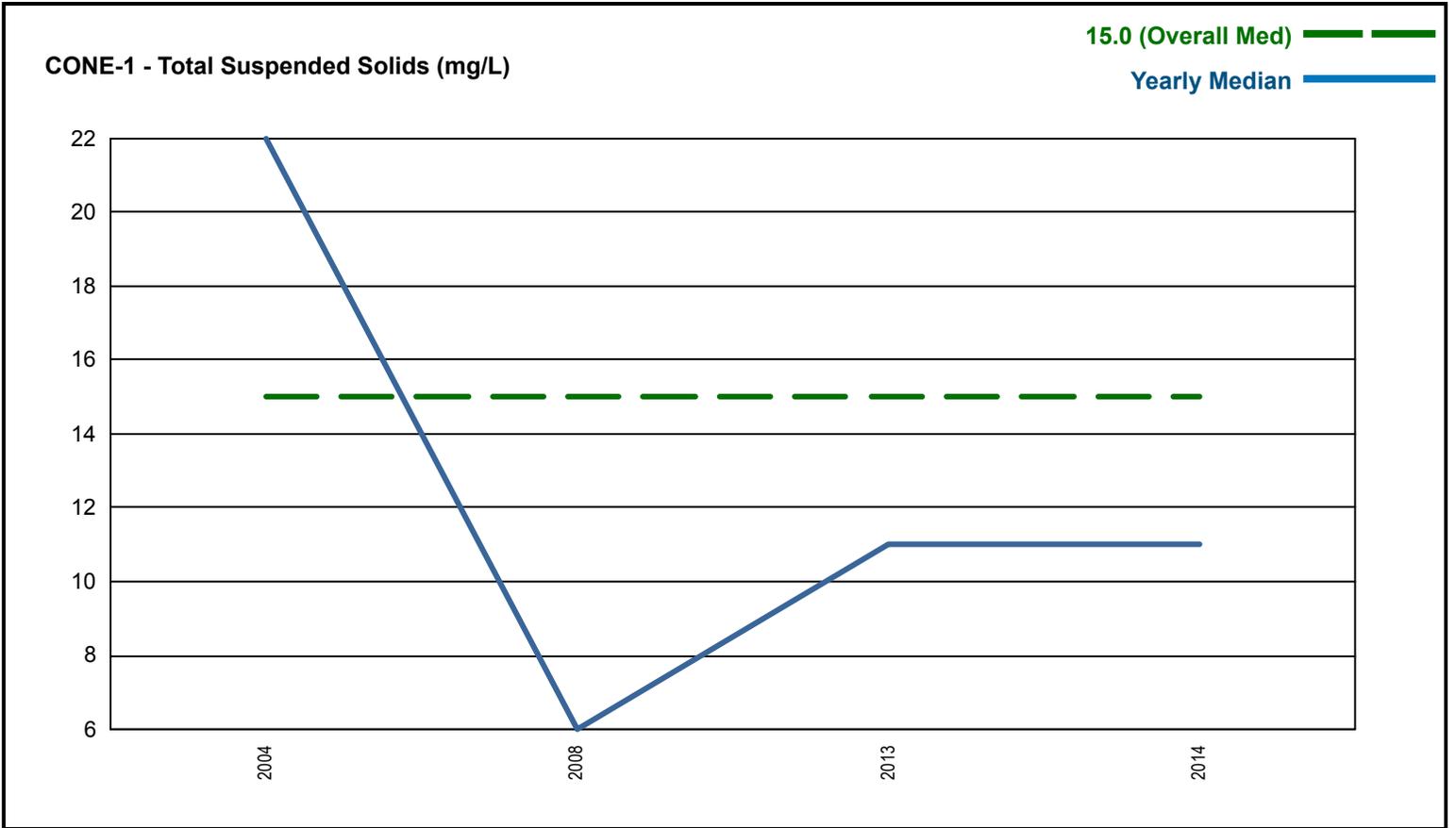
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



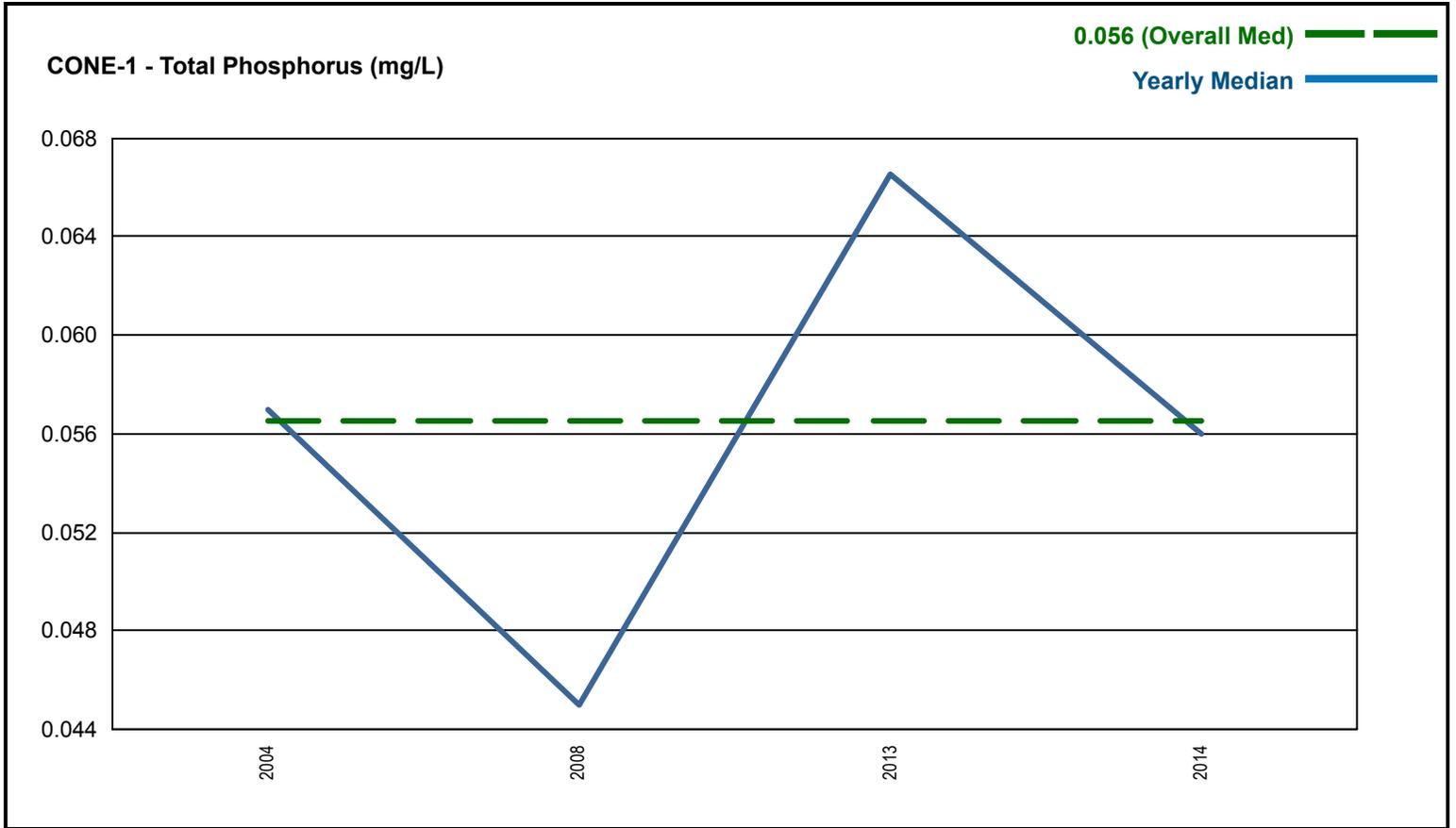
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



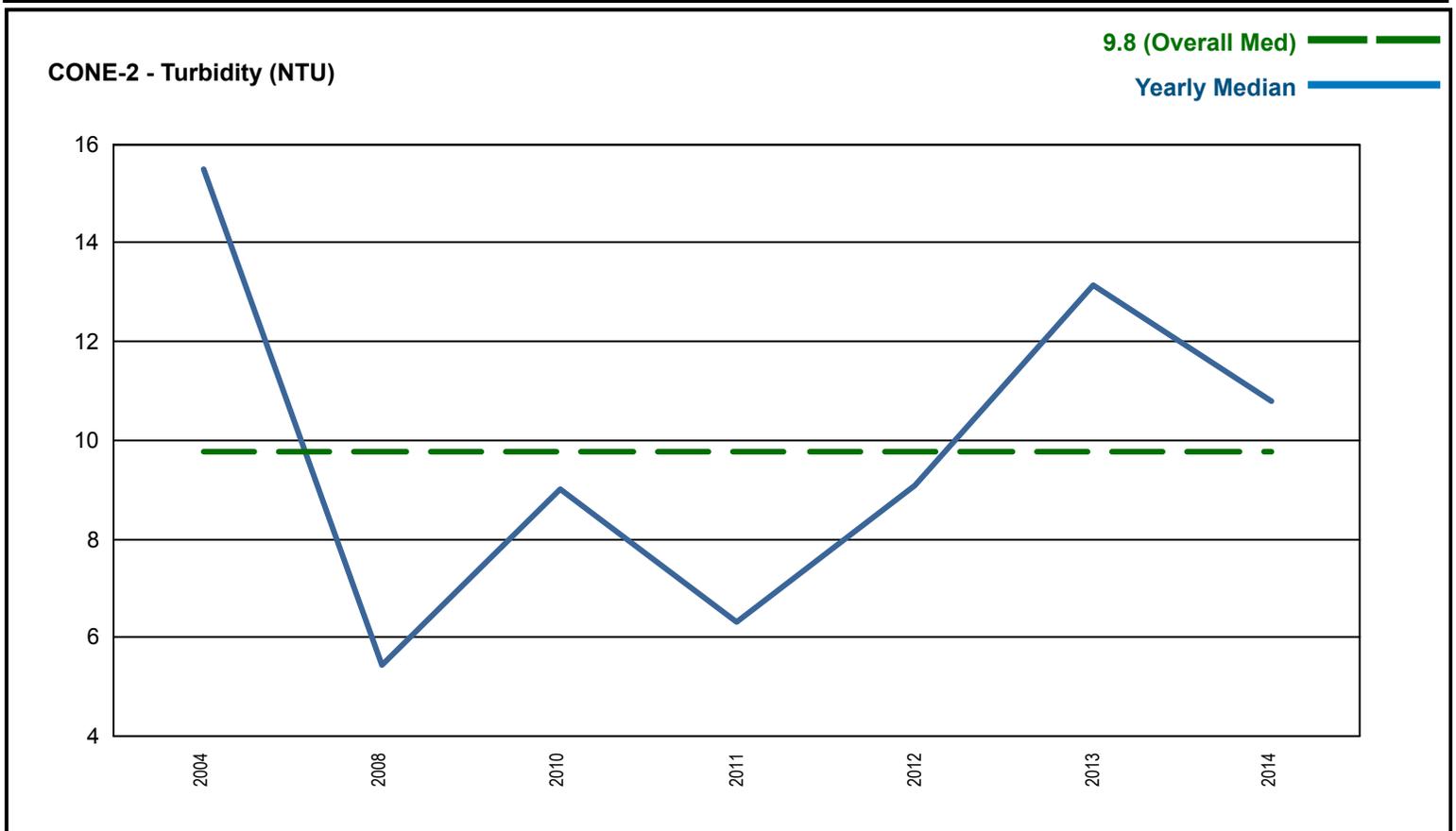
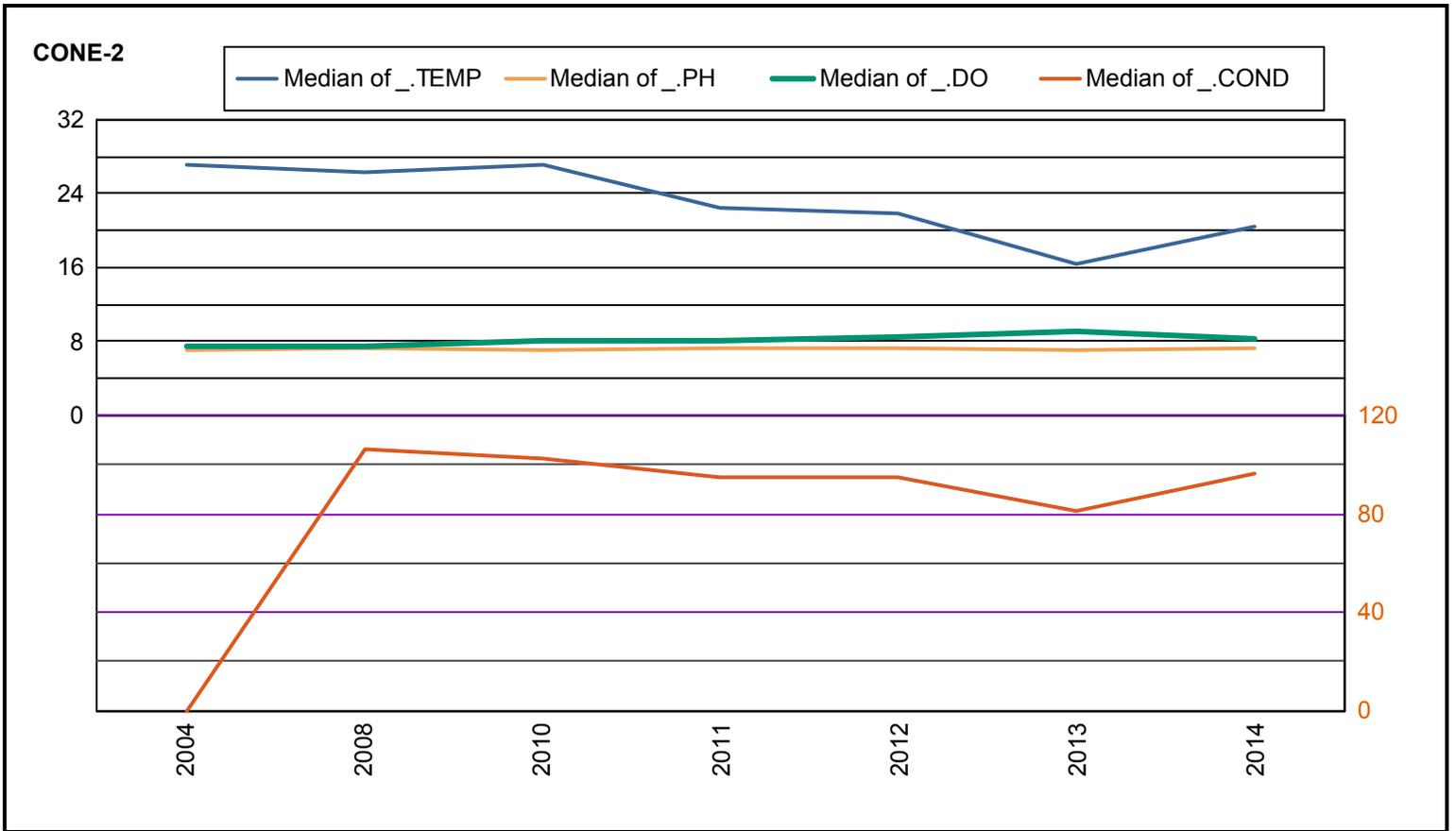
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



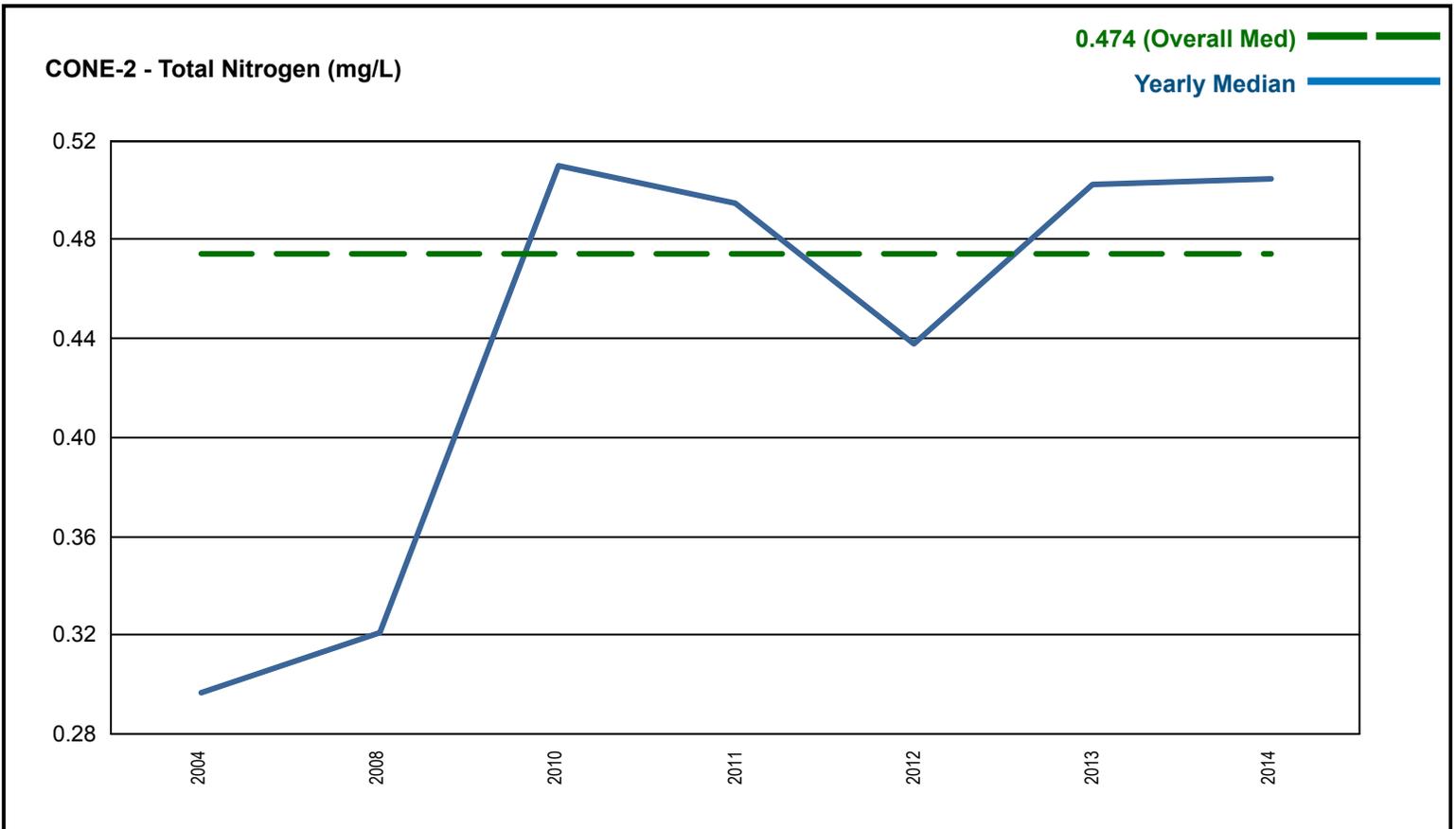
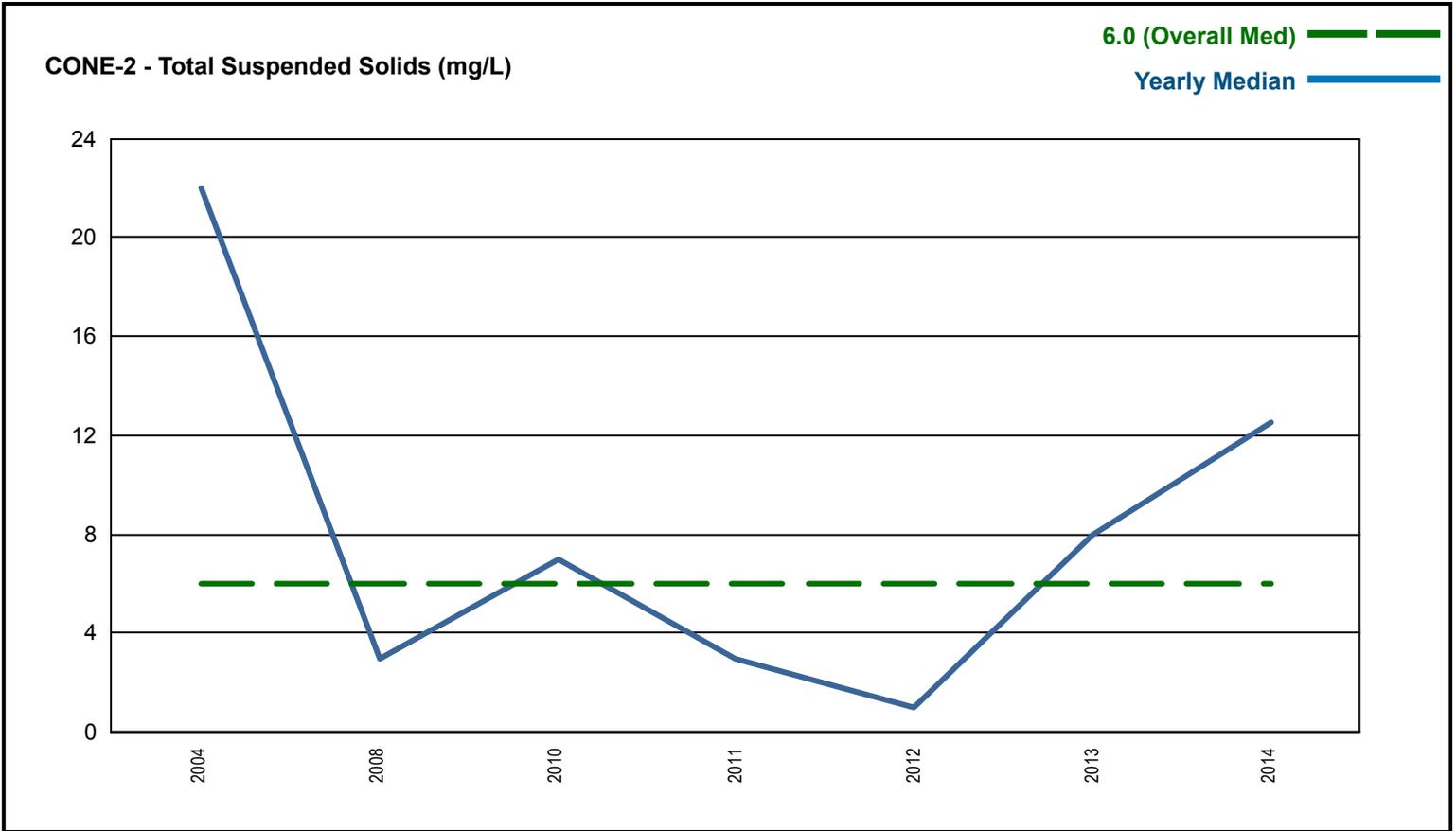
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



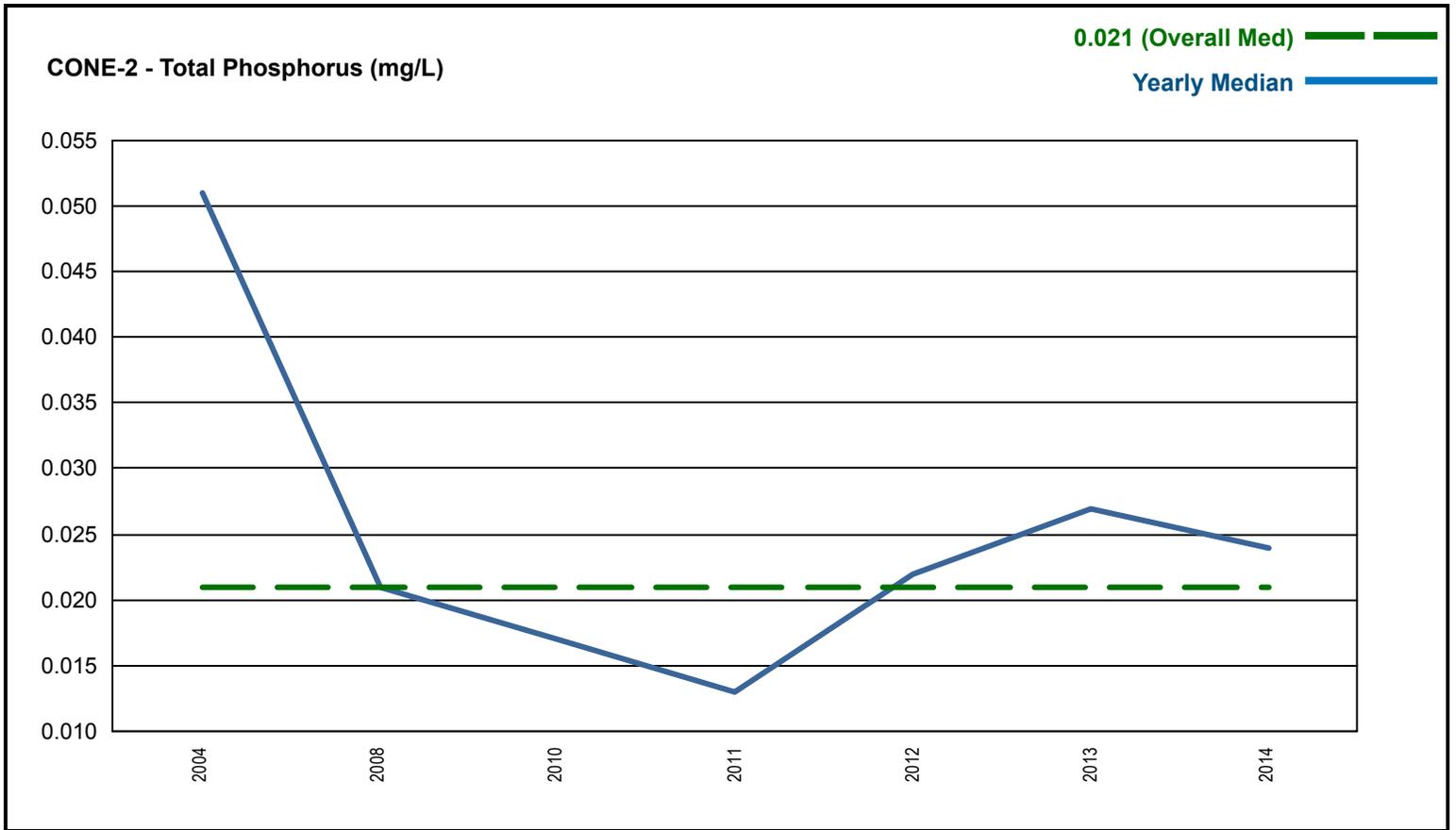
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



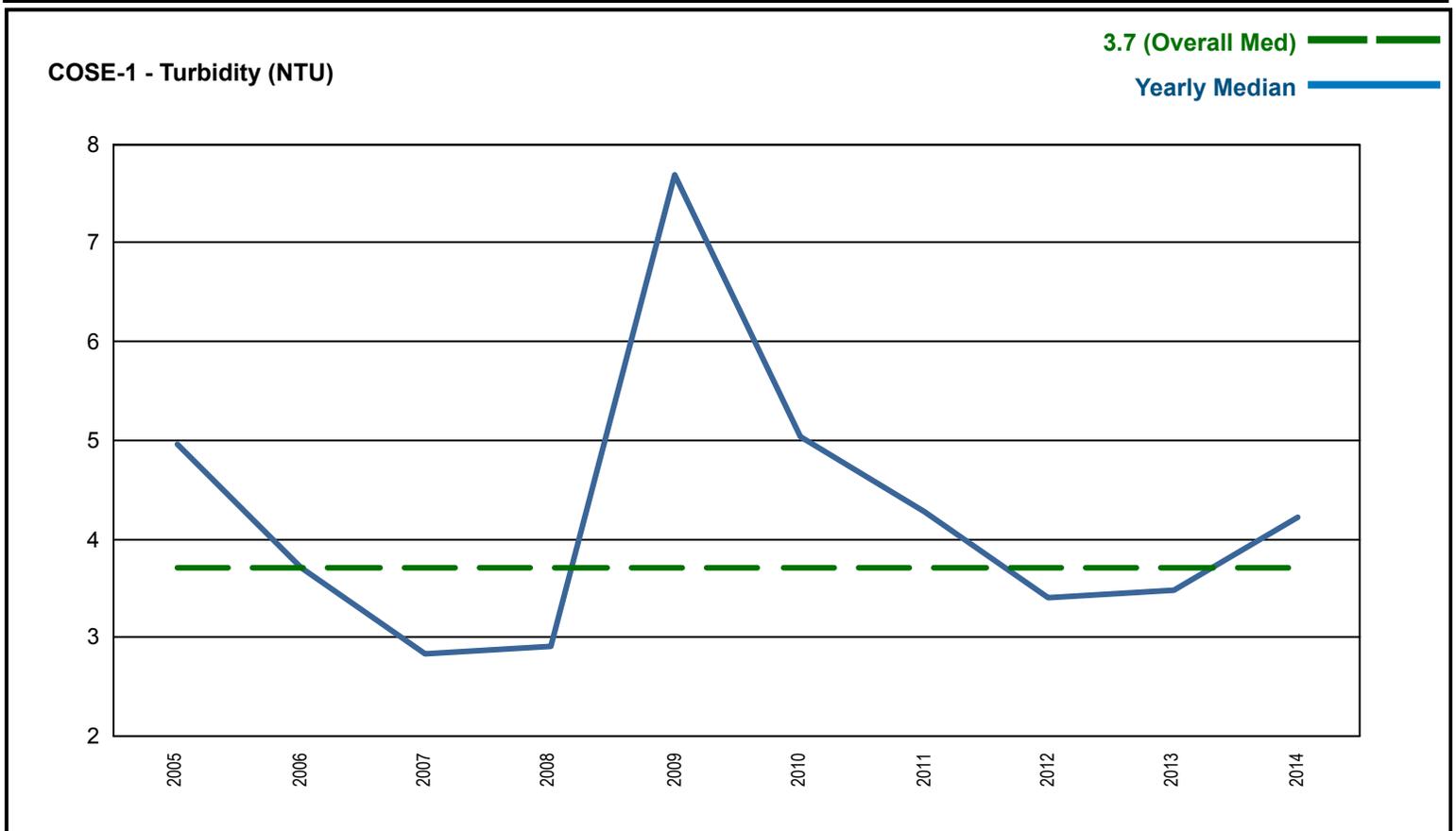
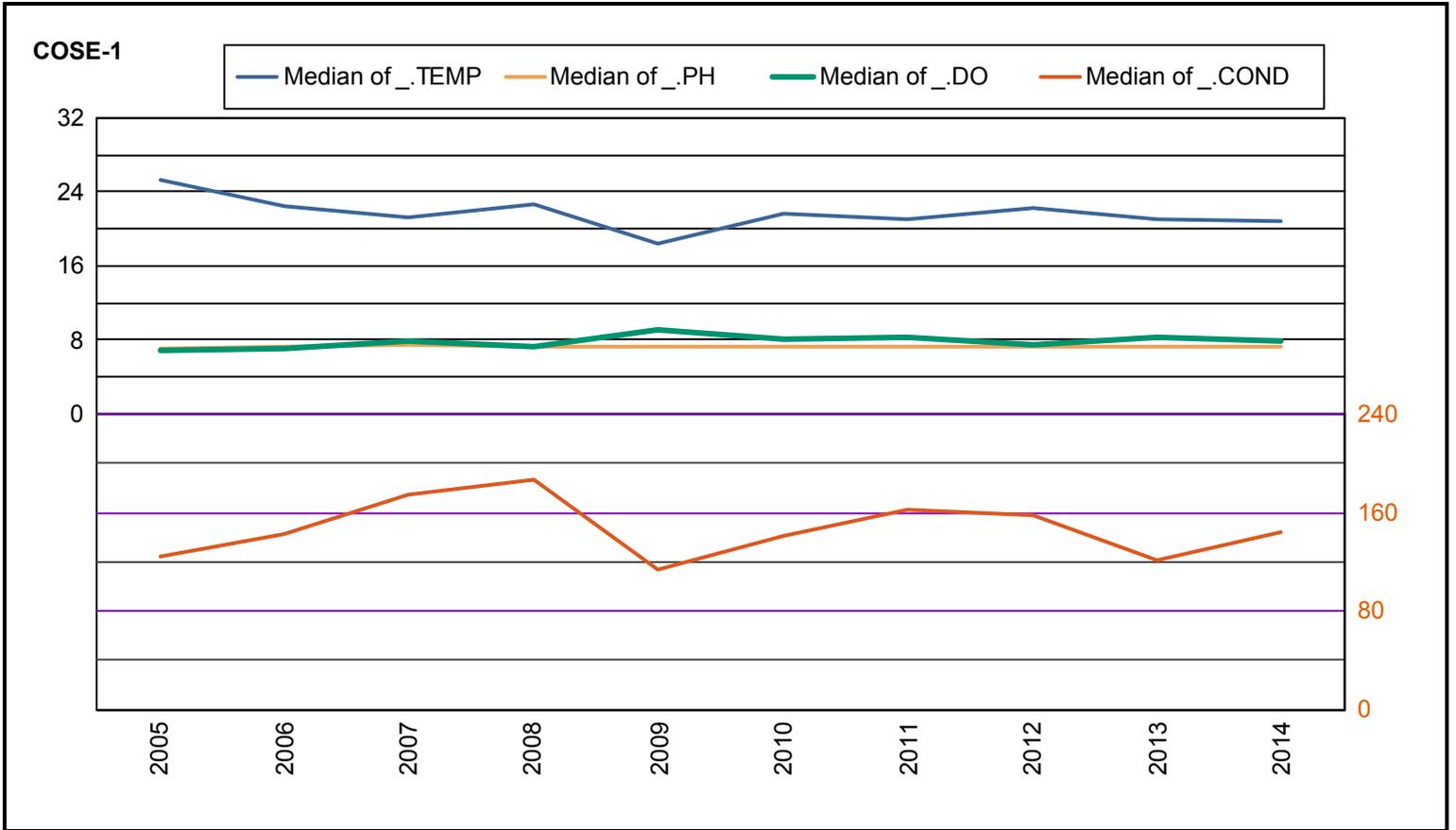
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



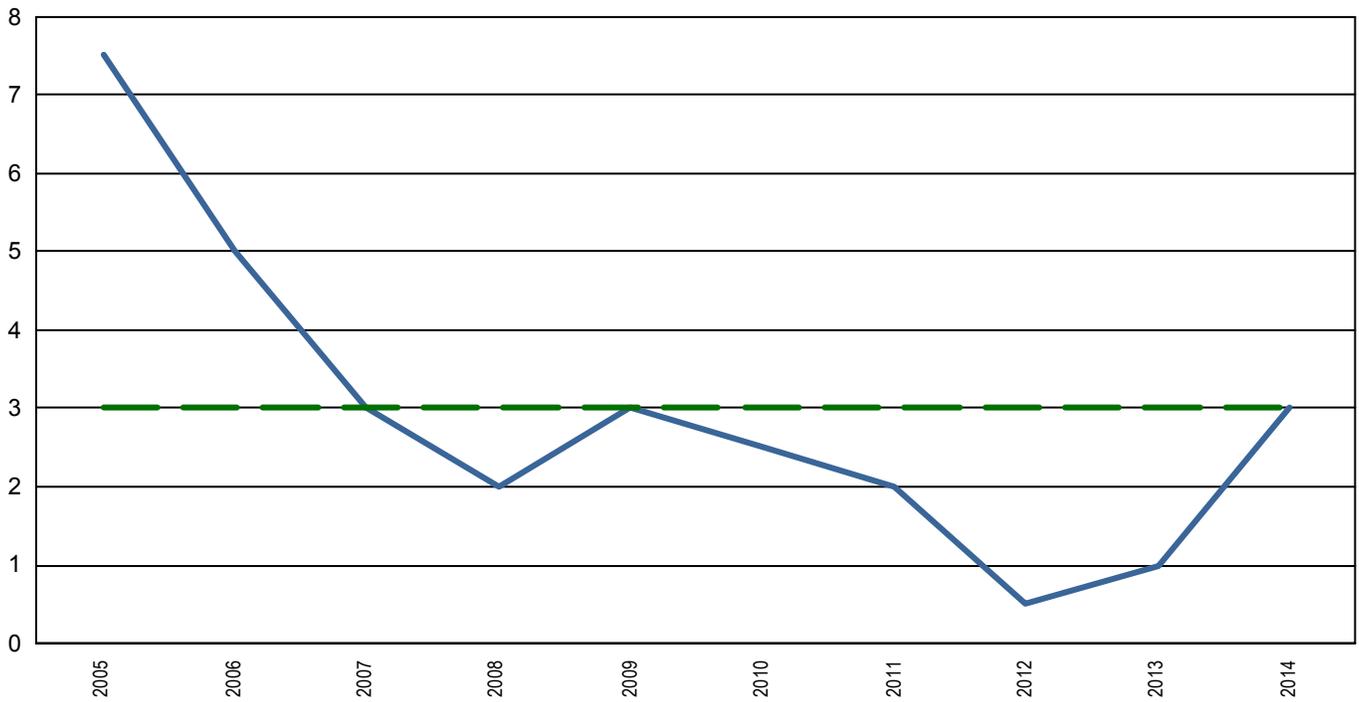
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

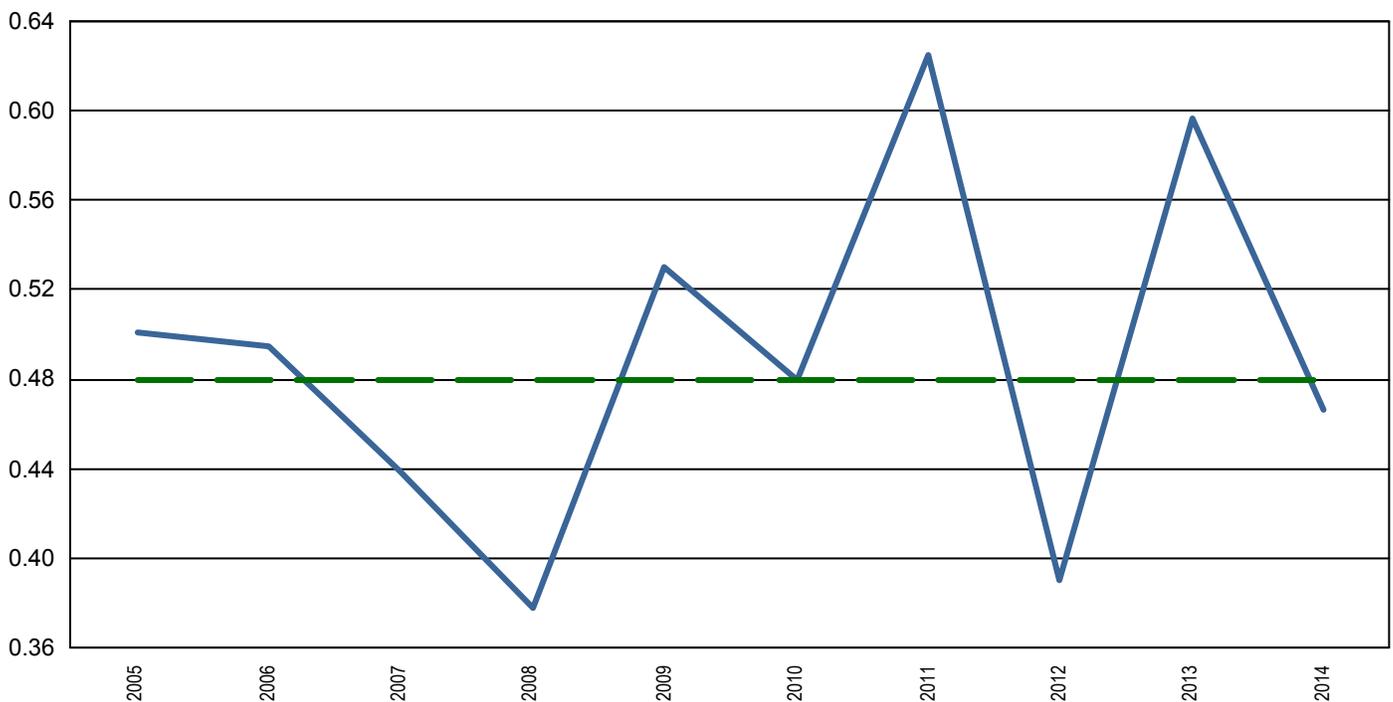
## COSE-1 - Total Suspended Solids (mg/L)

3.0 (Overall Med)   
Yearly Median 

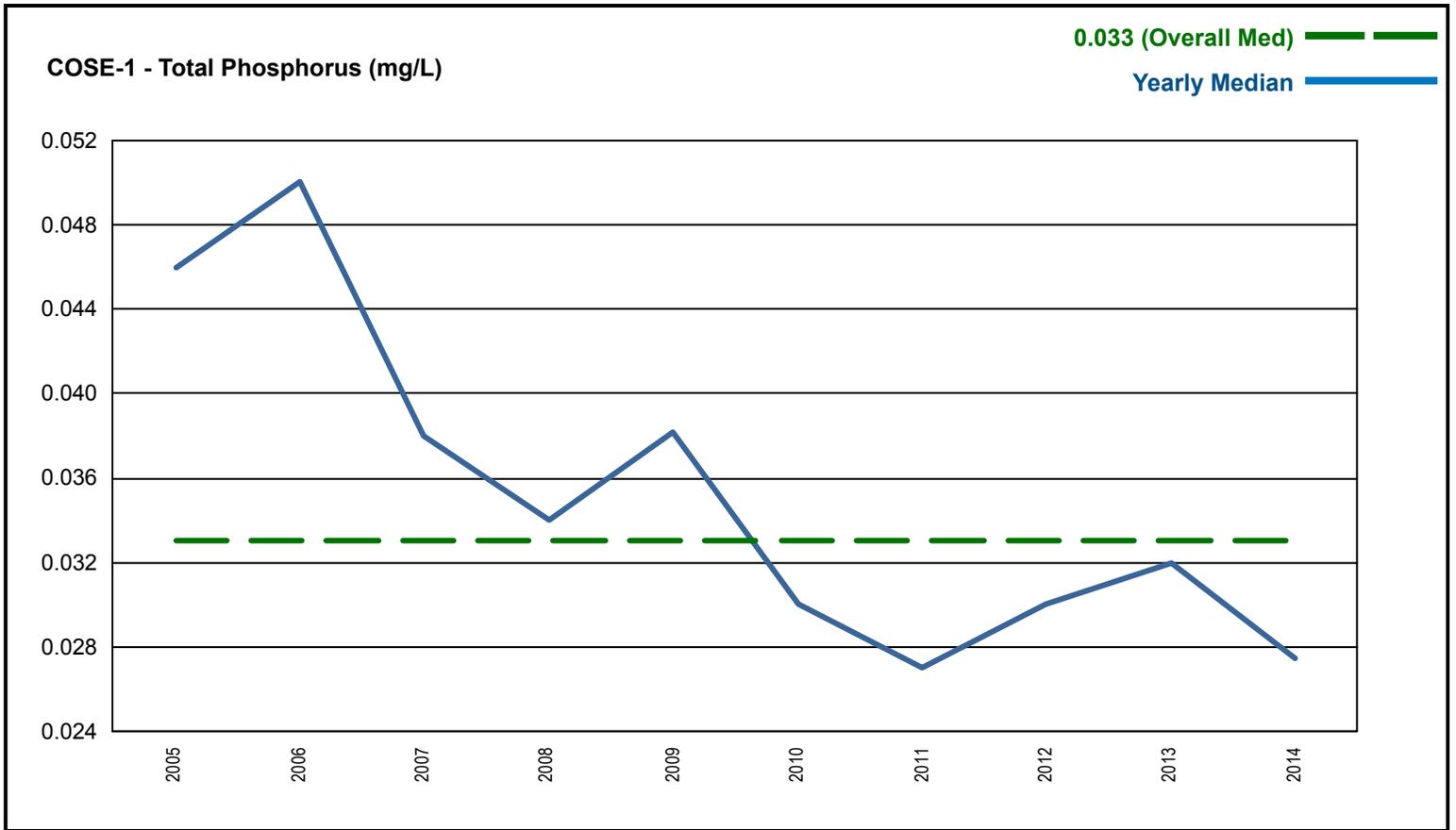


## COSE-1 - Total Nitrogen (mg/L)

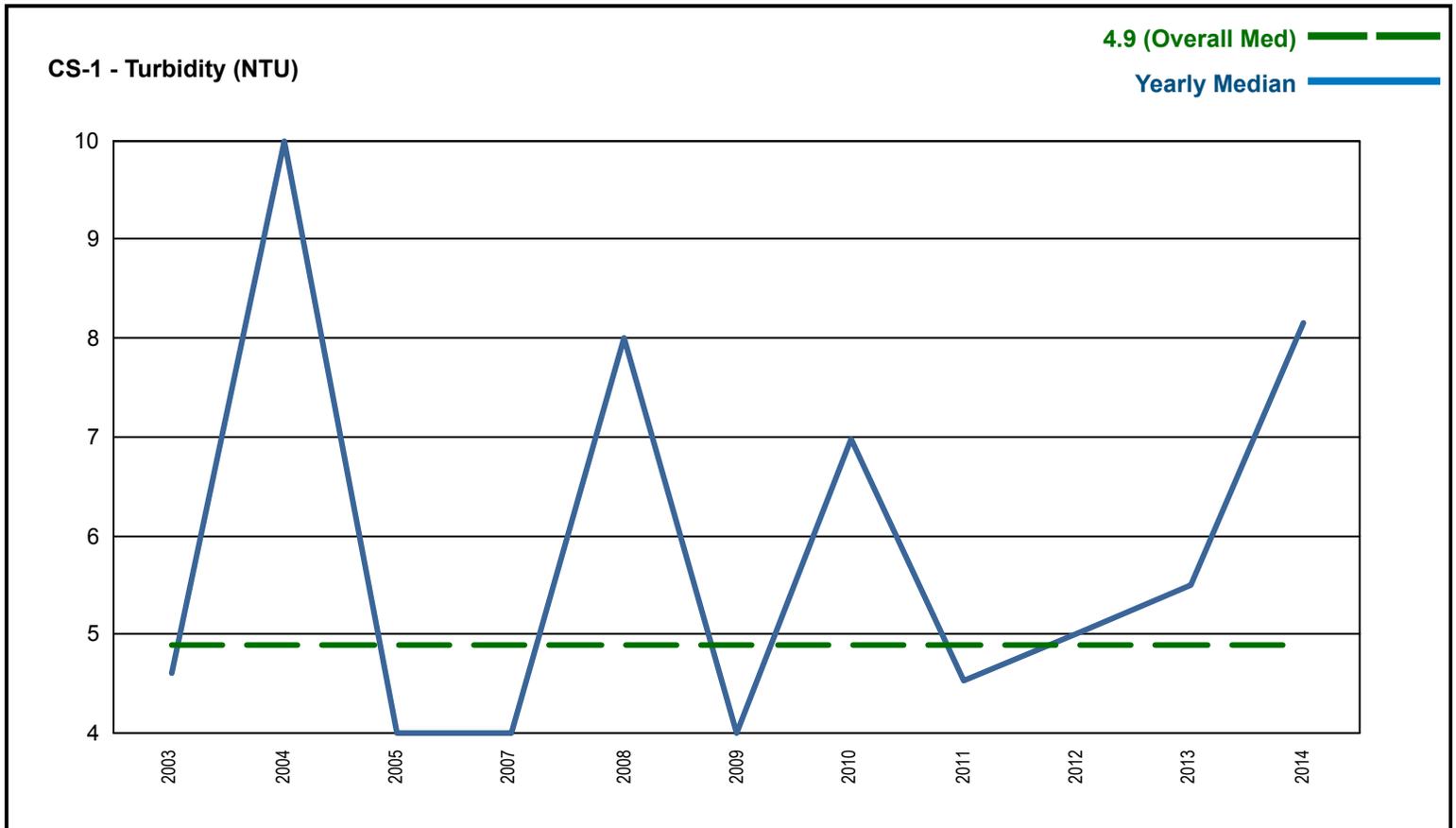
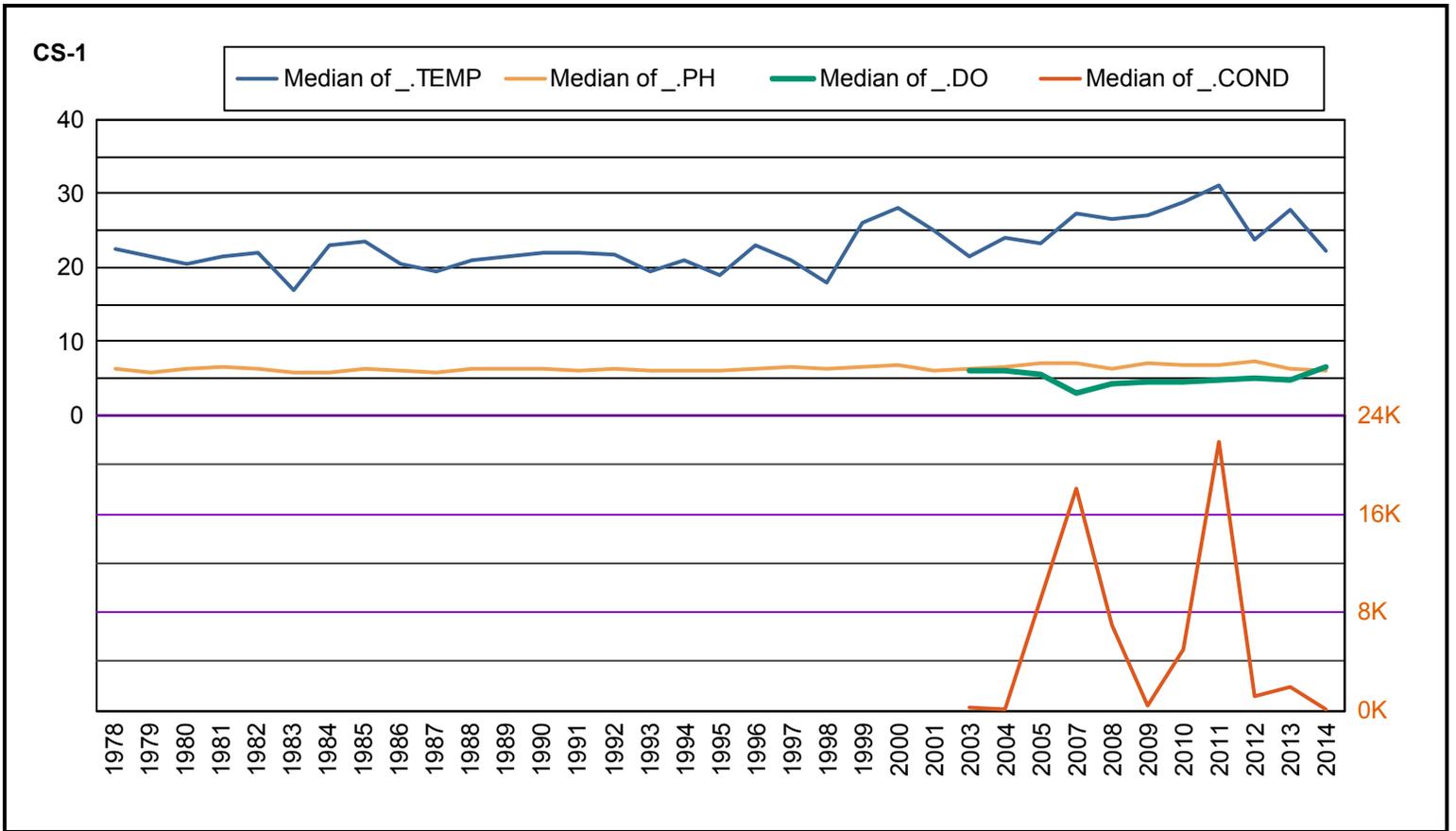
0.480 (Overall Med)   
Yearly Median 



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



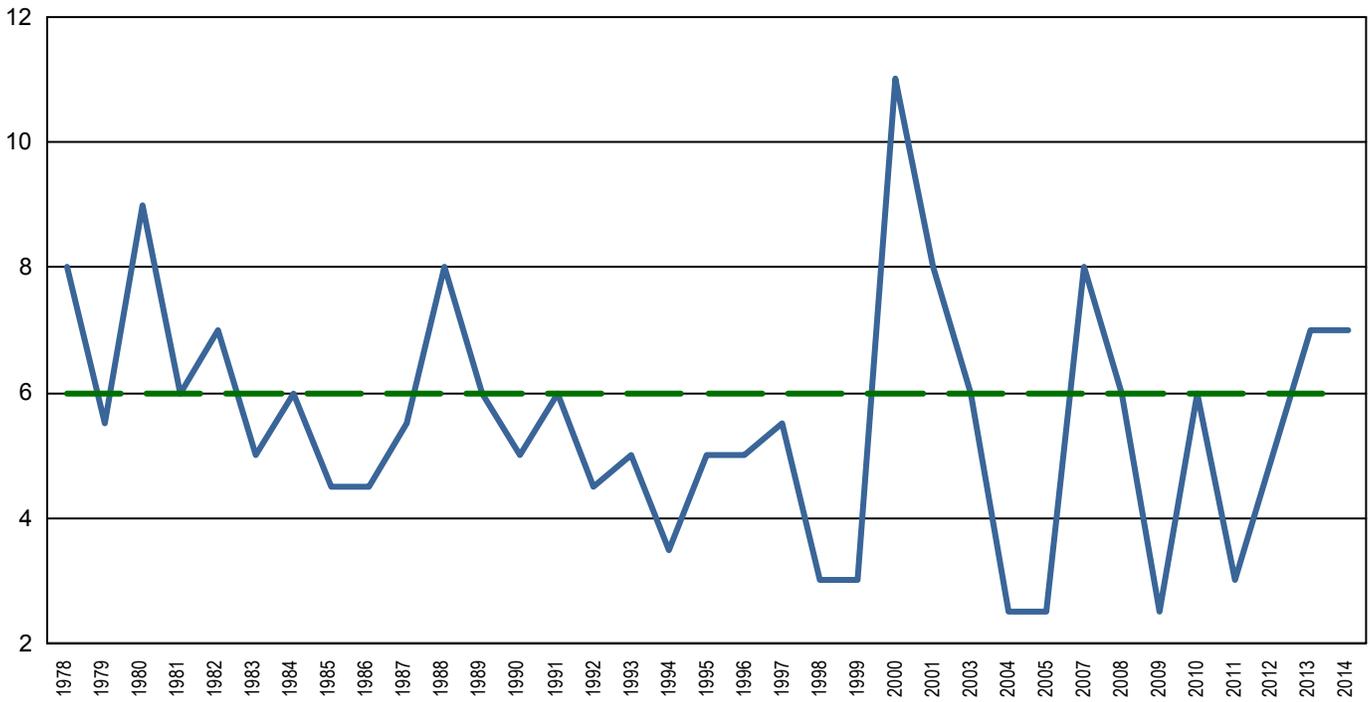
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

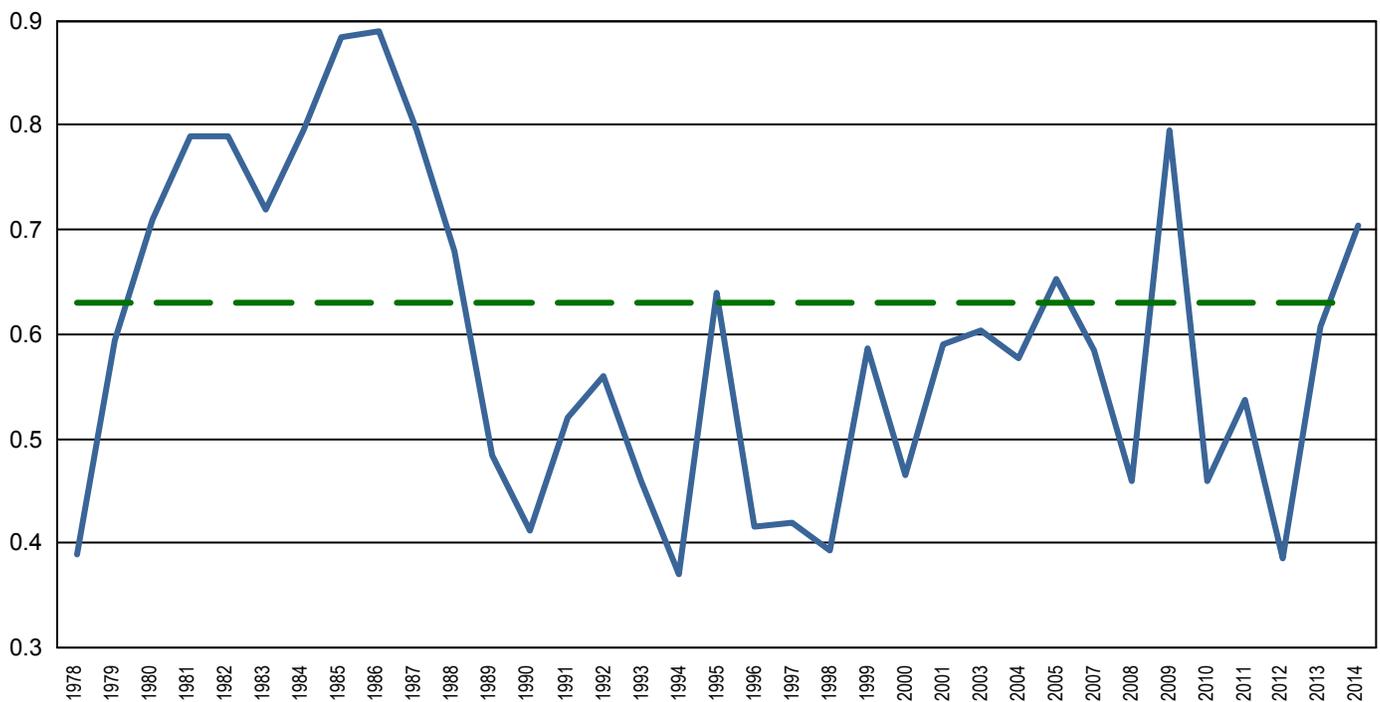
## CS-1 - Total Suspended Solids (mg/L)

6.0 (Overall Med)   
Yearly Median 

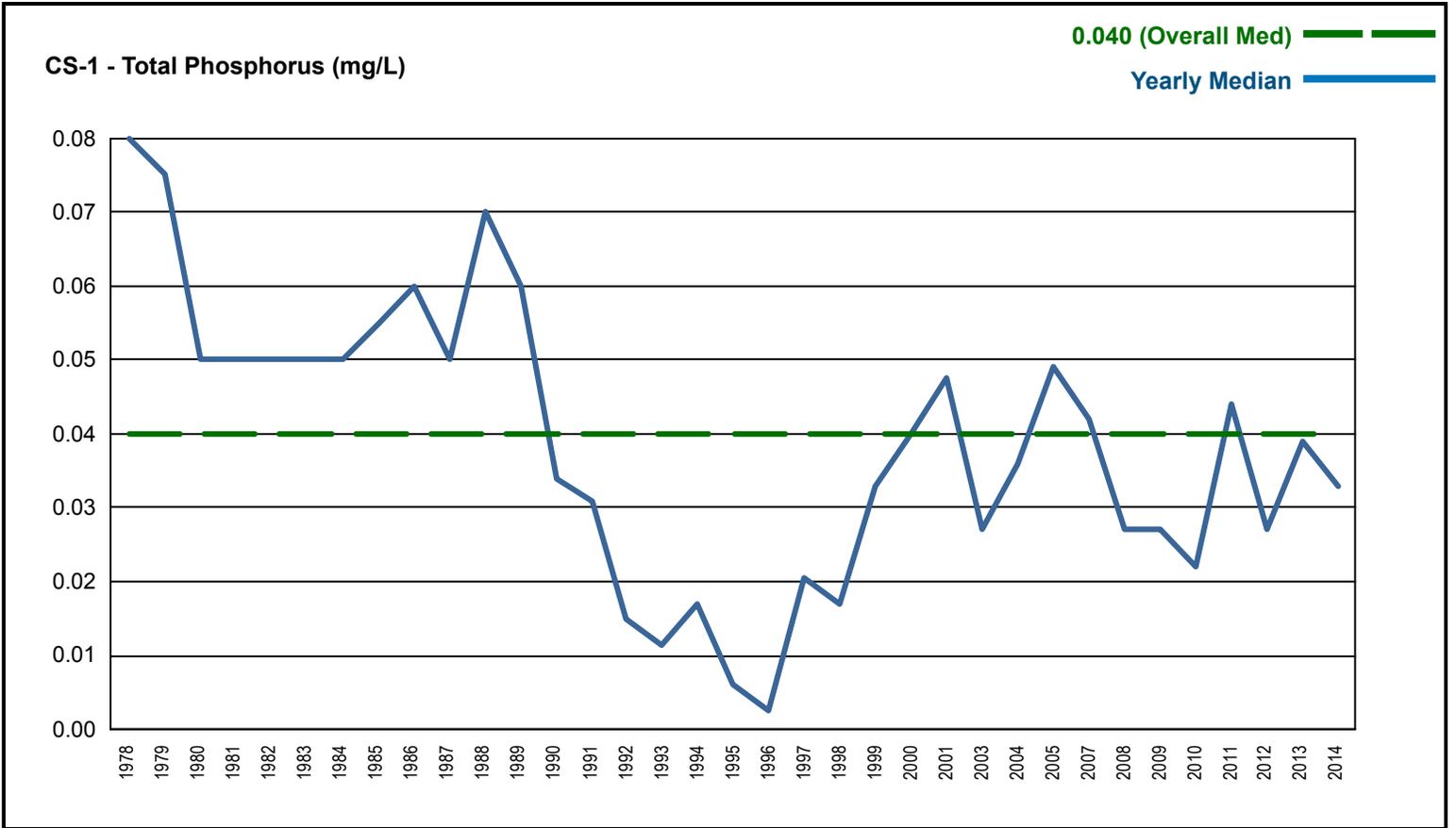


## CS-1 - Total Nitrogen (mg/L)

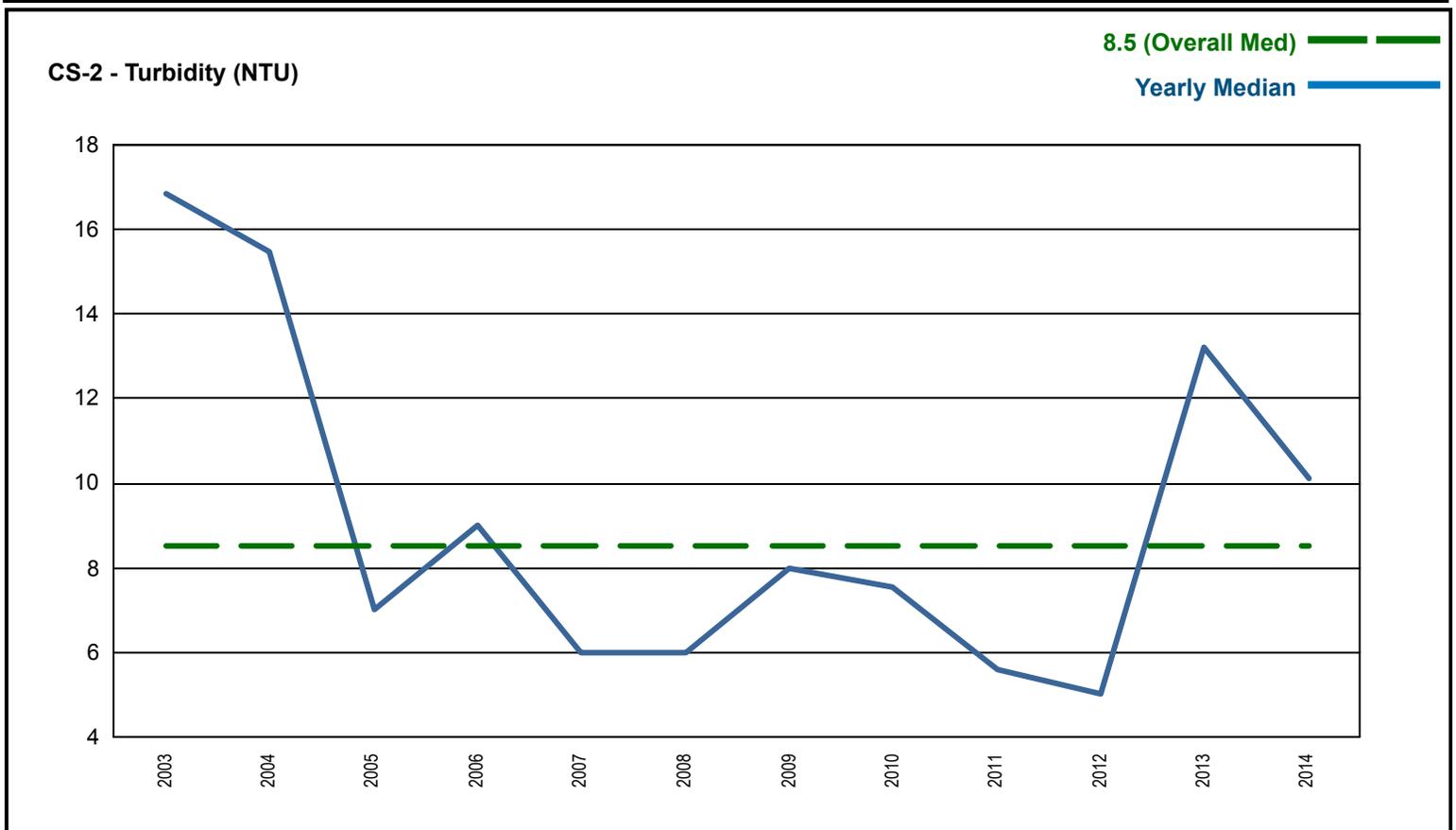
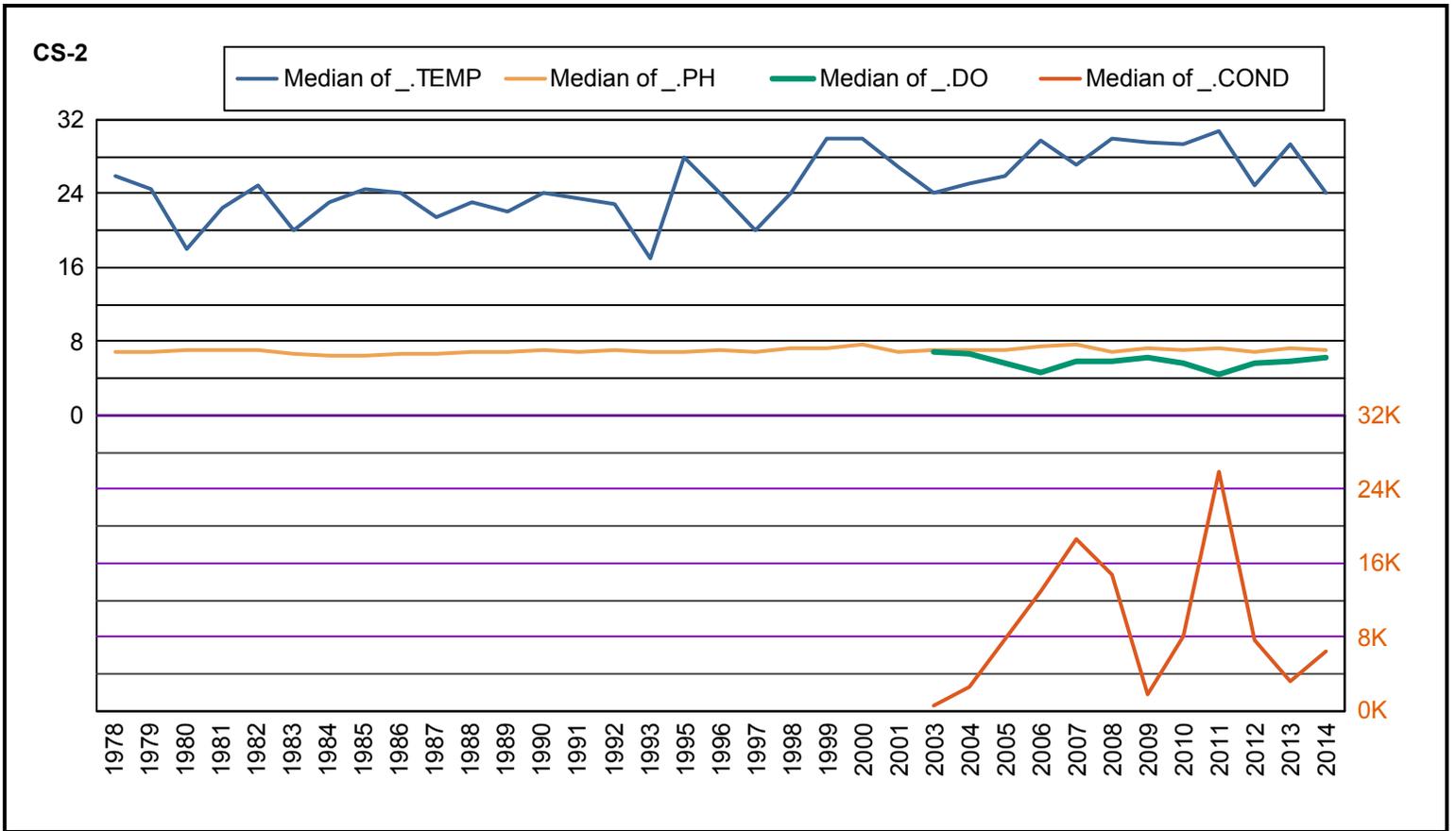
0.630 (Overall Med)   
Yearly Median 



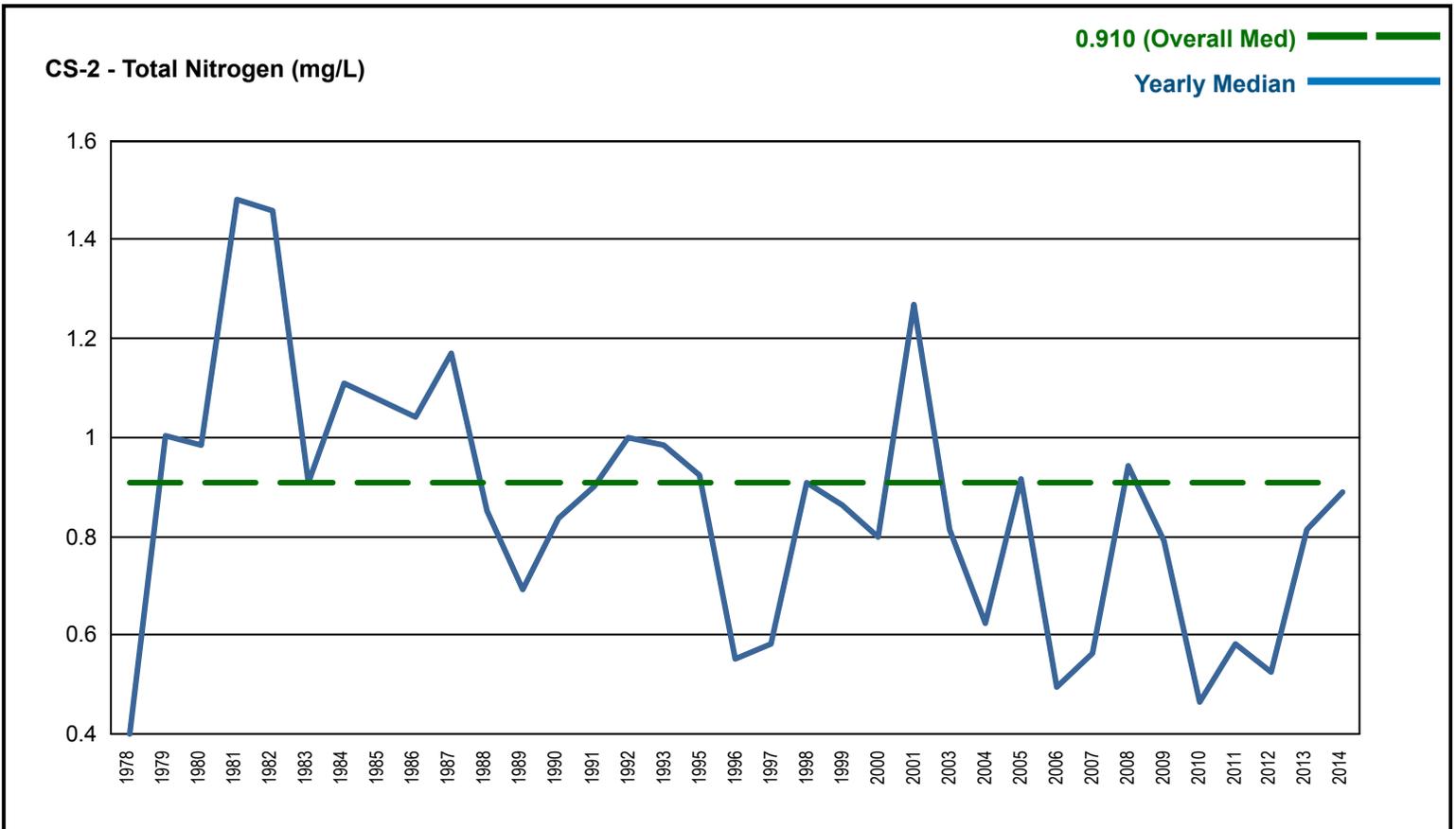
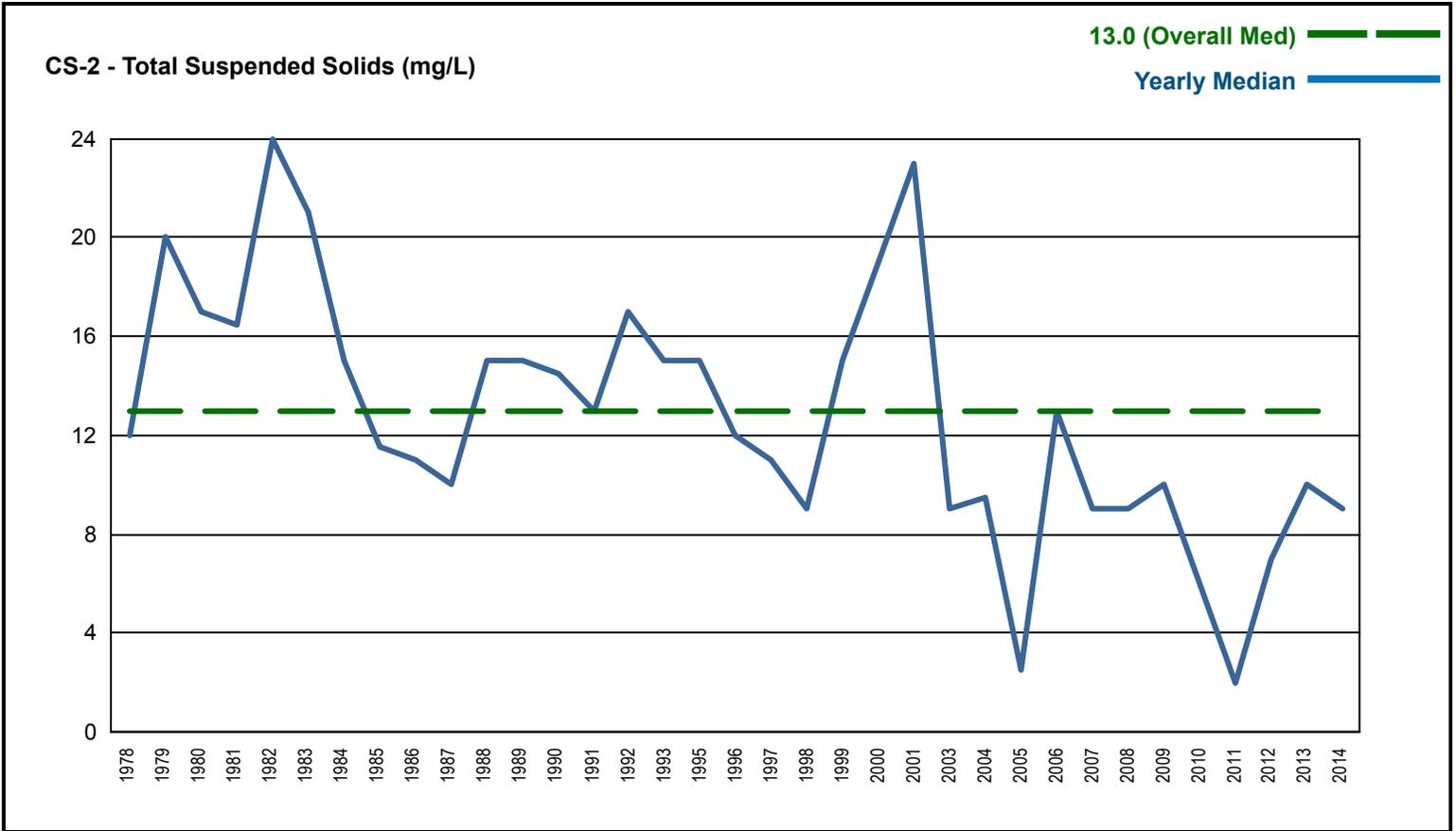
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



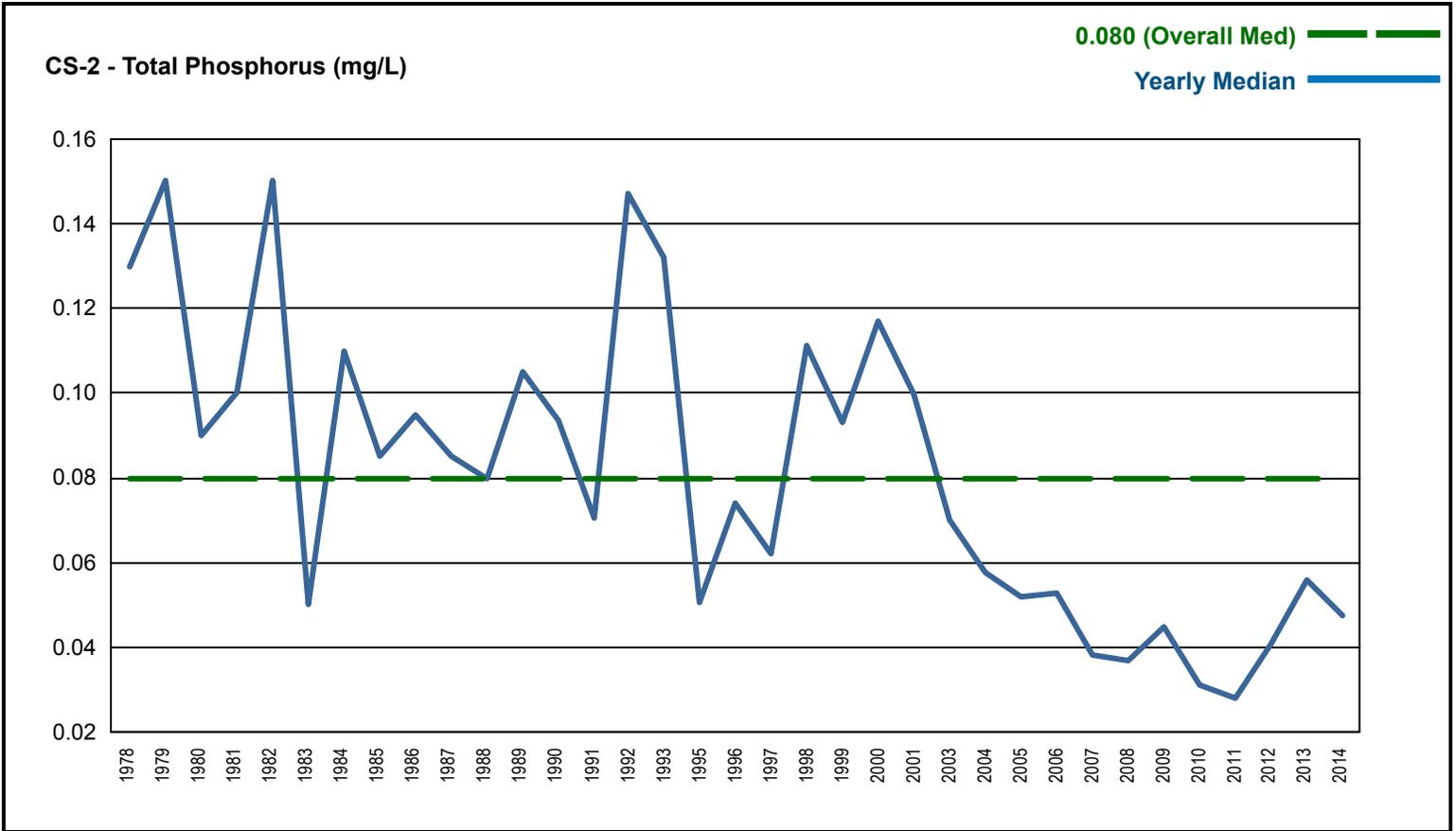
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



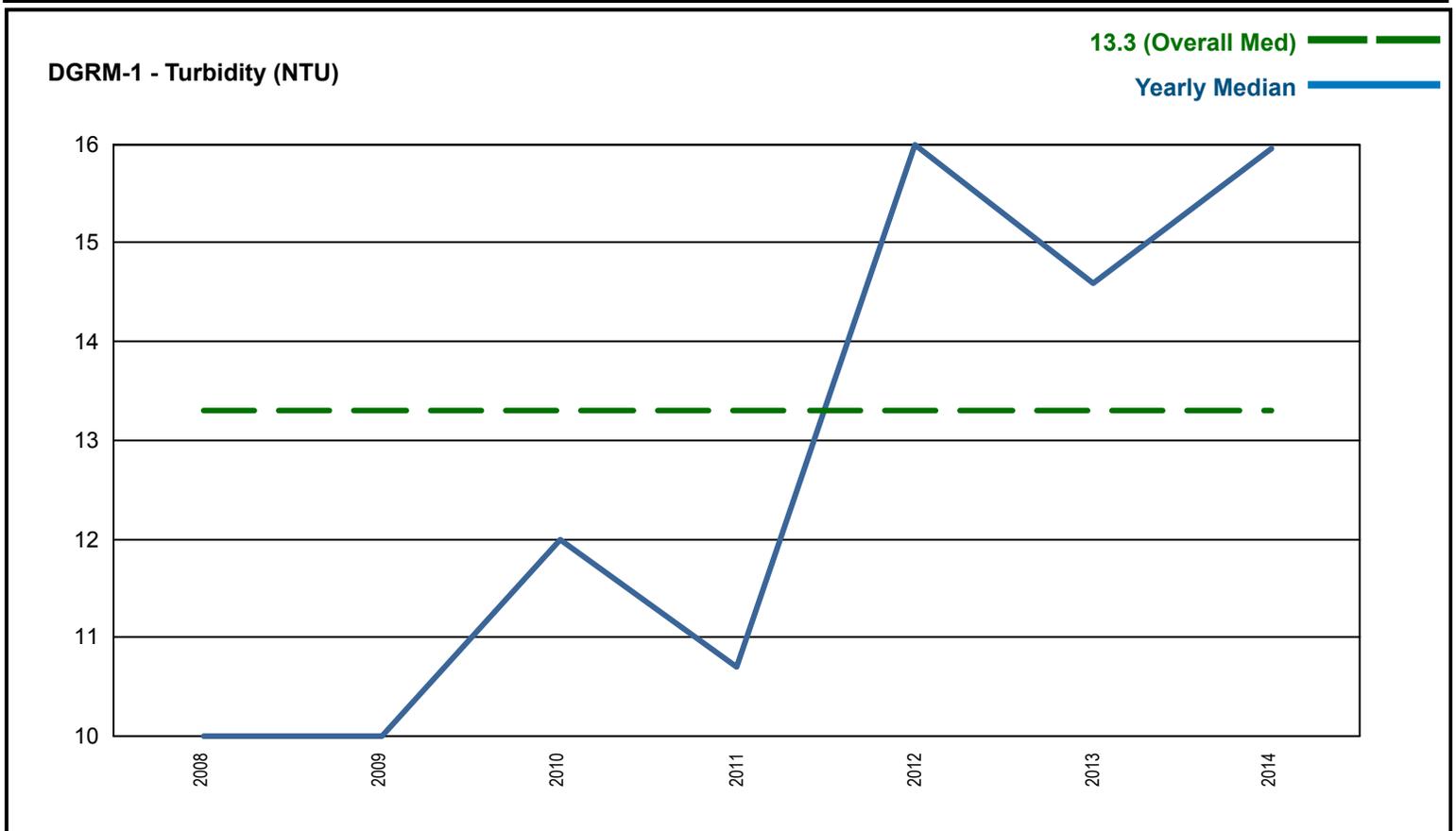
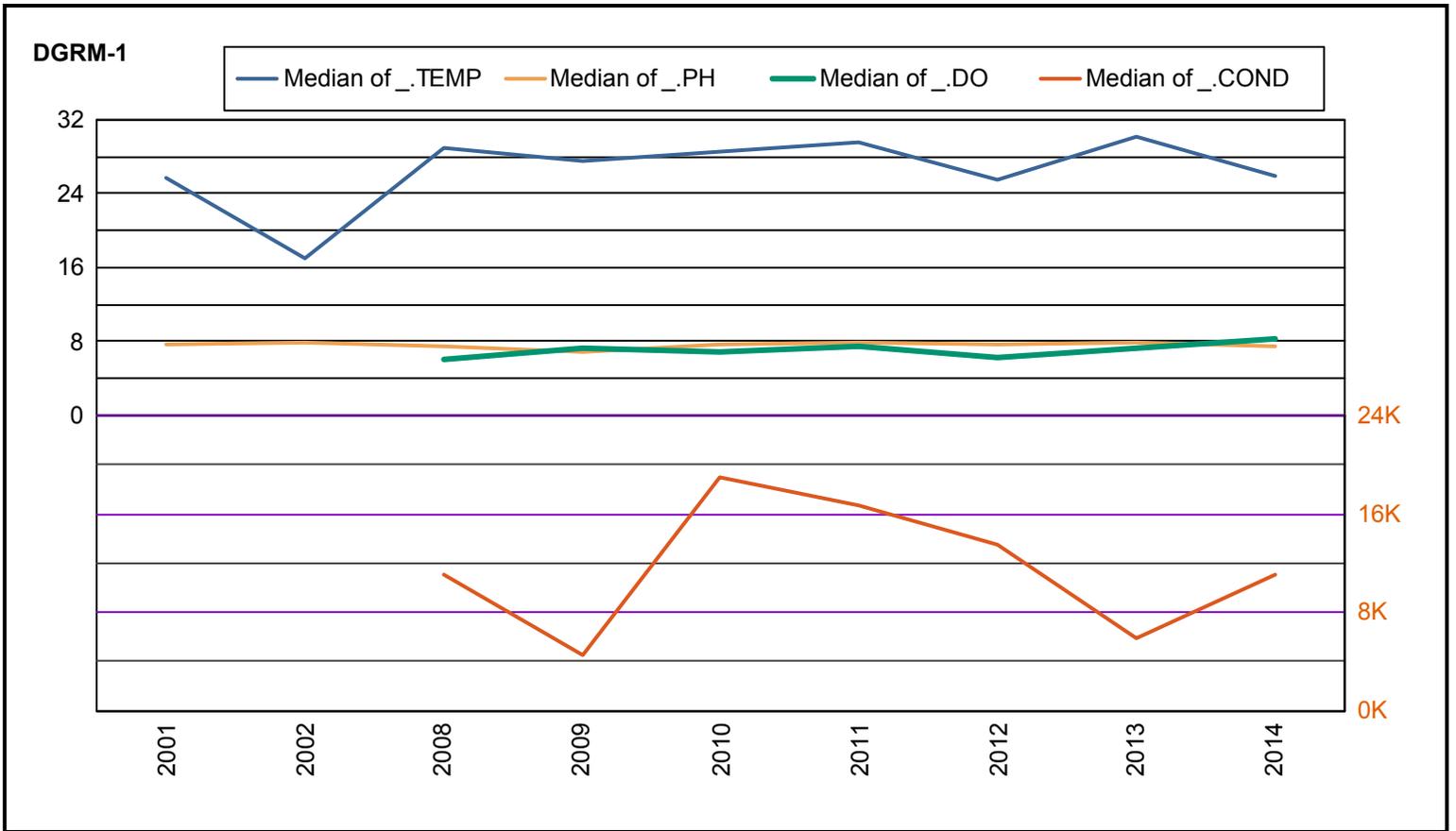
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

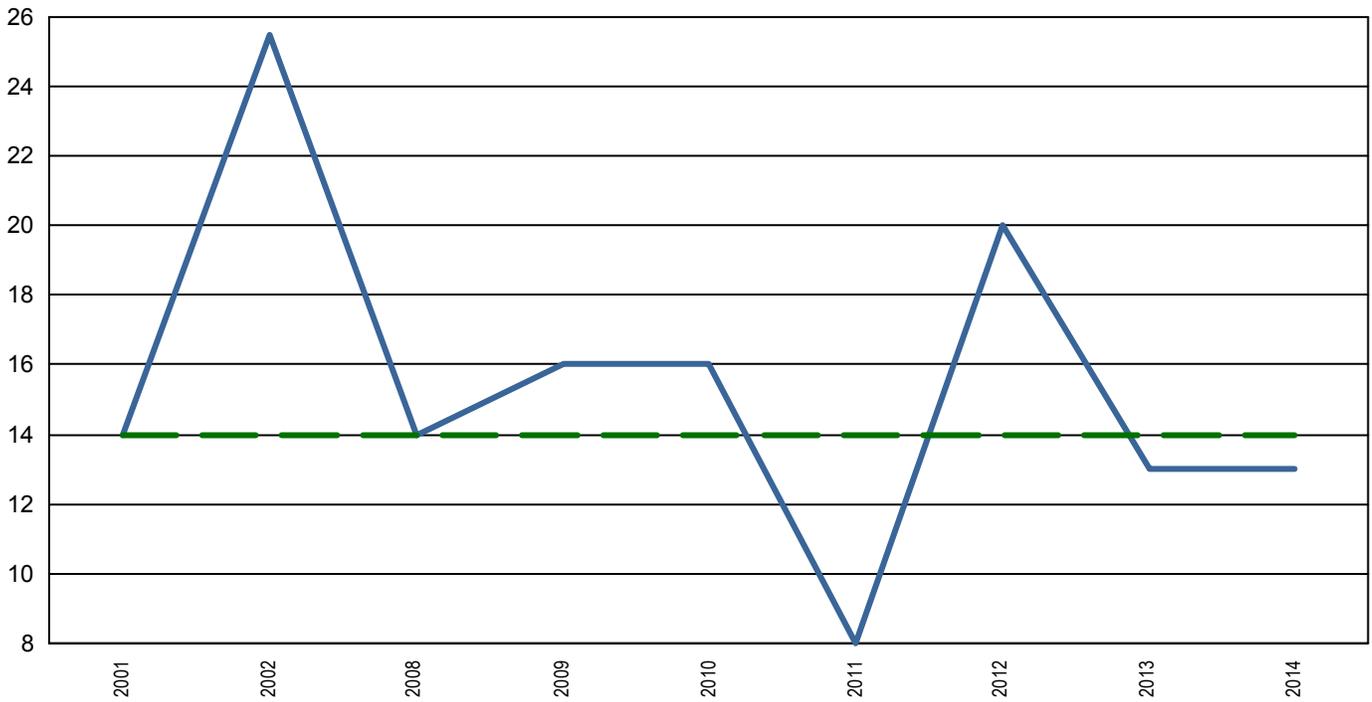


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

## DGRM-1 - Total Suspended Solids (mg/L)

14.0 (Overall Med) 

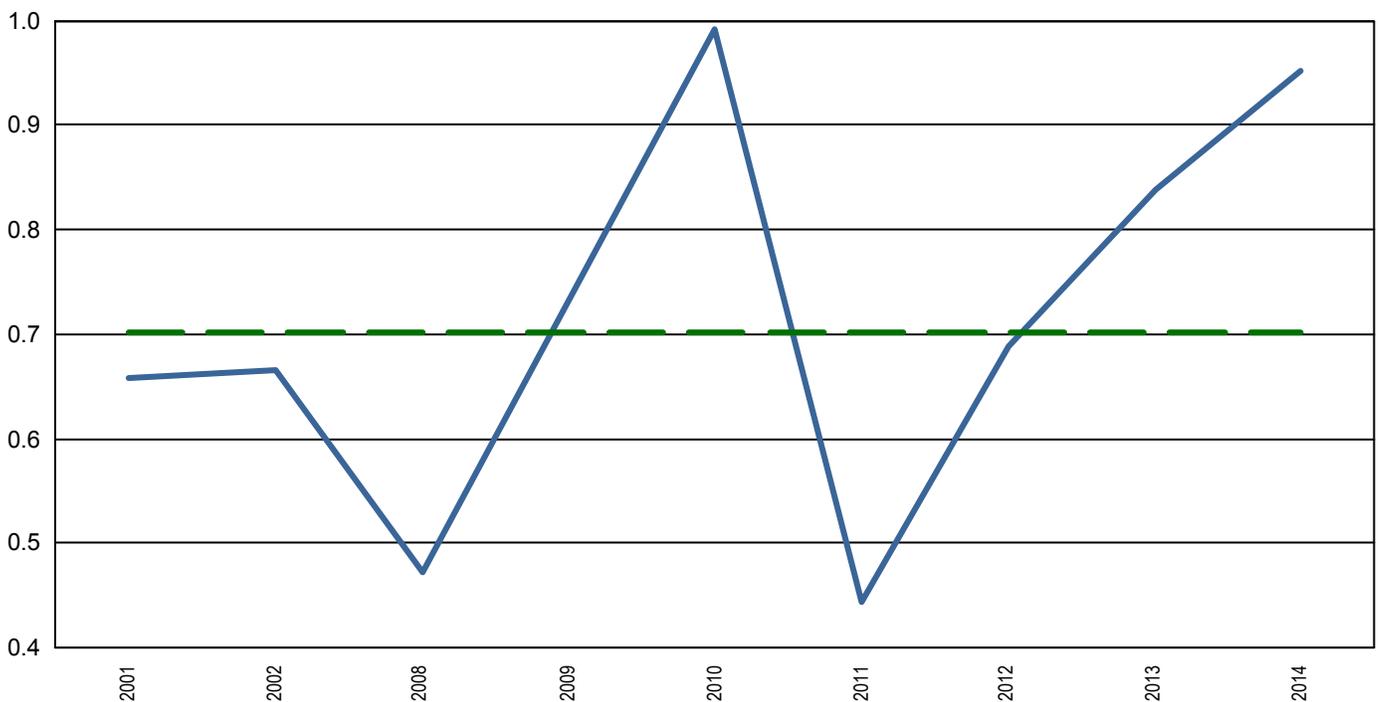
Yearly Median 



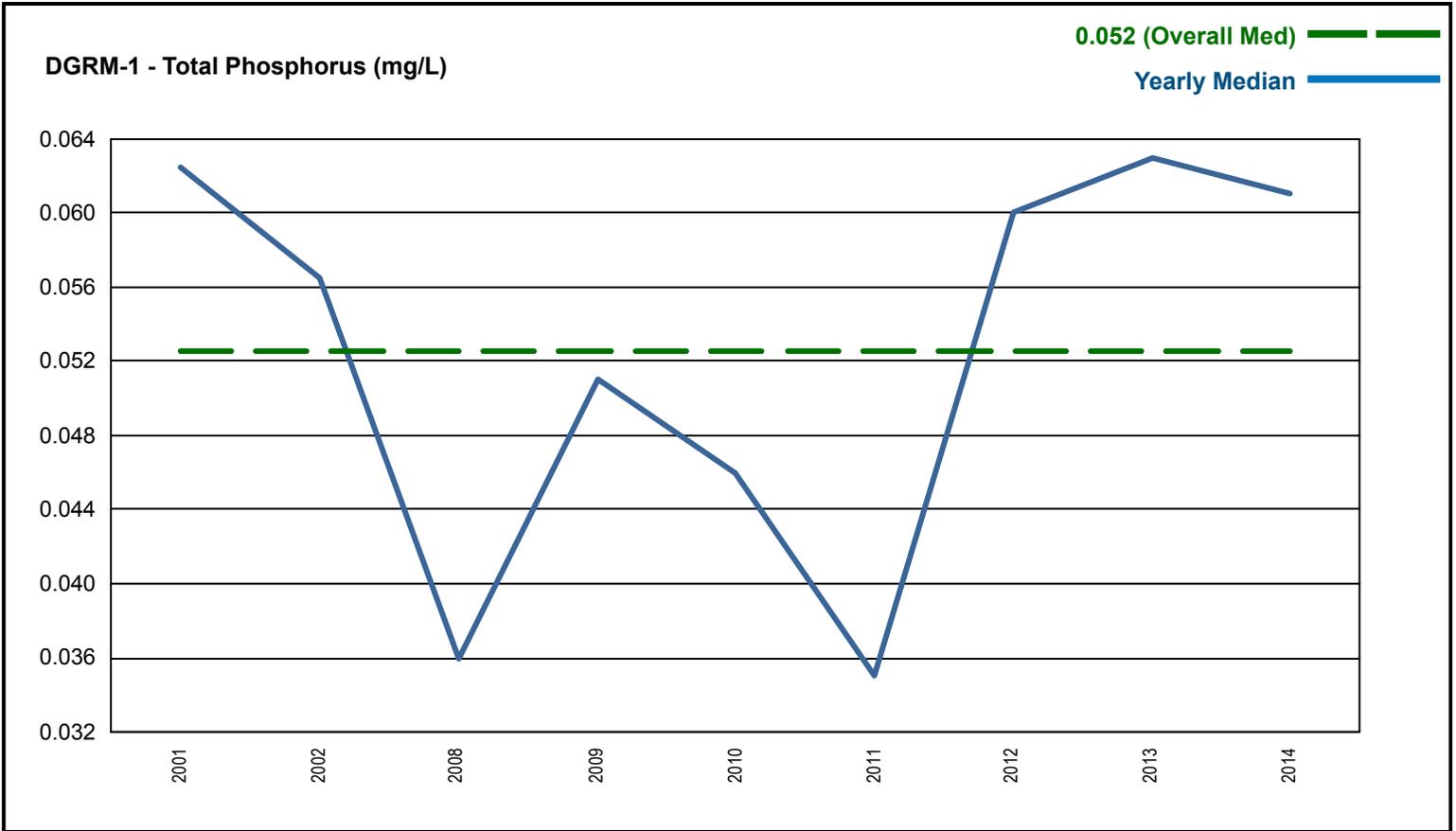
## DGRM-1 - Total Nitrogen (mg/L)

0.701 (Overall Med) 

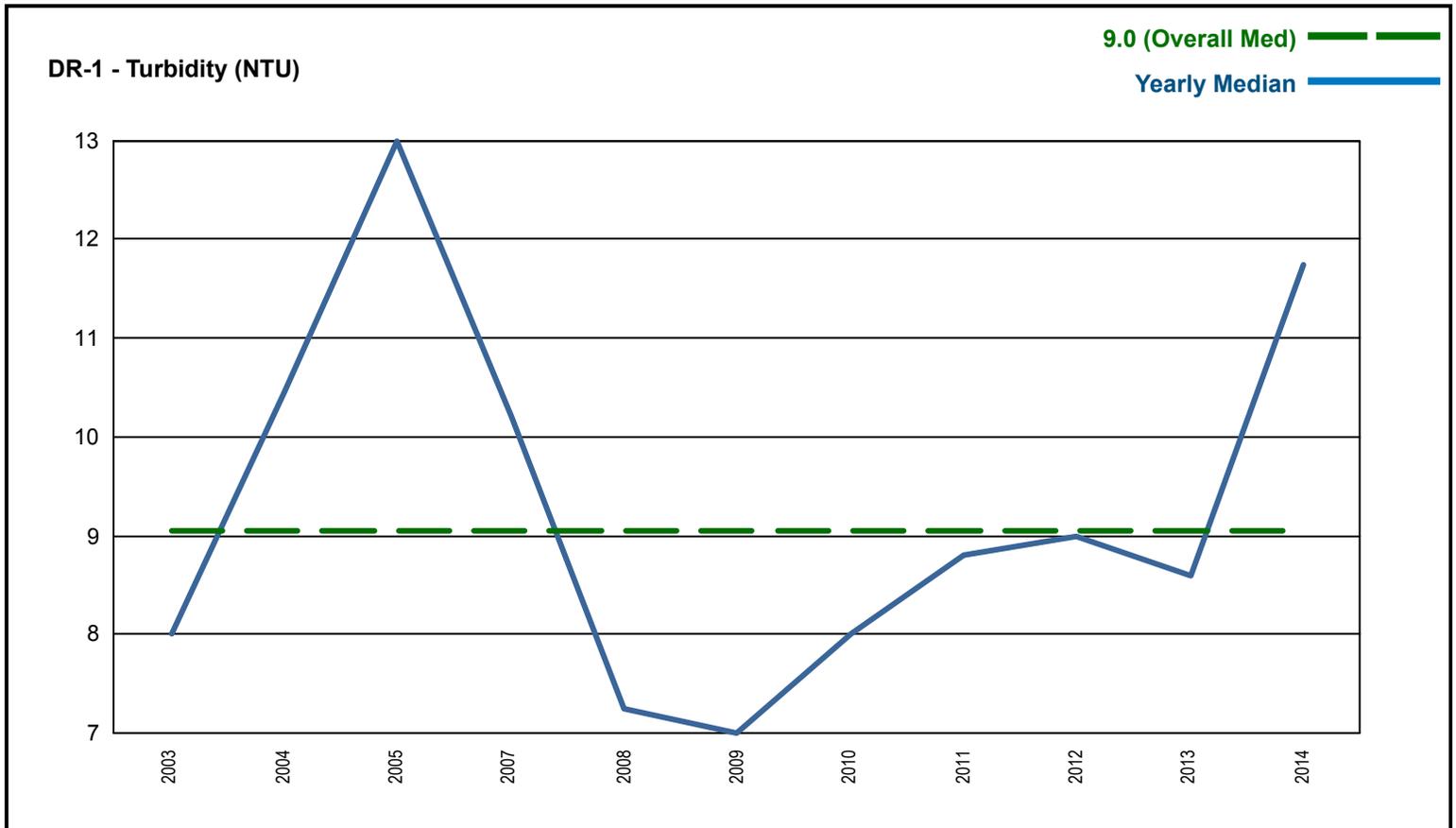
Yearly Median 



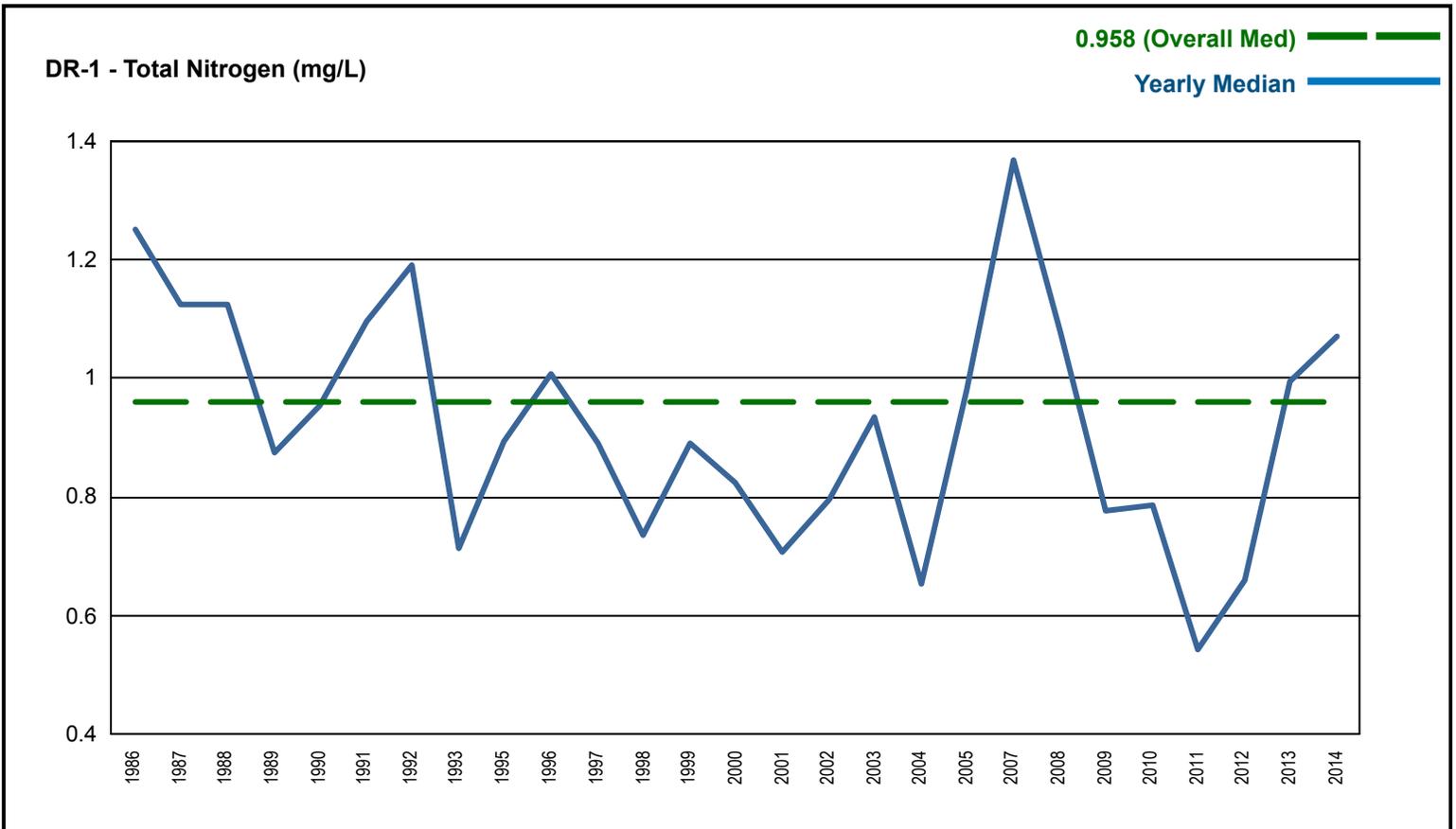
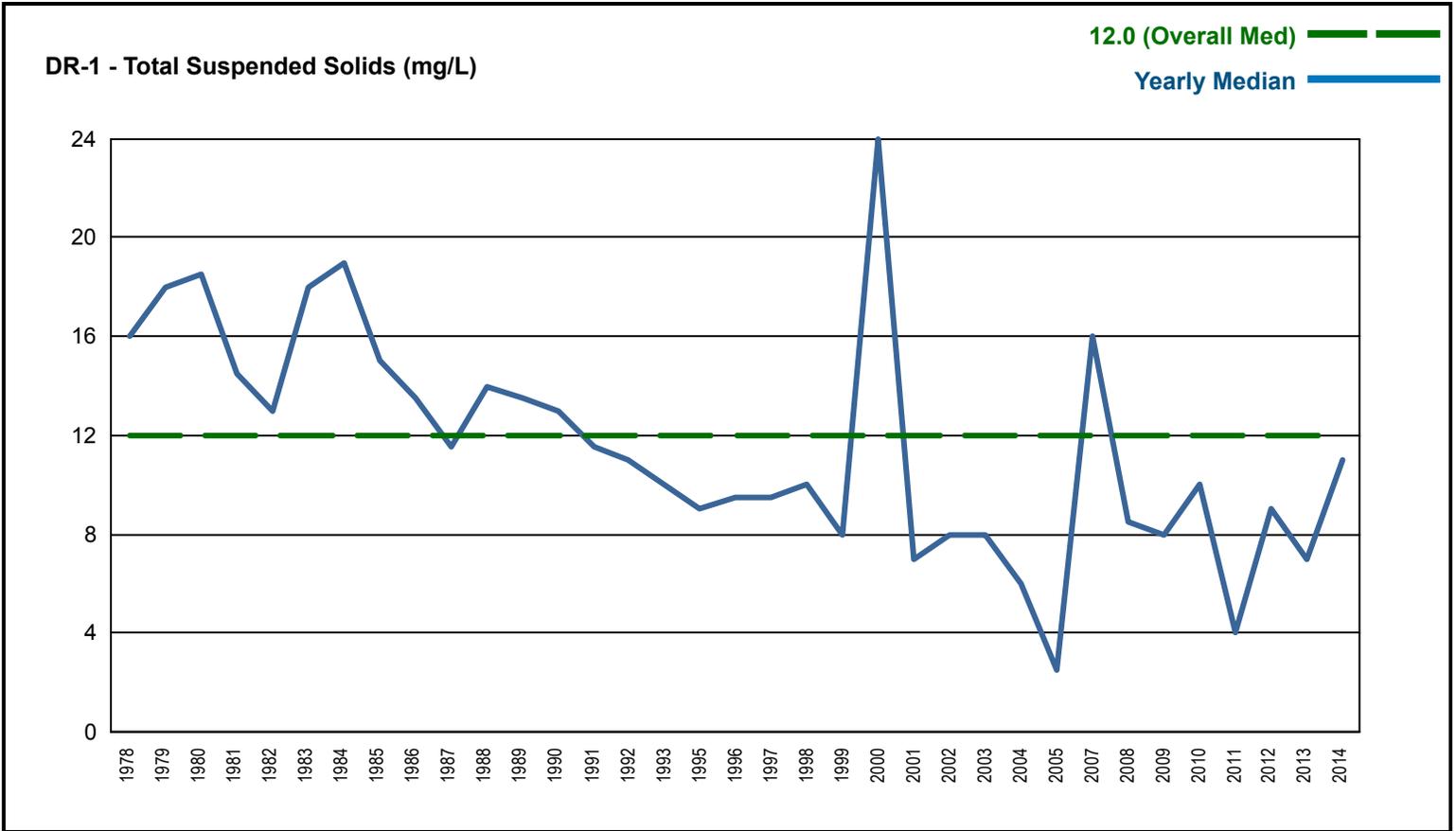
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



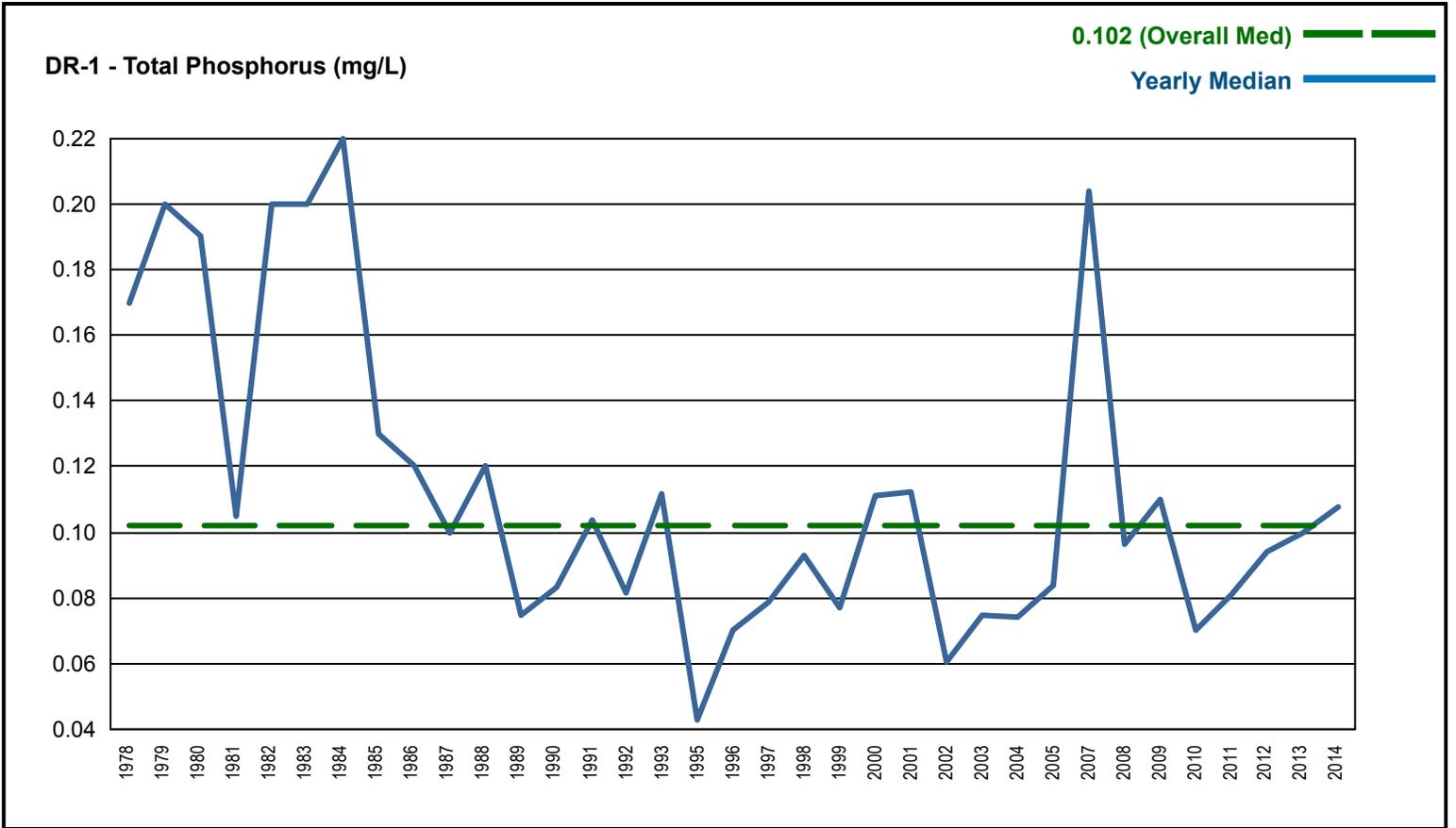
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



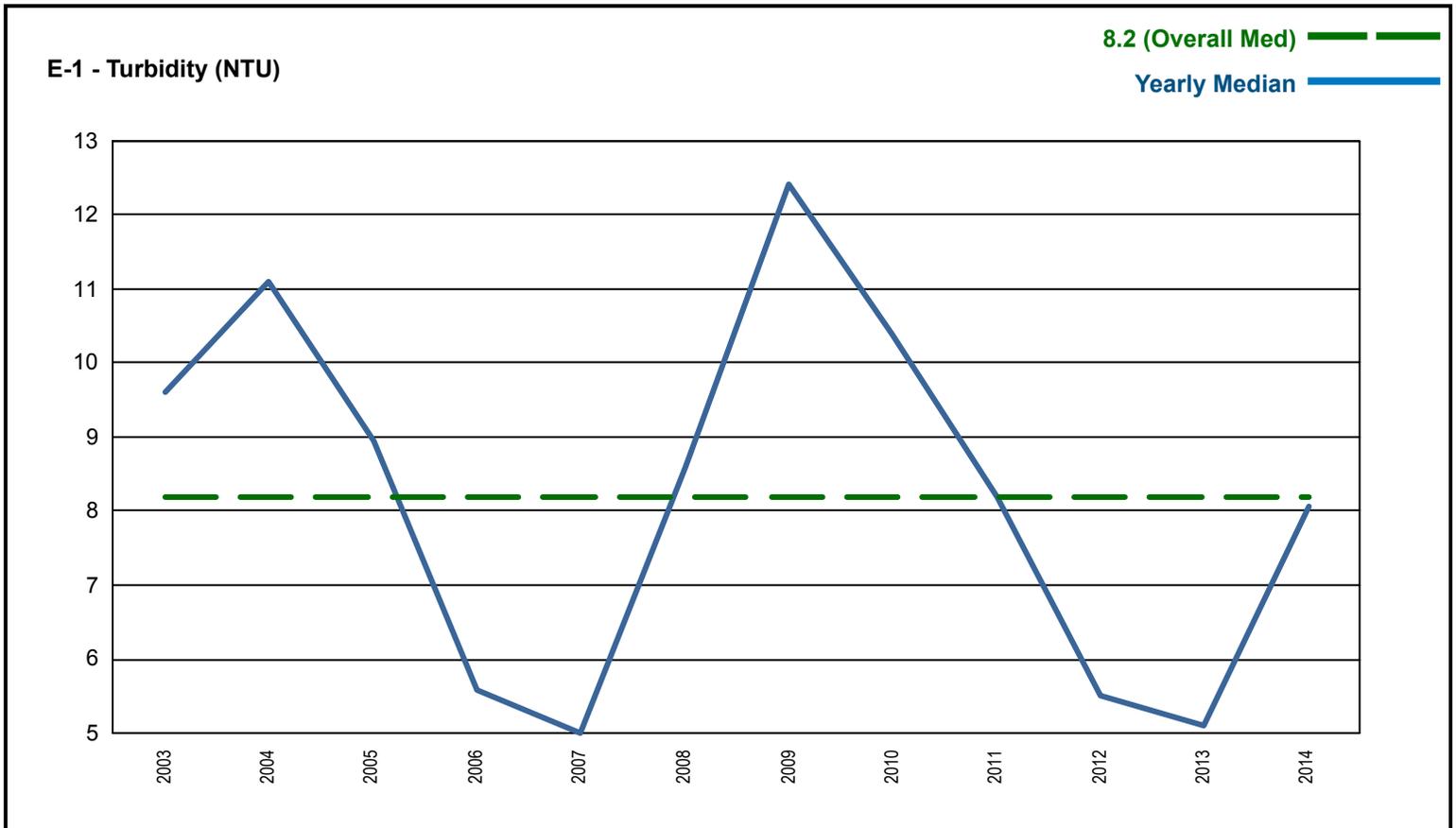
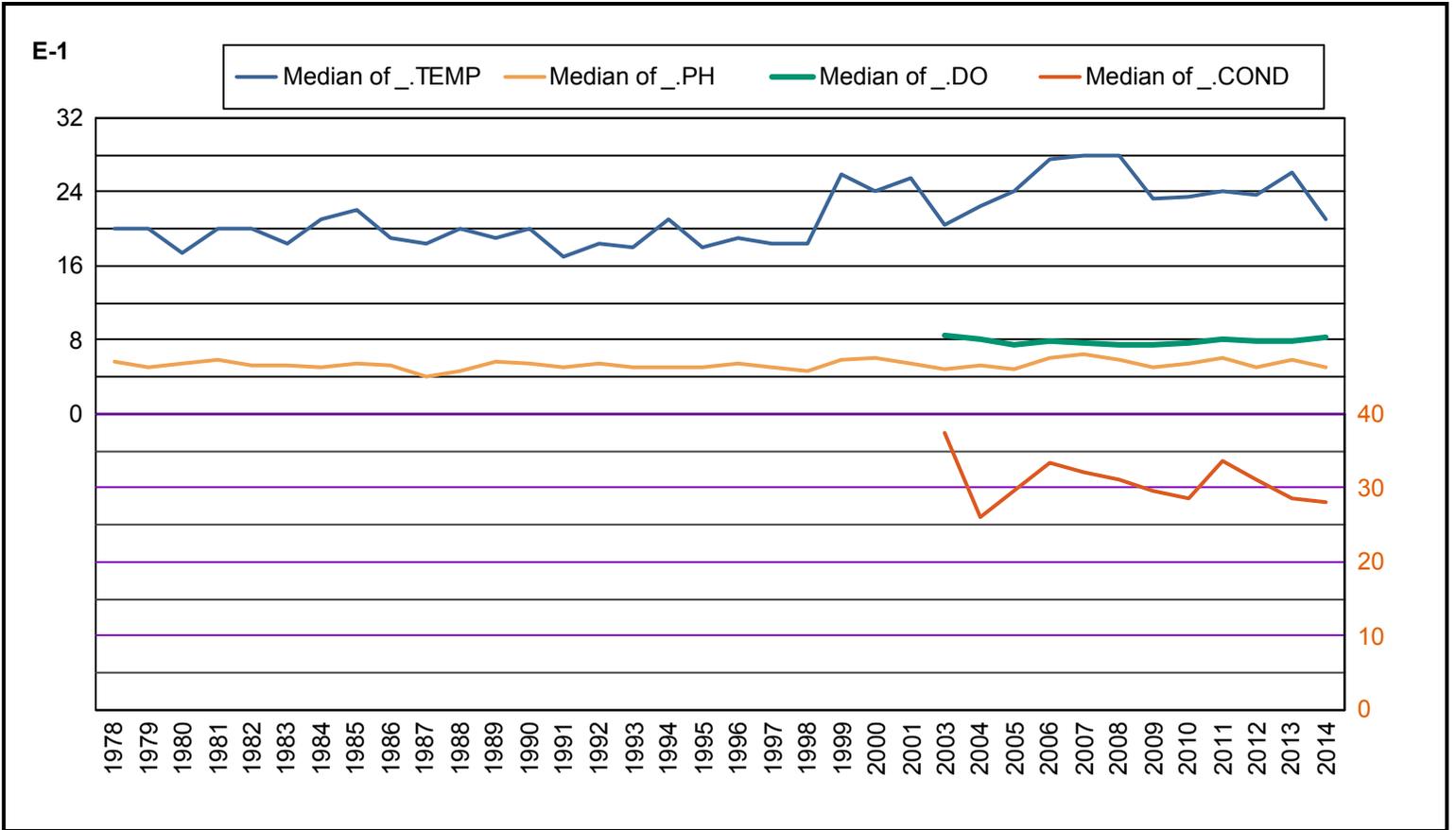
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



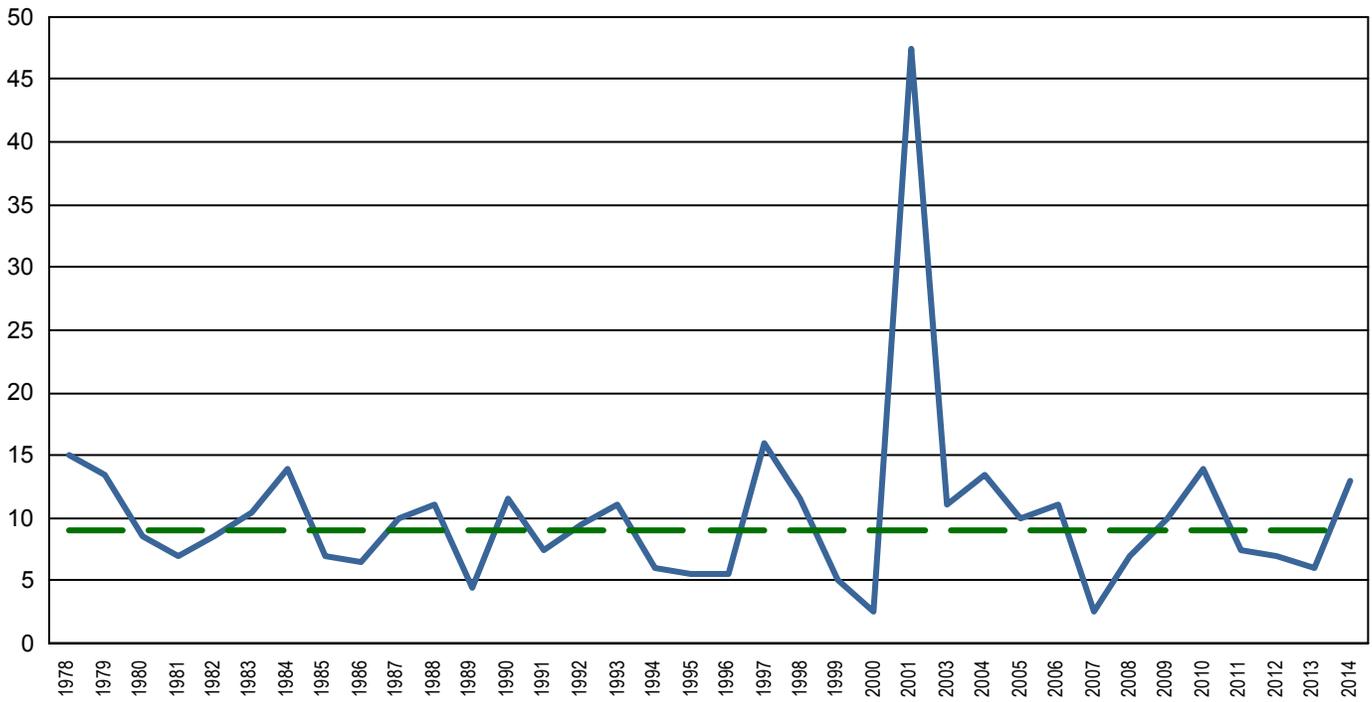
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014

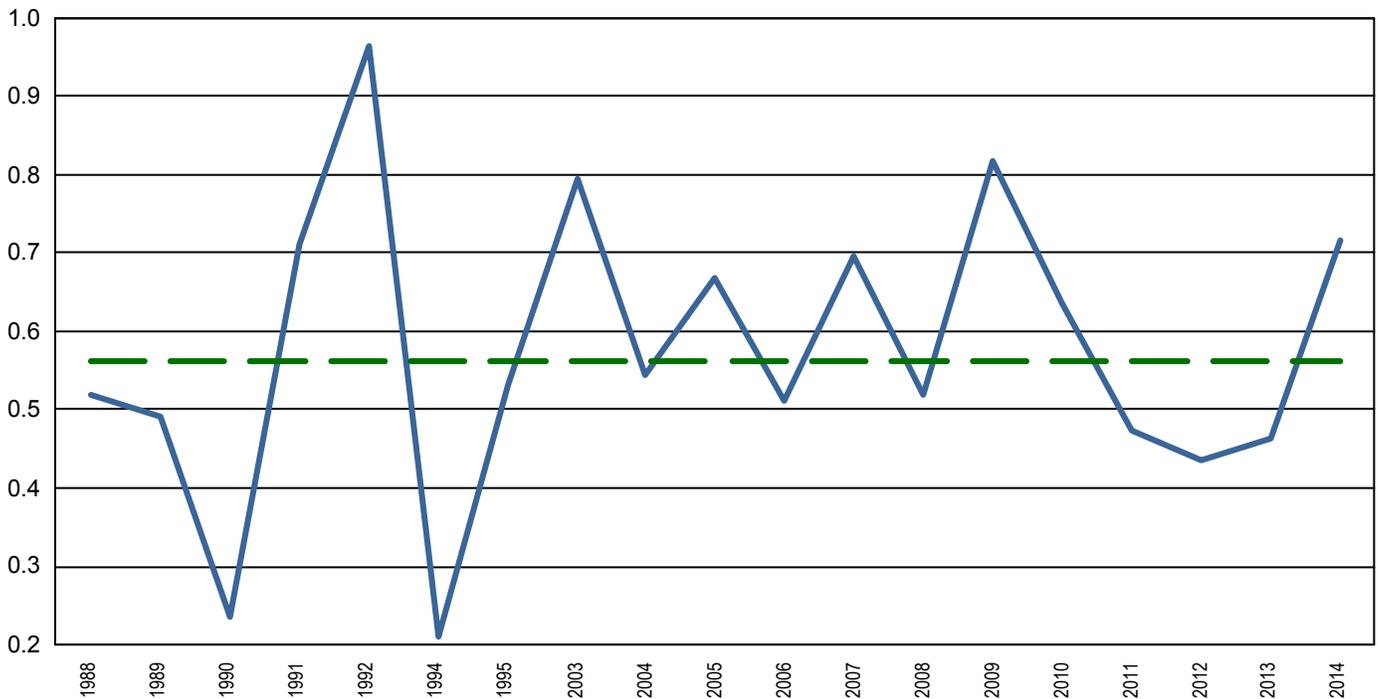
**E-1 - Total Suspended Solids (mg/L)**

**9.0 (Overall Med)**   
**Yearly Median**



**E-1 - Total Nitrogen (mg/L)**

**0.561 (Overall Med)**   
**Yearly Median**

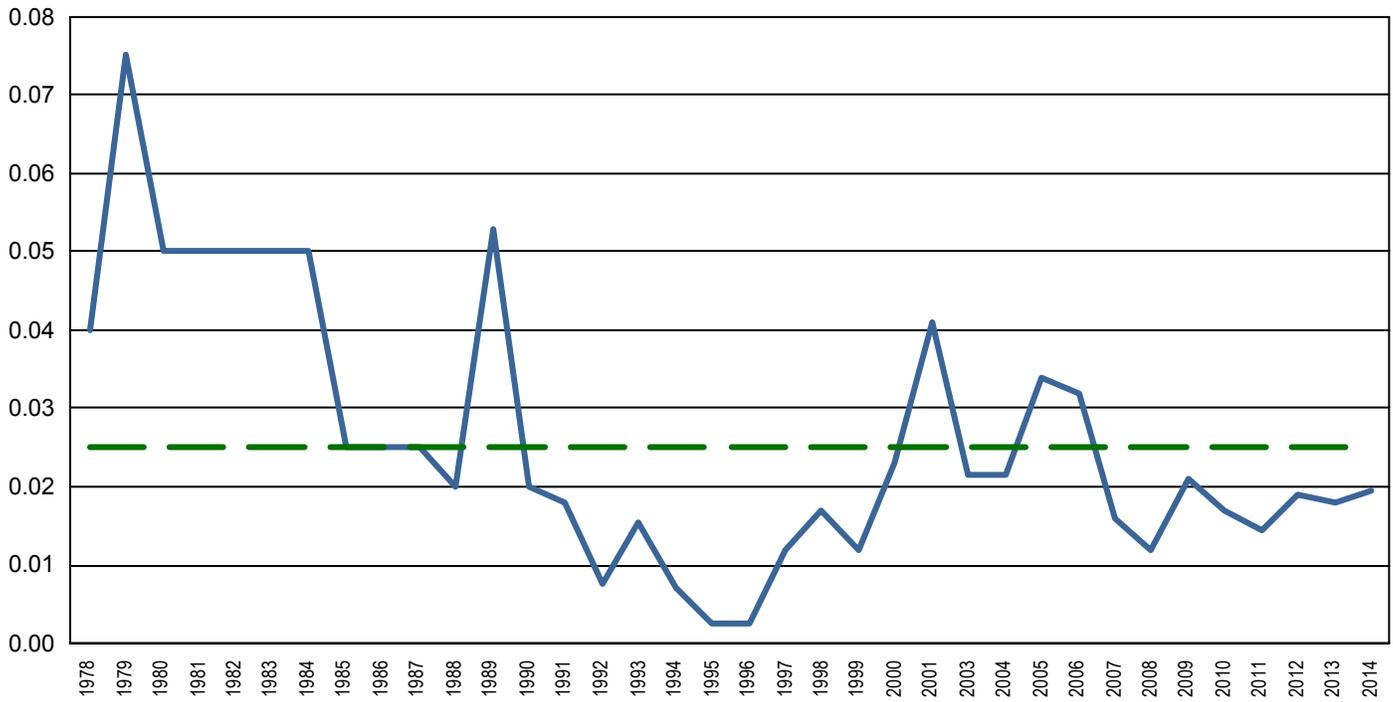


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

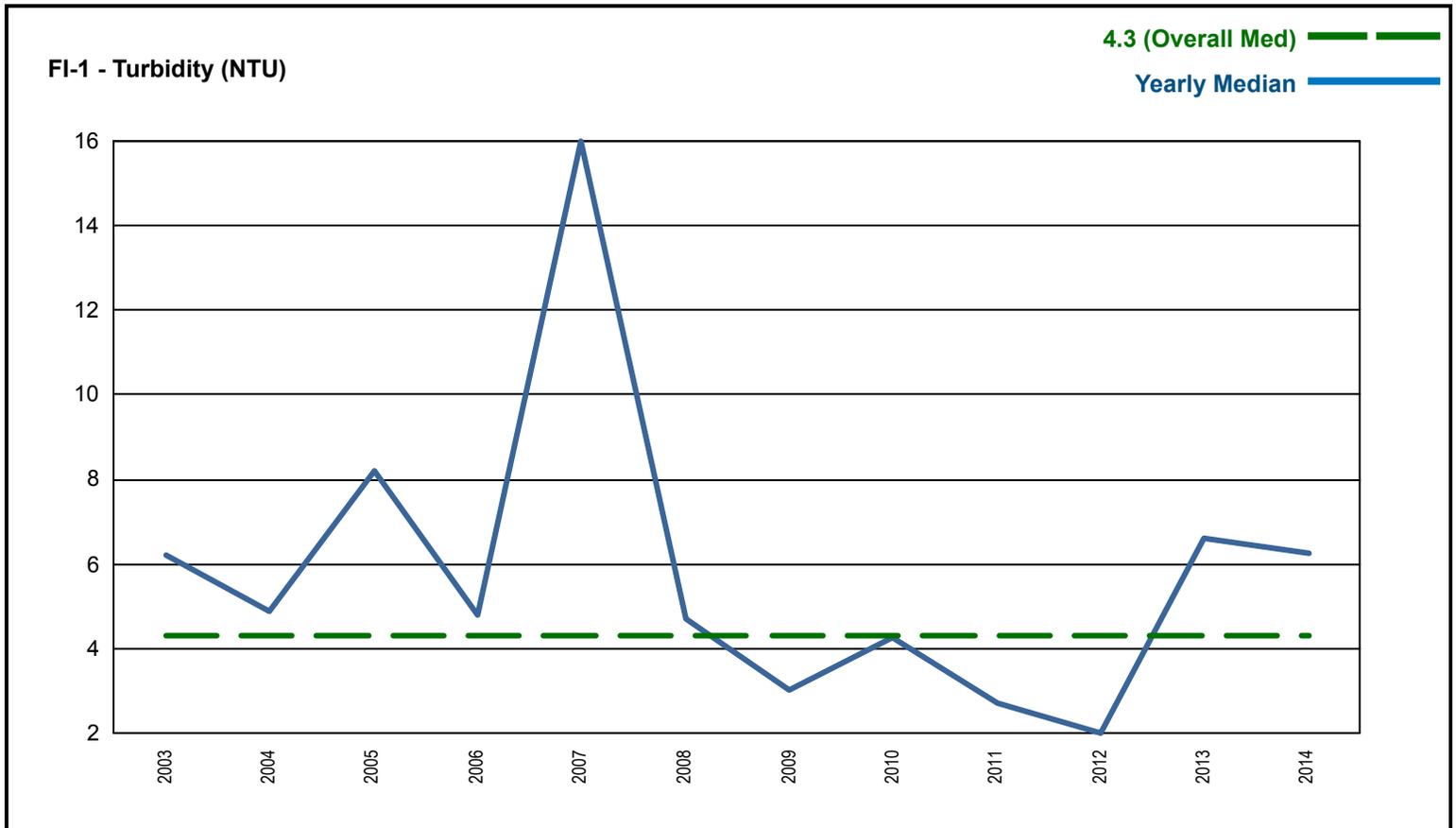
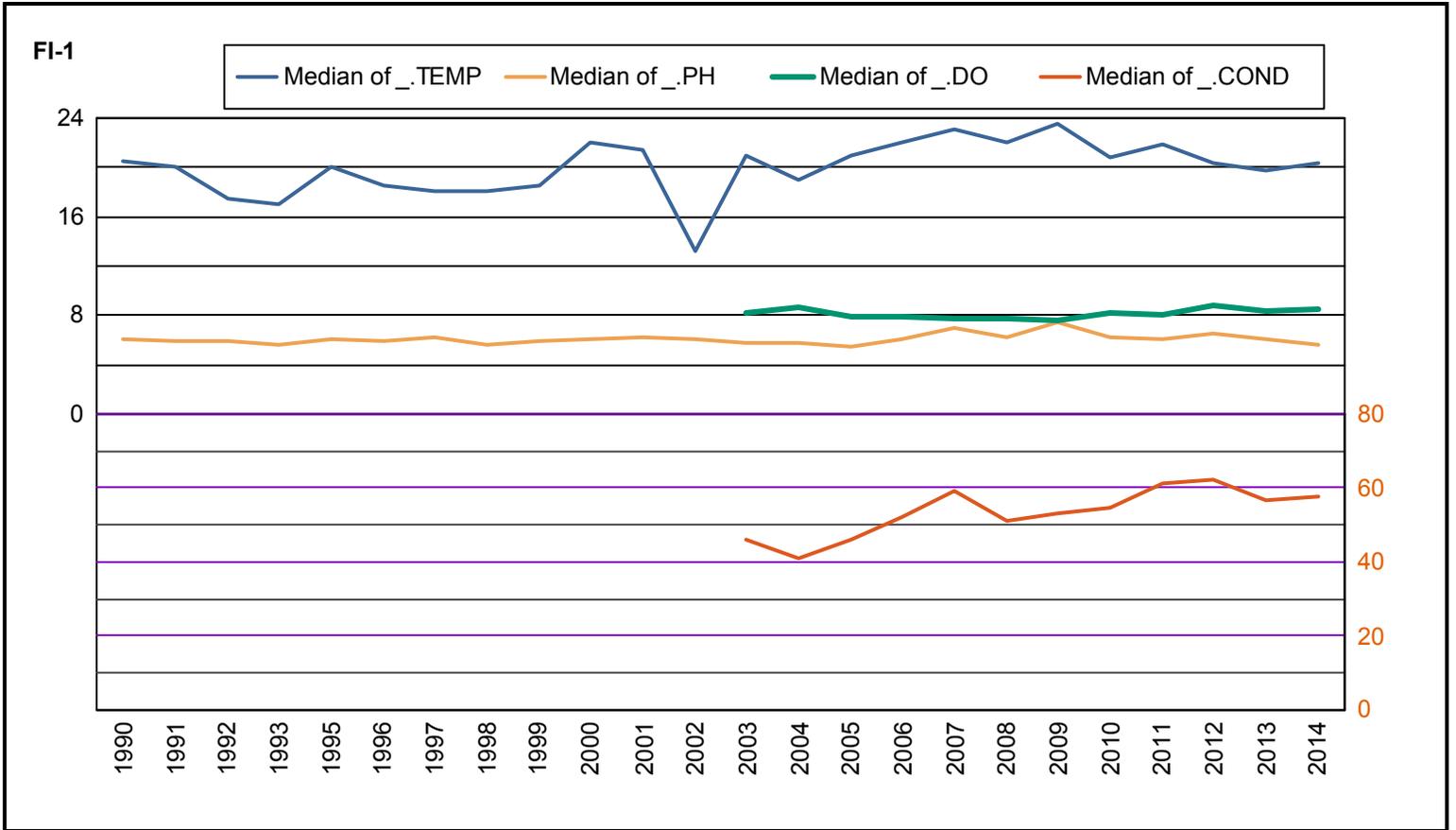
E-1 - Total Phosphorus (mg/L)

0.025 (Overall Med) 

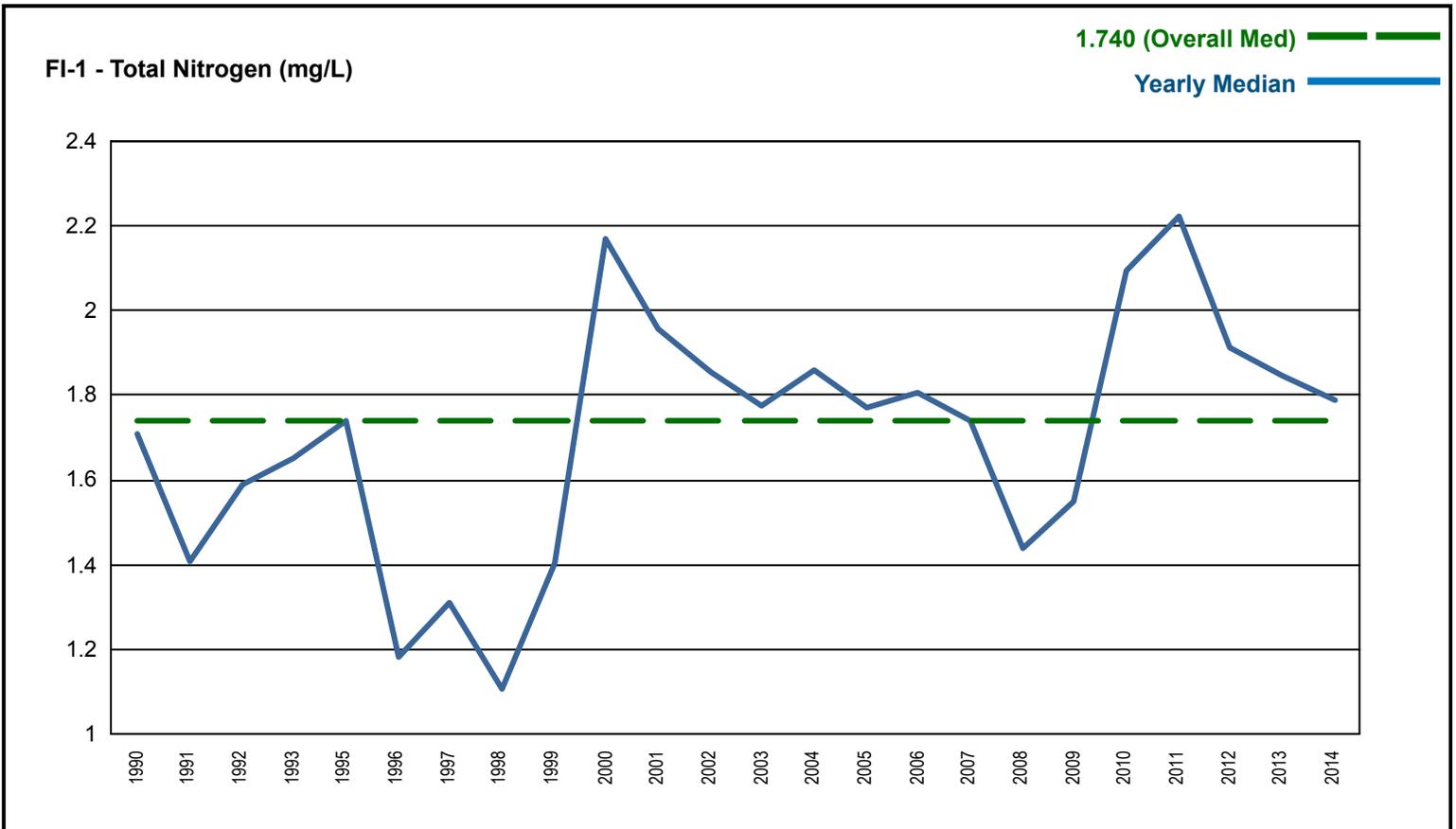
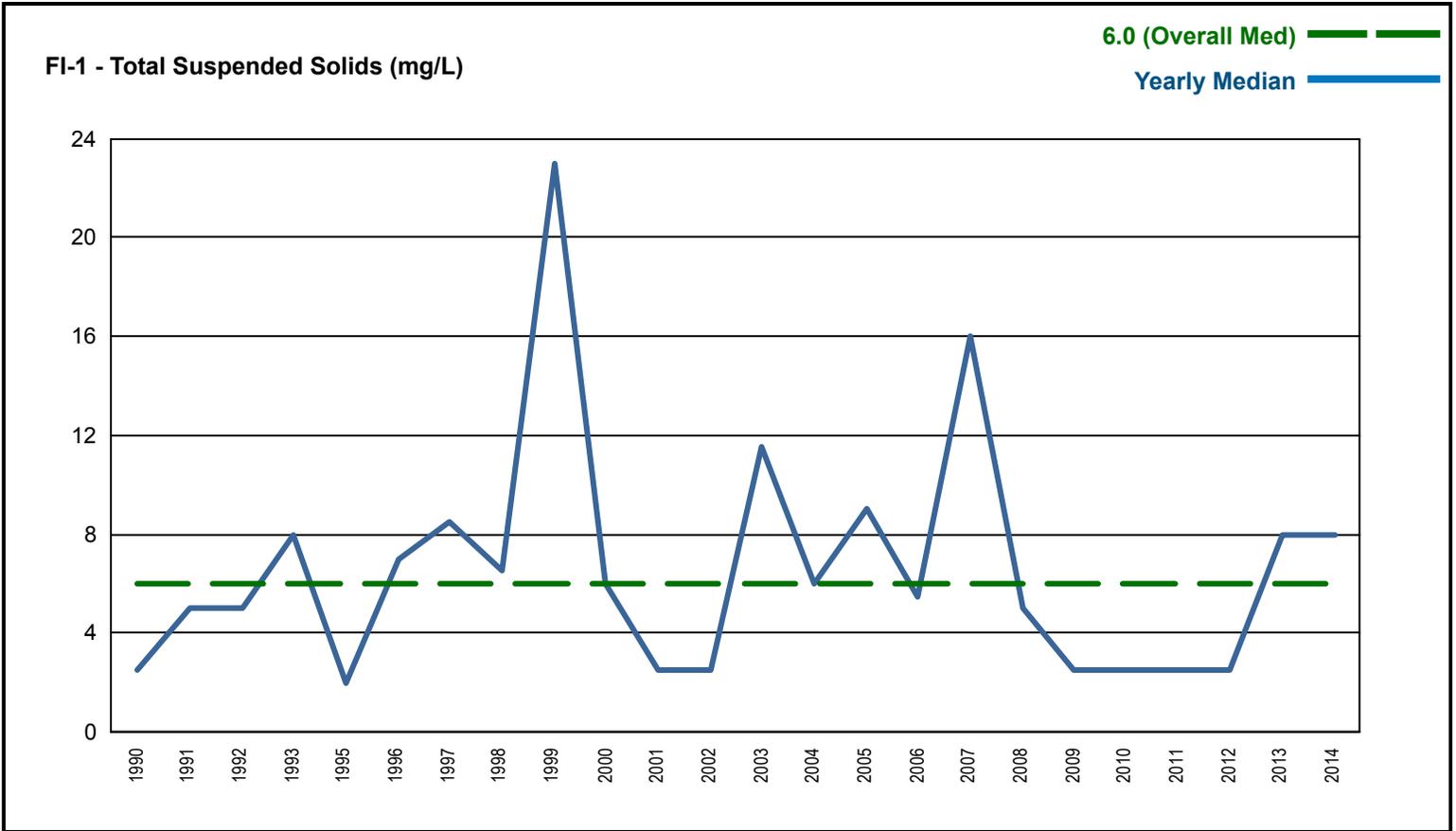
Yearly Median 



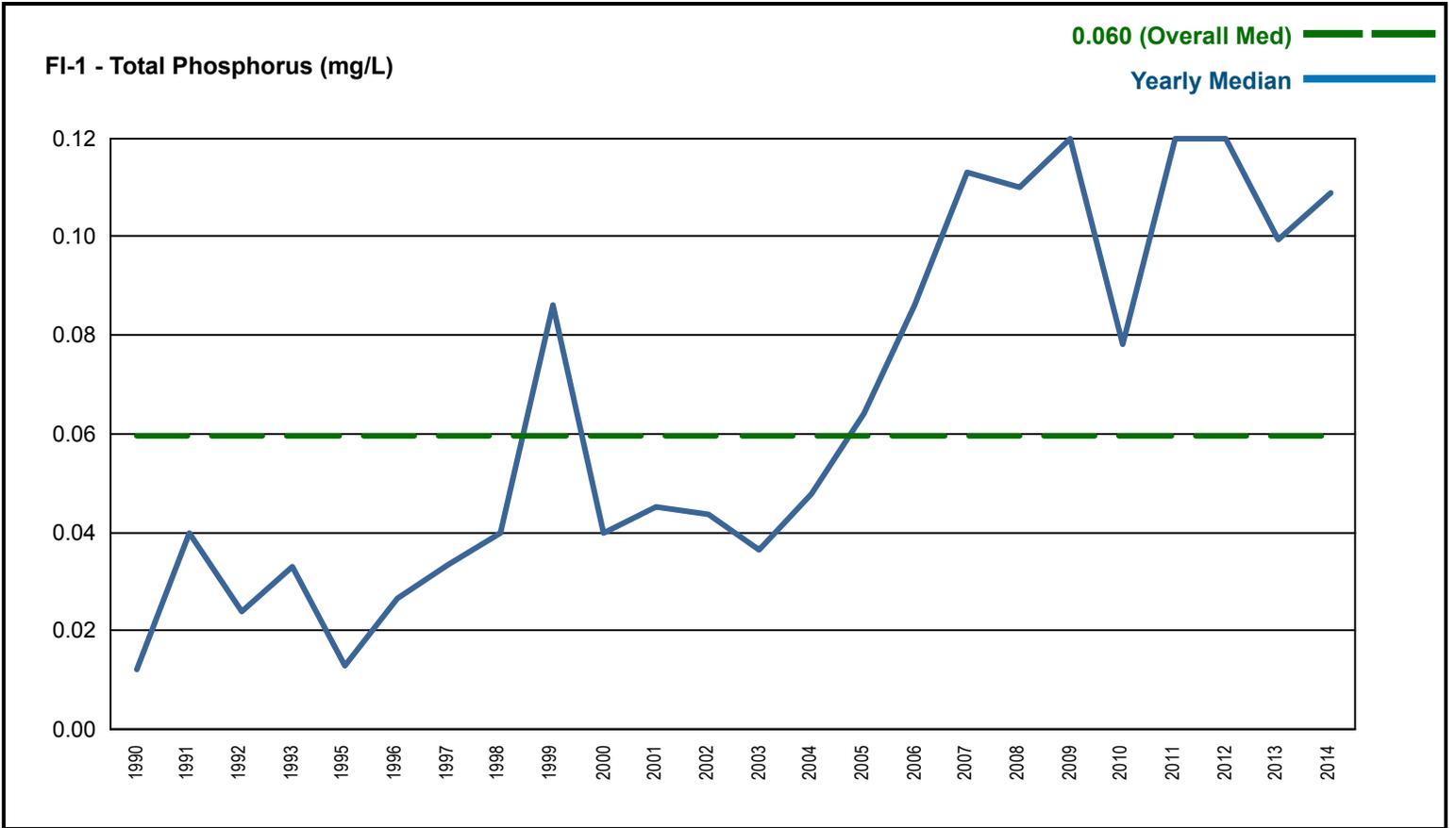
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



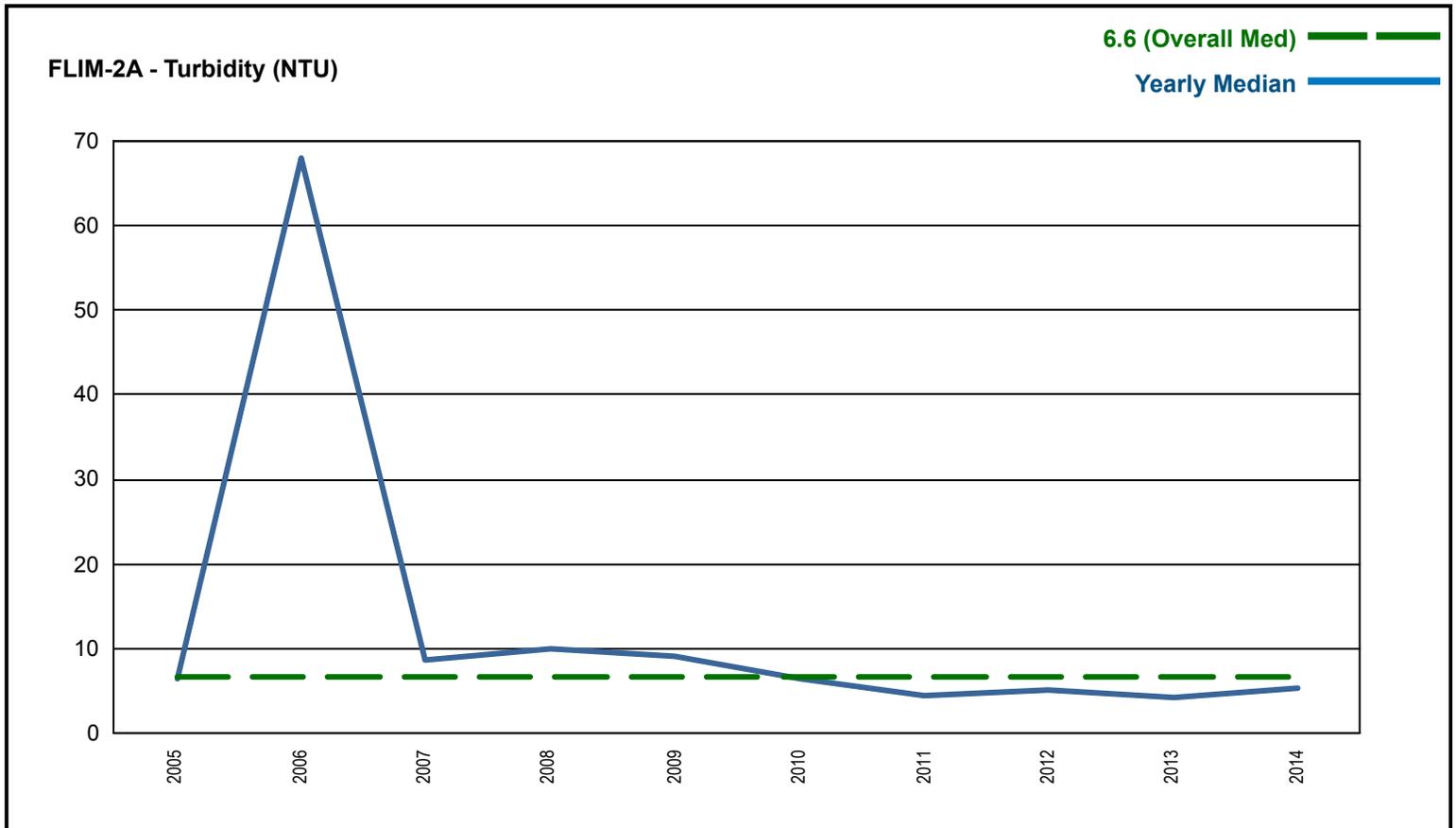
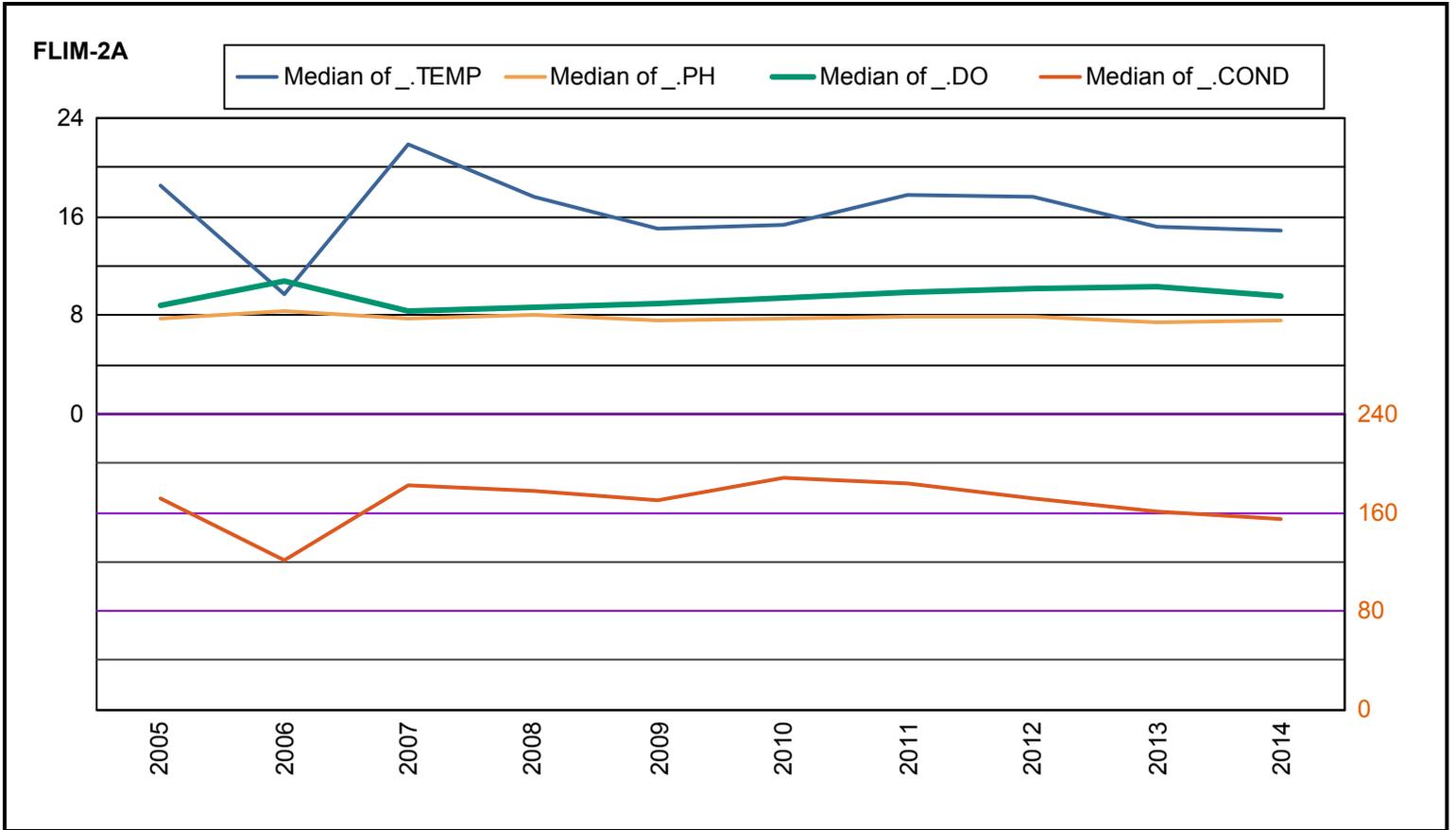
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



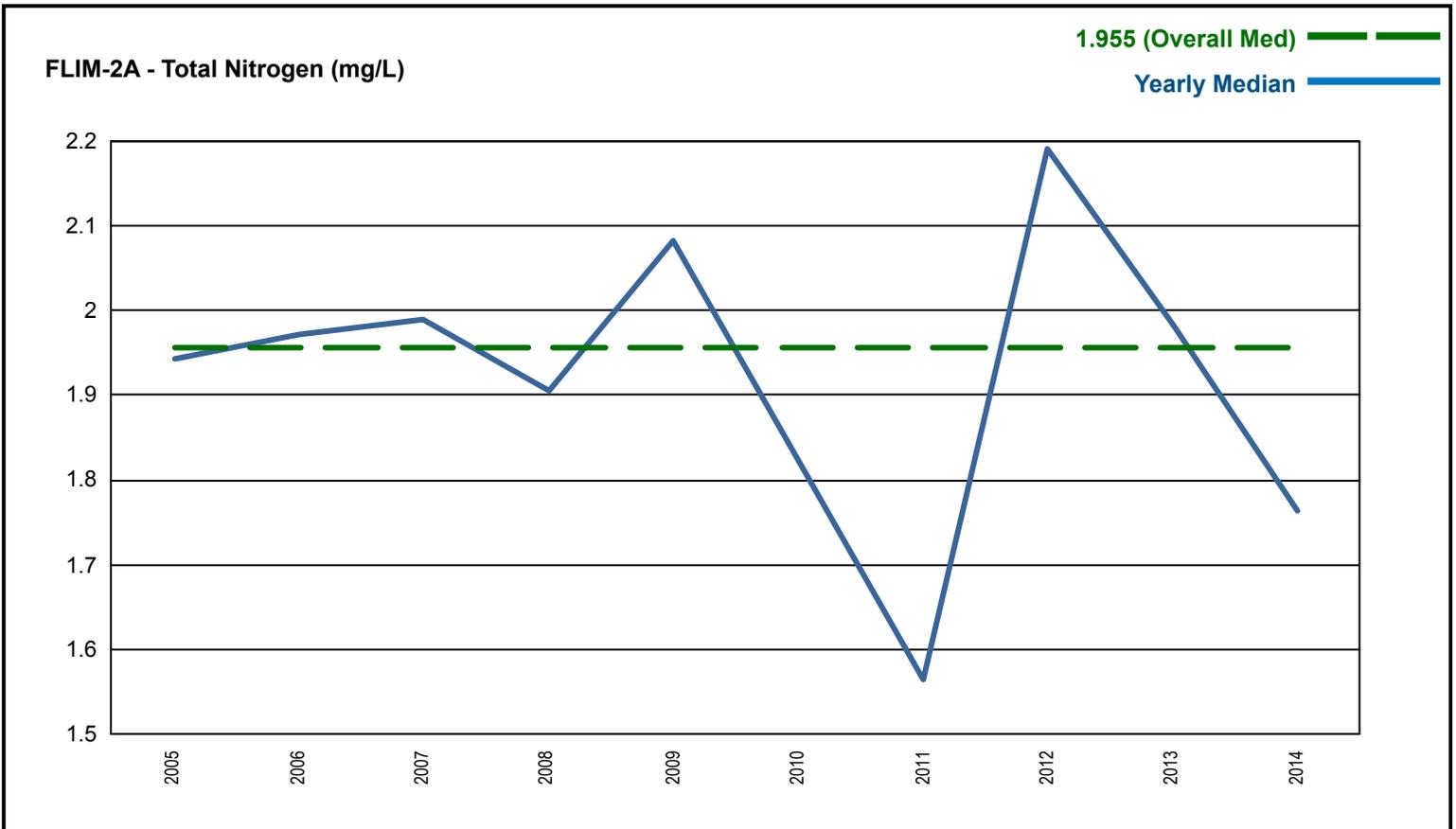
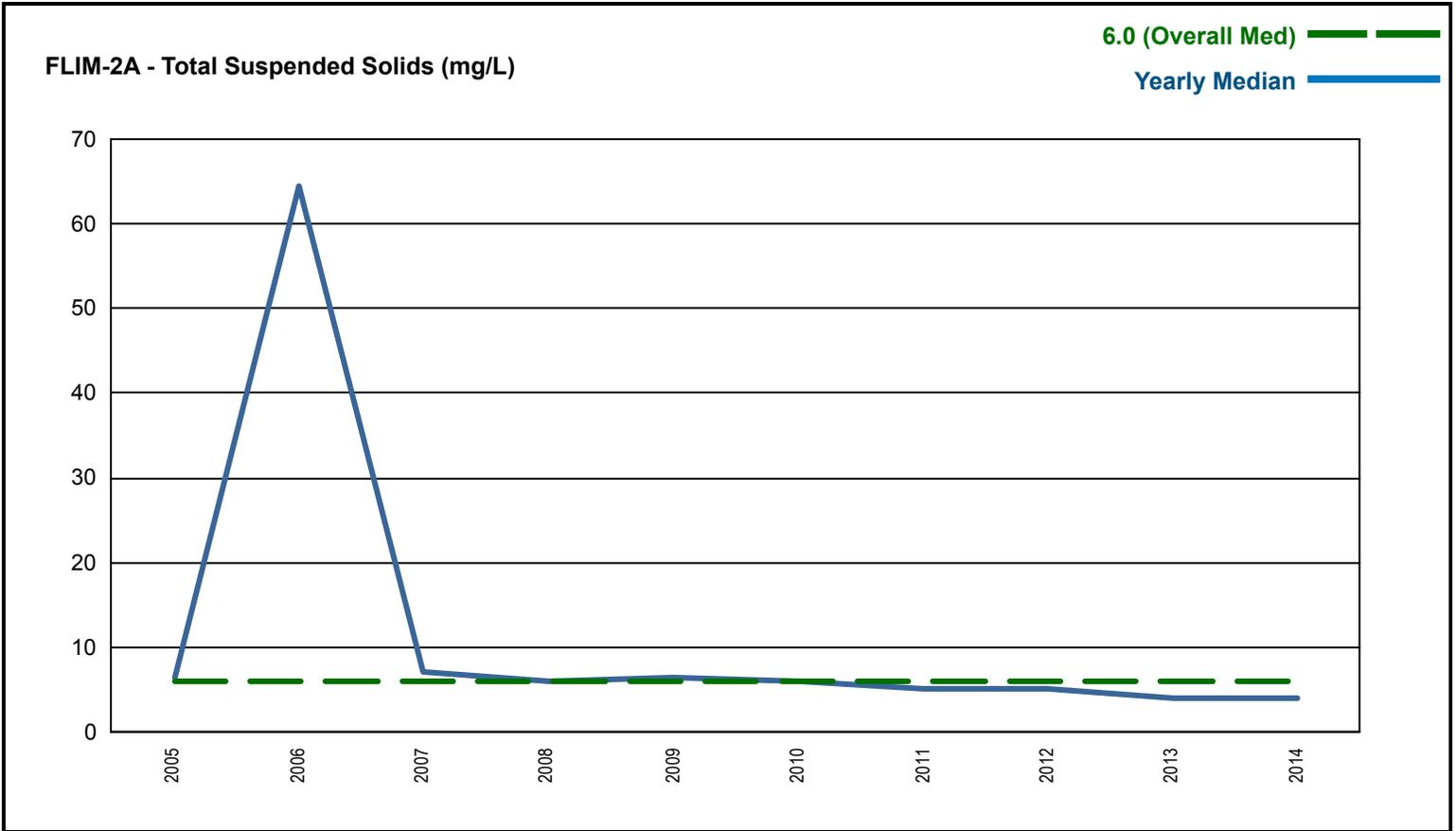
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



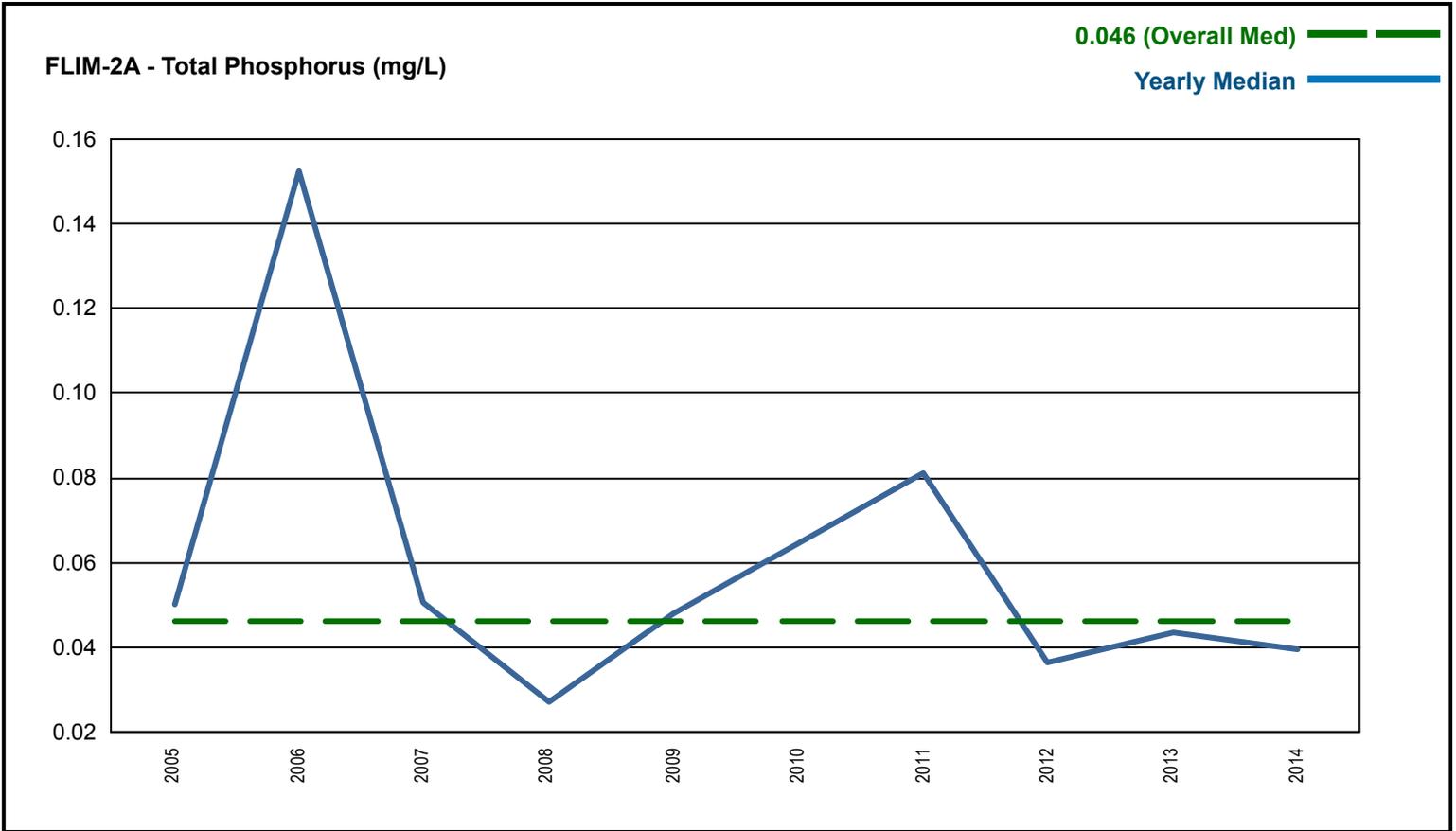
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



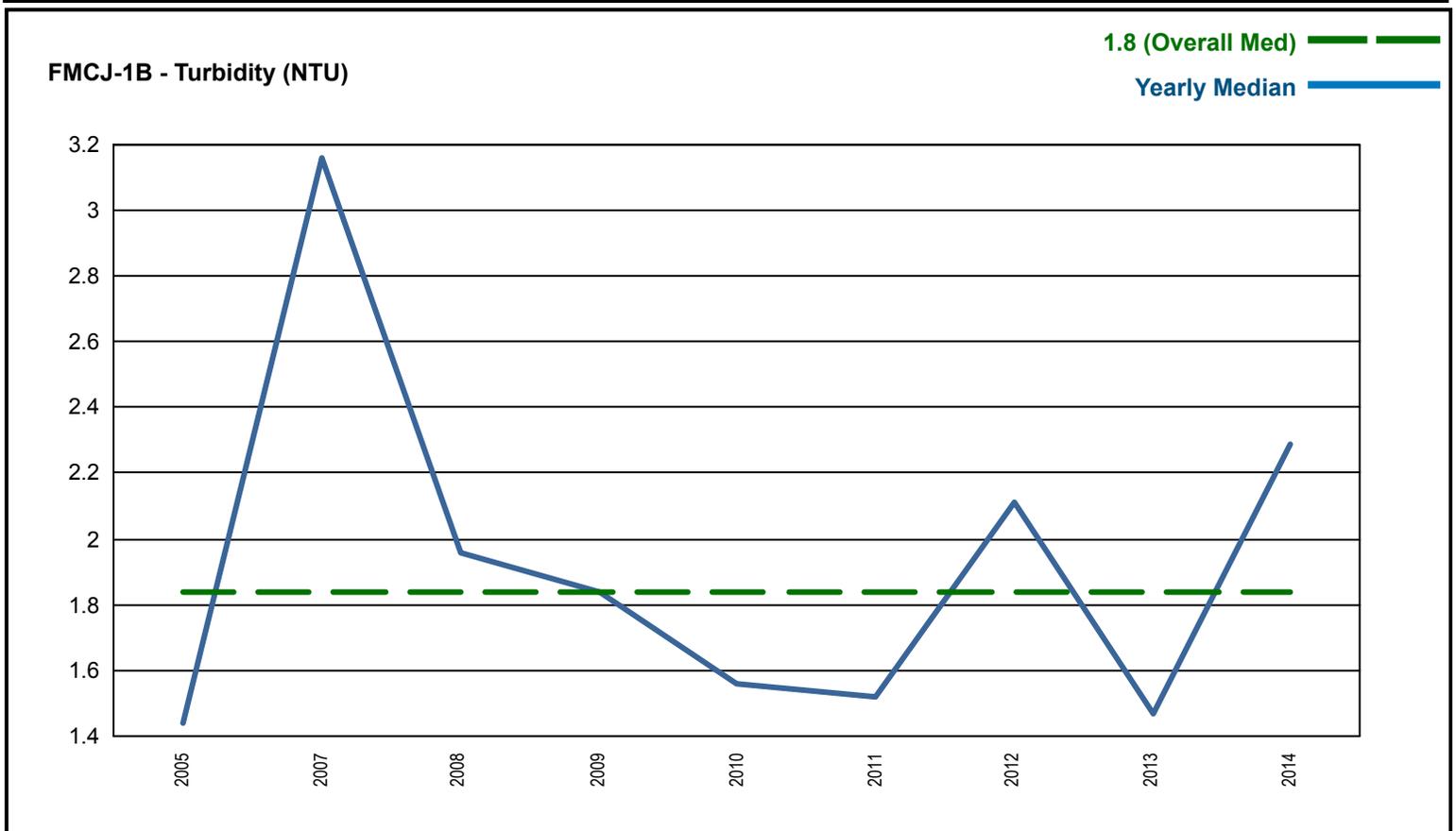
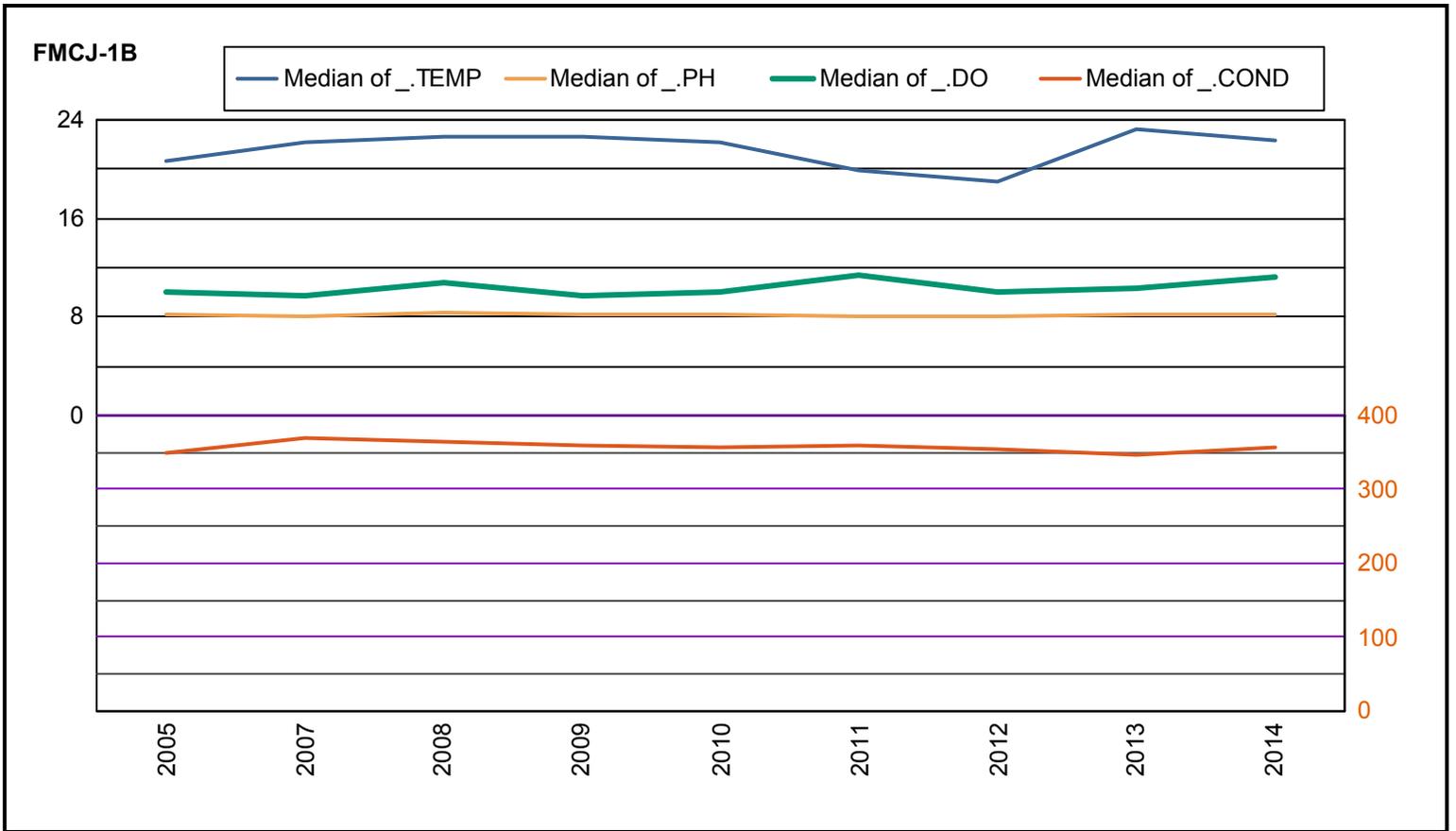
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



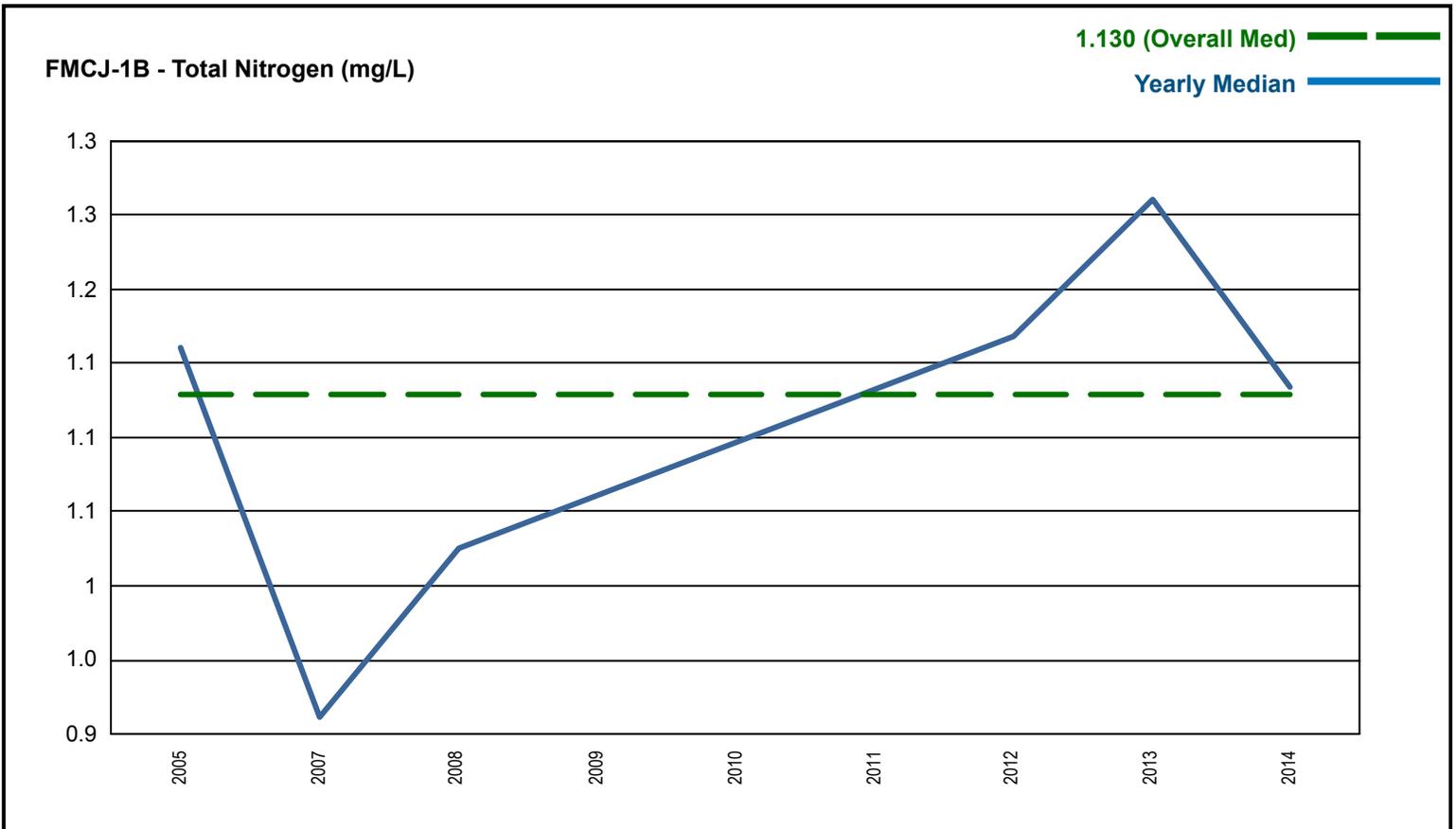
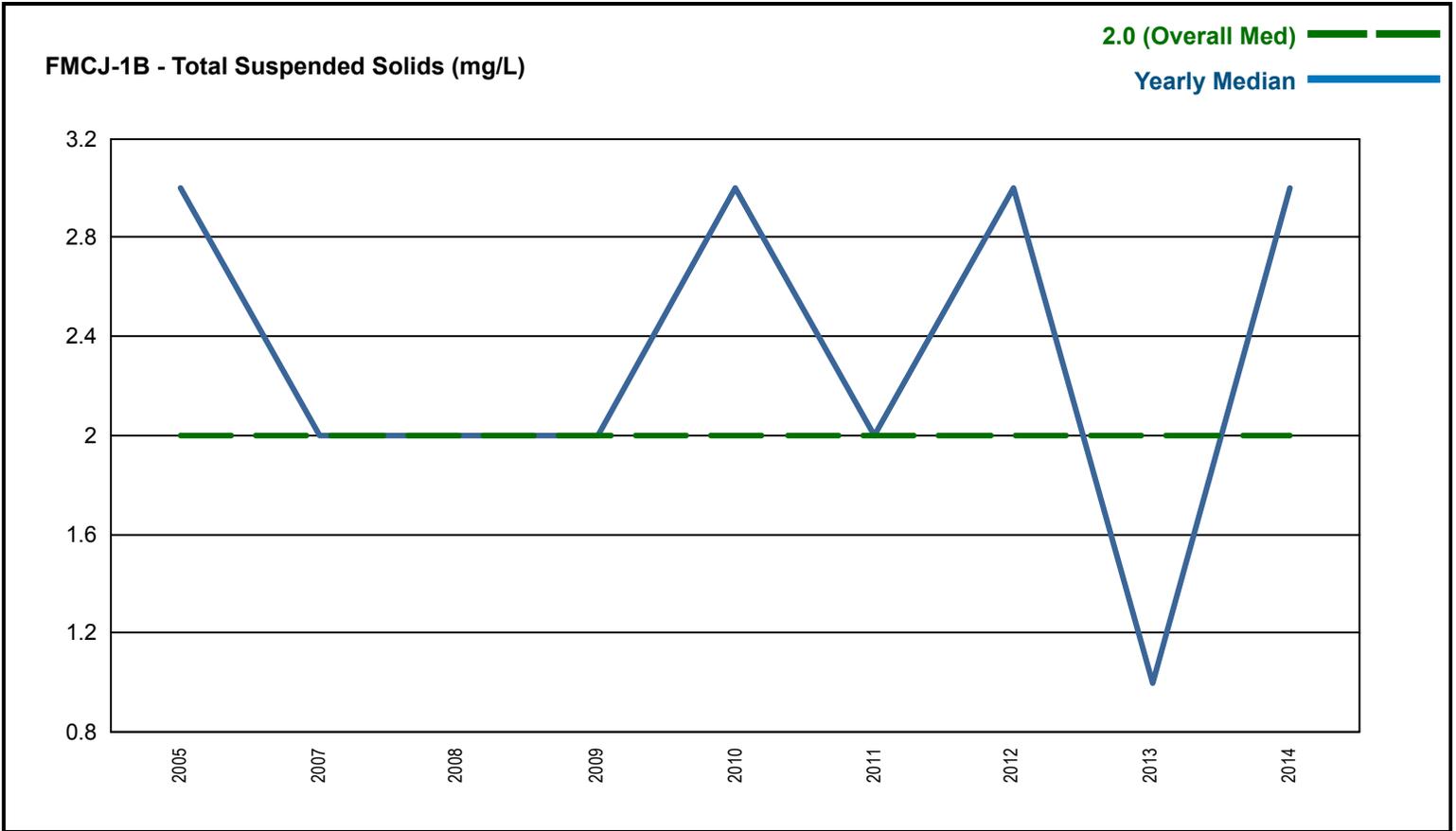
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



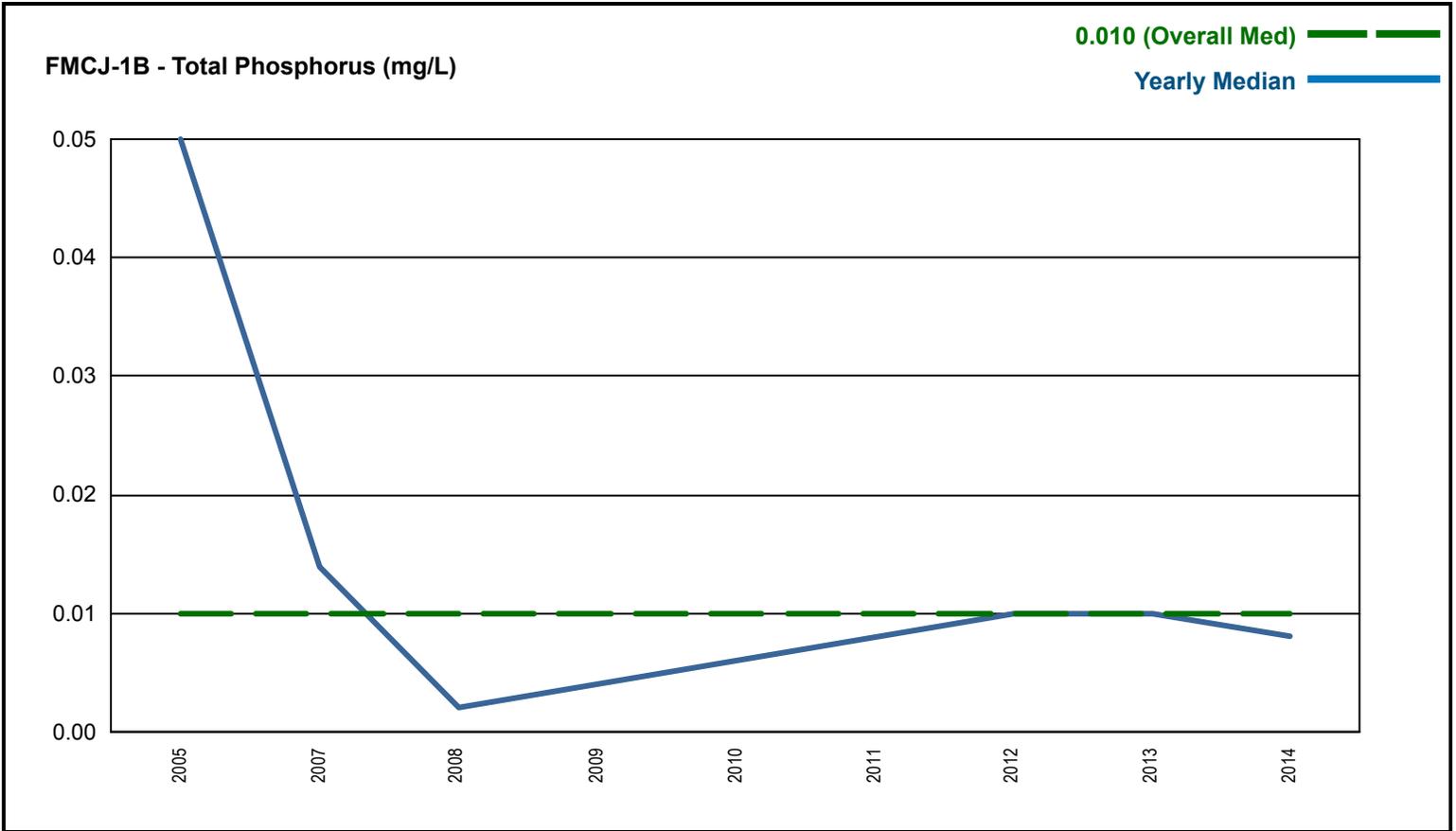
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



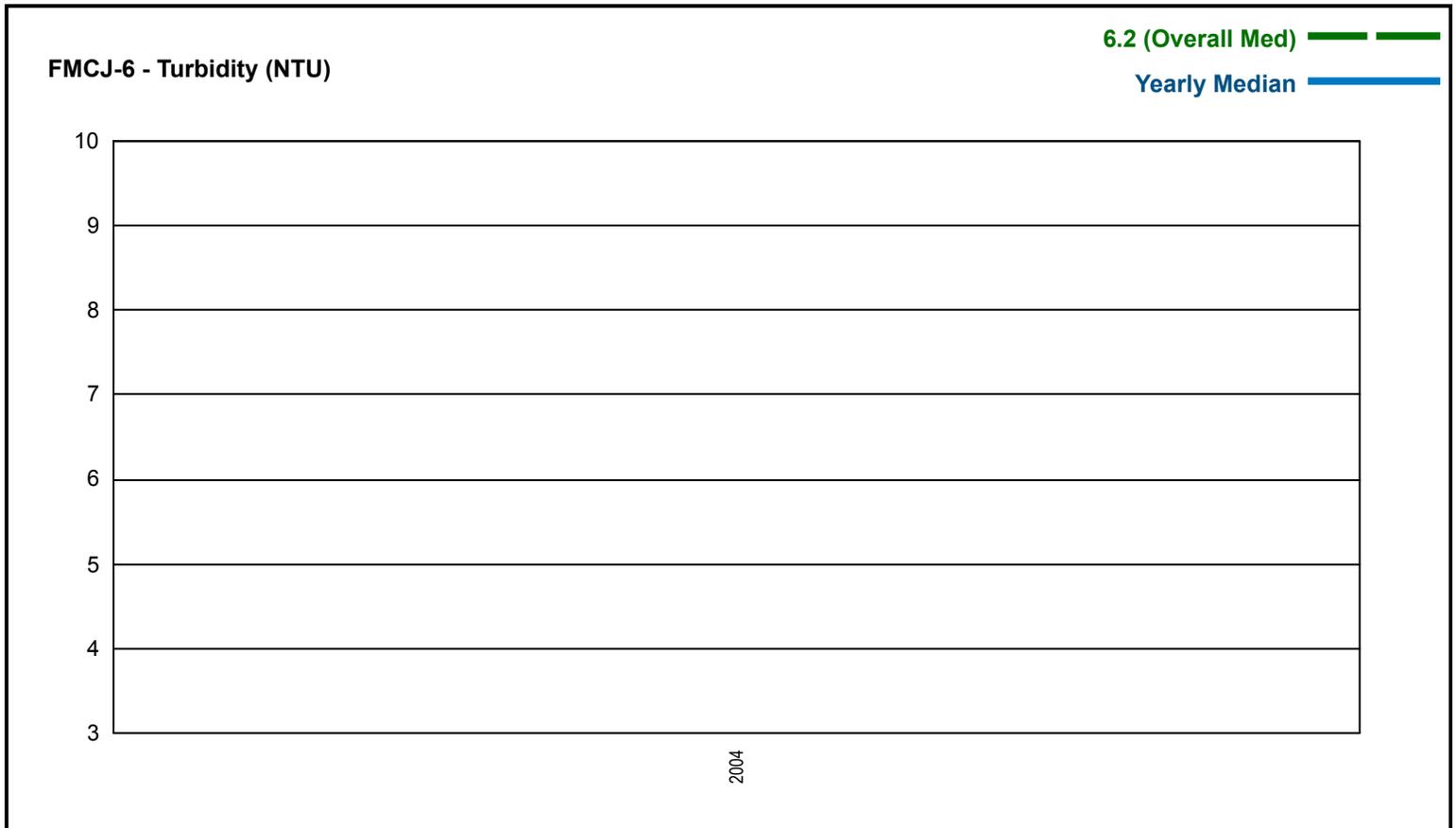
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

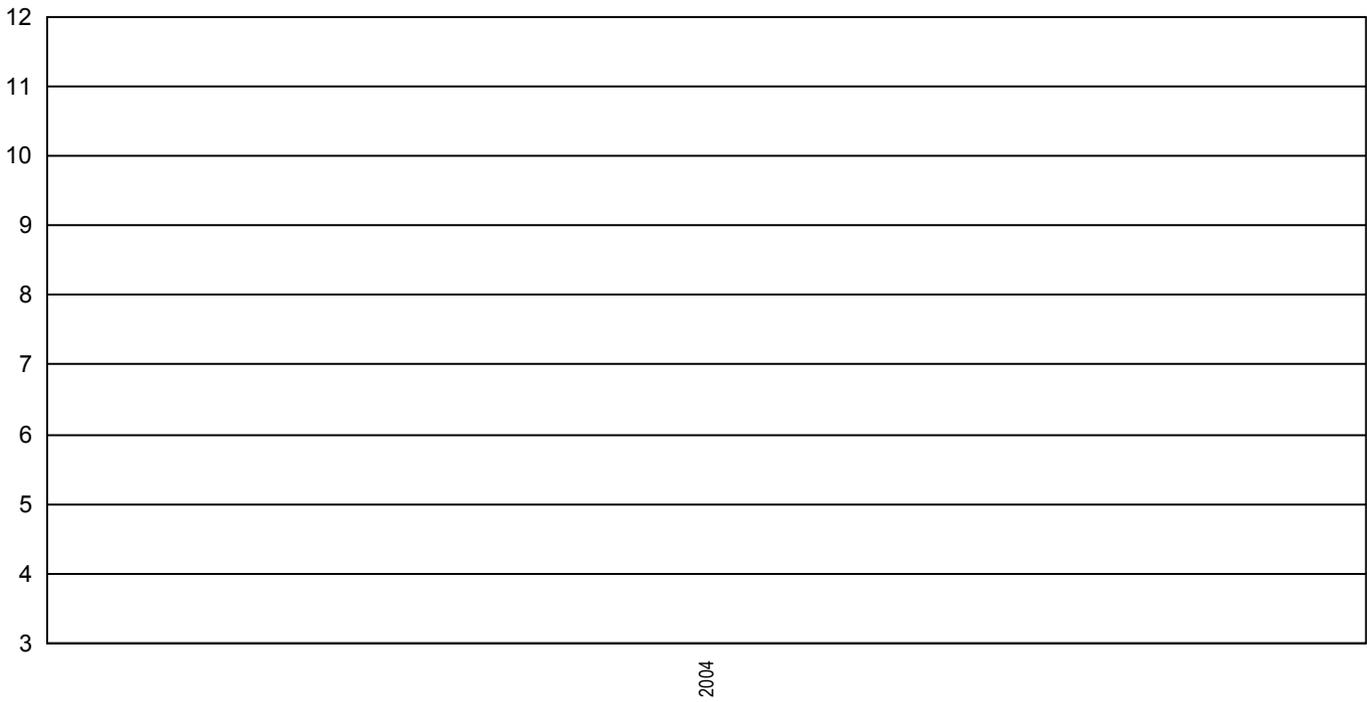


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

## FMCJ-6 - Total Suspended Solids (mg/L)

7.5 (Overall Med) 

Yearly Median 



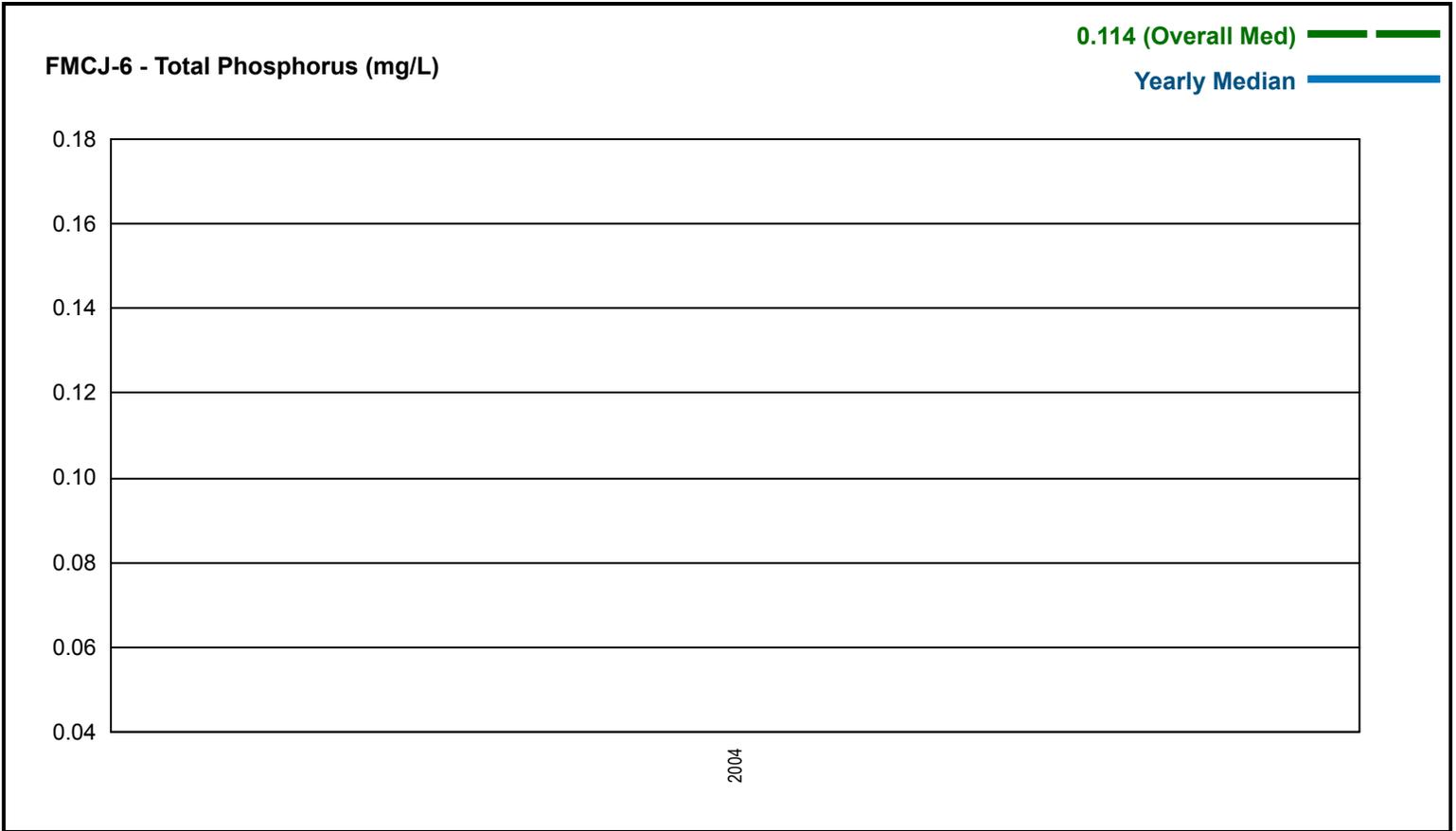
## FMCJ-6 - Total Nitrogen (mg/L)

2.072 (Overall Med) 

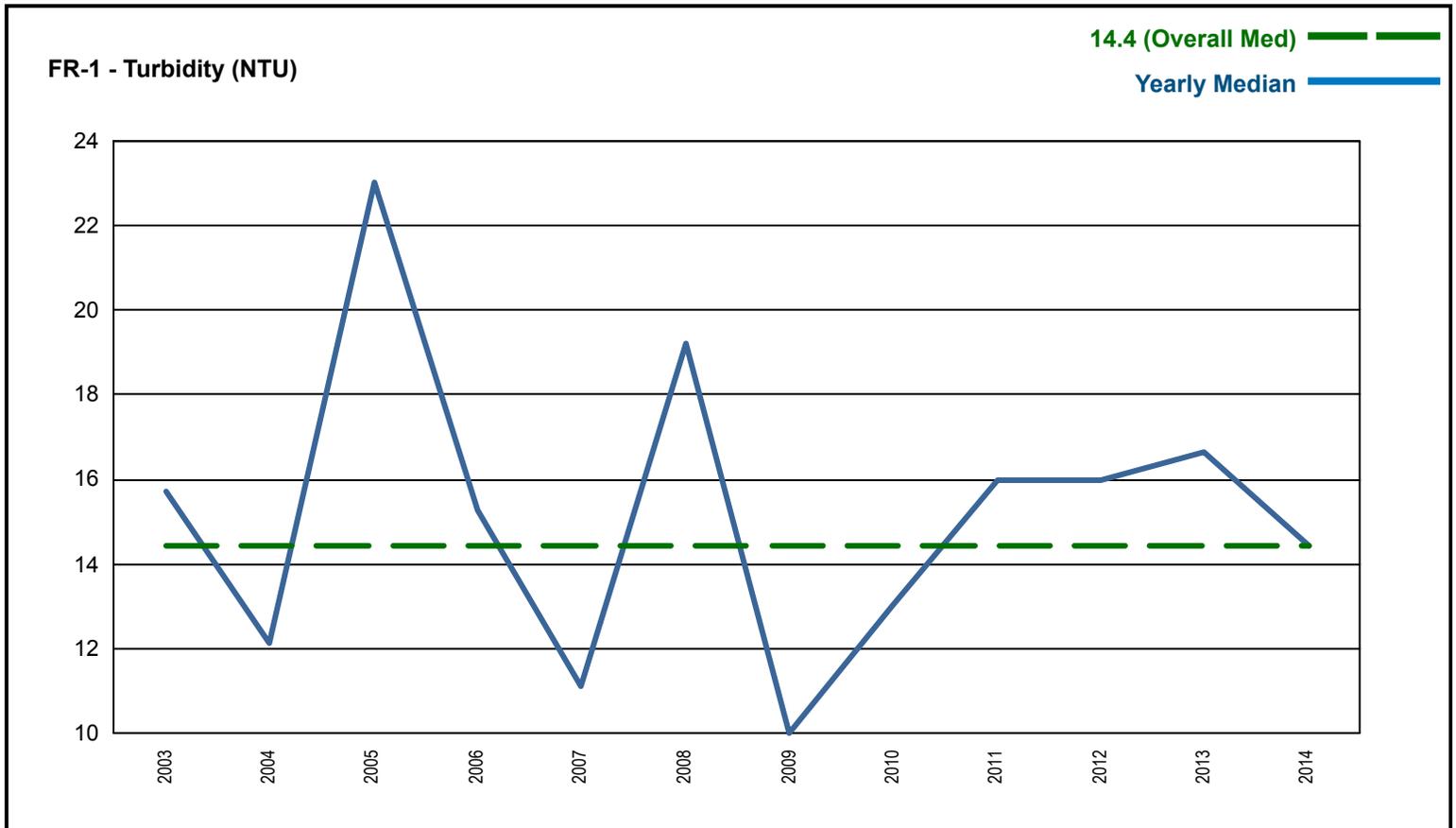
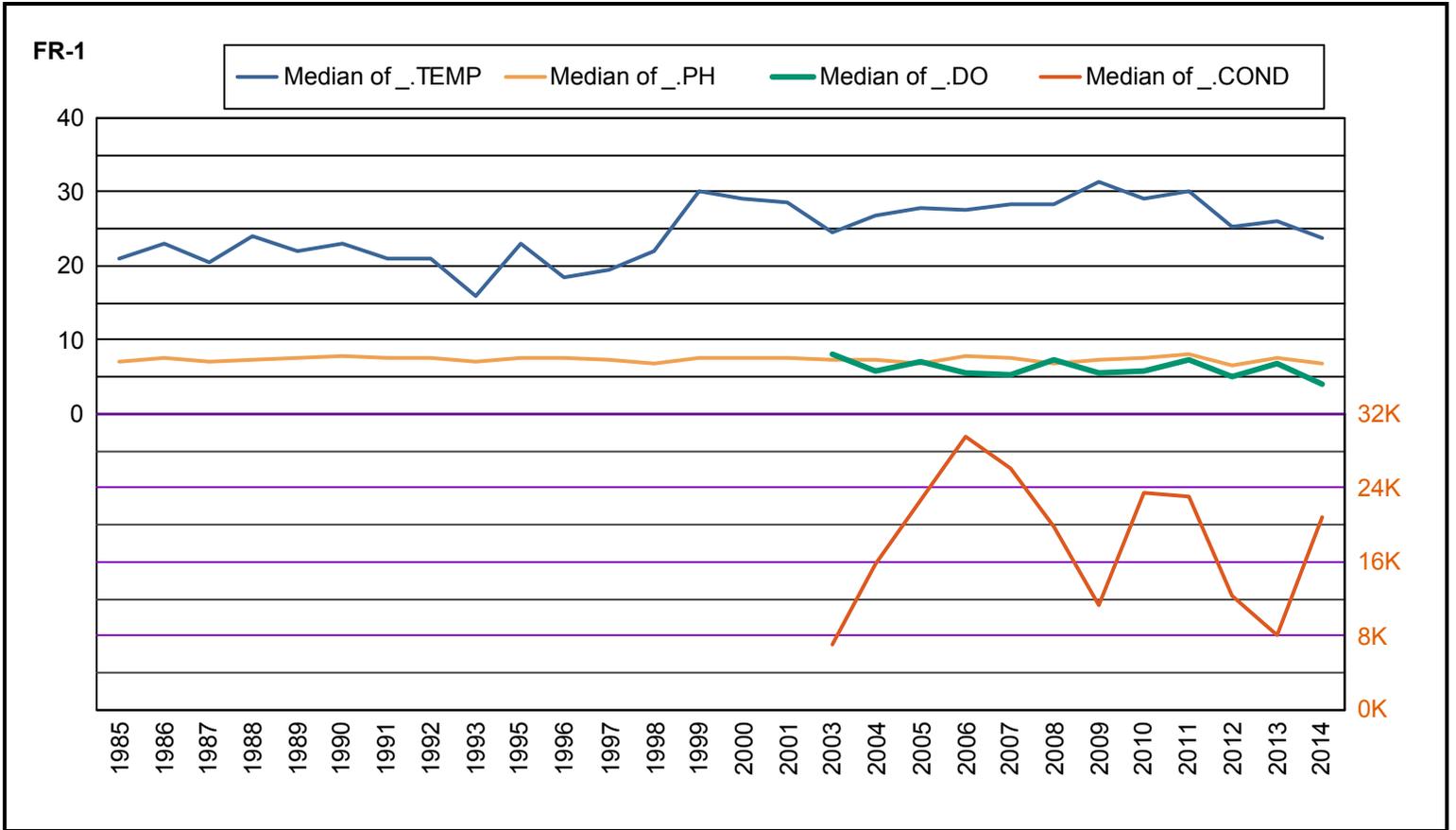
Yearly Median 



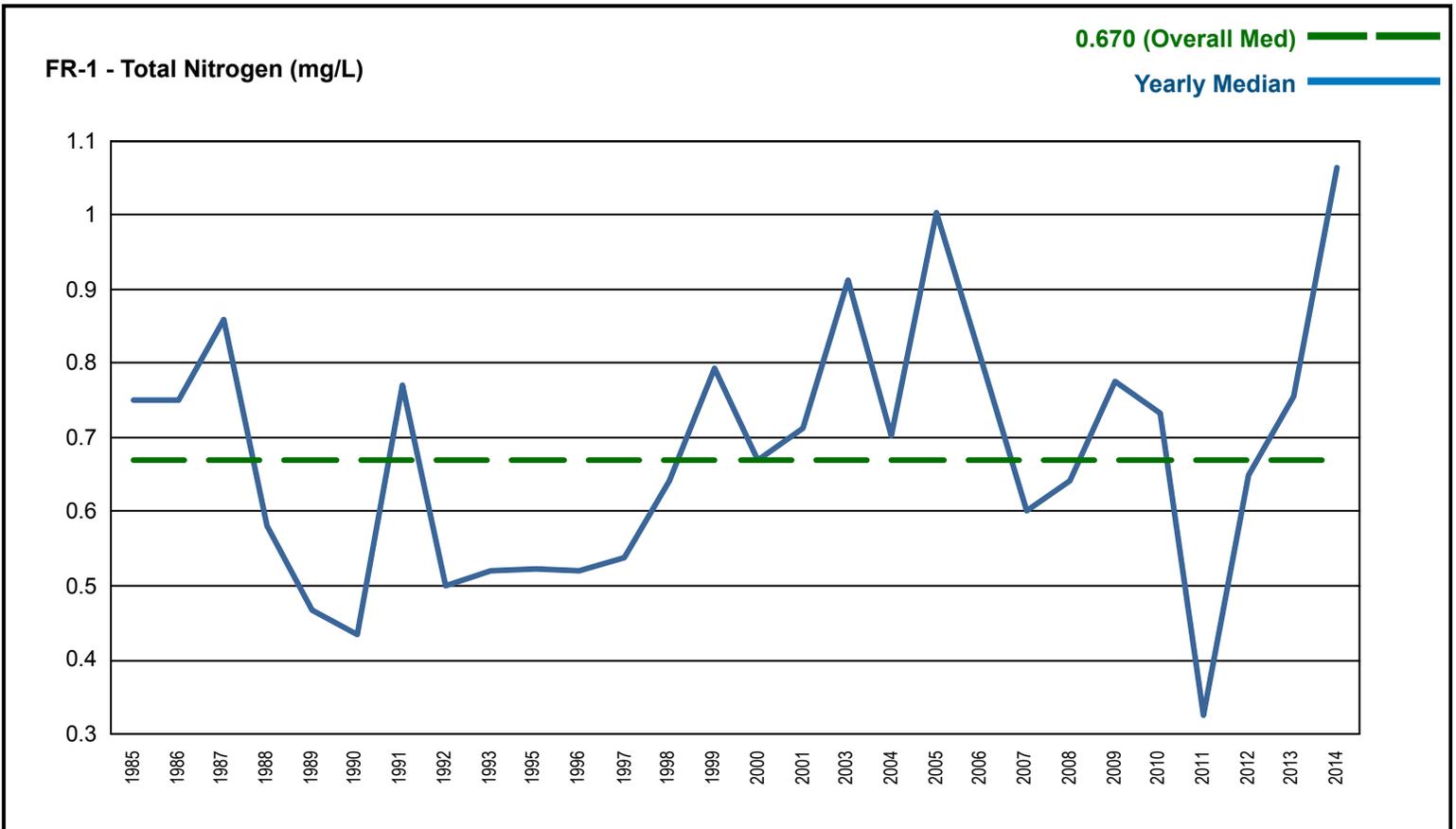
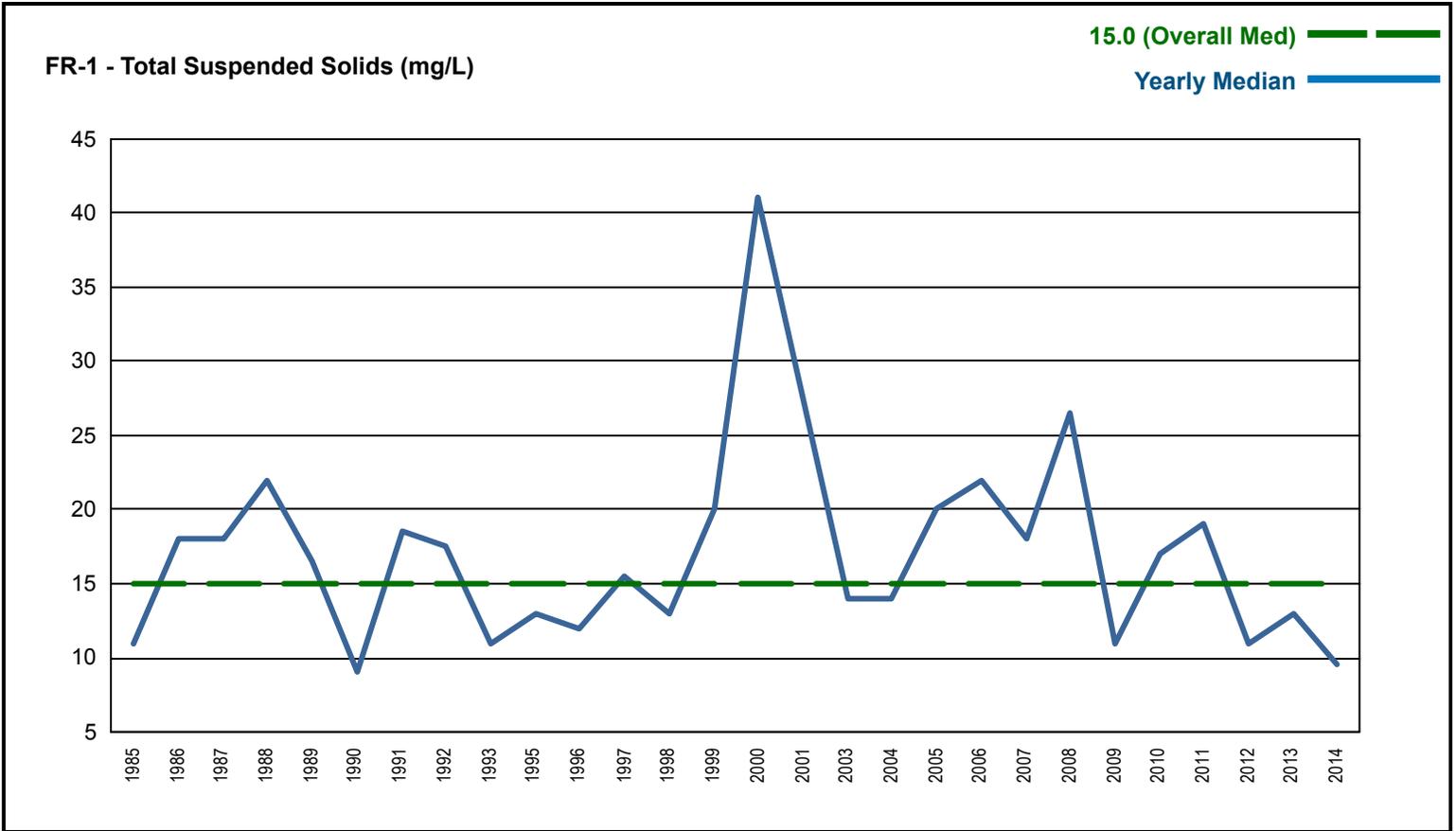
ADEM Ambient Trend Stations - Sampled 1977 - 2014



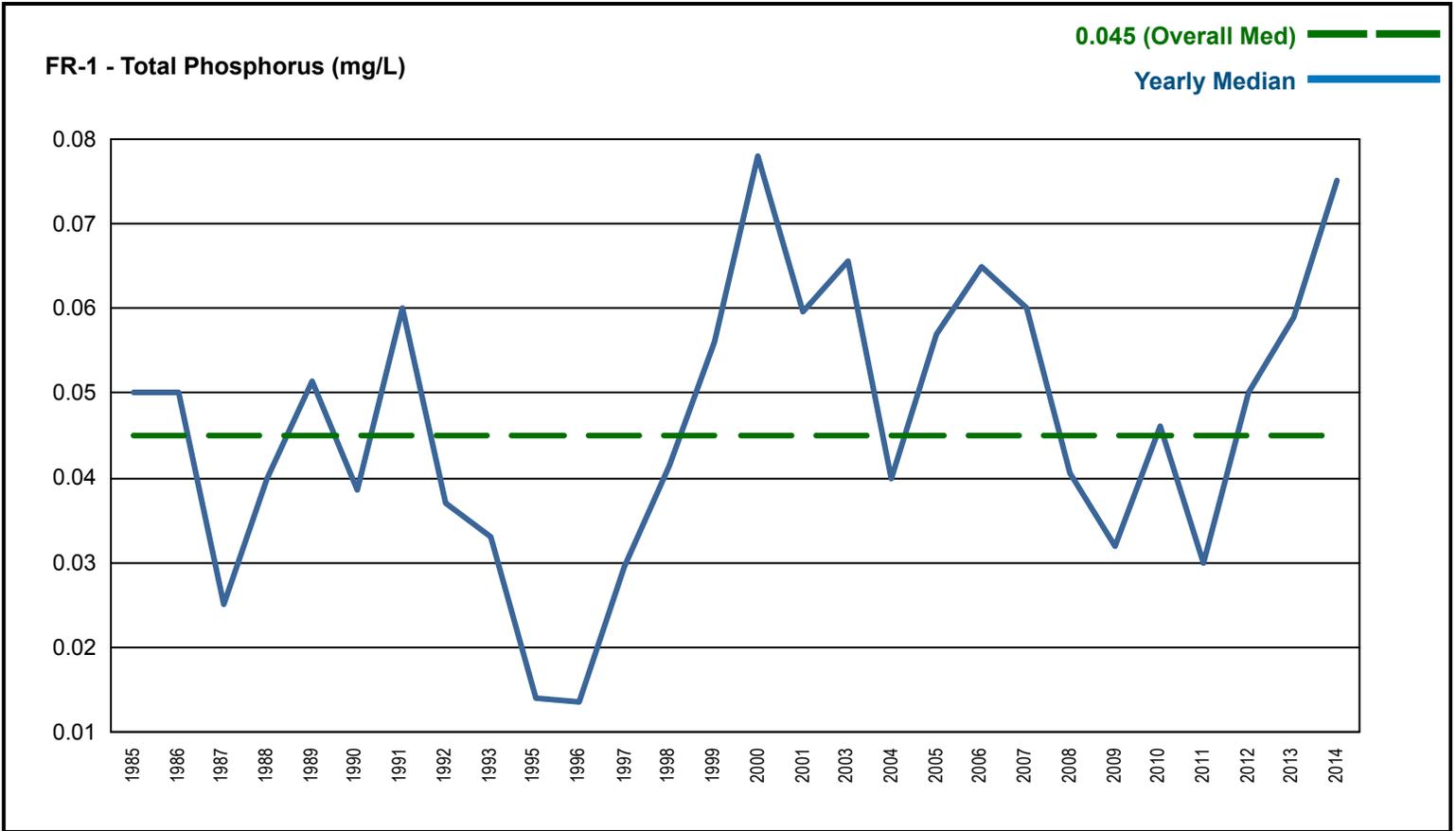
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



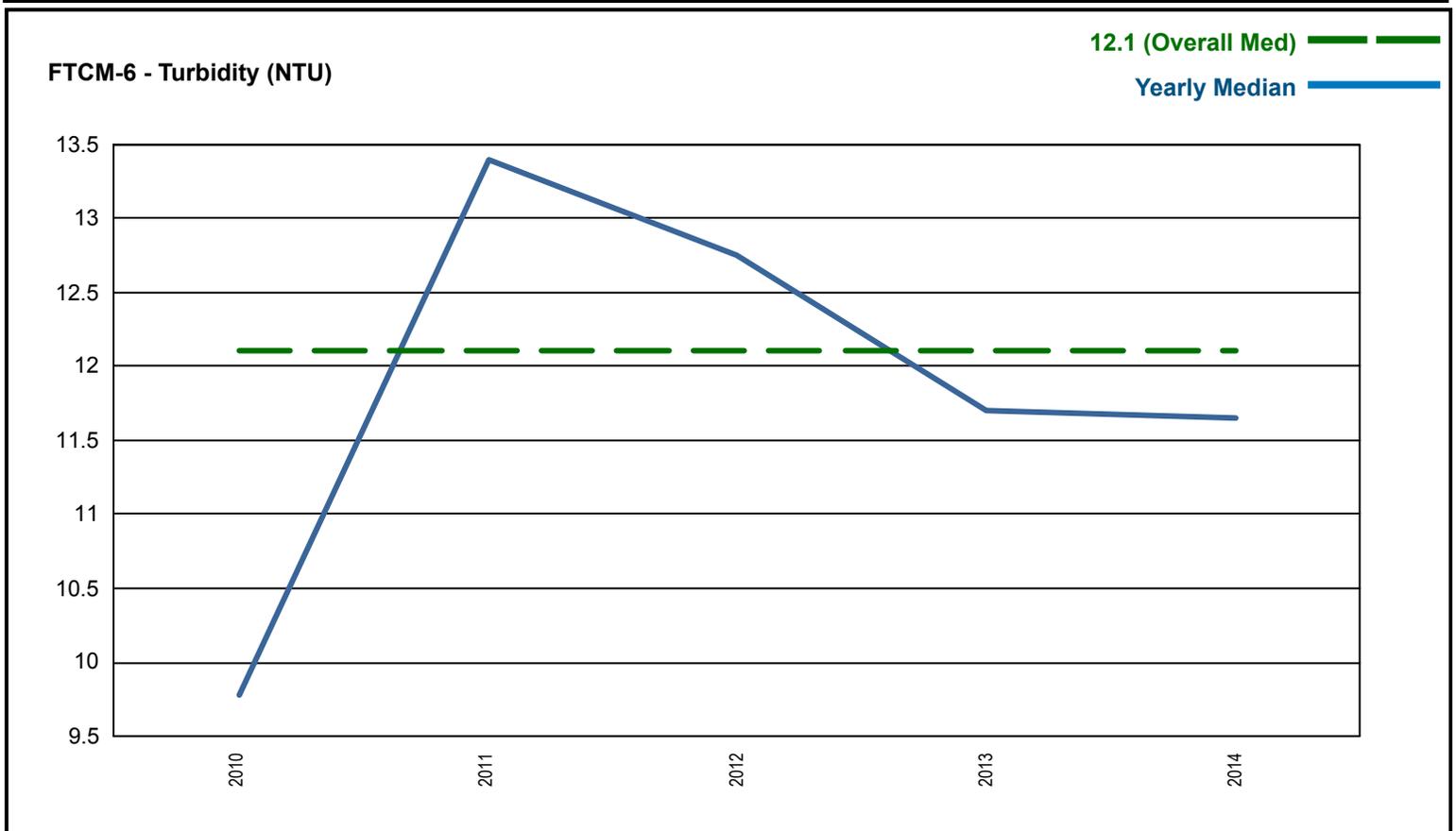
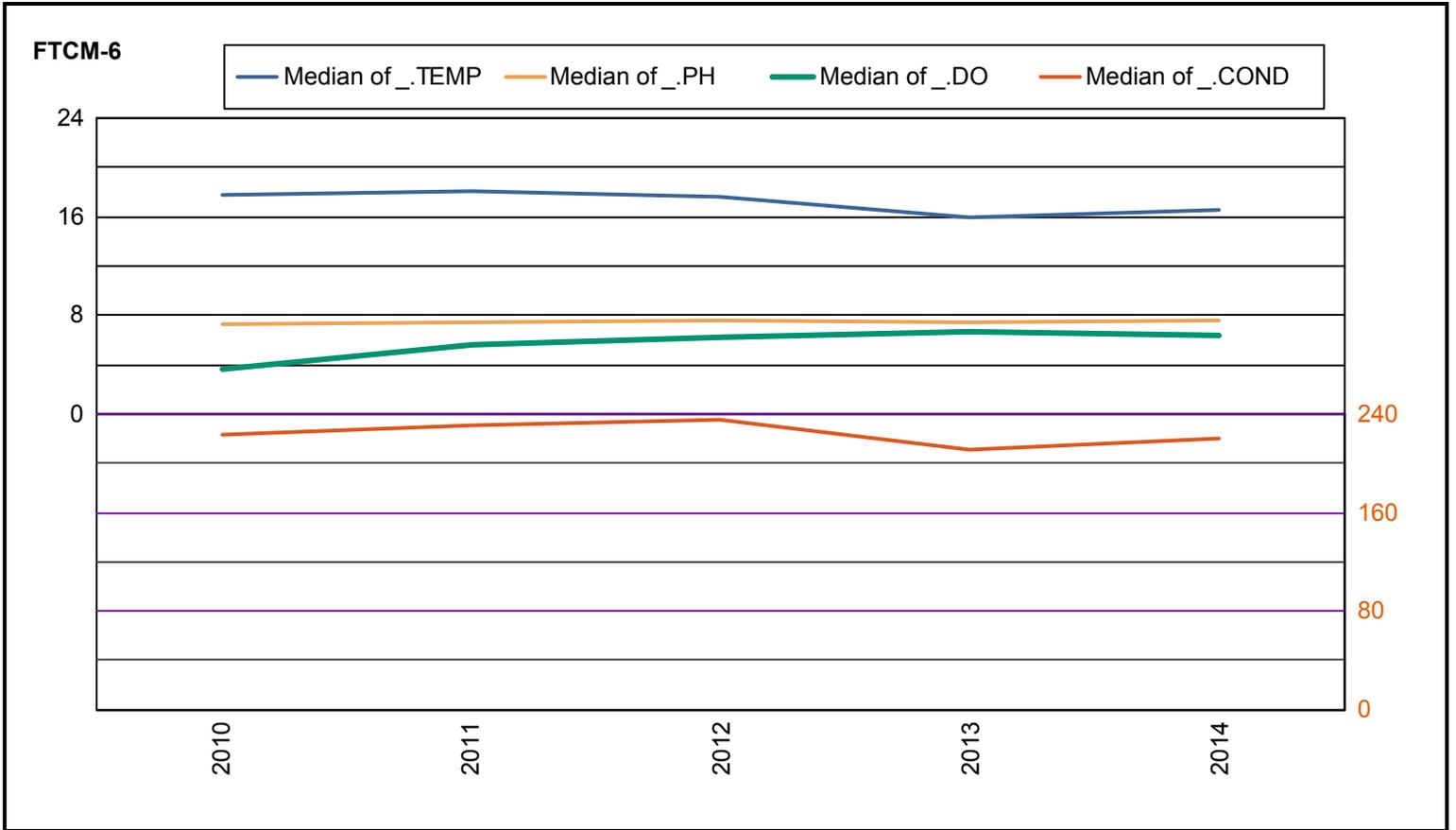
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014

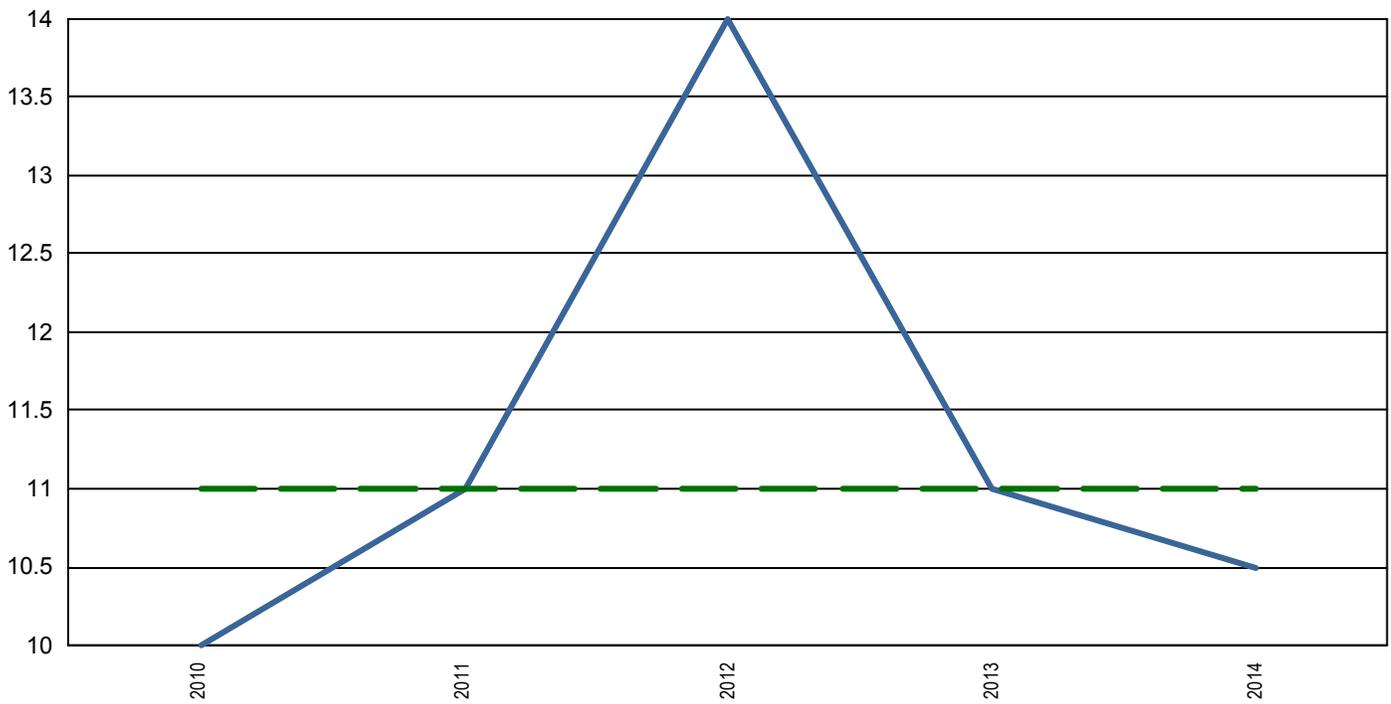


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

## FTCM-6 - Total Suspended Solids (mg/L)

11.0 (Overall Med) 

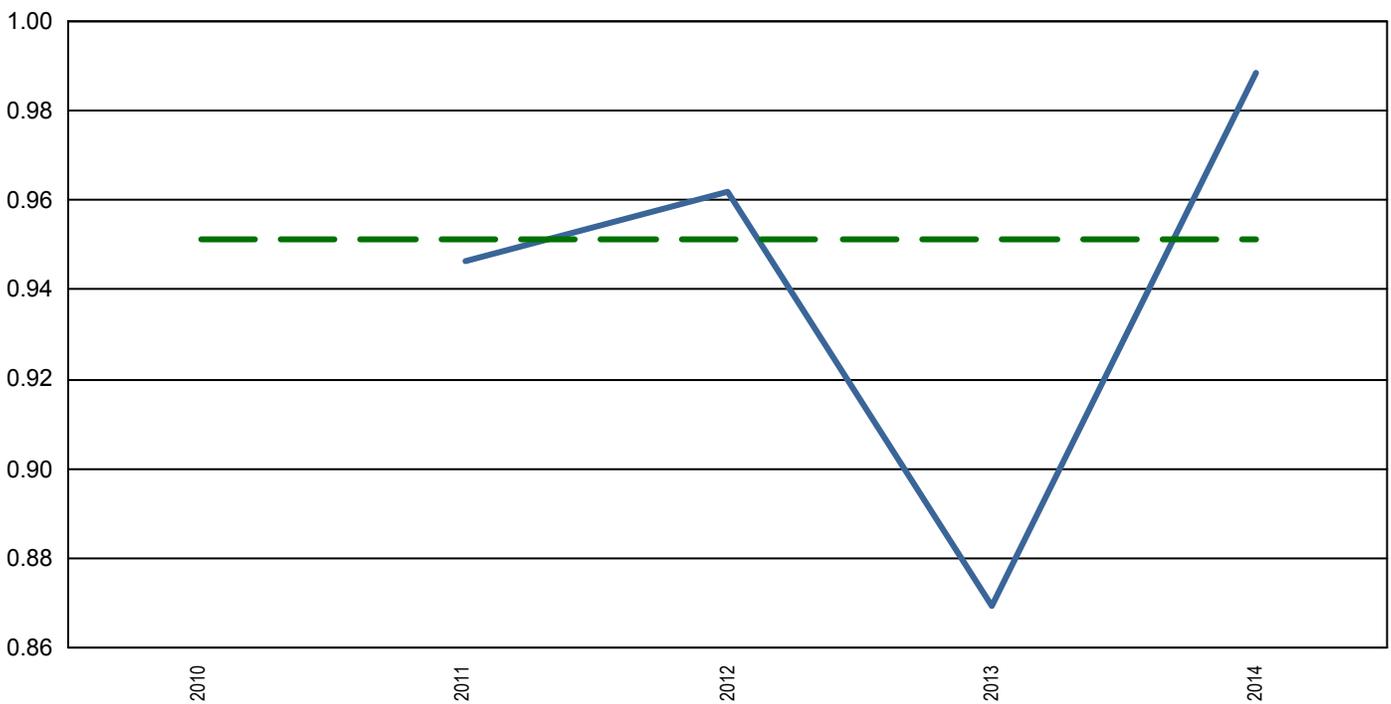
Yearly Median 



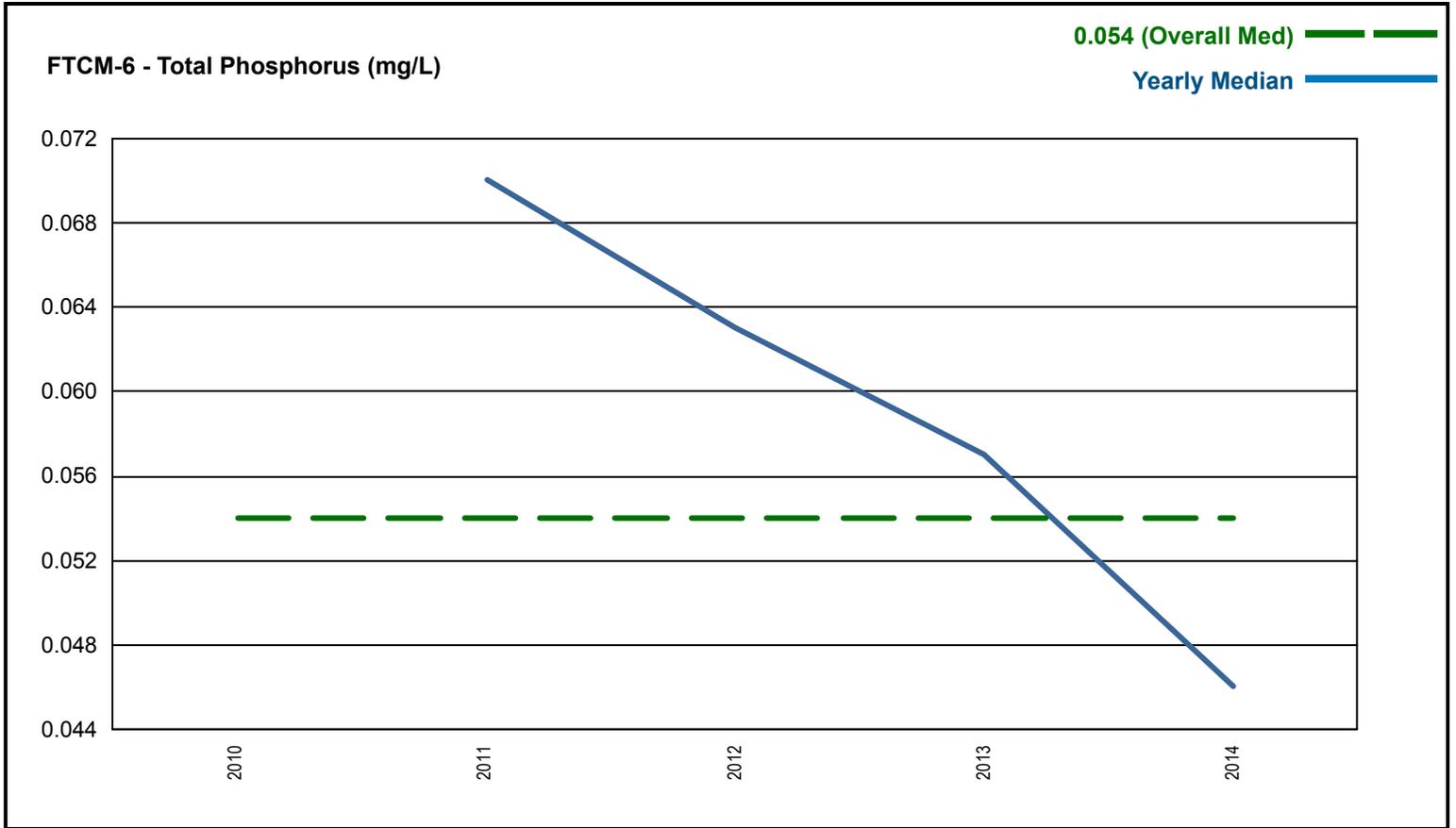
## FTCM-6 - Total Nitrogen (mg/L)

0.951 (Overall Med) 

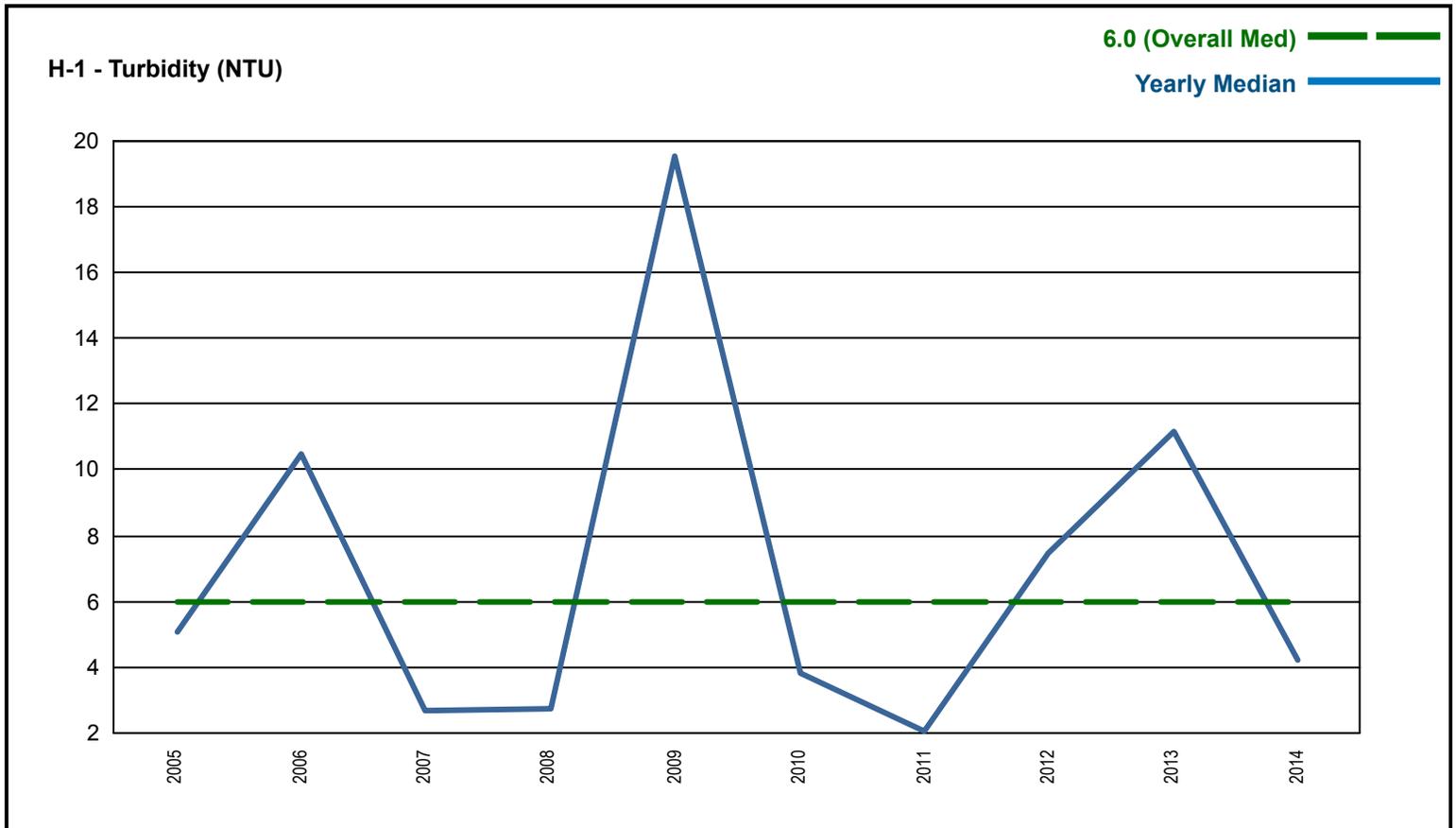
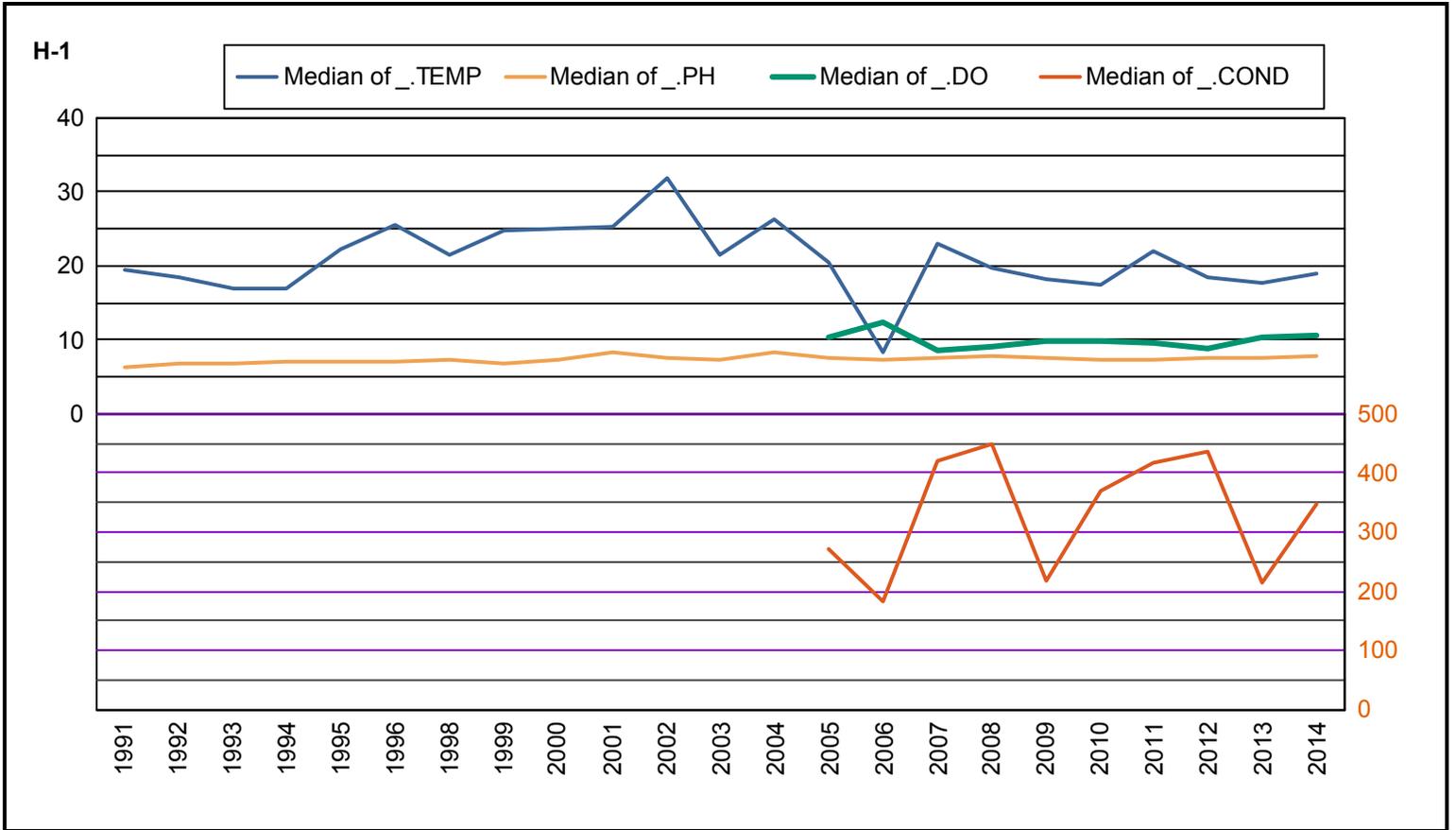
Yearly Median 



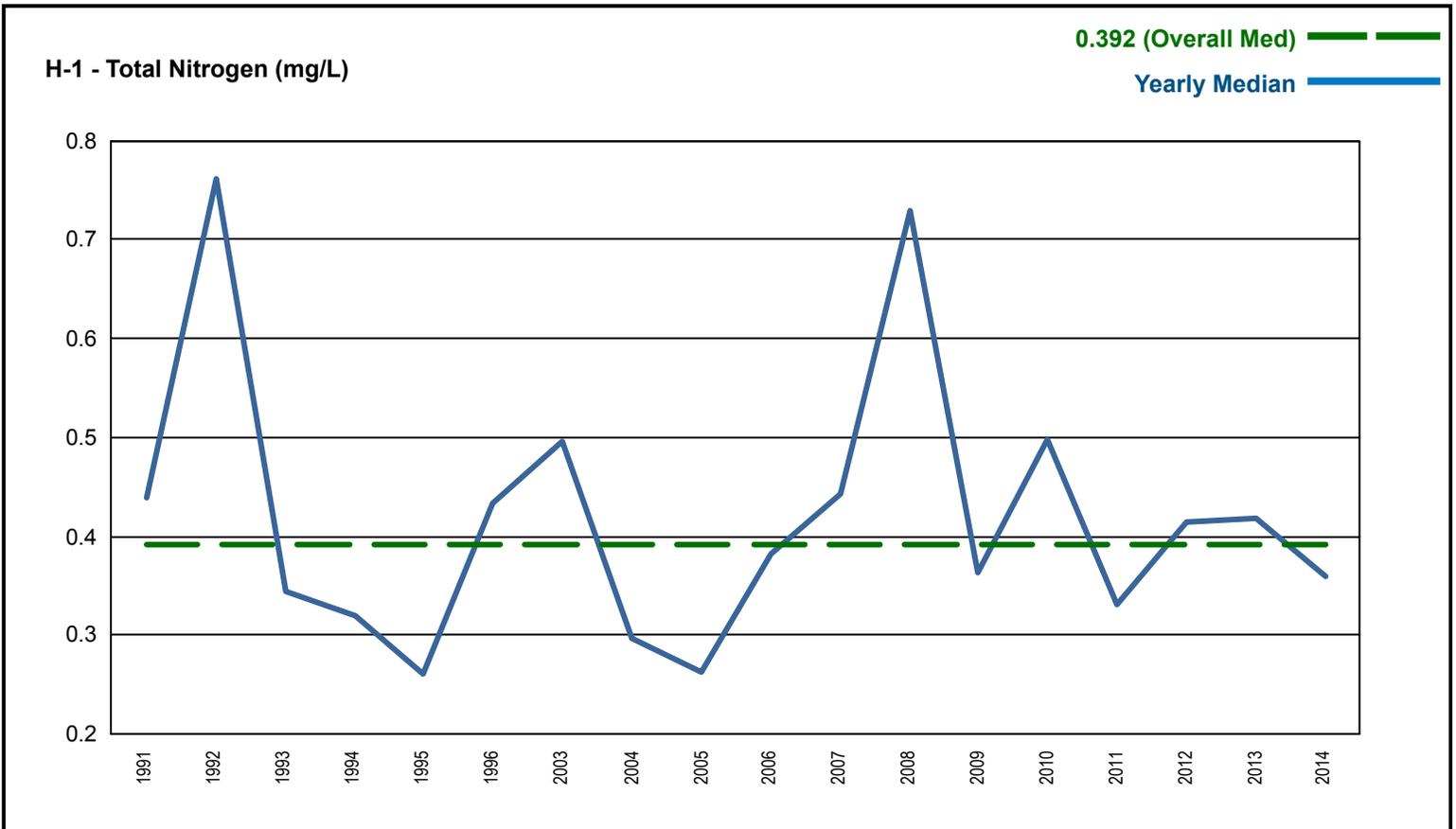
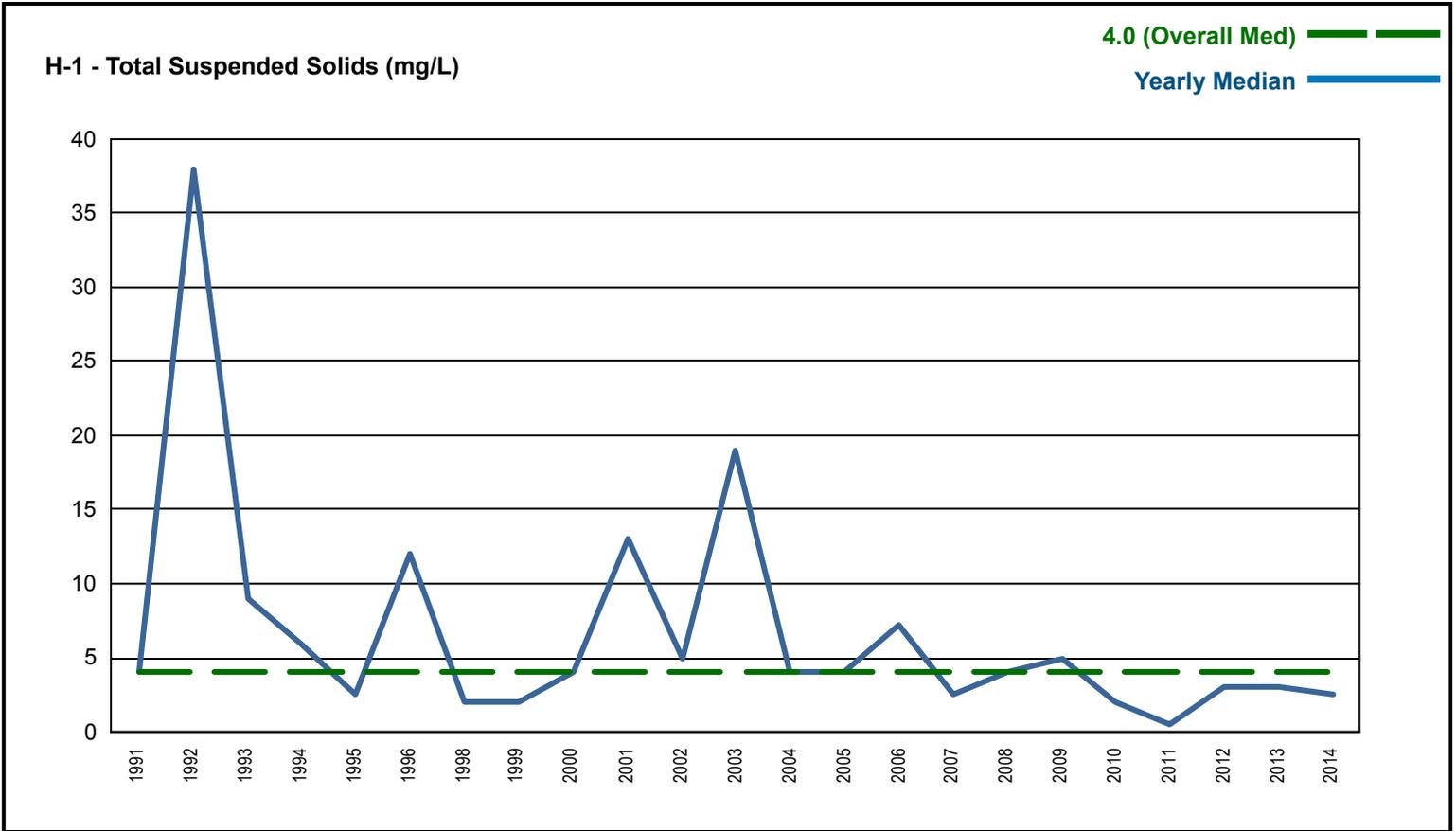
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



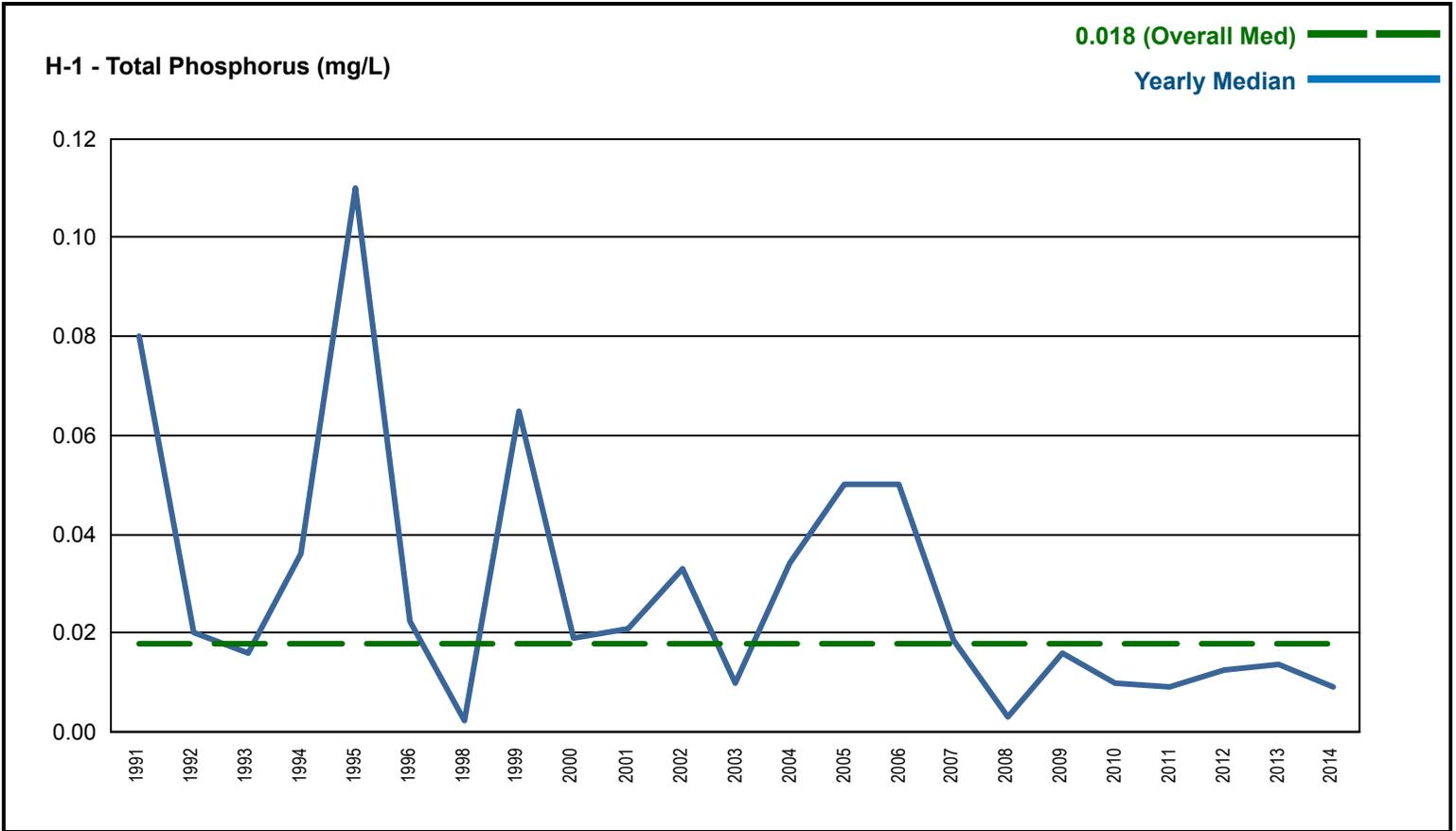
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



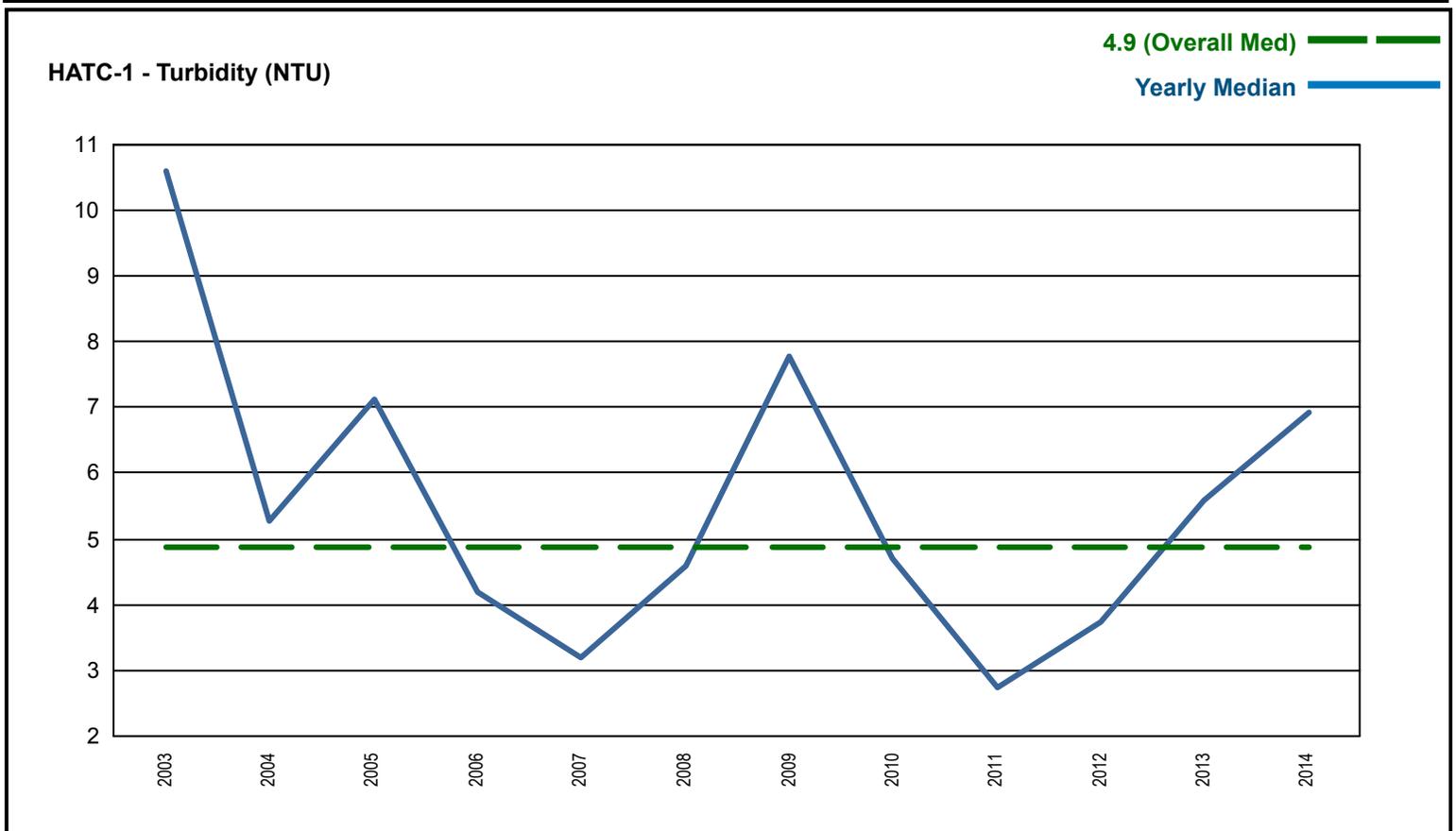
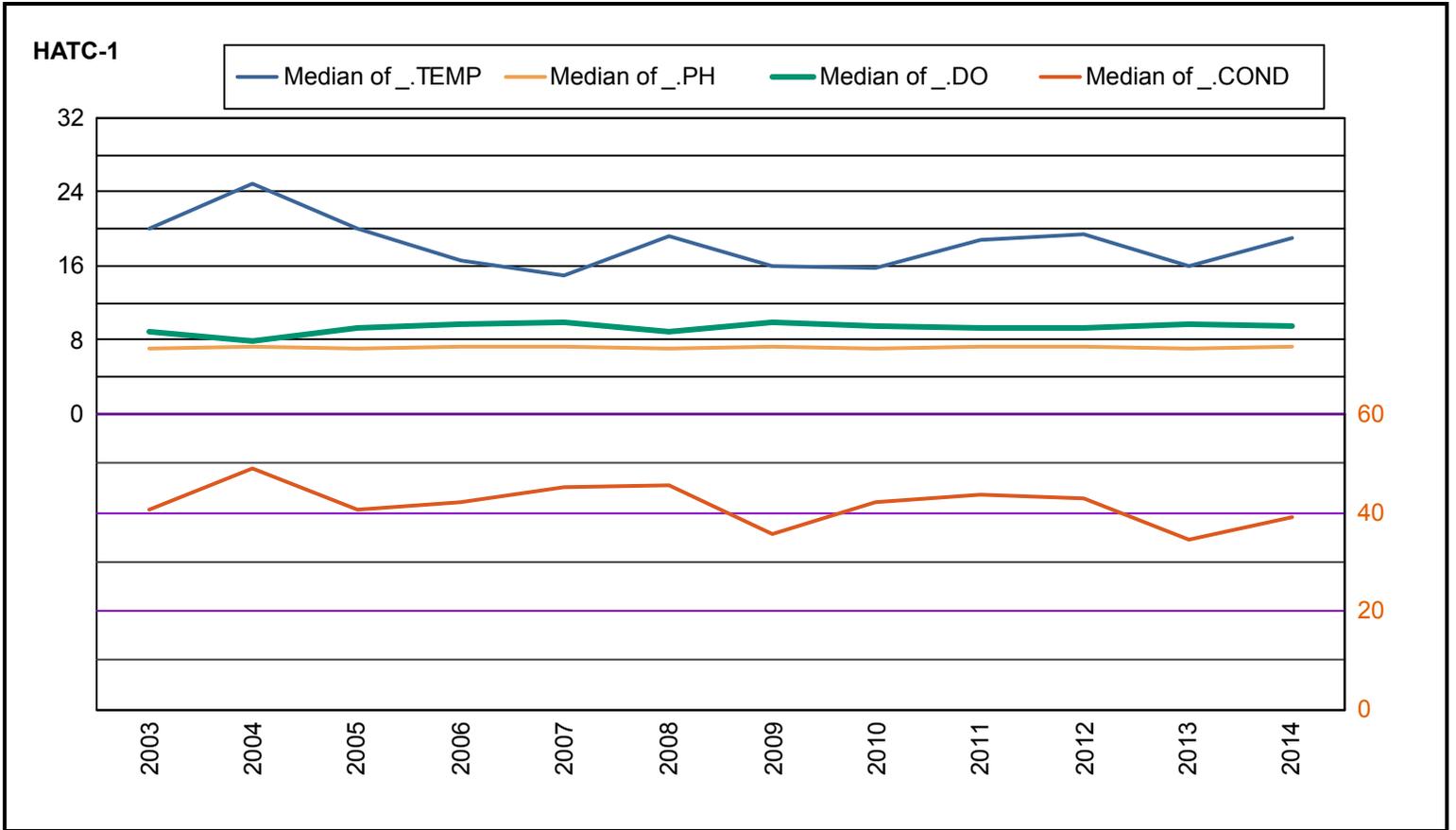
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



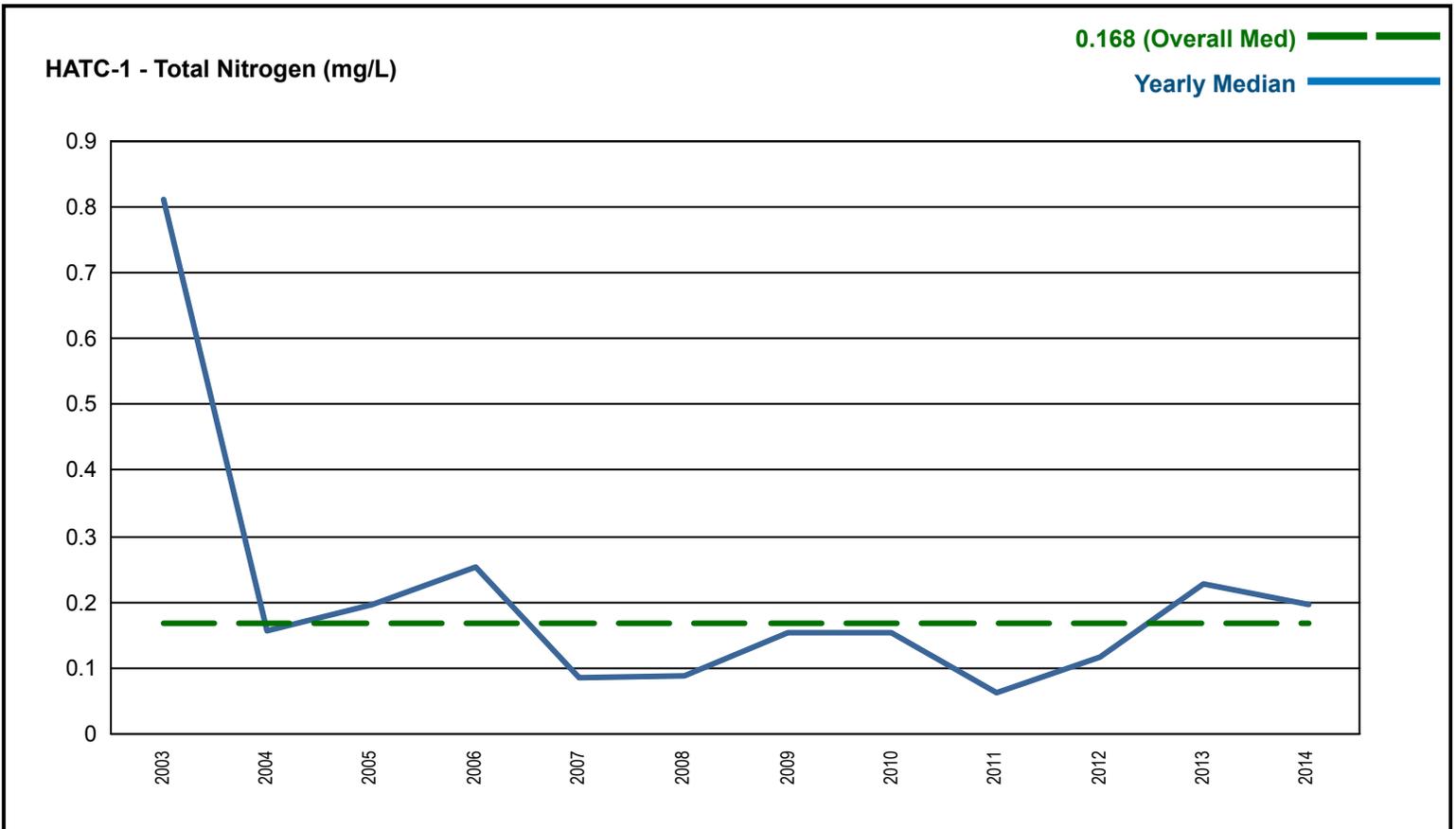
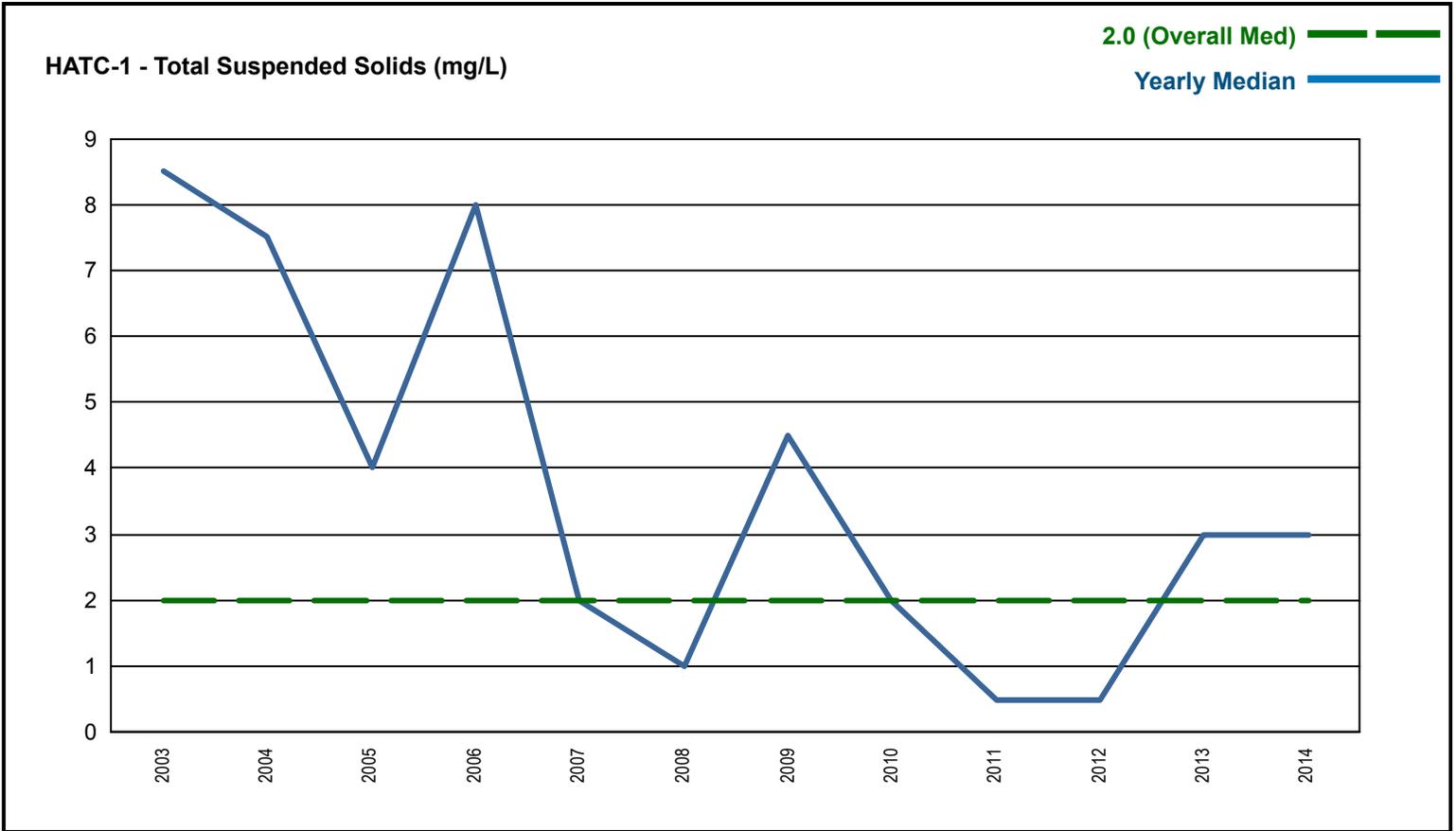
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



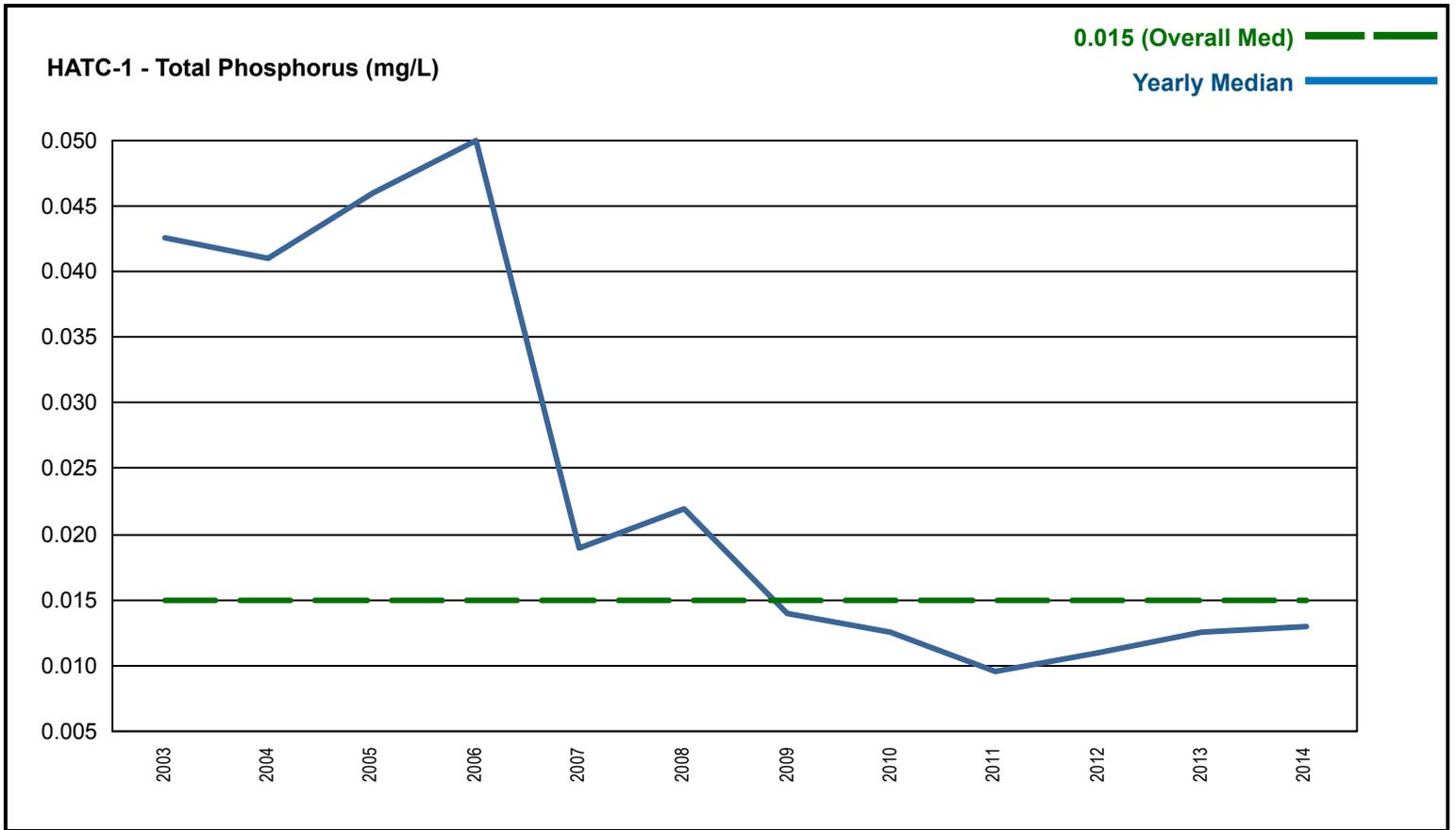
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



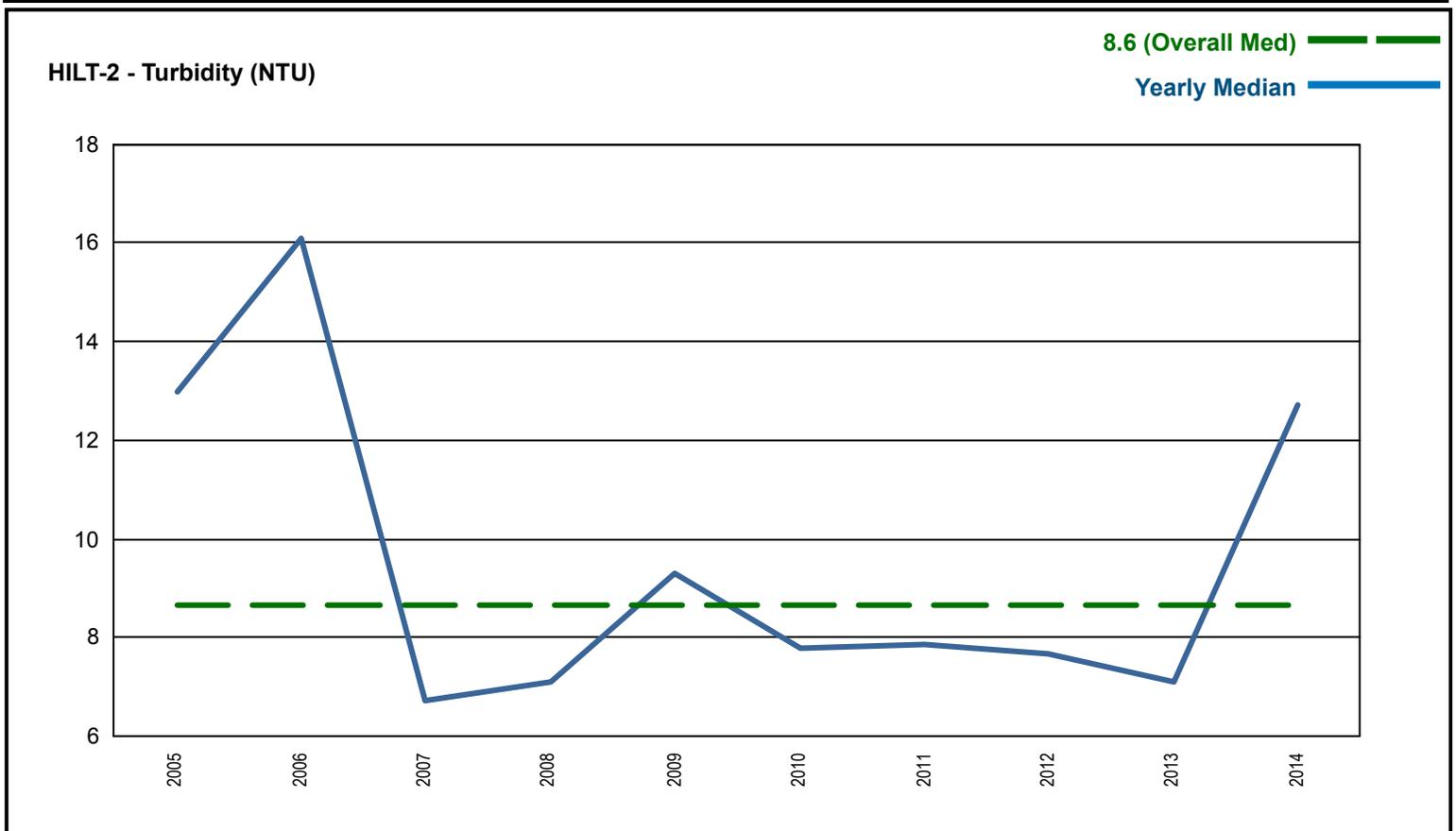
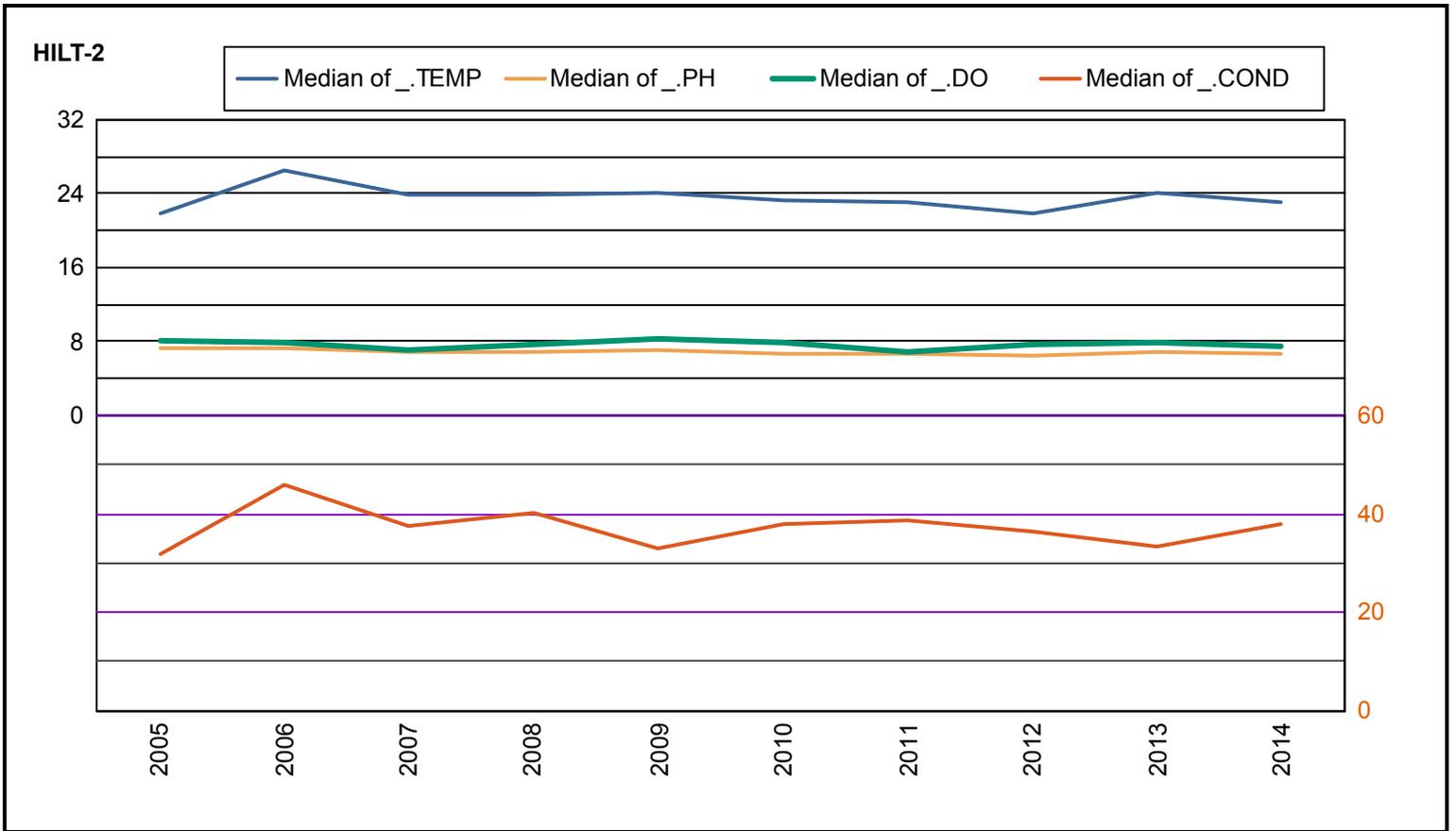
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



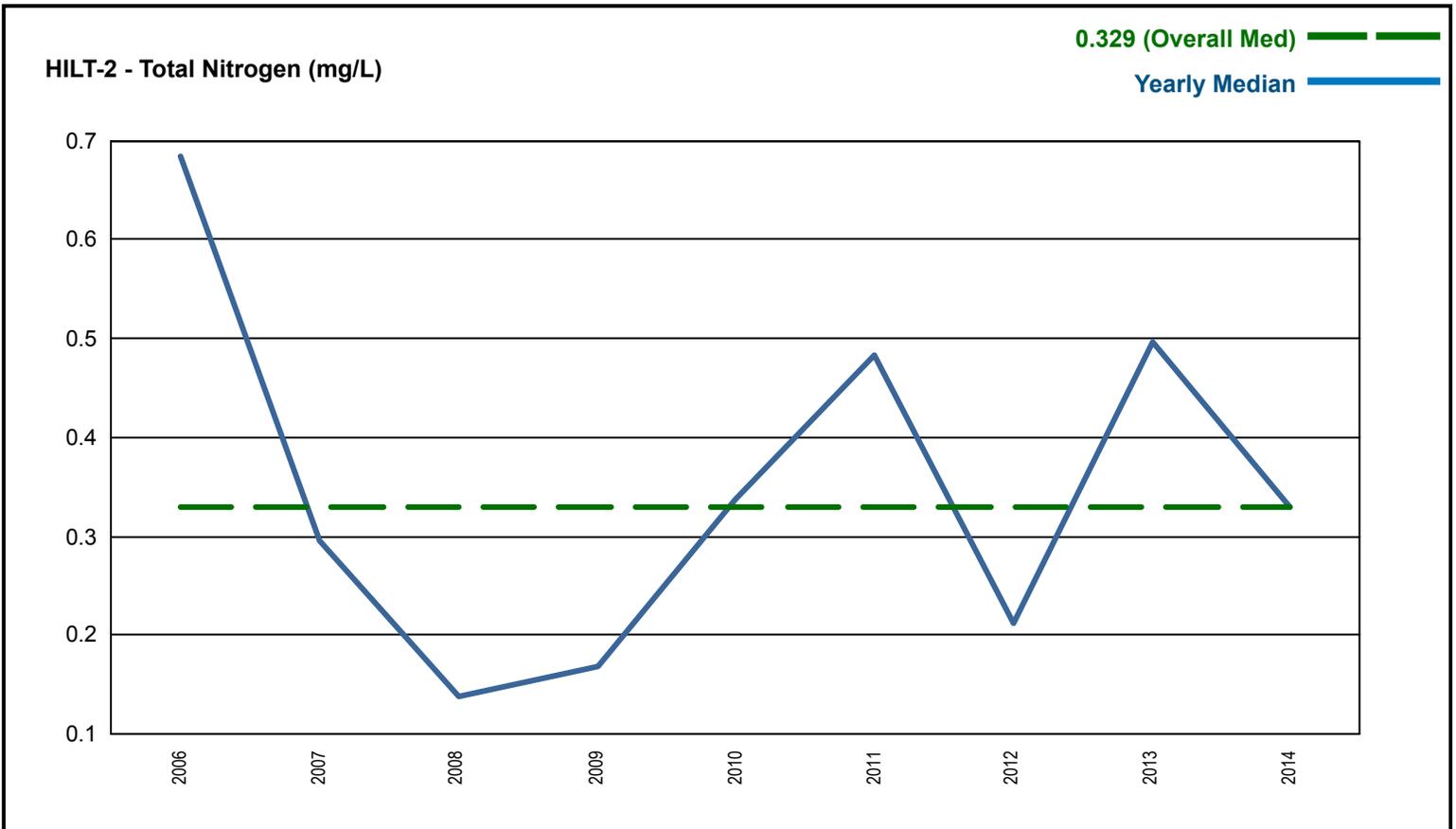
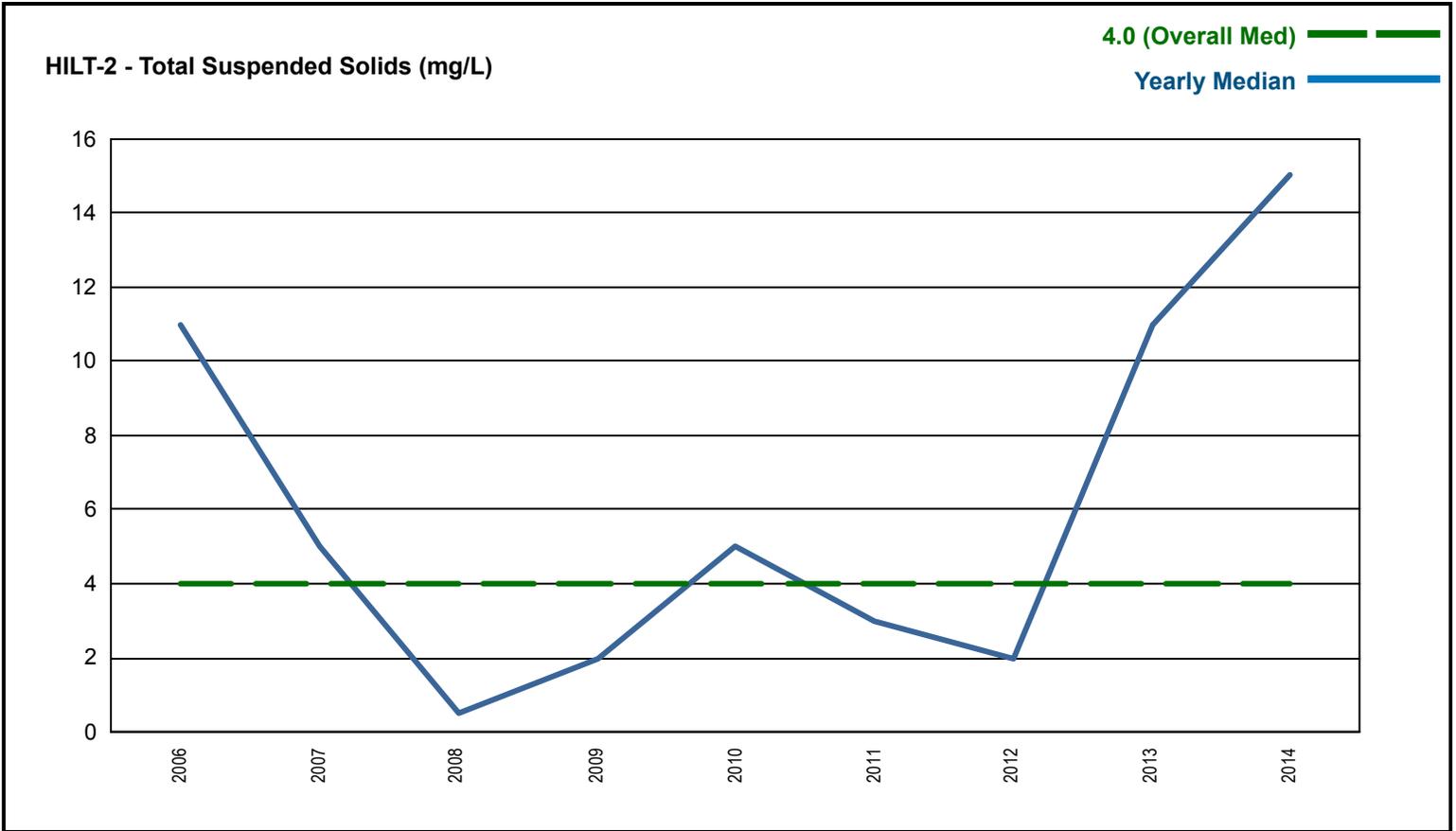
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



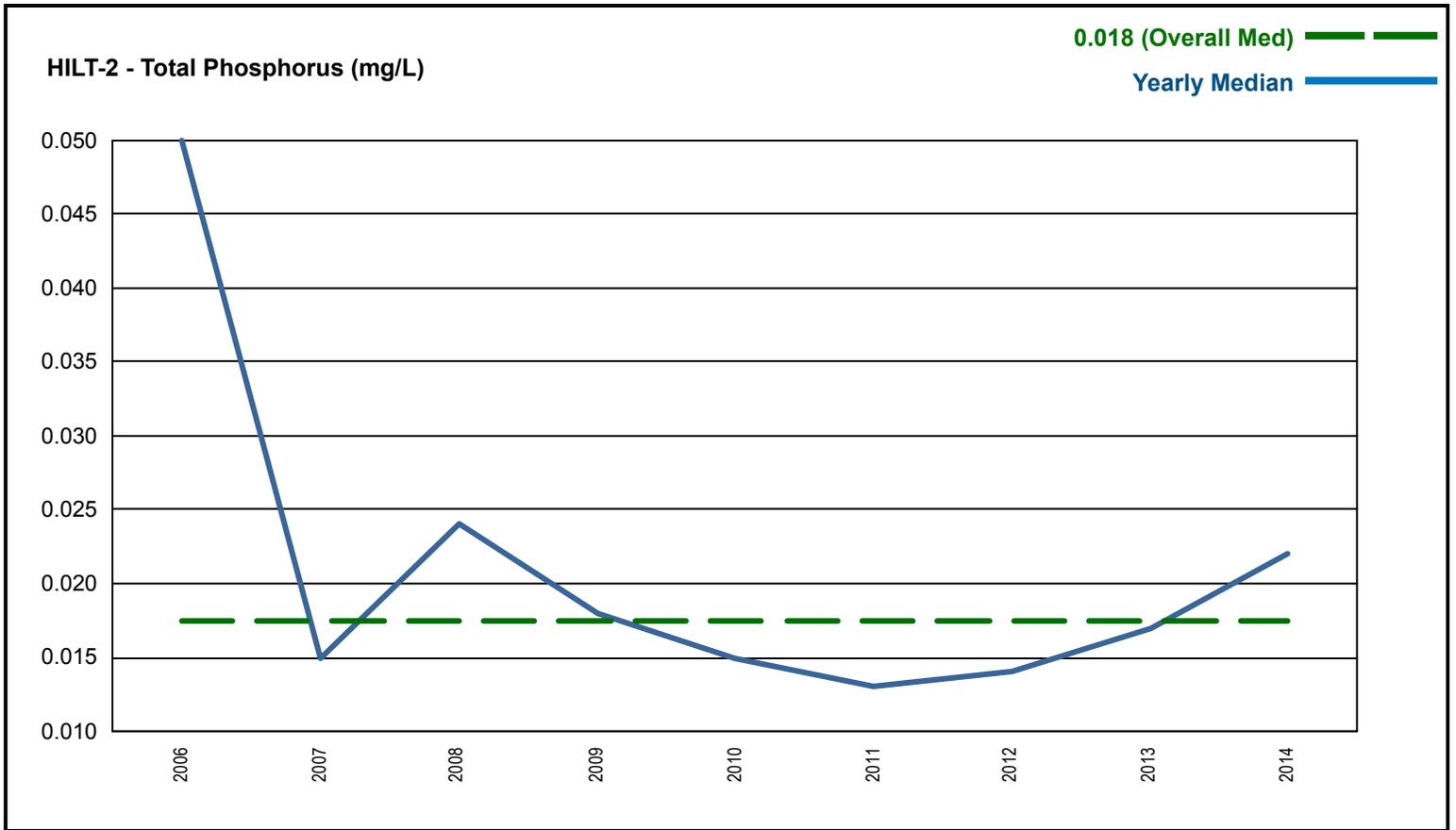
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



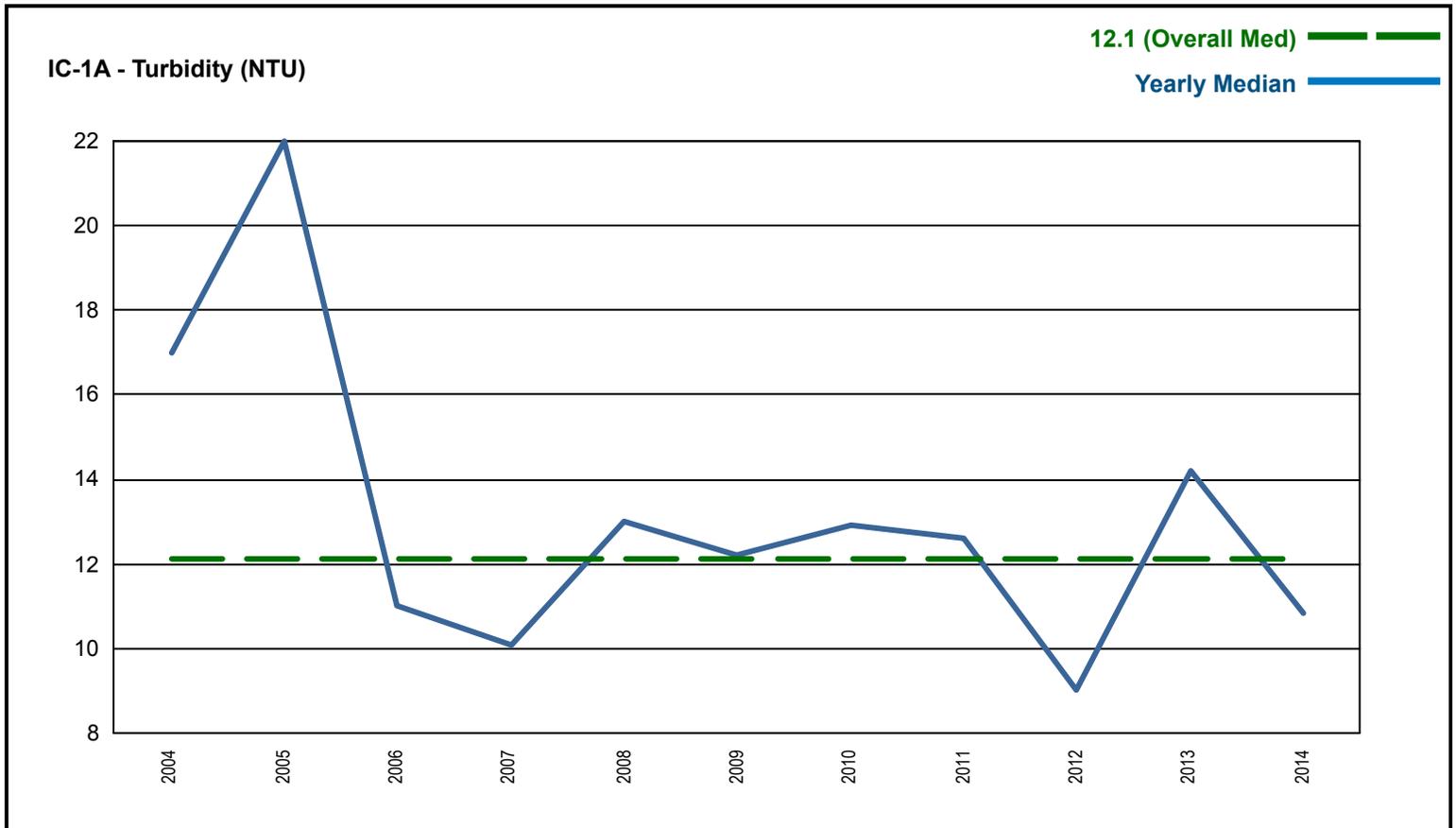
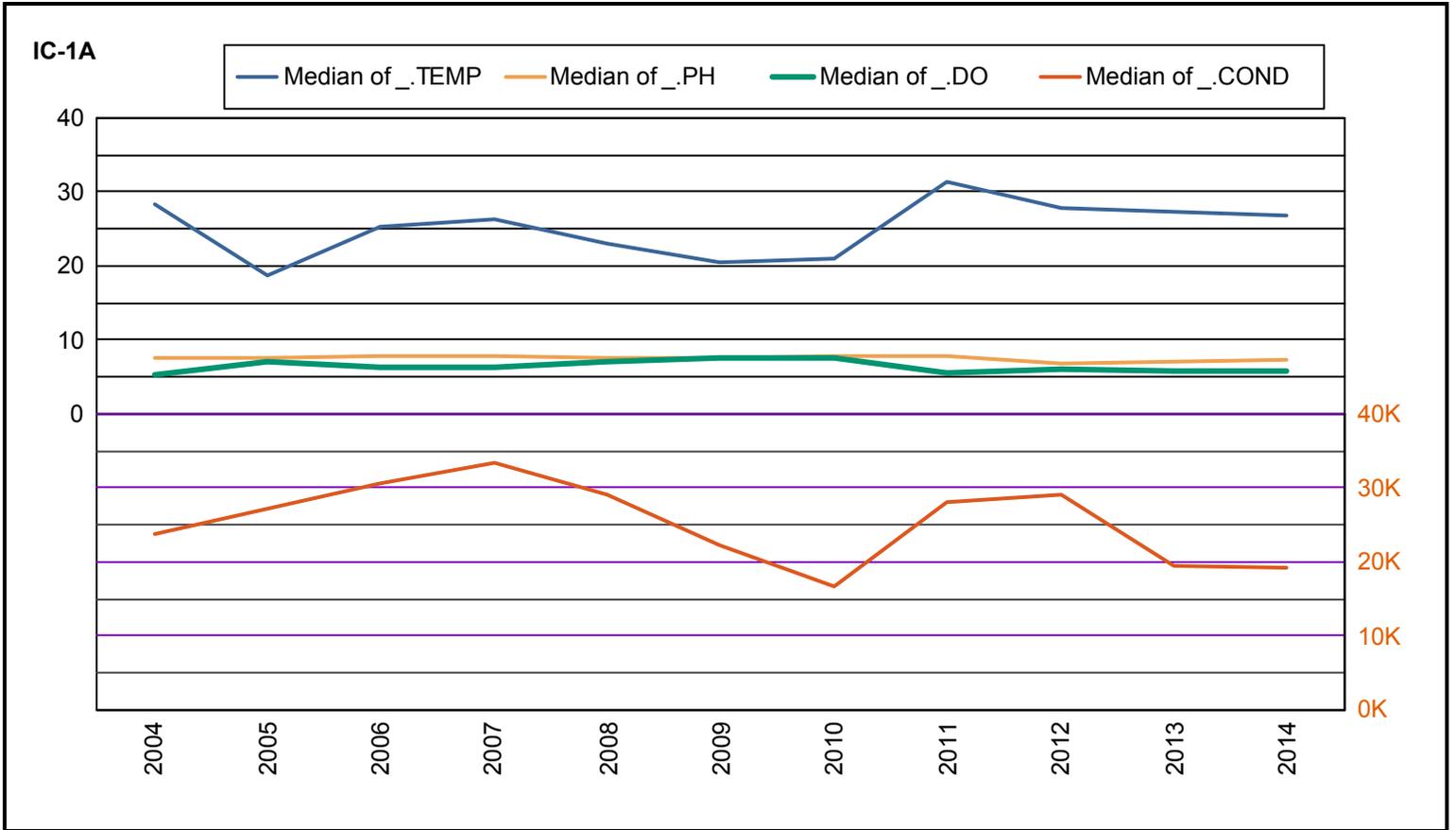
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



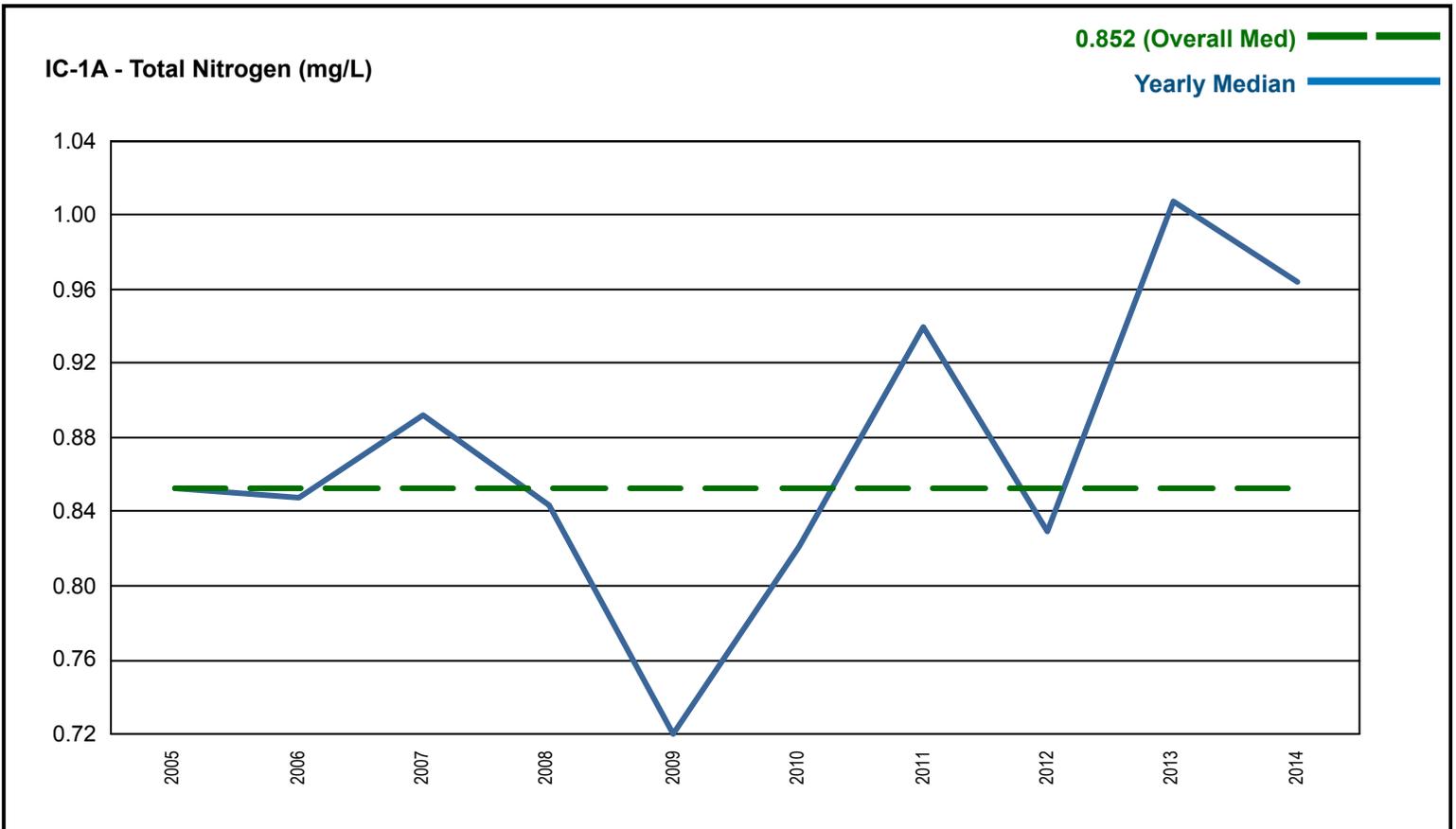
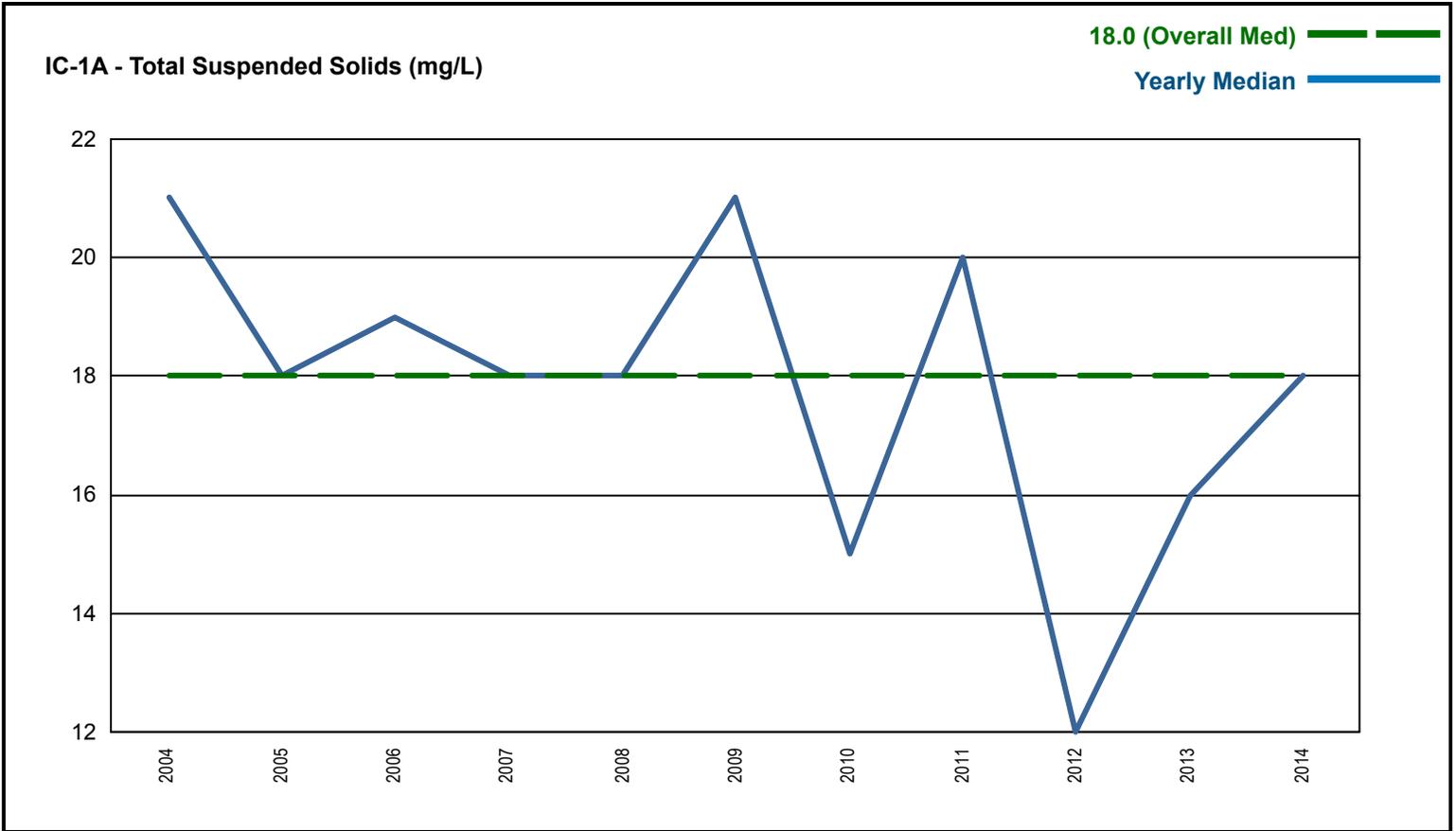
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



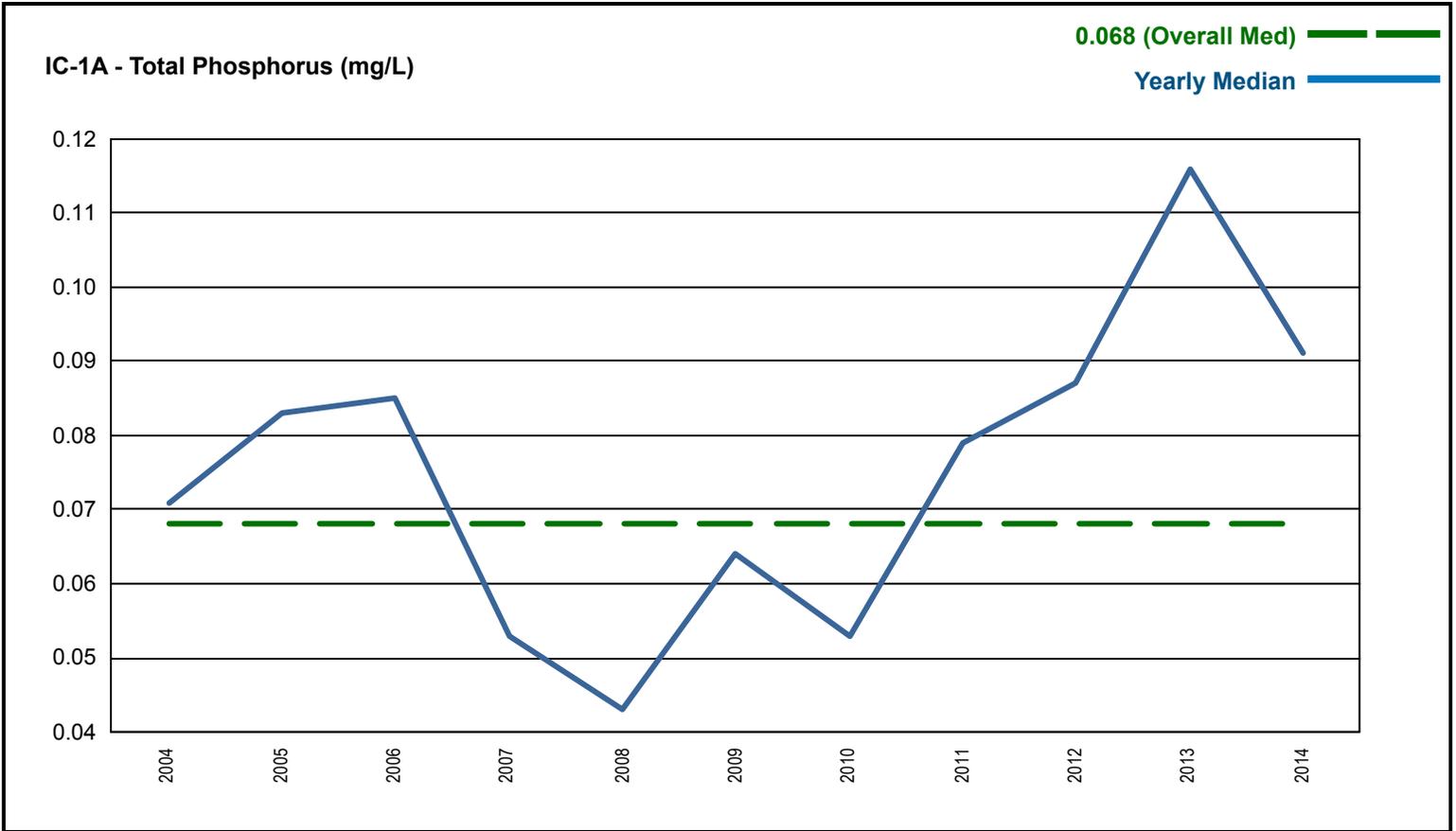
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



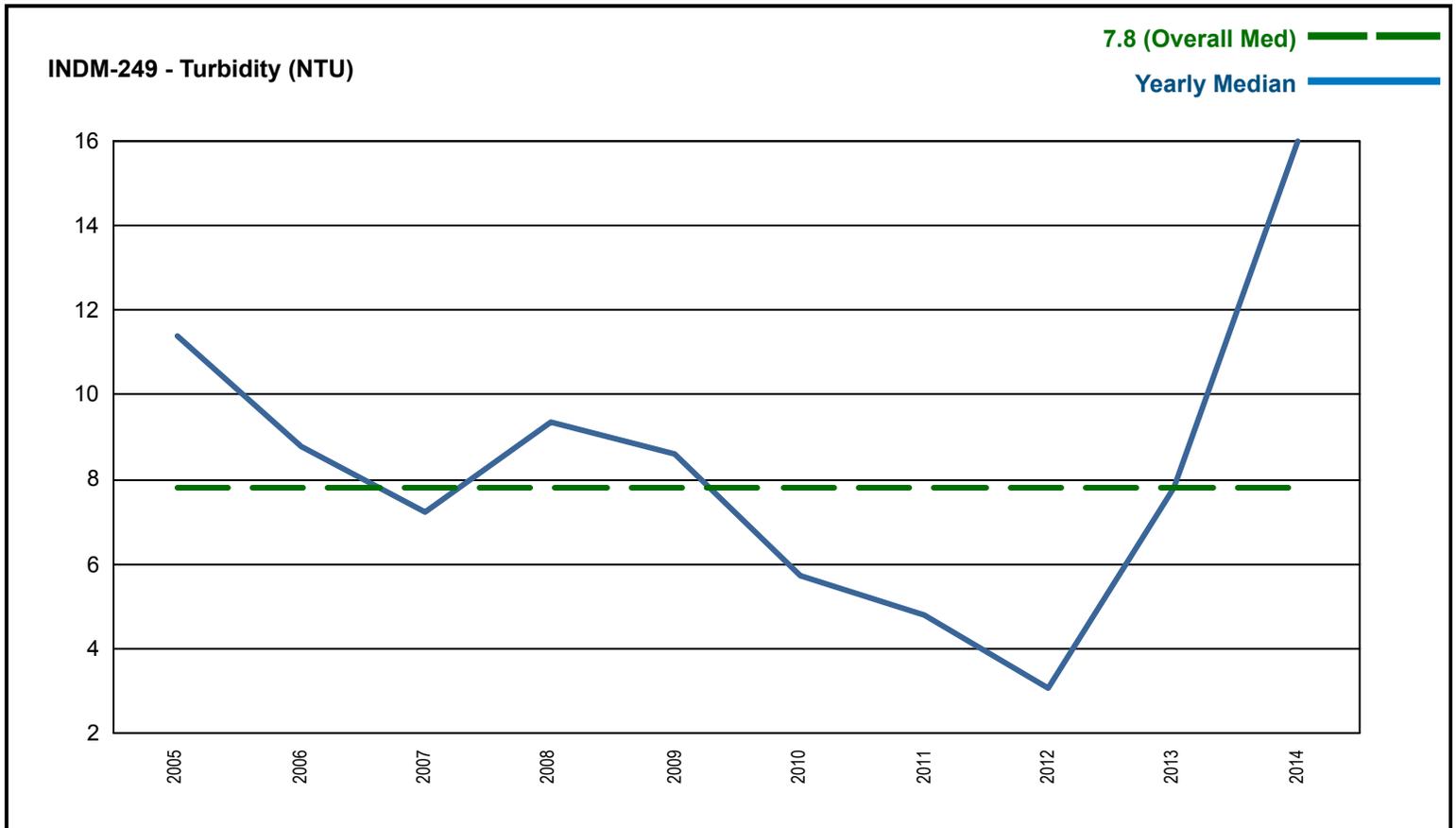
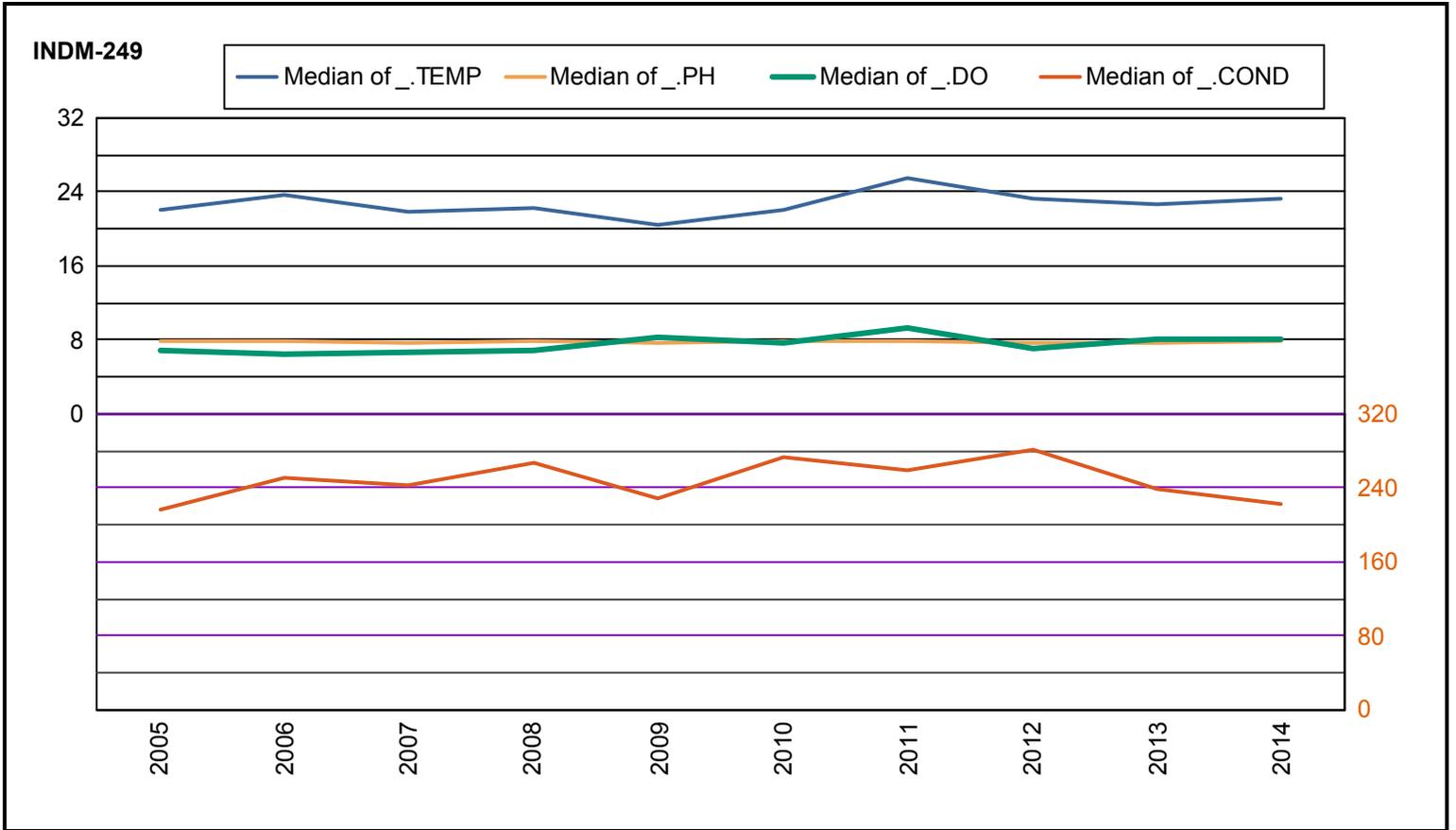
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



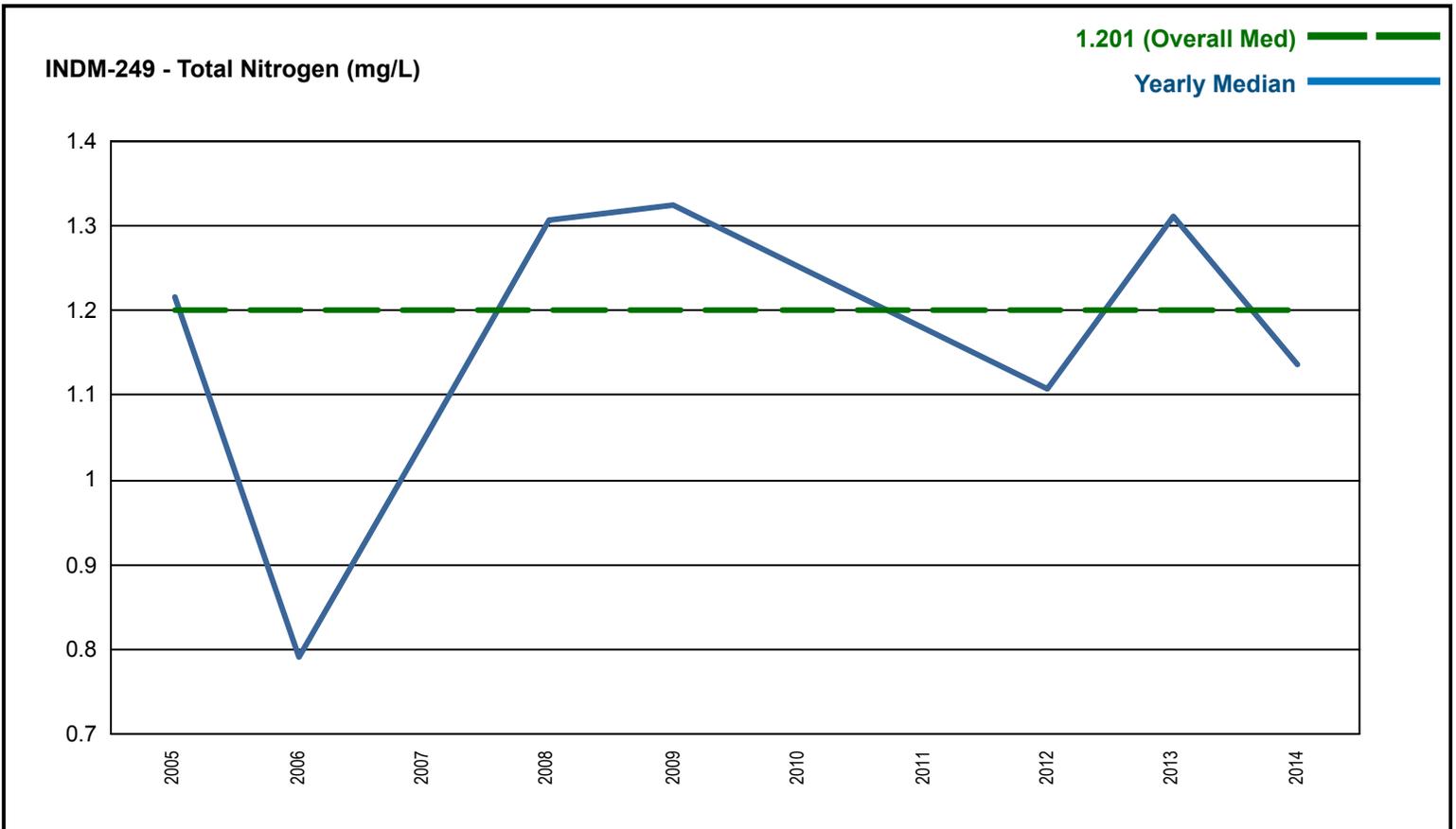
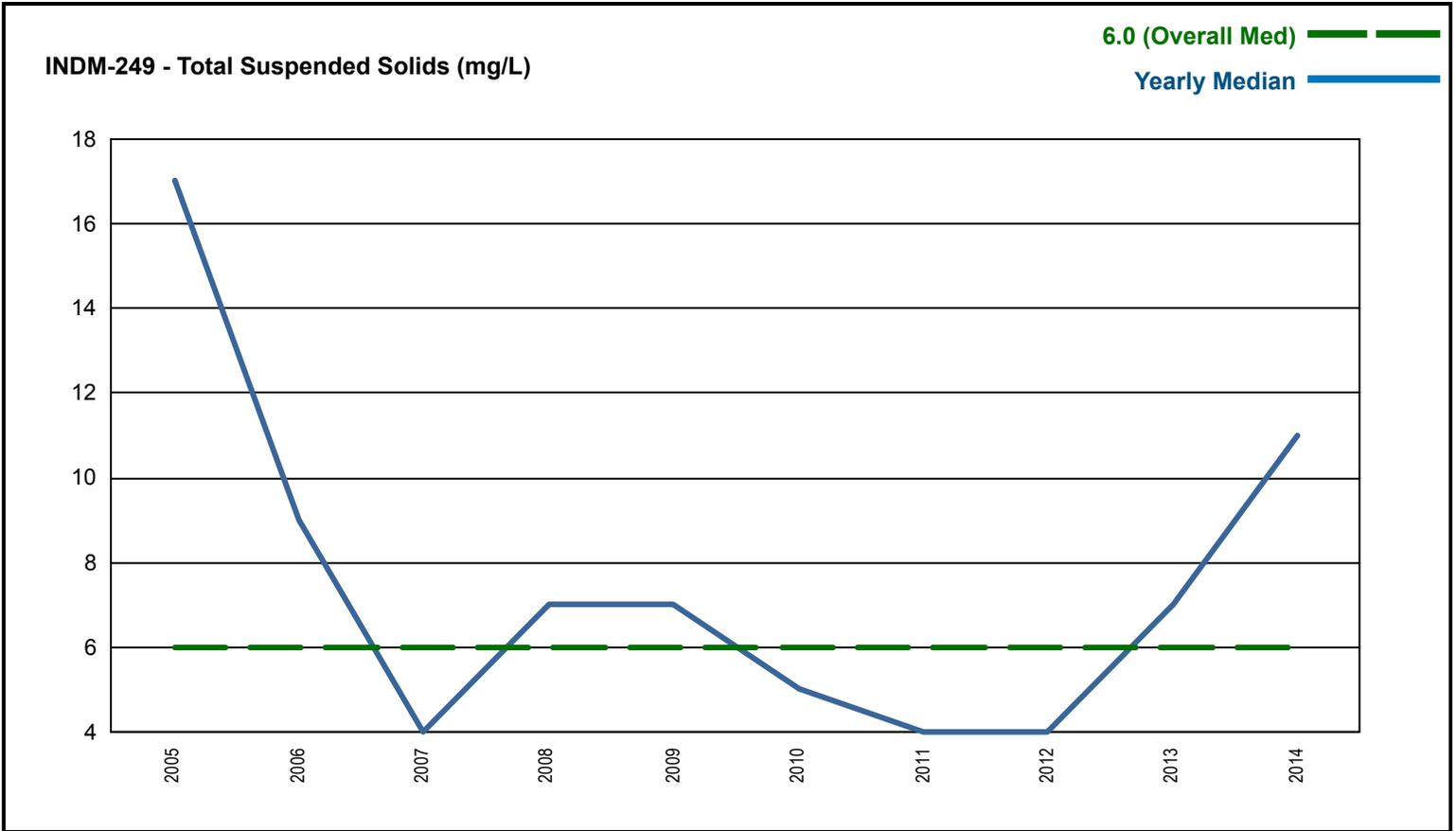
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



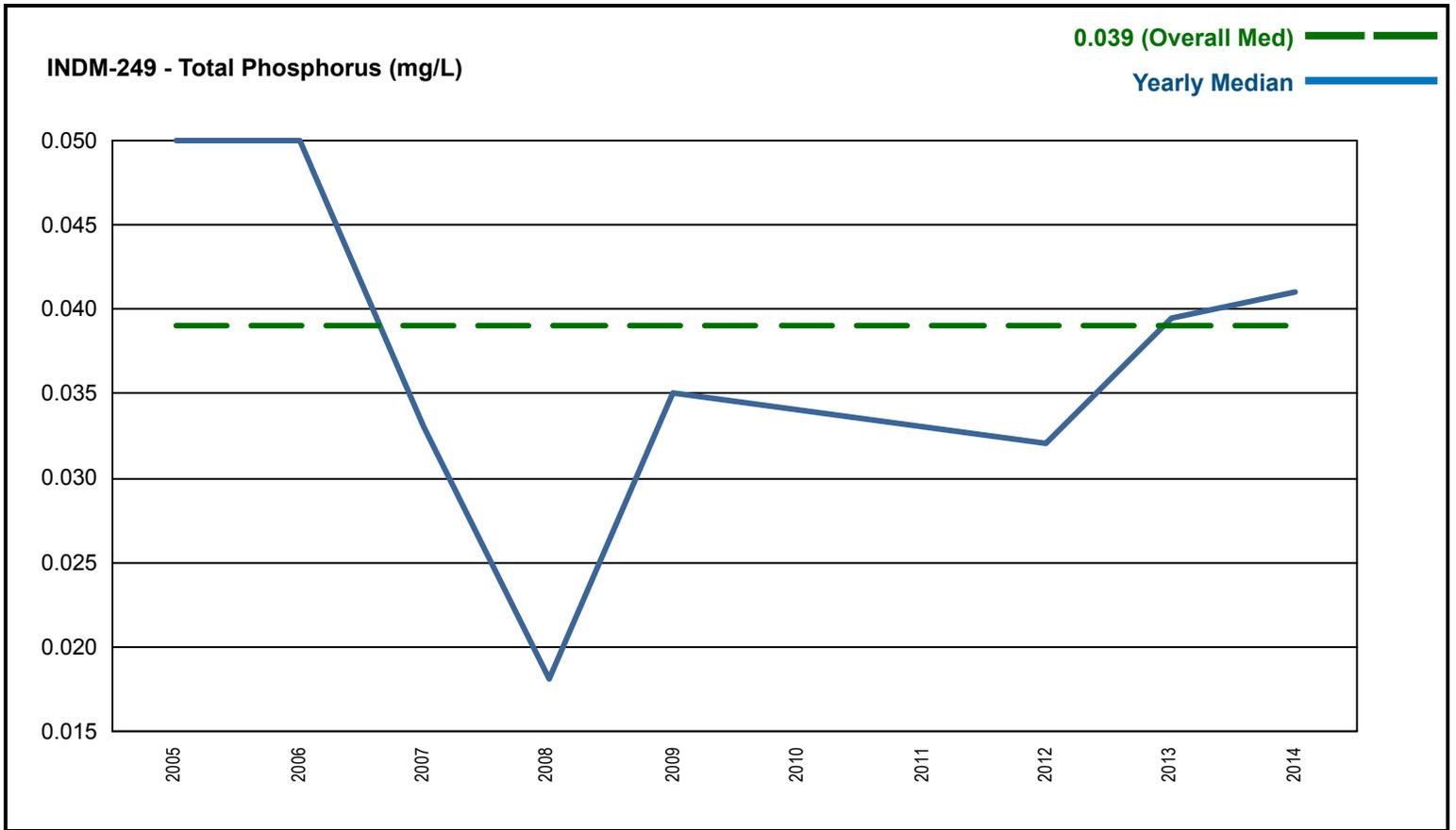
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



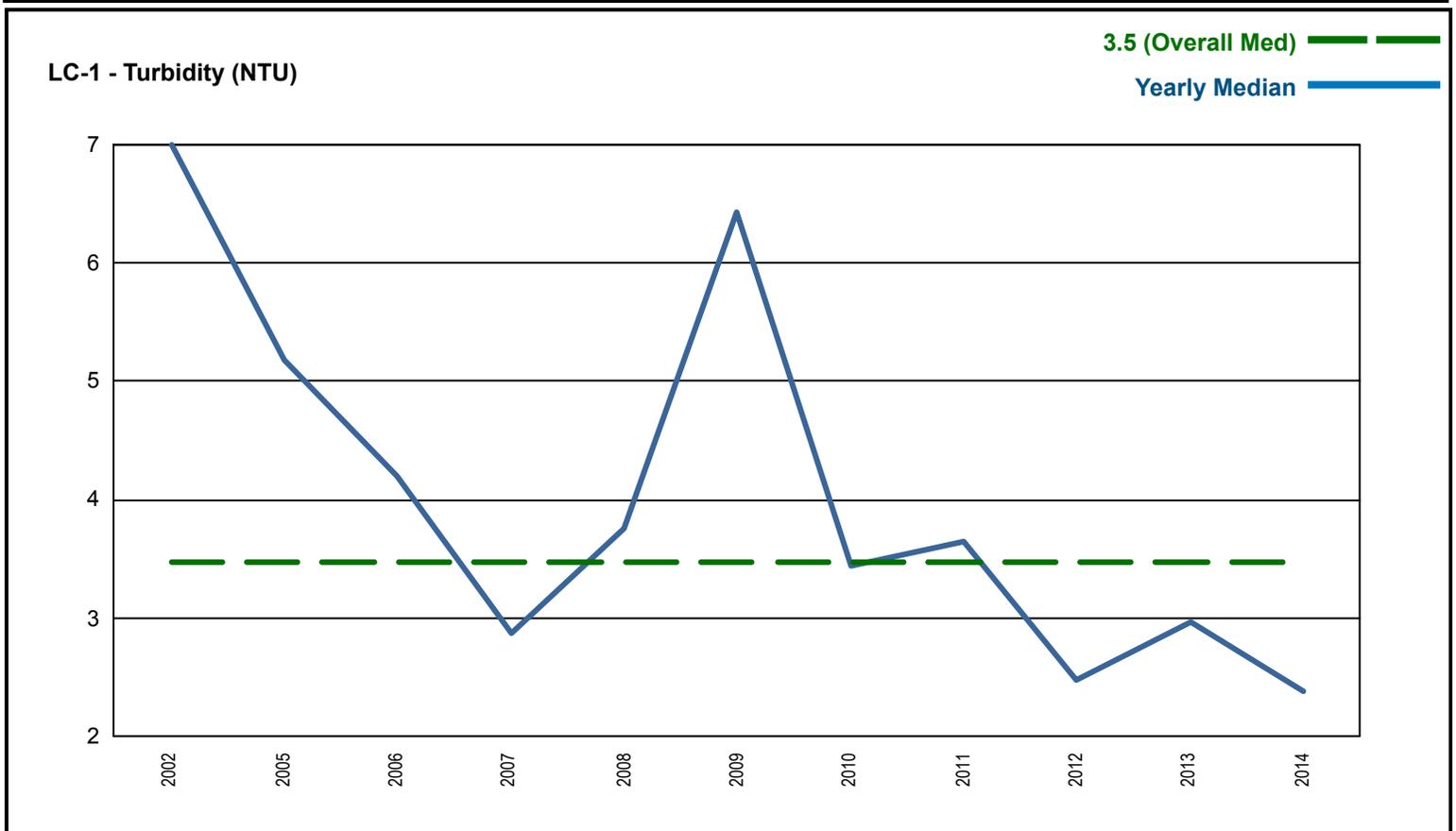
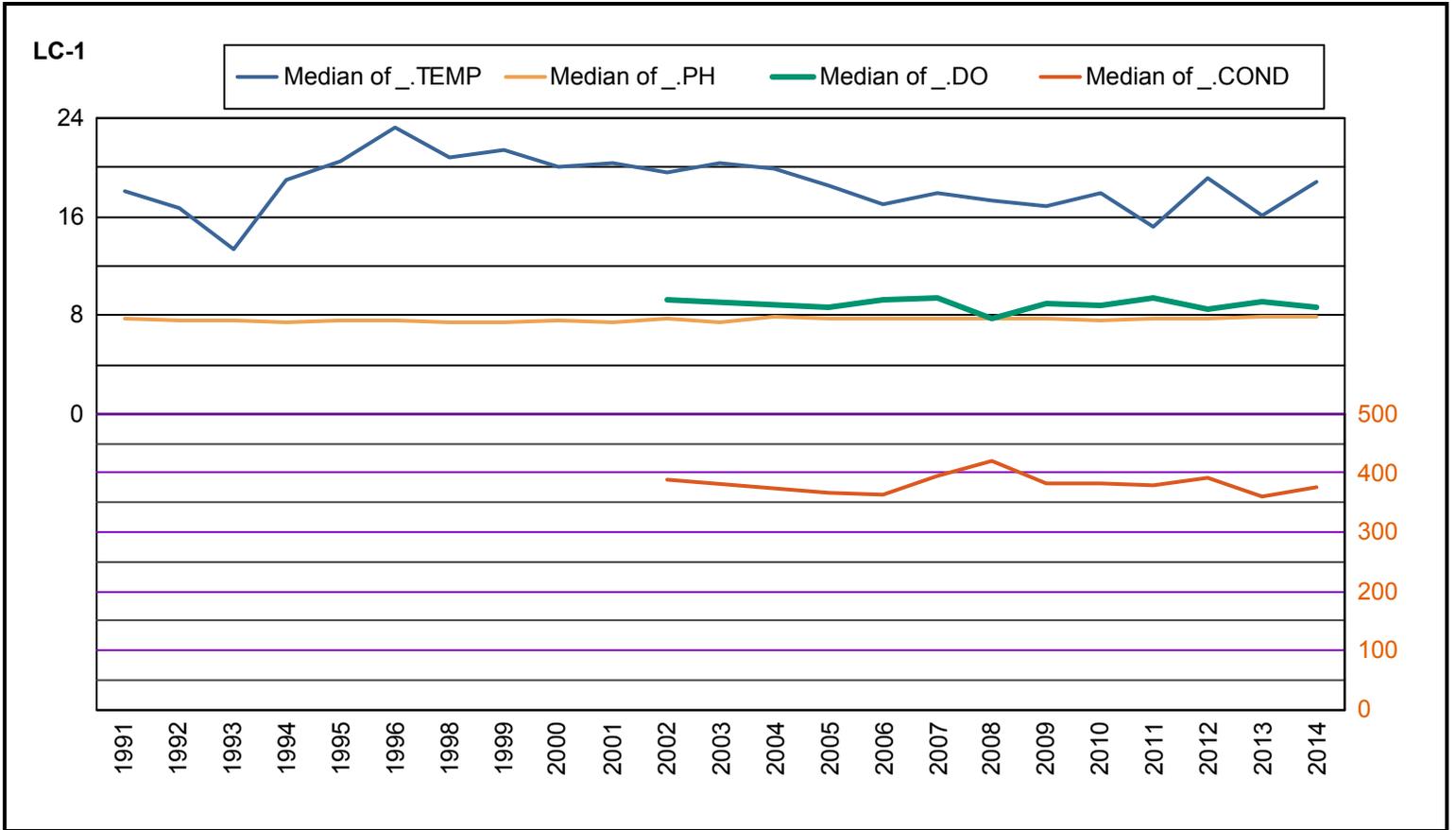
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



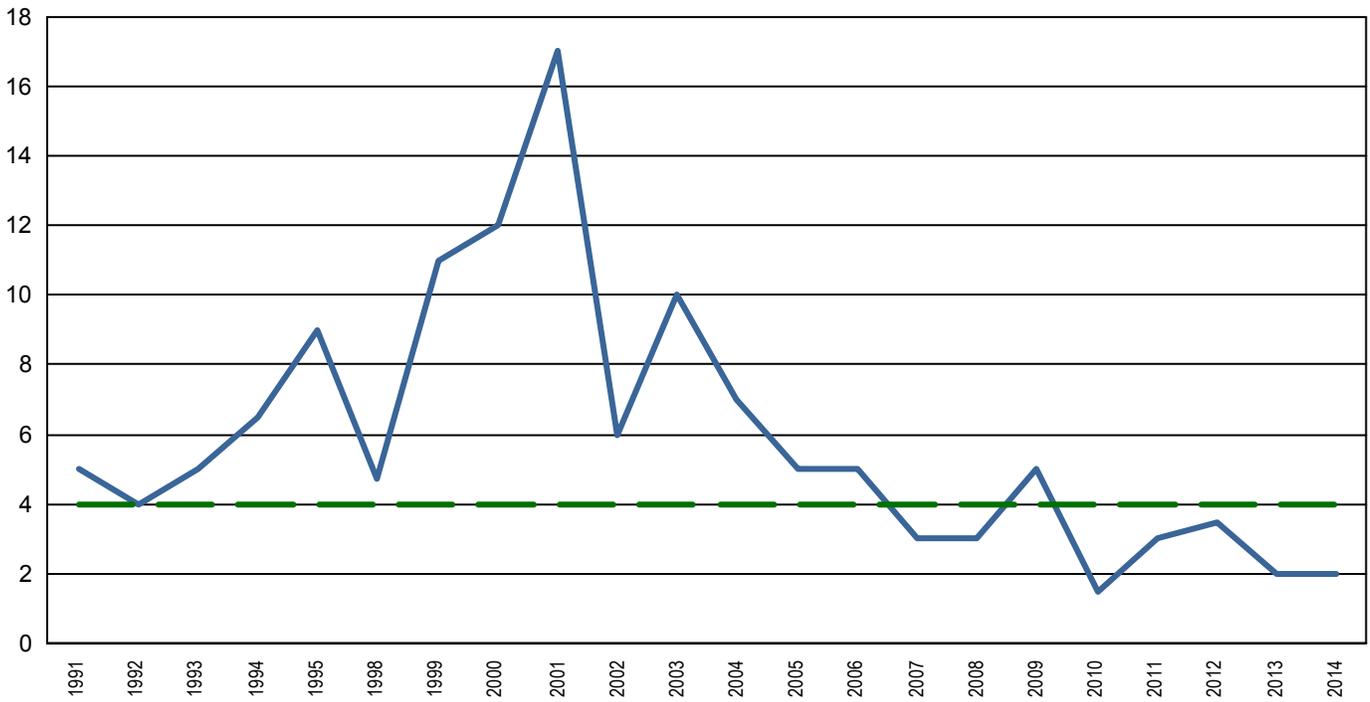
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

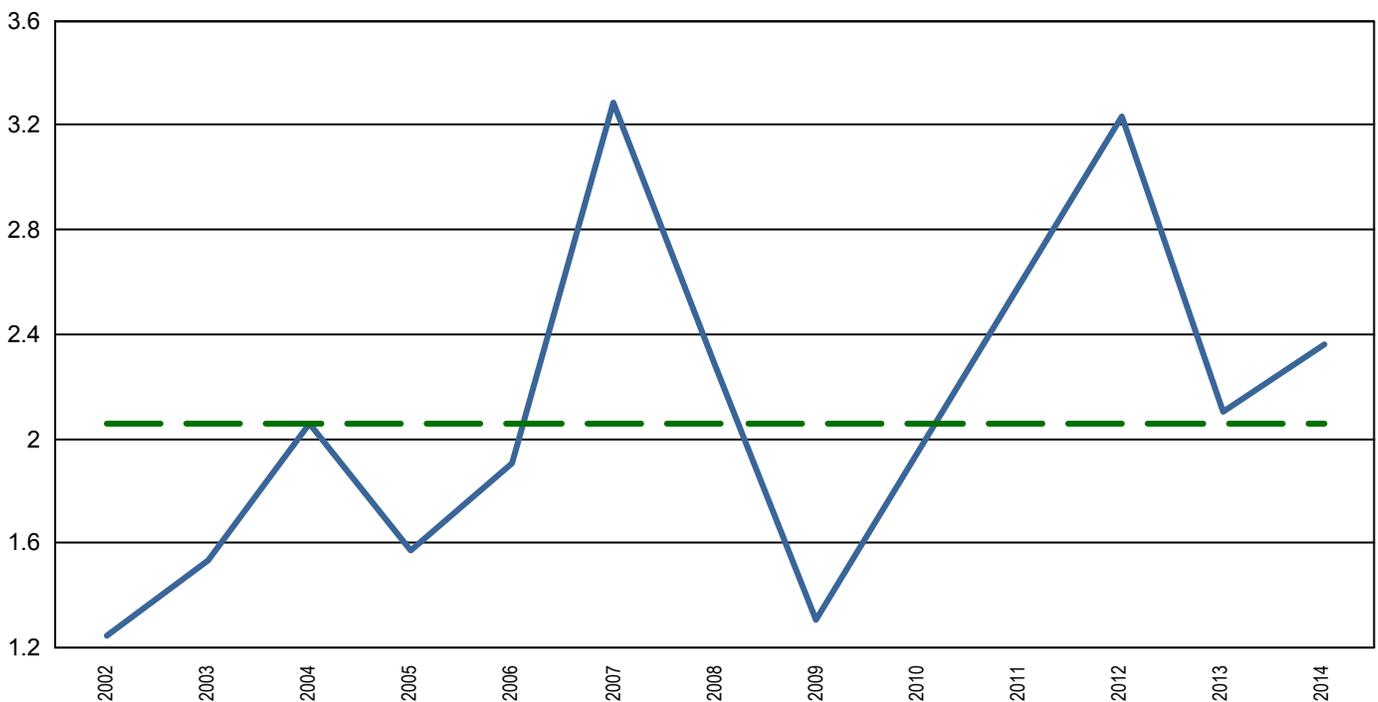
## LC-1 - Total Suspended Solids (mg/L)

4.0 (Overall Med)   
Yearly Median 

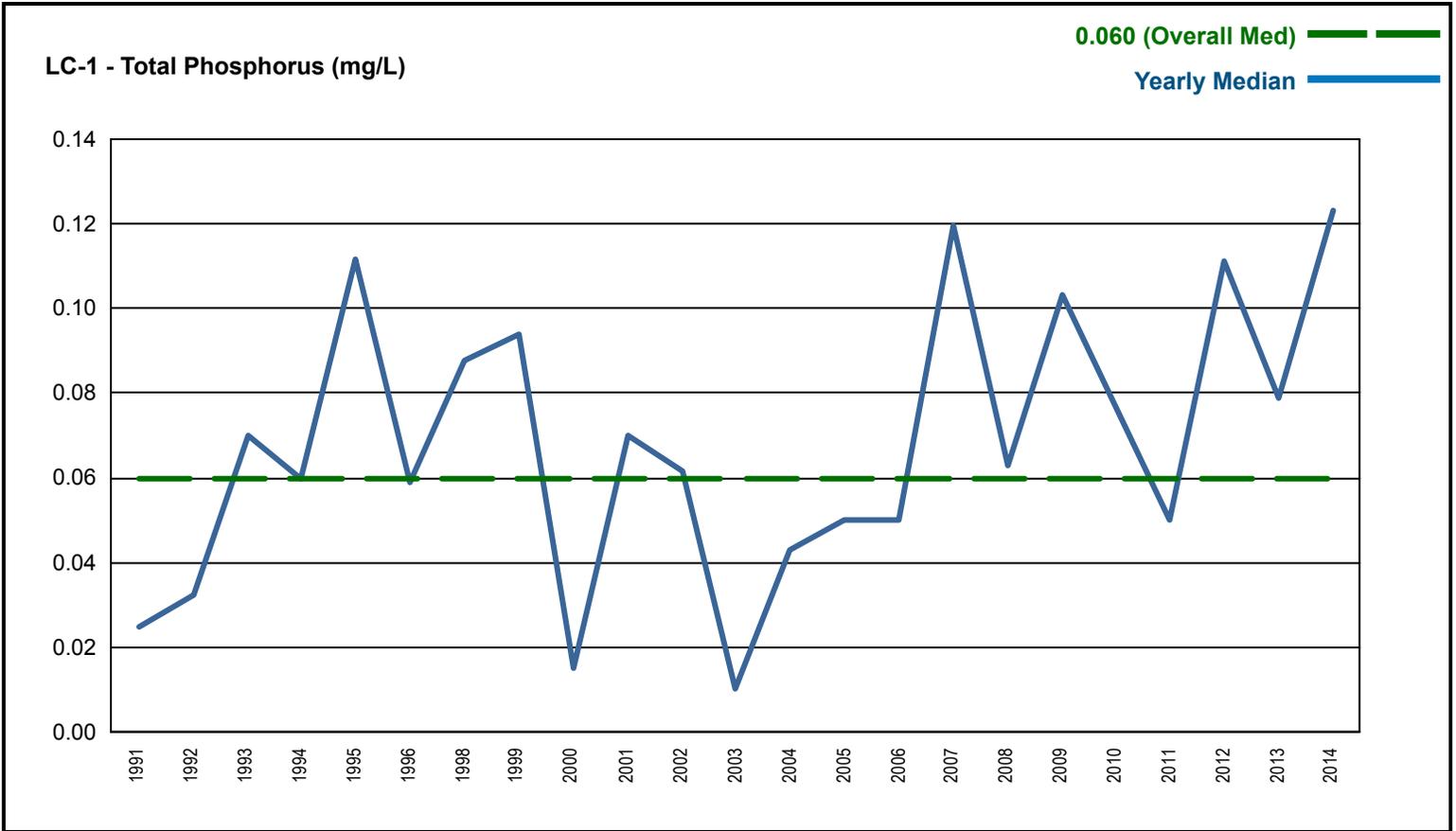


## LC-1 - Total Nitrogen (mg/L)

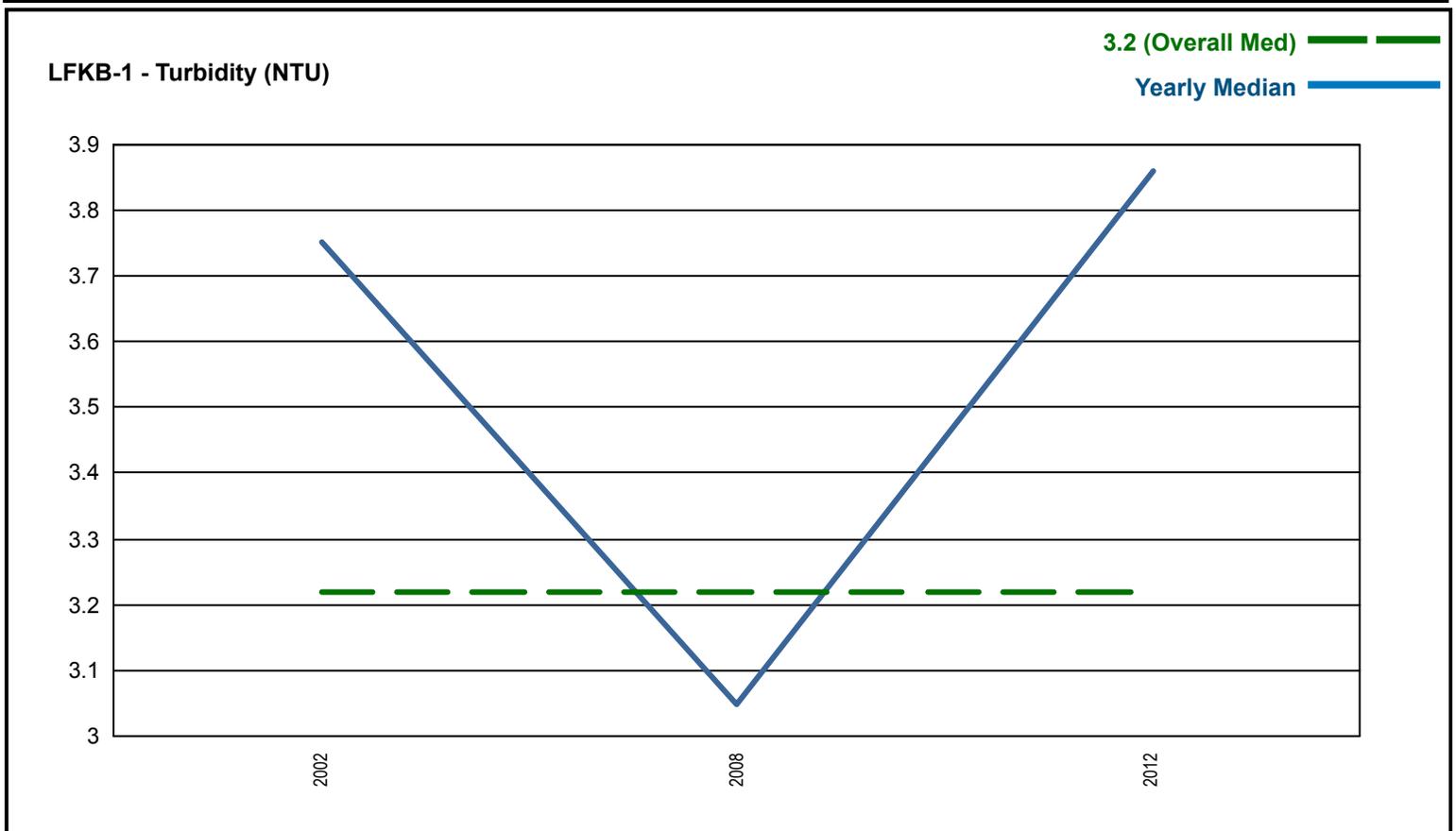
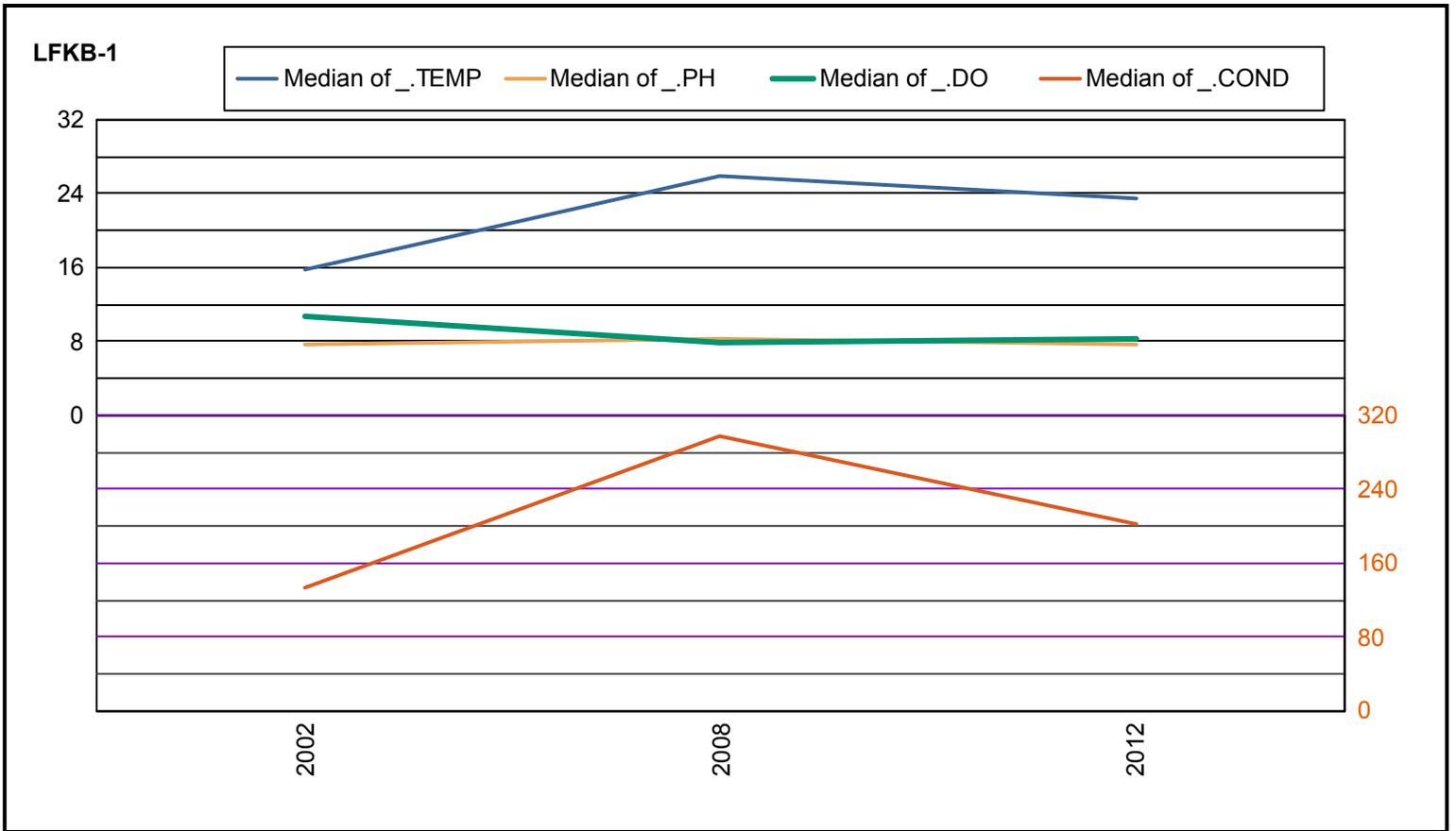
2.060 (Overall Med)   
Yearly Median 



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



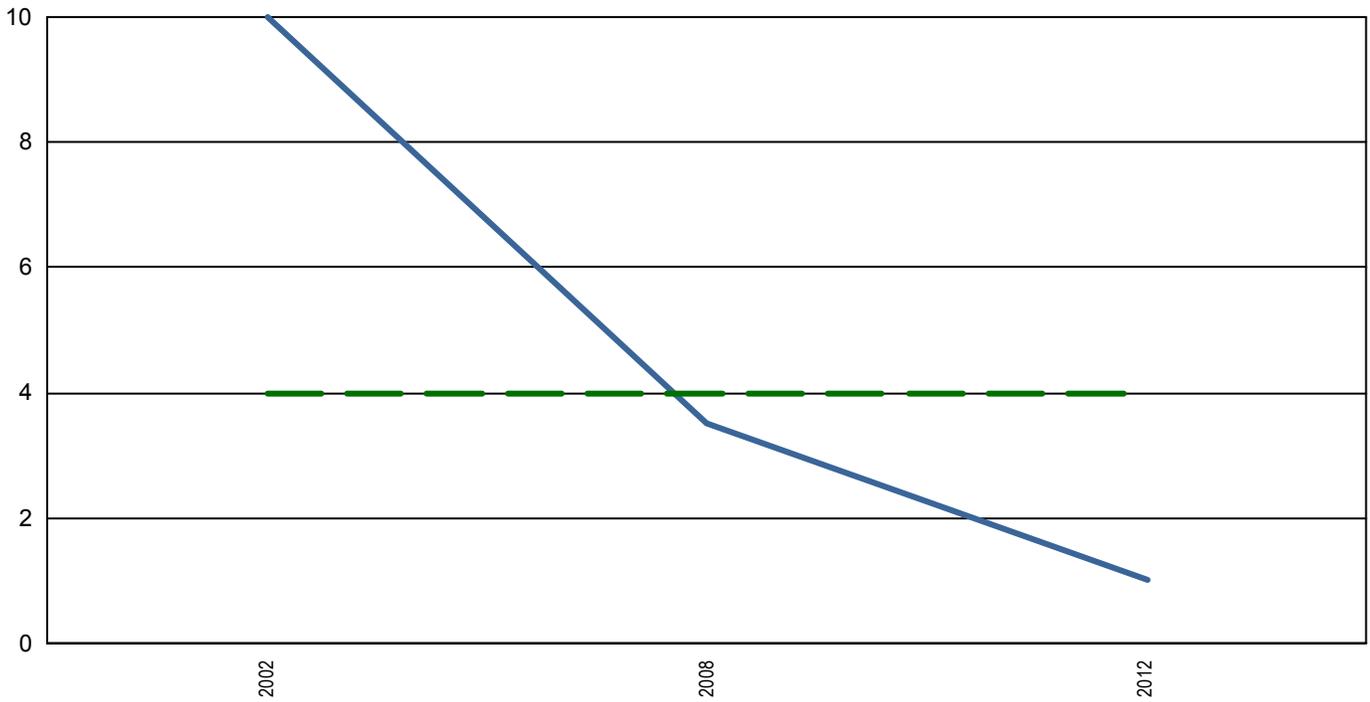
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

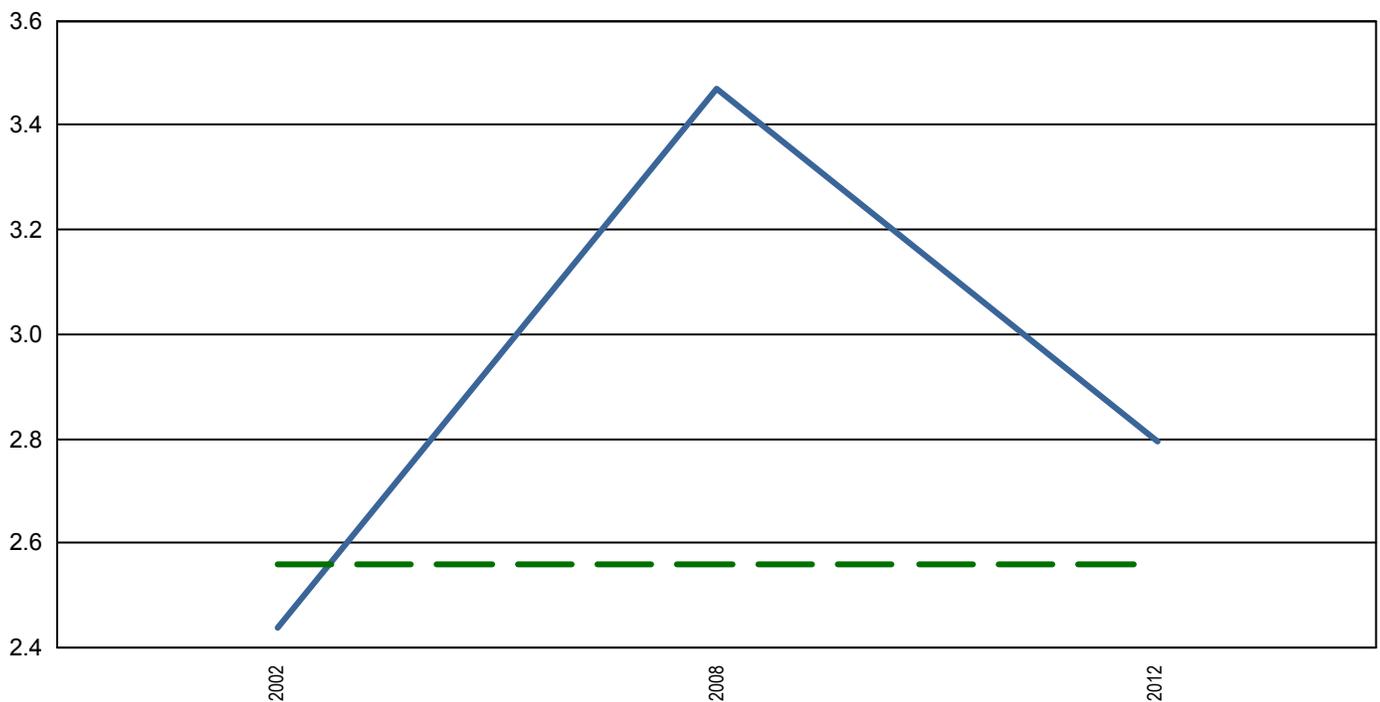
## LFKB-1 - Total Suspended Solids (mg/L)

4.0 (Overall Med)   
Yearly Median 

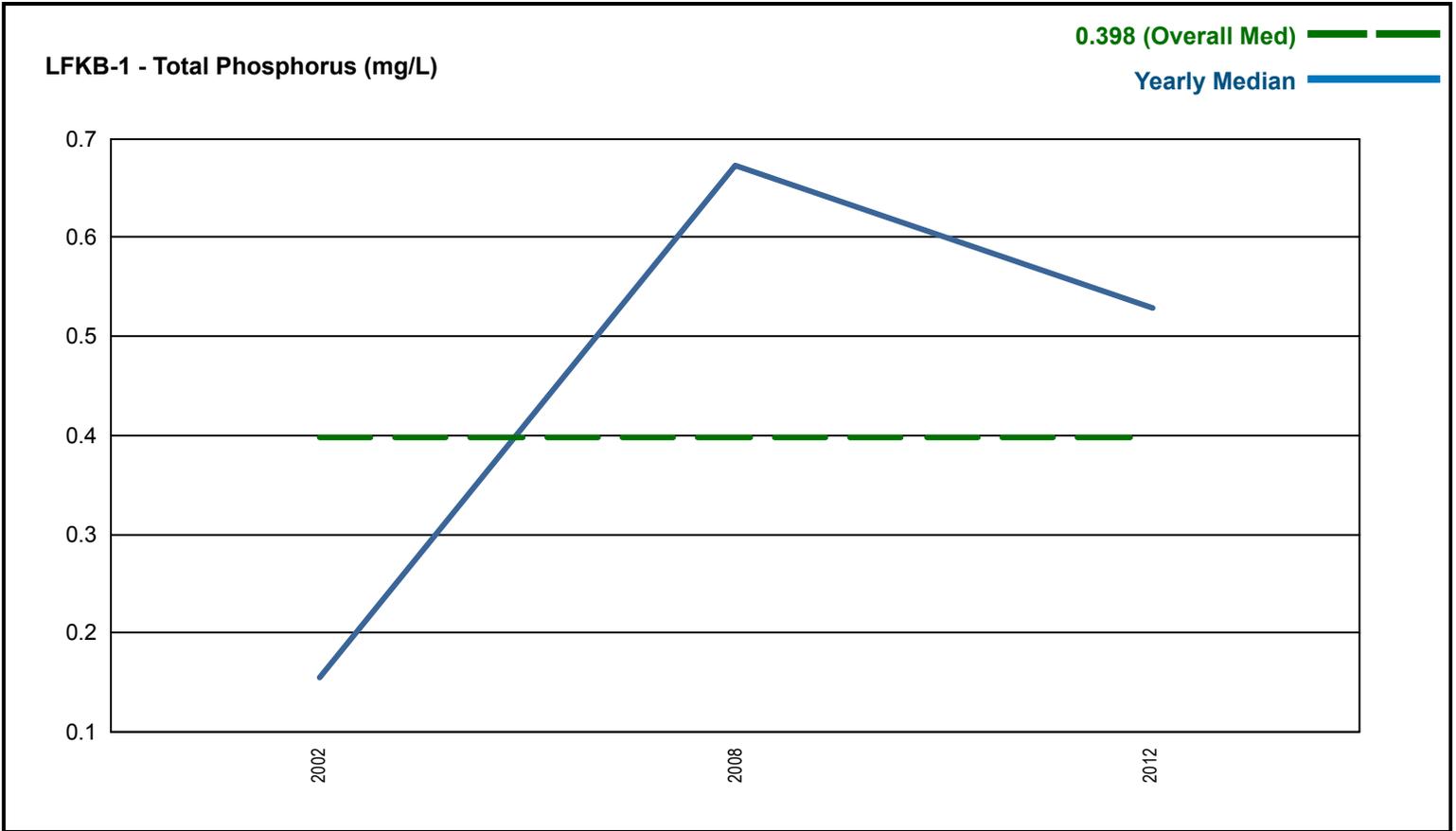


## LFKB-1 - Total Nitrogen (mg/L)

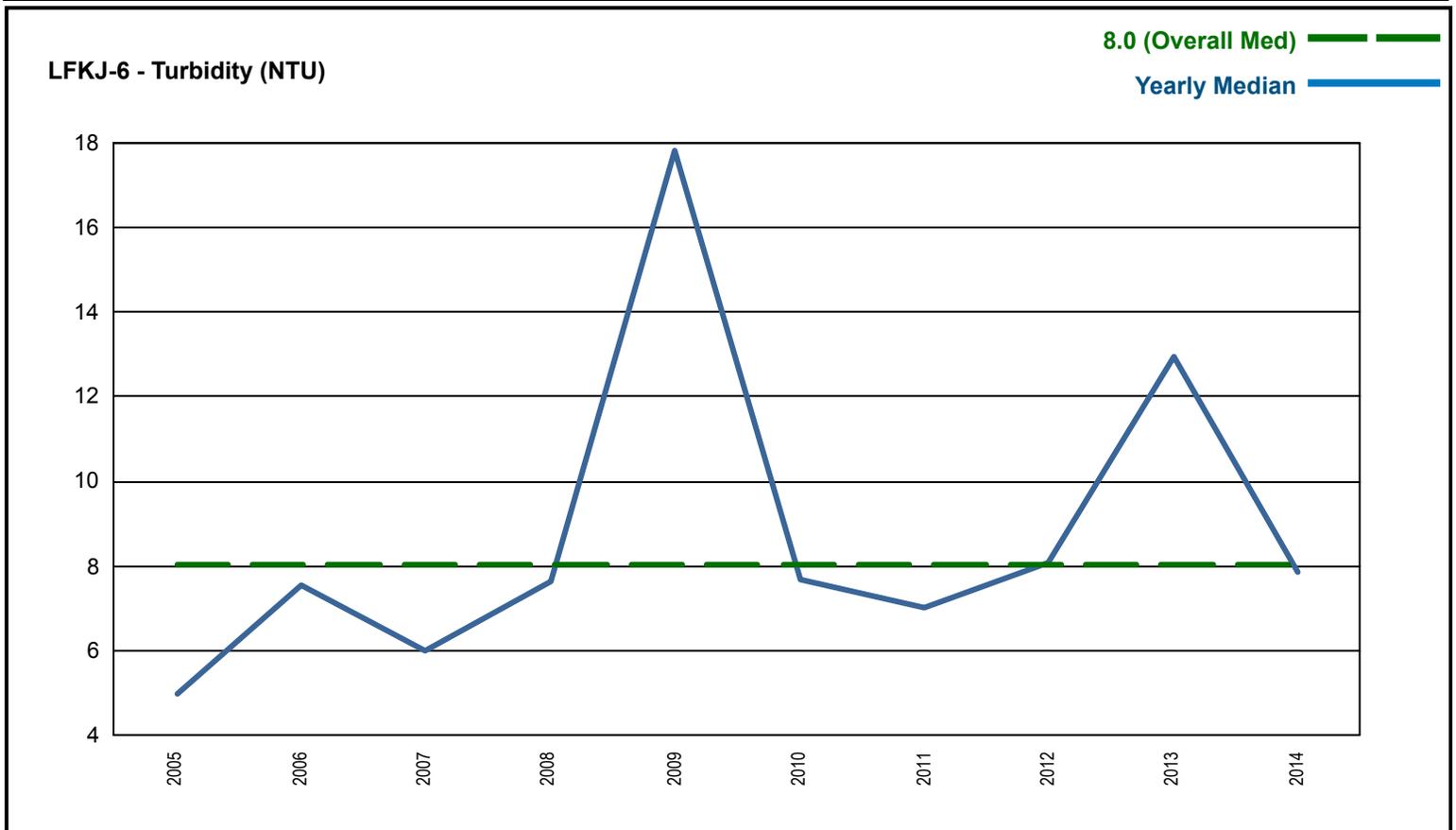
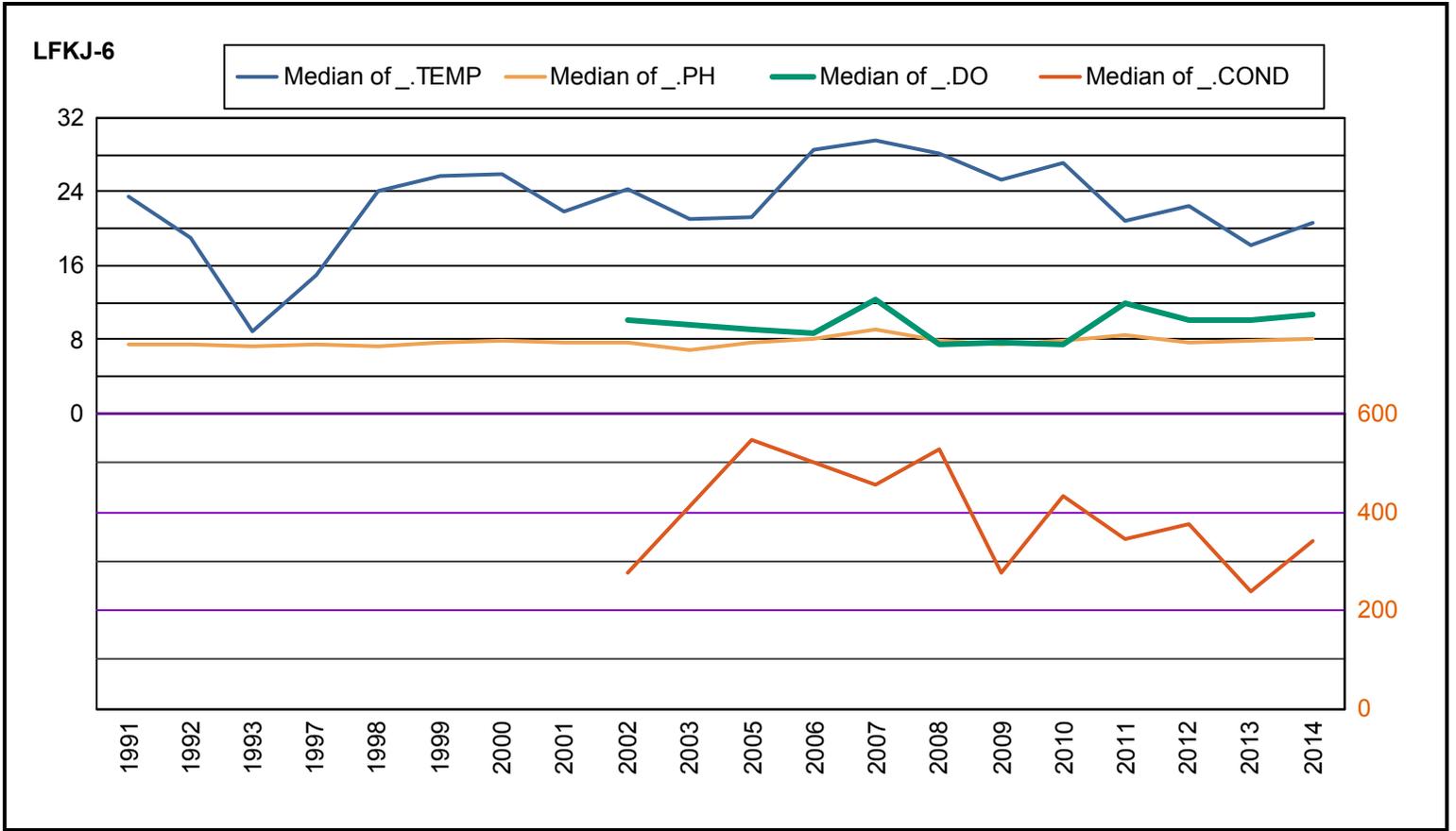
2.559 (Overall Med)   
Yearly Median 



ADEM Ambient Trend Stations - Sampled 1977 - 2014



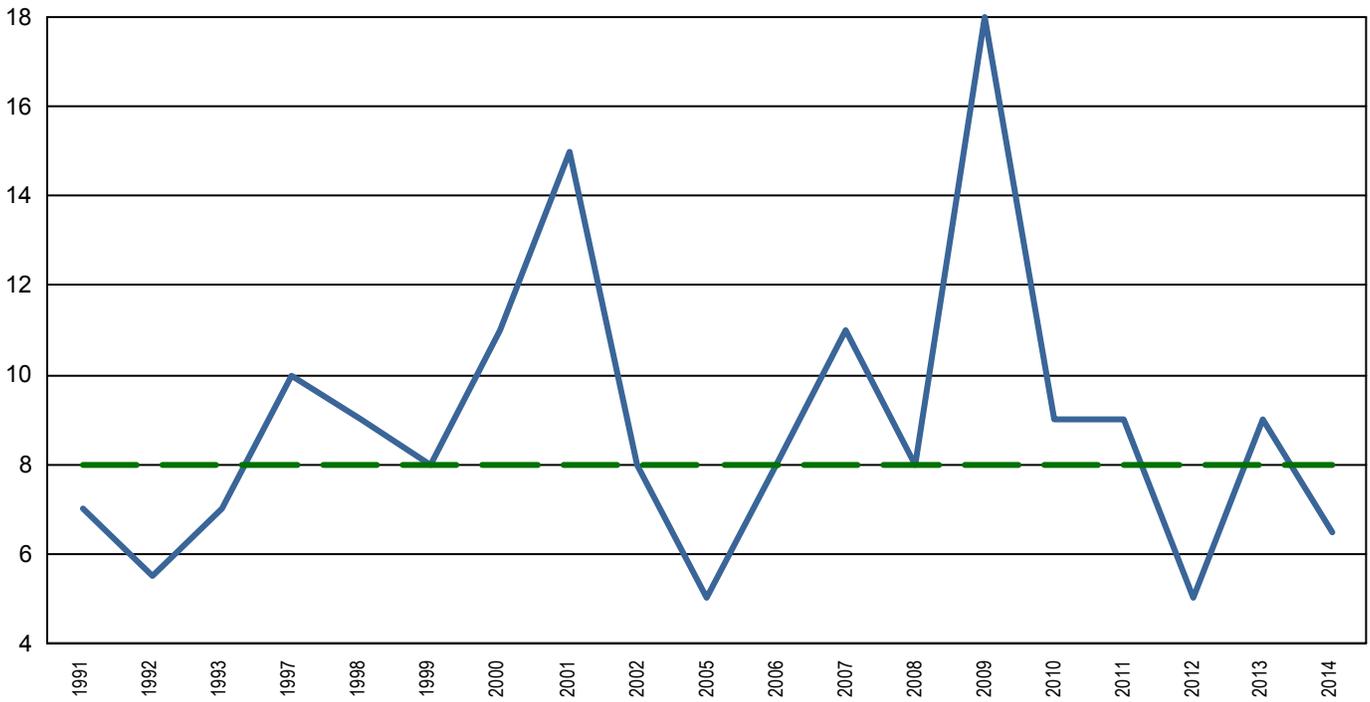
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

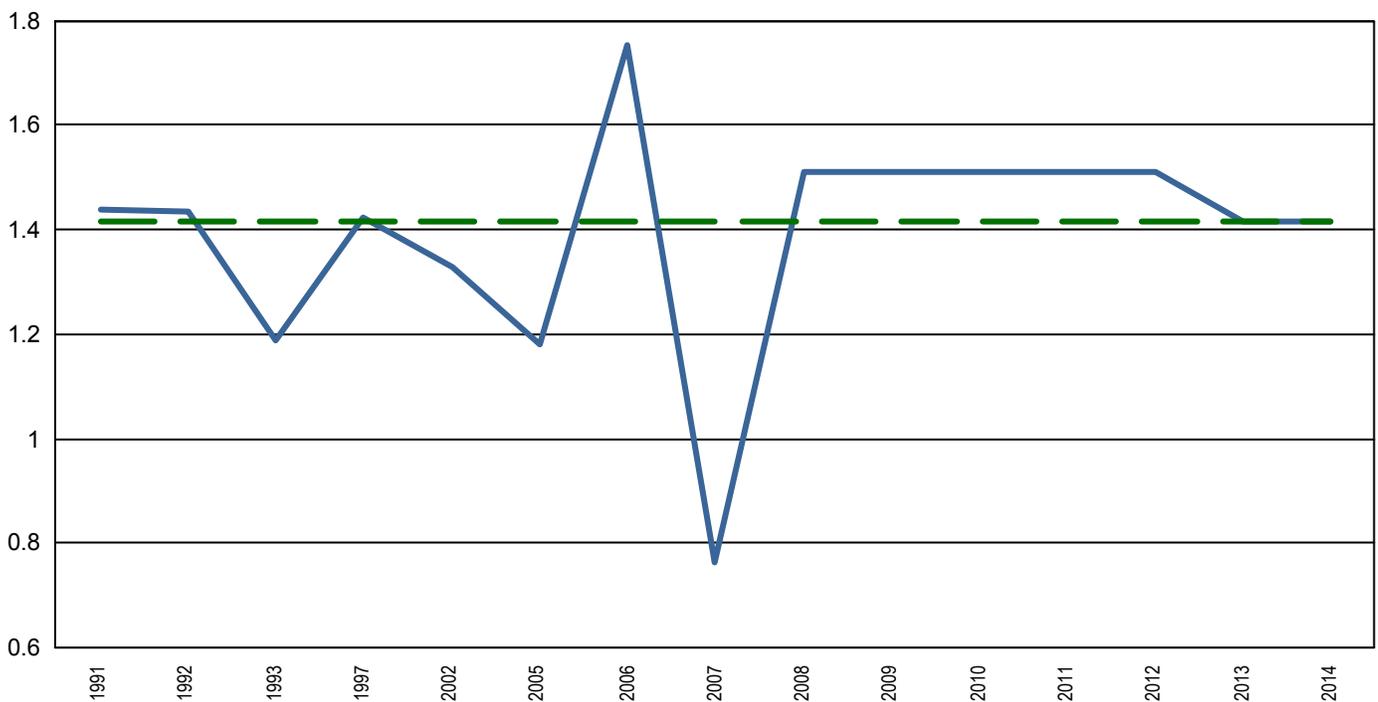
## LFKJ-6 - Total Suspended Solids (mg/L)

8.0 (Overall Med)   
Yearly Median 

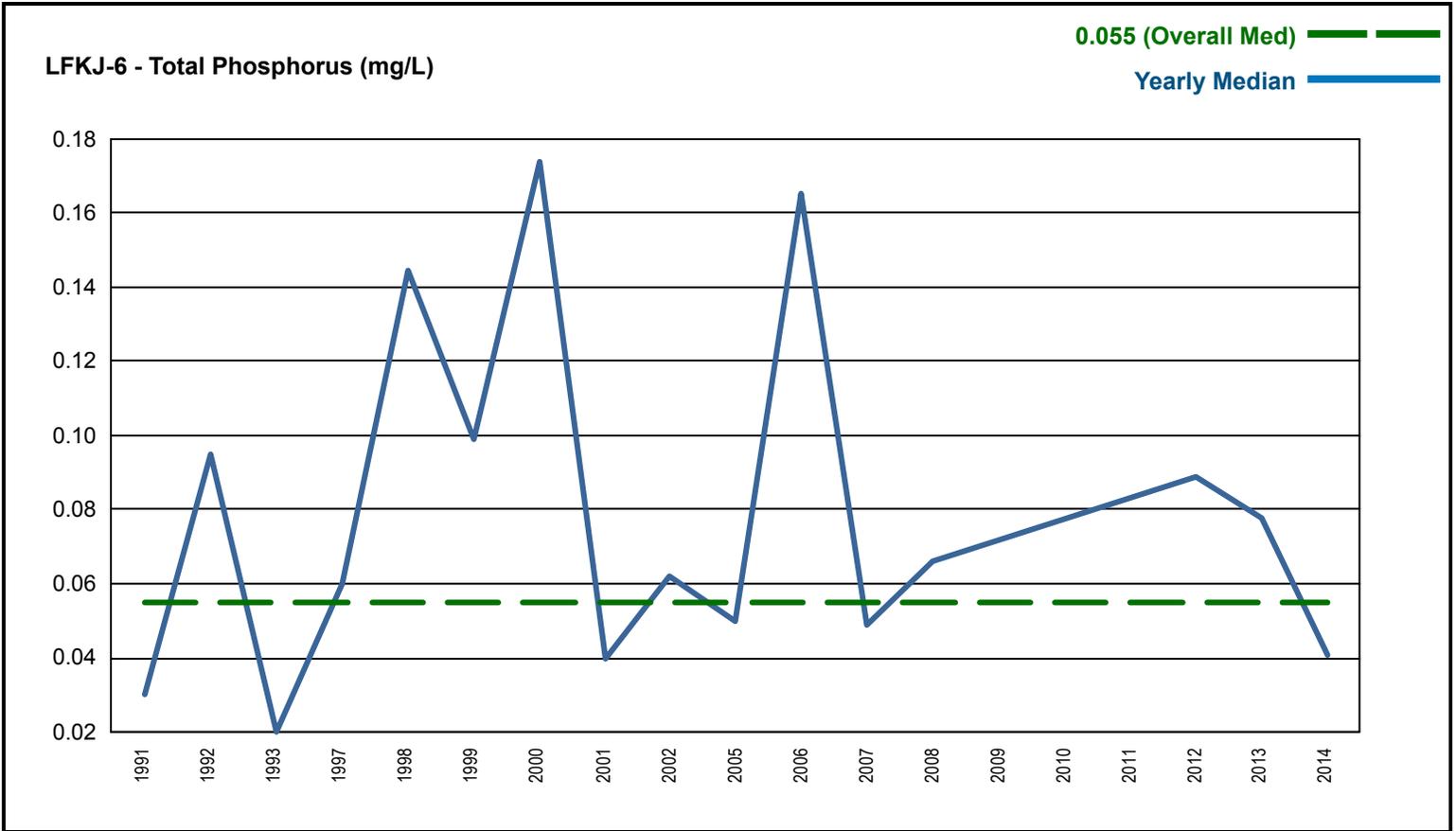


## LFKJ-6 - Total Nitrogen (mg/L)

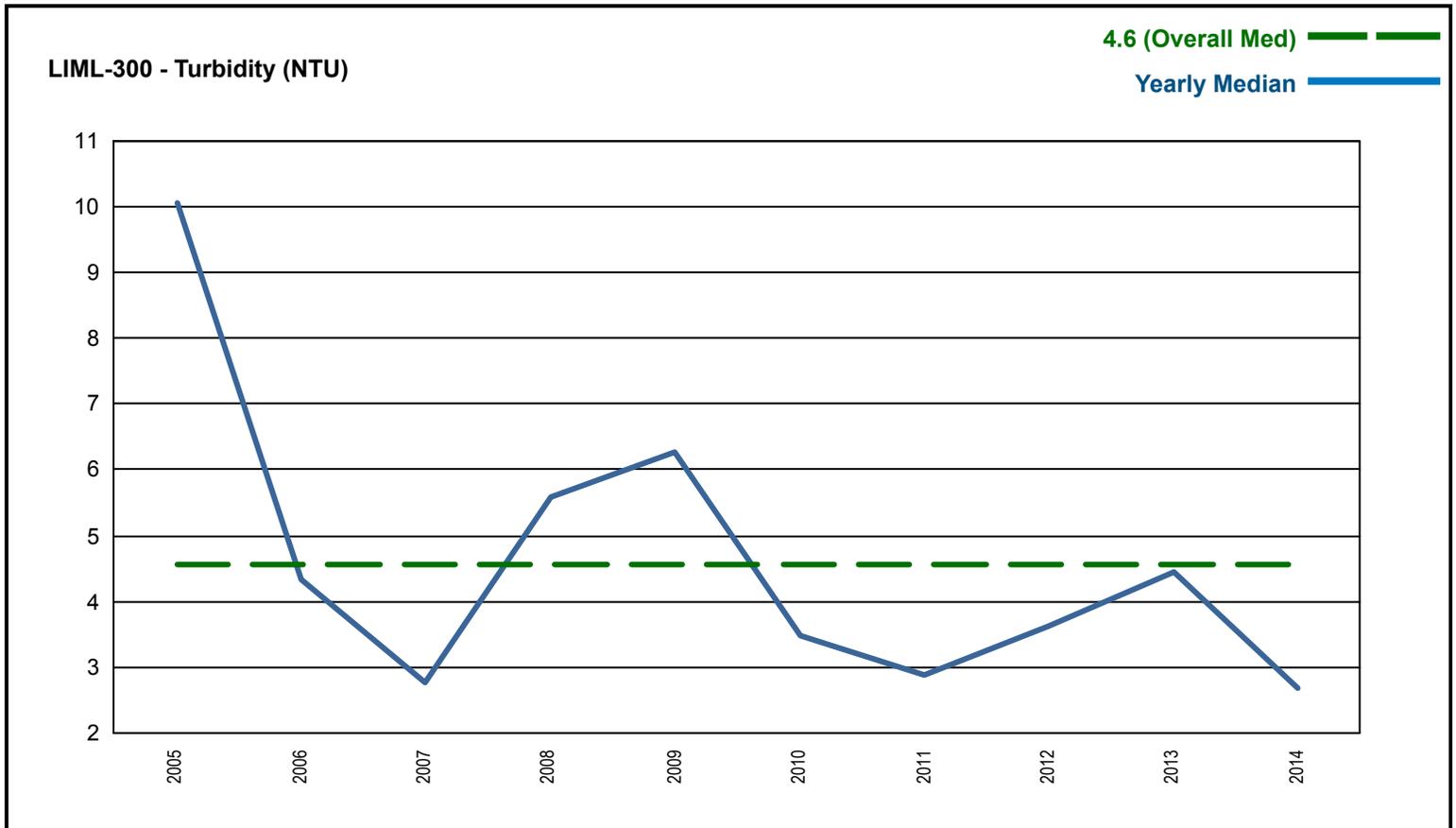
1.416 (Overall Med)   
Yearly Median 



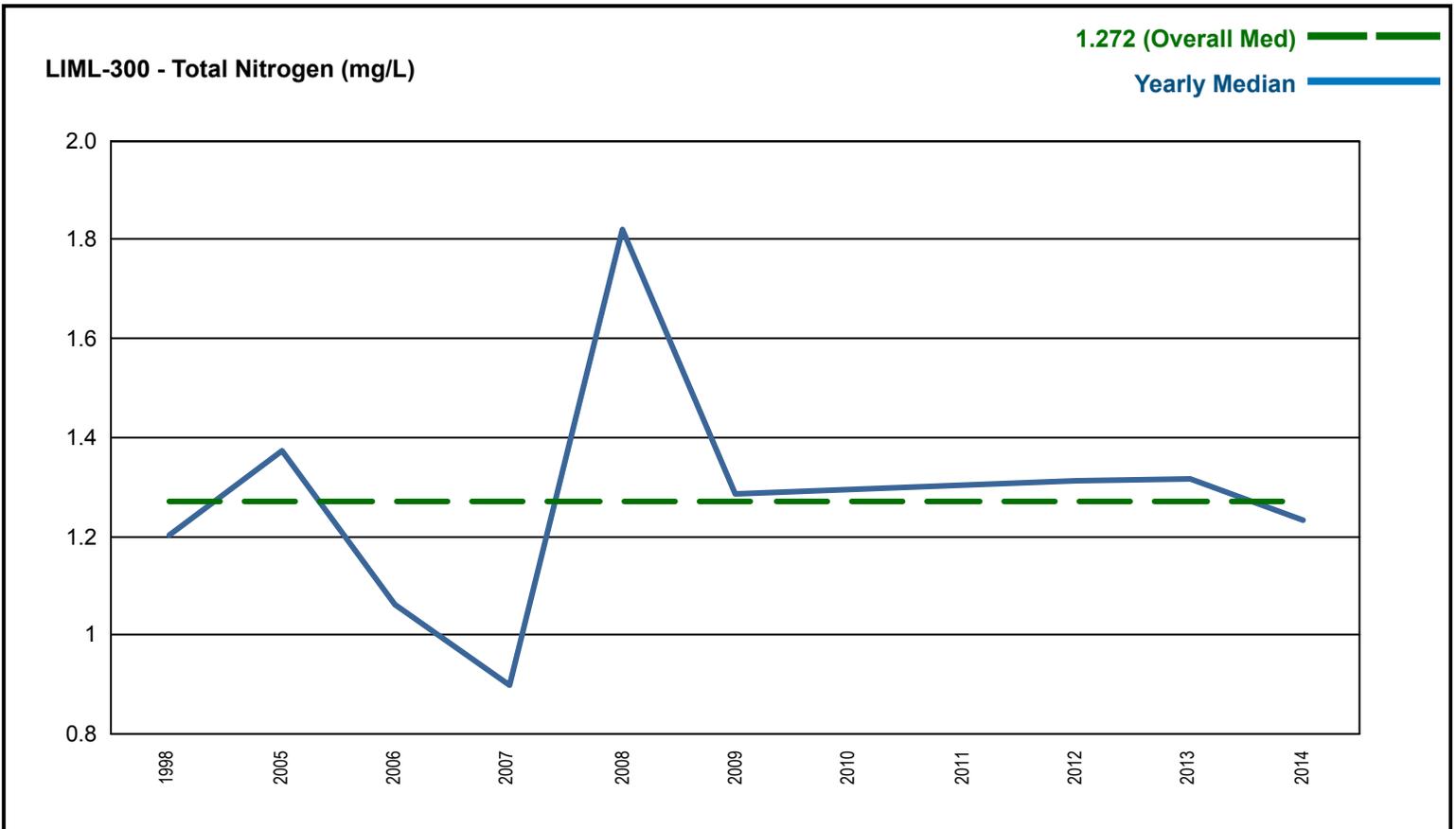
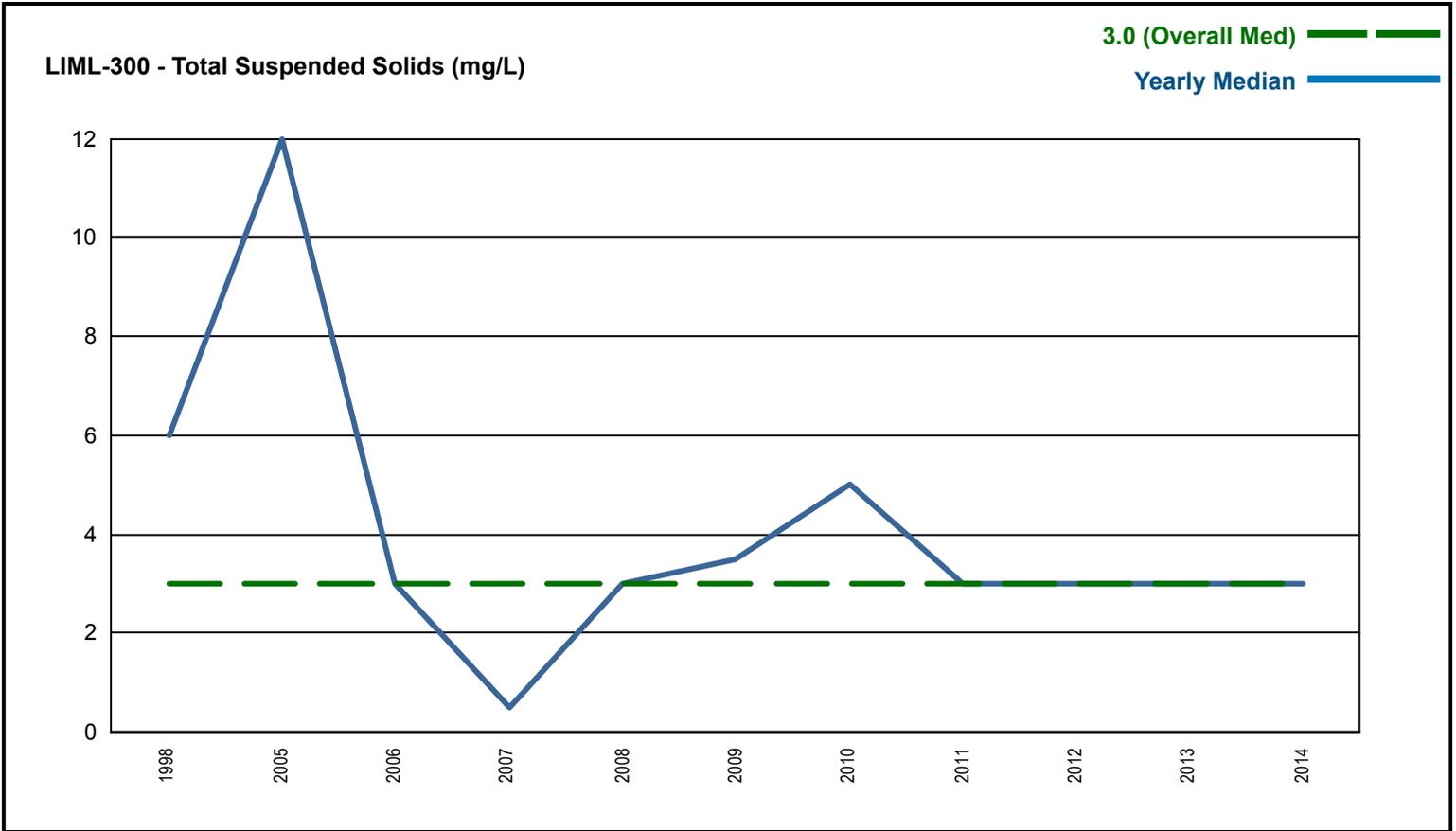
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



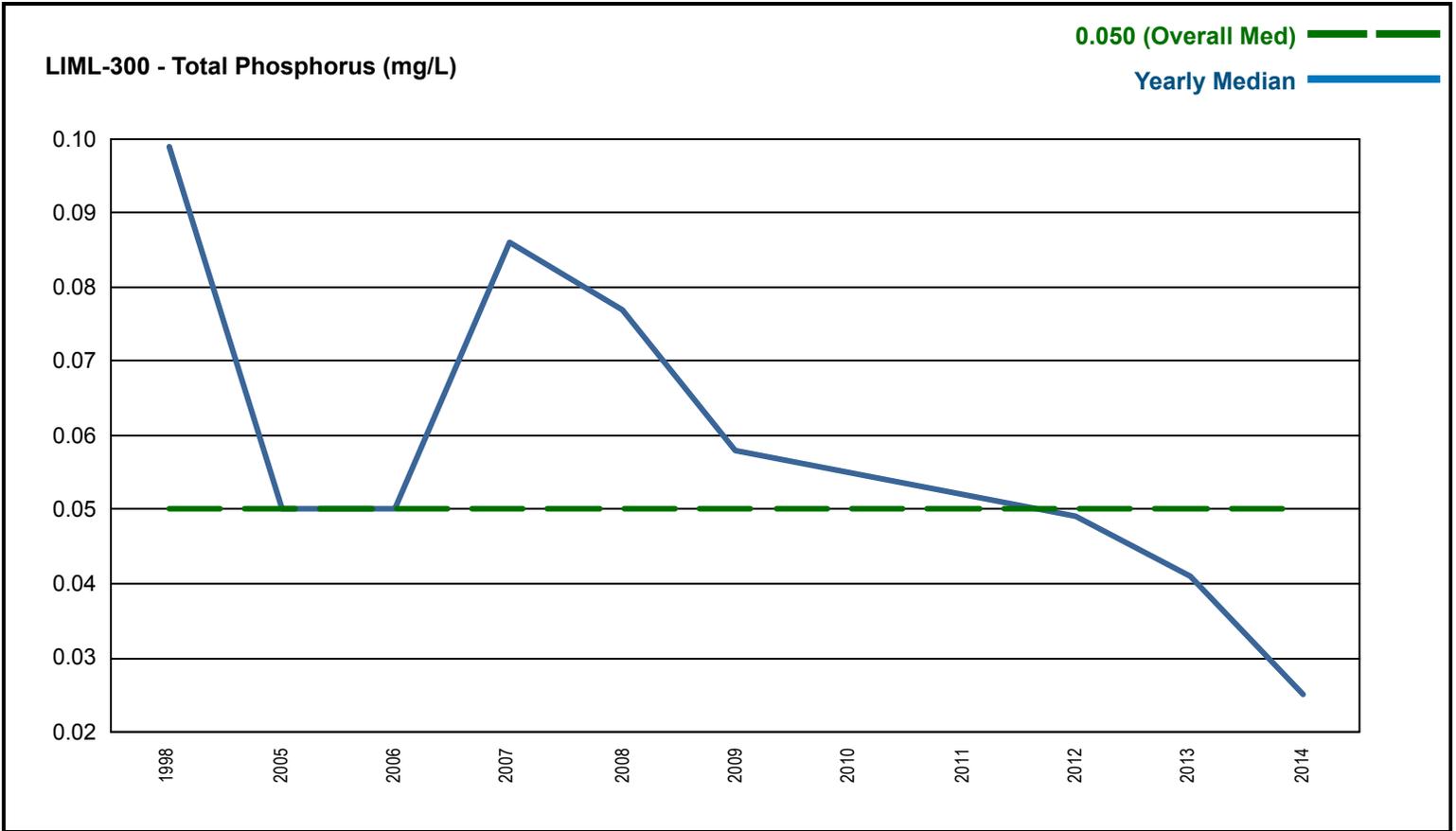
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



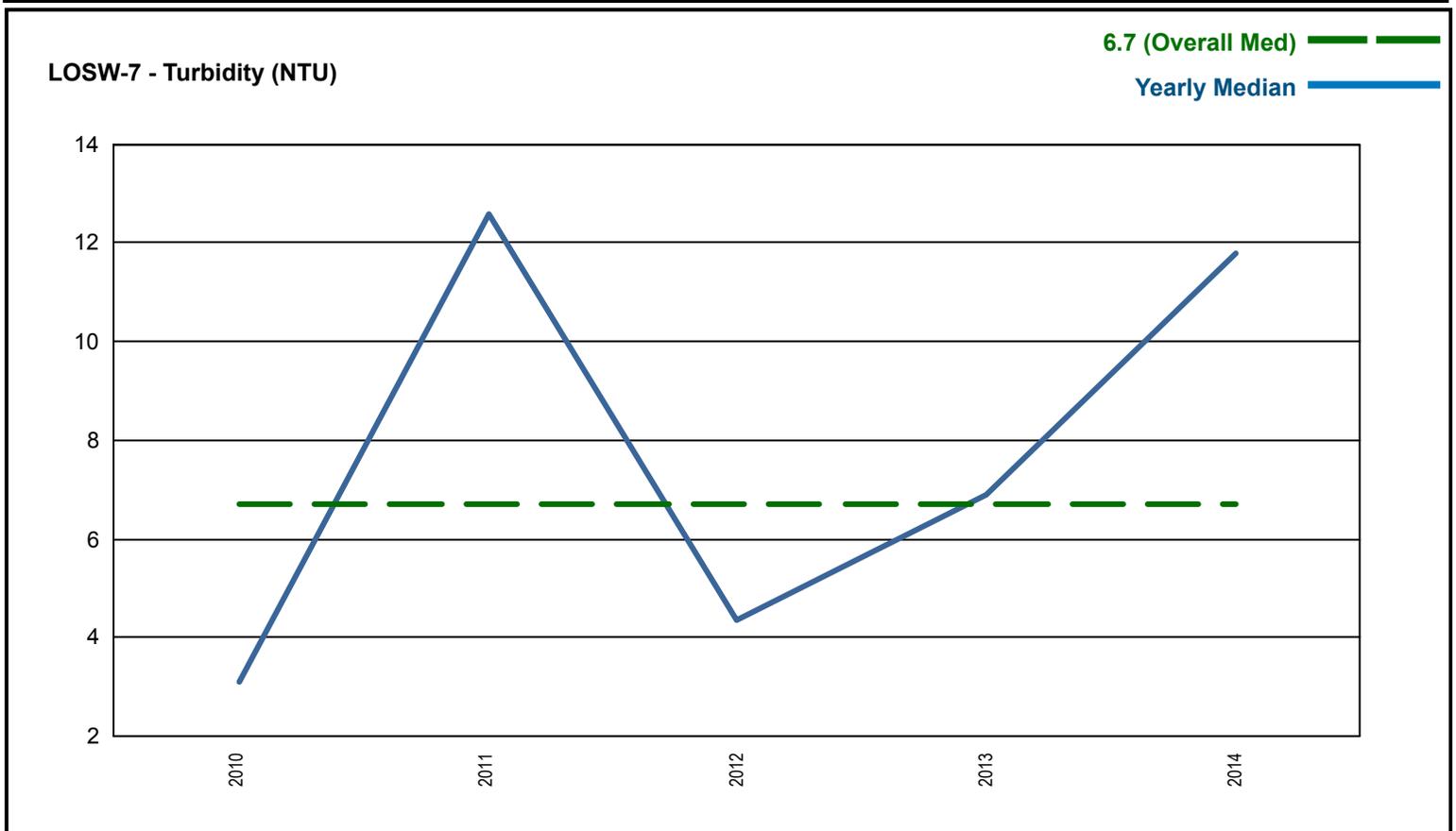
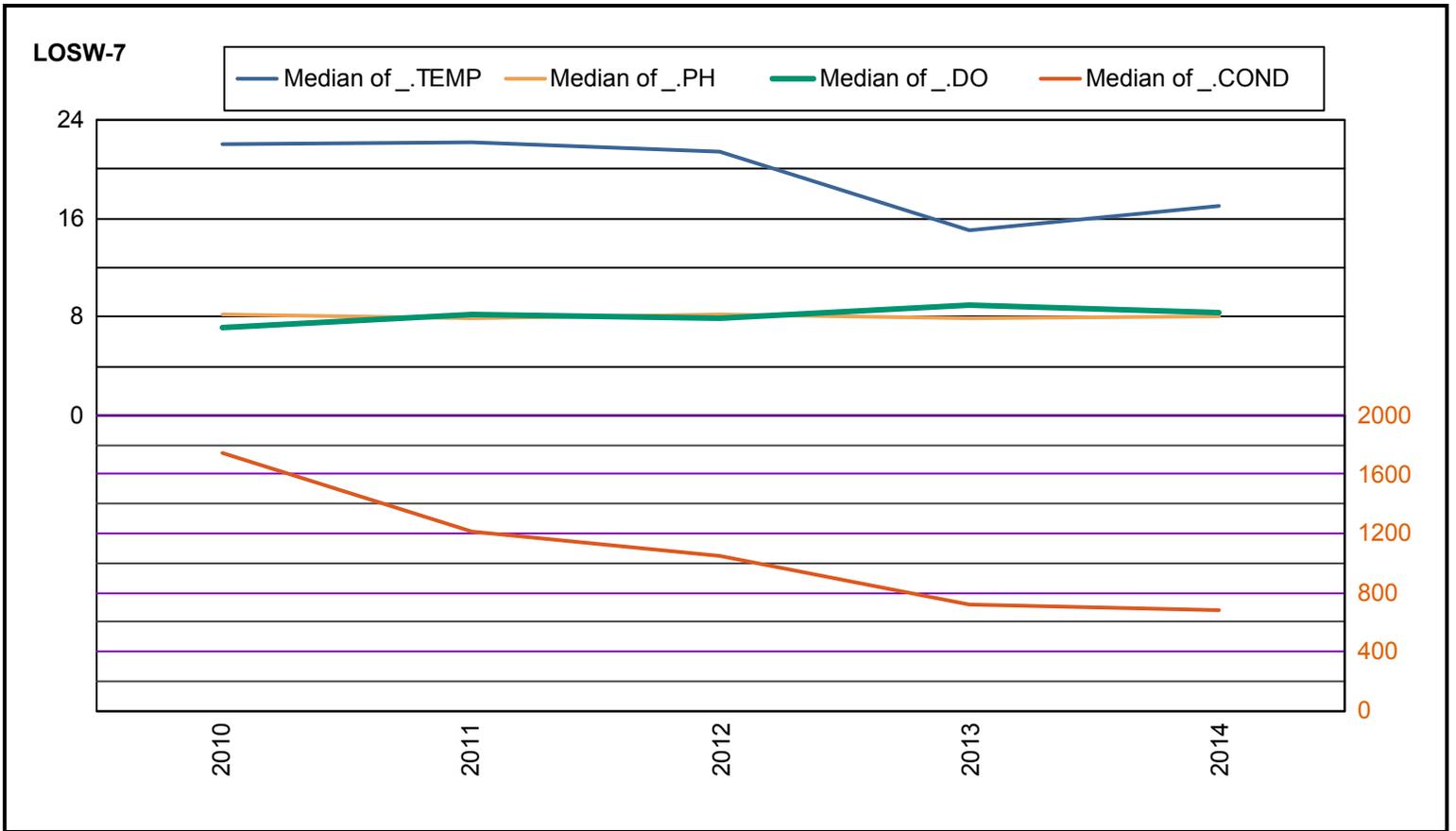
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



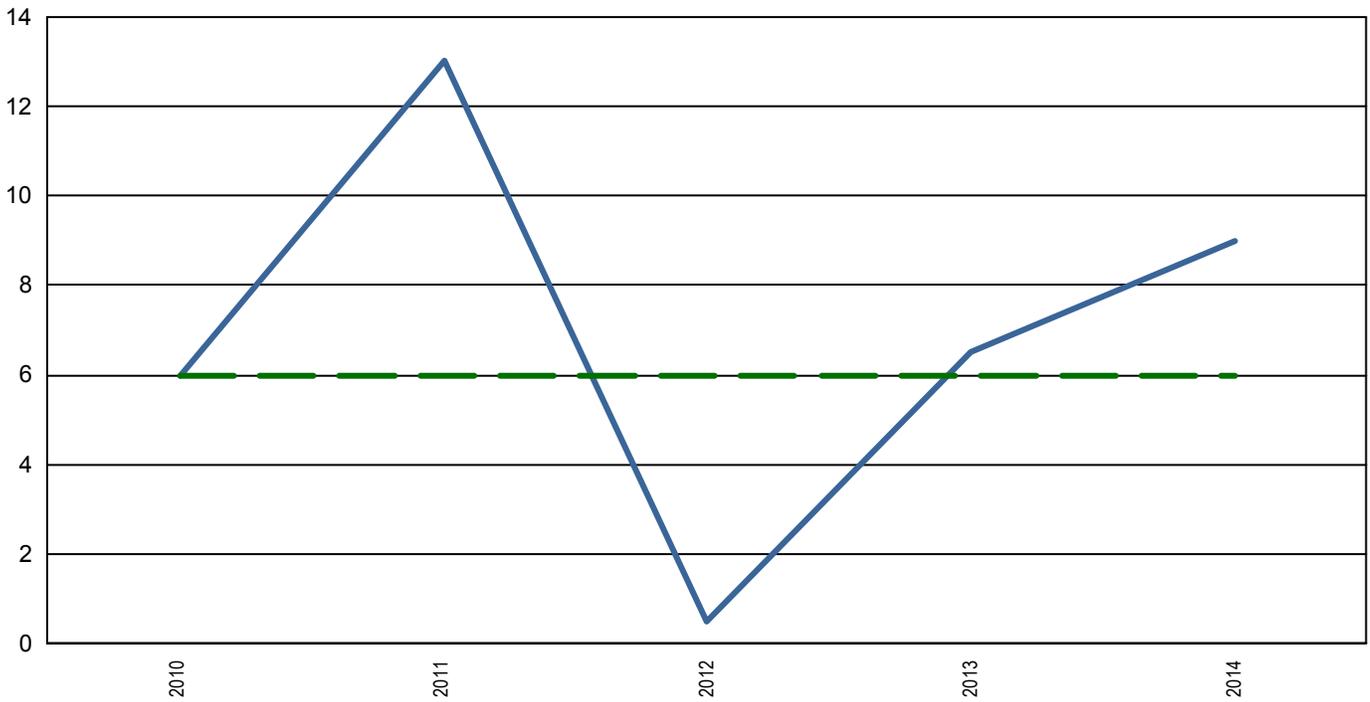
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

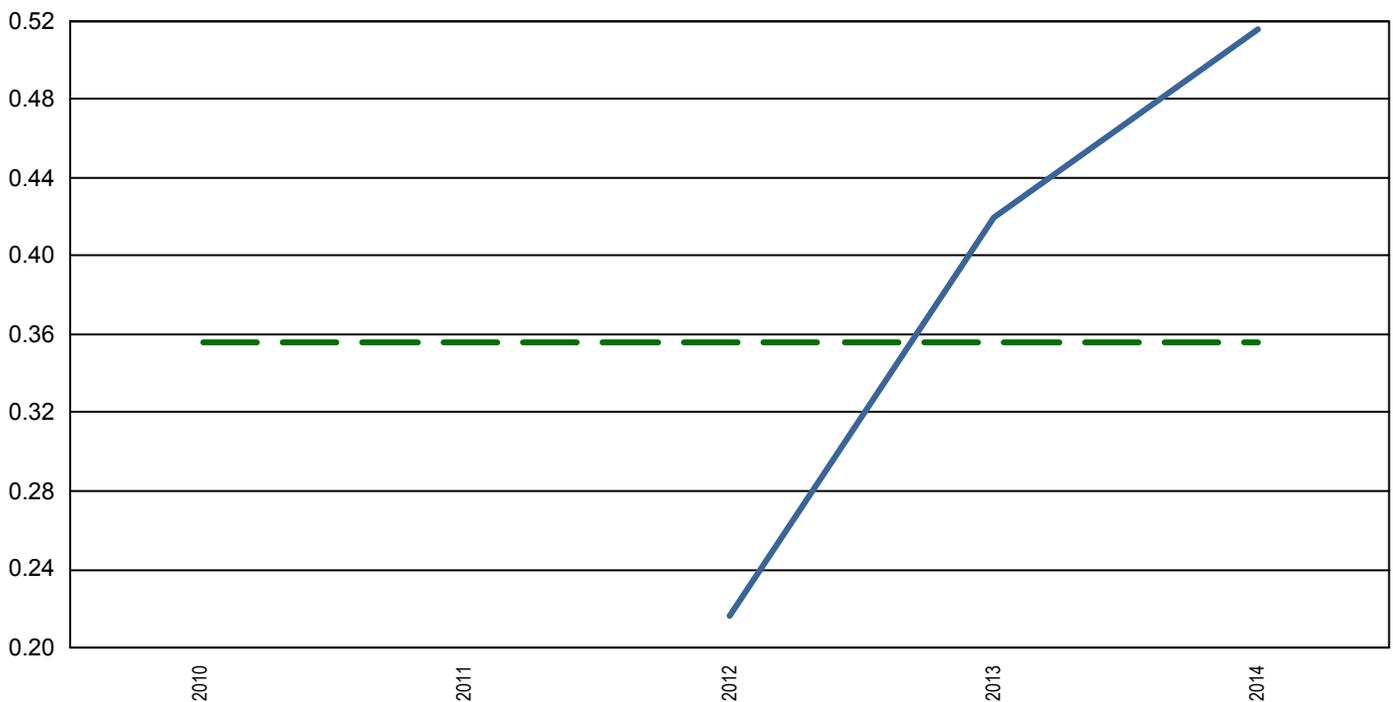
## LOSW-7 - Total Suspended Solids (mg/L)

6.0 (Overall Med)   
Yearly Median 

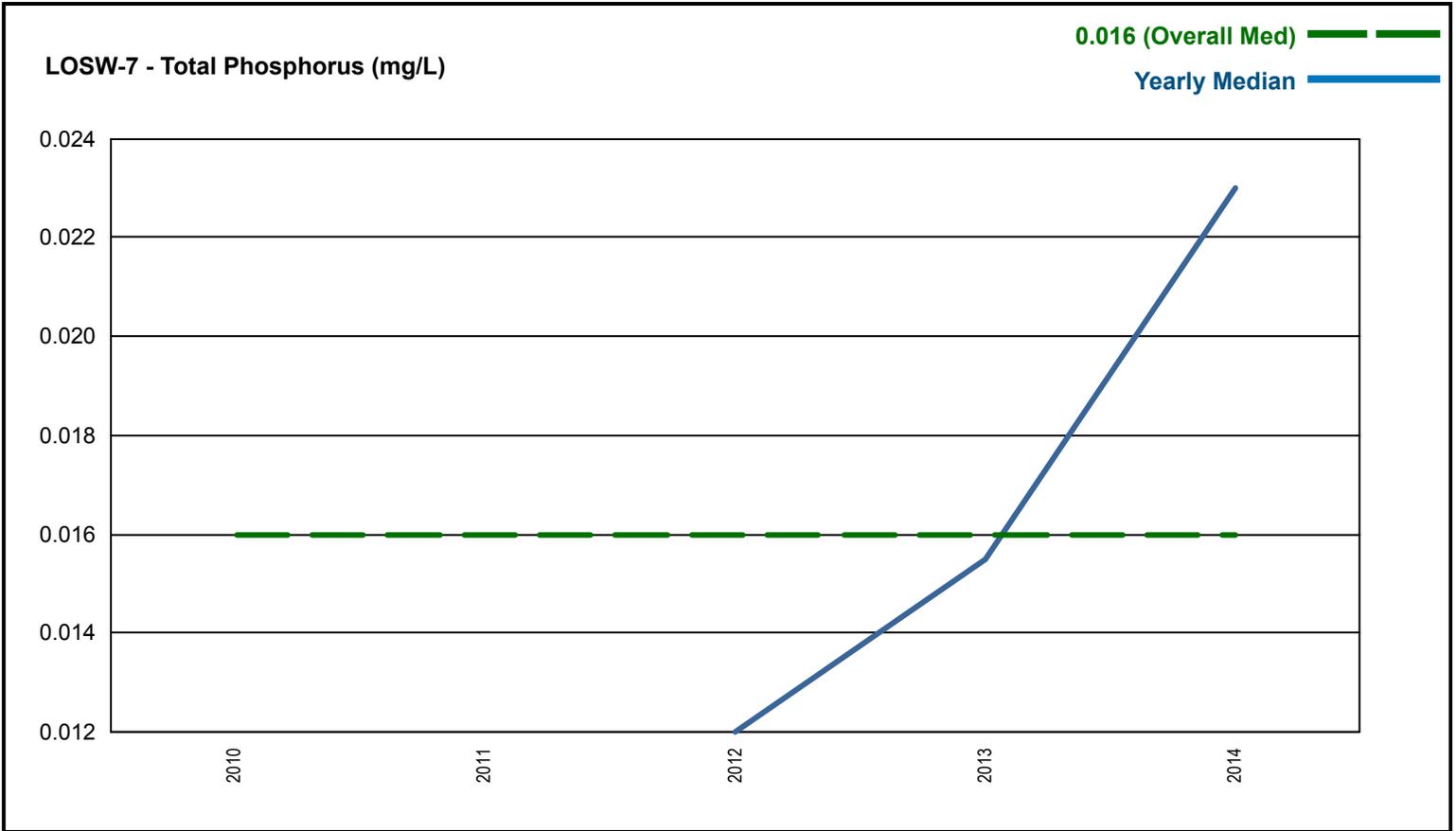


## LOSW-7 - Total Nitrogen (mg/L)

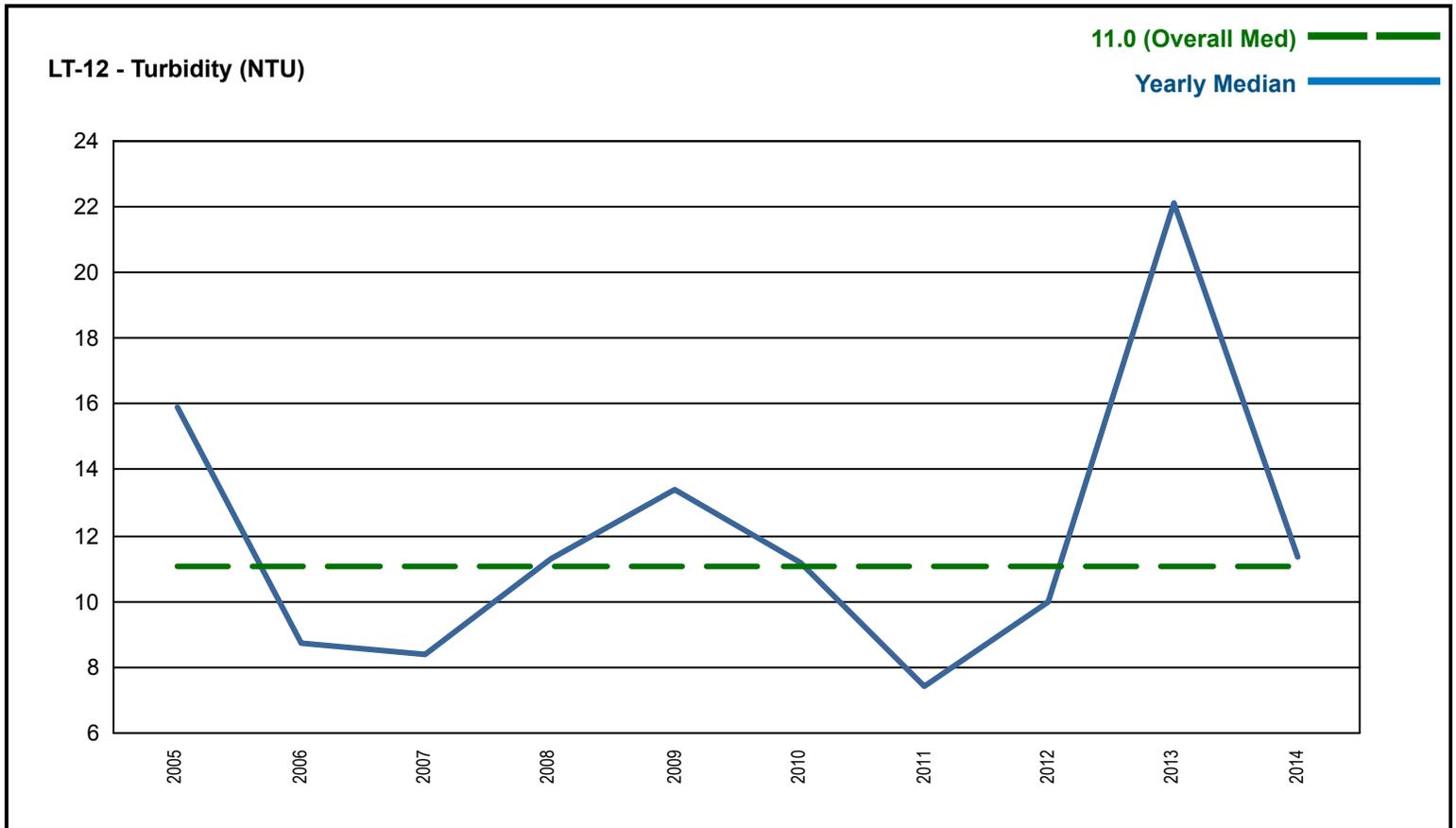
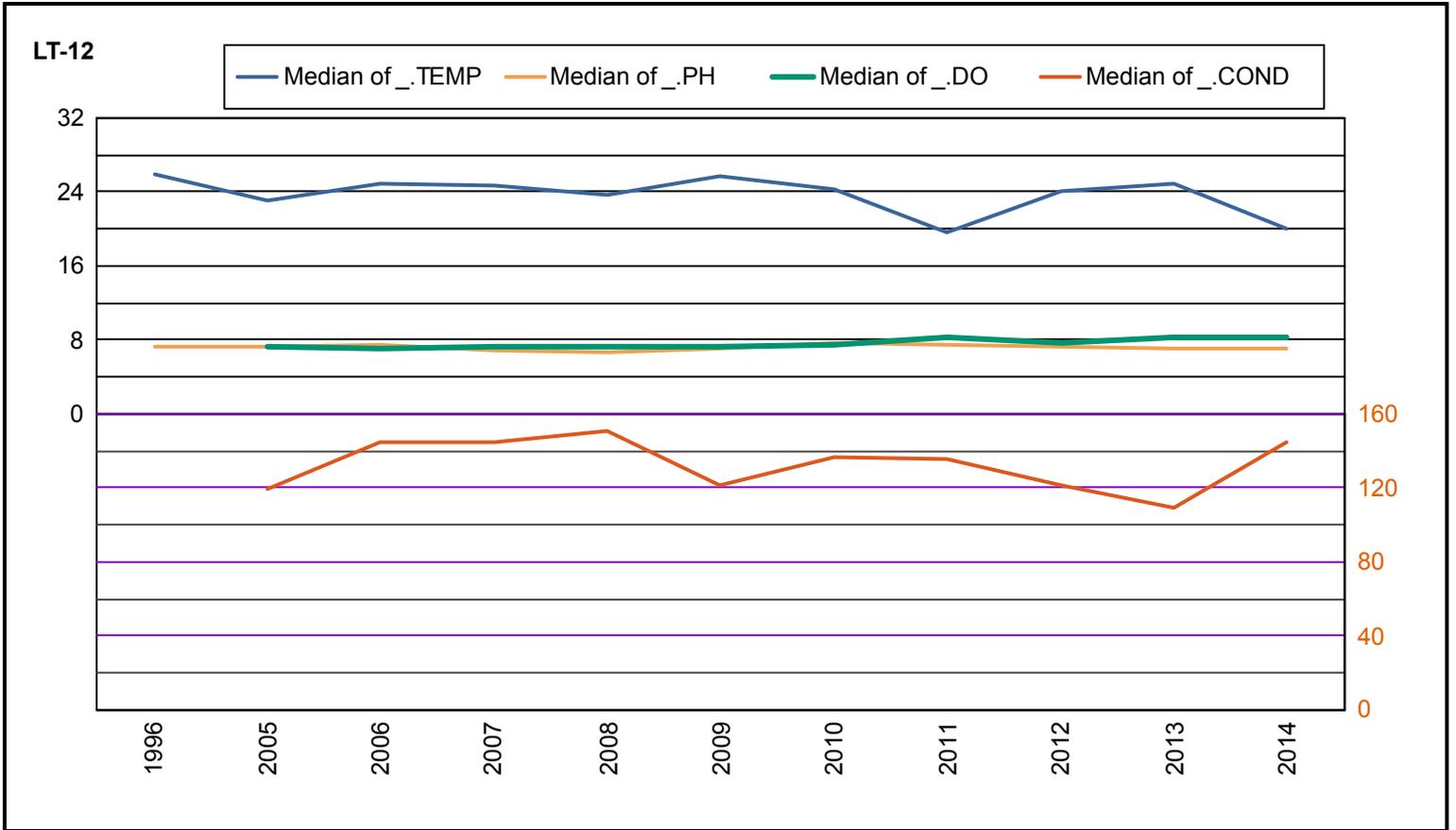
0.356 (Overall Med)   
Yearly Median 



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



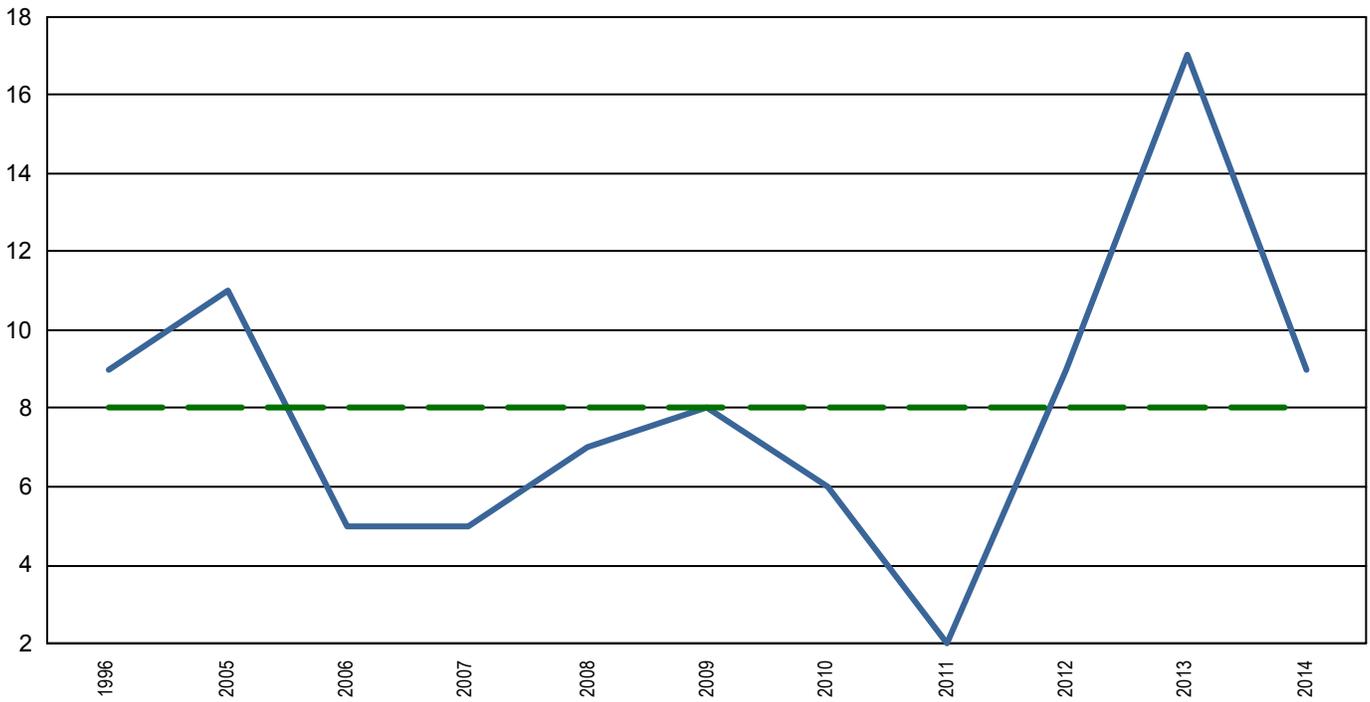
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

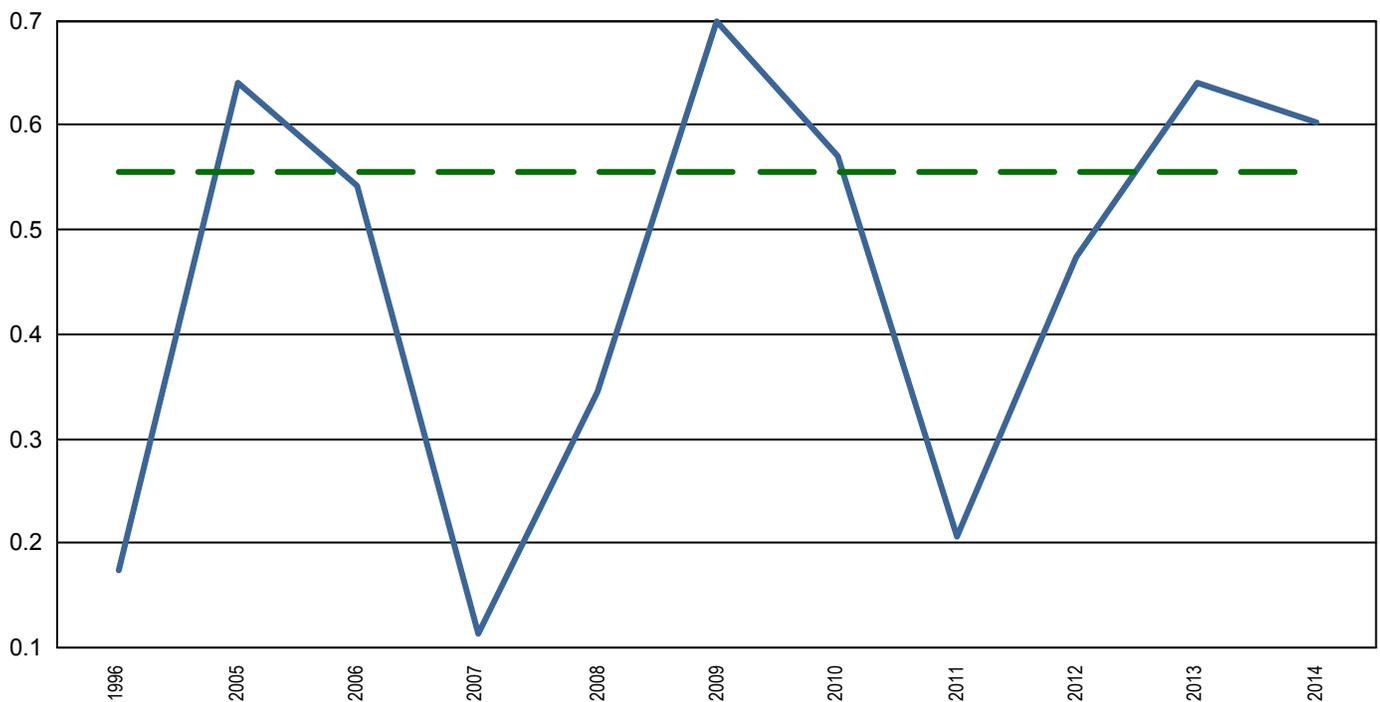
## LT-12 - Total Suspended Solids (mg/L)

8.0 (Overall Med)   
Yearly Median 

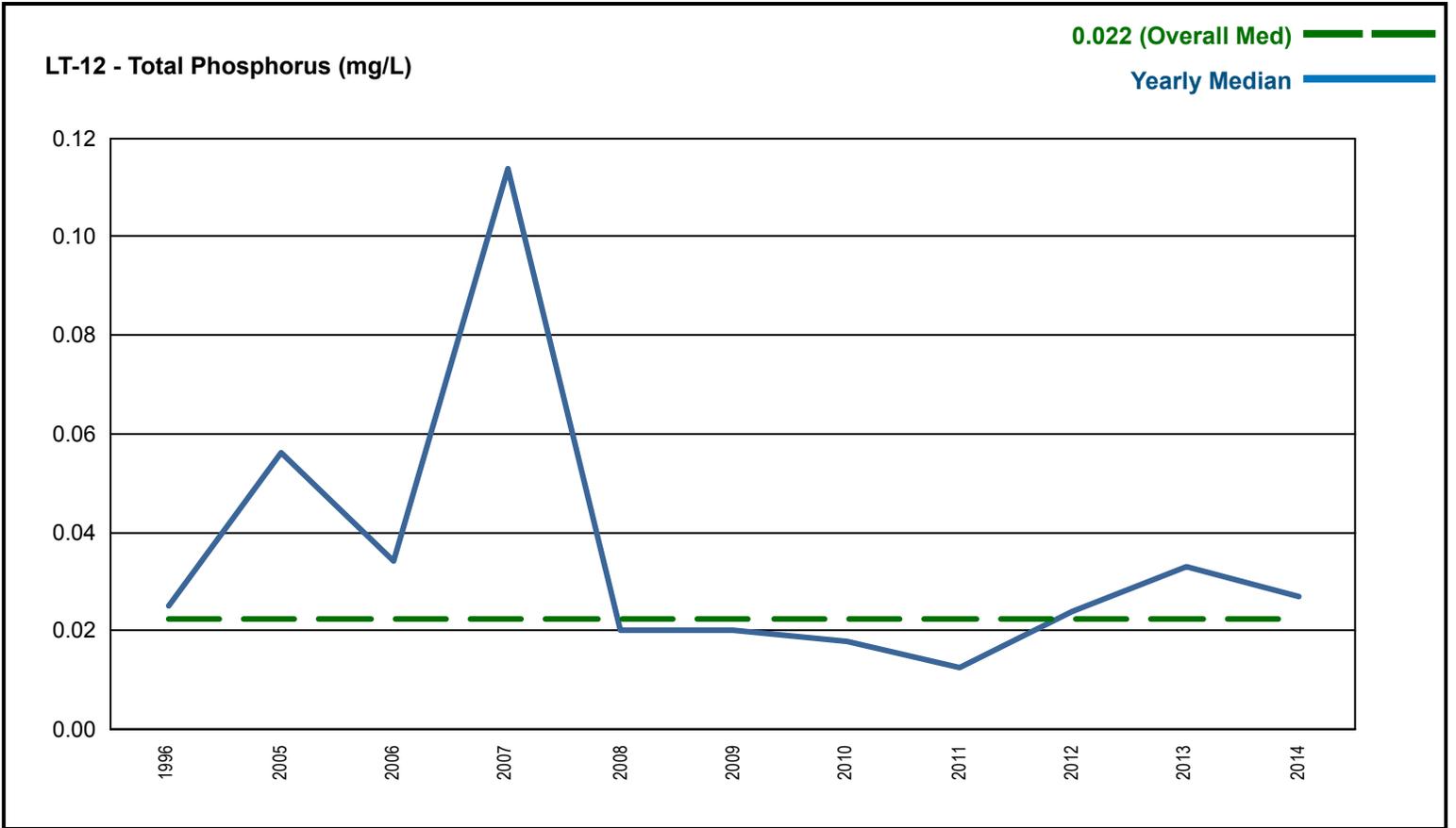


## LT-12 - Total Nitrogen (mg/L)

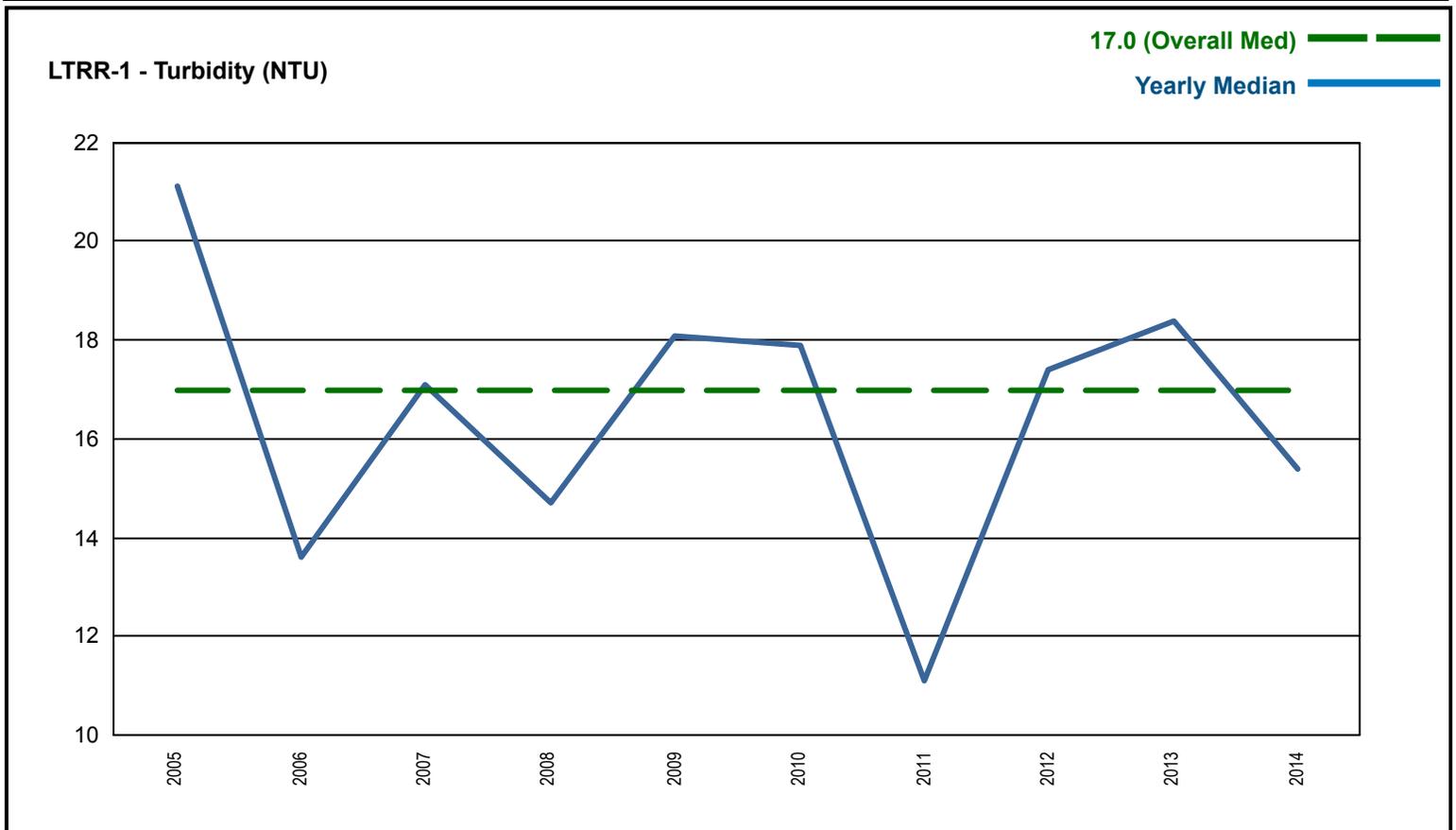
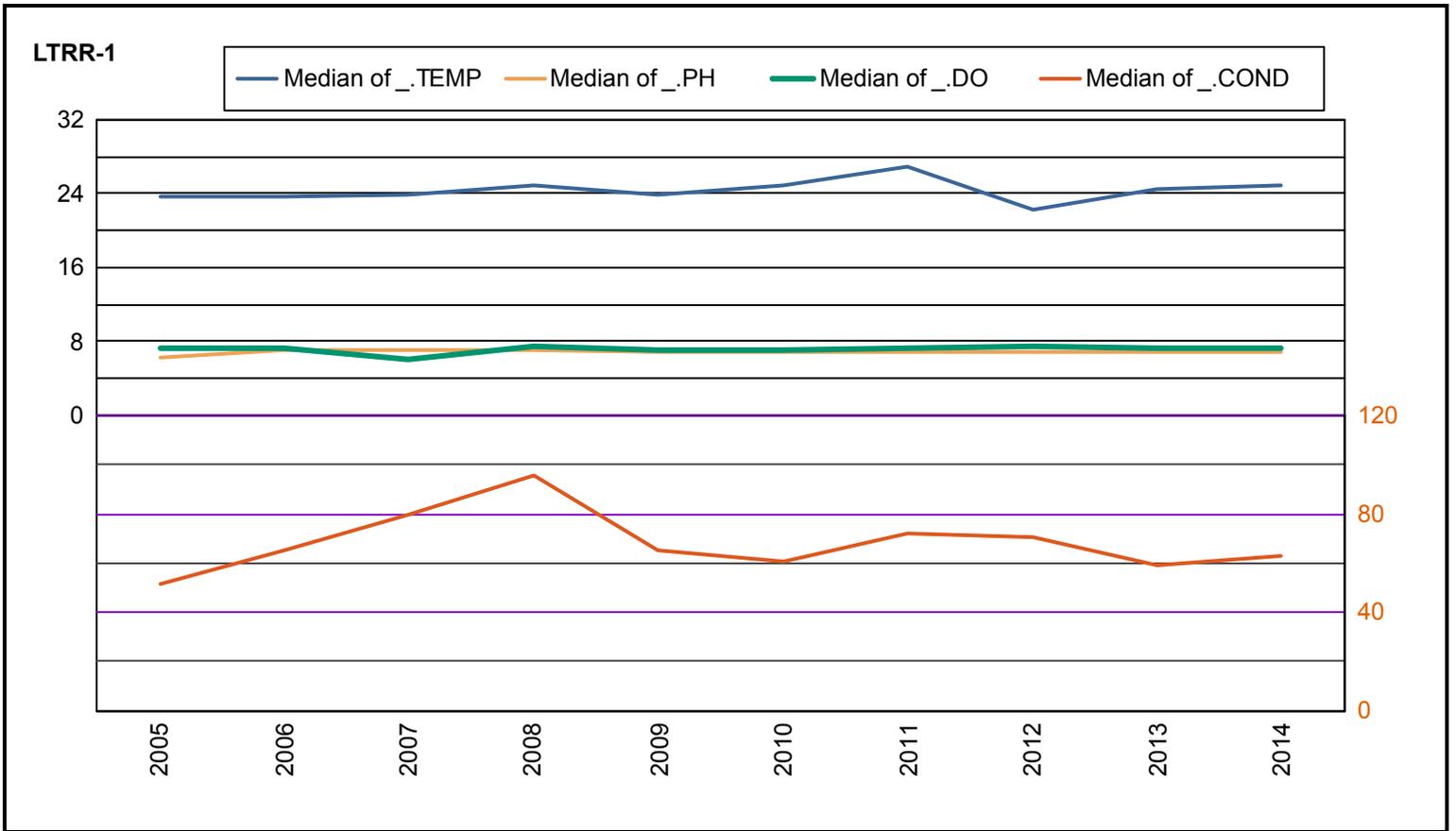
0.556 (Overall Med)   
Yearly Median 



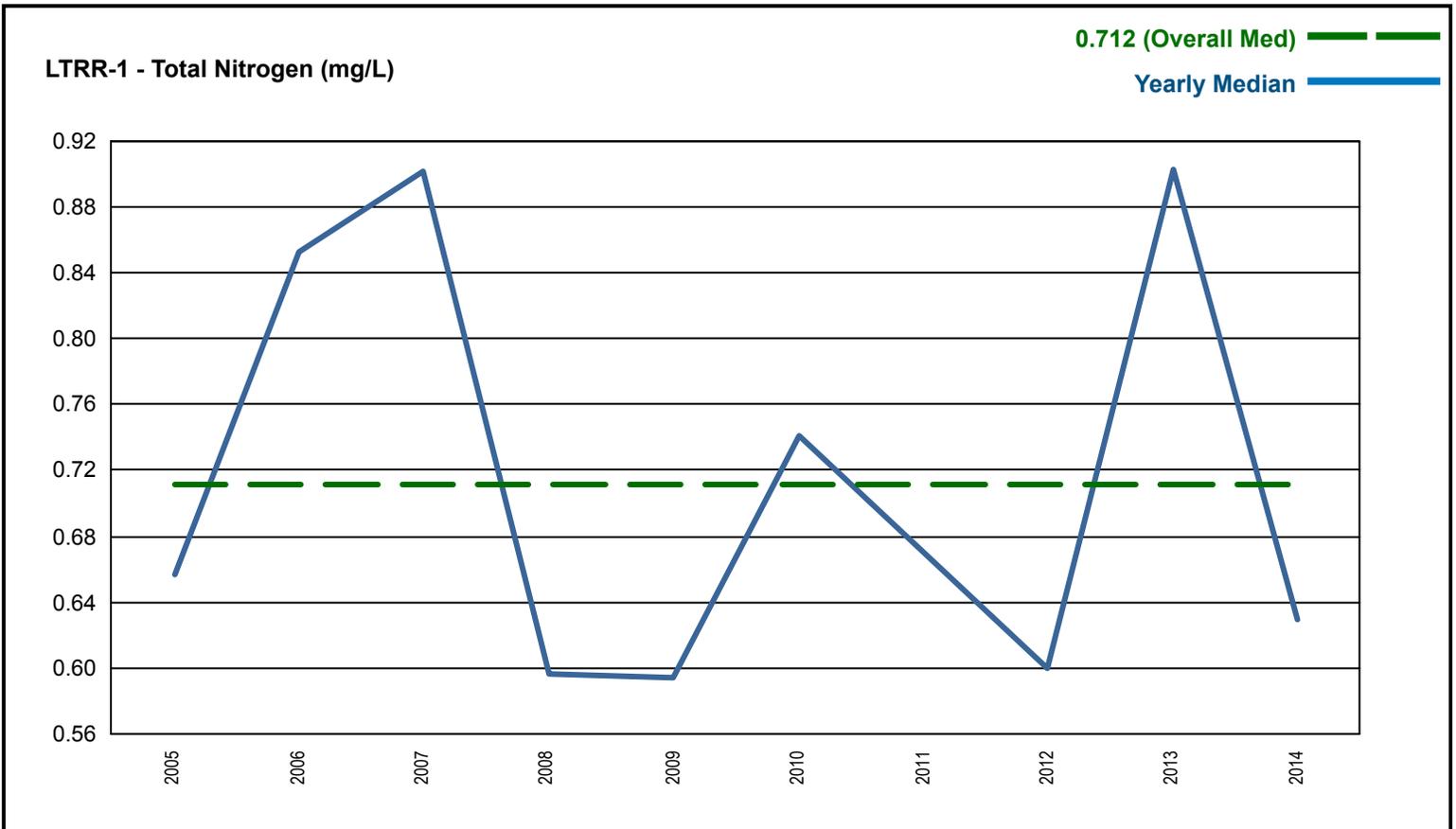
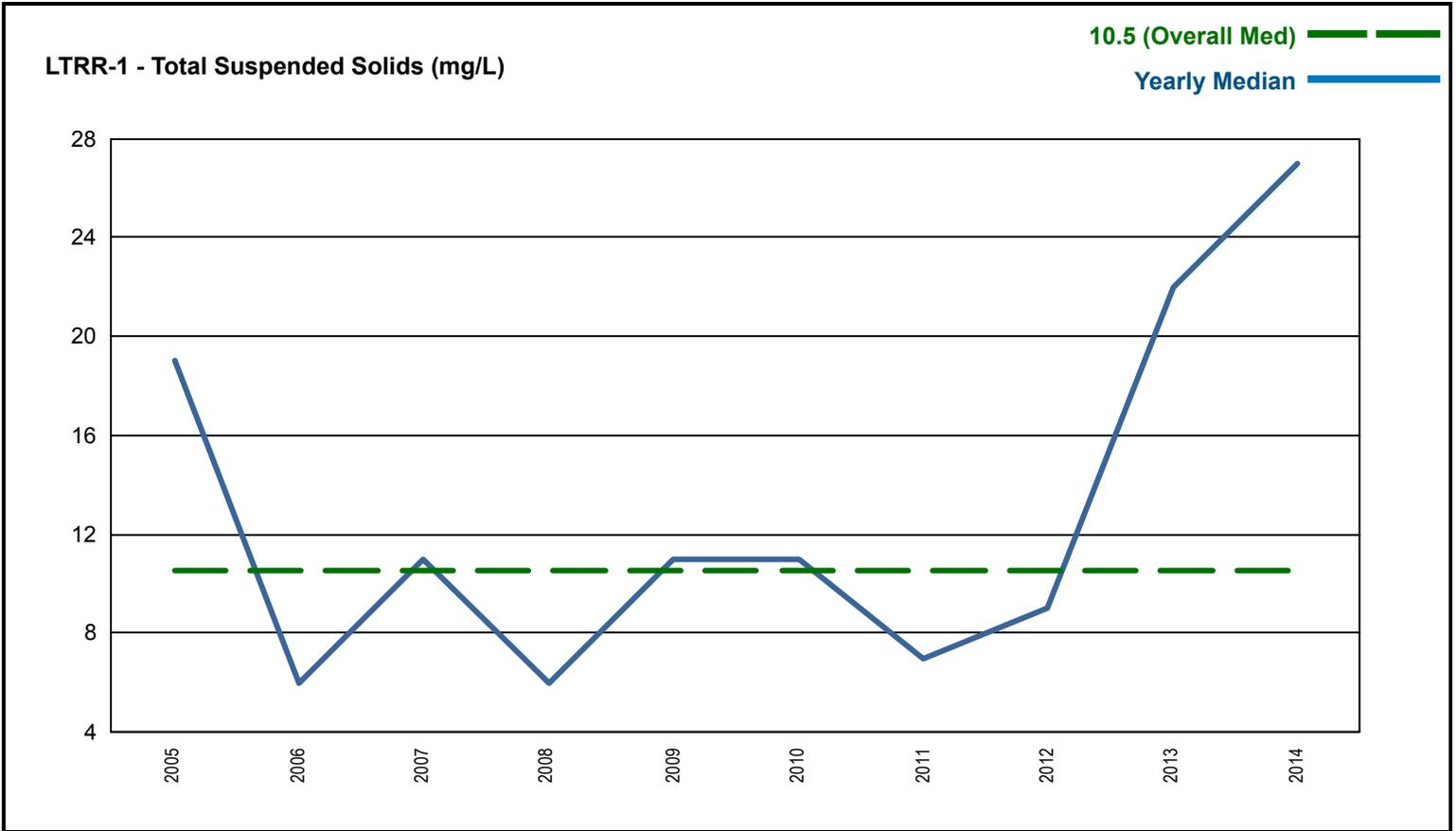
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



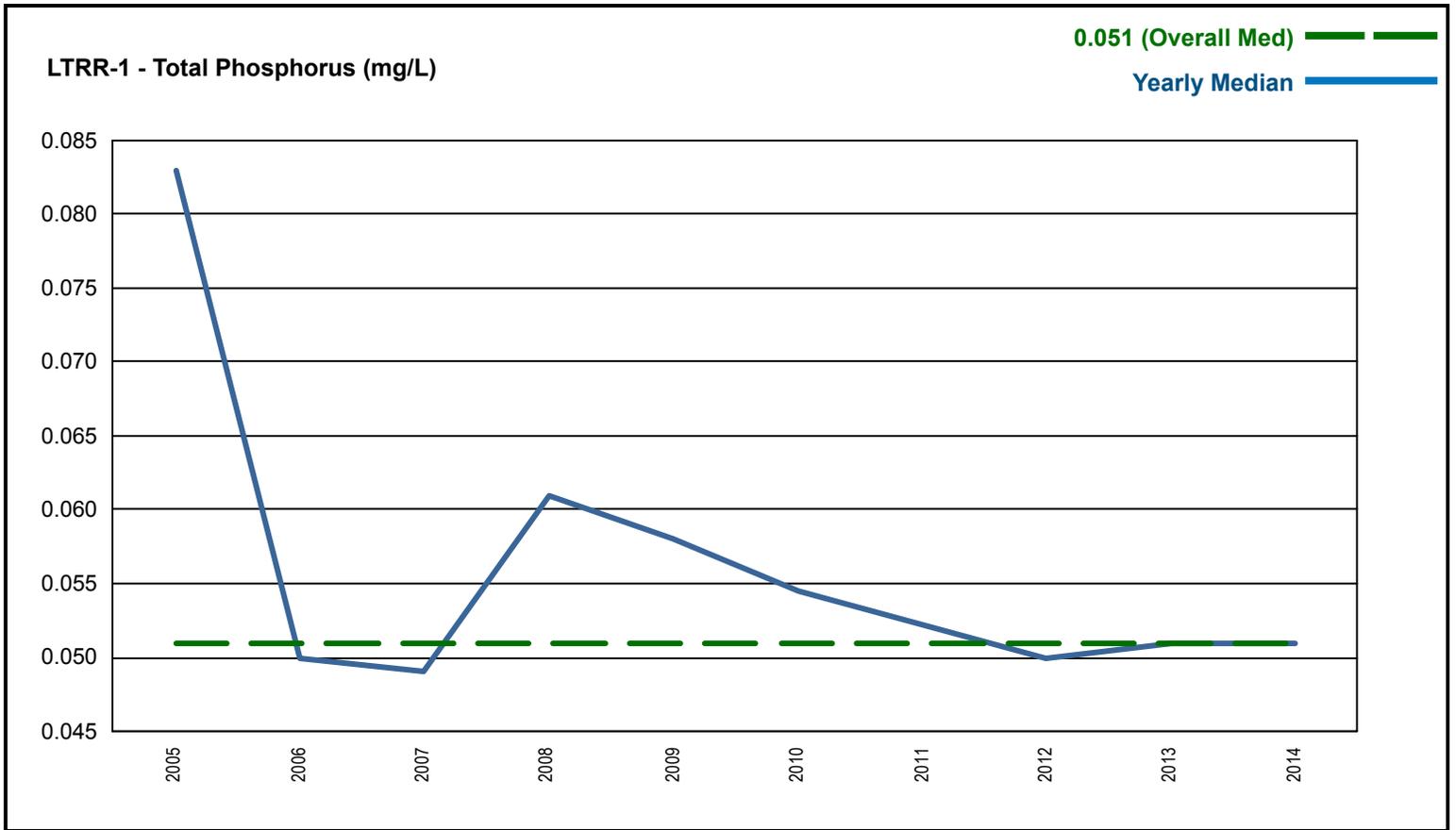
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



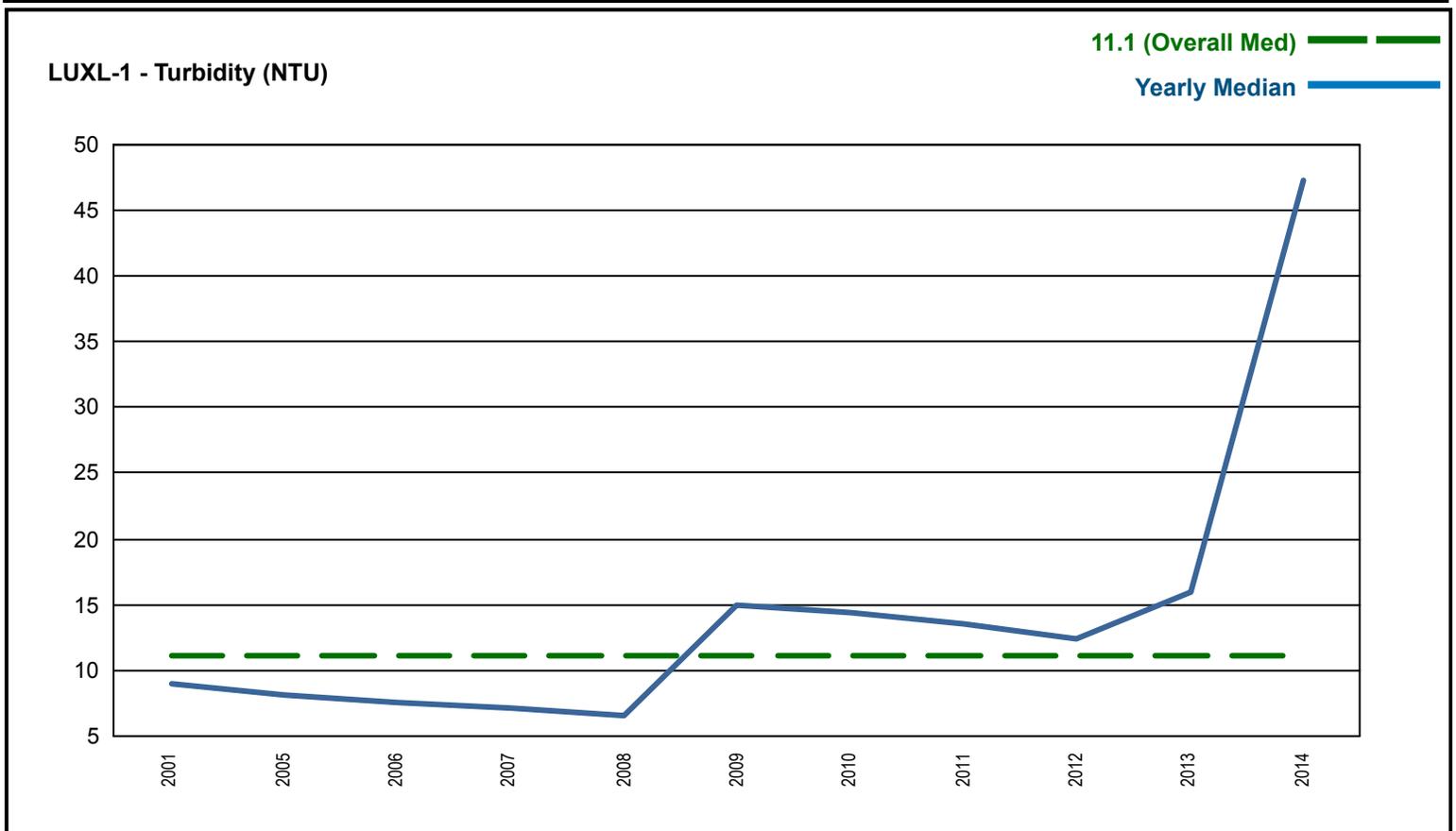
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



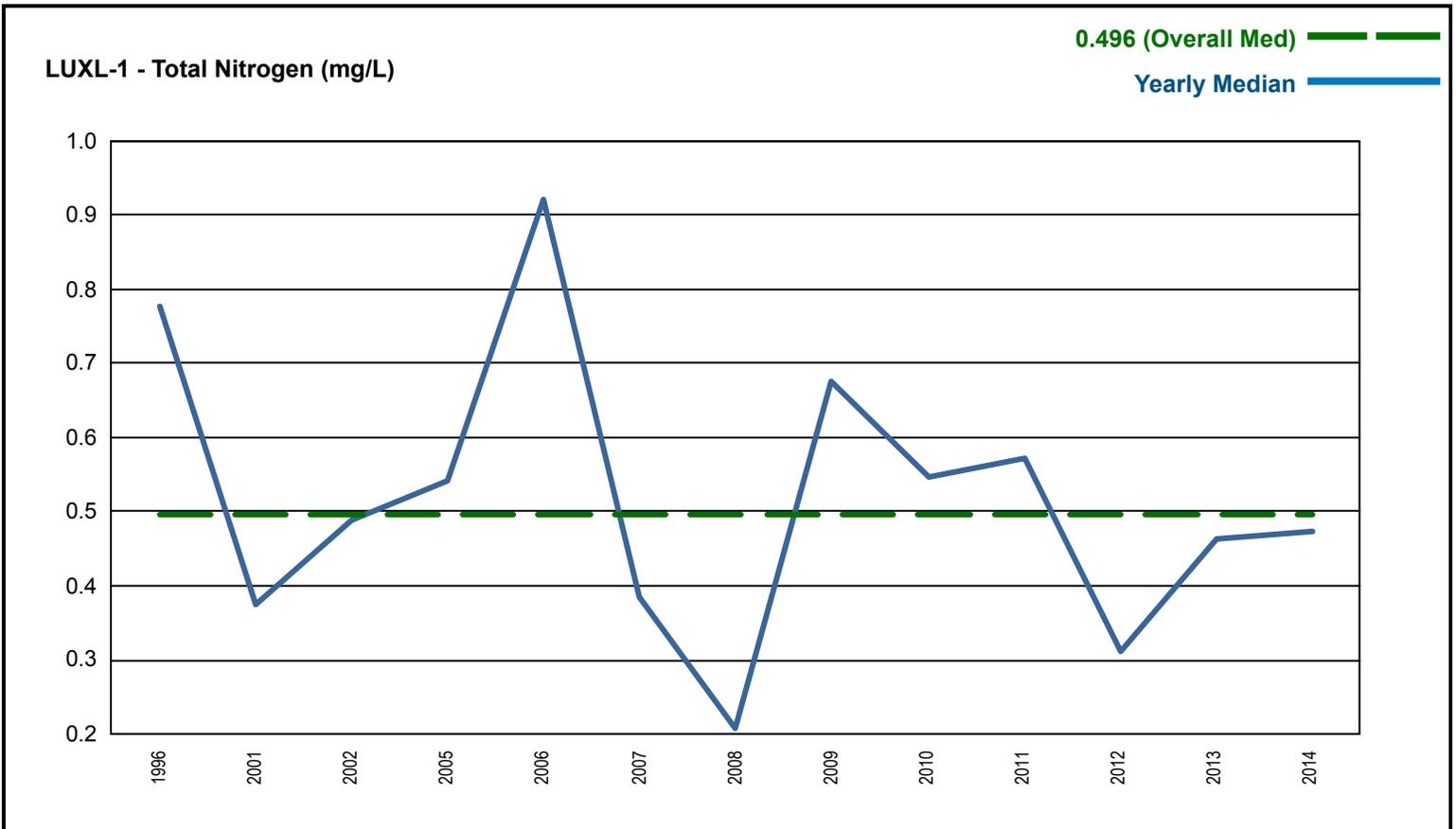
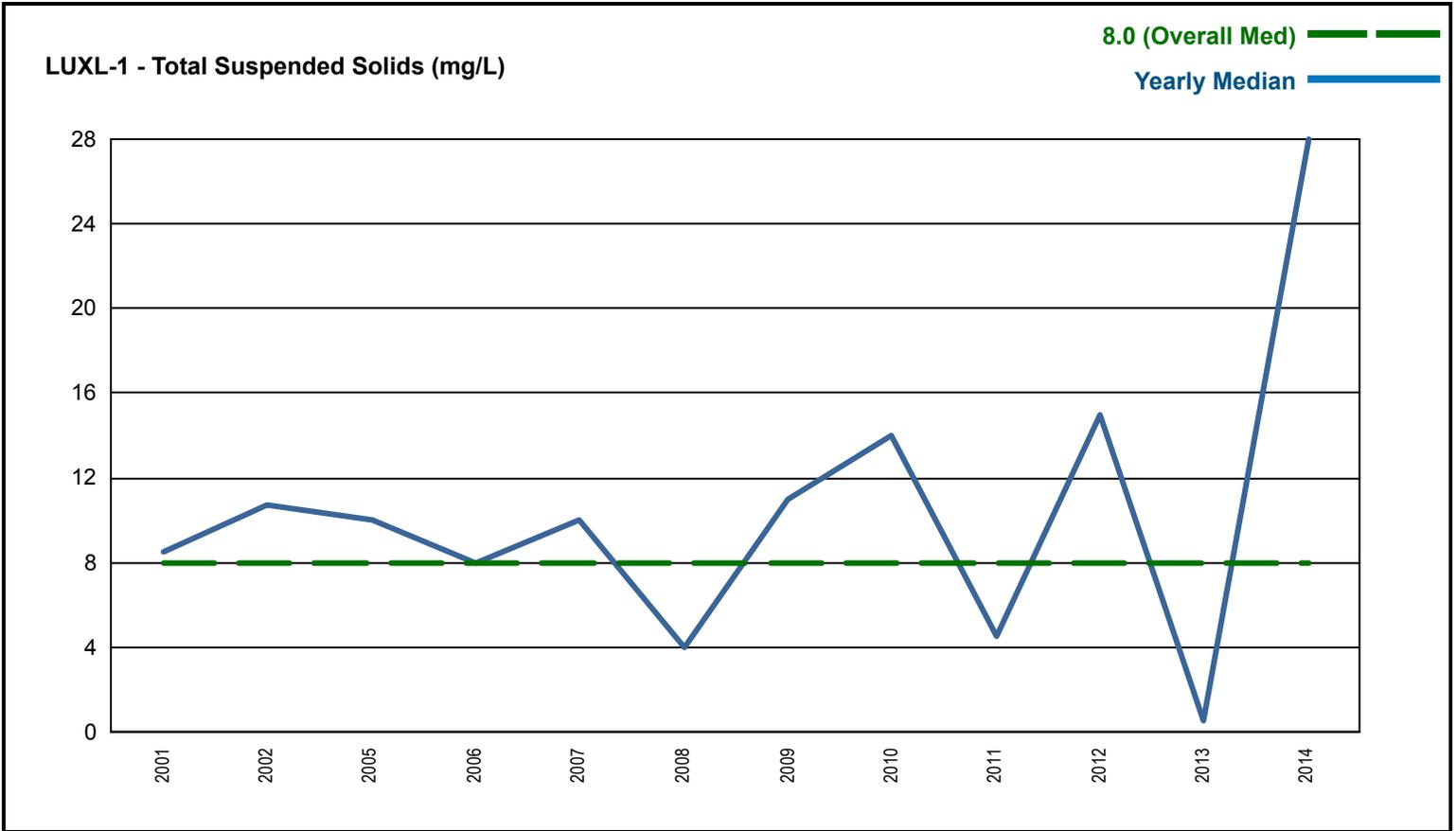
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



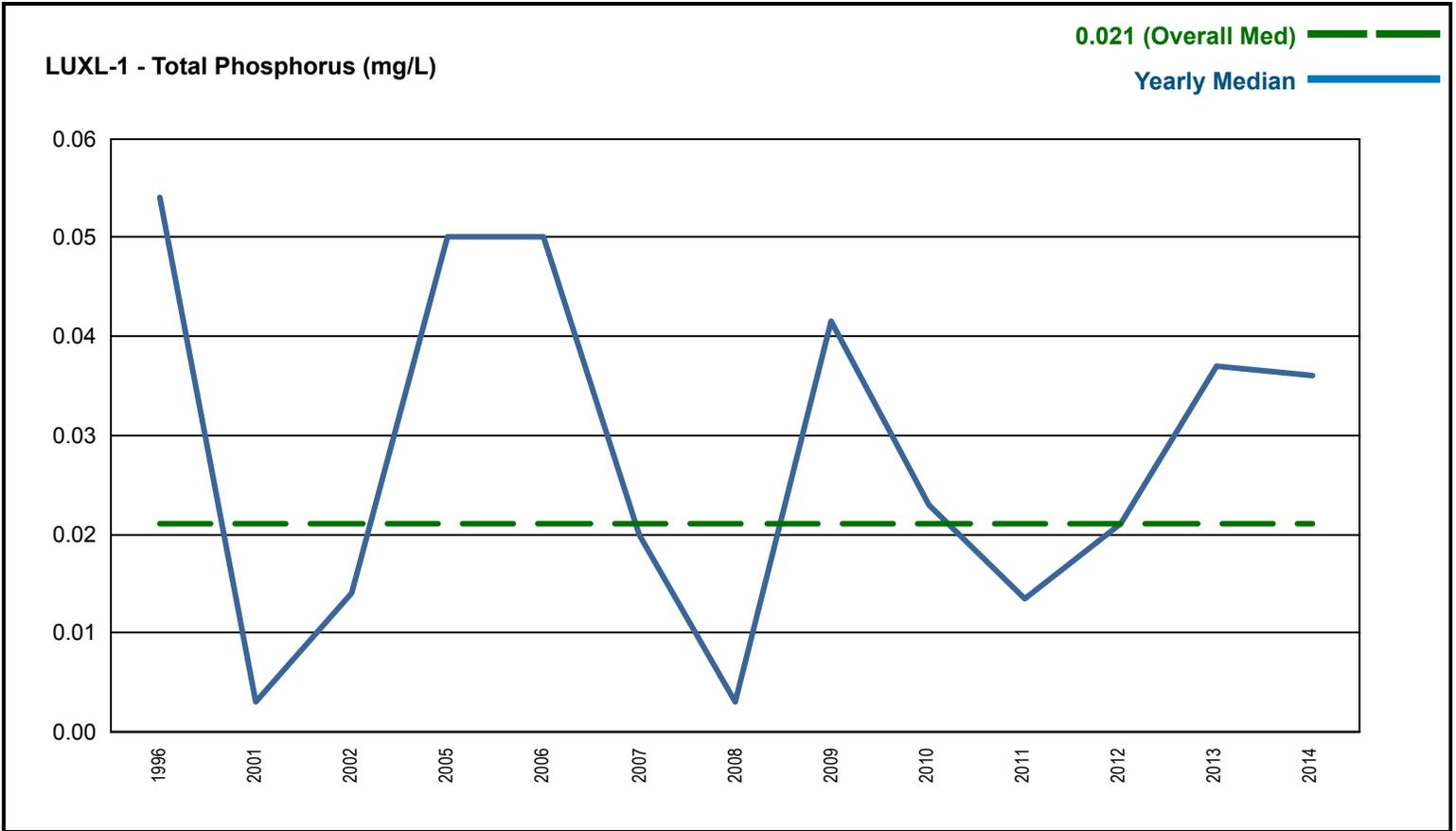
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



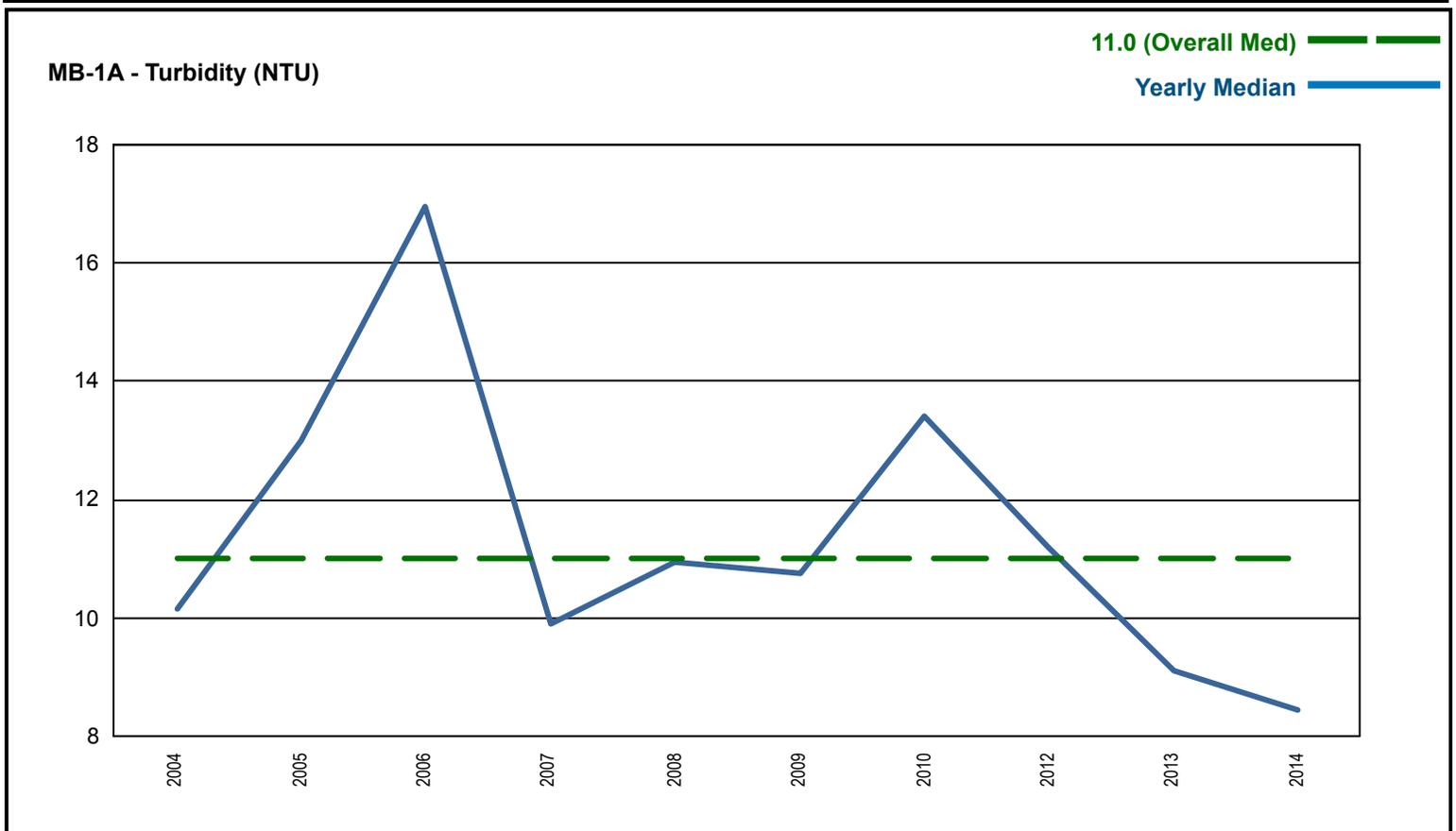
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



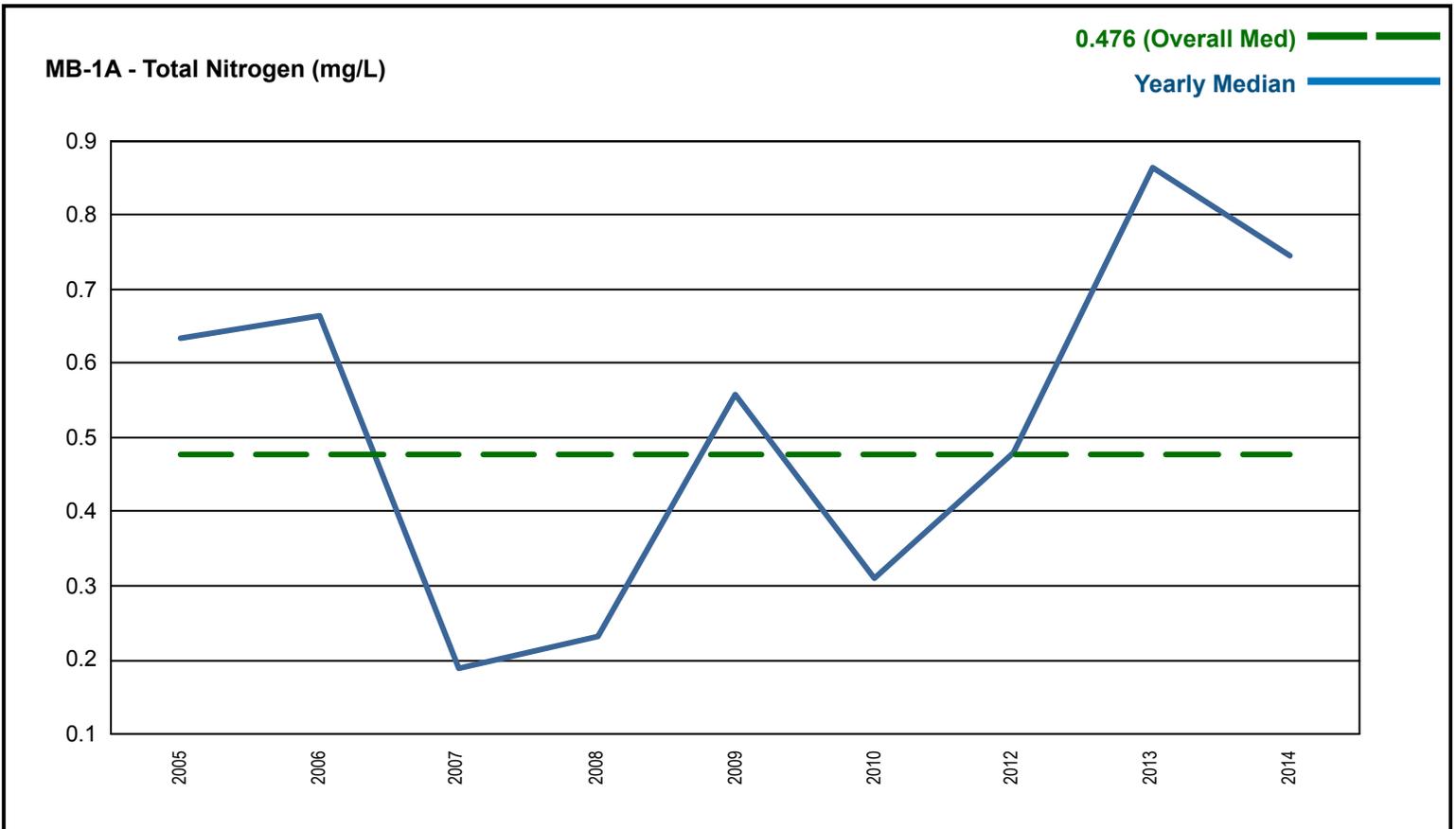
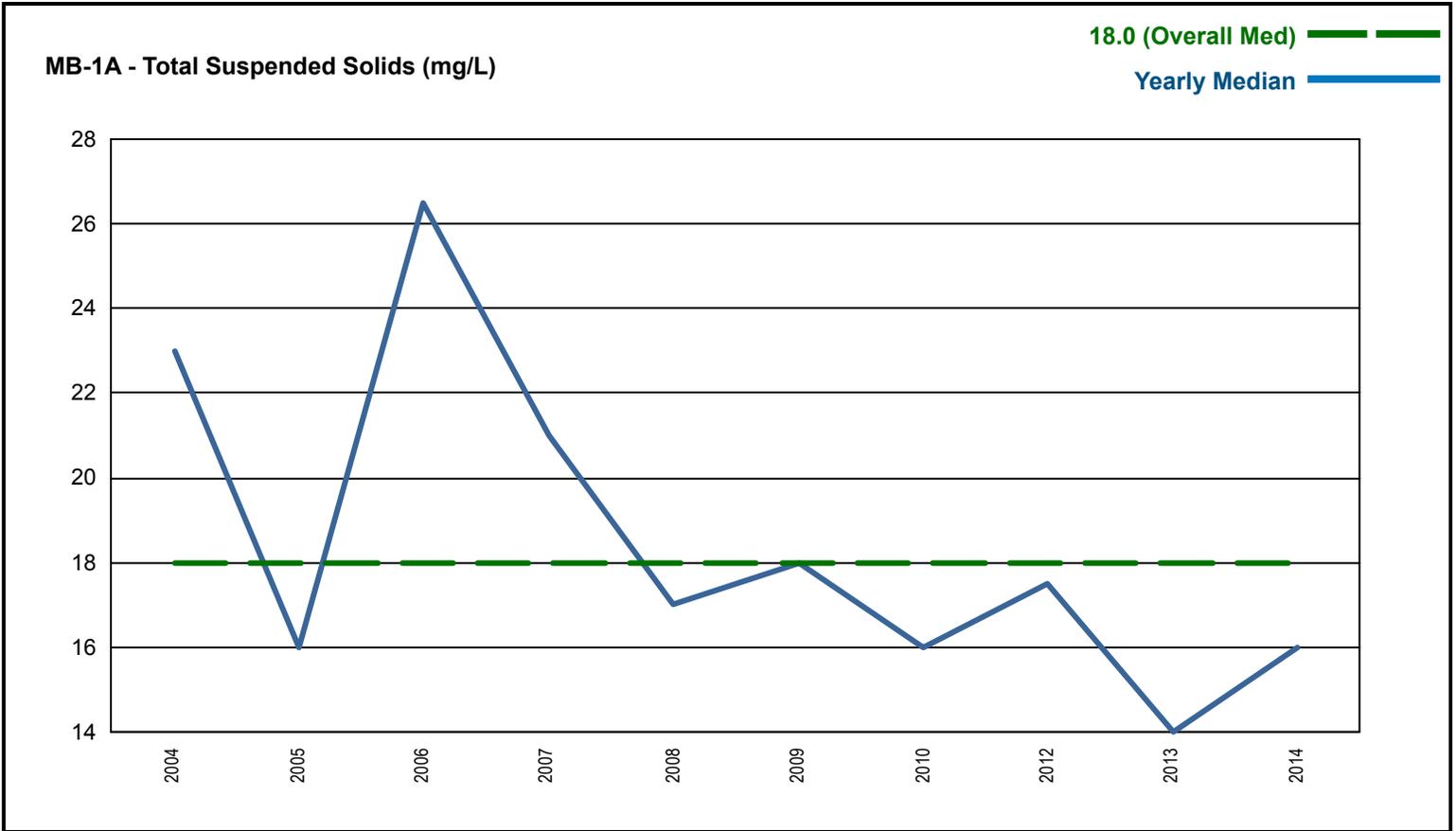
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



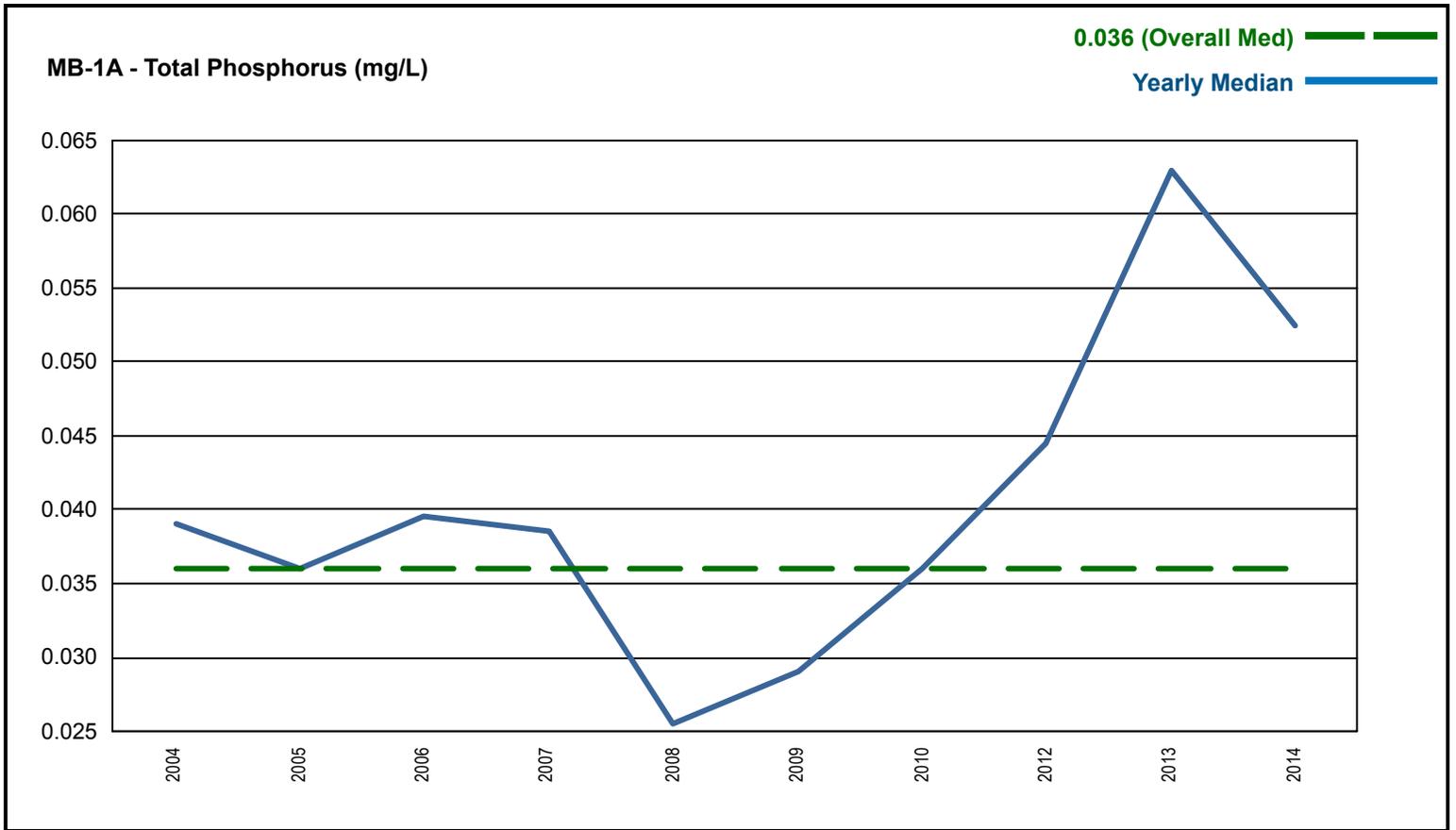
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



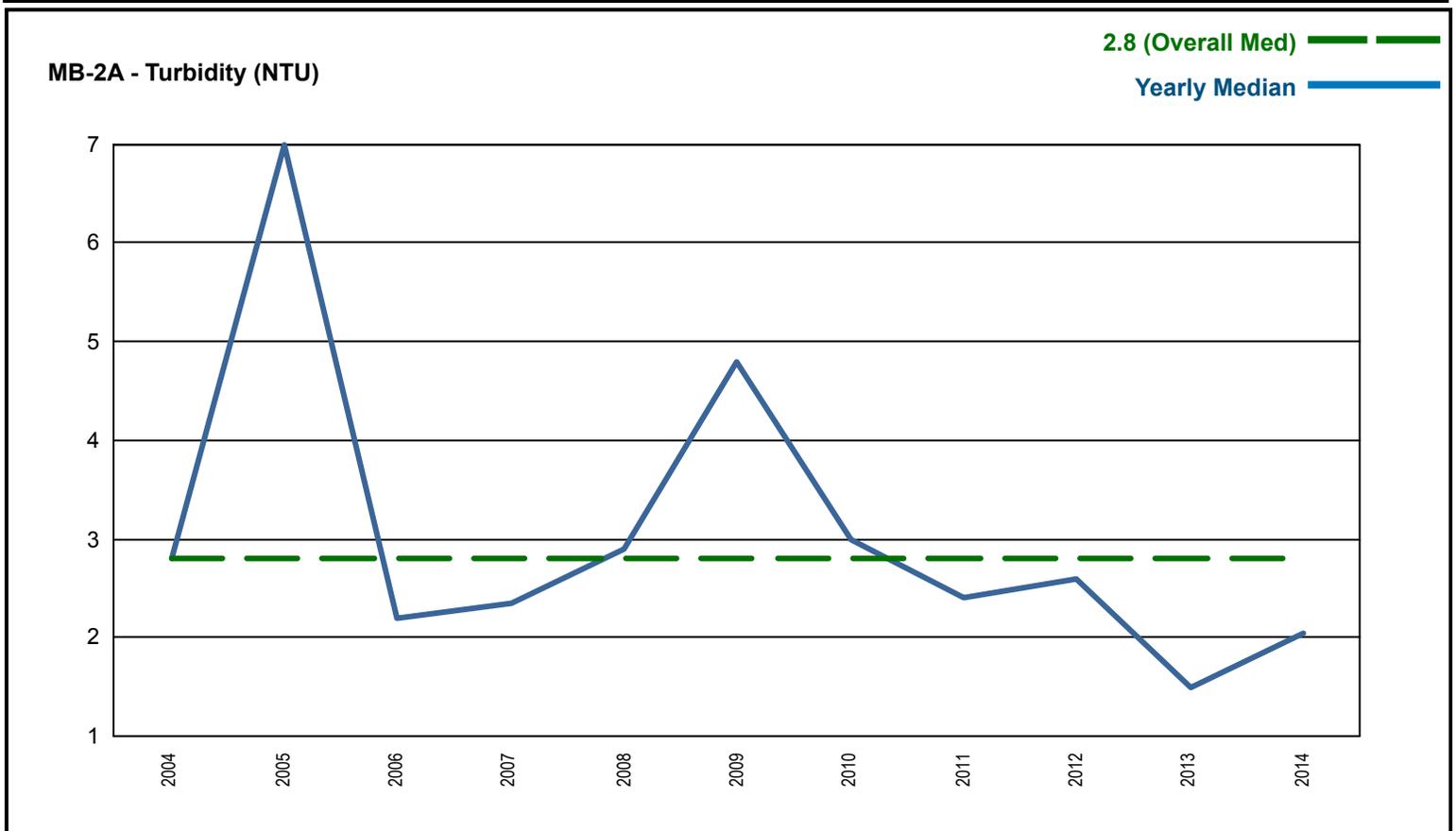
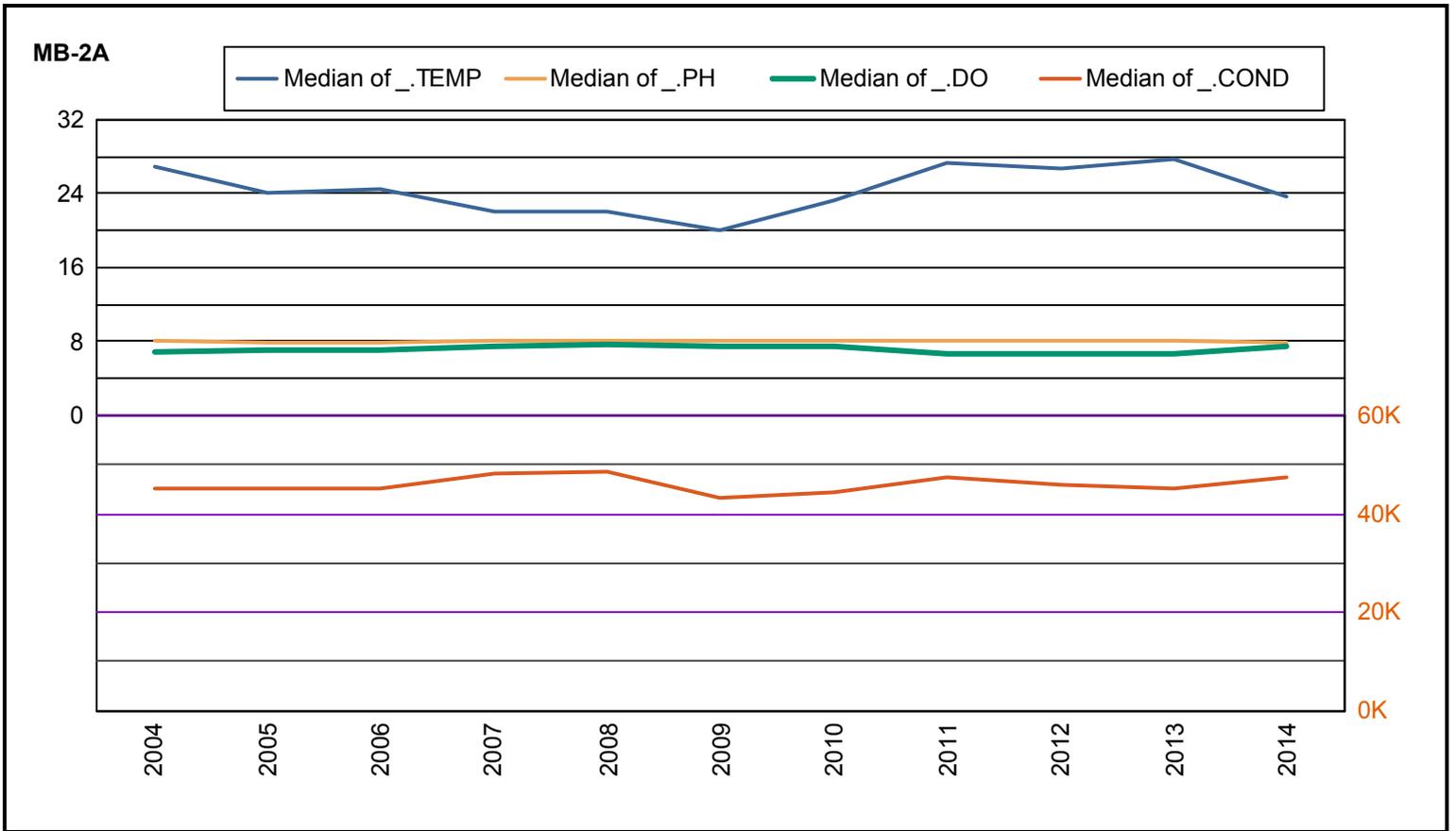
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



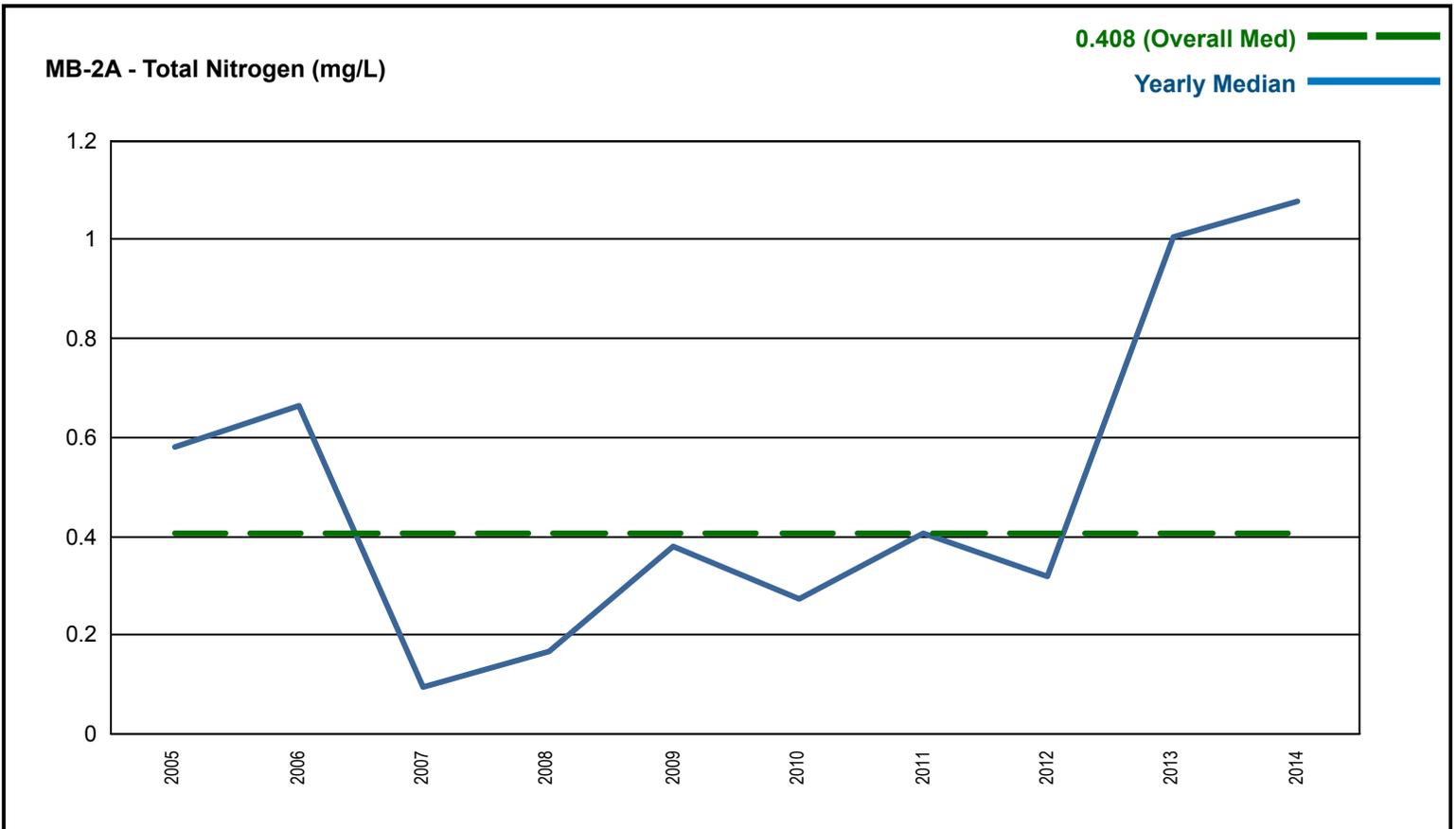
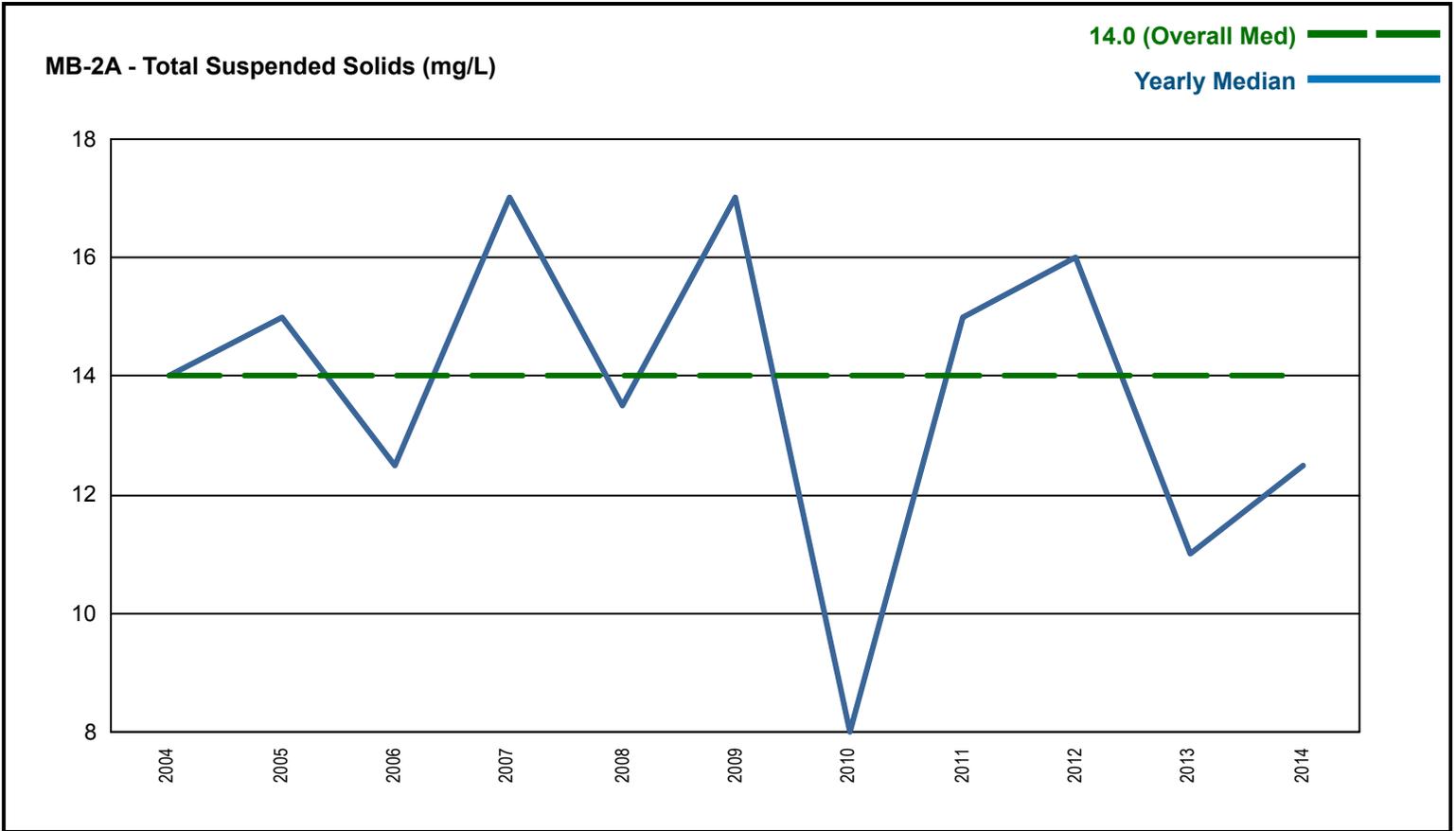
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



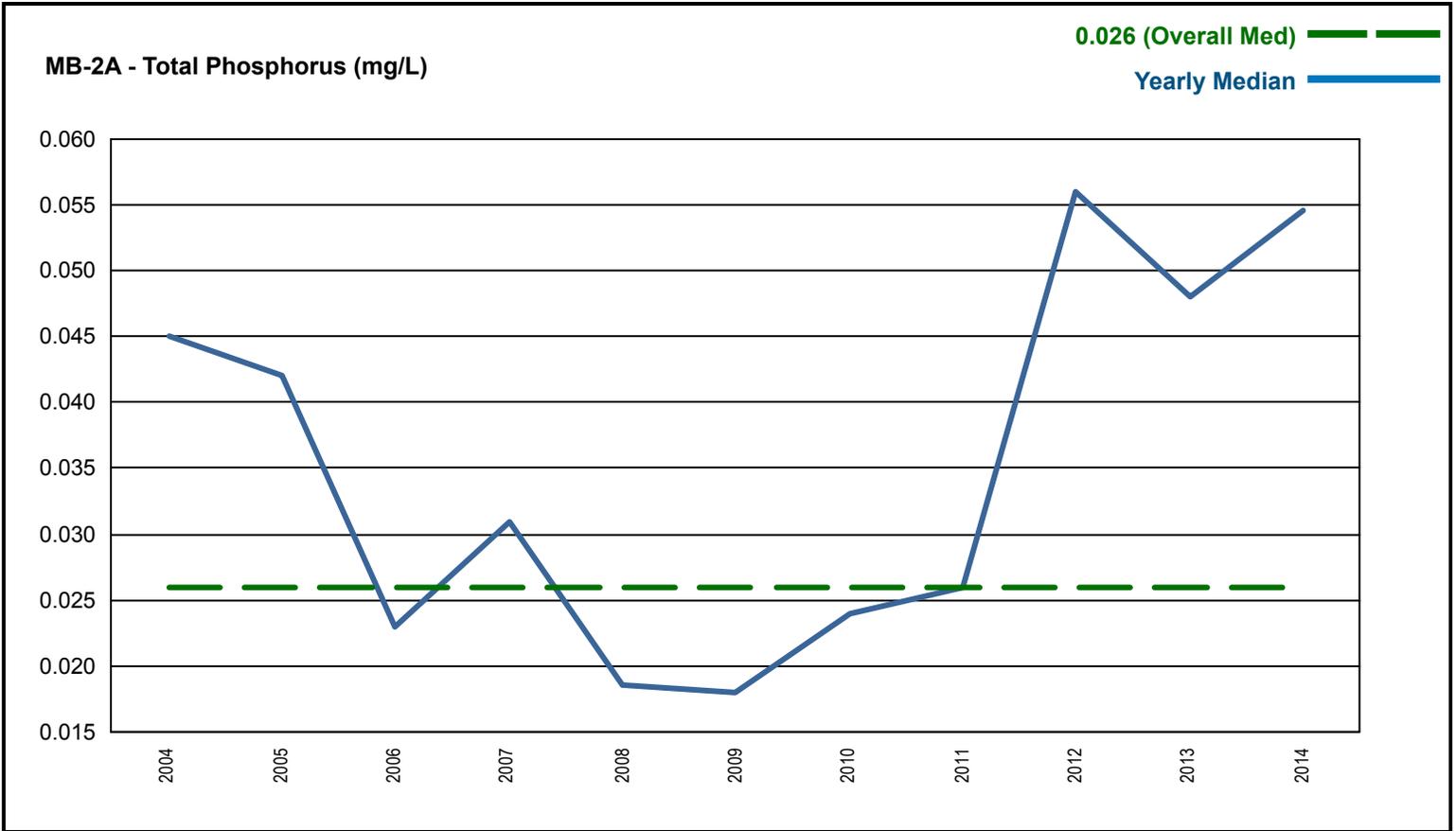
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



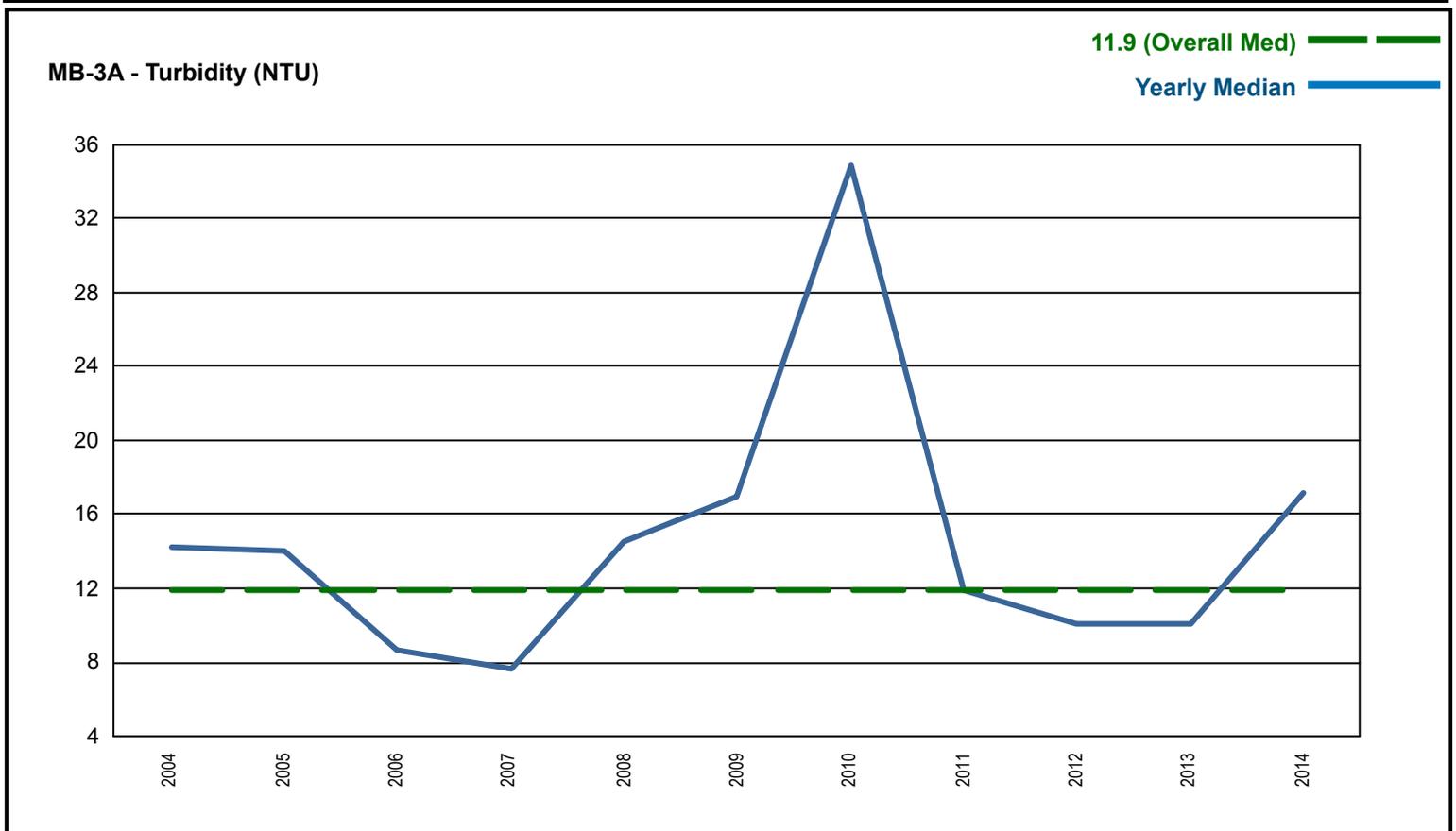
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



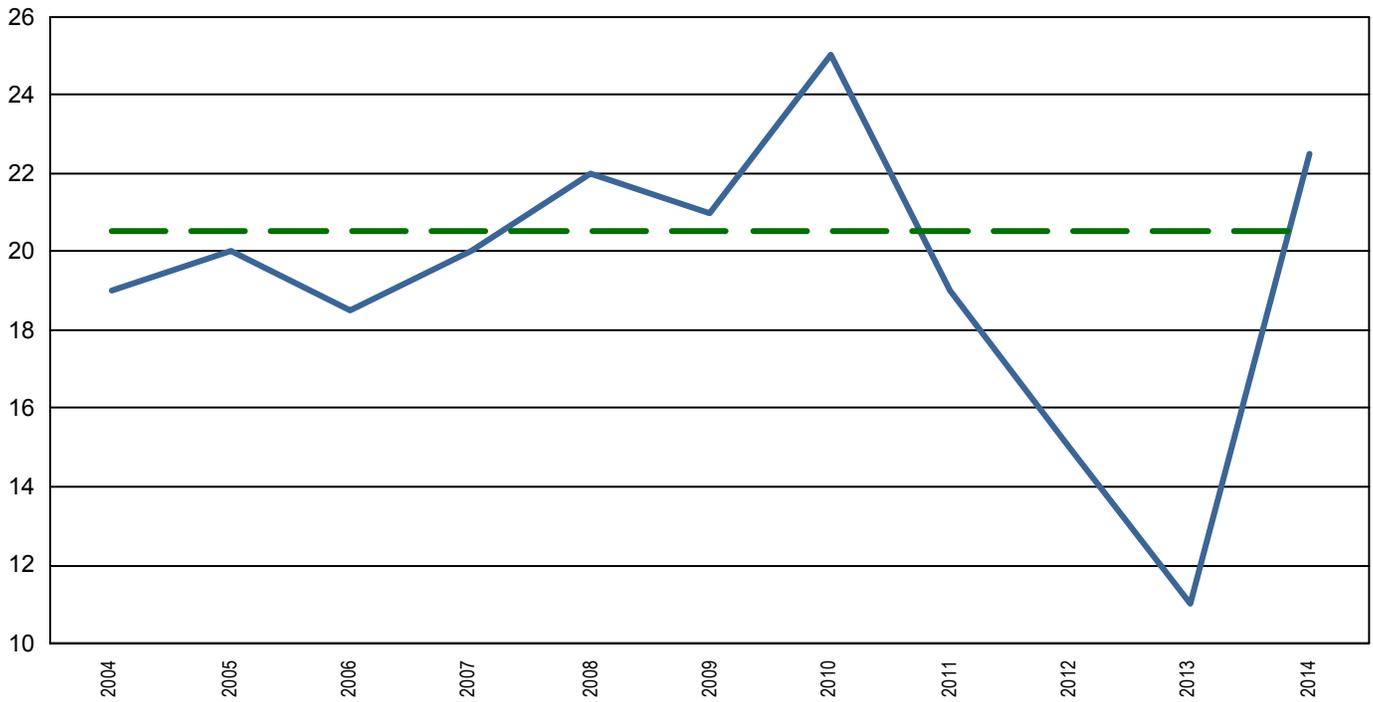
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

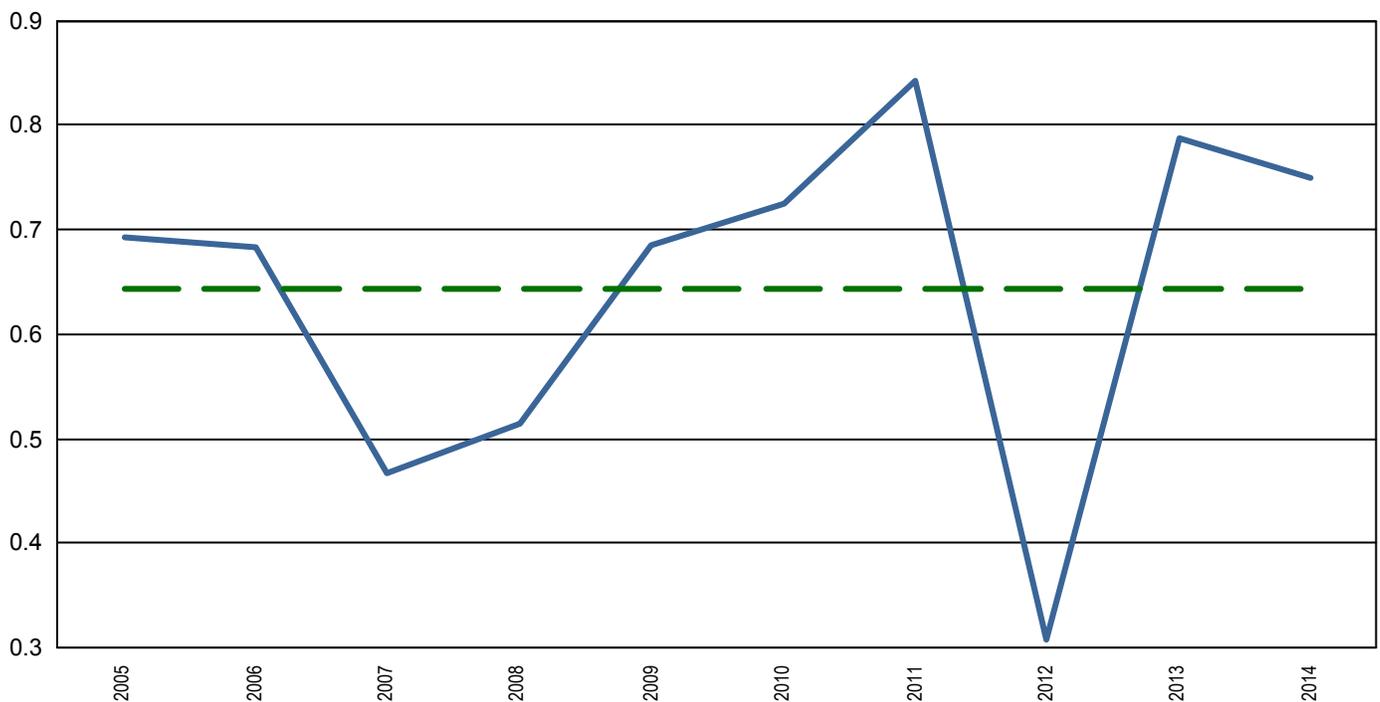
## MB-3A - Total Suspended Solids (mg/L)

20.5 (Overall Med)   
Yearly Median 

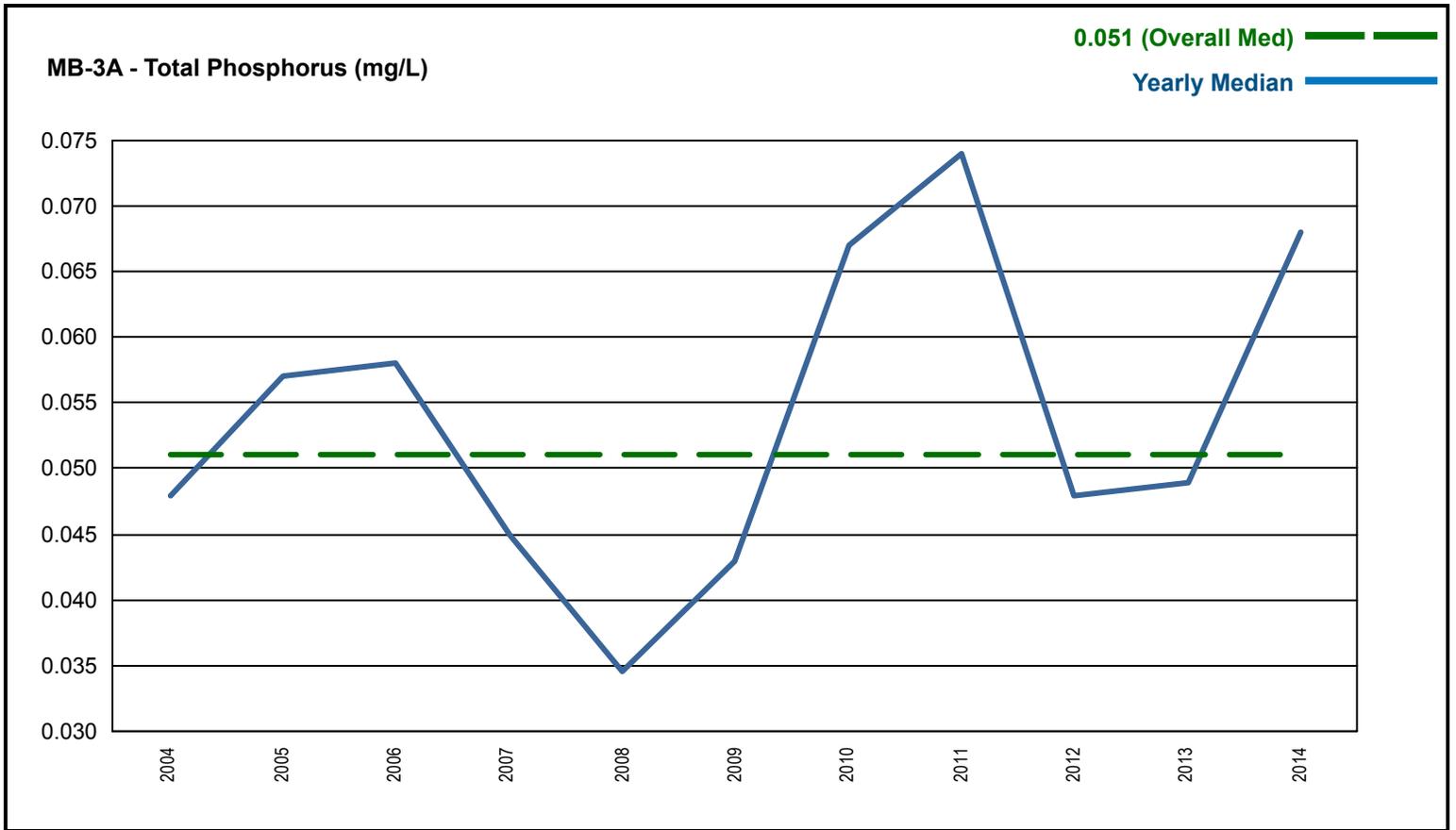


## MB-3A - Total Nitrogen (mg/L)

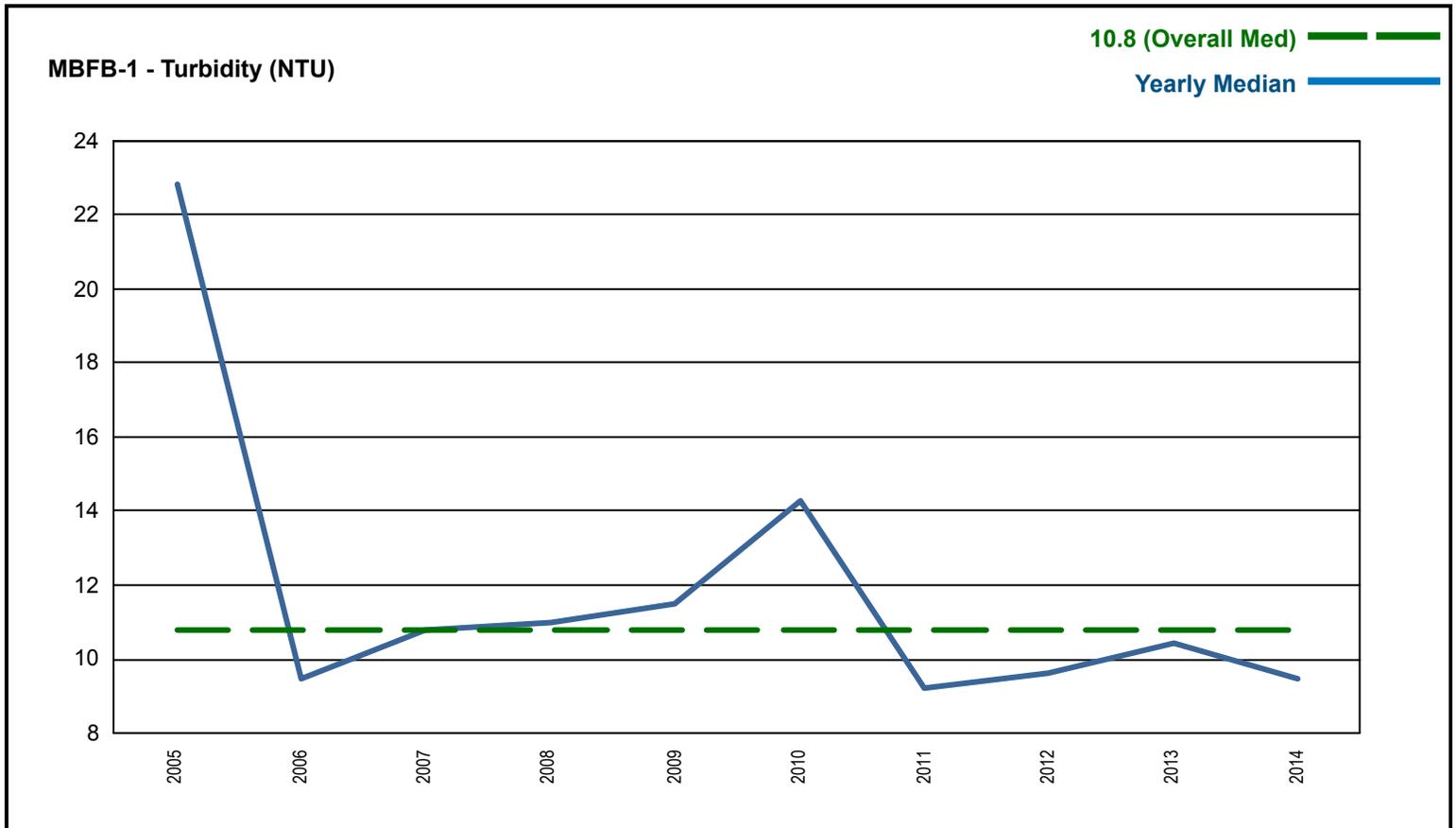
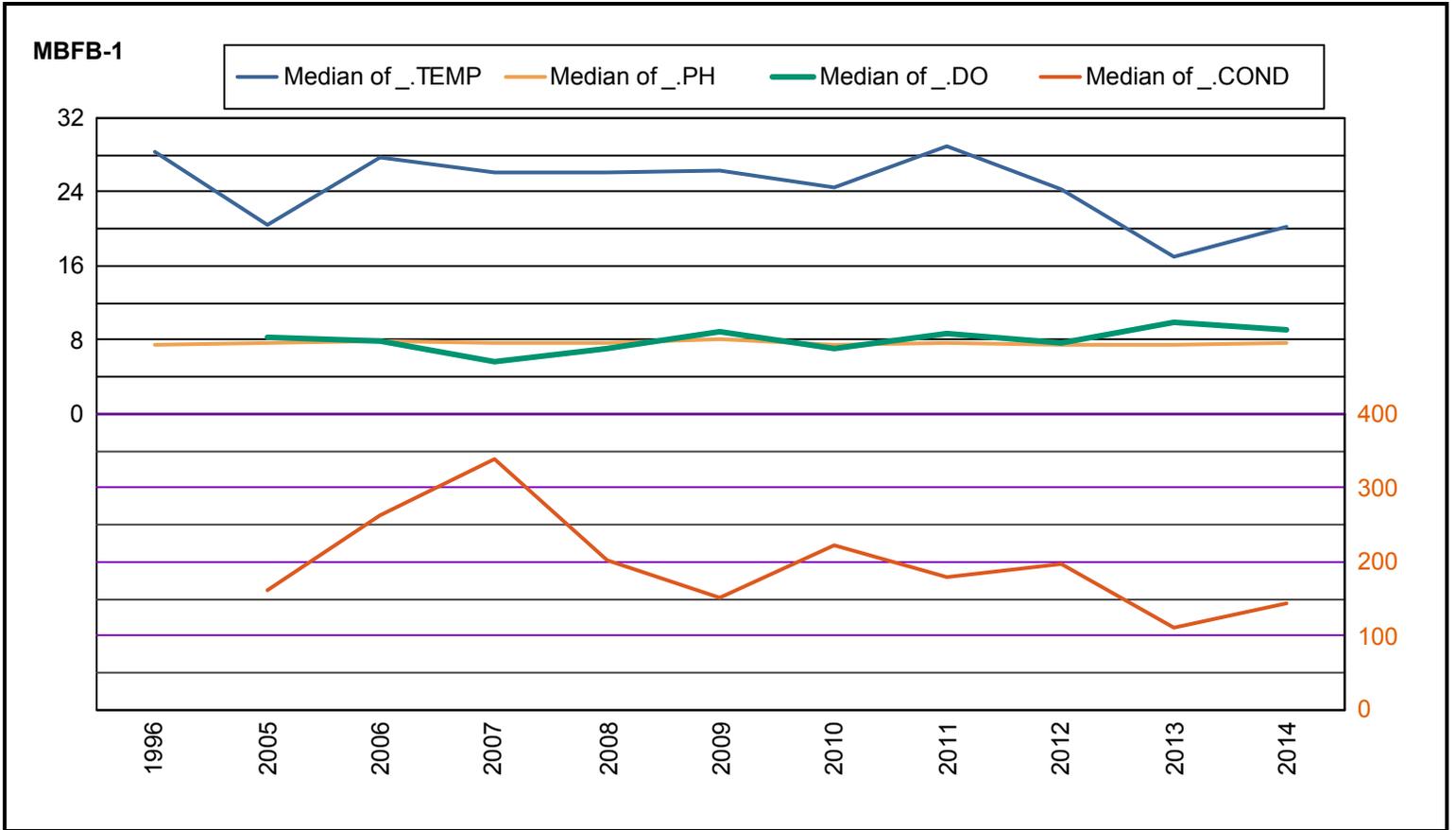
0.642 (Overall Med)   
Yearly Median 



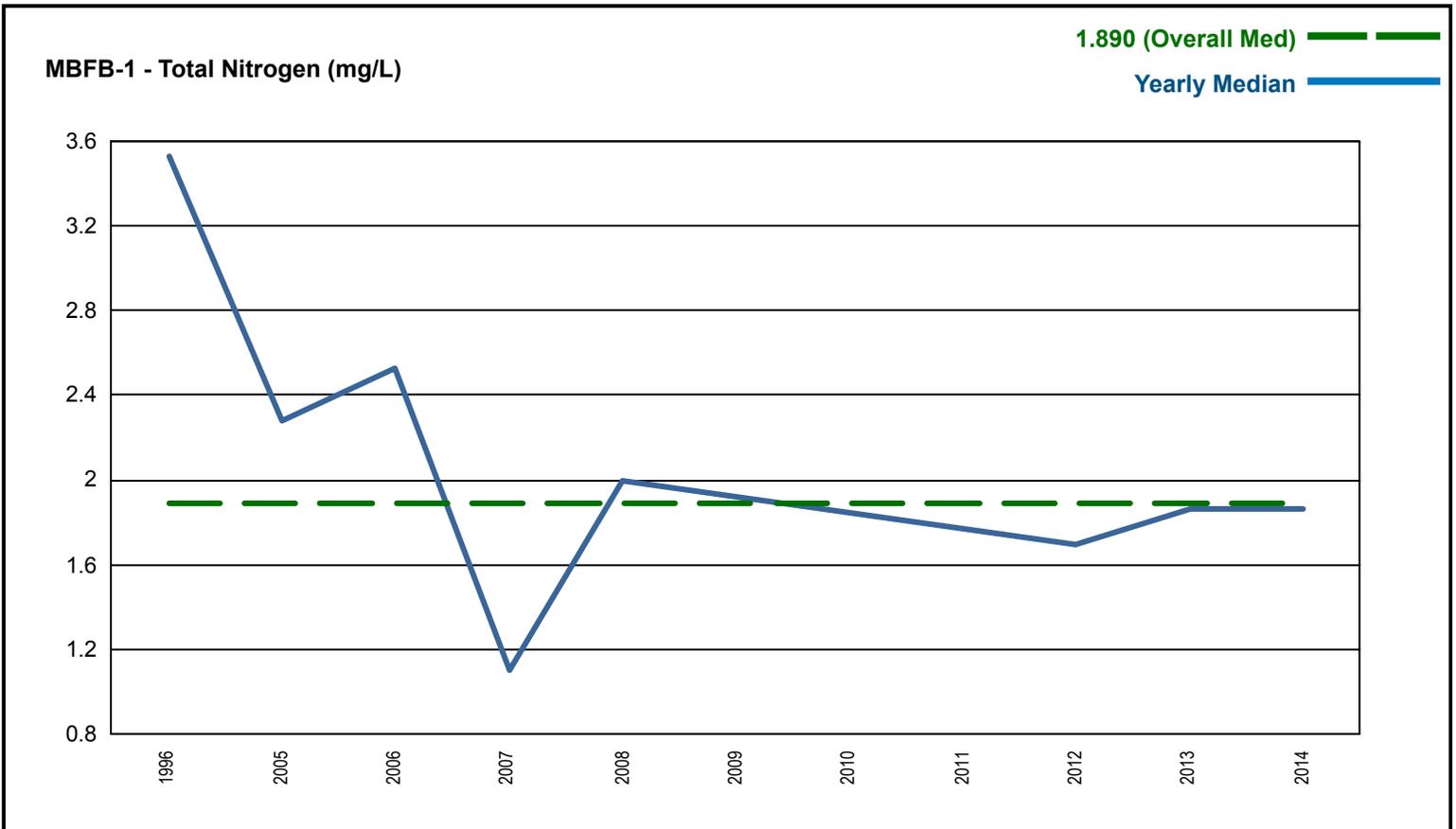
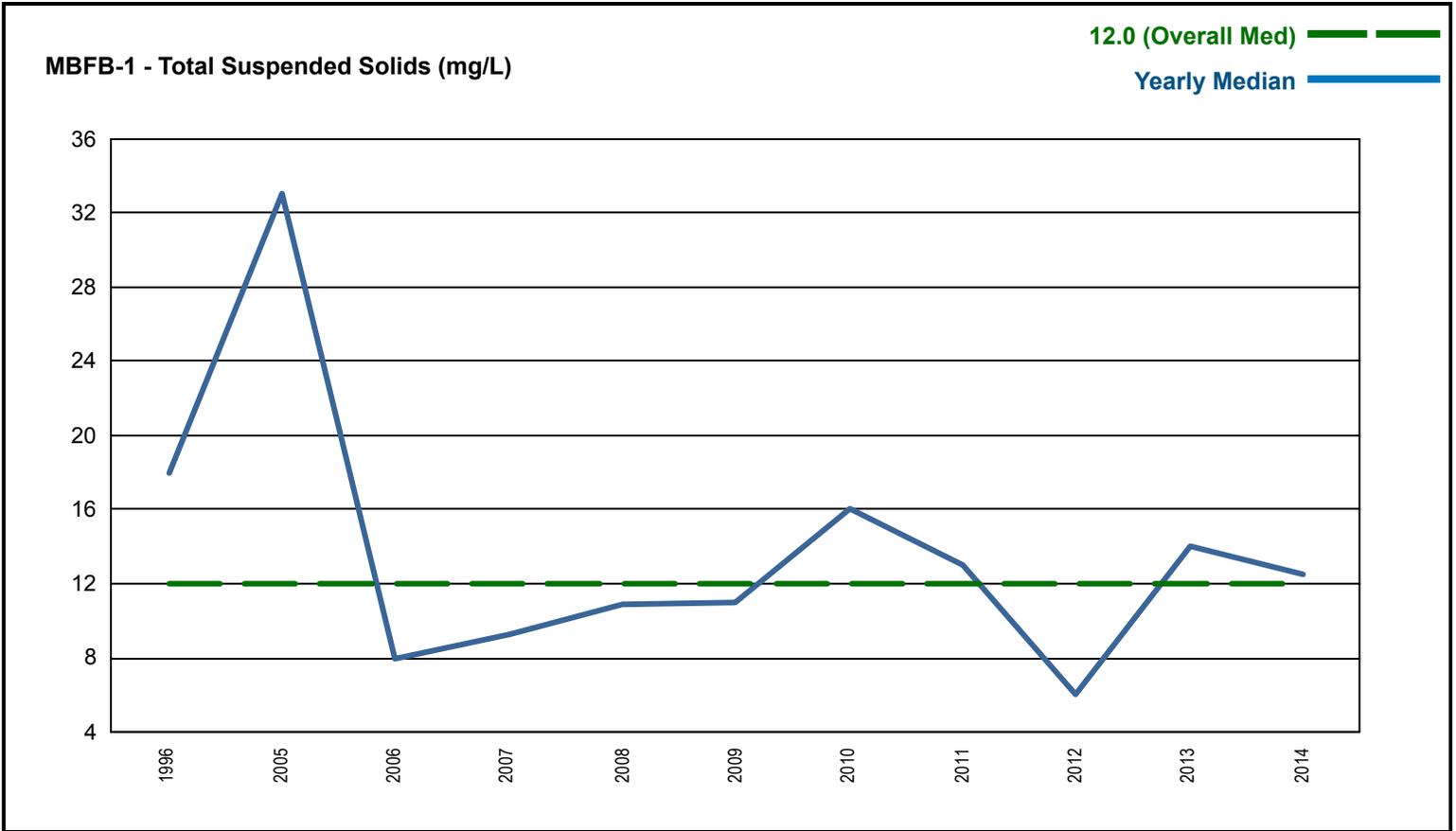
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



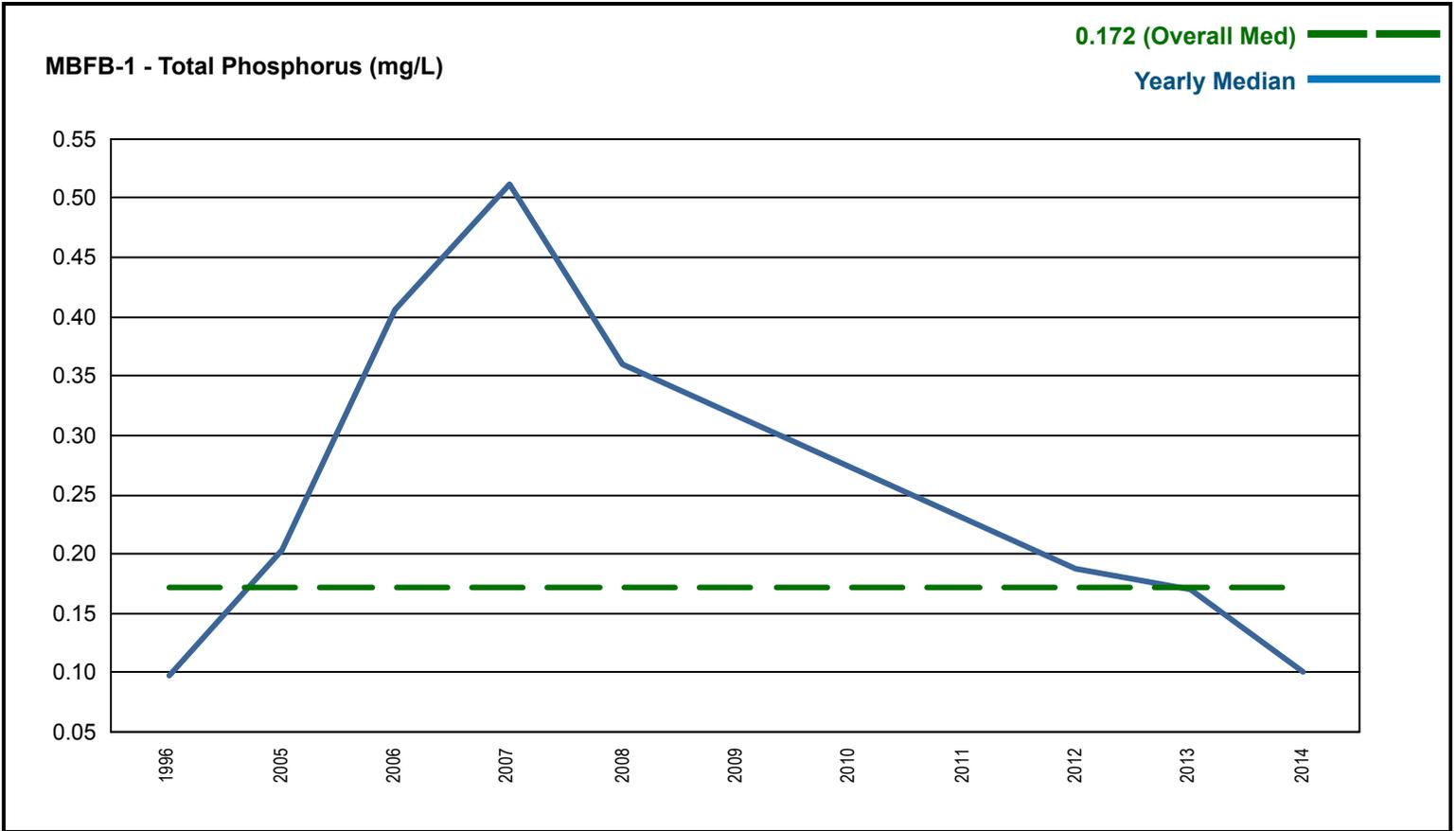
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



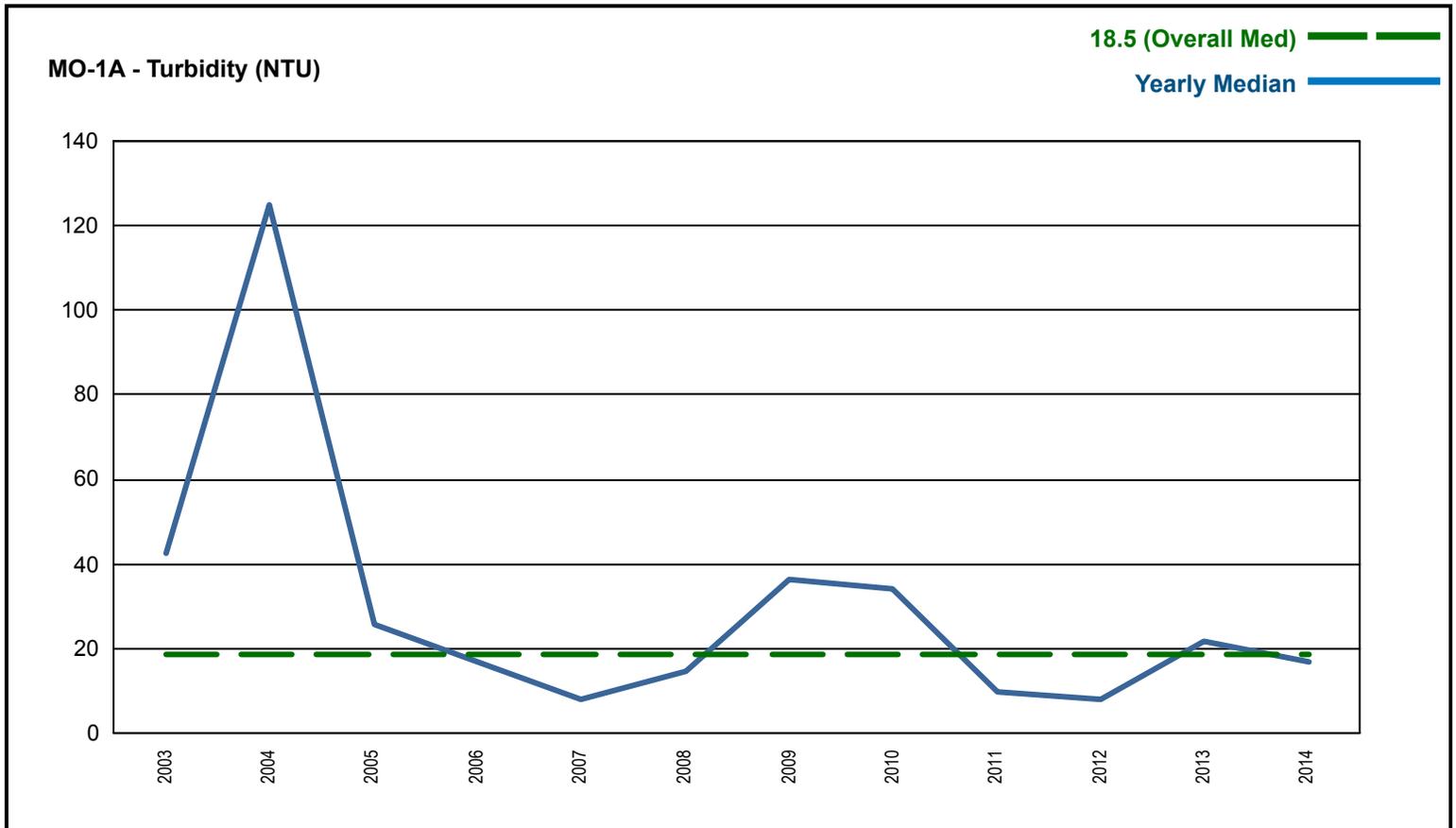
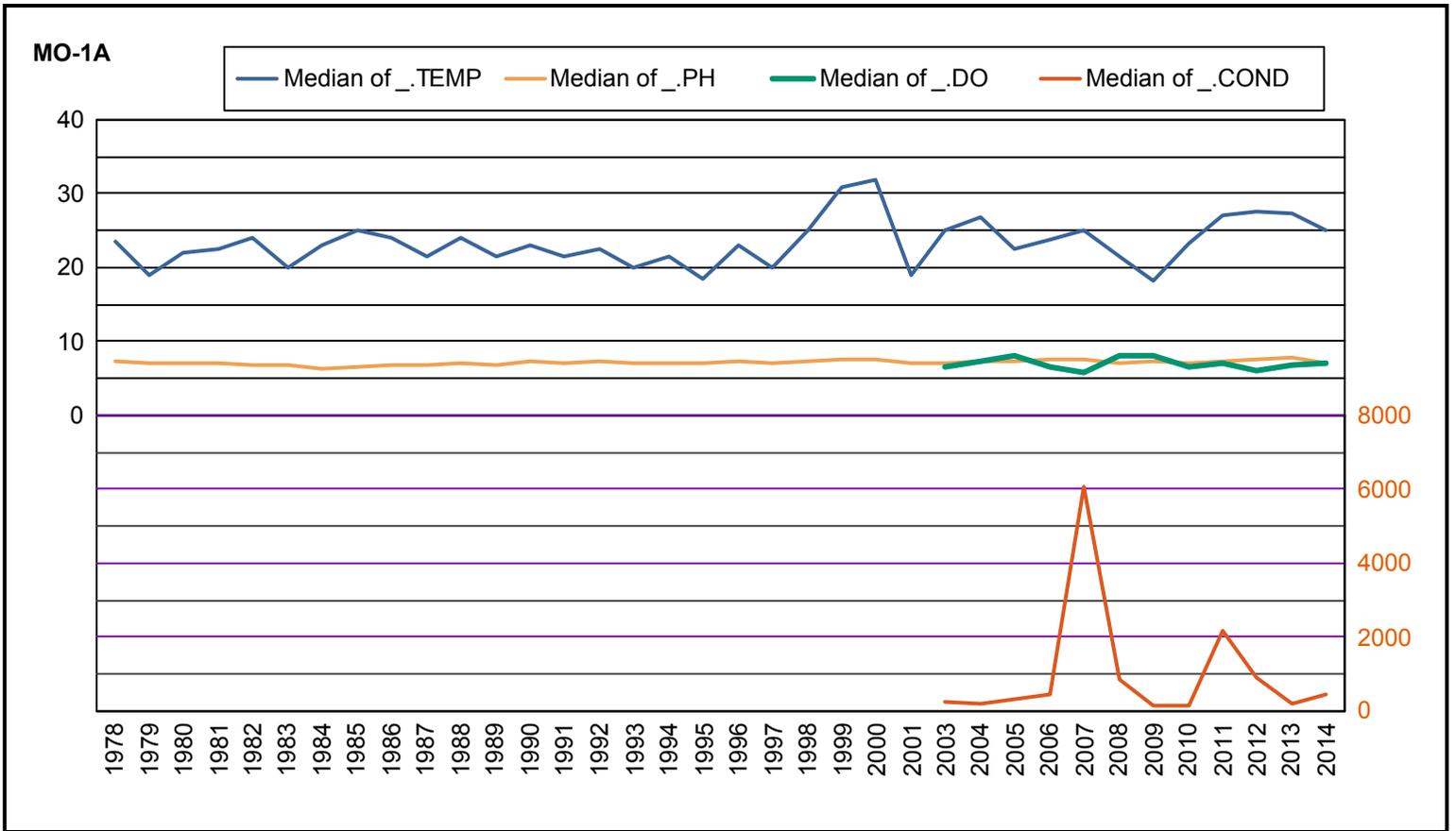
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



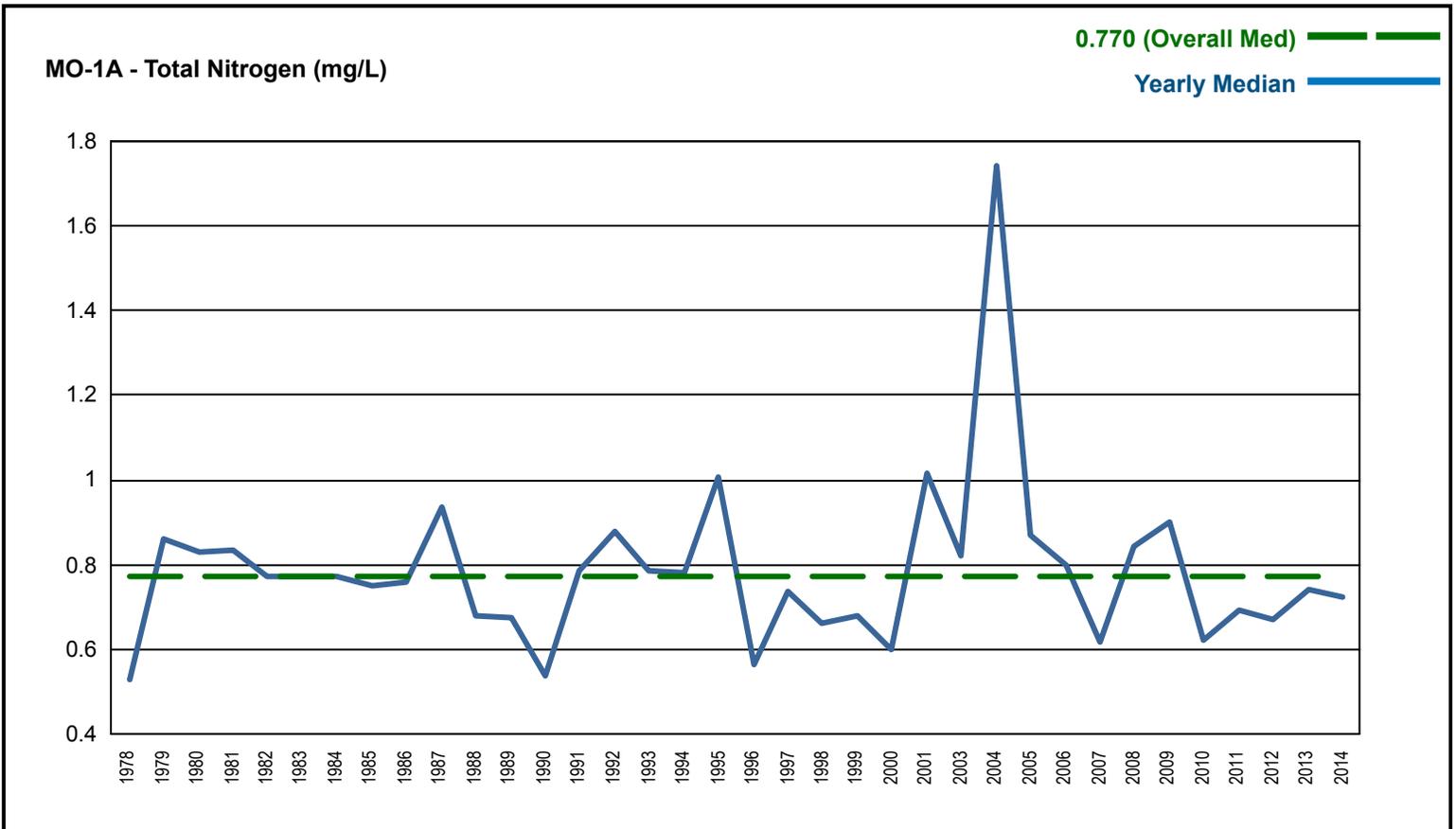
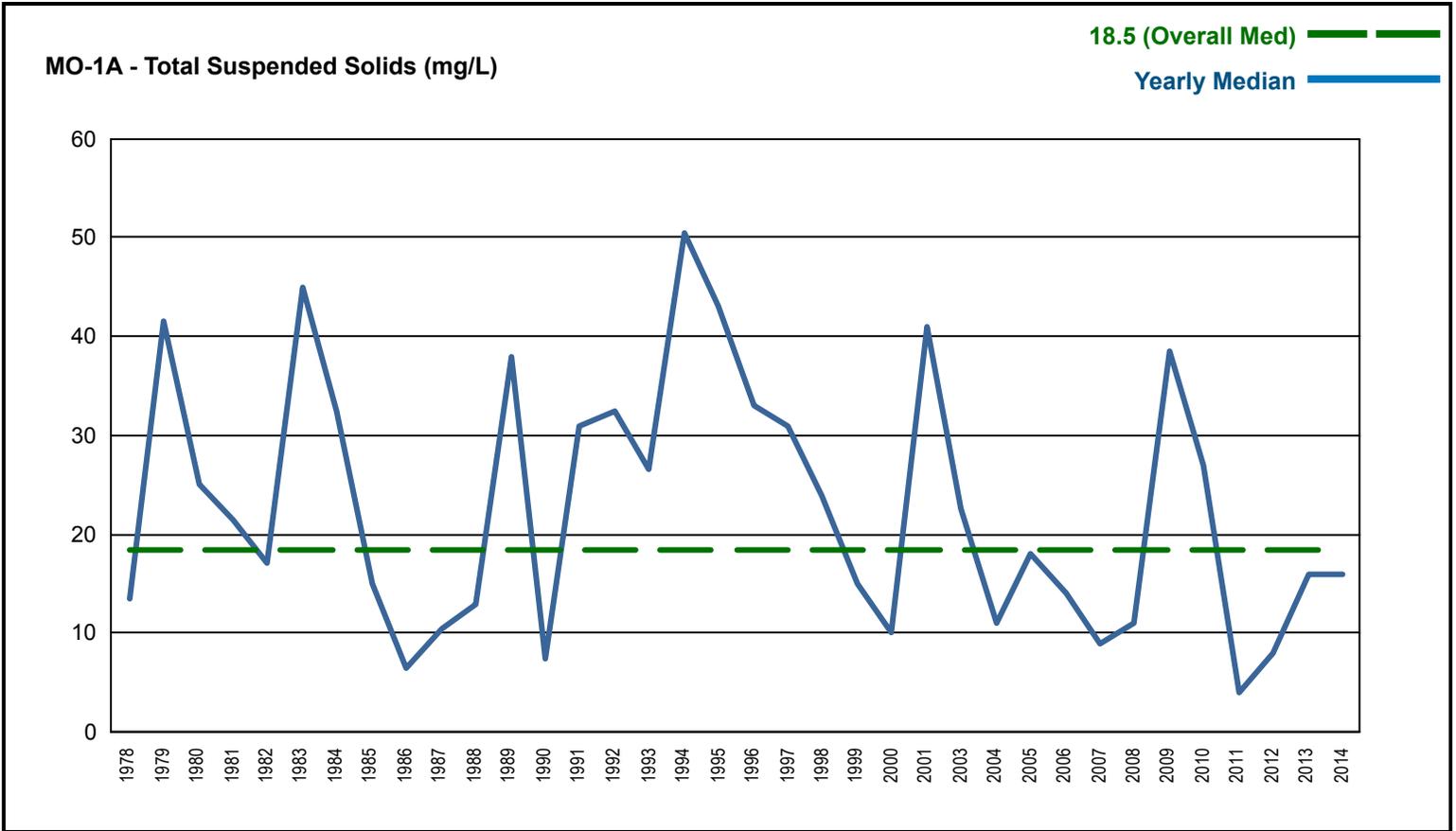
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



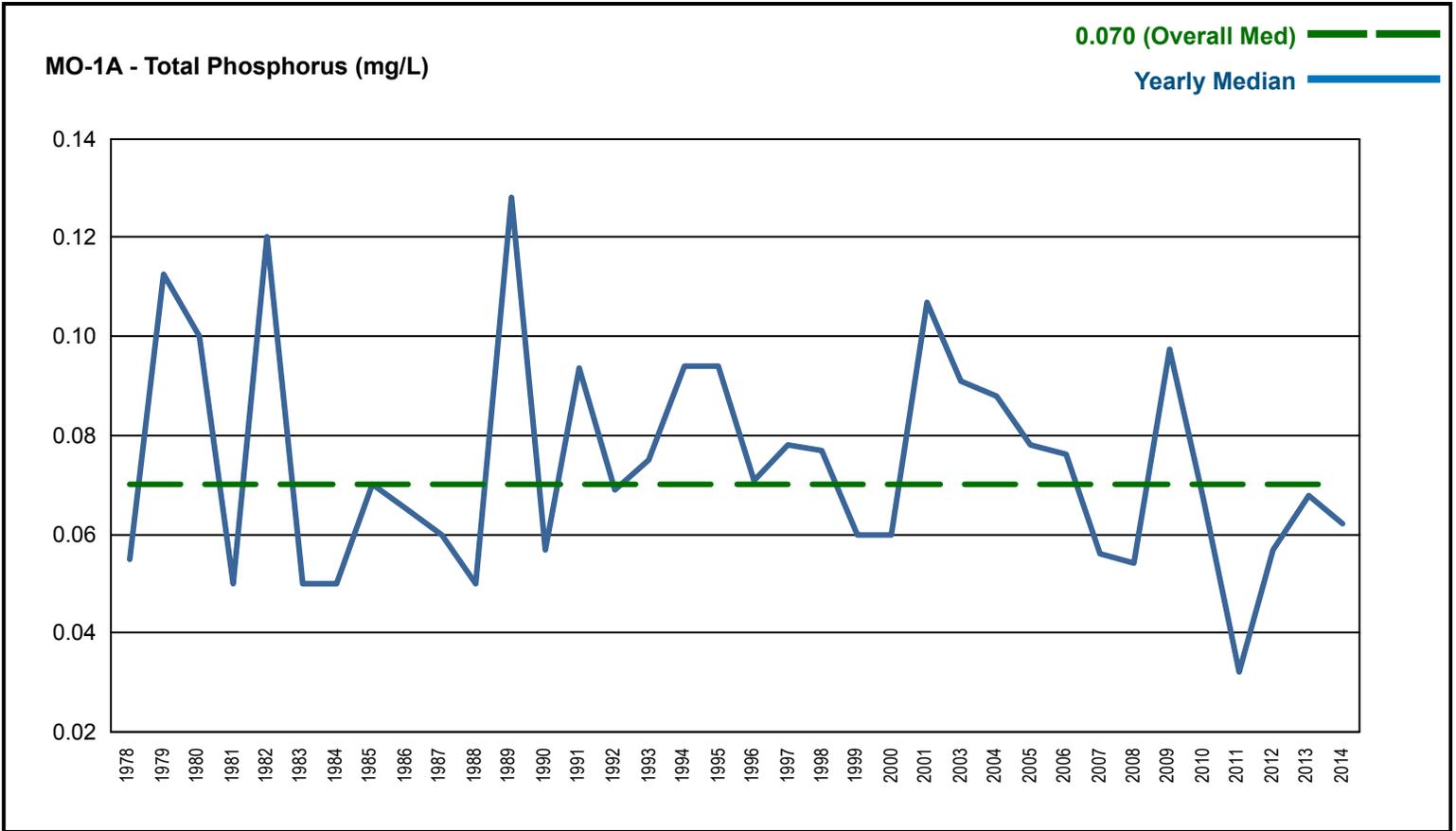
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



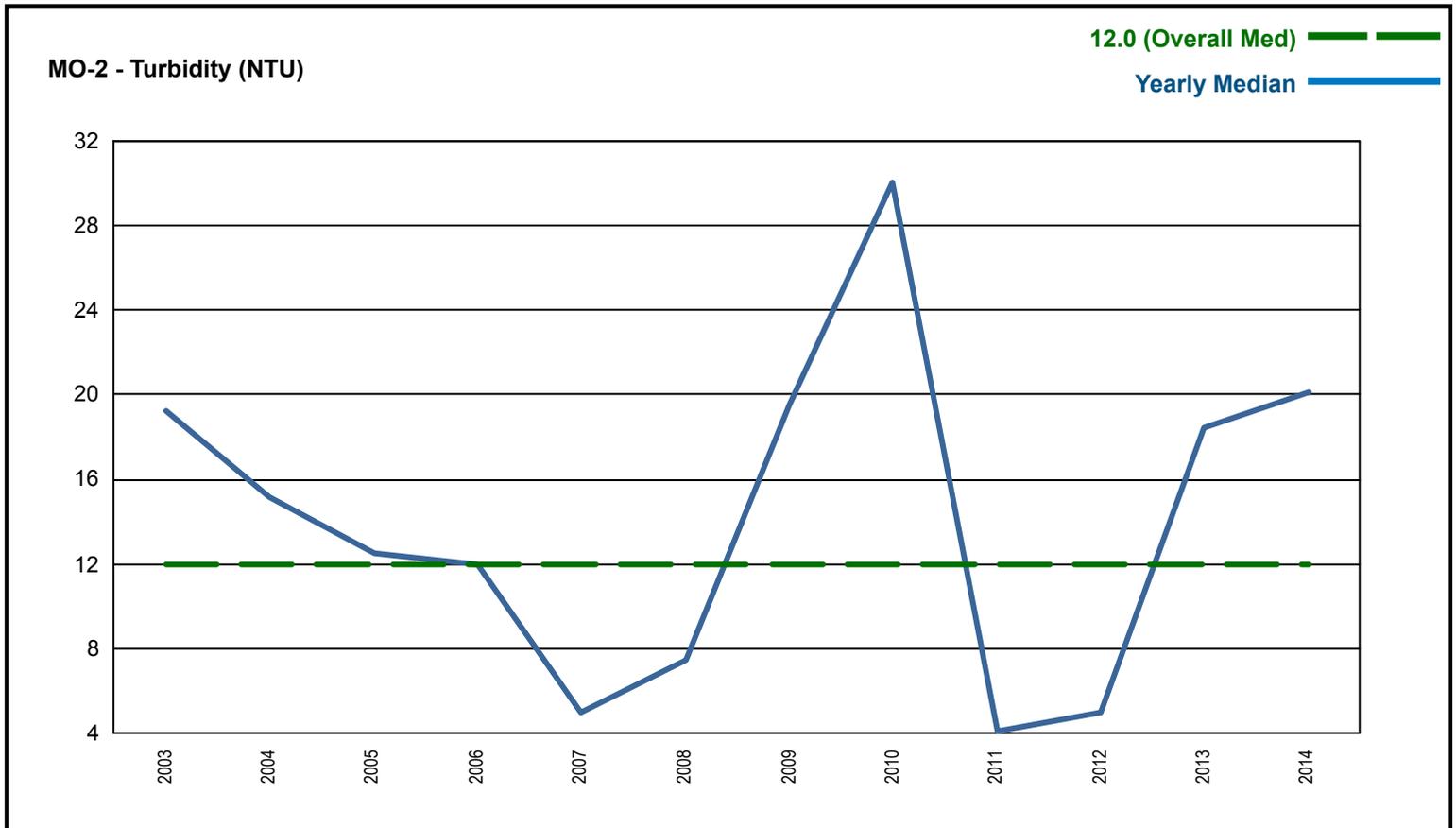
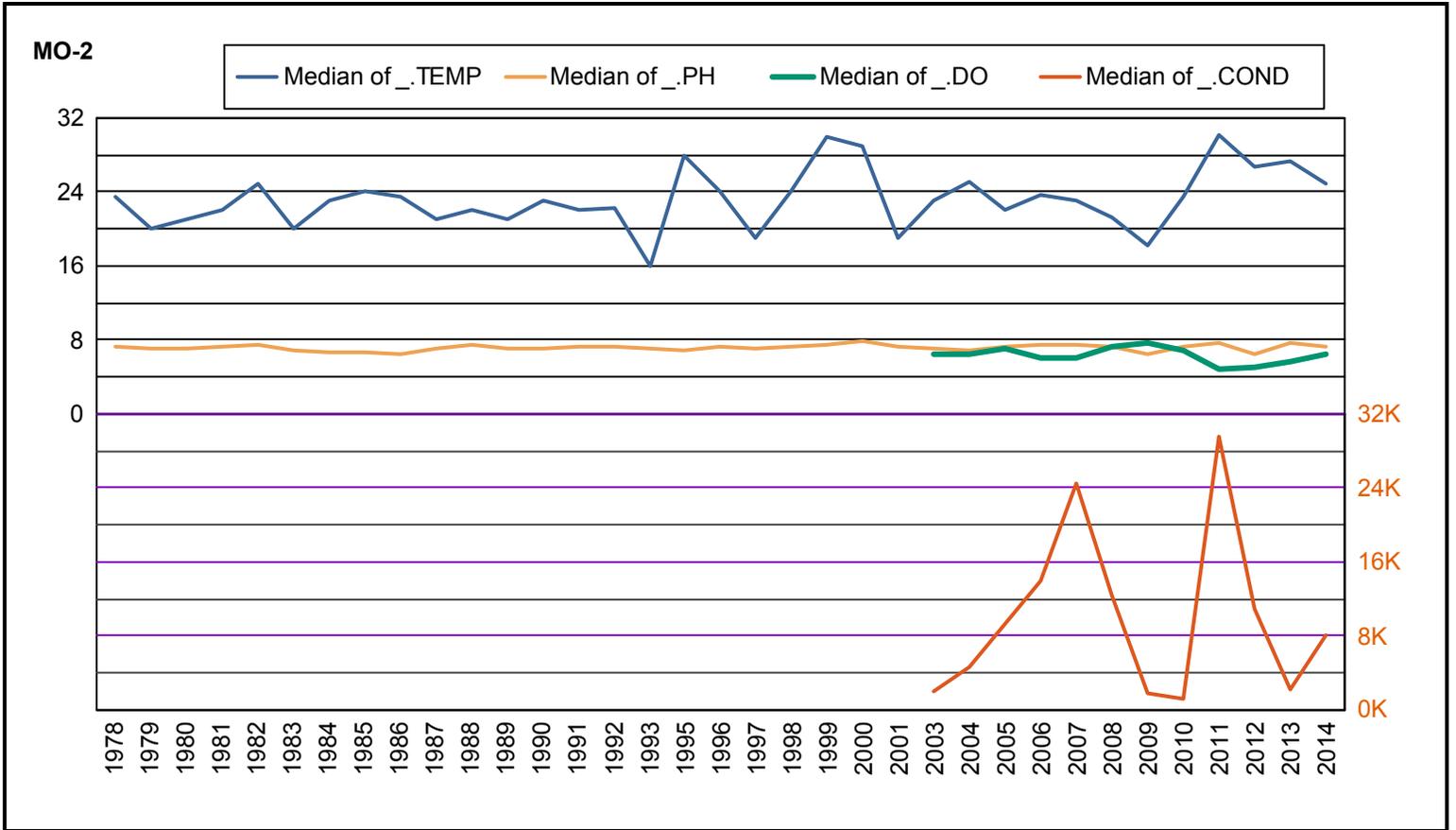
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



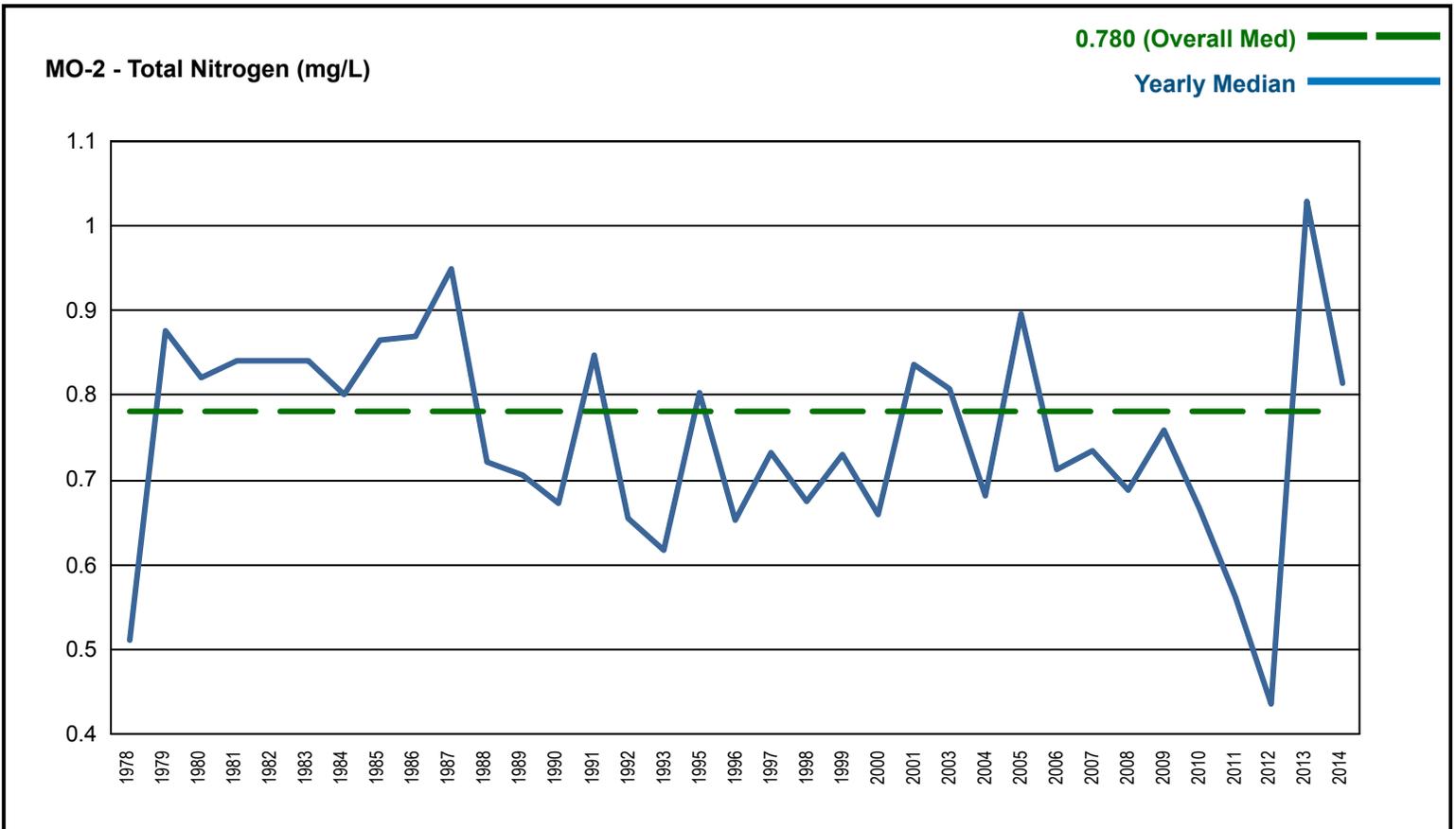
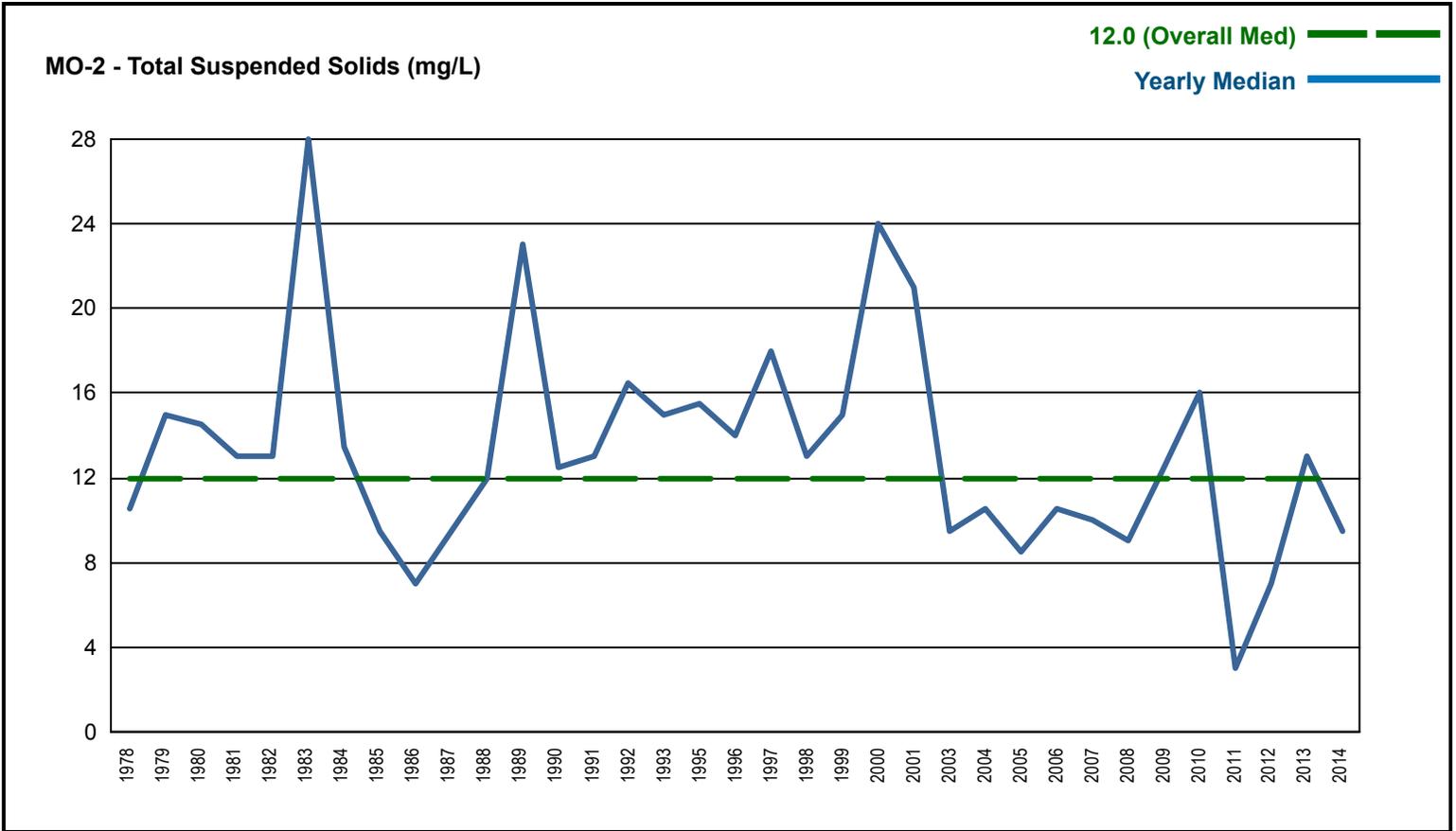
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



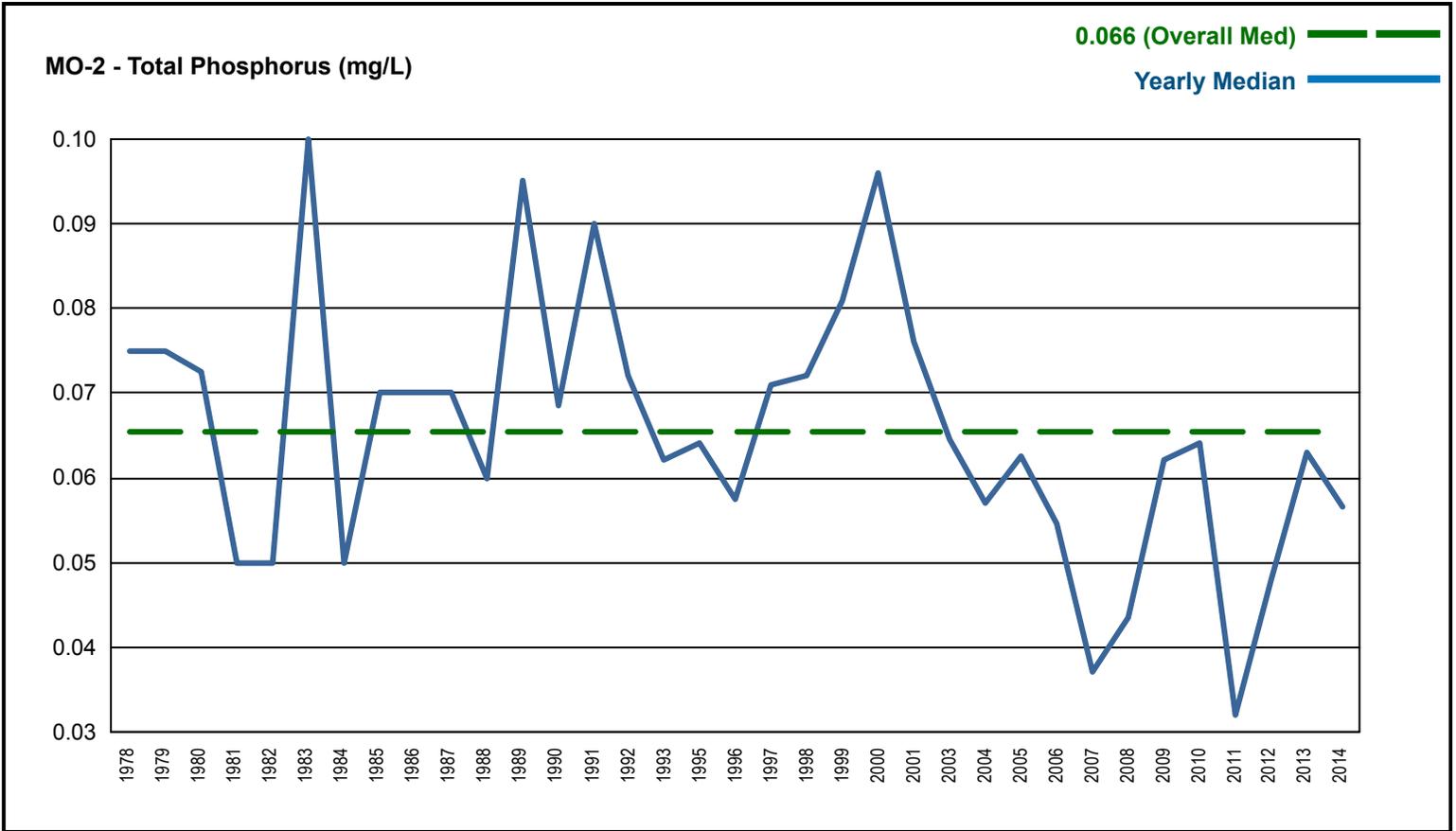
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



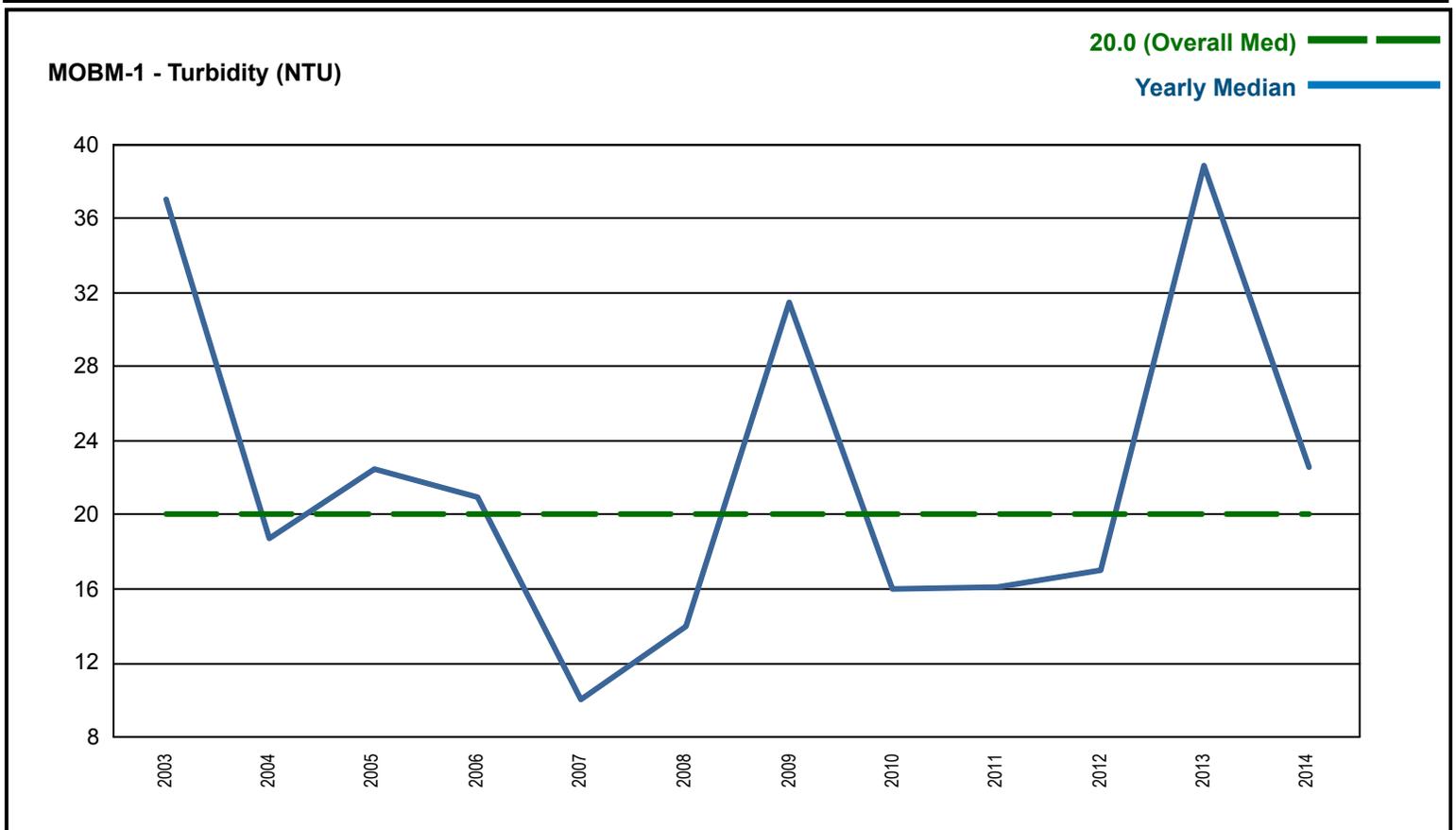
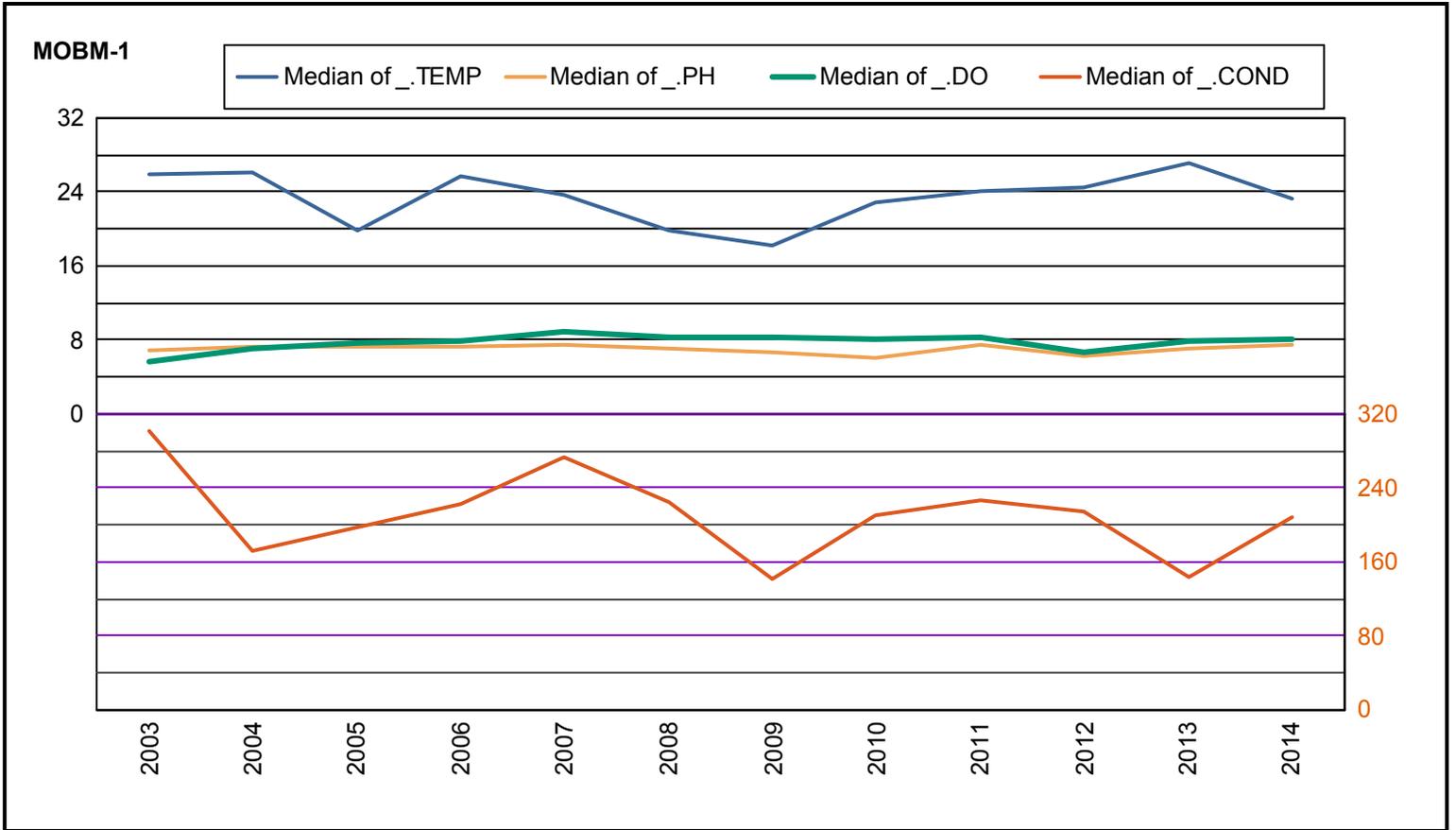
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



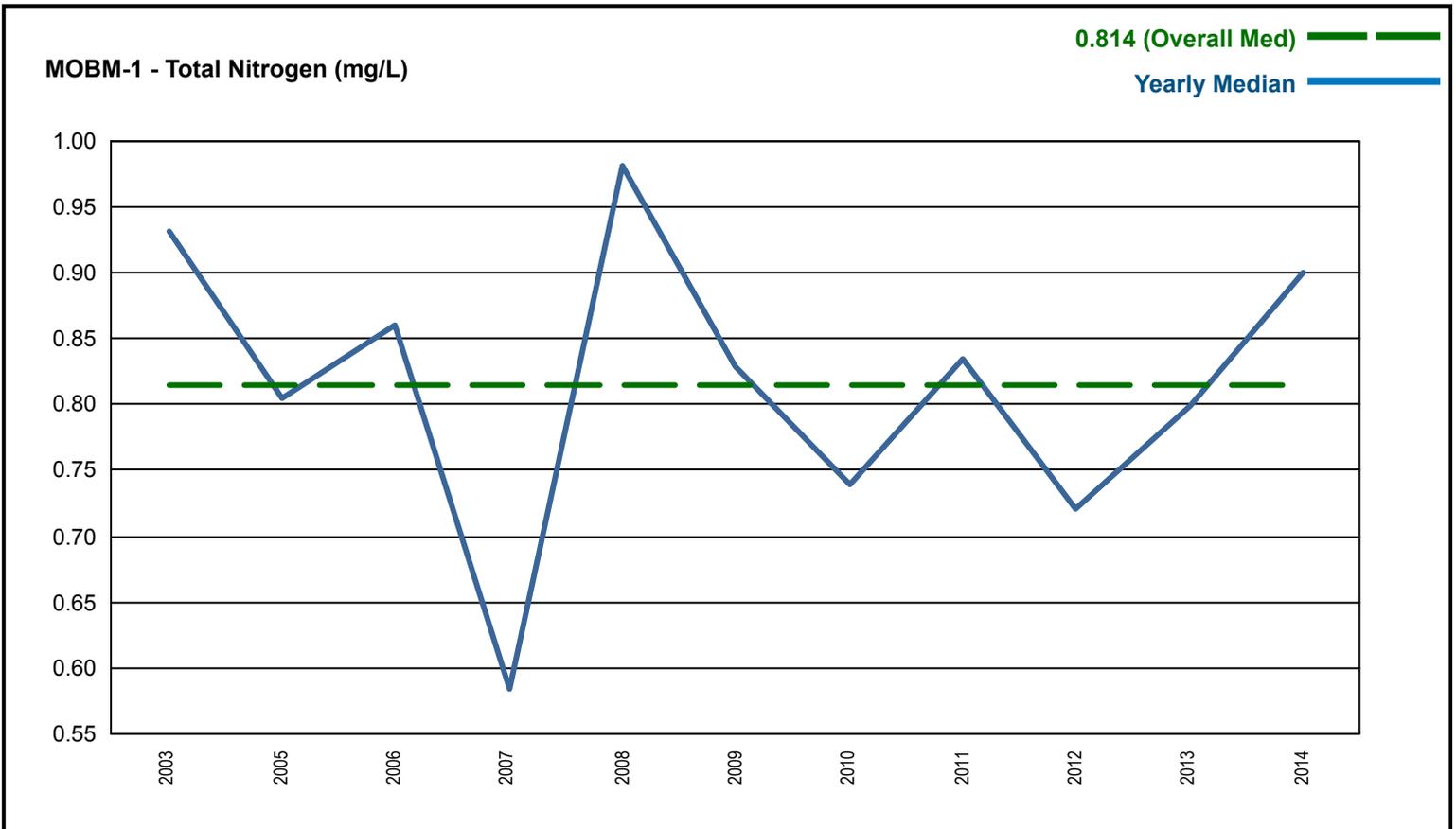
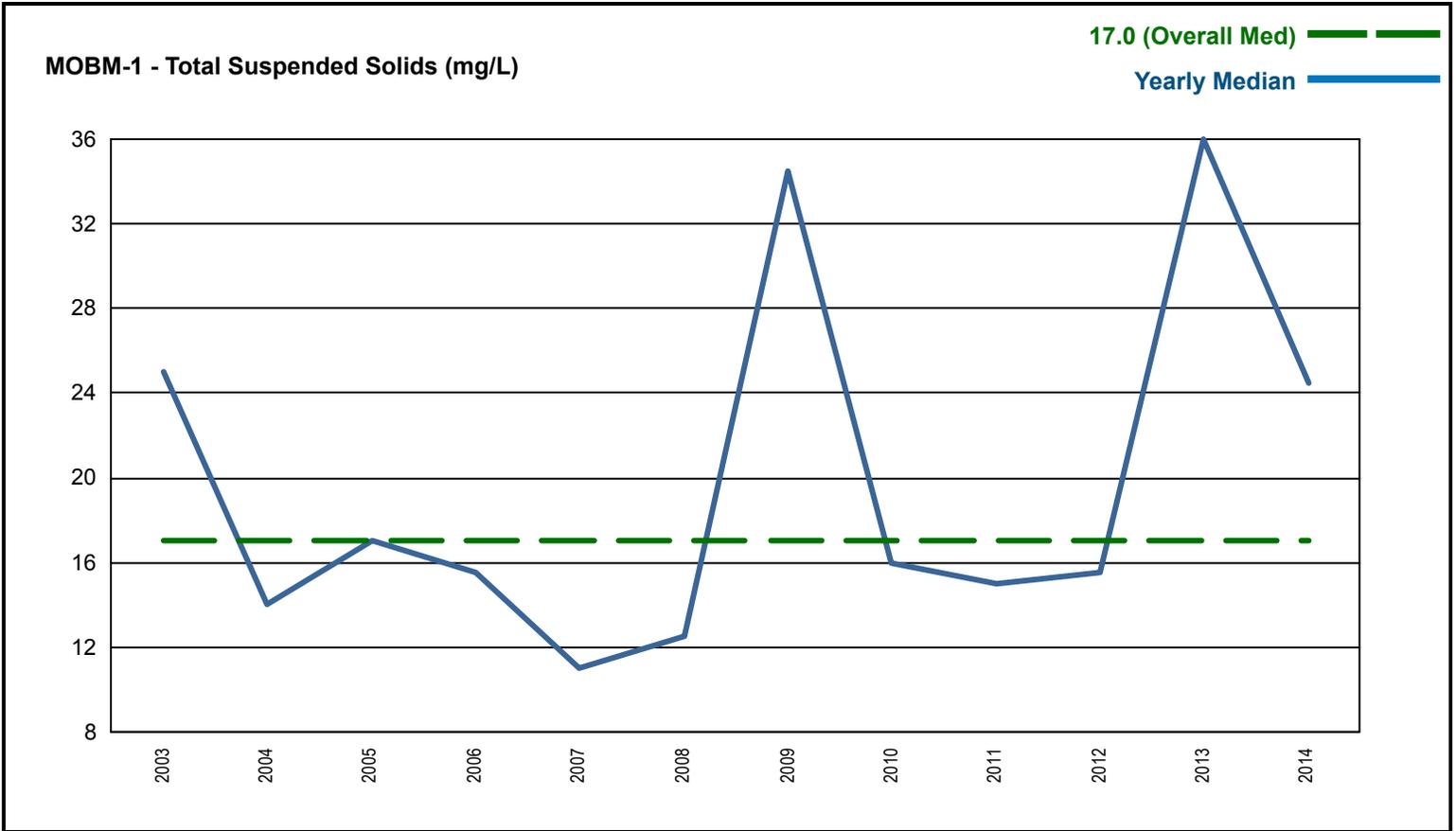
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



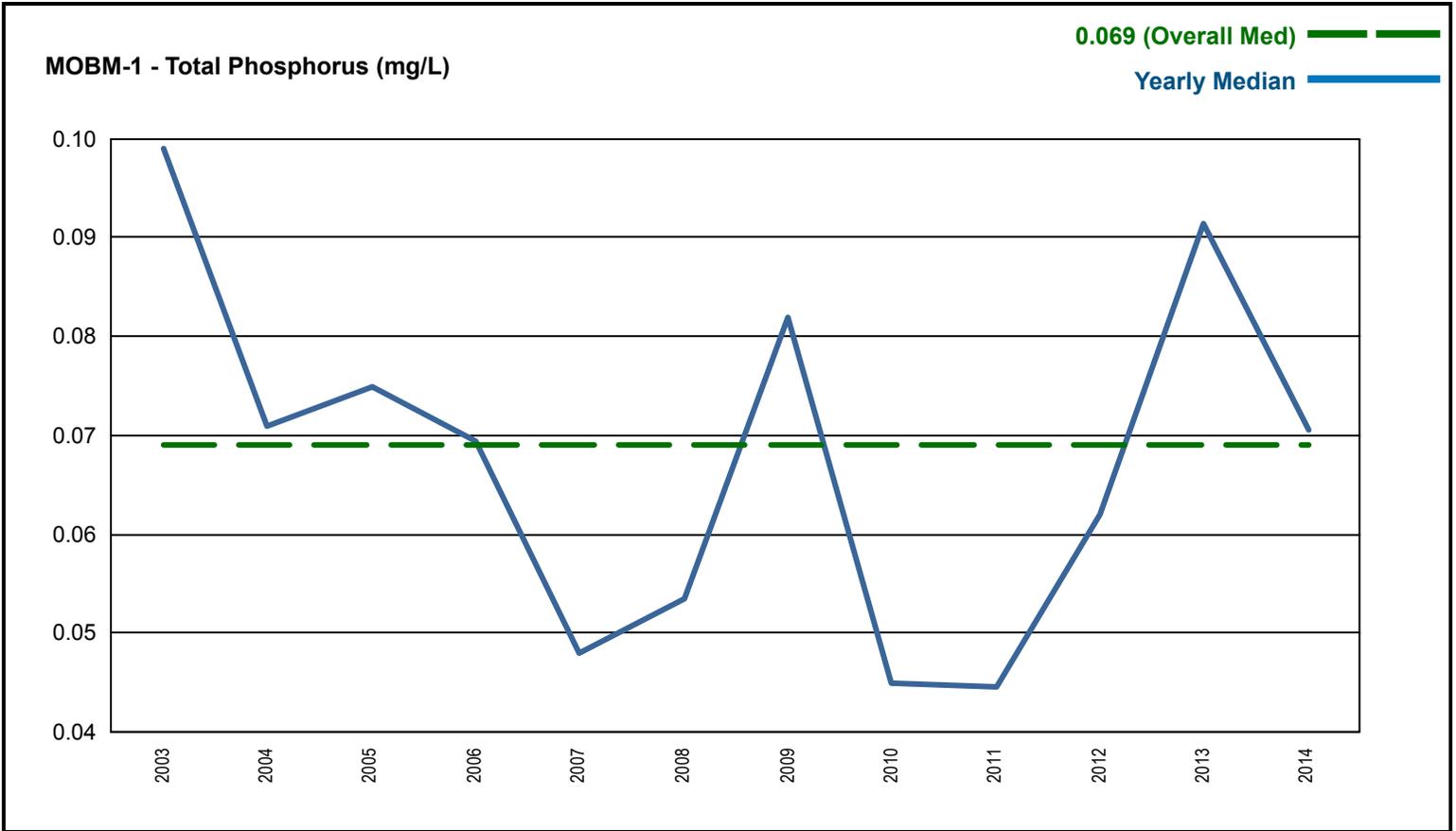
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



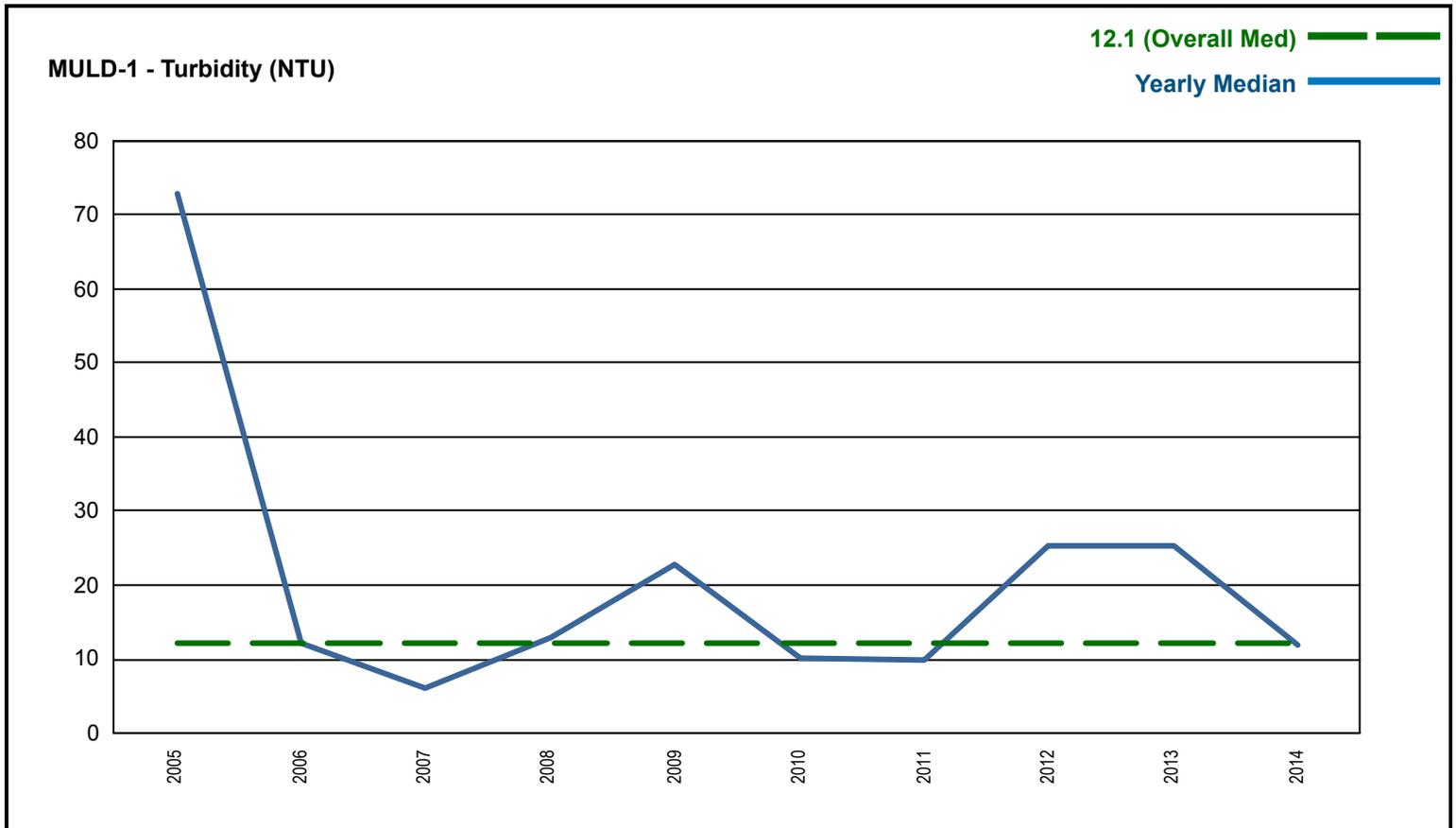
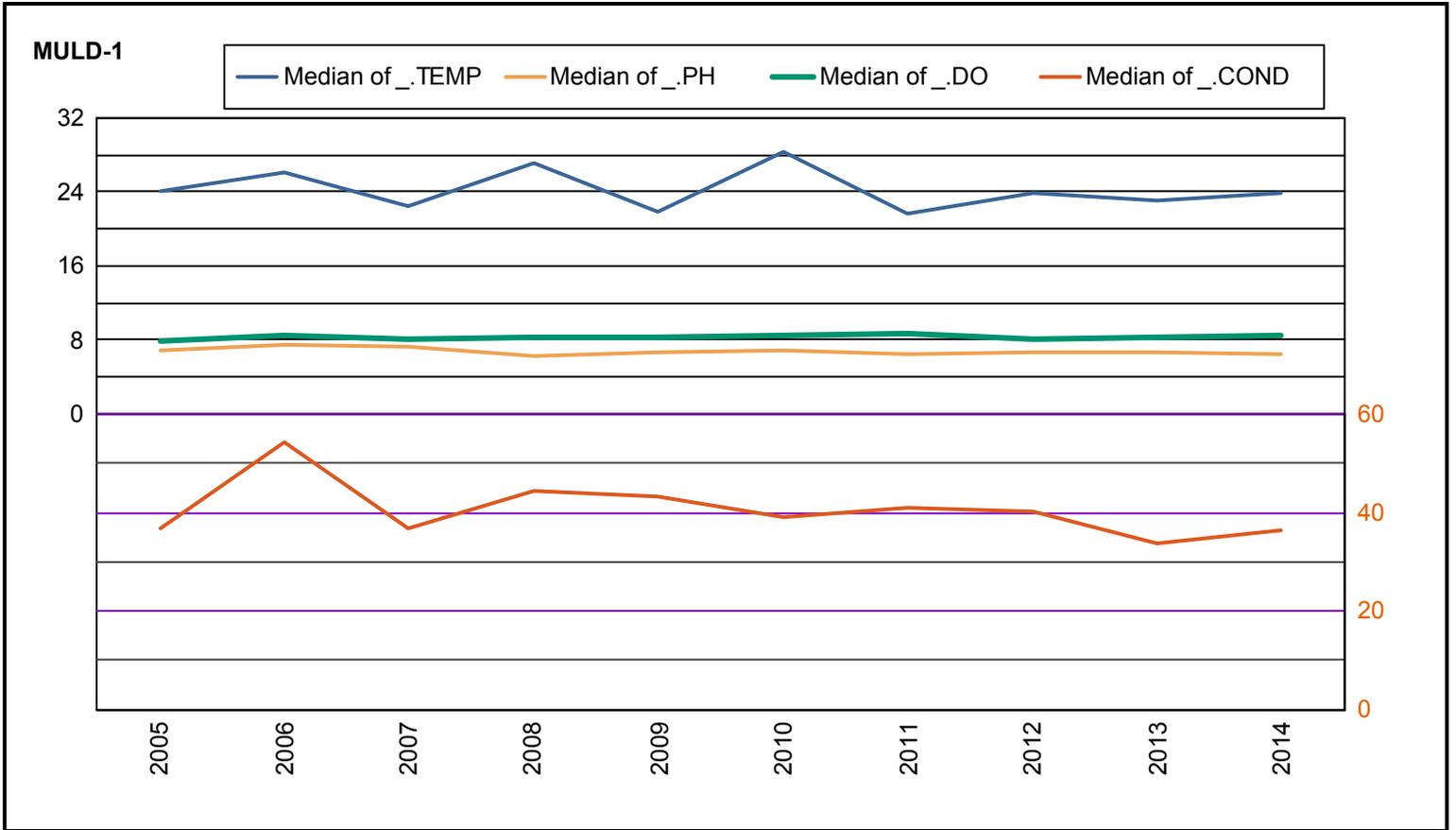
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



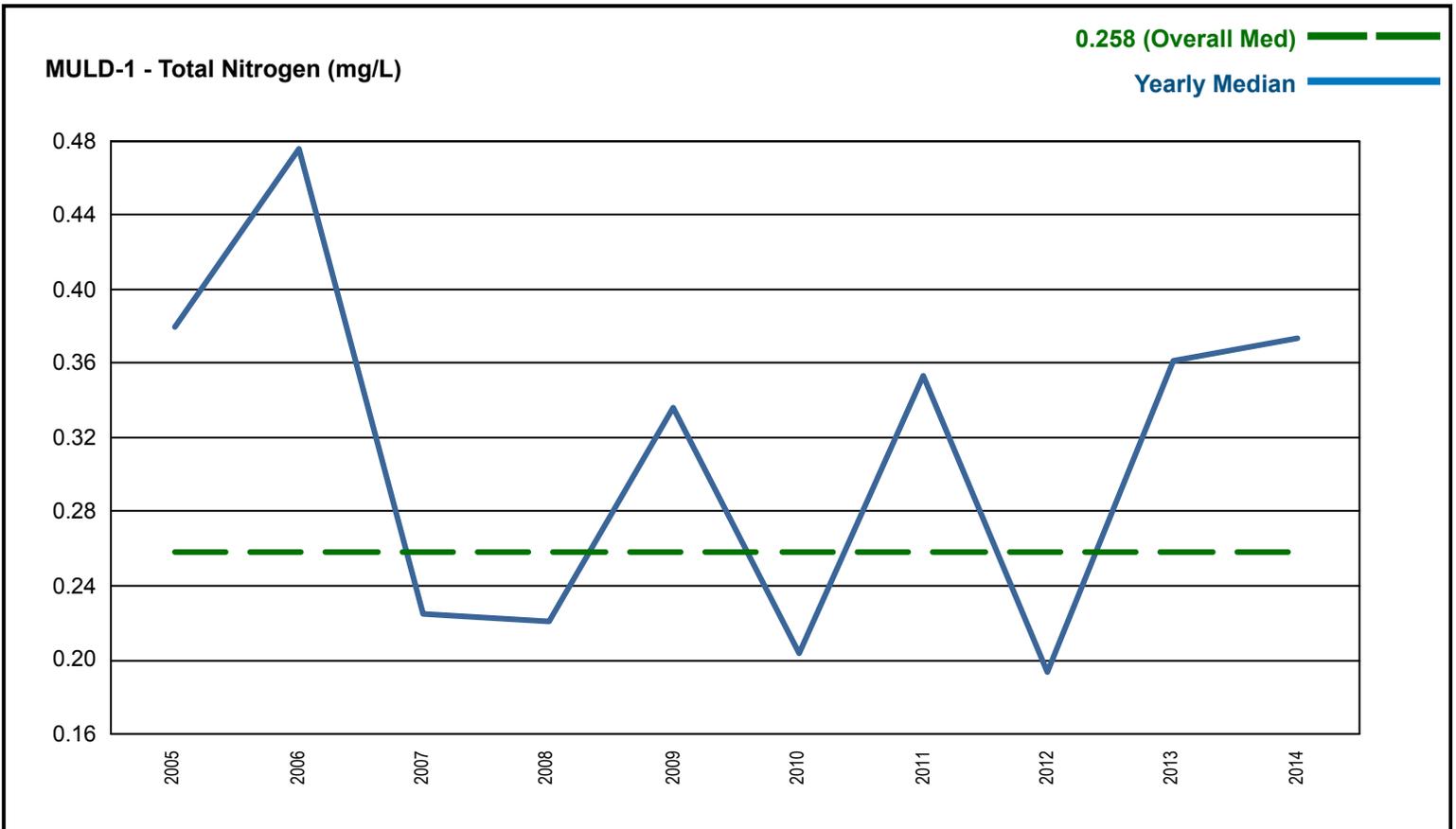
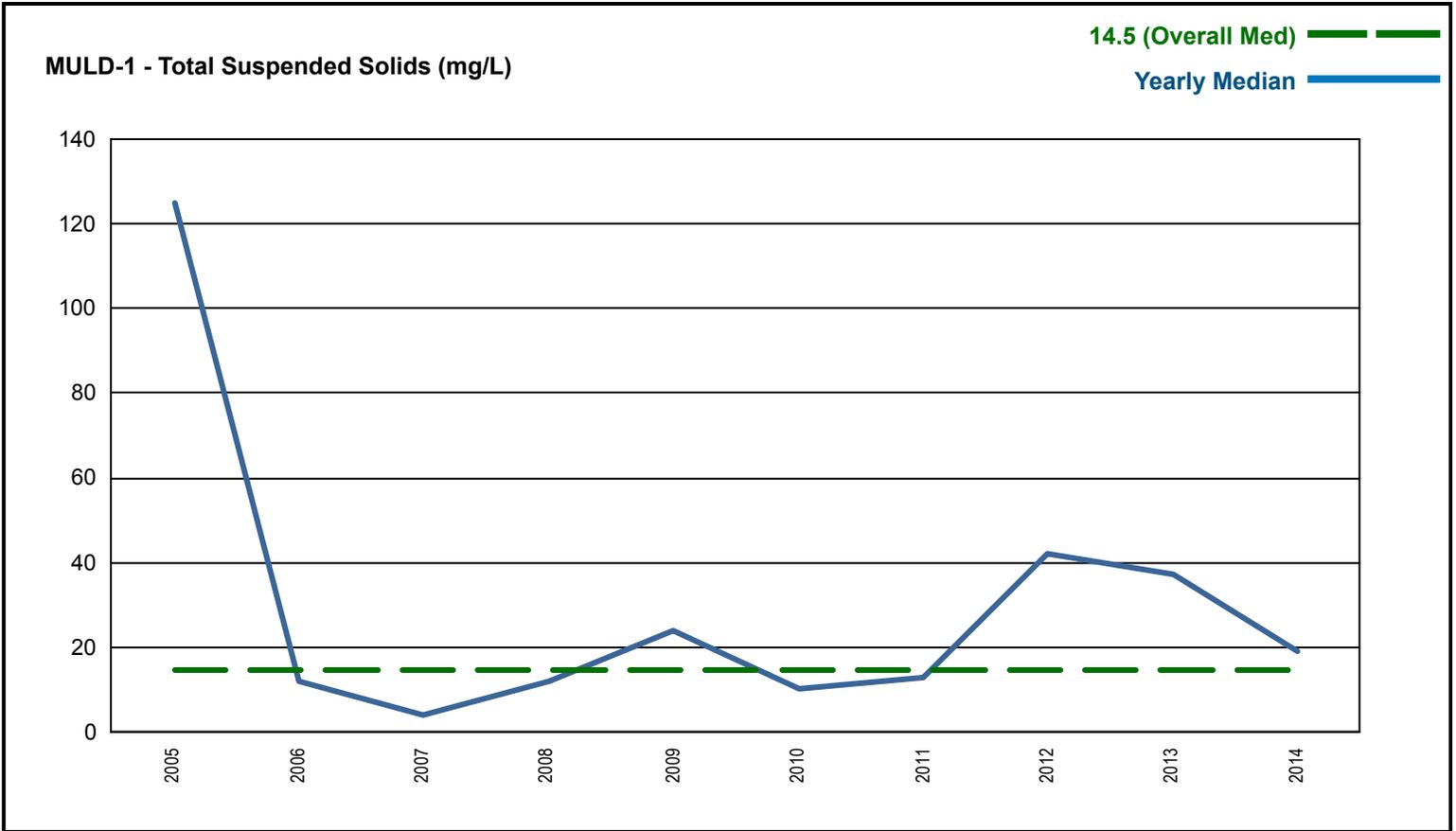
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



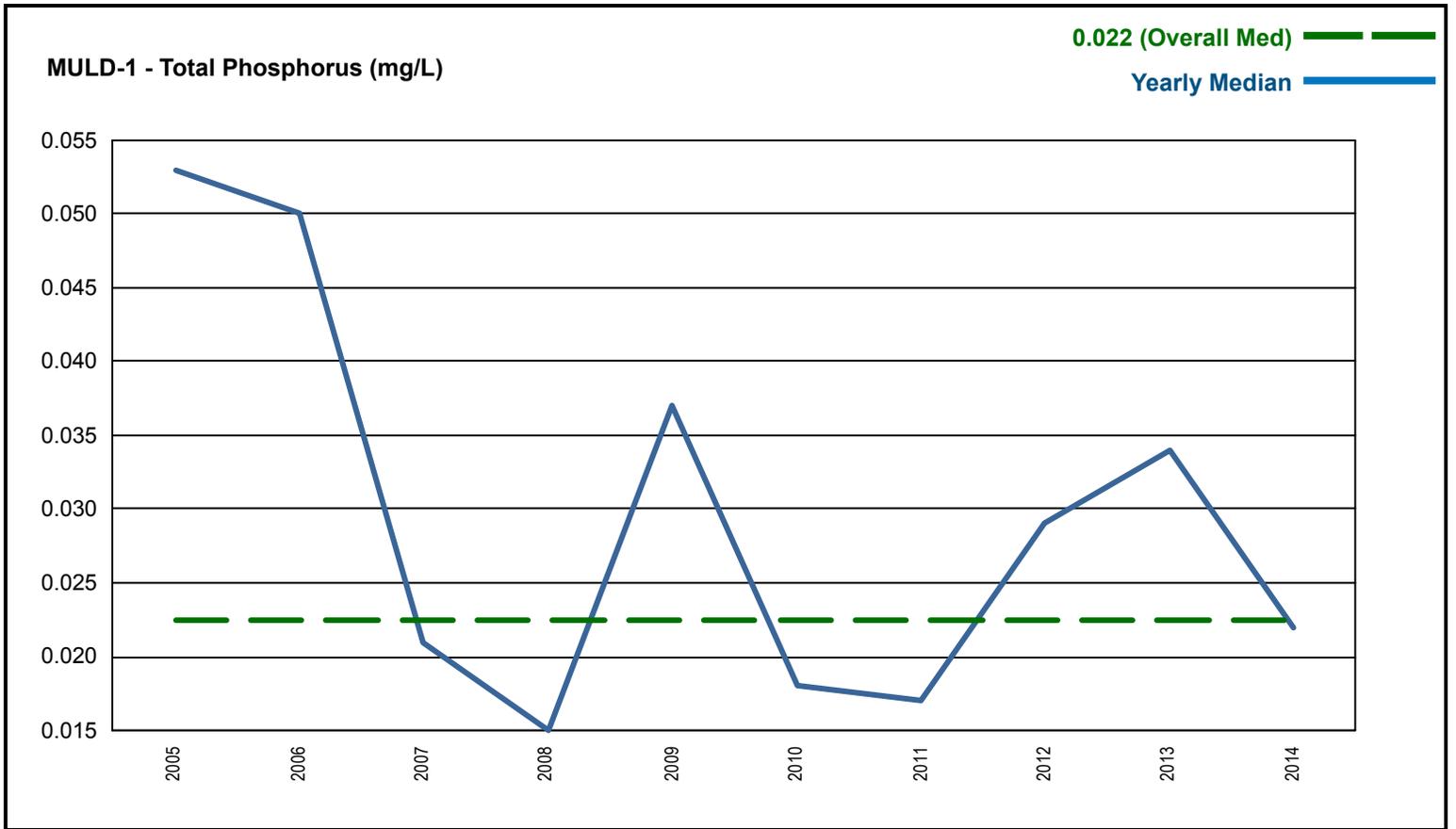
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



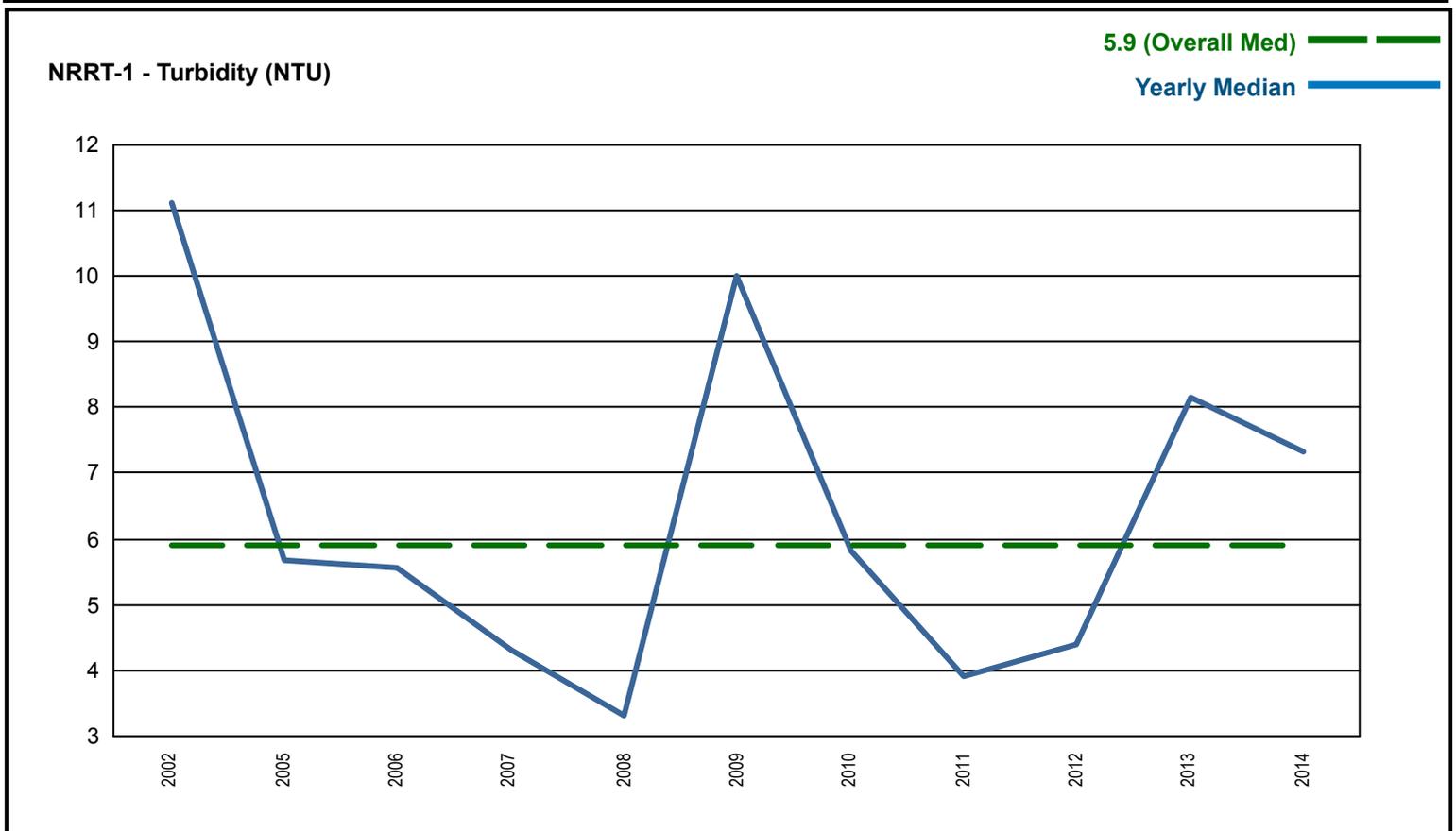
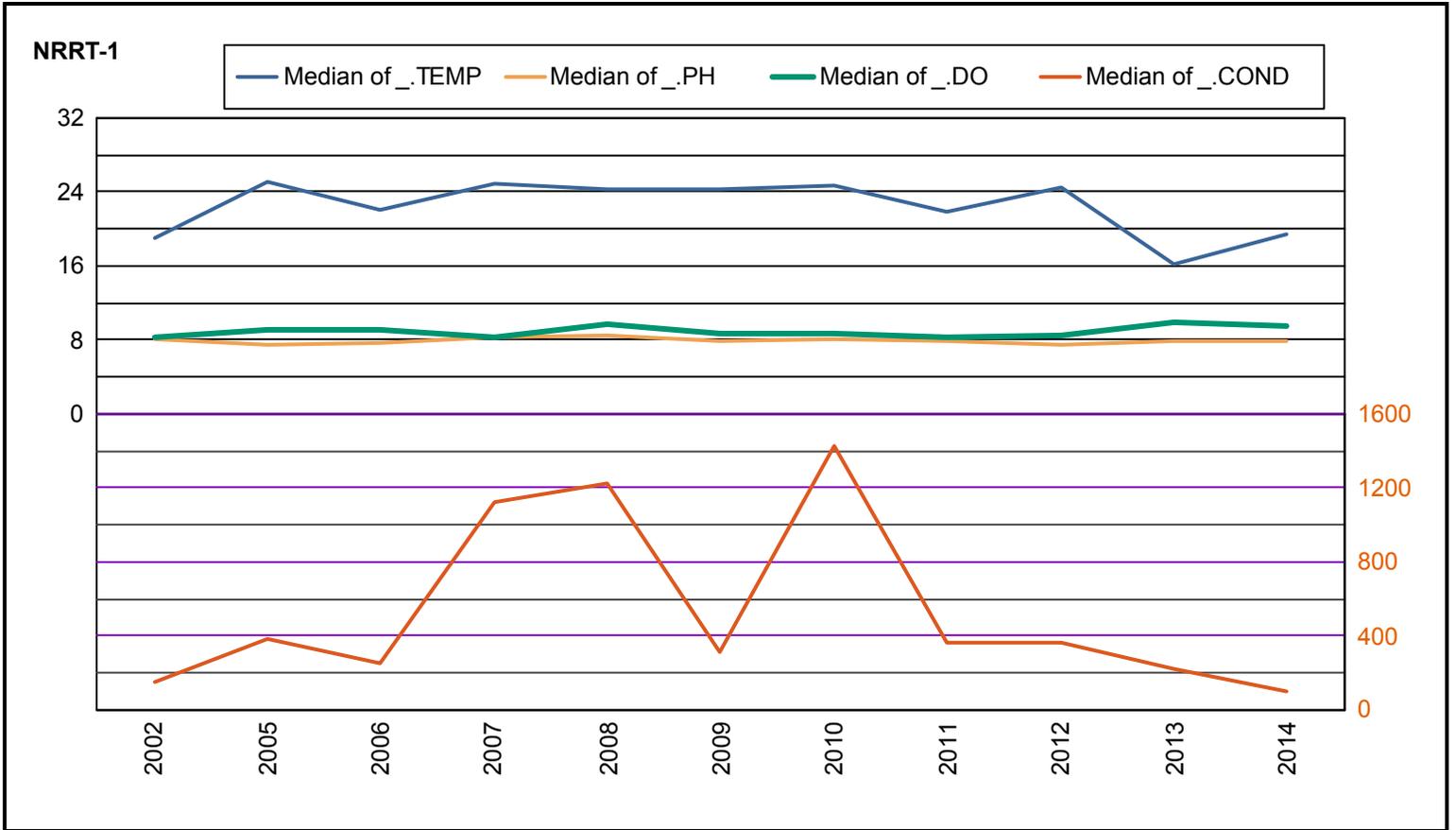
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



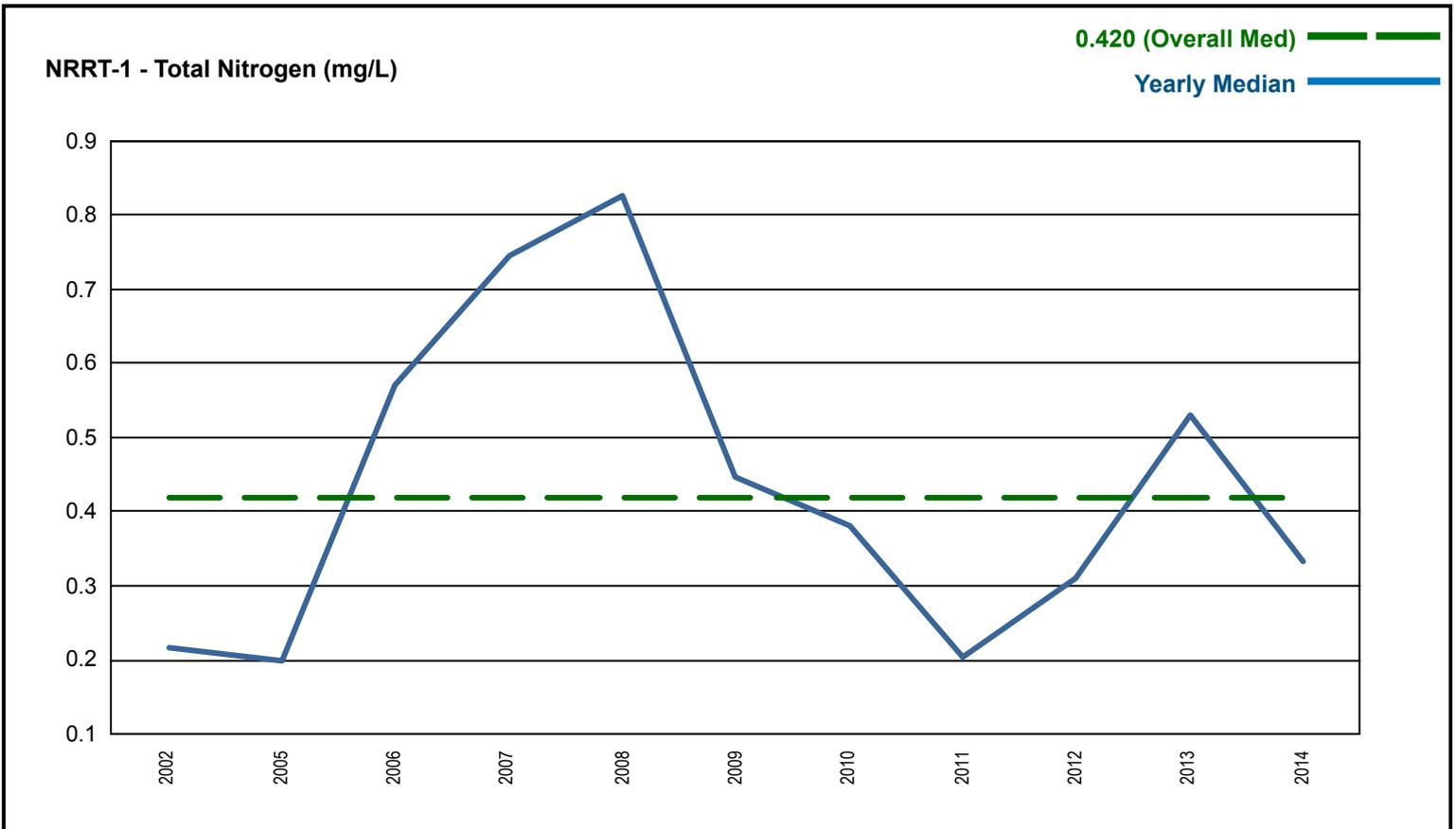
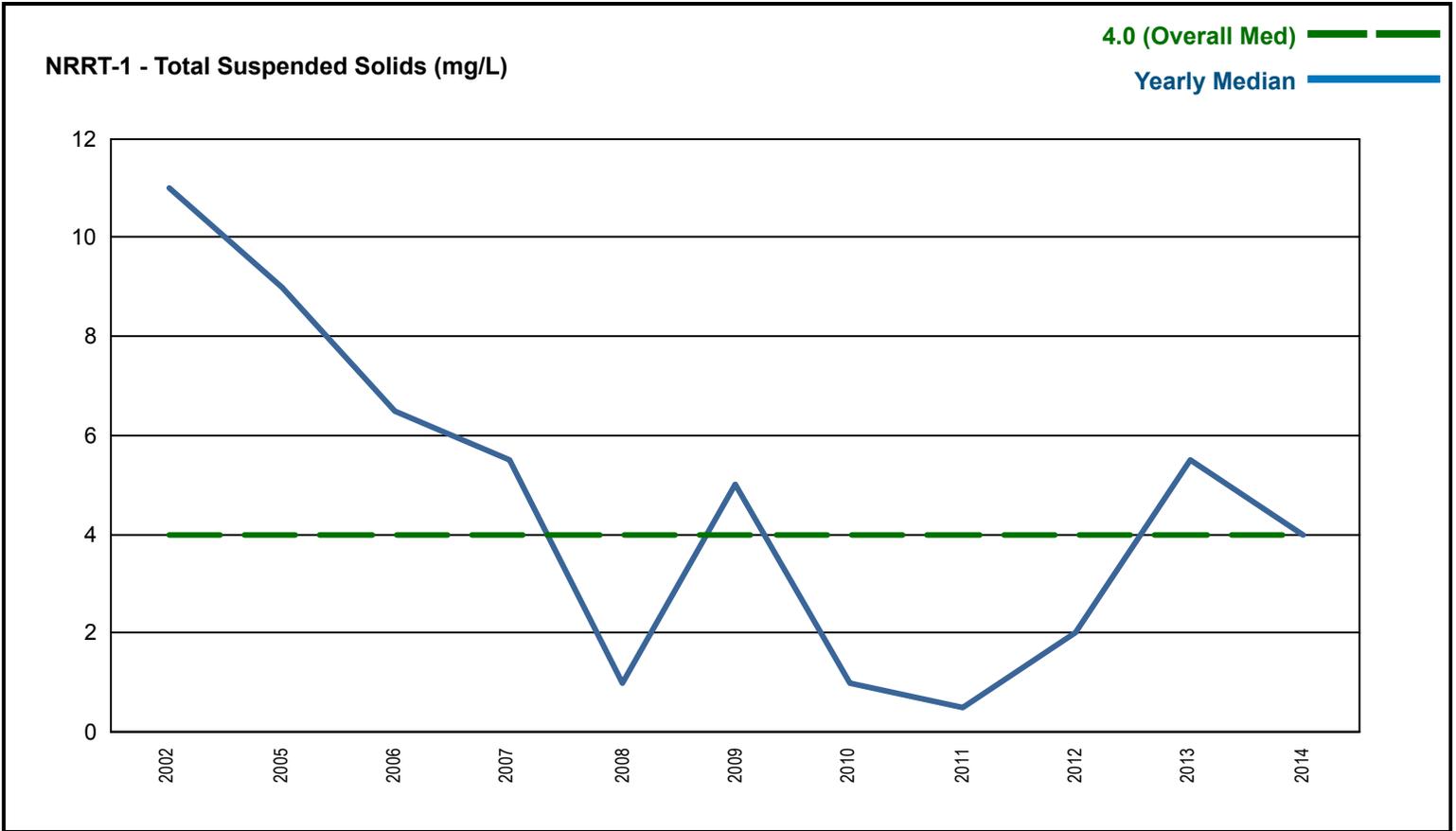
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014



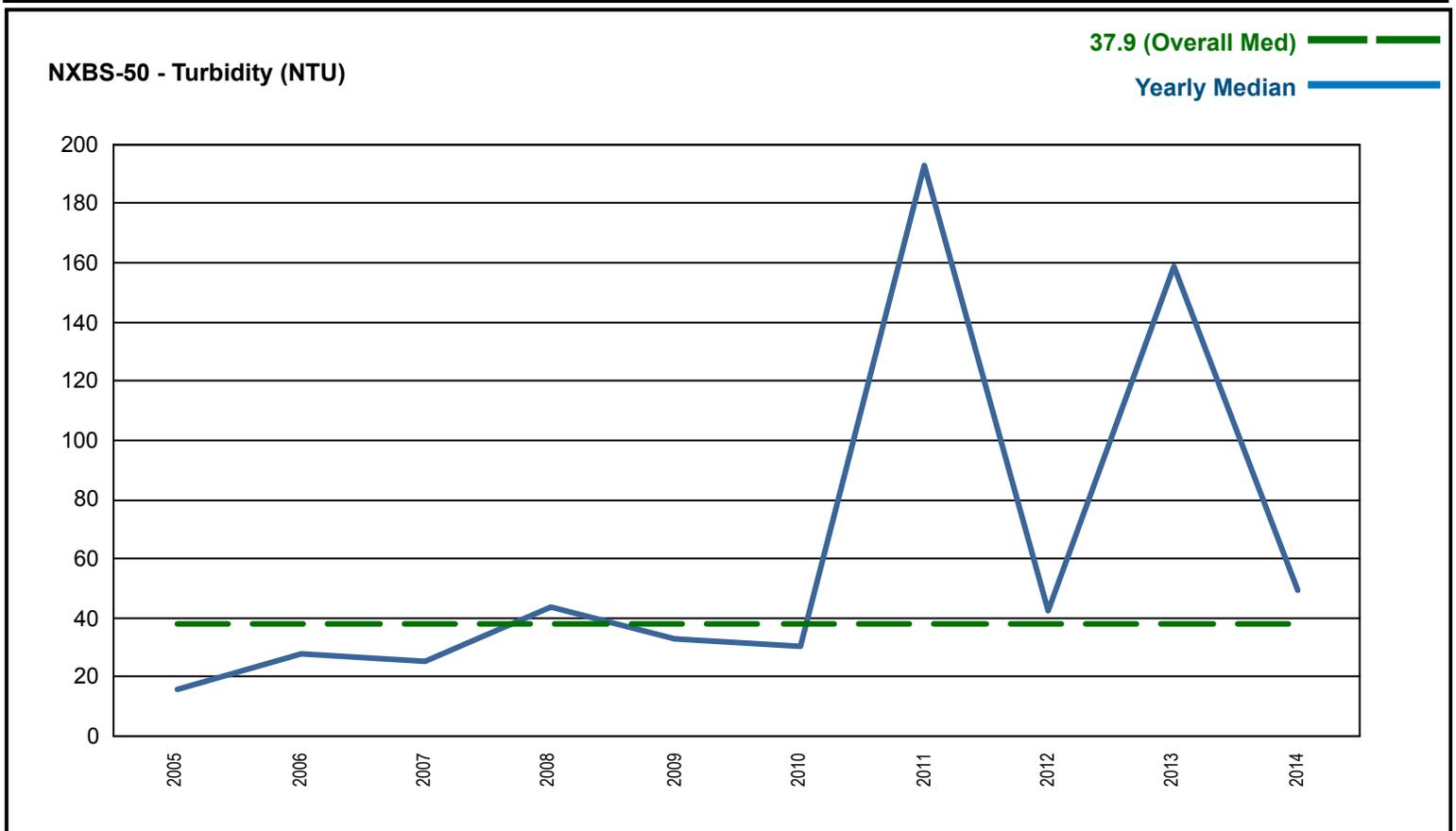
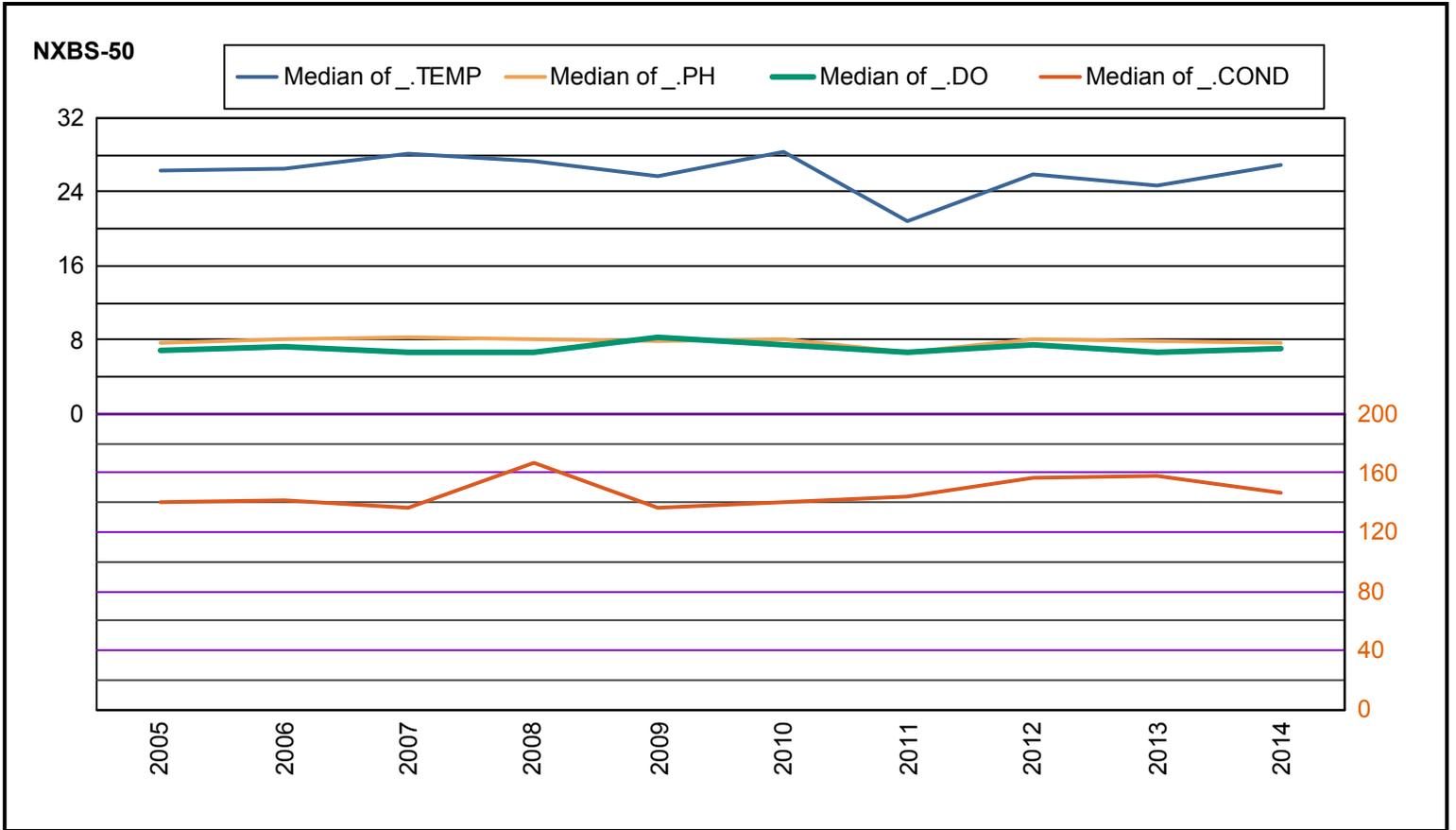
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014

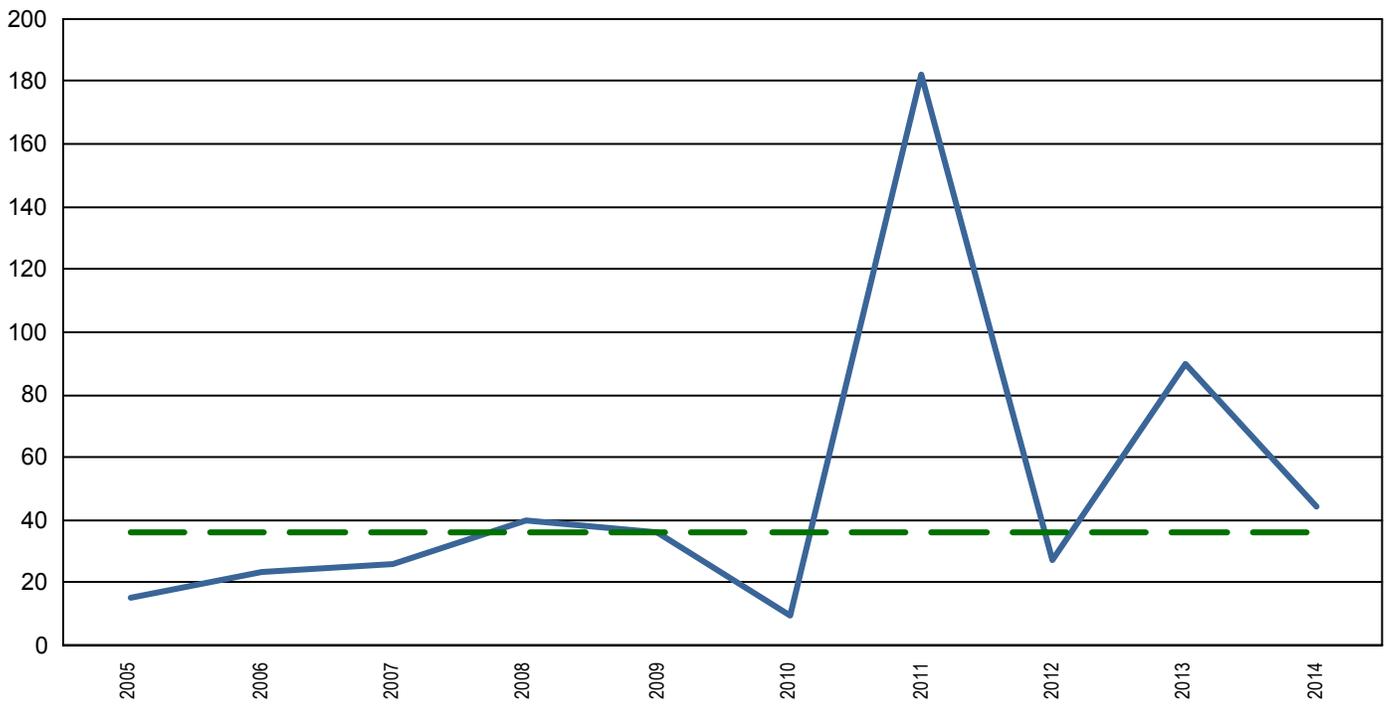


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

## NXBS-50 - Total Suspended Solids (mg/L)

36.0 (Overall Med) 

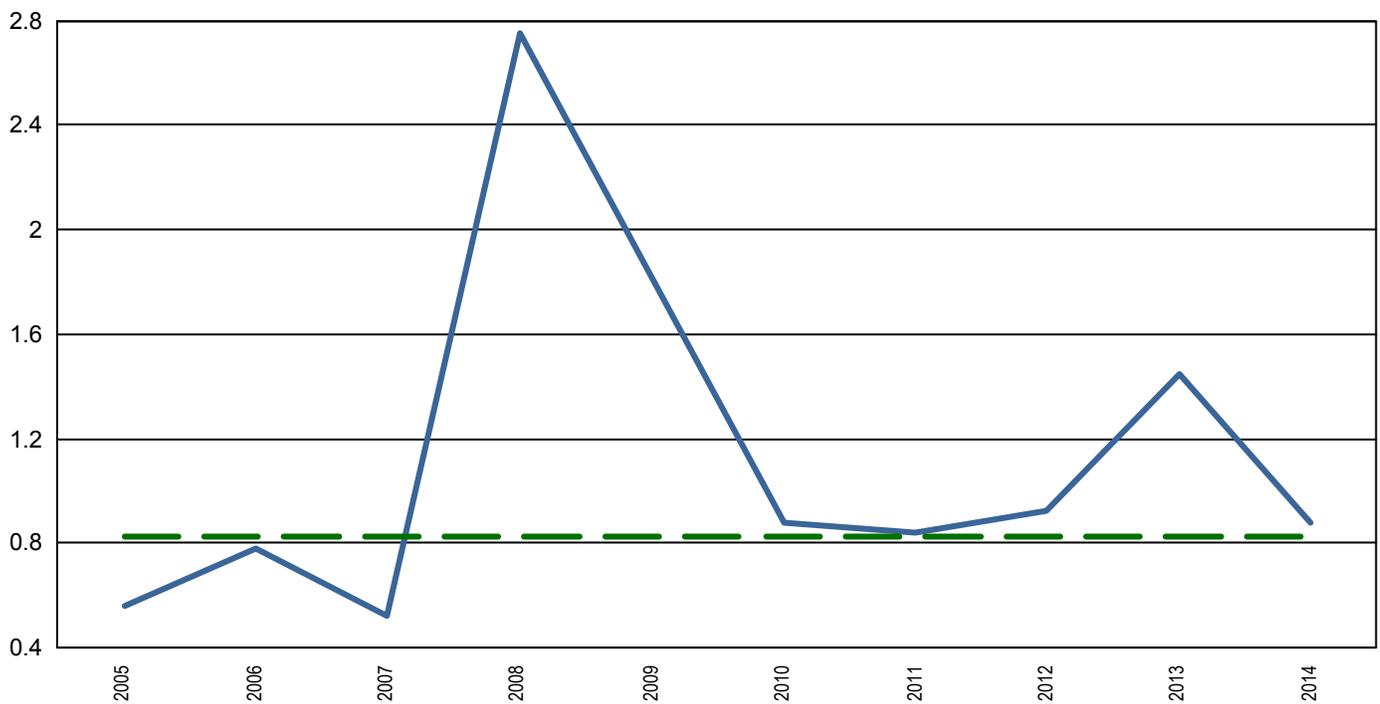
Yearly Median 



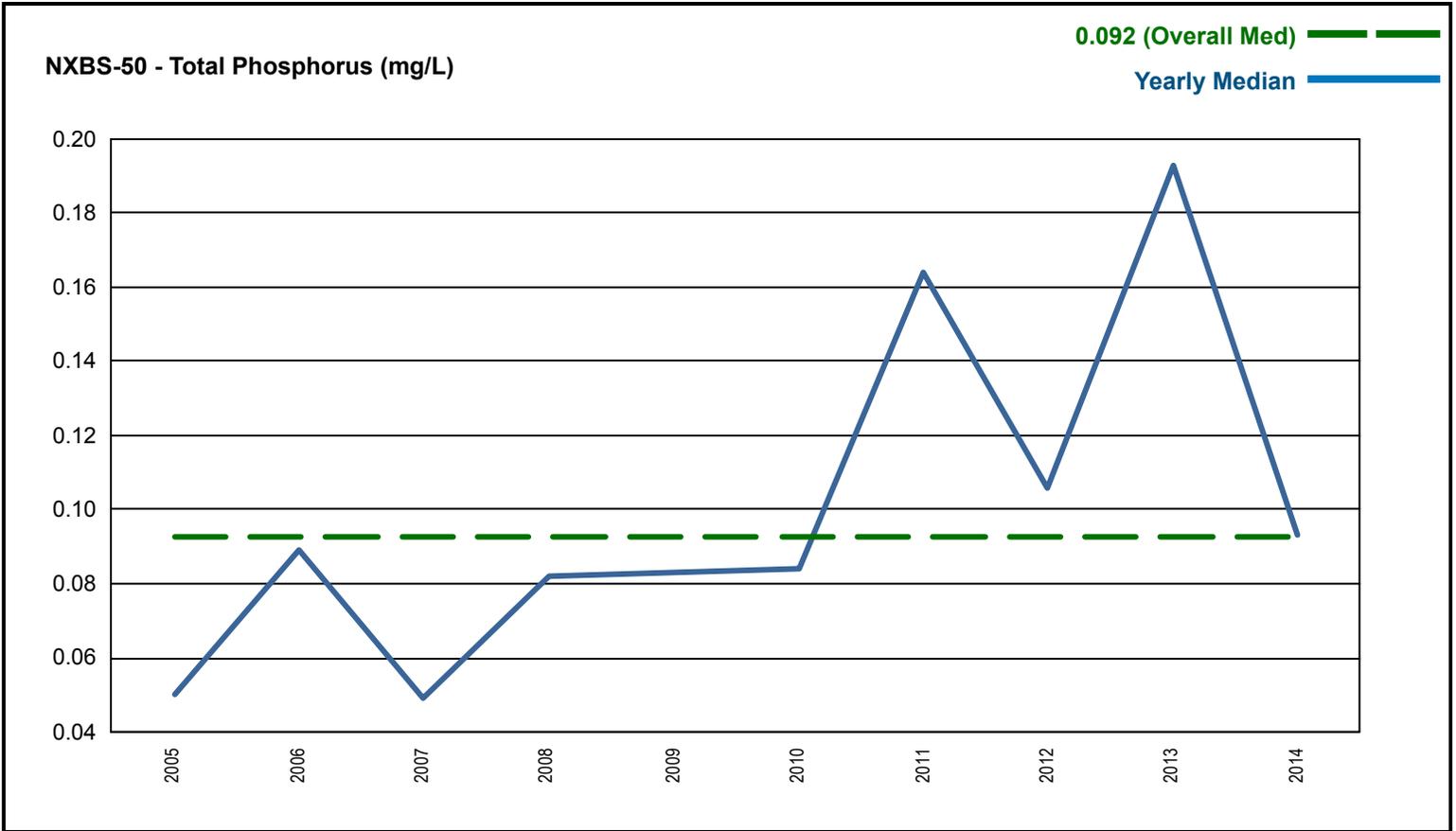
## NXBS-50 - Total Nitrogen (mg/L)

0.828 (Overall Med) 

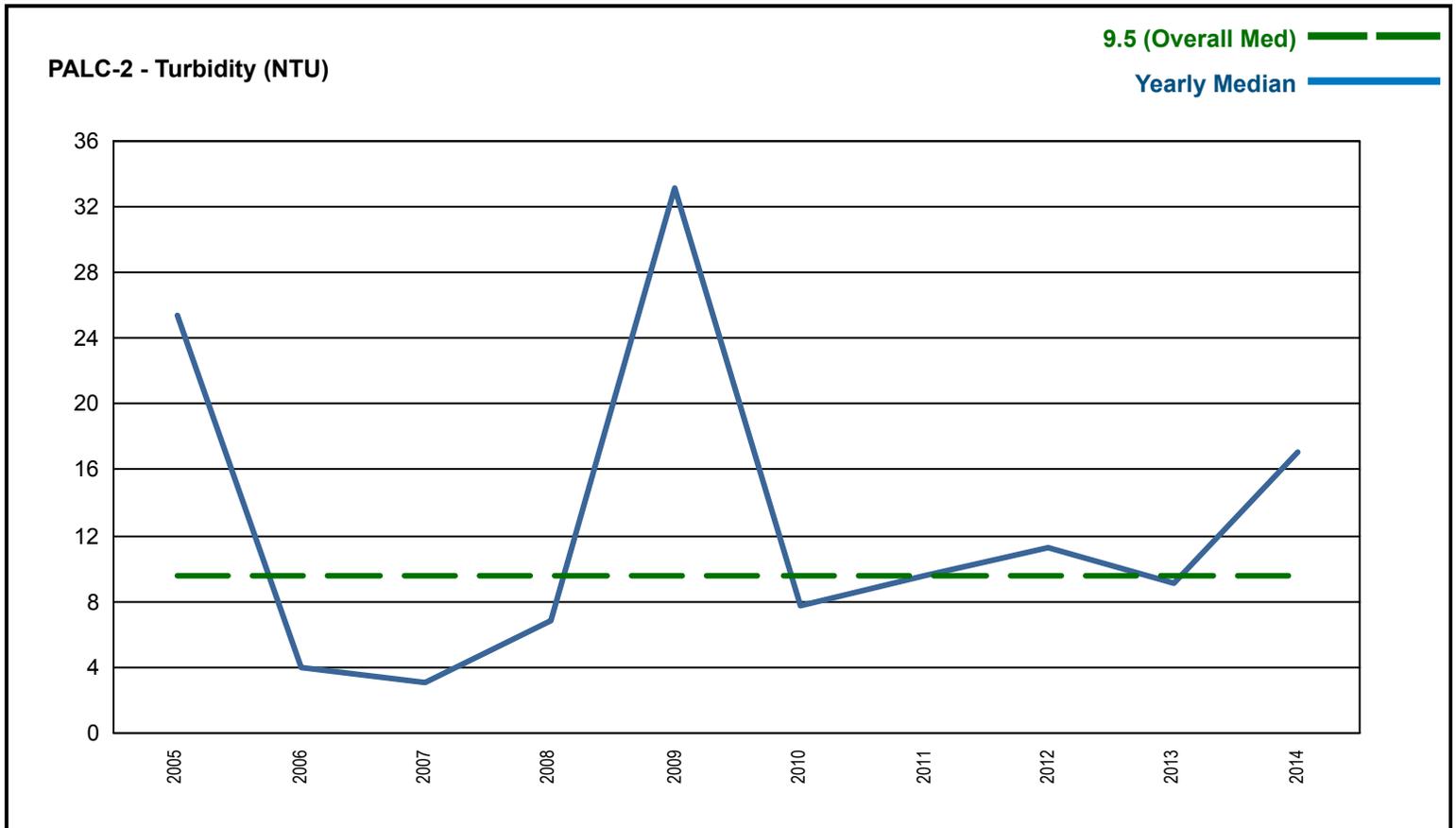
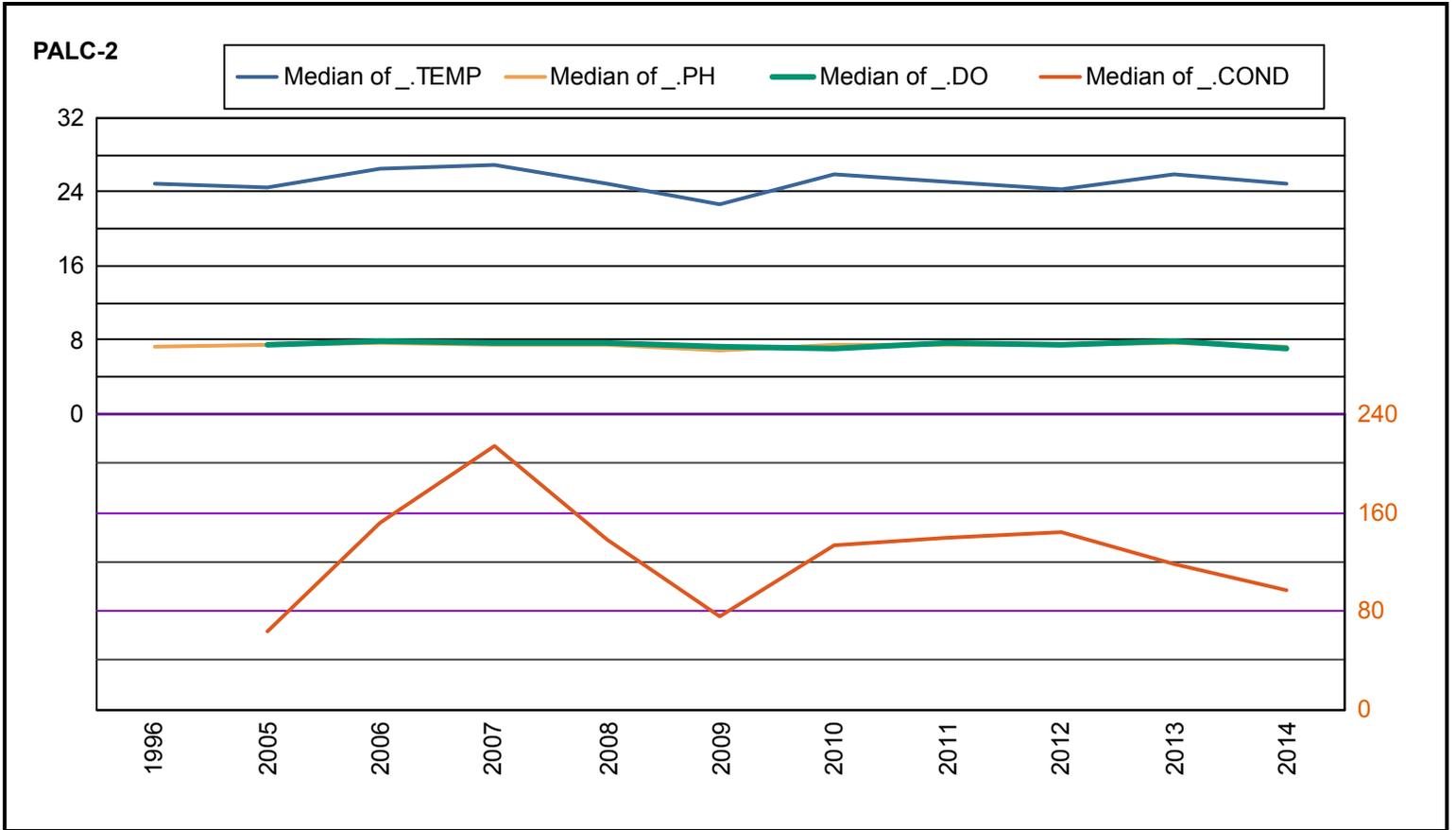
Yearly Median 



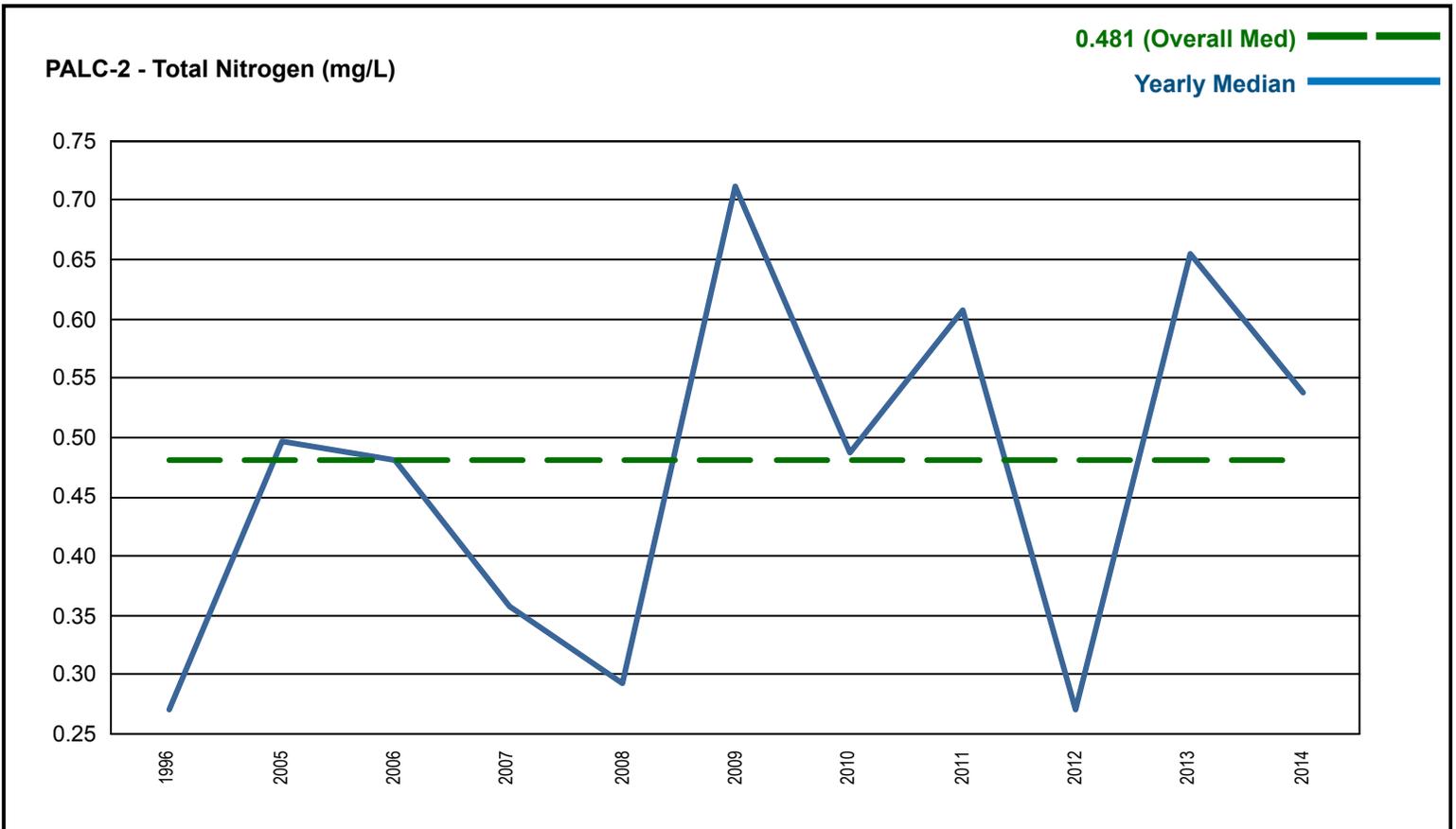
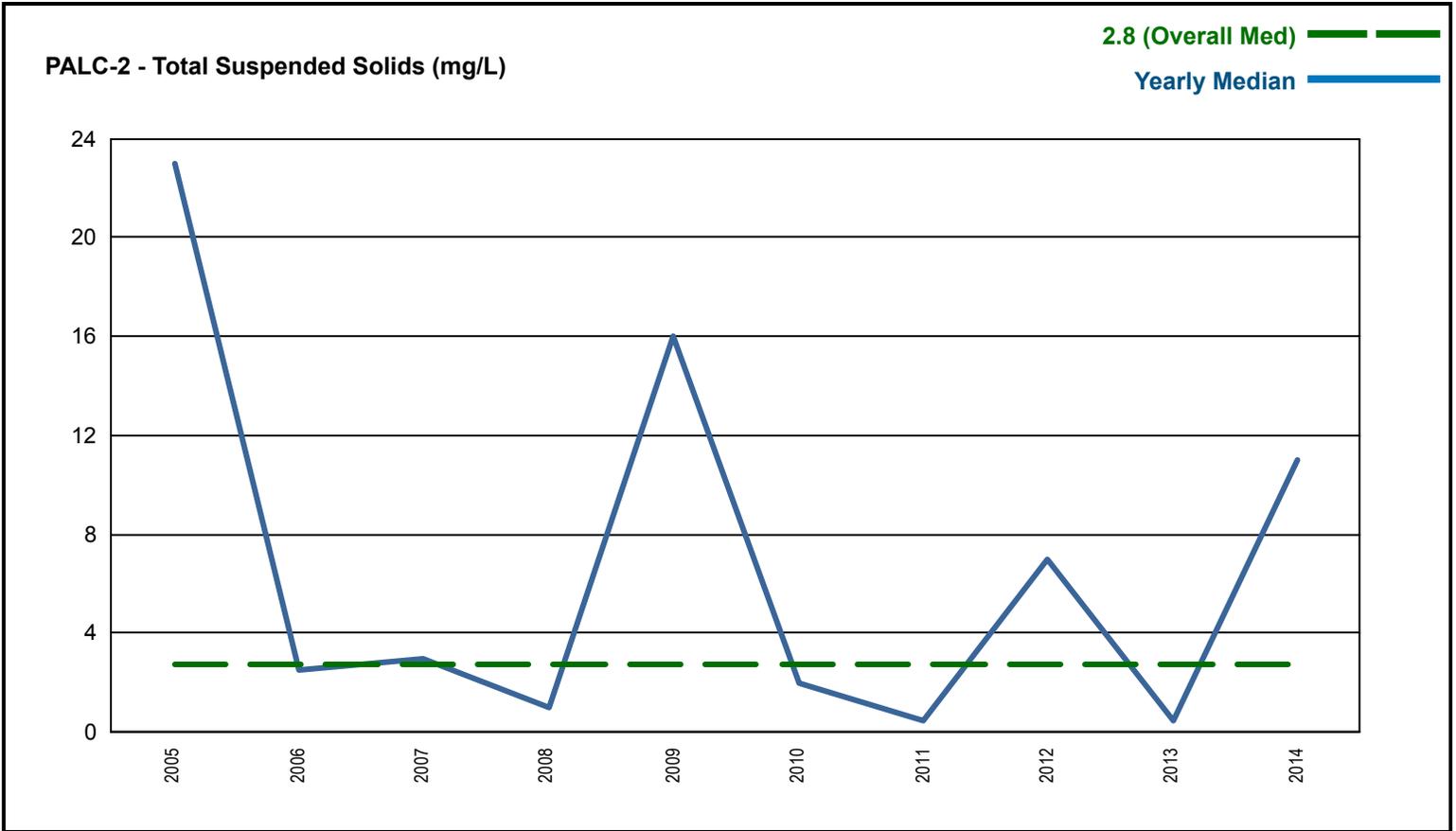
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



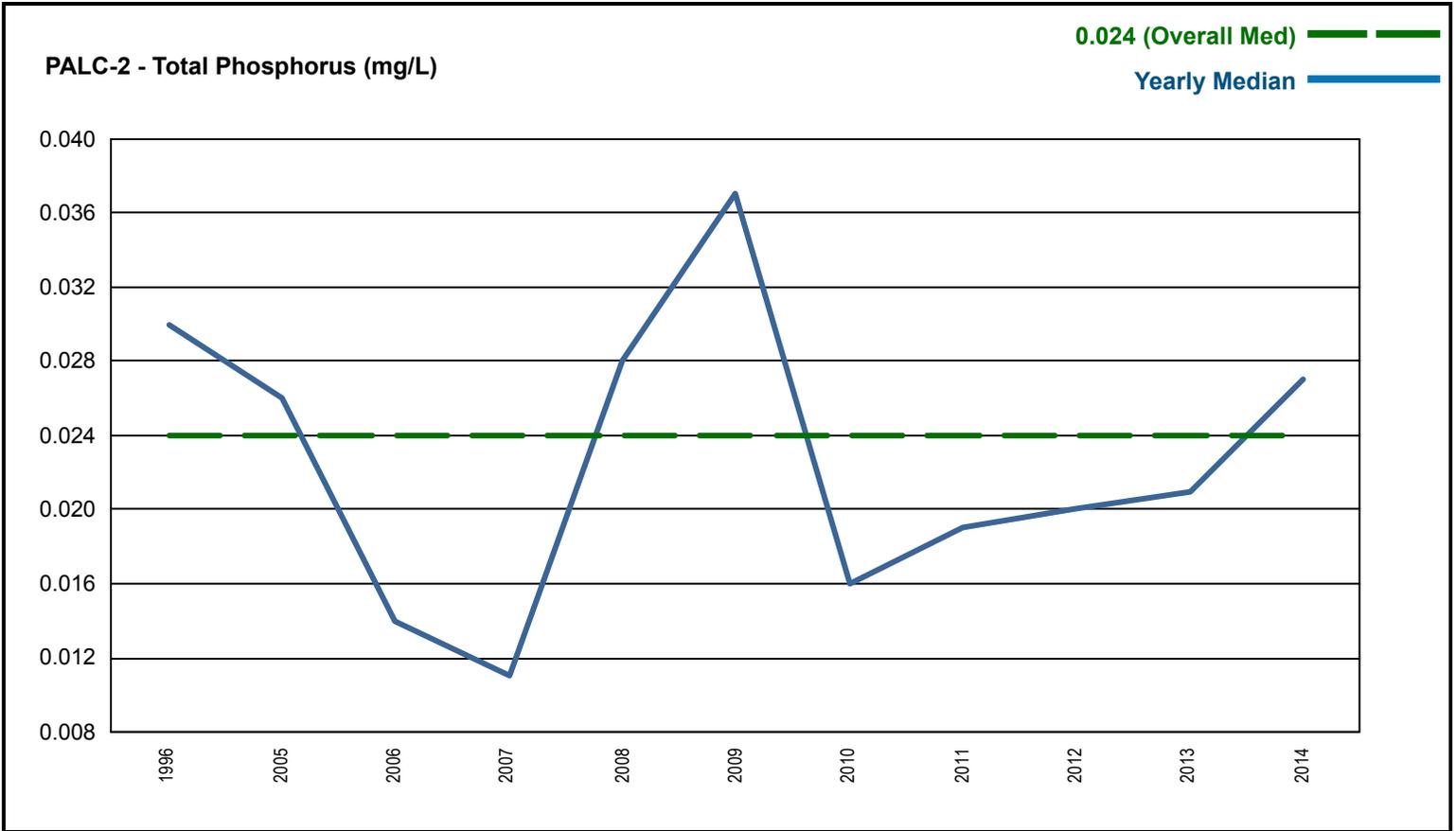
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



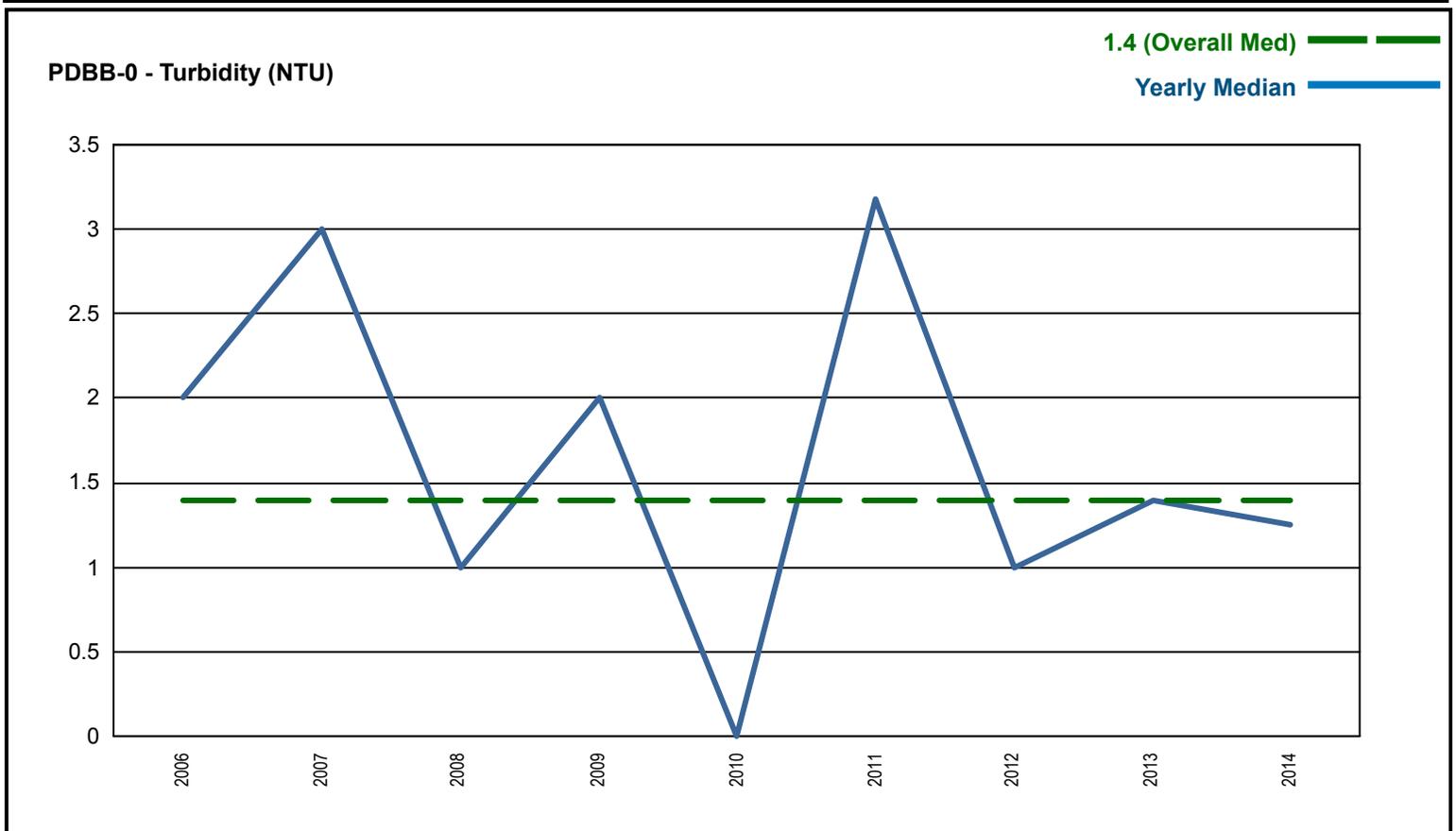
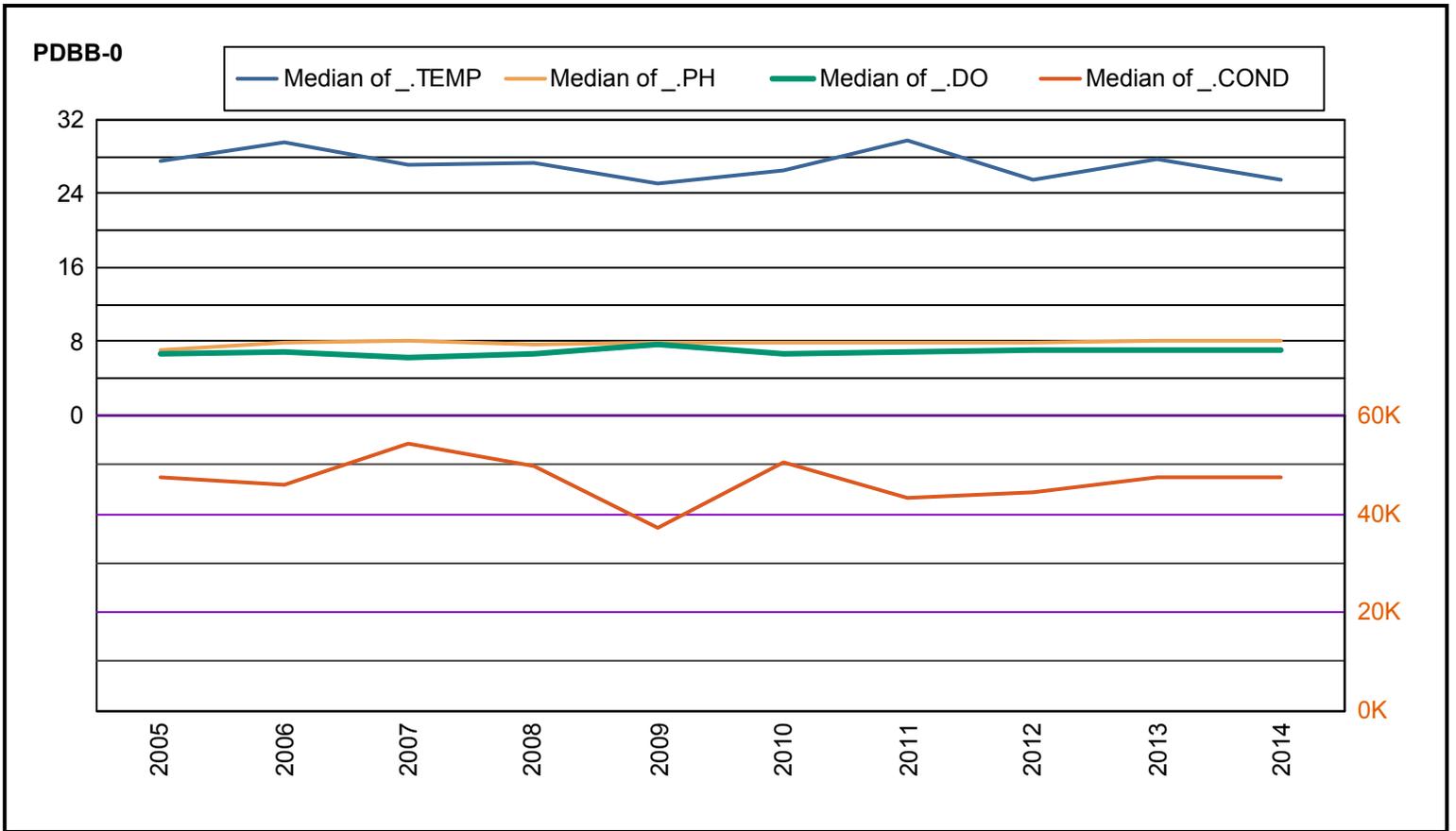
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



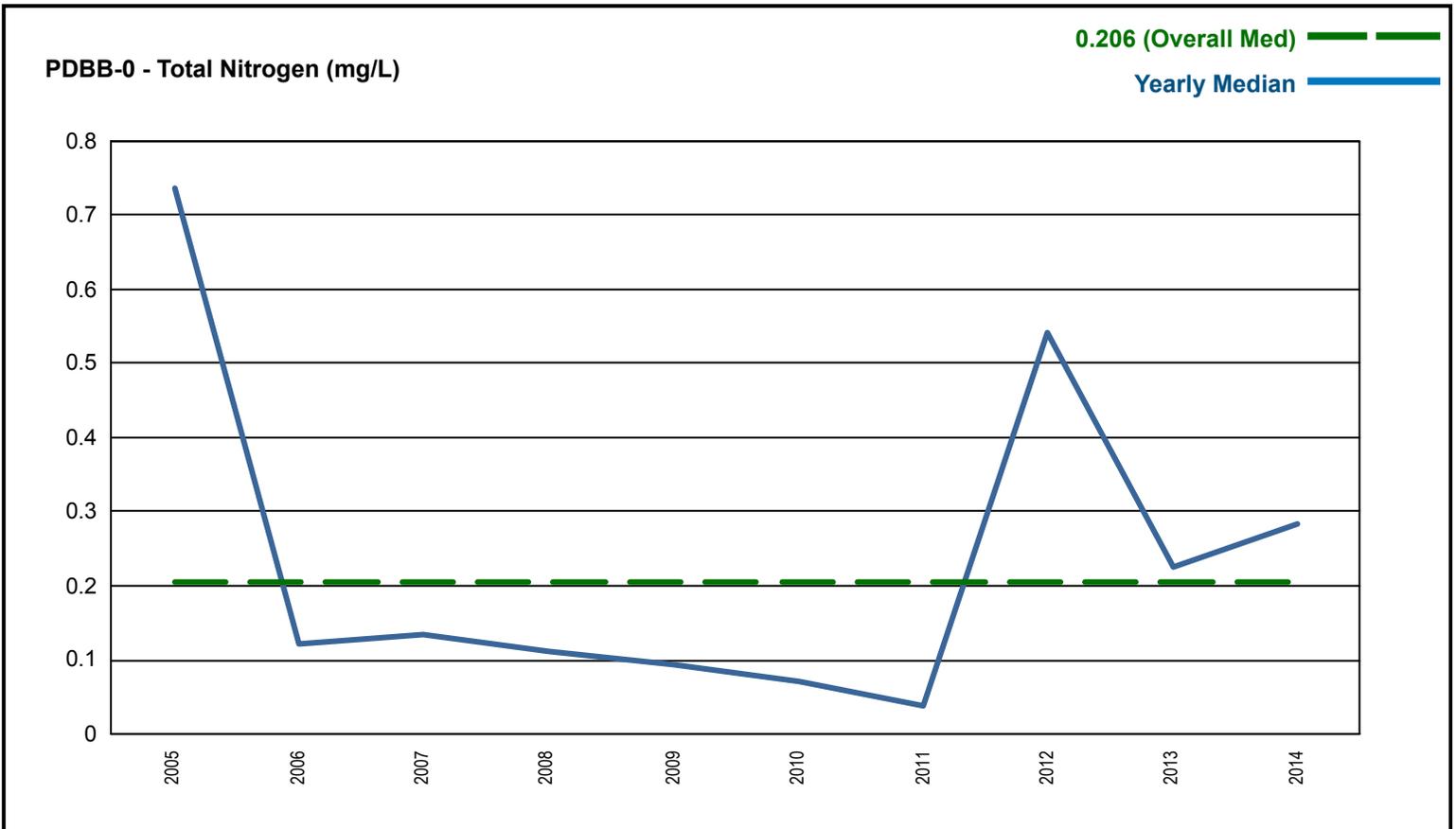
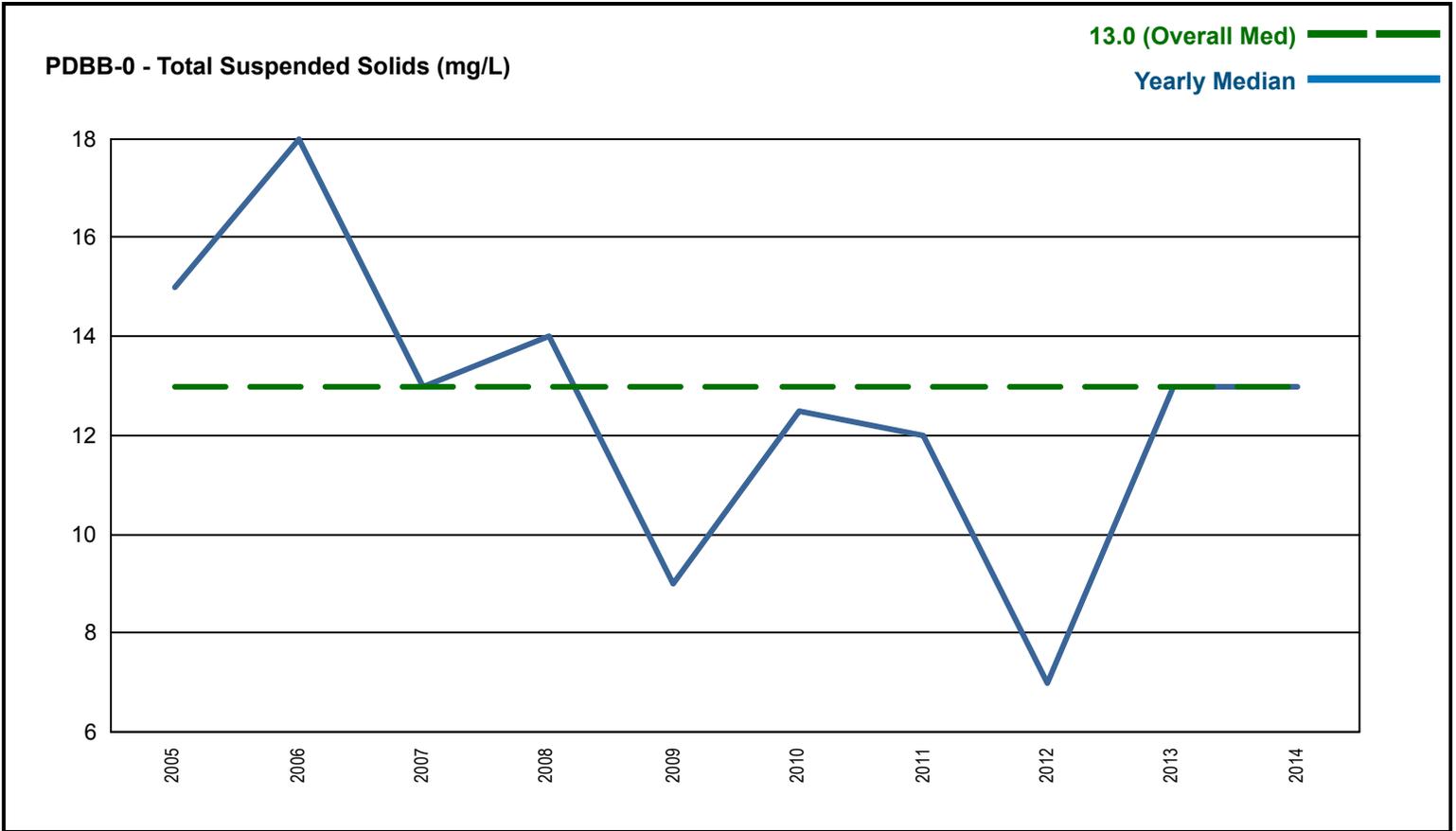
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



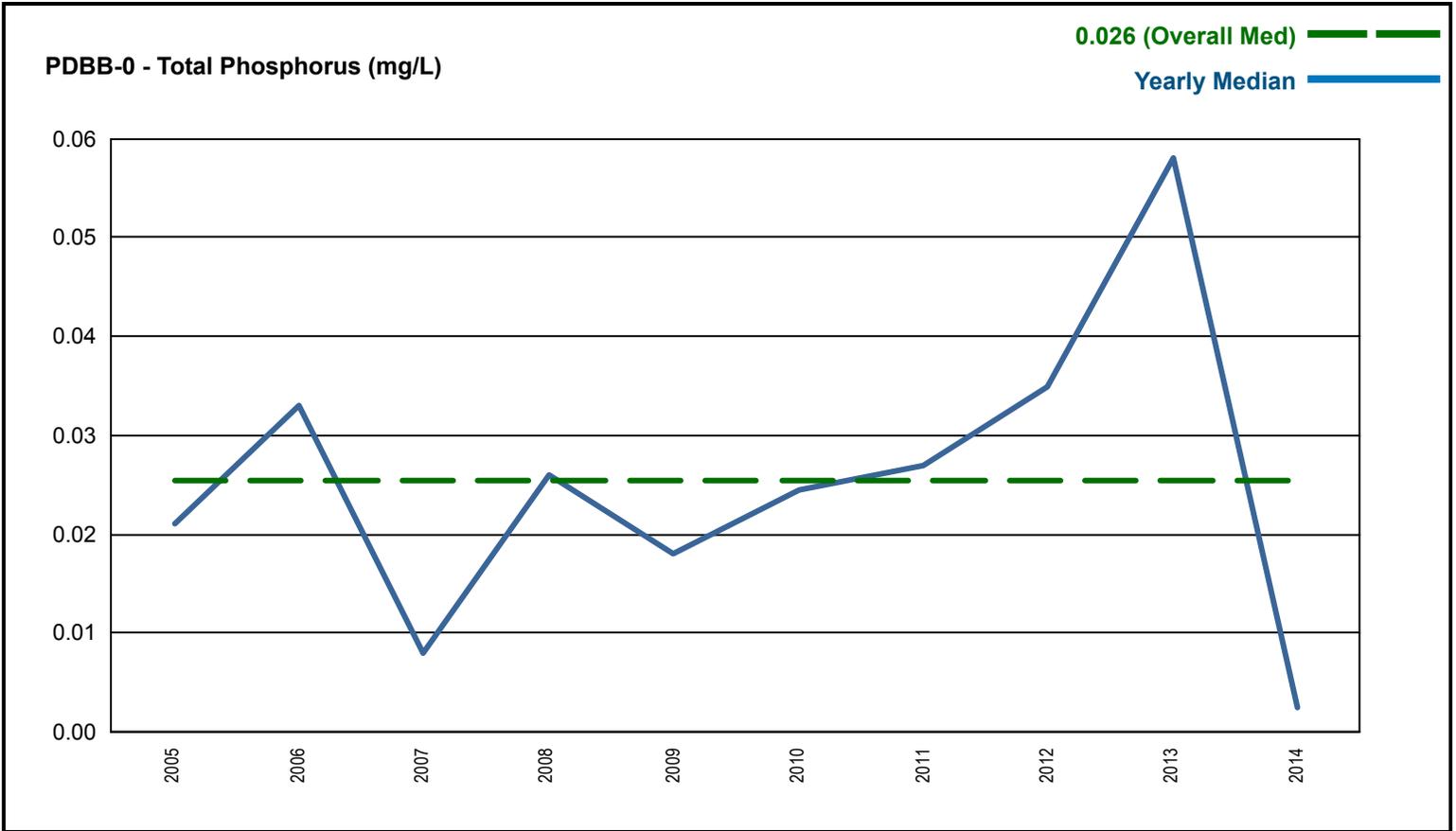
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



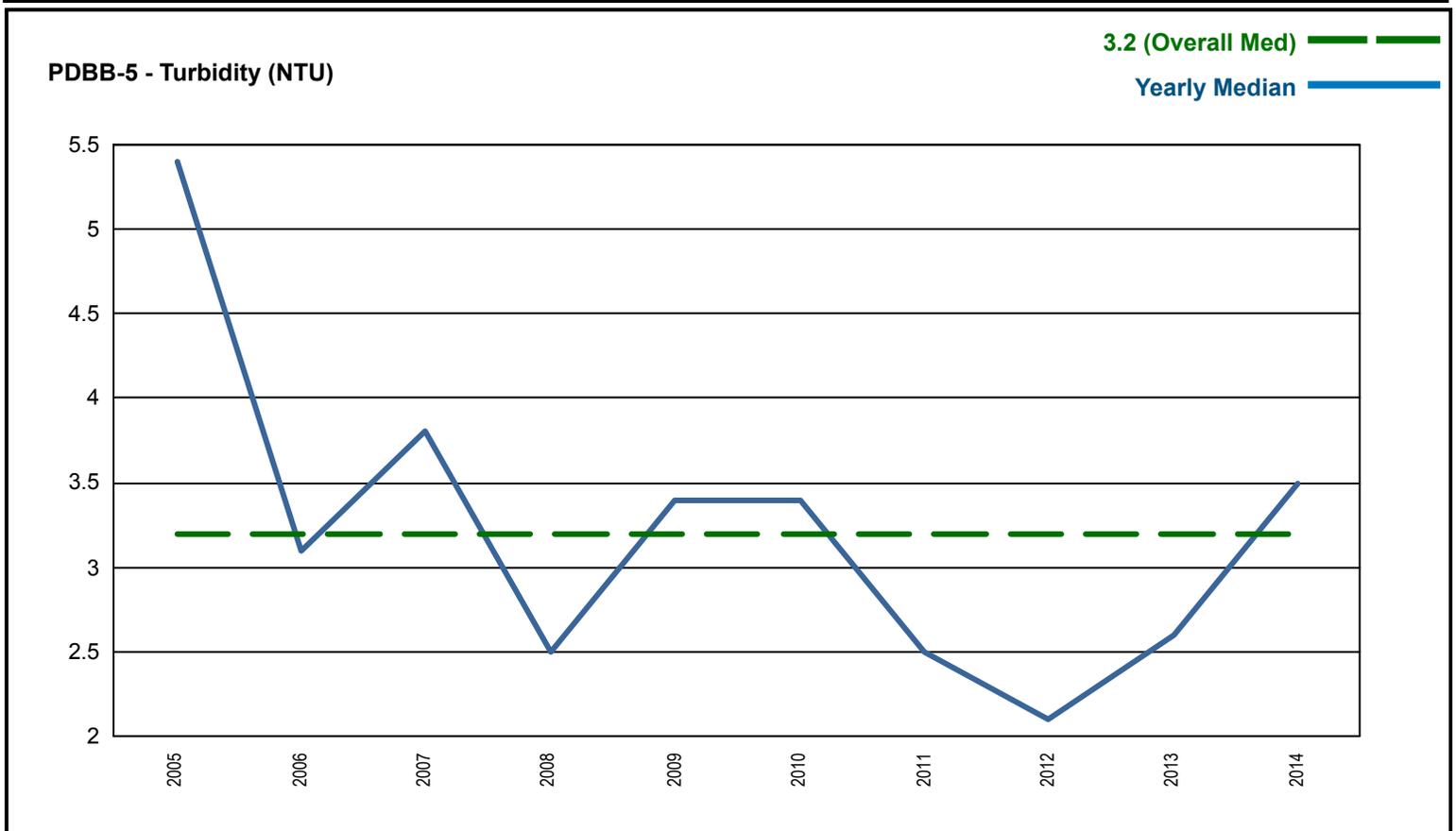
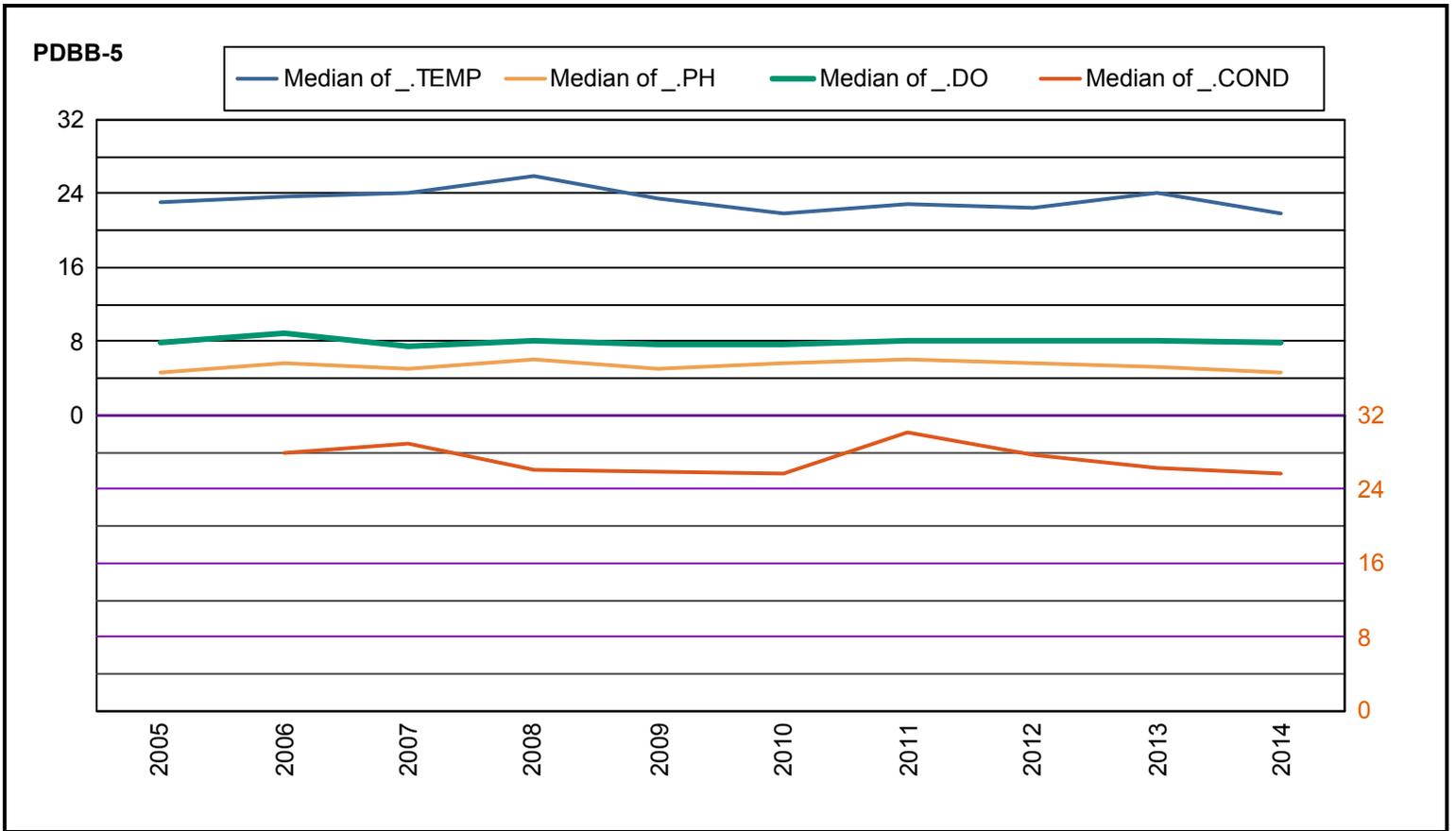
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



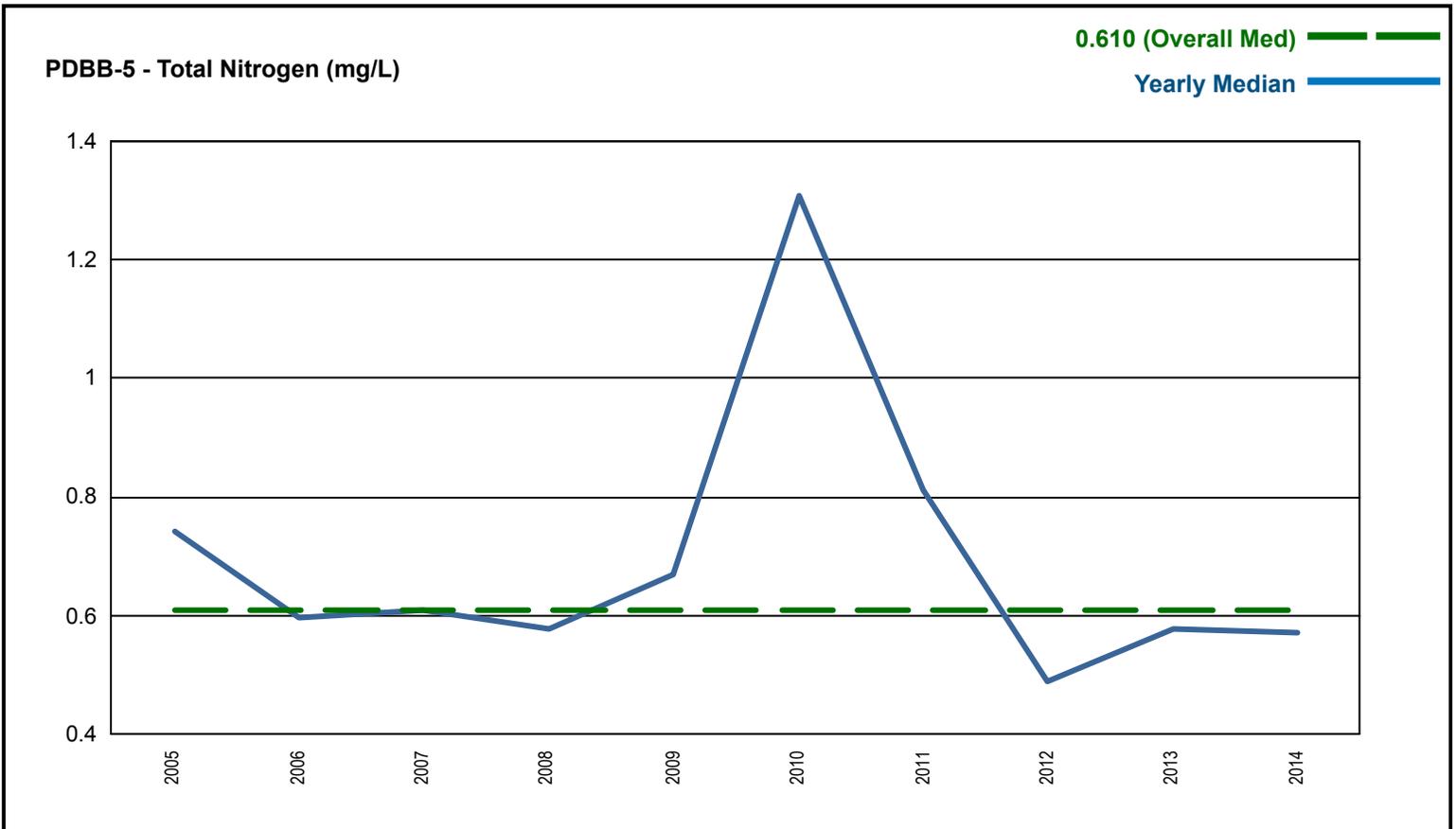
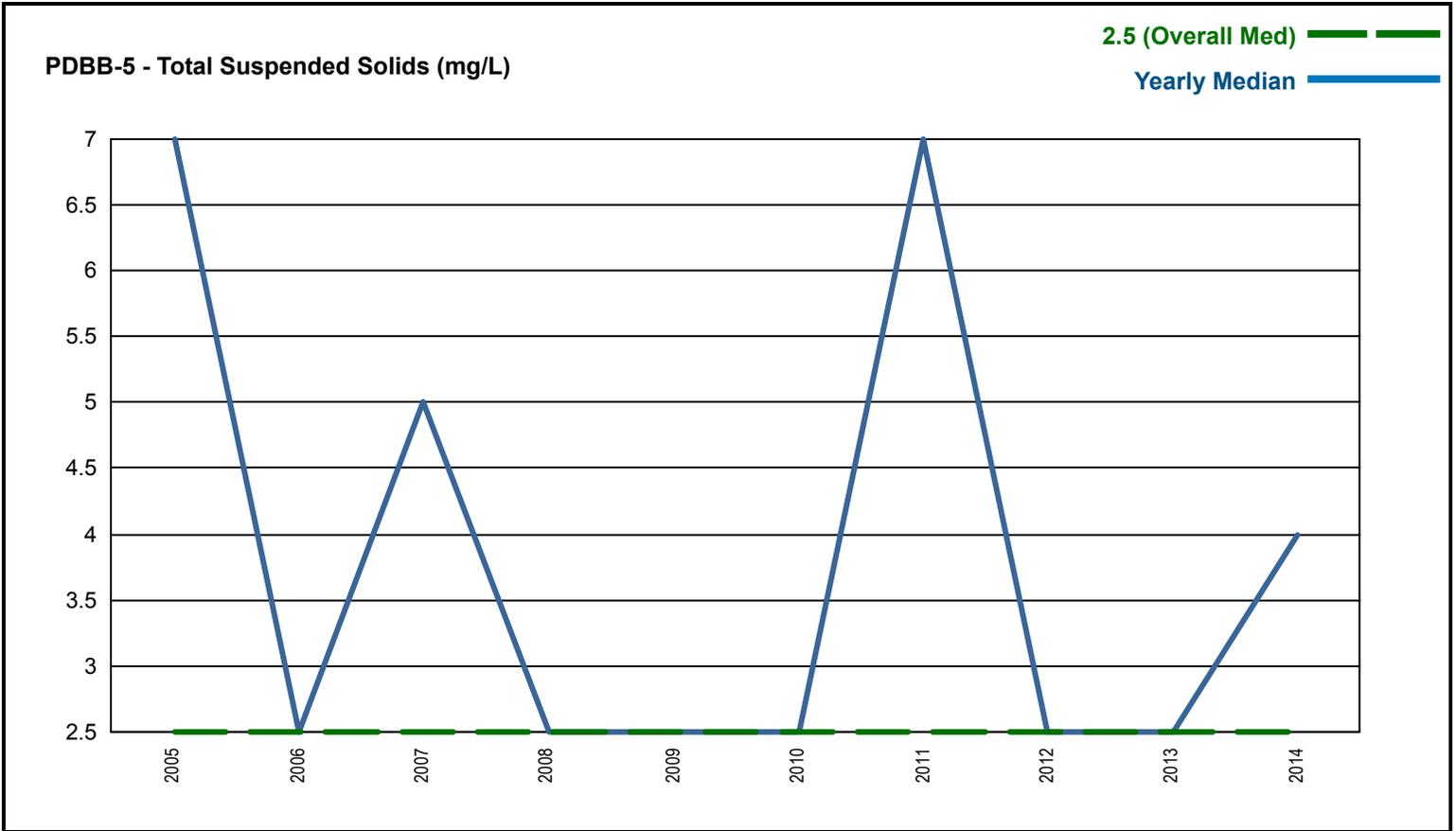
ADEM Ambient Trend Stations - Sampled 1977 - 2014



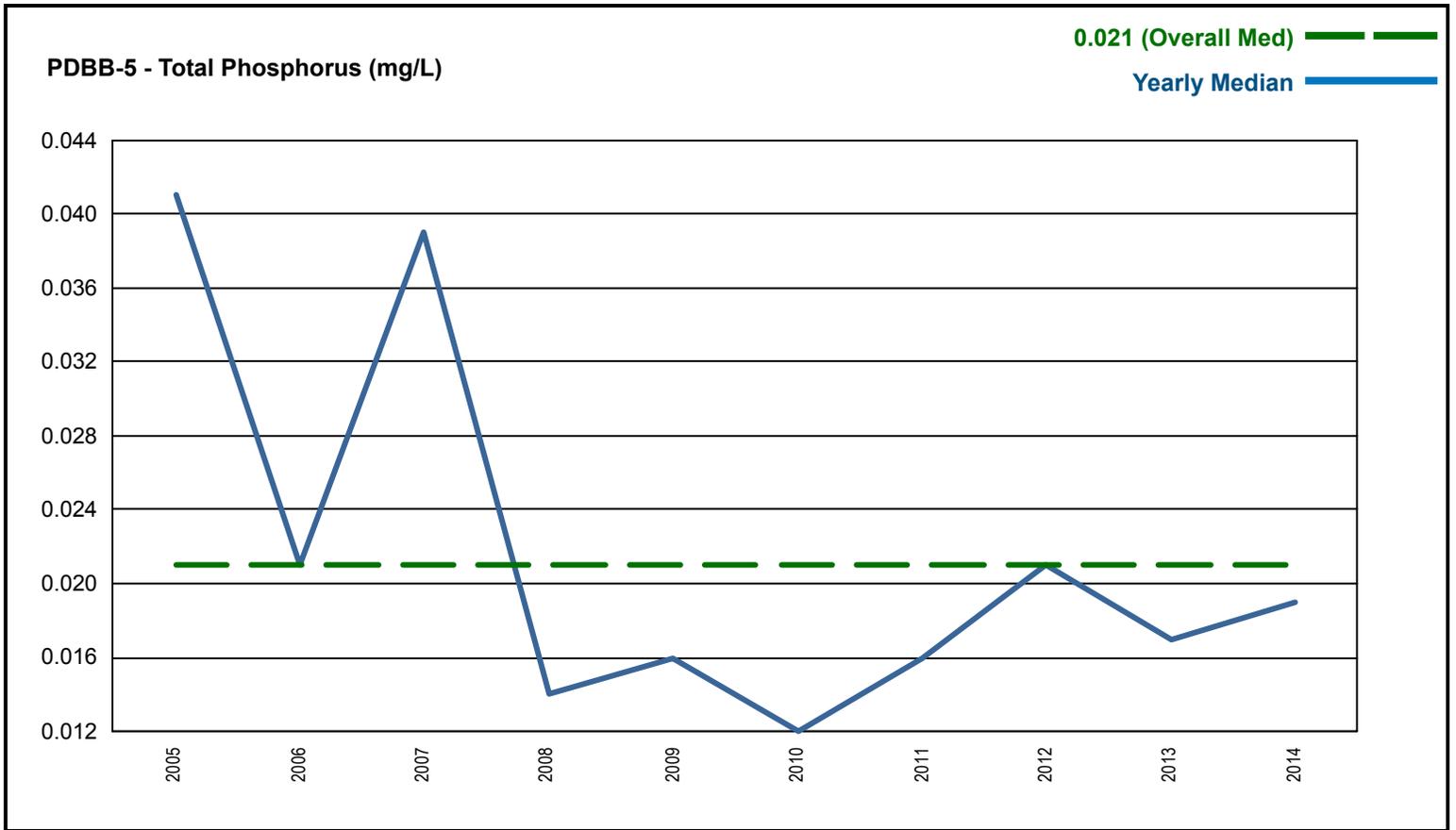
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



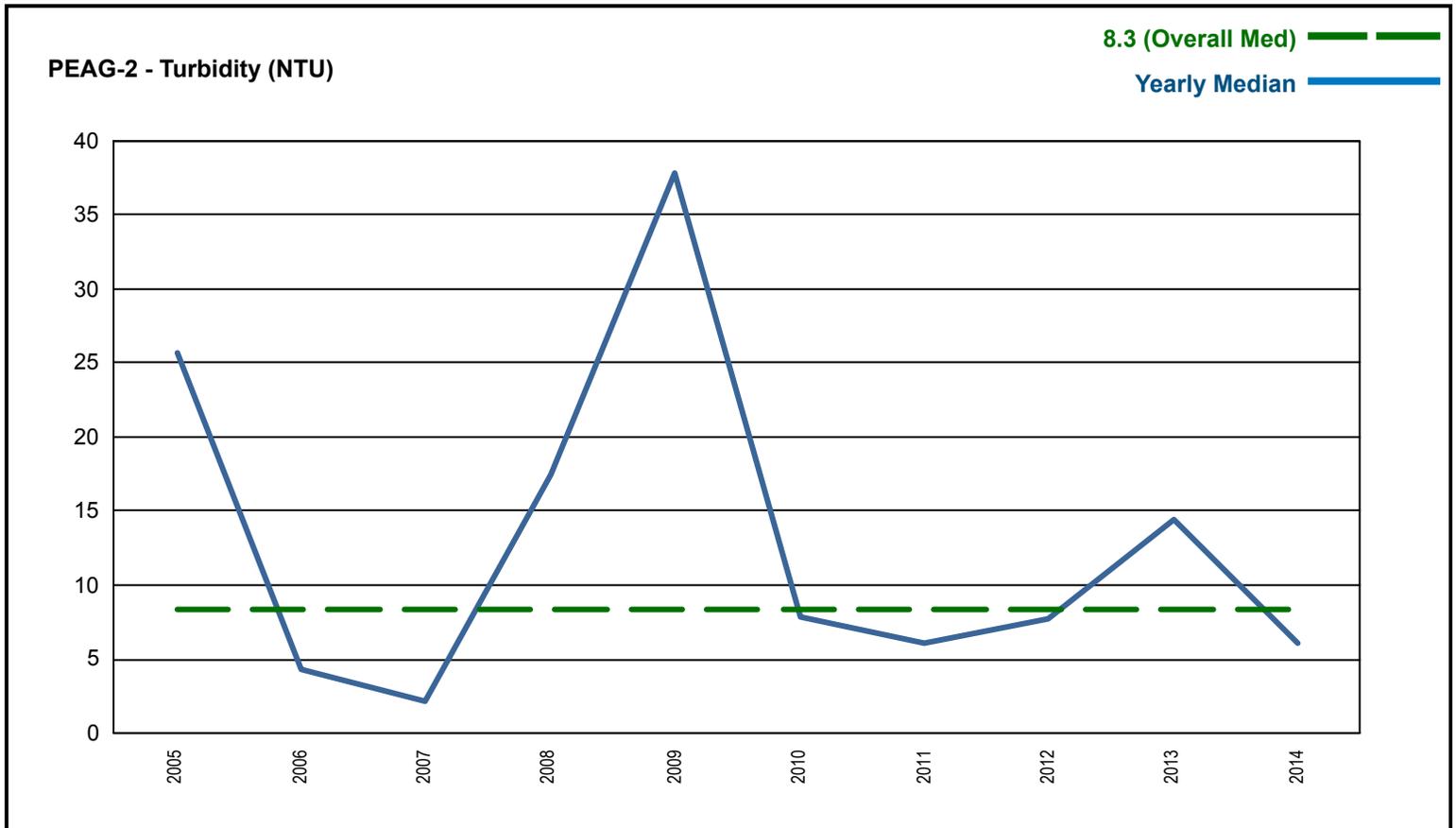
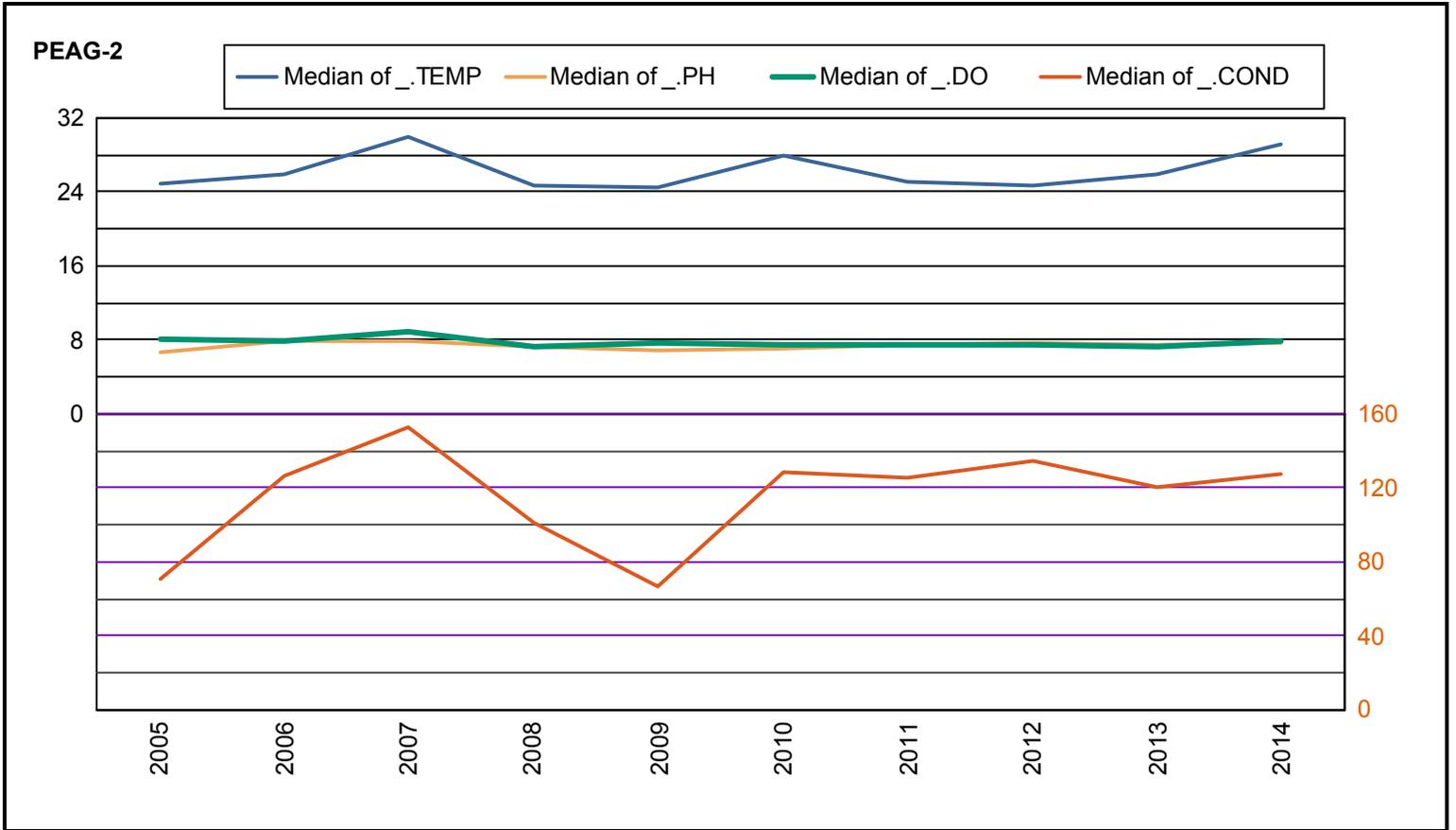
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



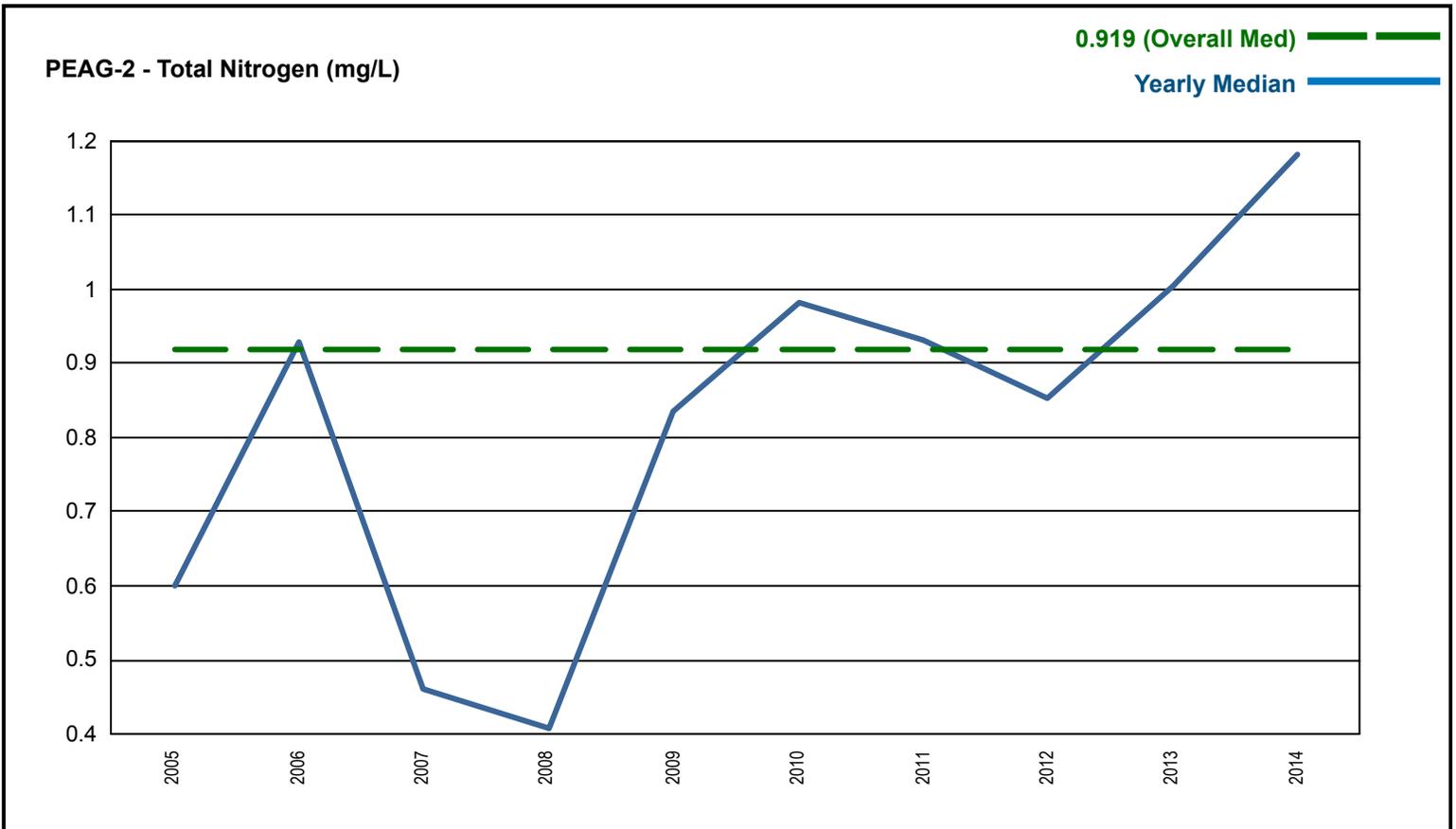
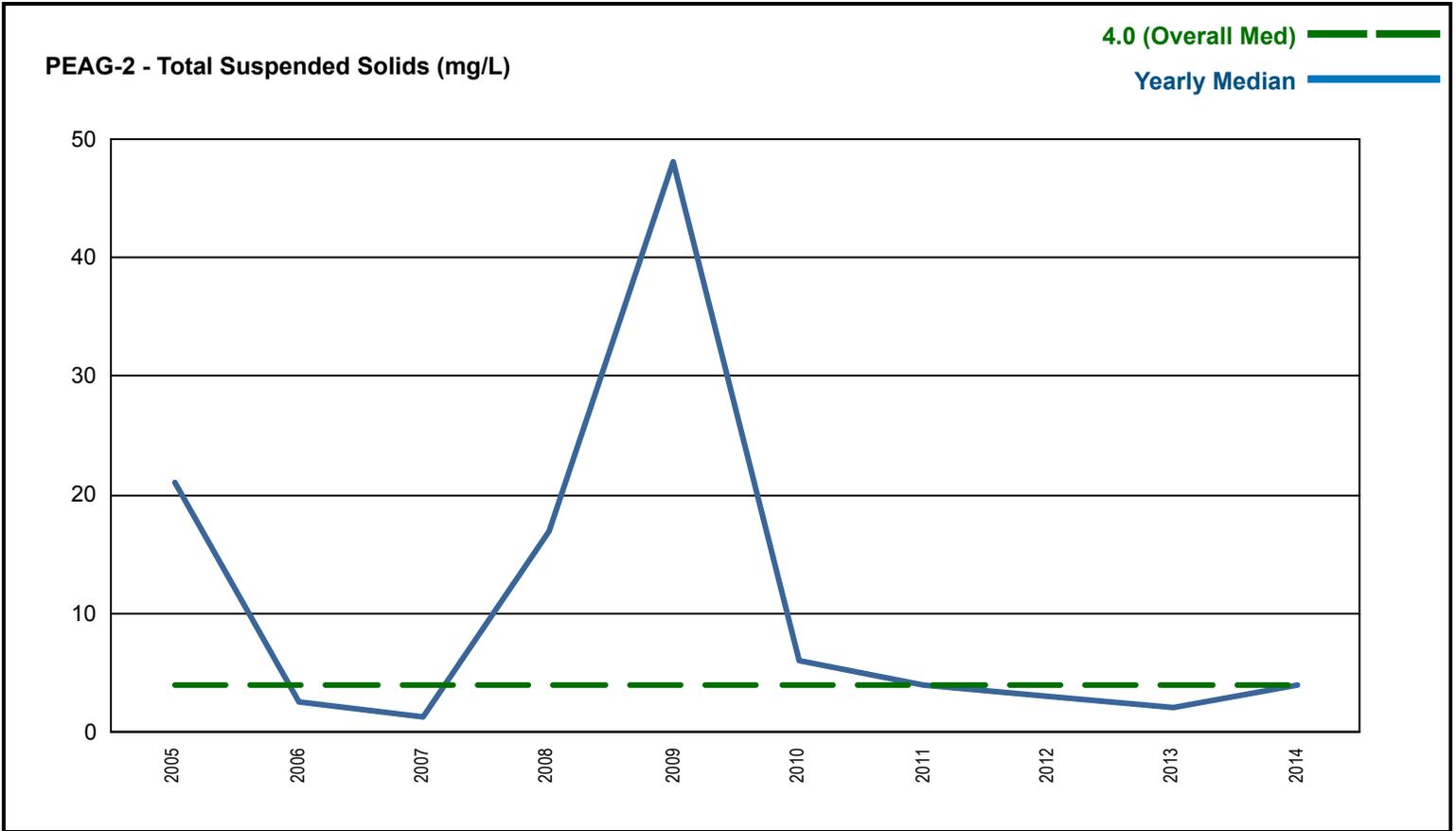
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



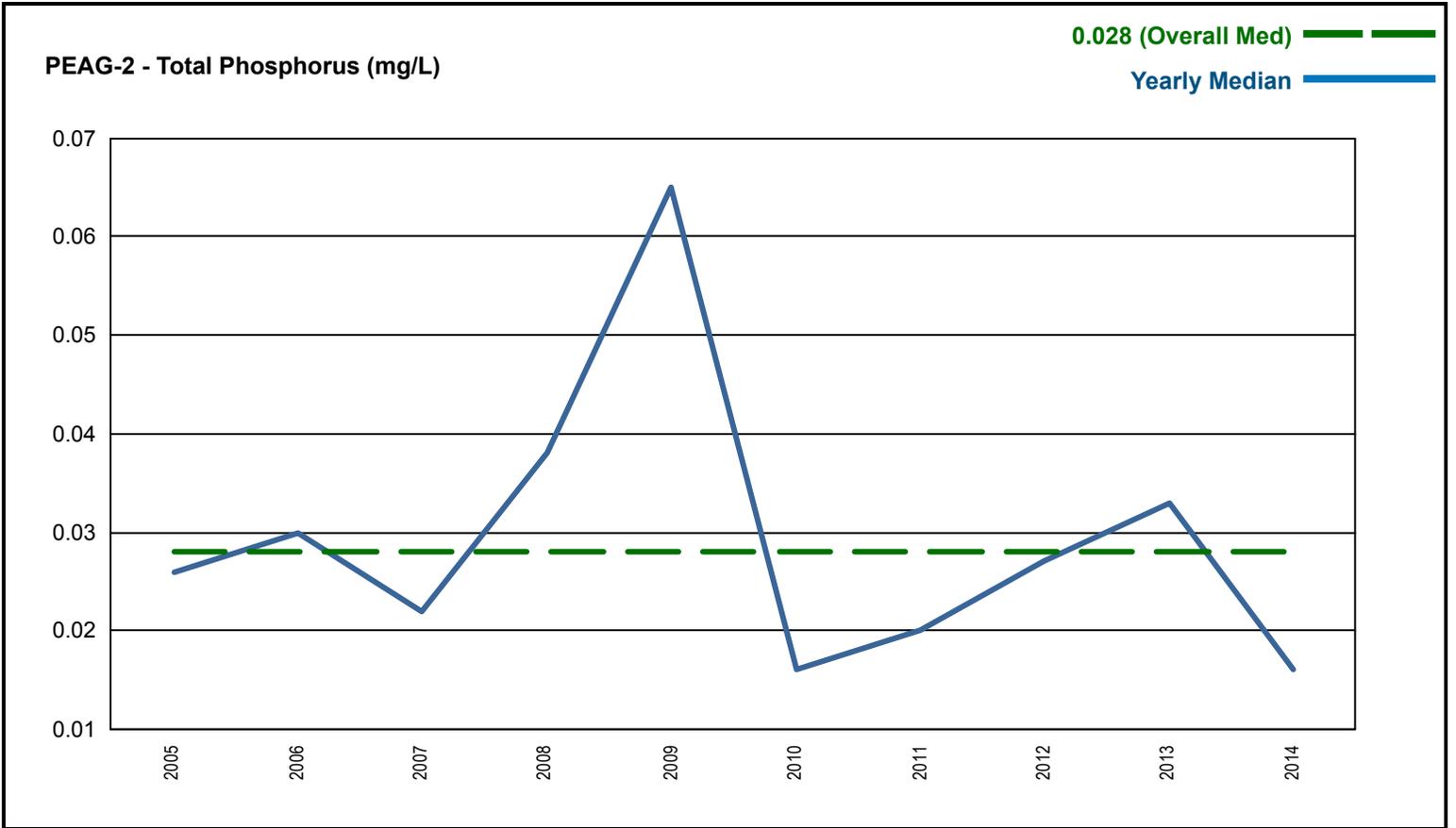
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



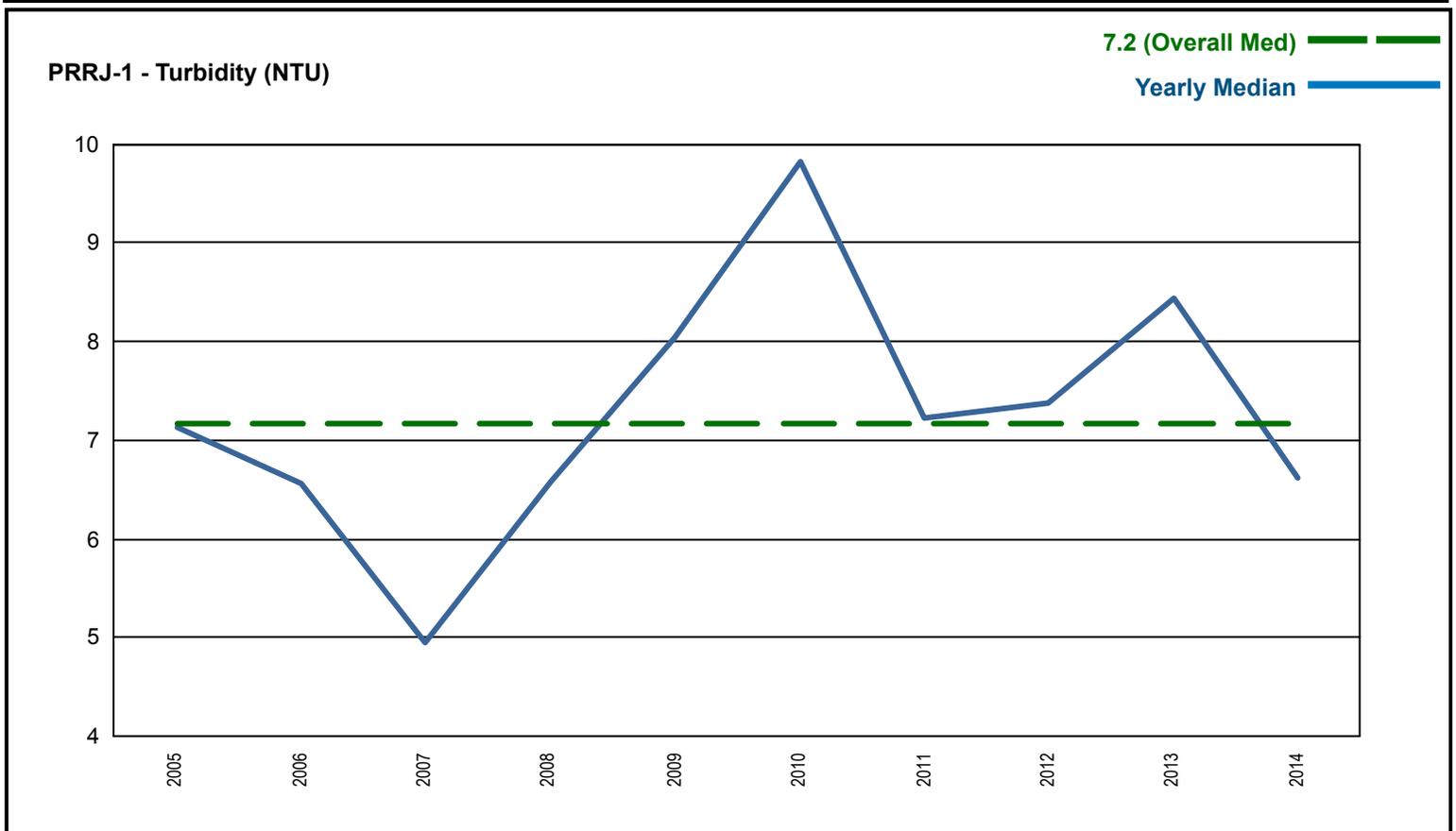
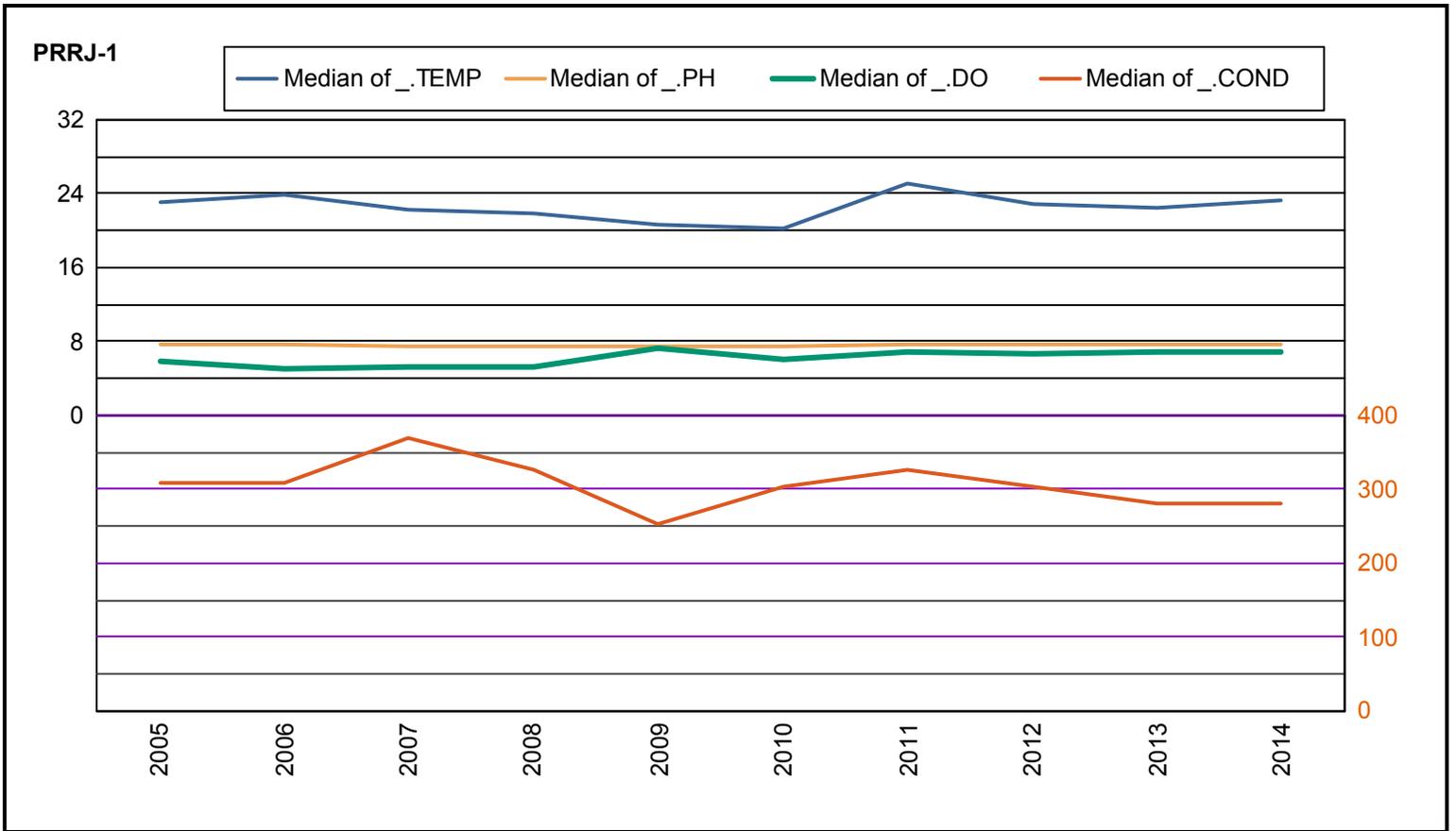
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



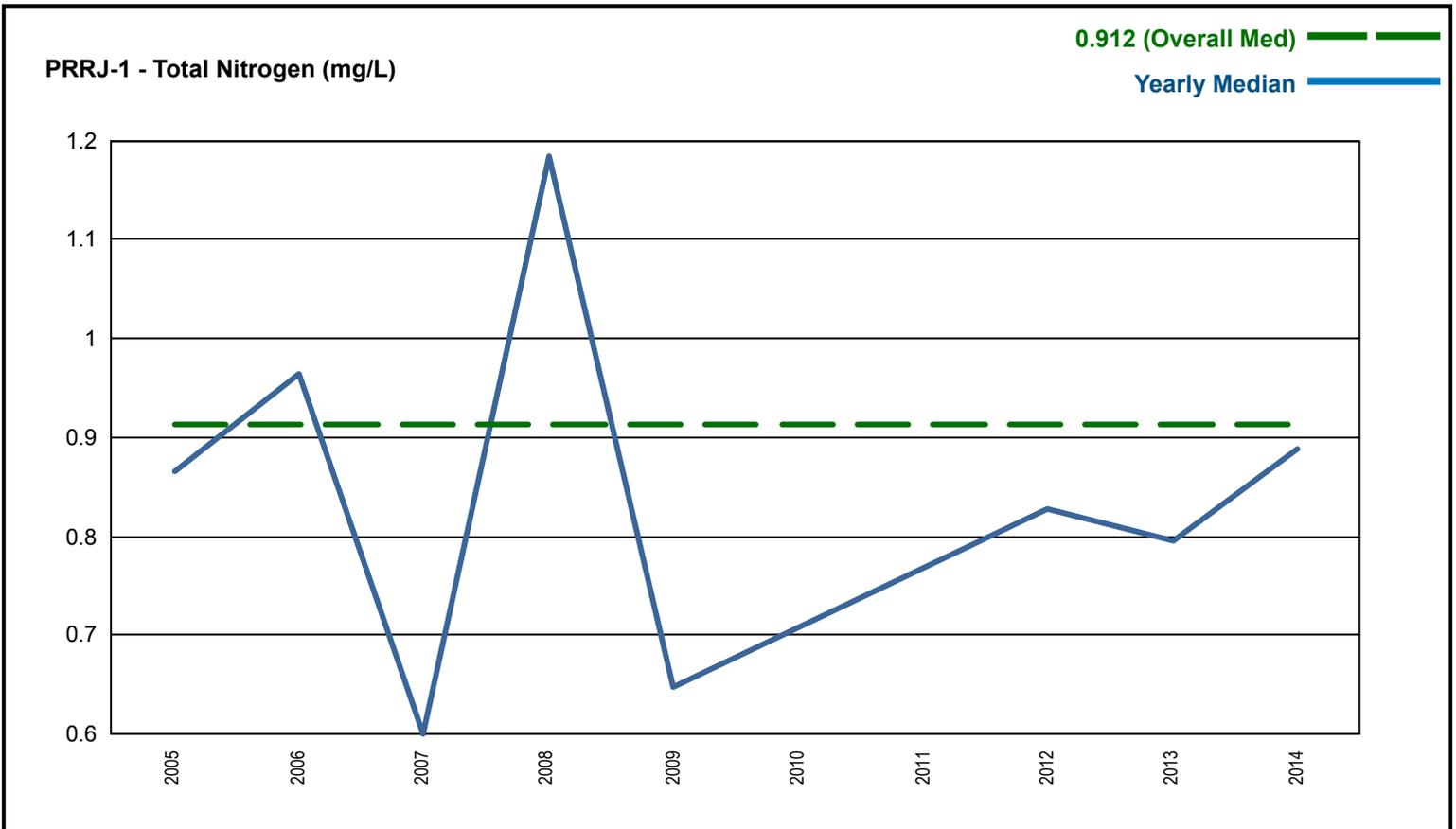
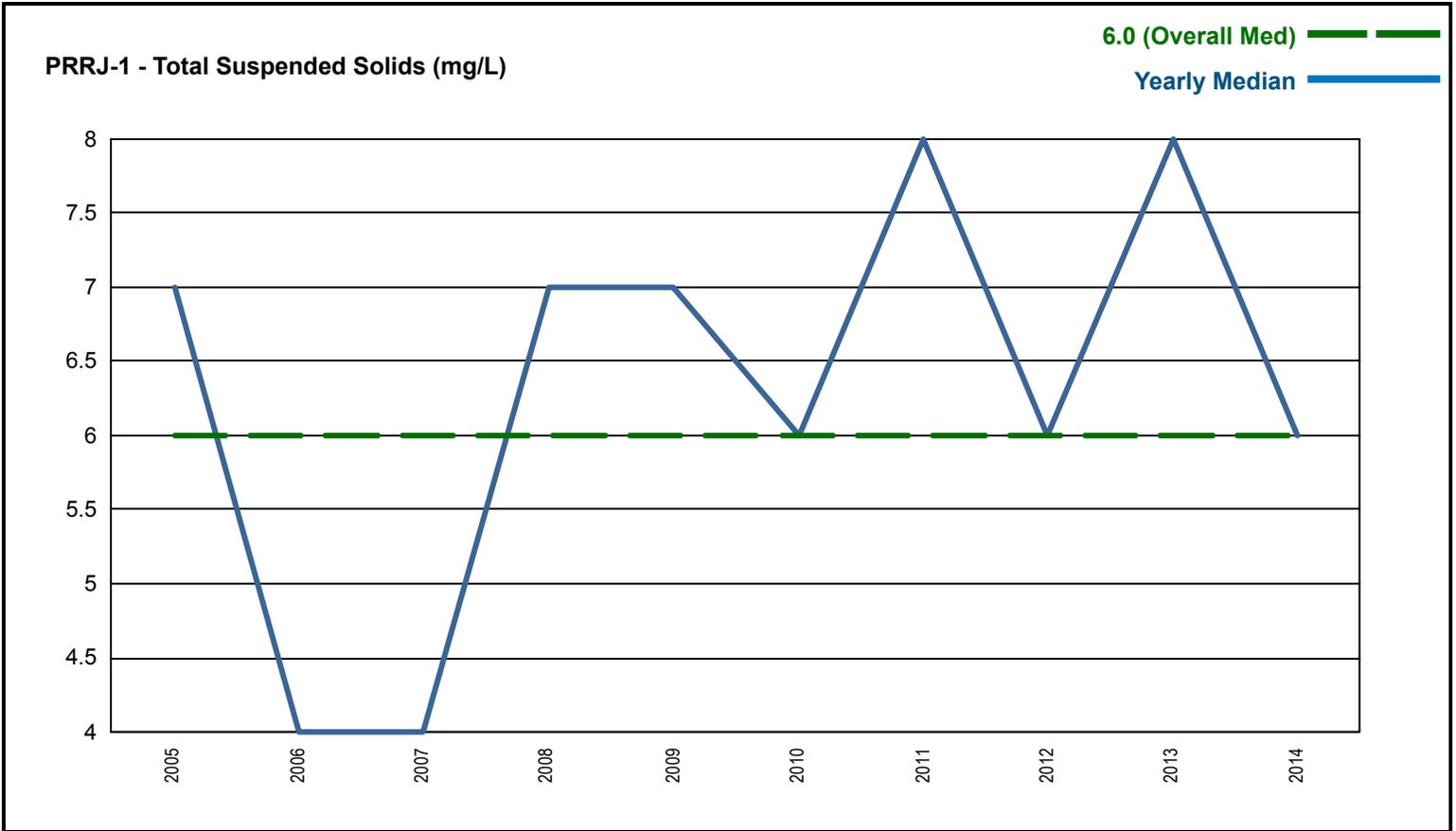
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



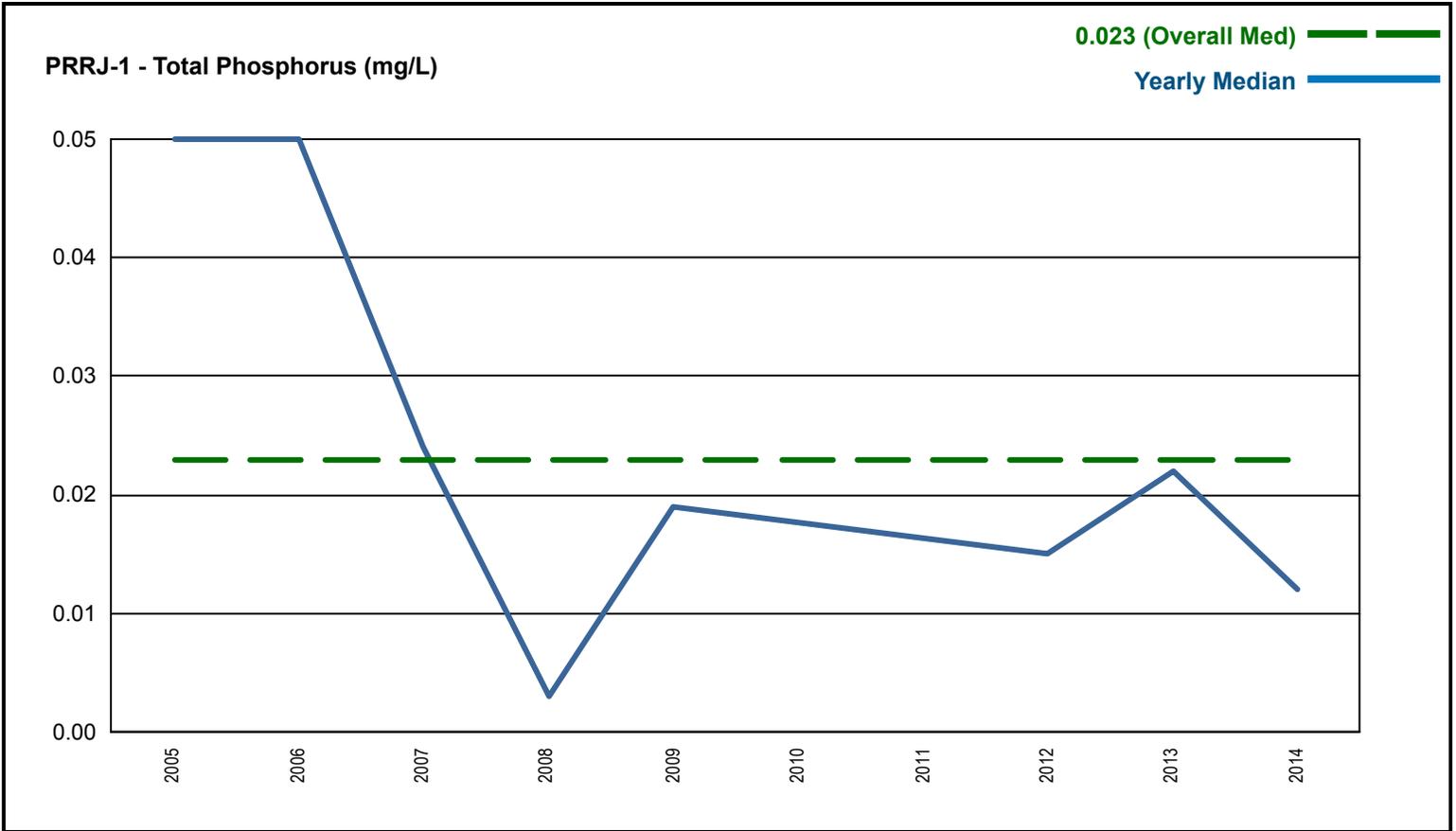
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



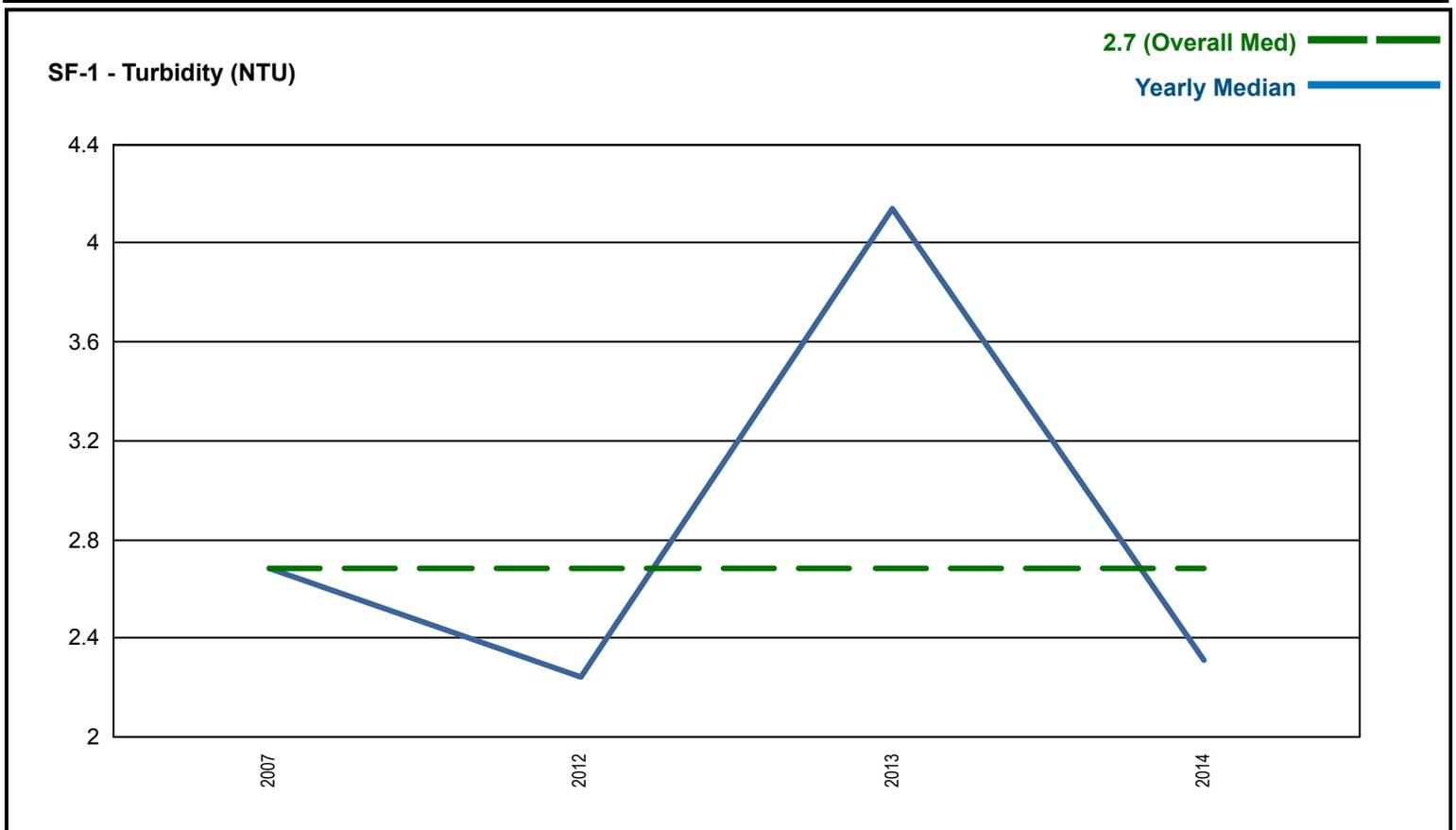
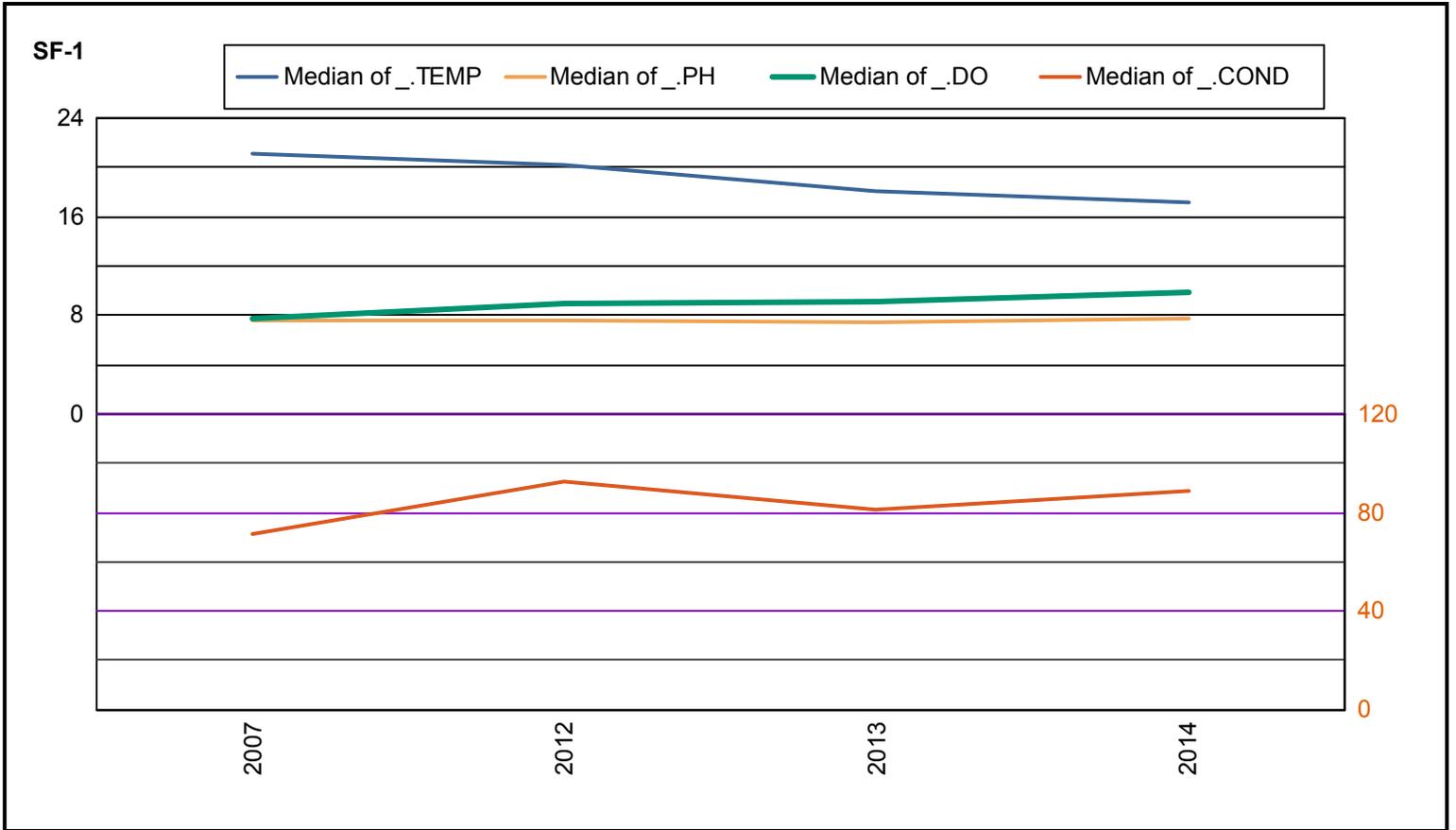
ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014

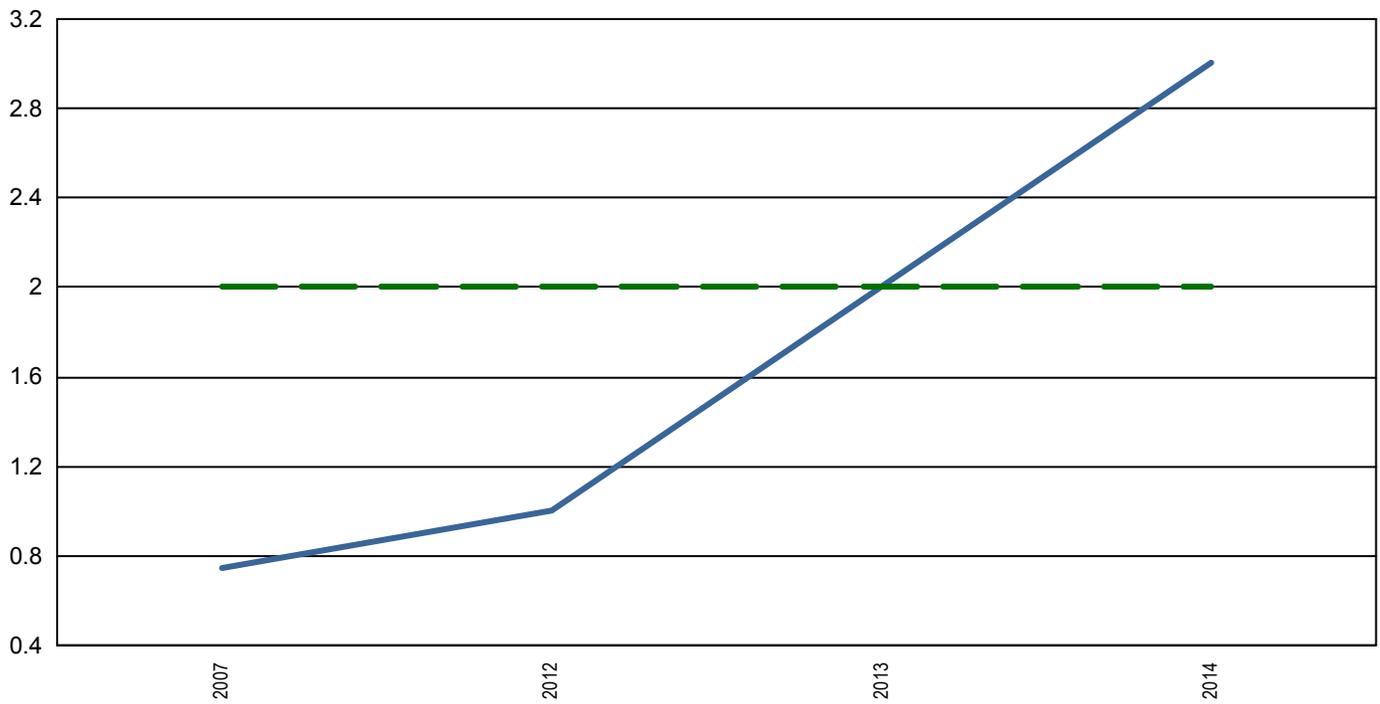


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

## SF-1 - Total Suspended Solids (mg/L)

2.0 (Overall Med) 

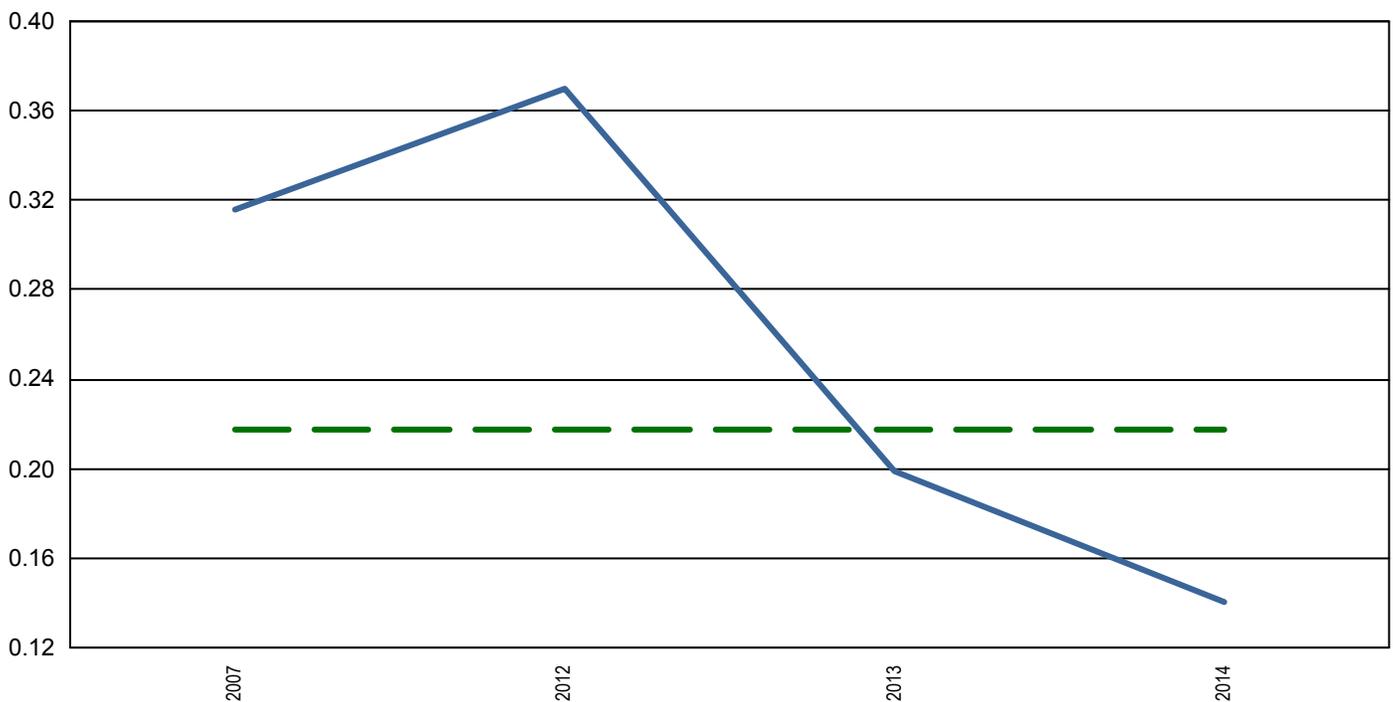
Yearly Median 



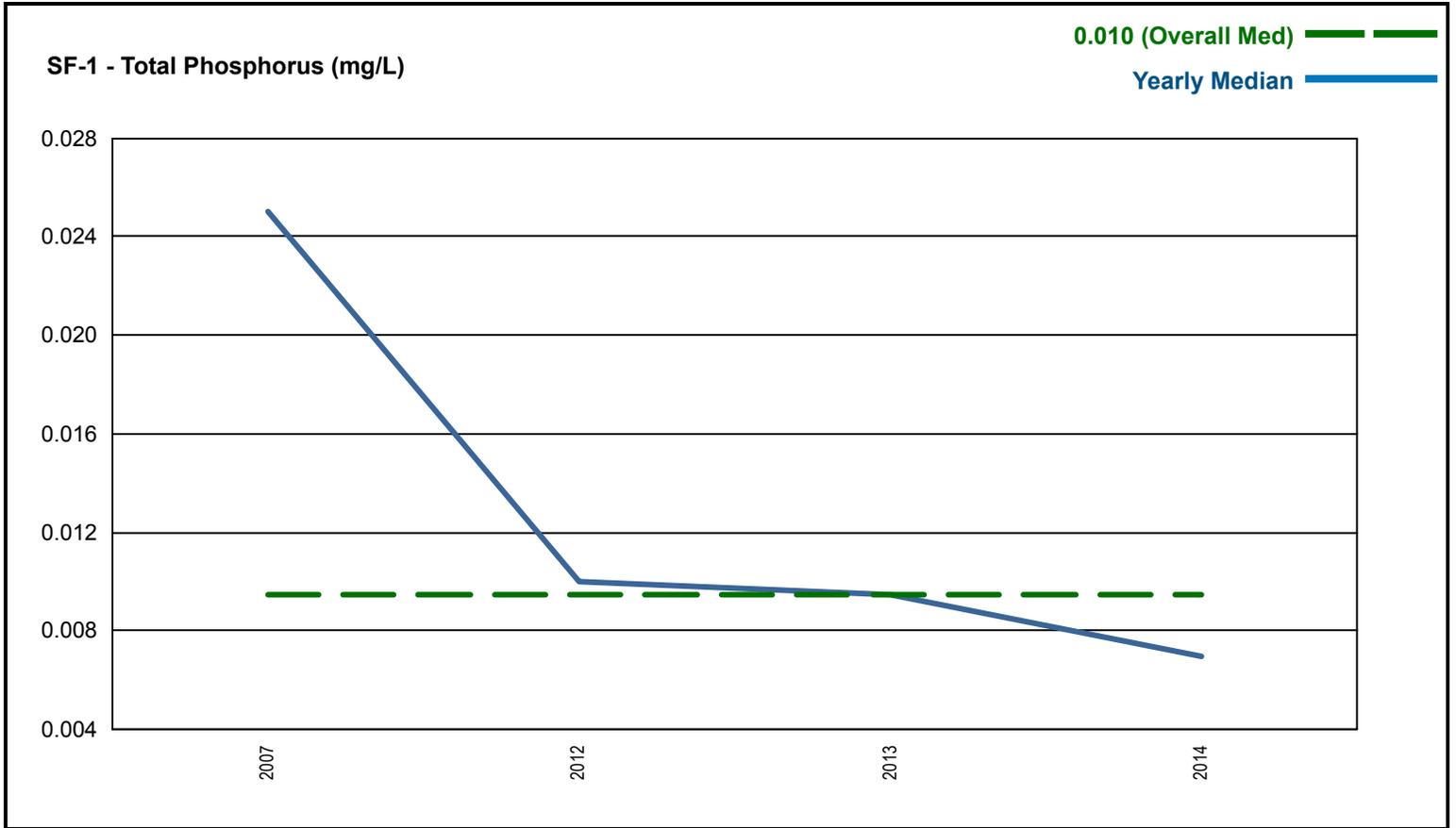
## SF-1 - Total Nitrogen (mg/L)

0.217 (Overall Med) 

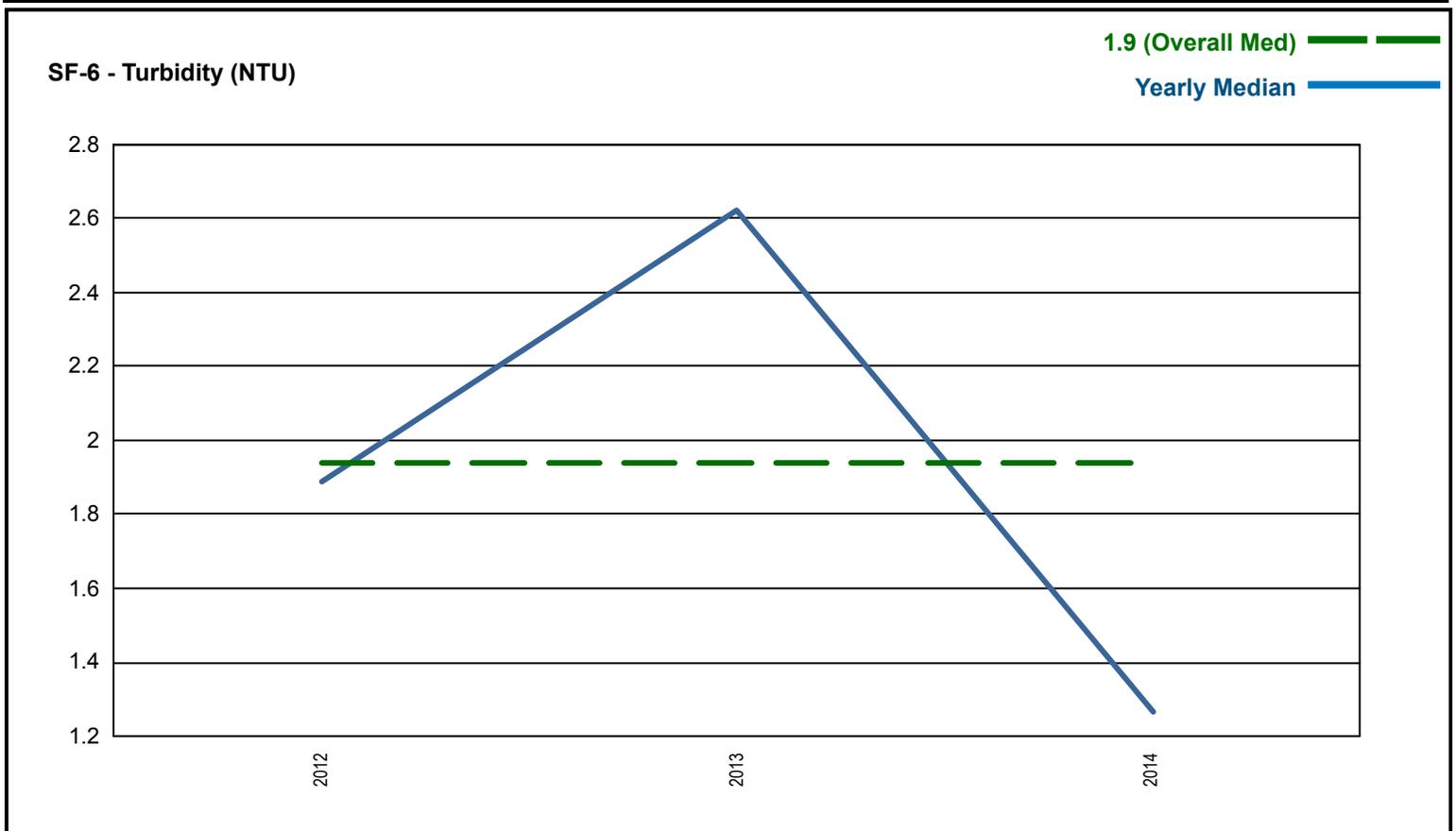
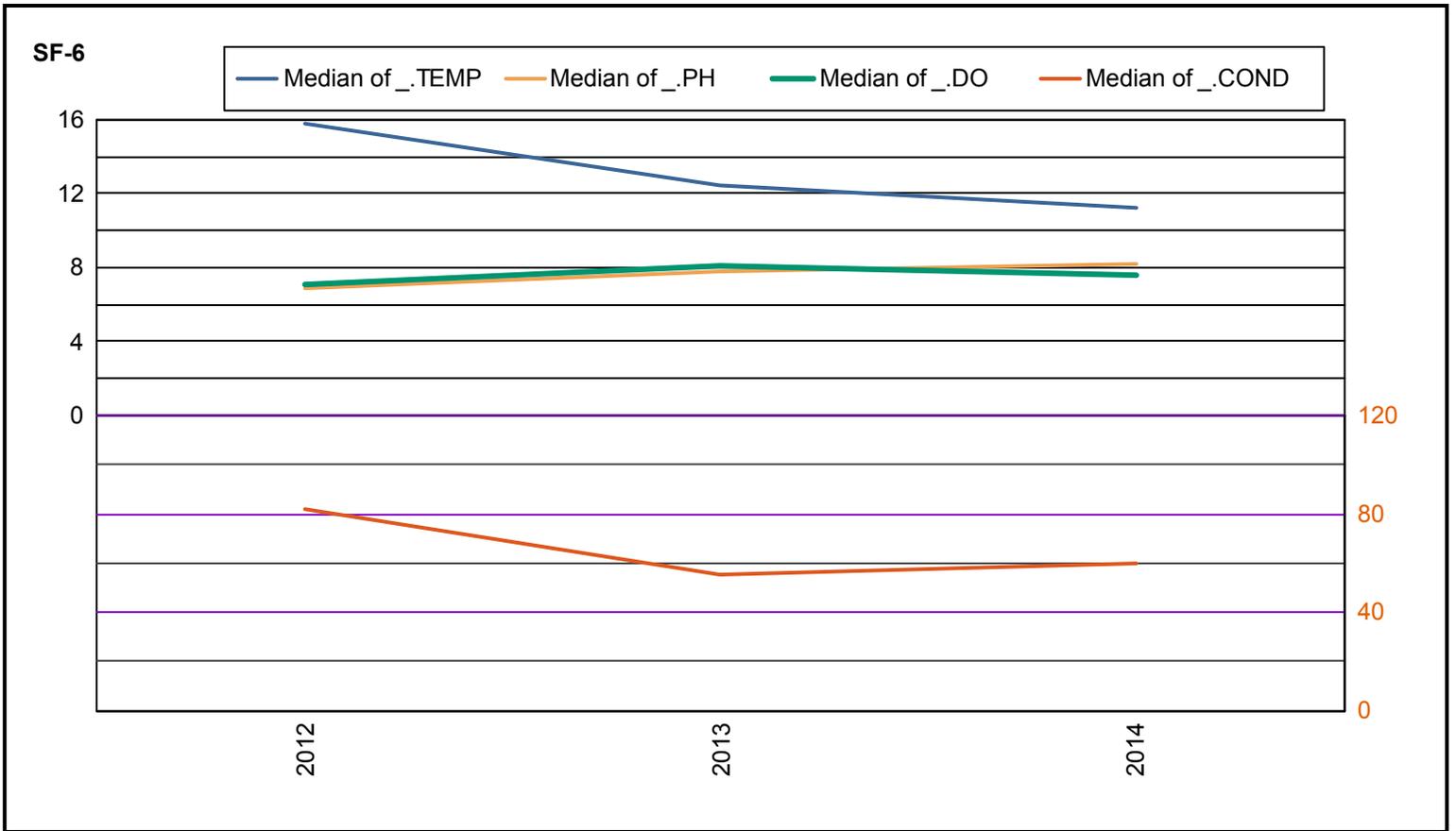
Yearly Median 



ADEM Ambient Trend Stations - Sampled 1977 - 2014



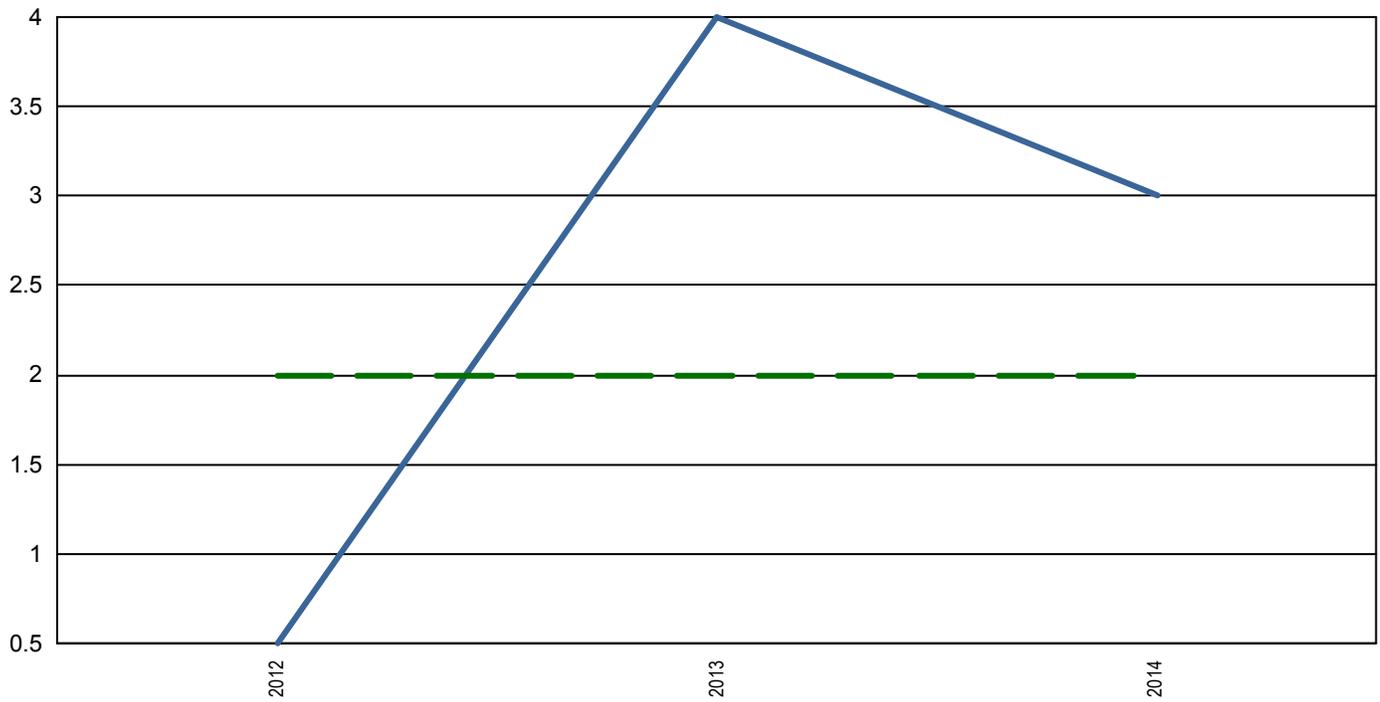
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

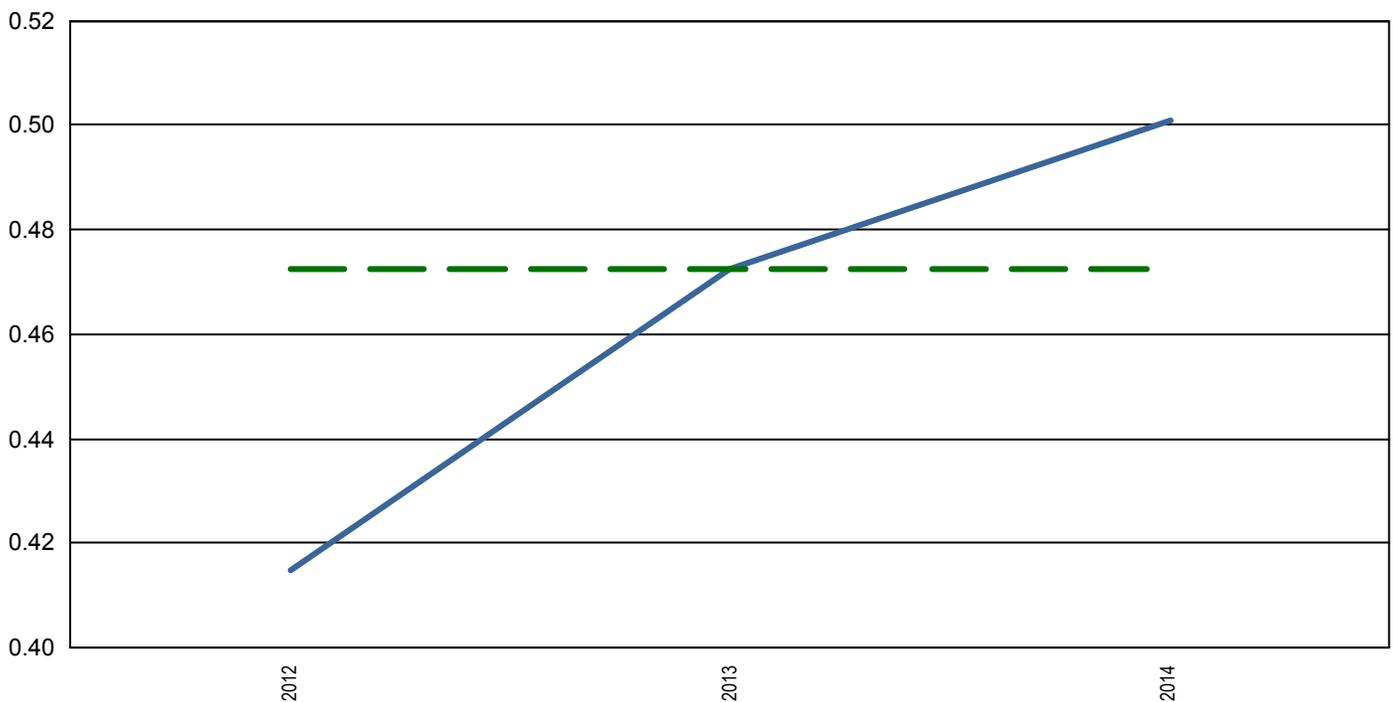
## SF-6 - Total Suspended Solids (mg/L)

2.0 (Overall Med)   
Yearly Median 

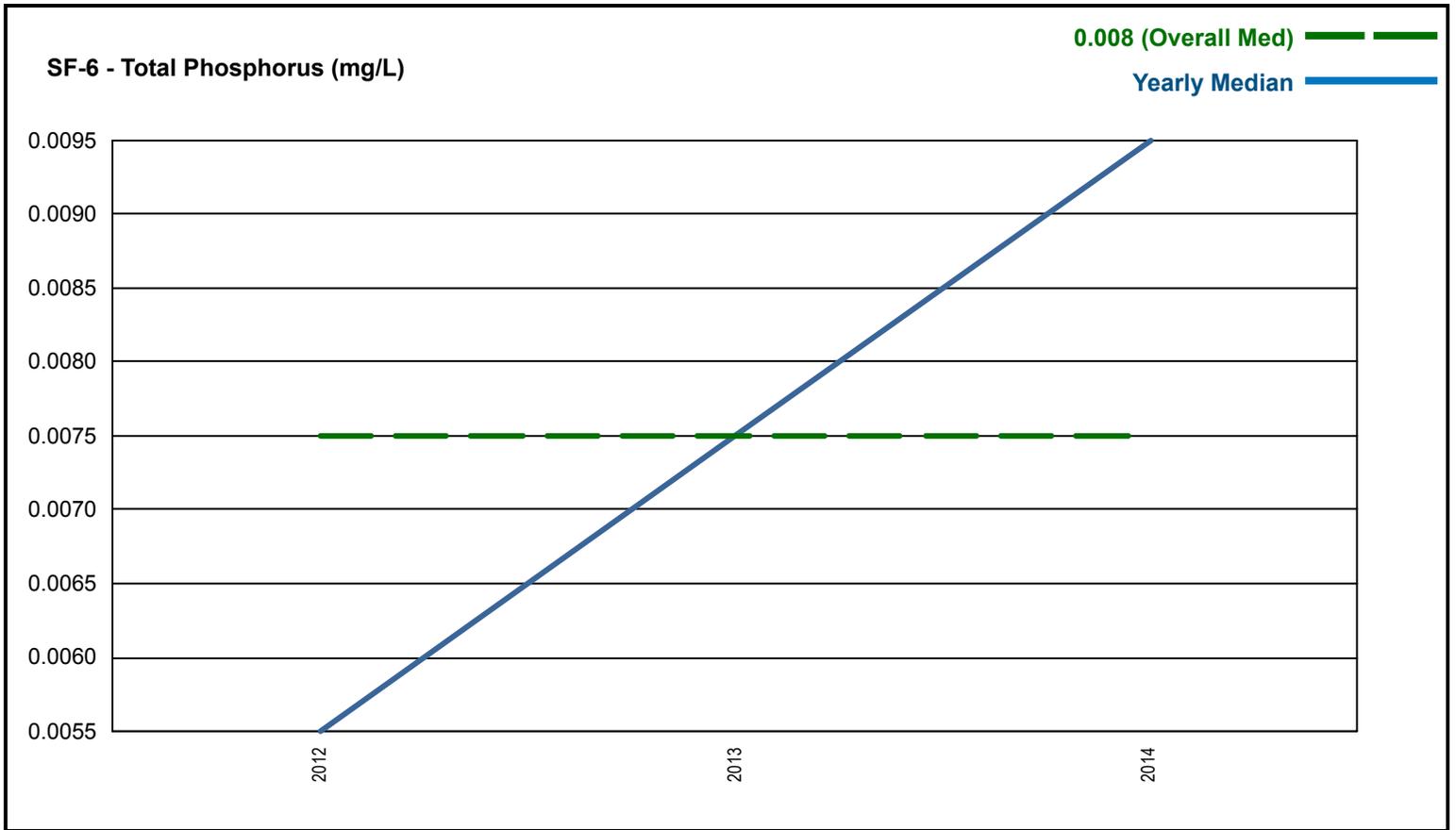


## SF-6 - Total Nitrogen (mg/L)

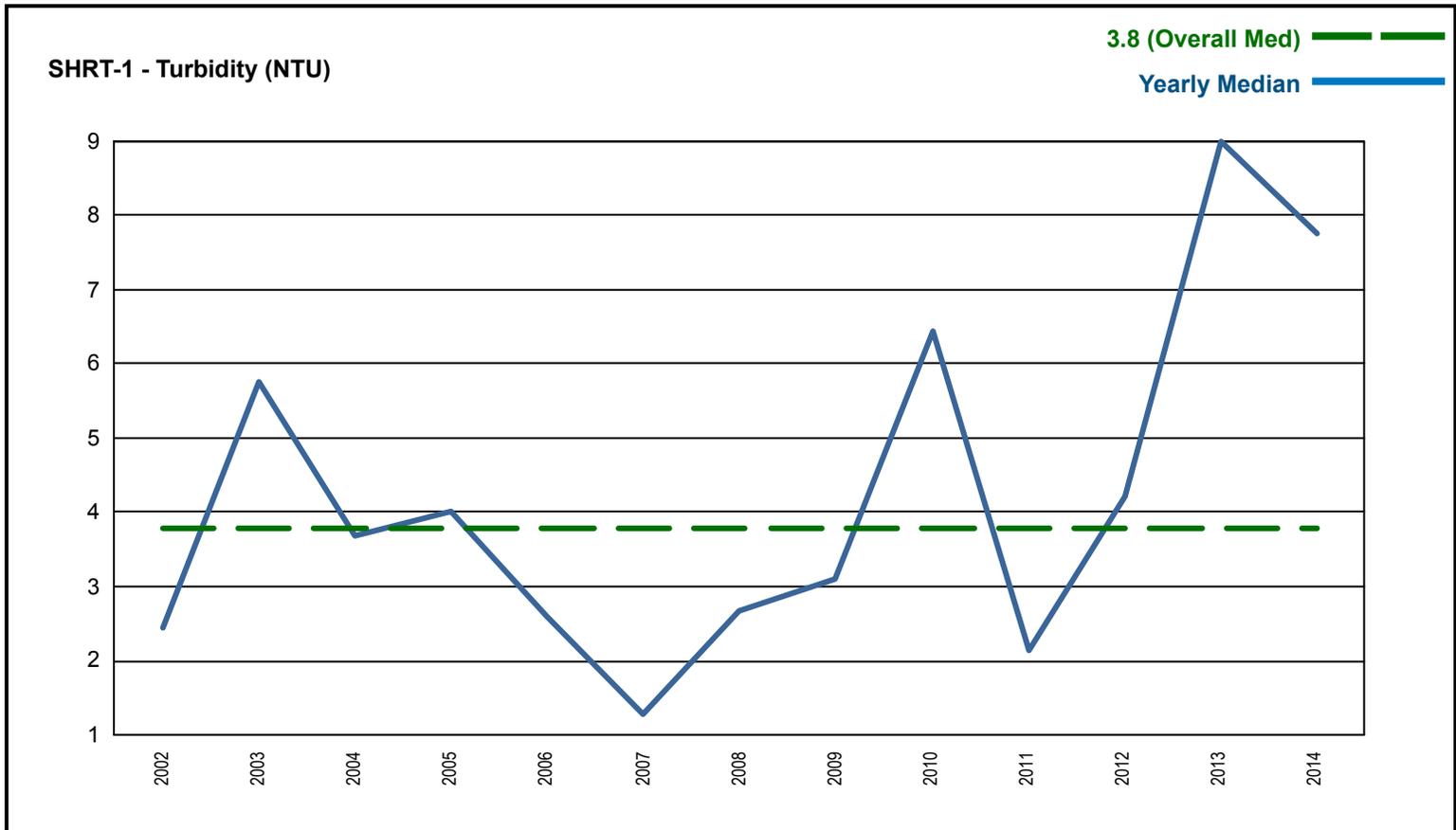
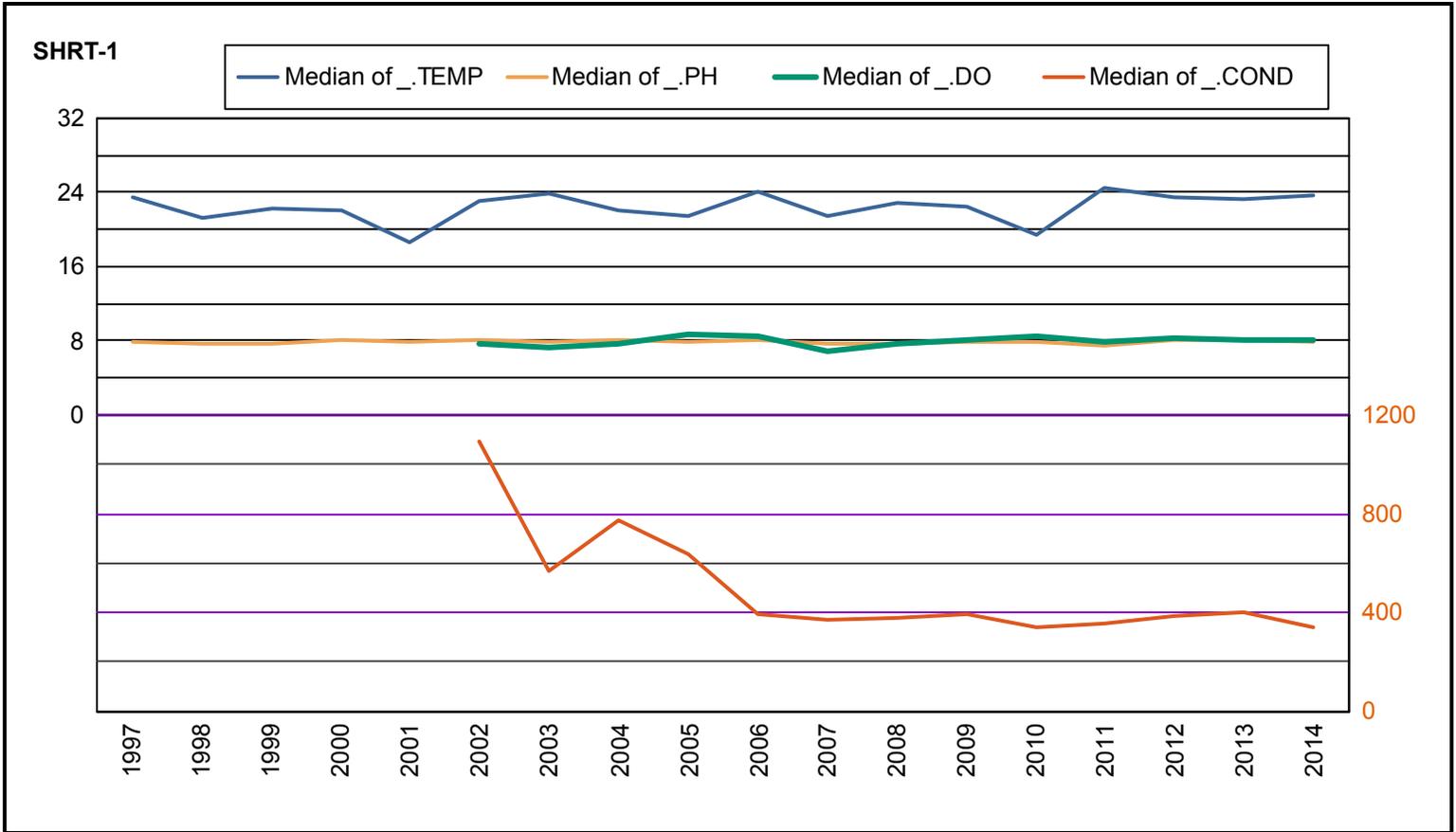
0.472 (Overall Med)   
Yearly Median 



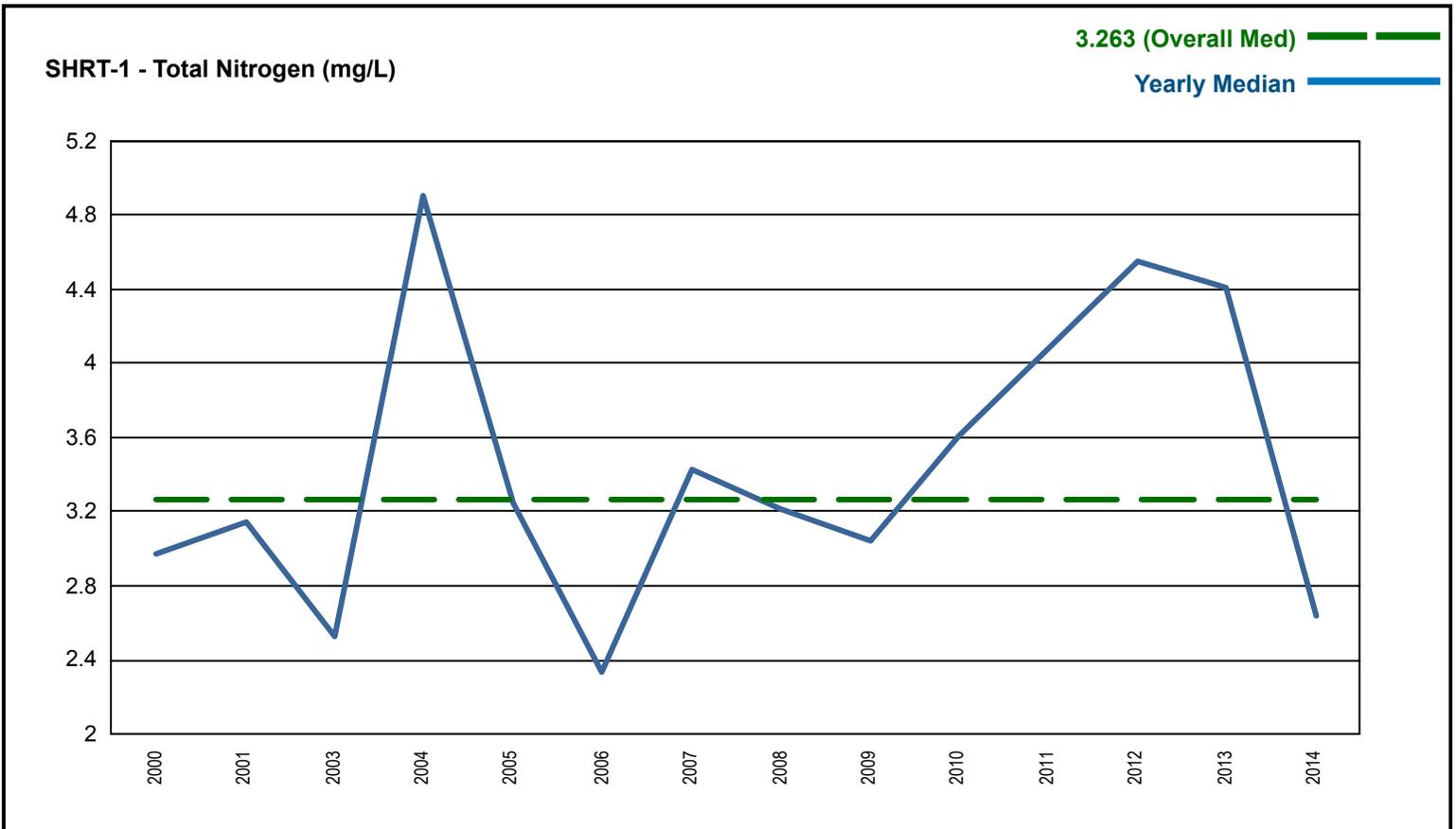
ADEM Ambient Trend Stations - Sampled 1977 - 2014



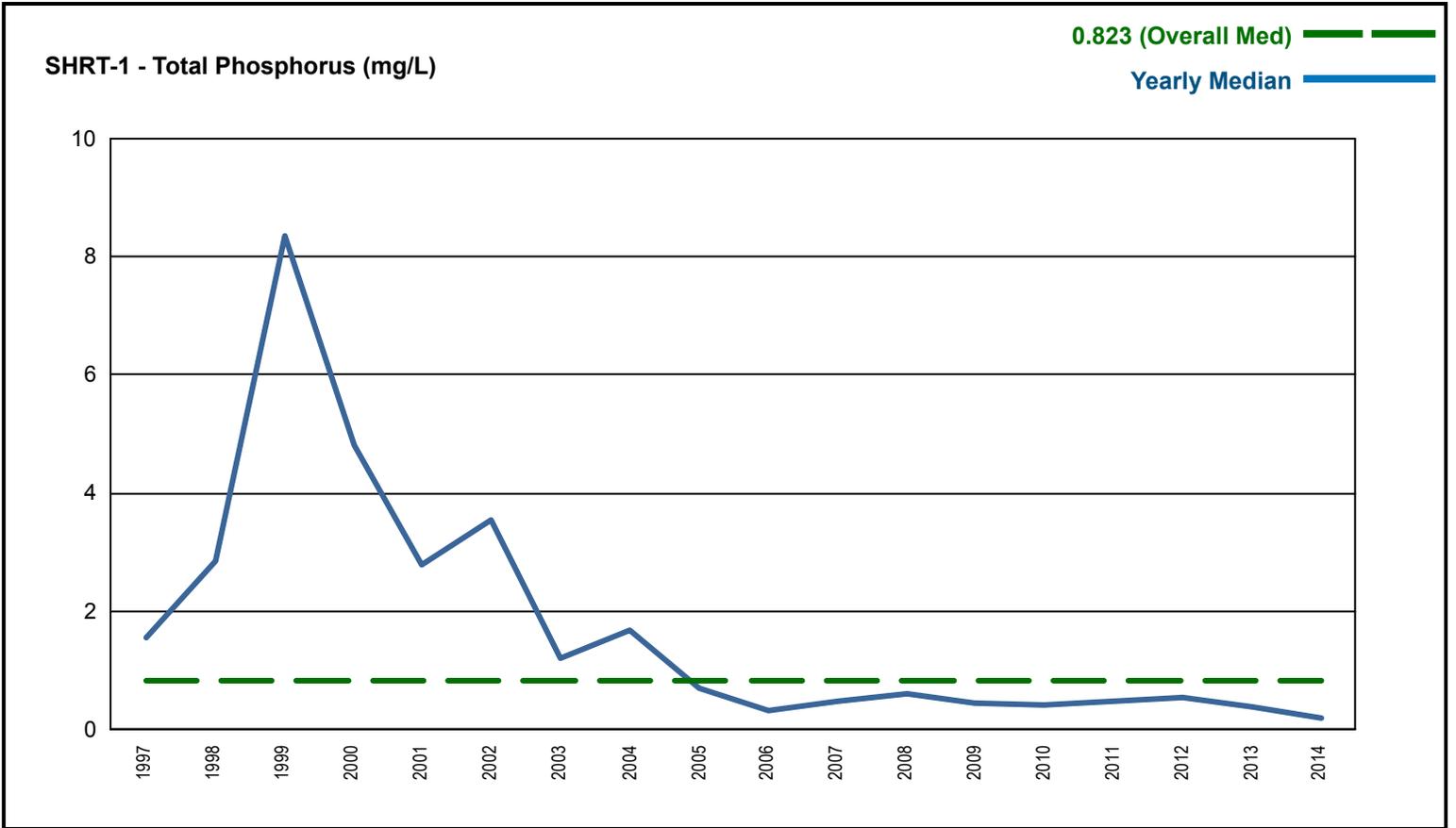
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



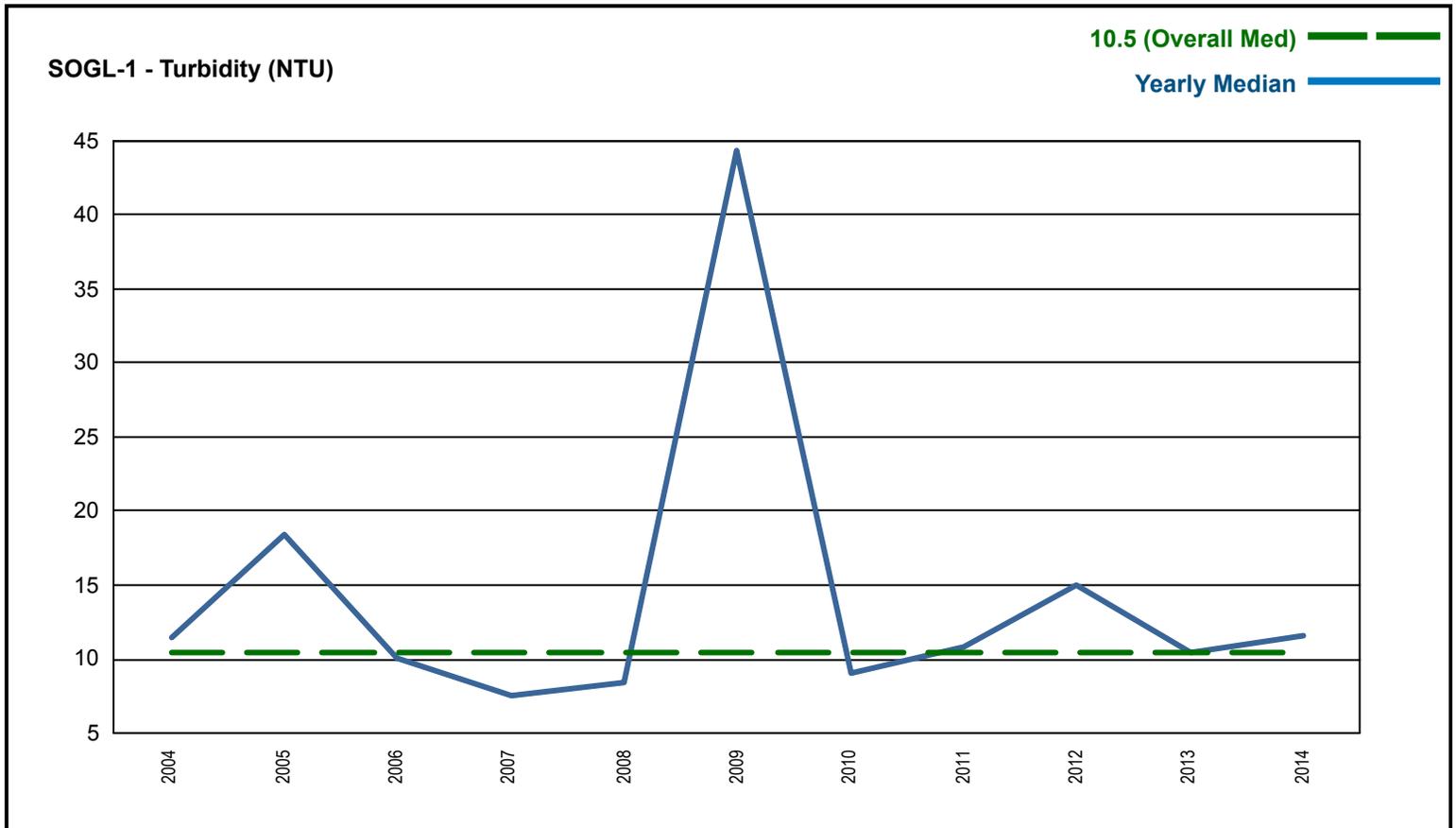
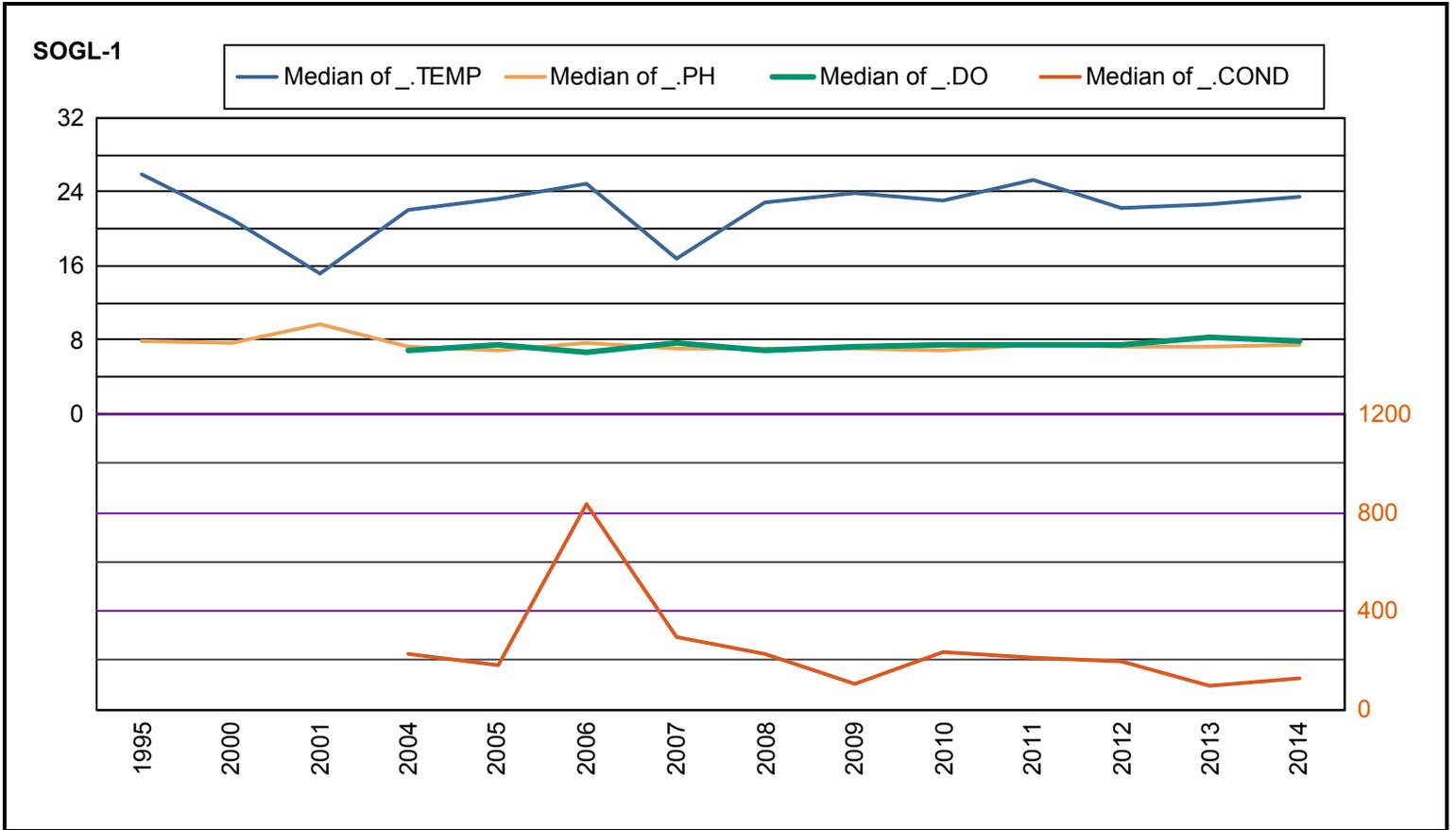
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



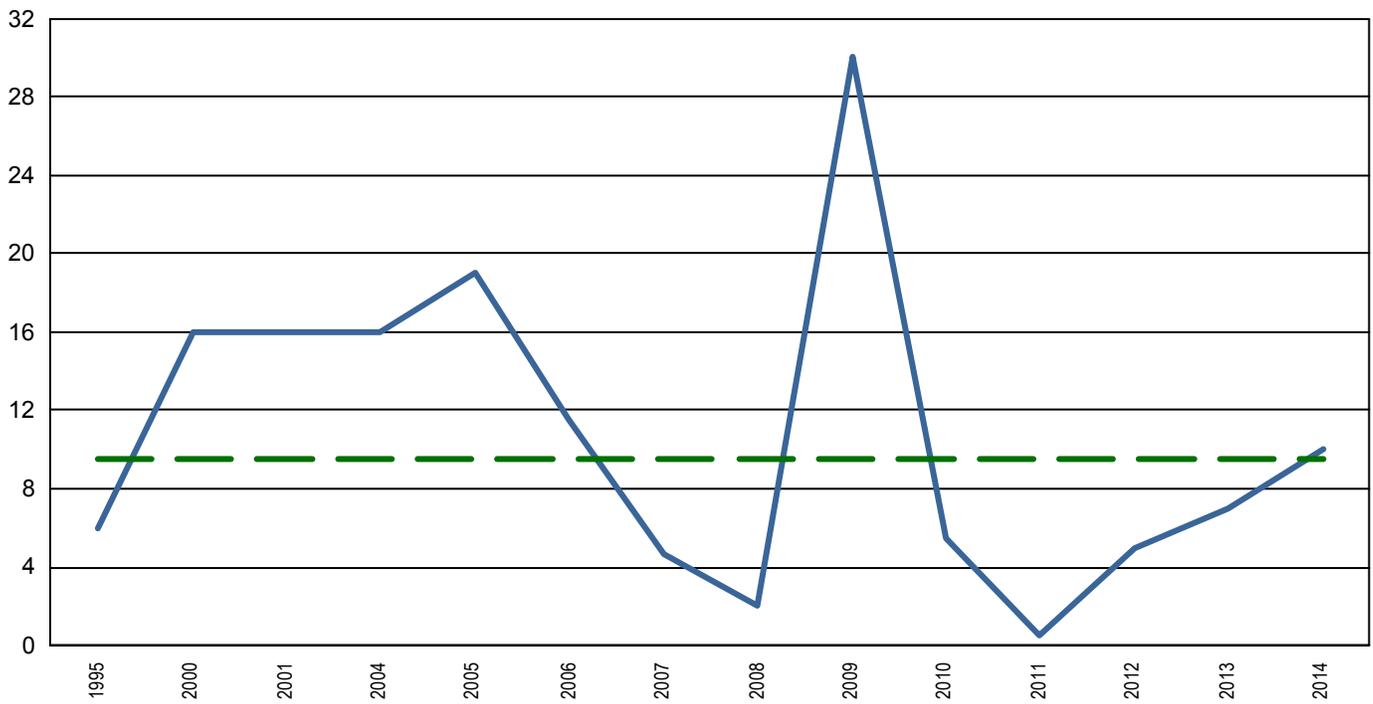
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

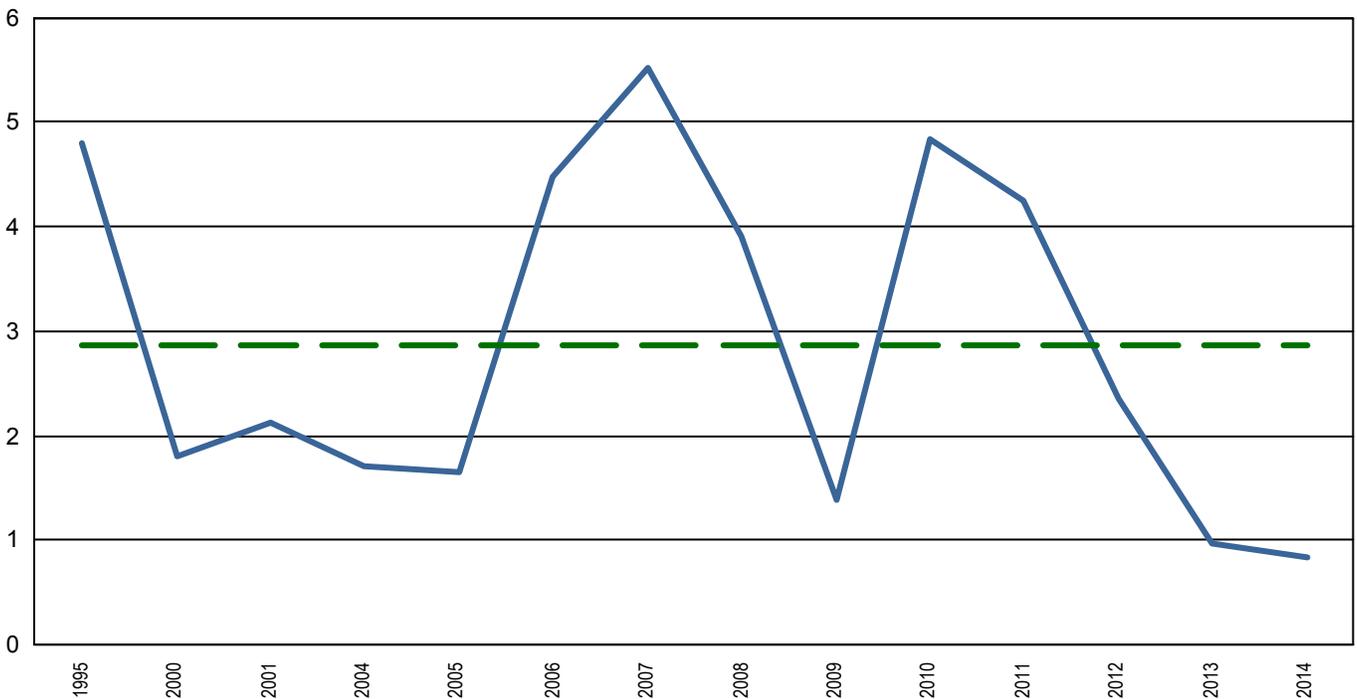
## SOGL-1 - Total Suspended Solids (mg/L)

9.5 (Overall Med)   
Yearly Median 



## SOGL-1 - Total Nitrogen (mg/L)

2.862 (Overall Med)   
Yearly Median 

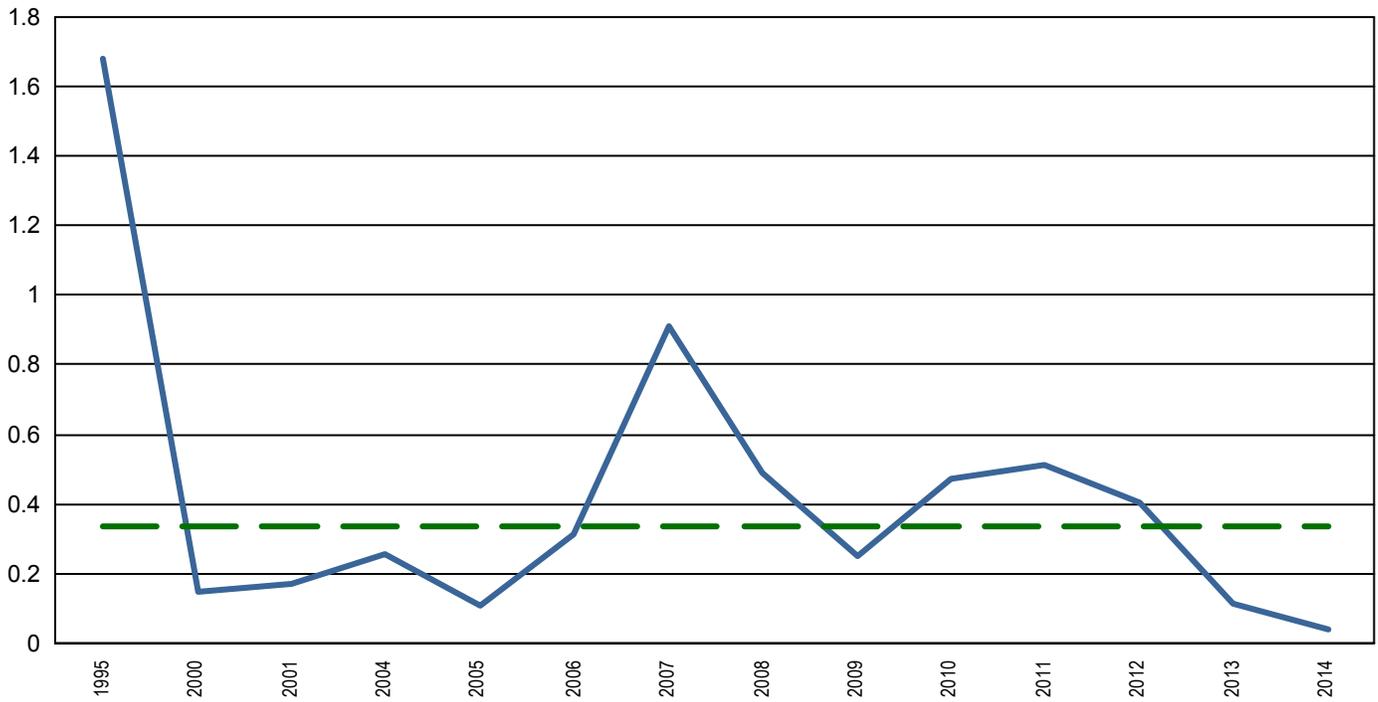


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

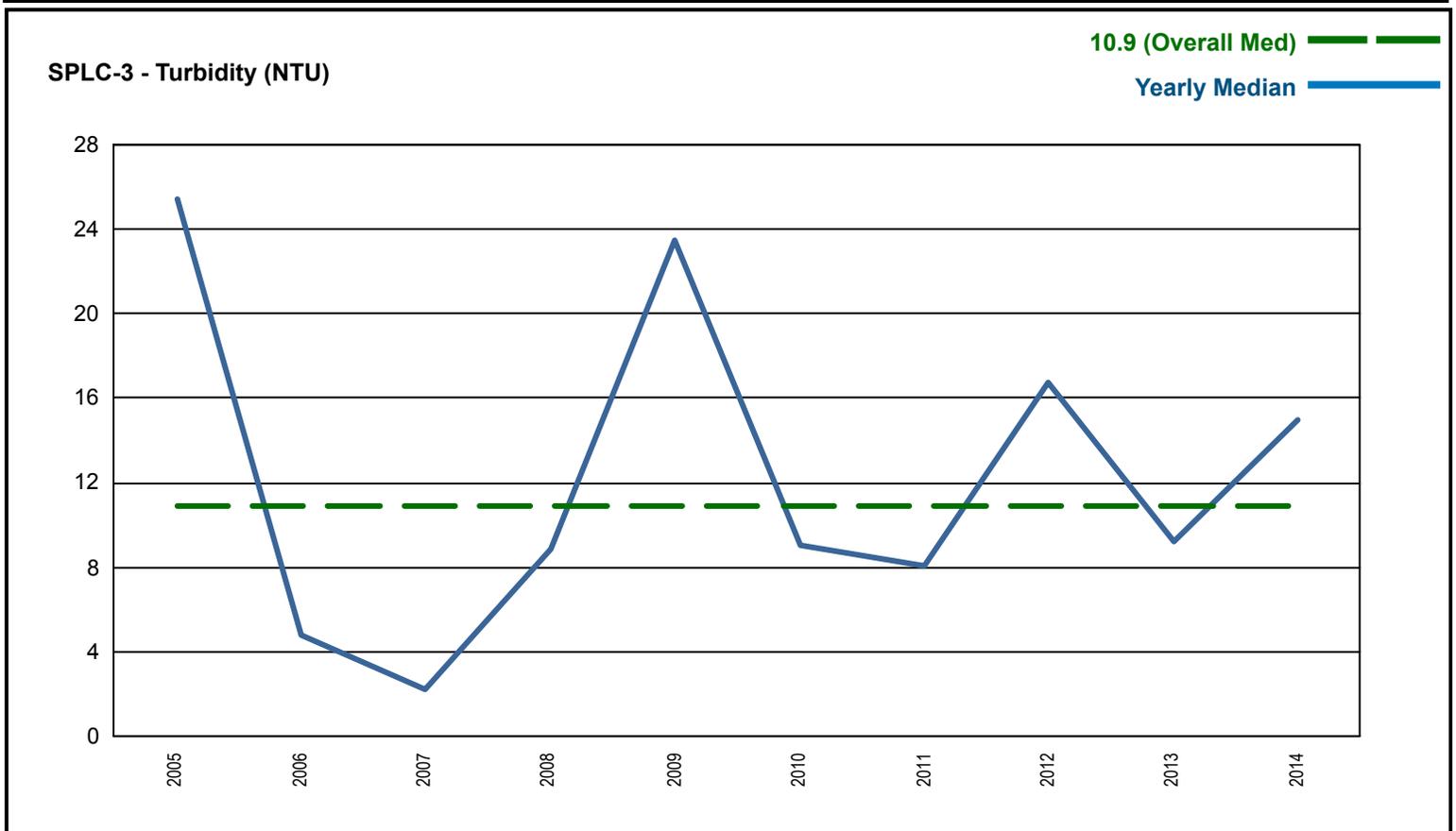
SOGL-1 - Total Phosphorus (mg/L)

0.338 (Overall Med) 

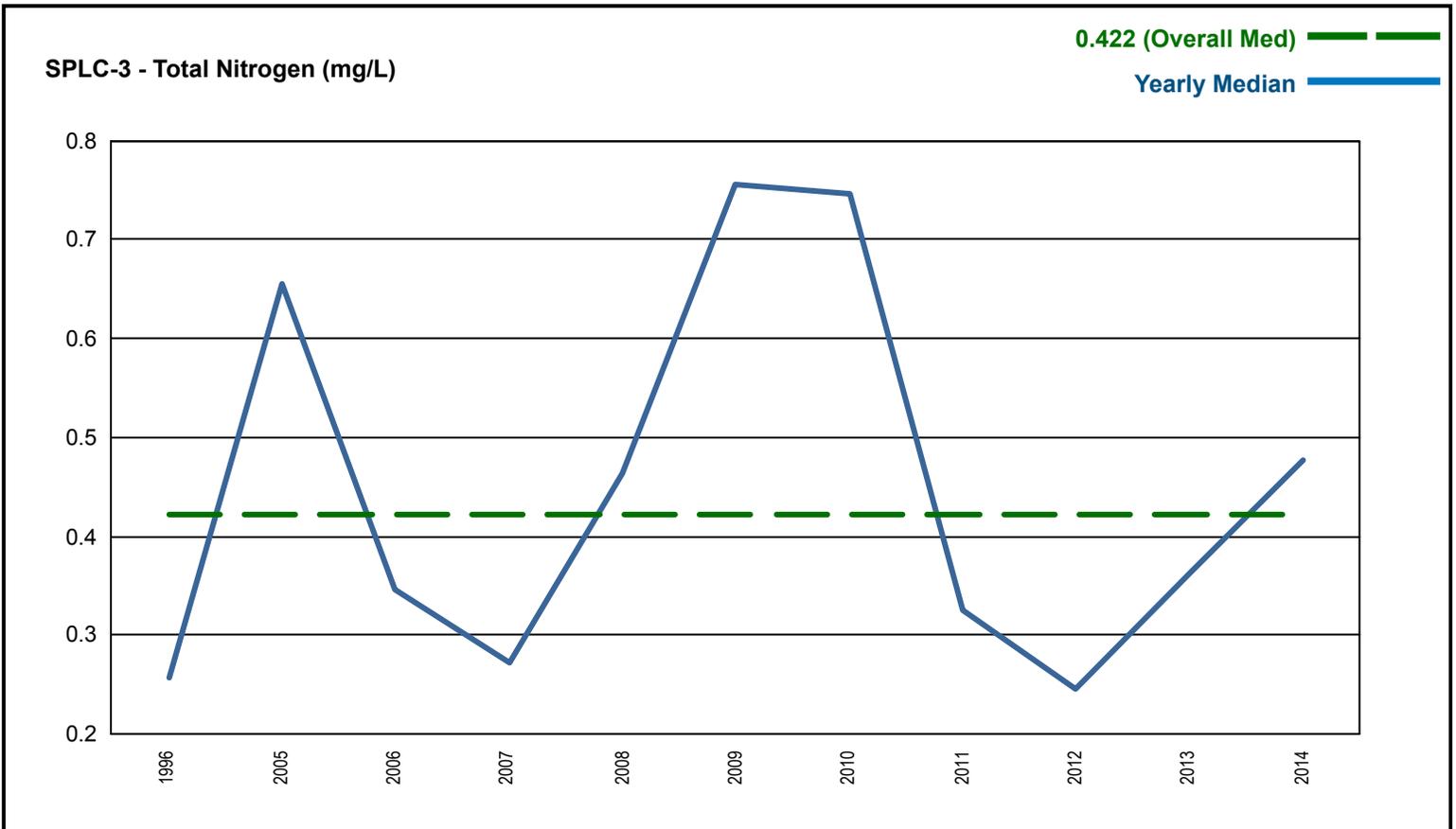
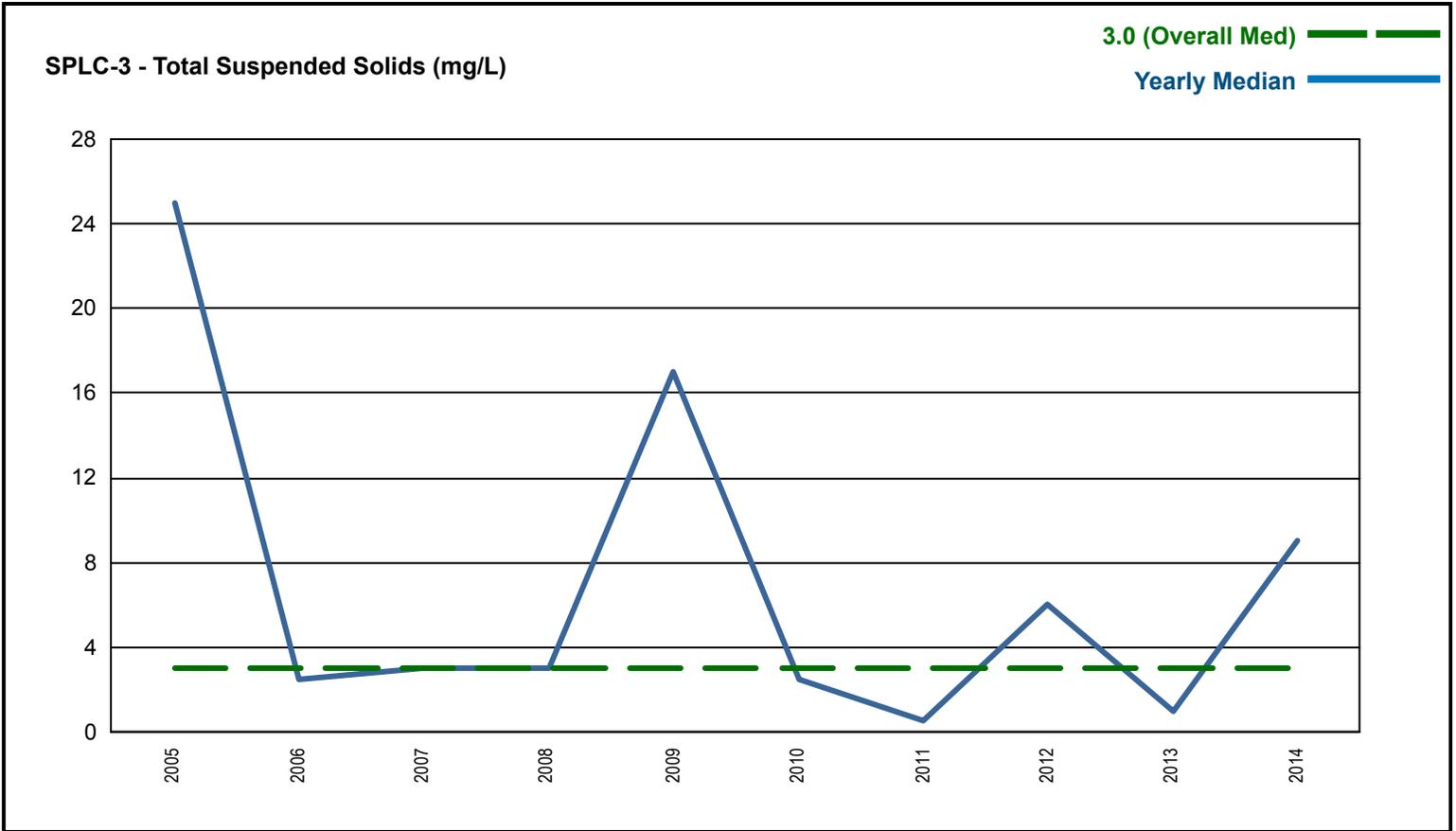
Yearly Median 



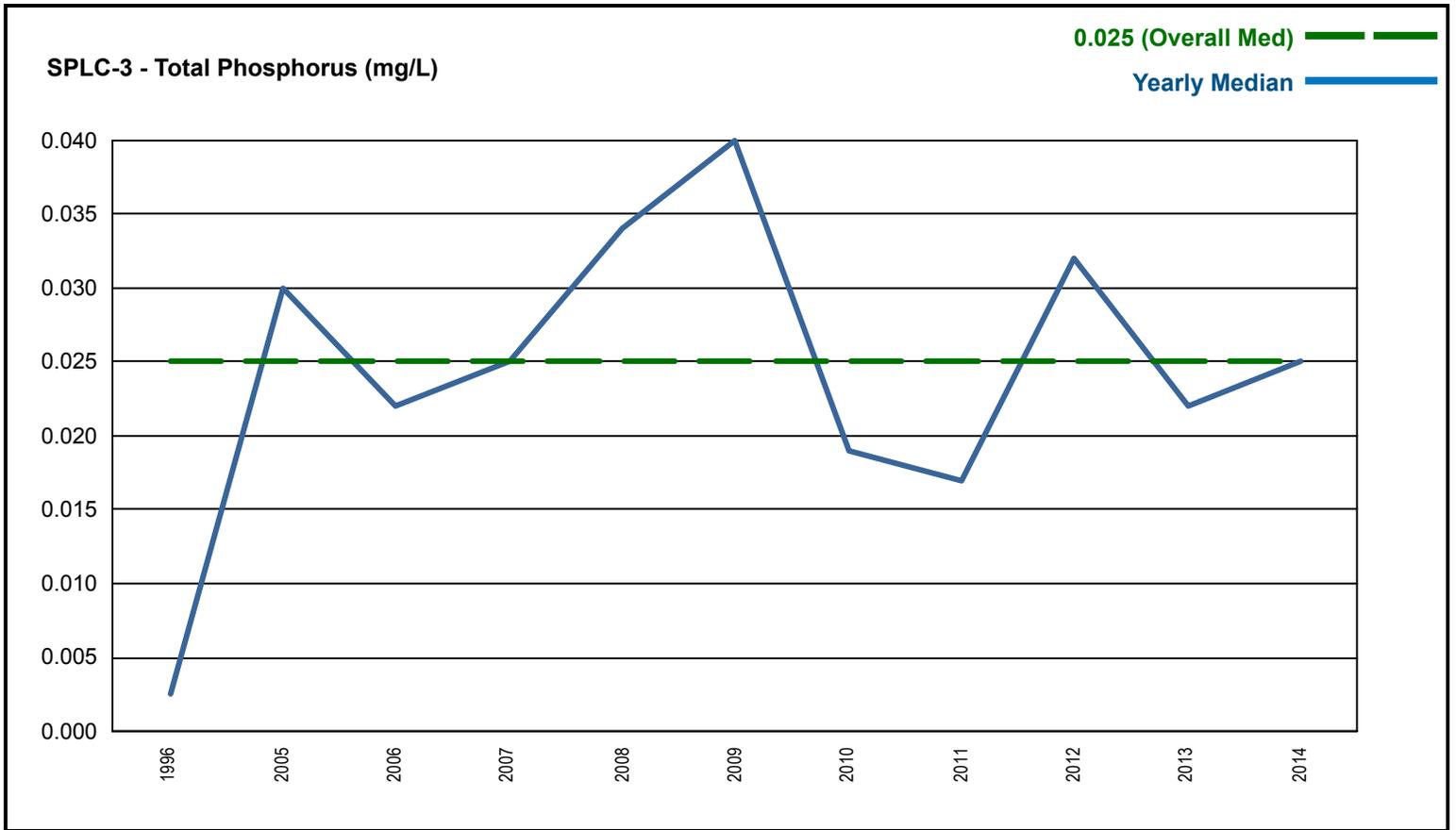
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



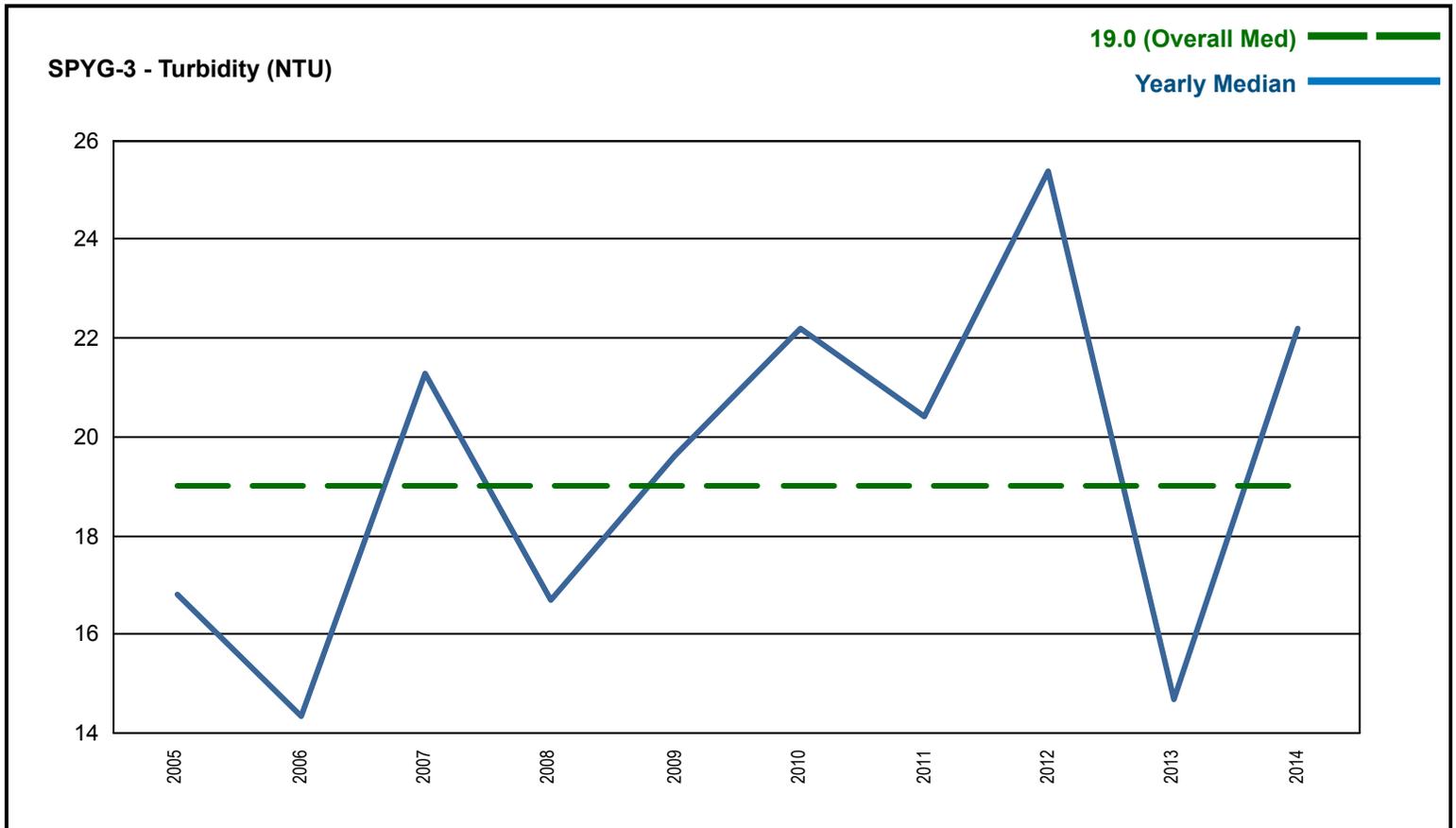
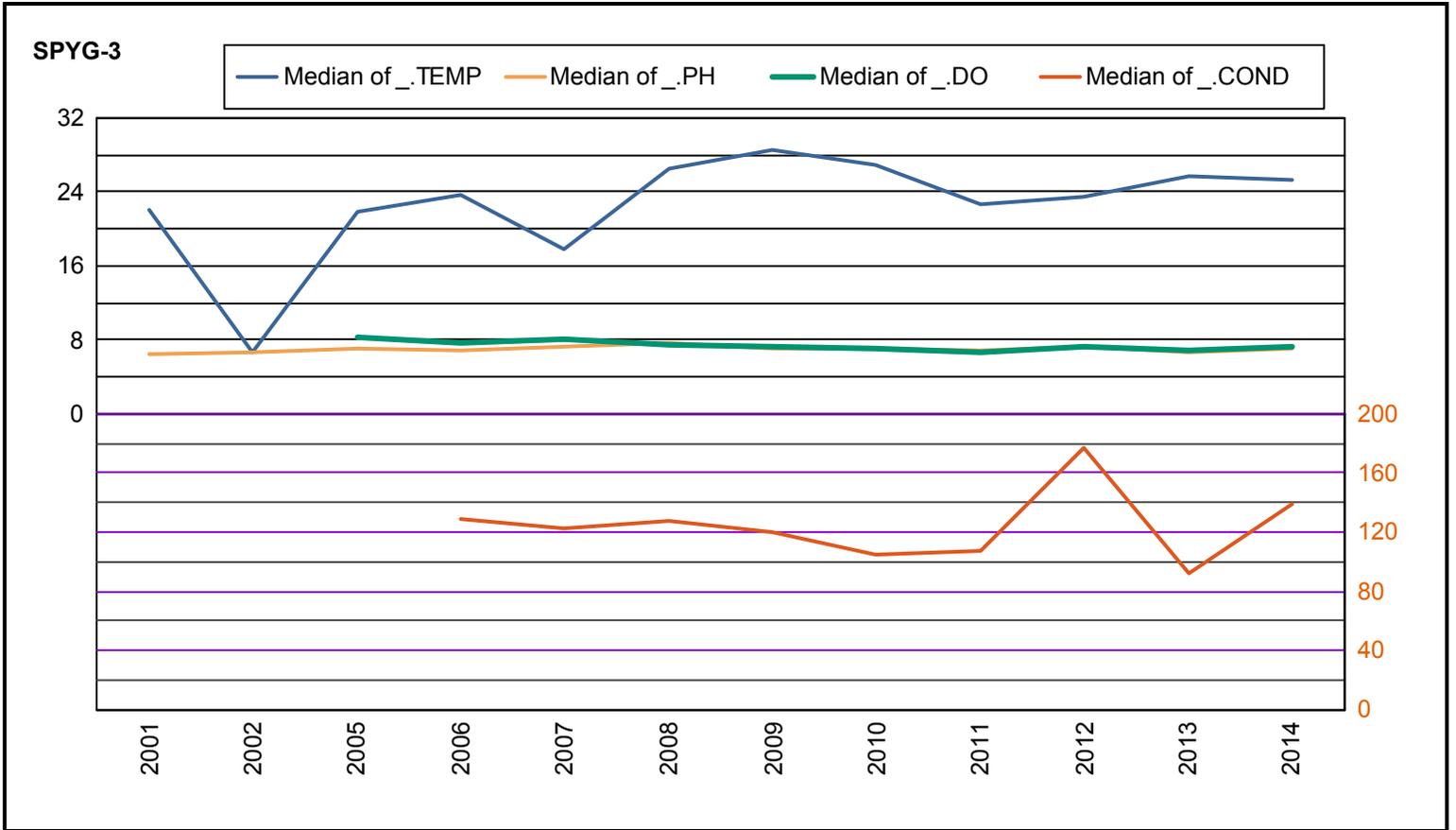
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014

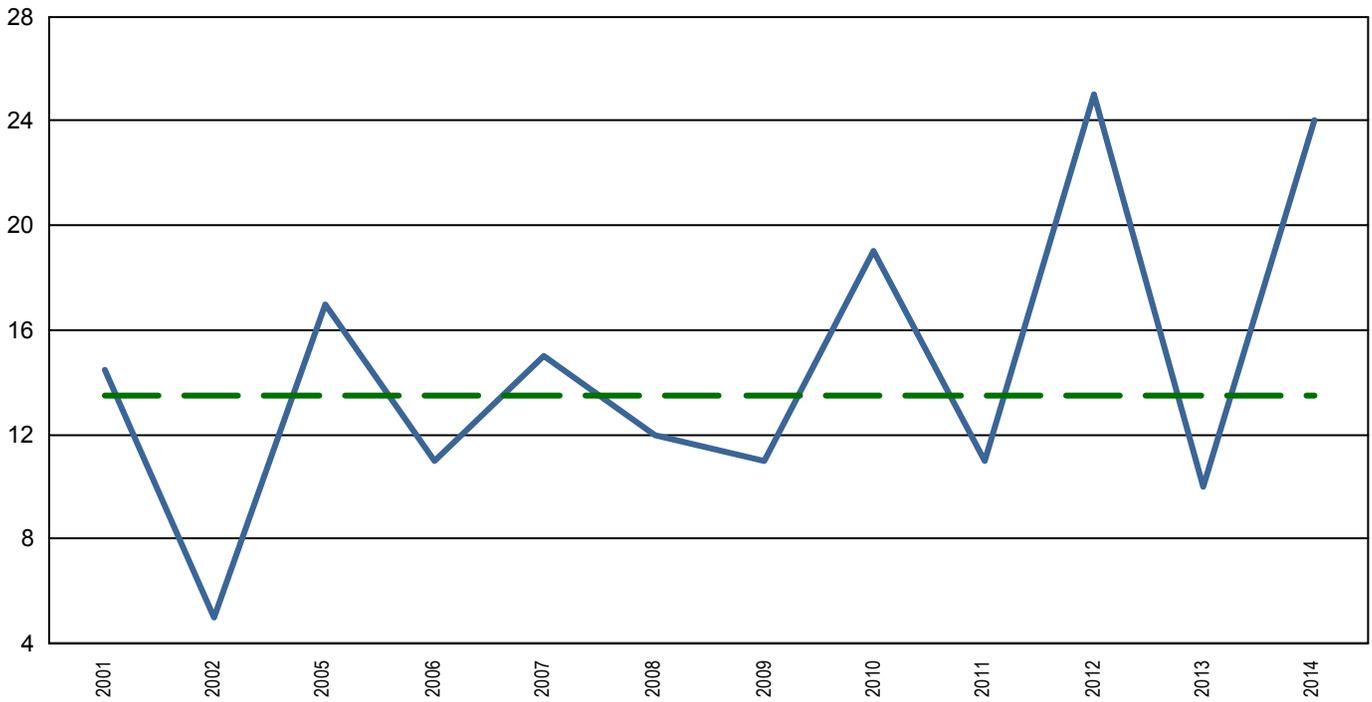


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

## SPYG-3 - Total Suspended Solids (mg/L)

13.5 (Overall Med) 

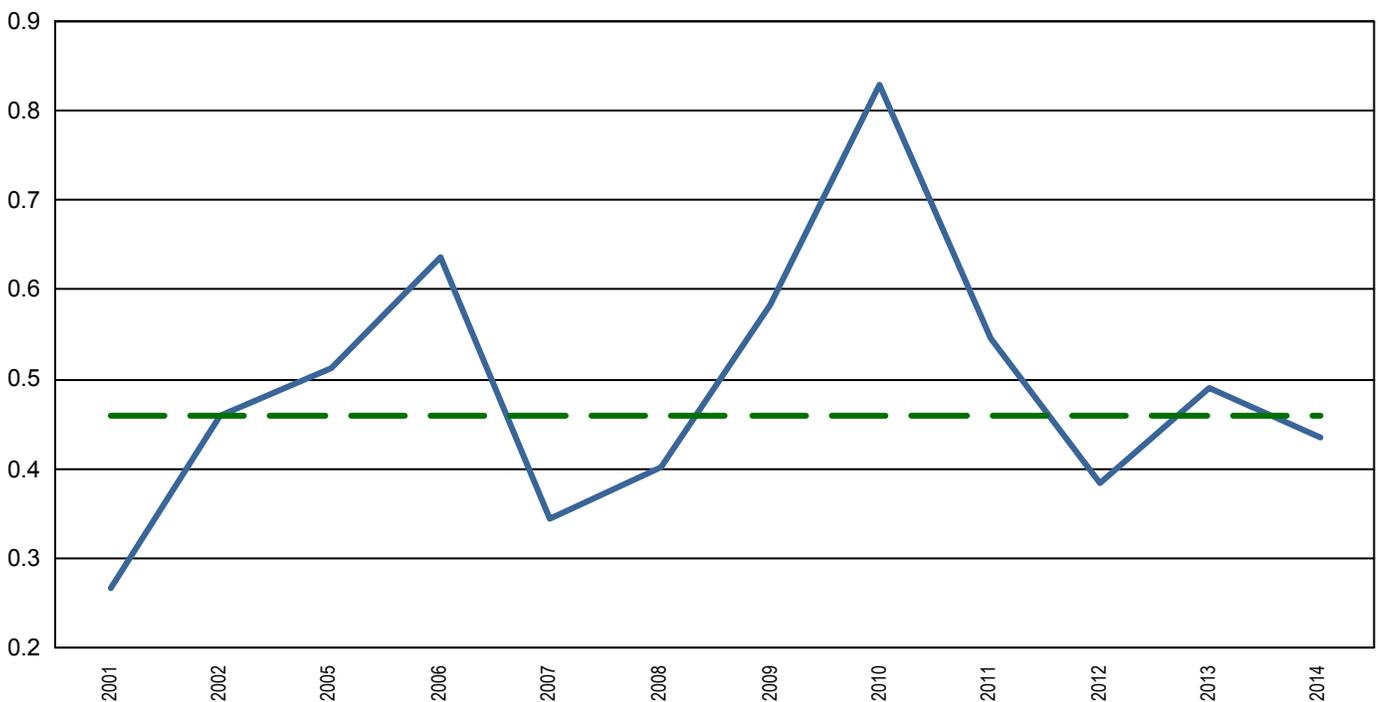
Yearly Median 



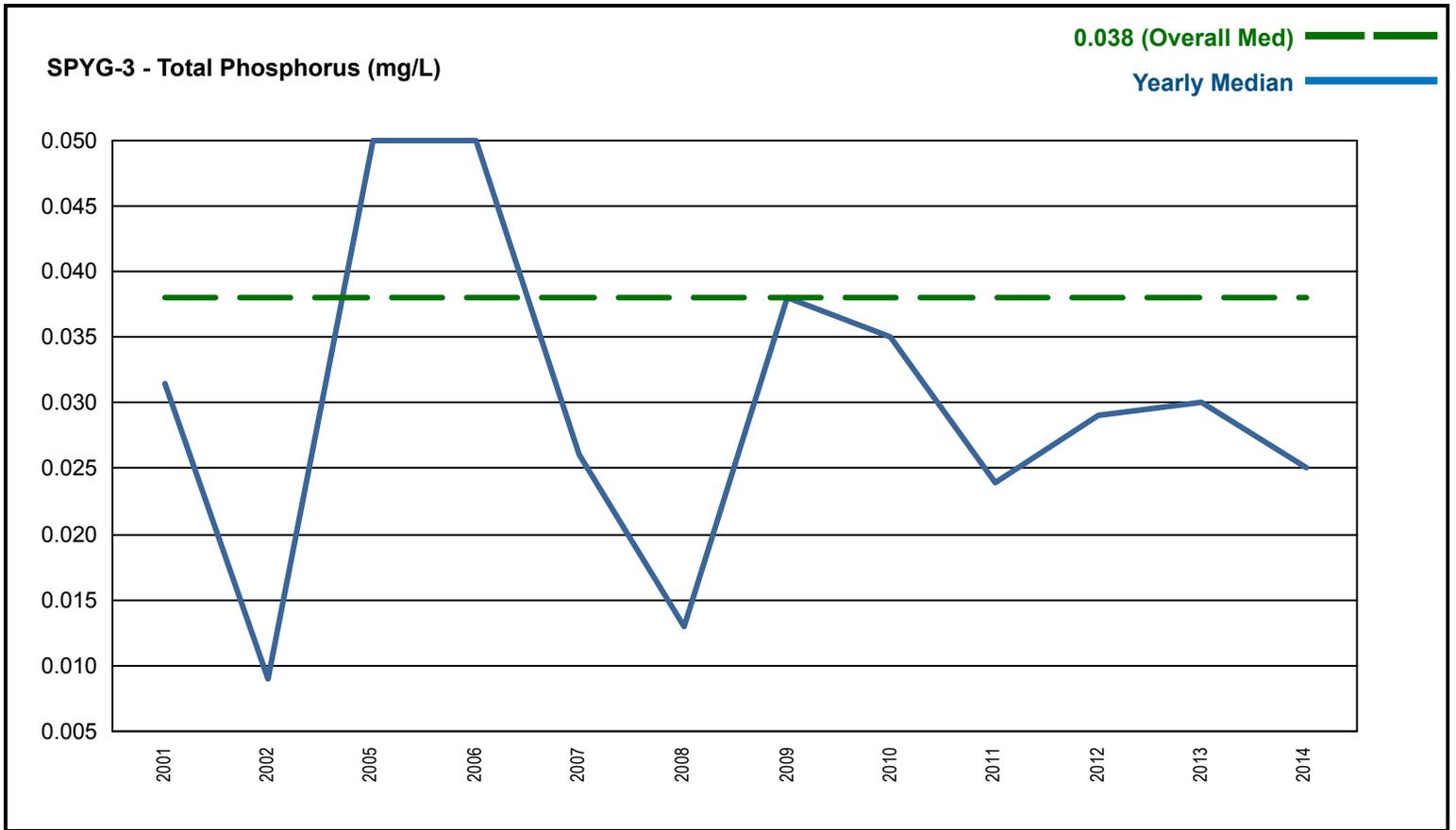
## SPYG-3 - Total Nitrogen (mg/L)

0.459 (Overall Med) 

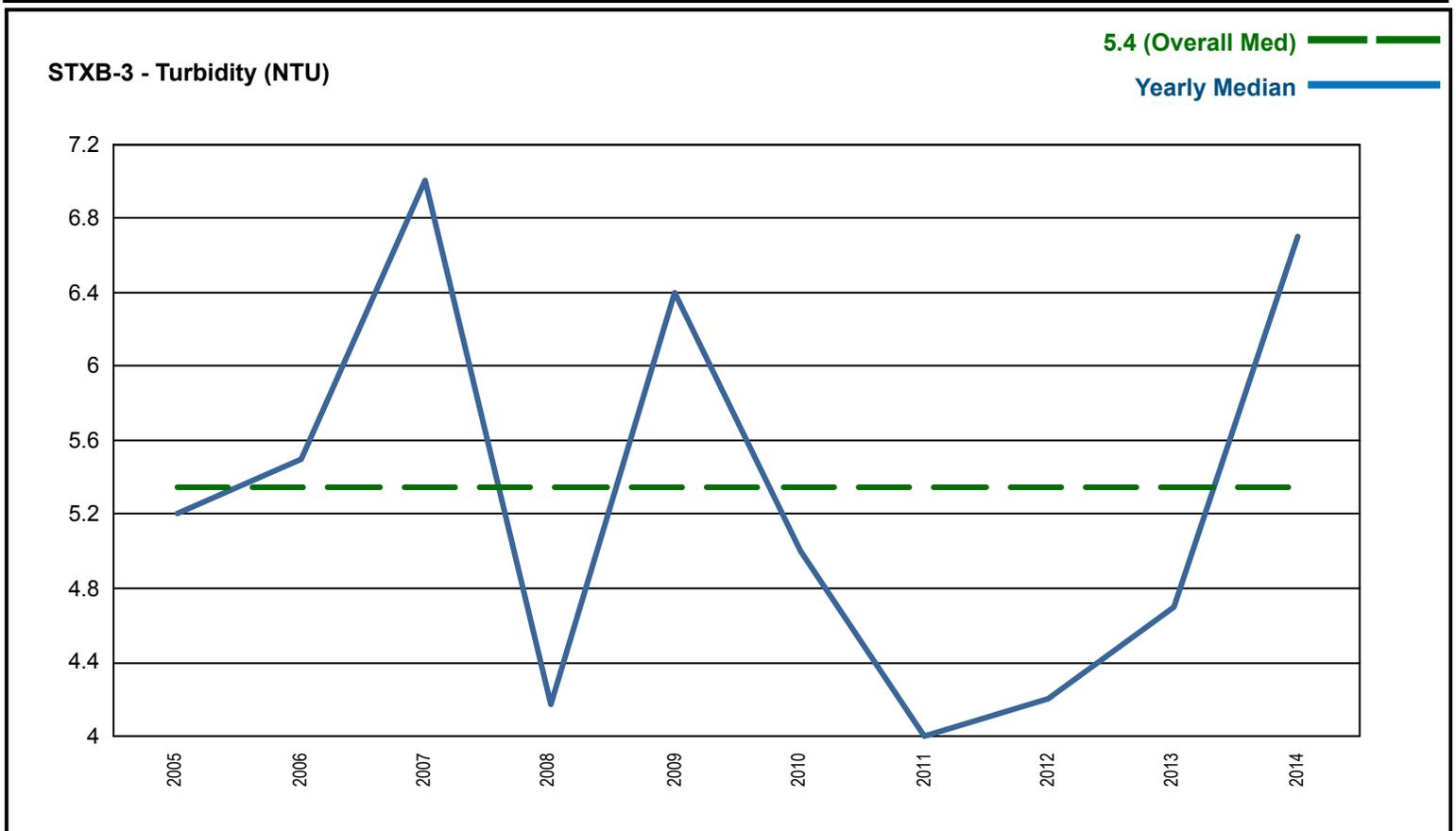
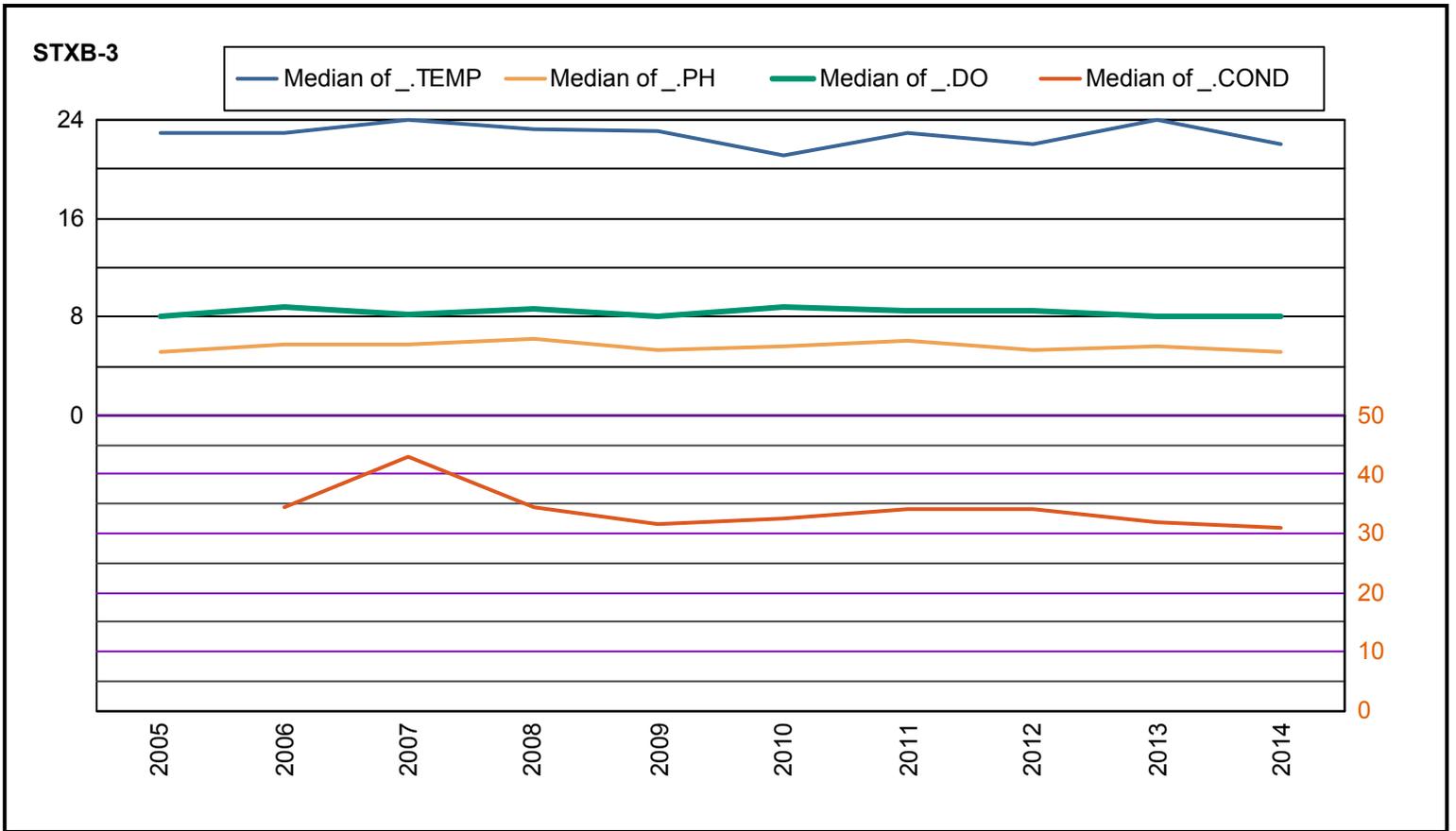
Yearly Median 



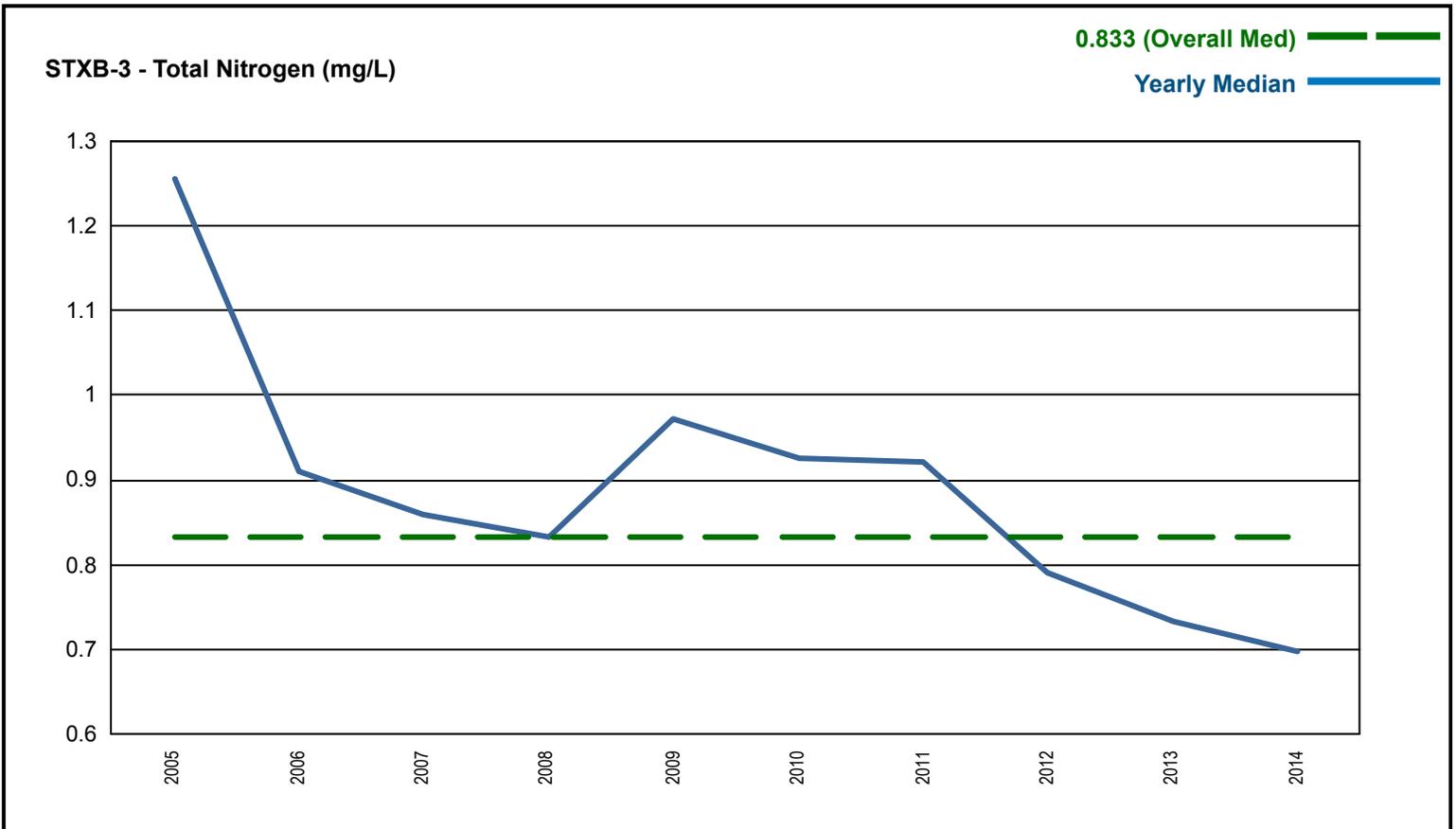
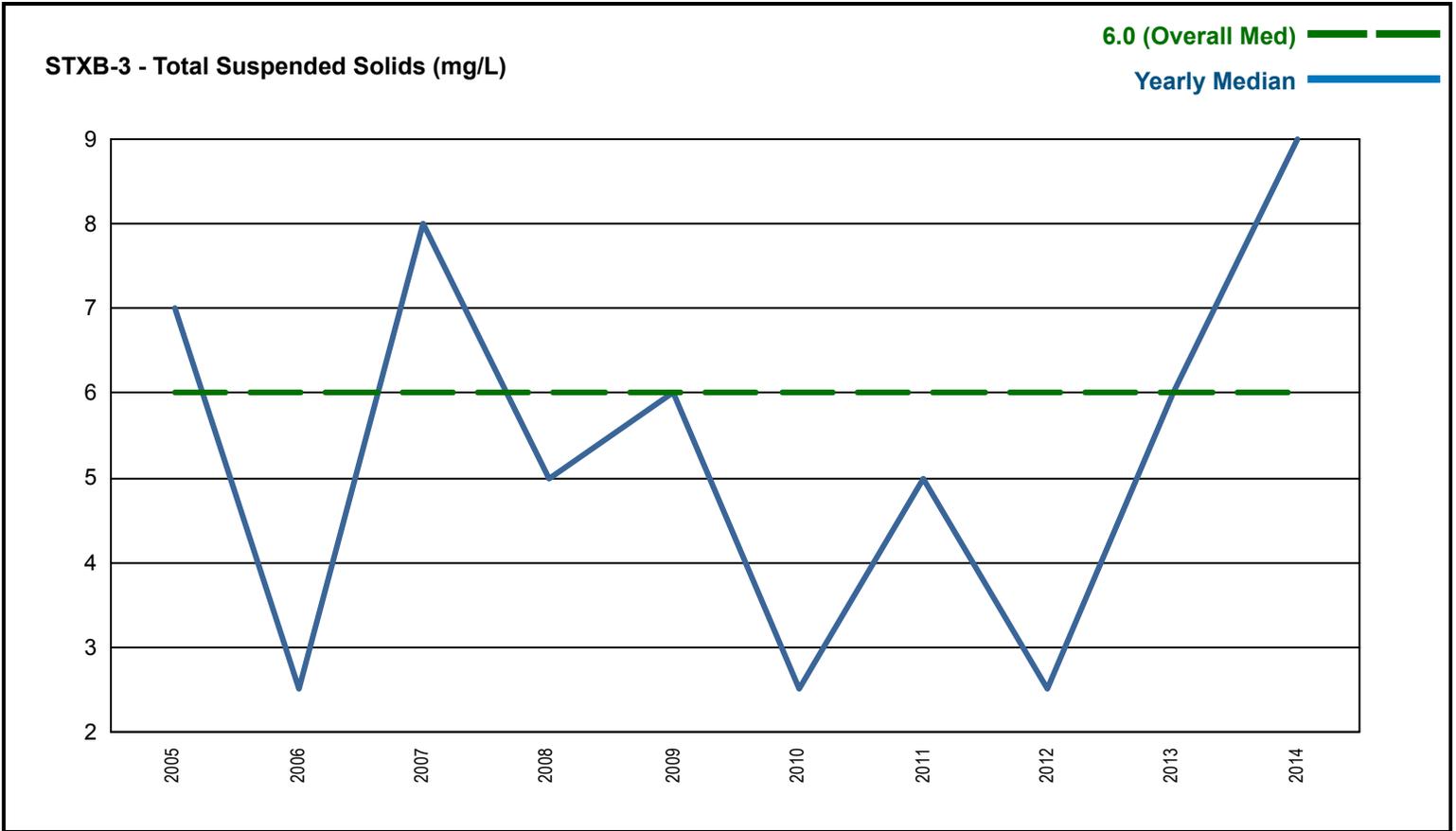
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



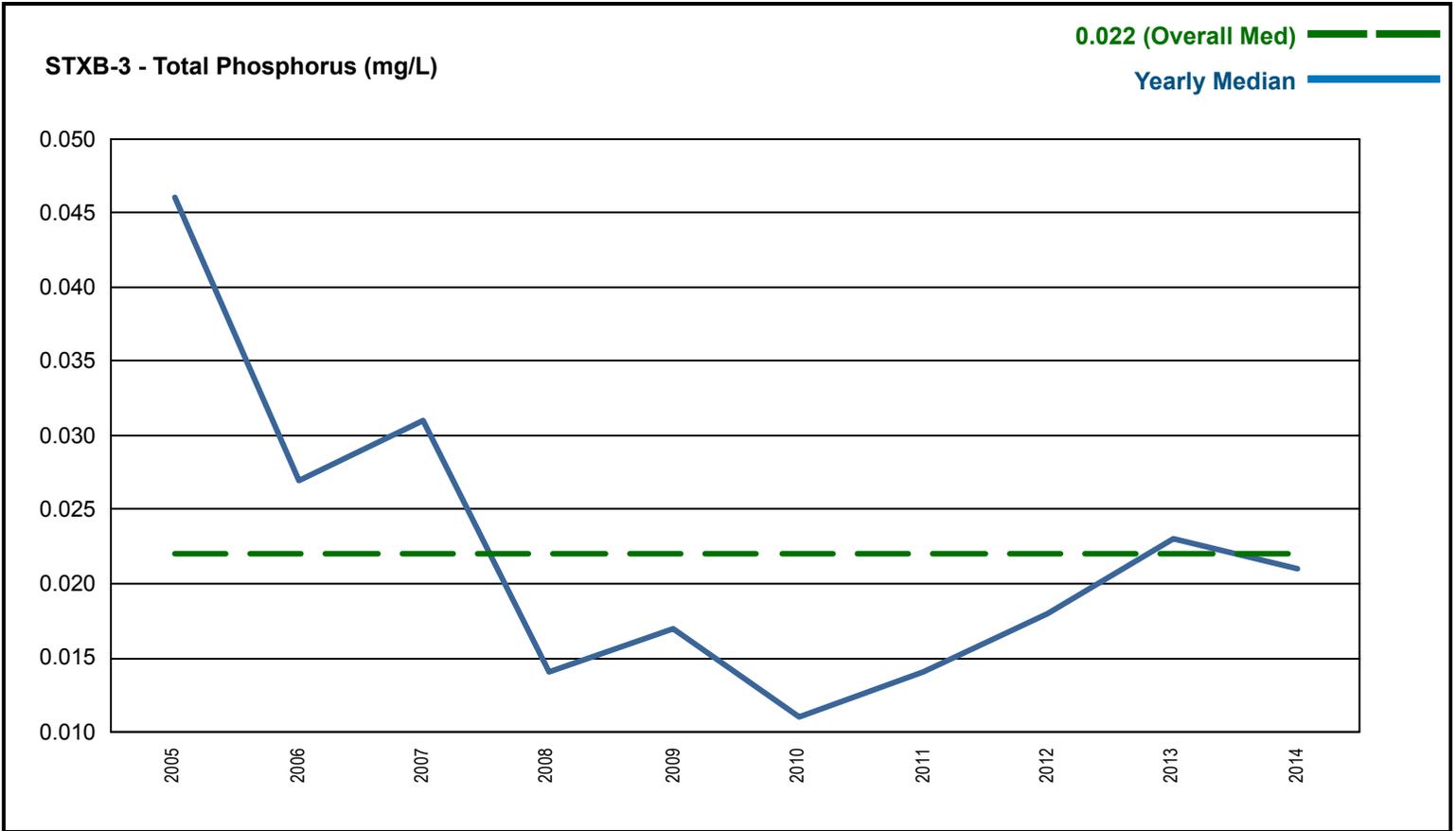
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



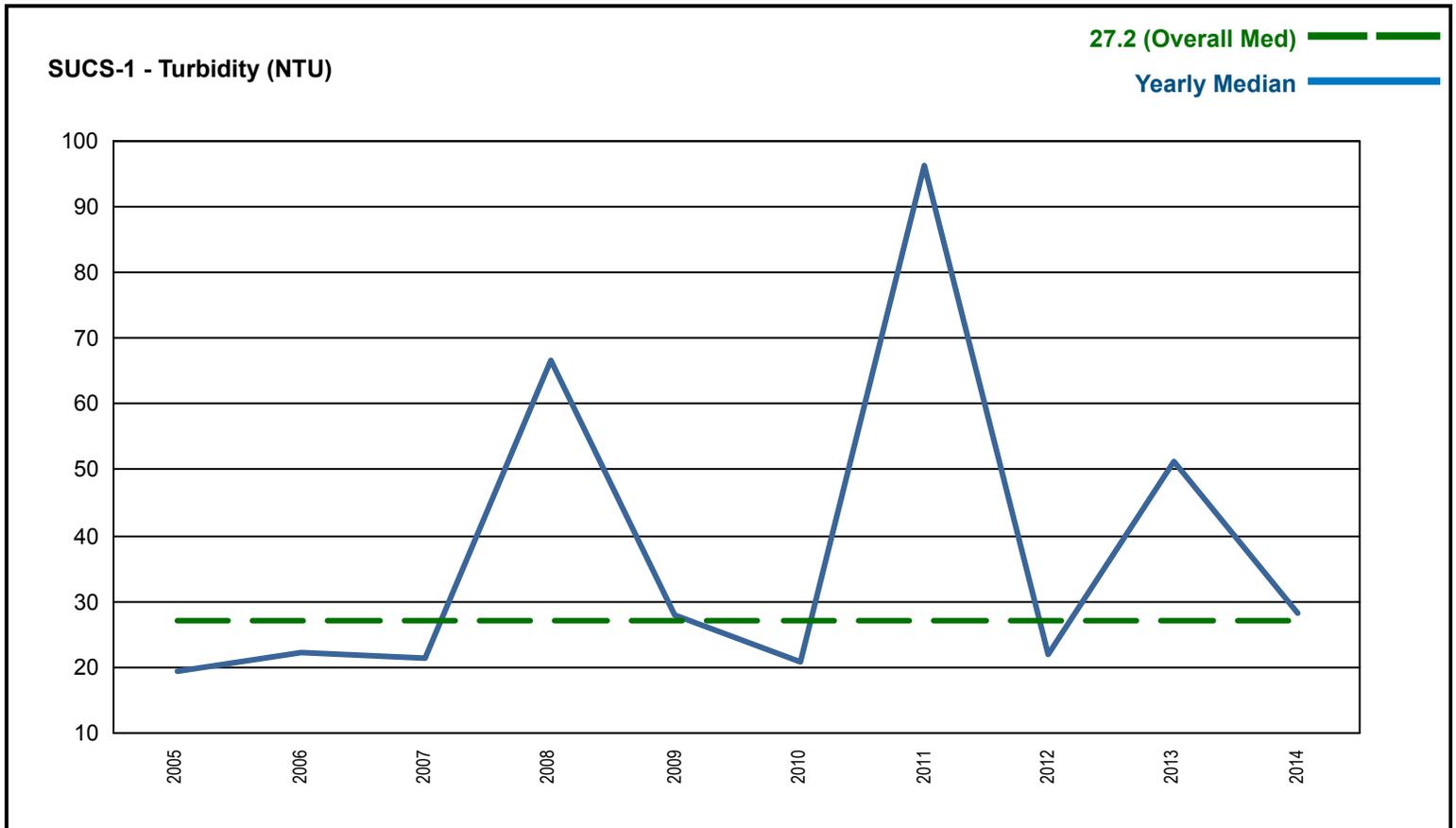
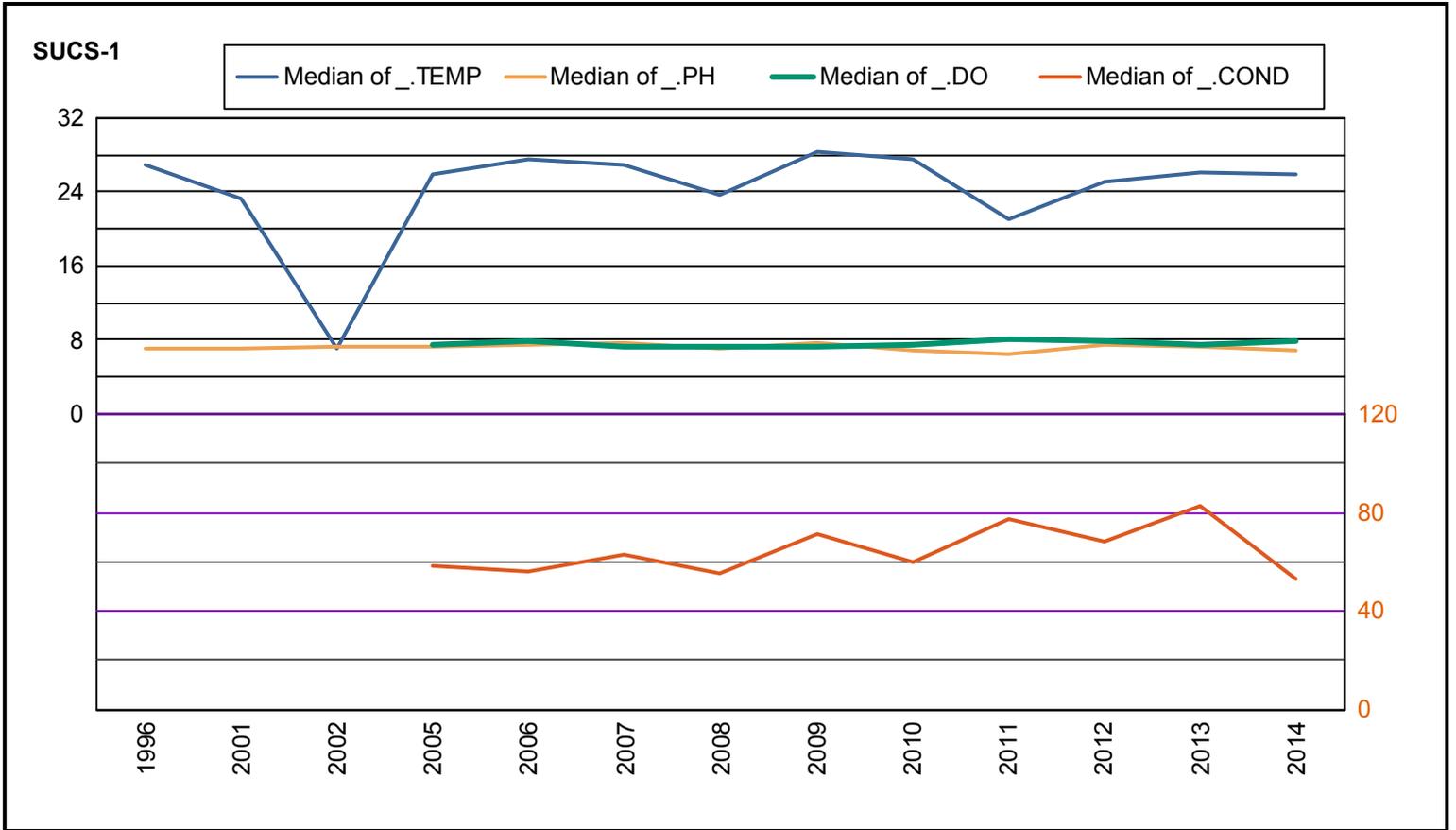
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



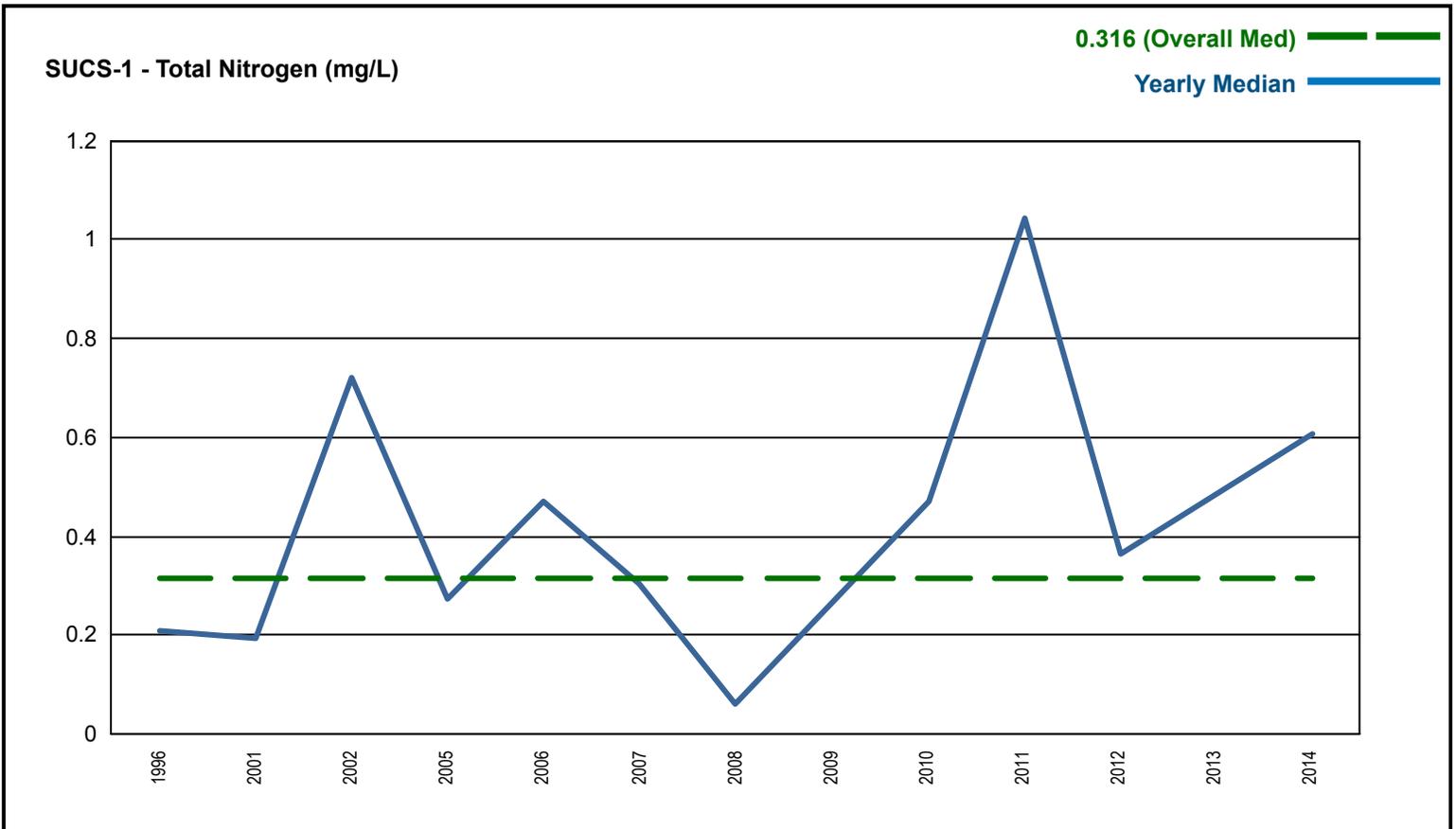
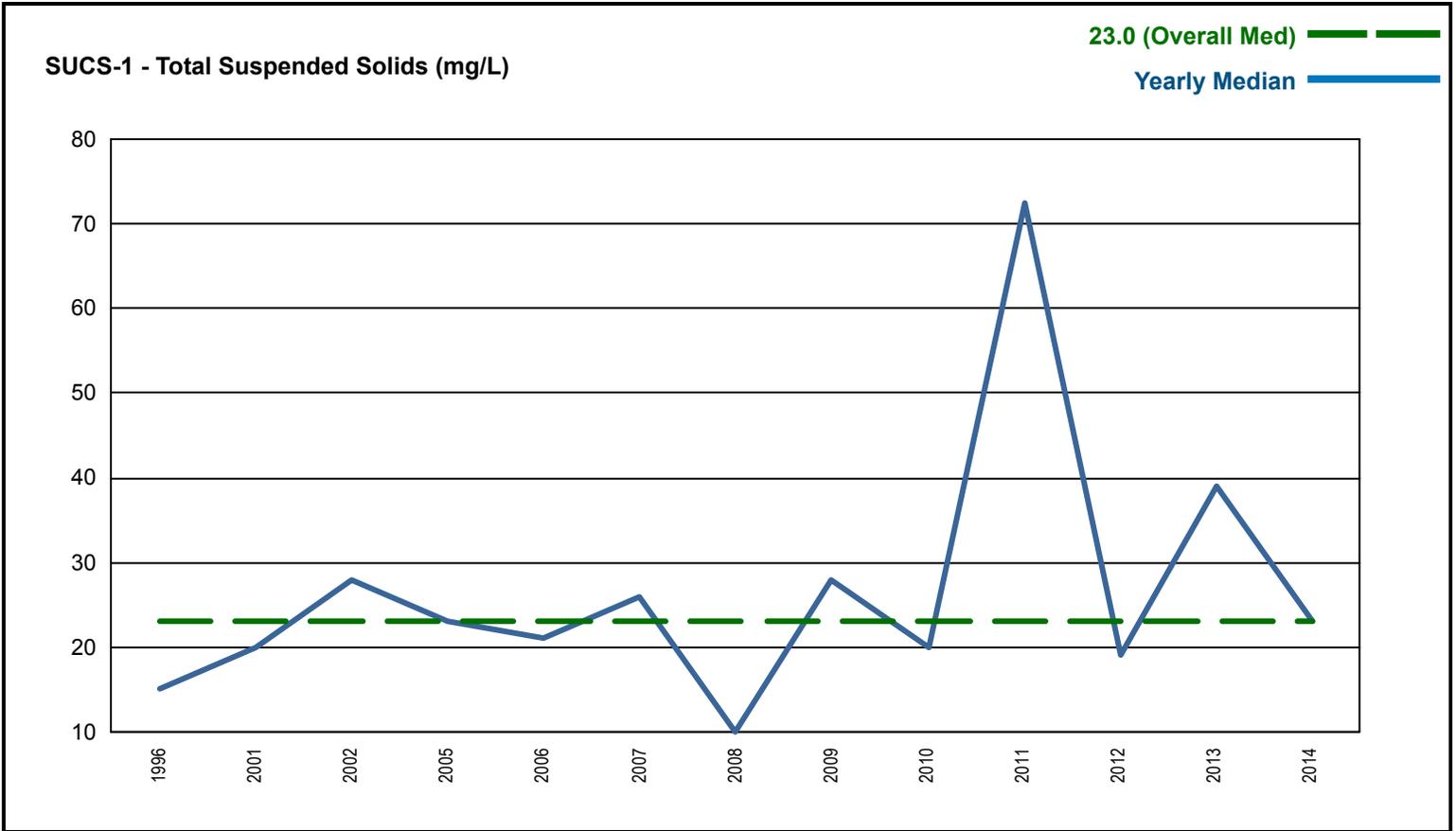
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



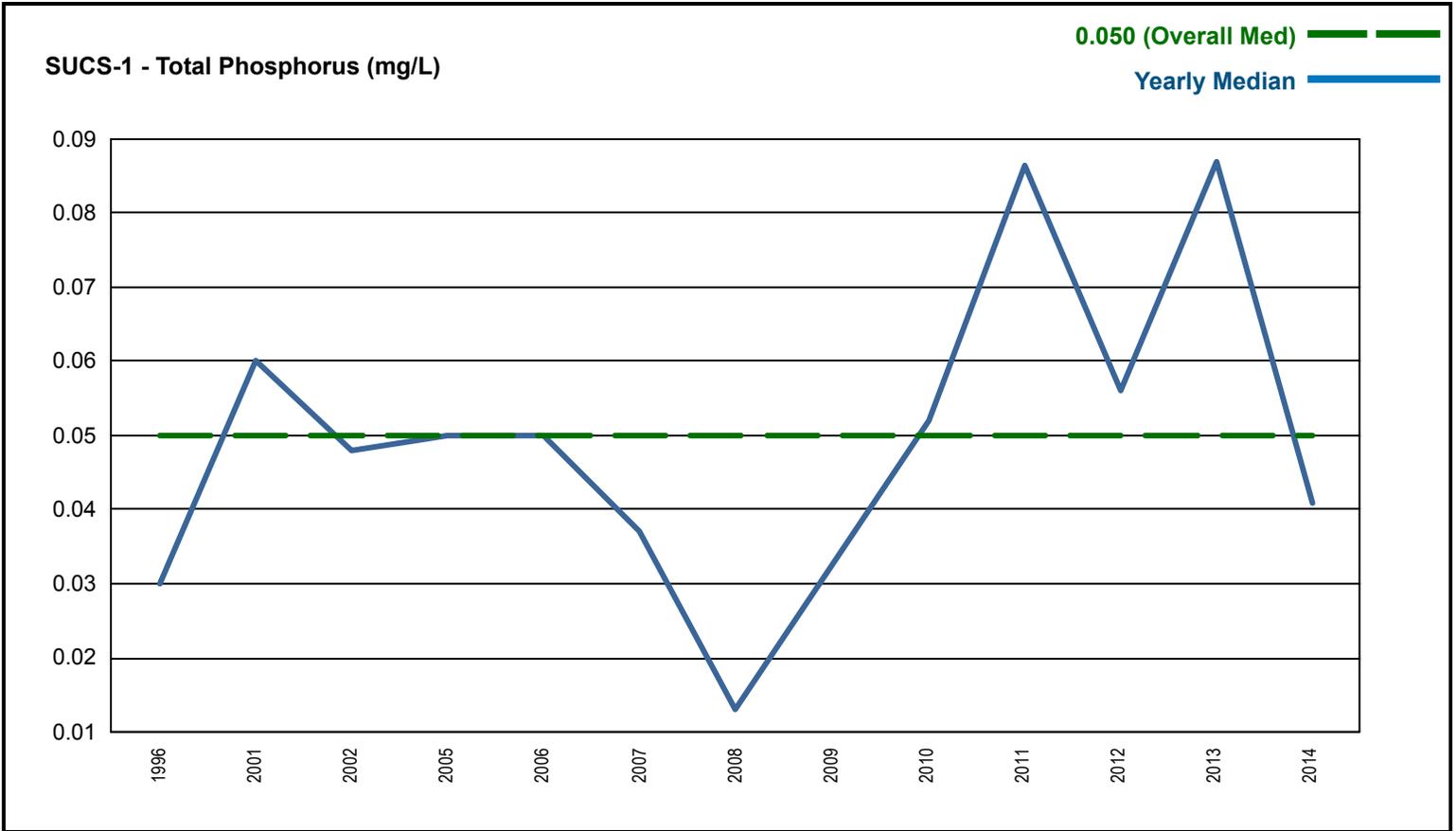
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



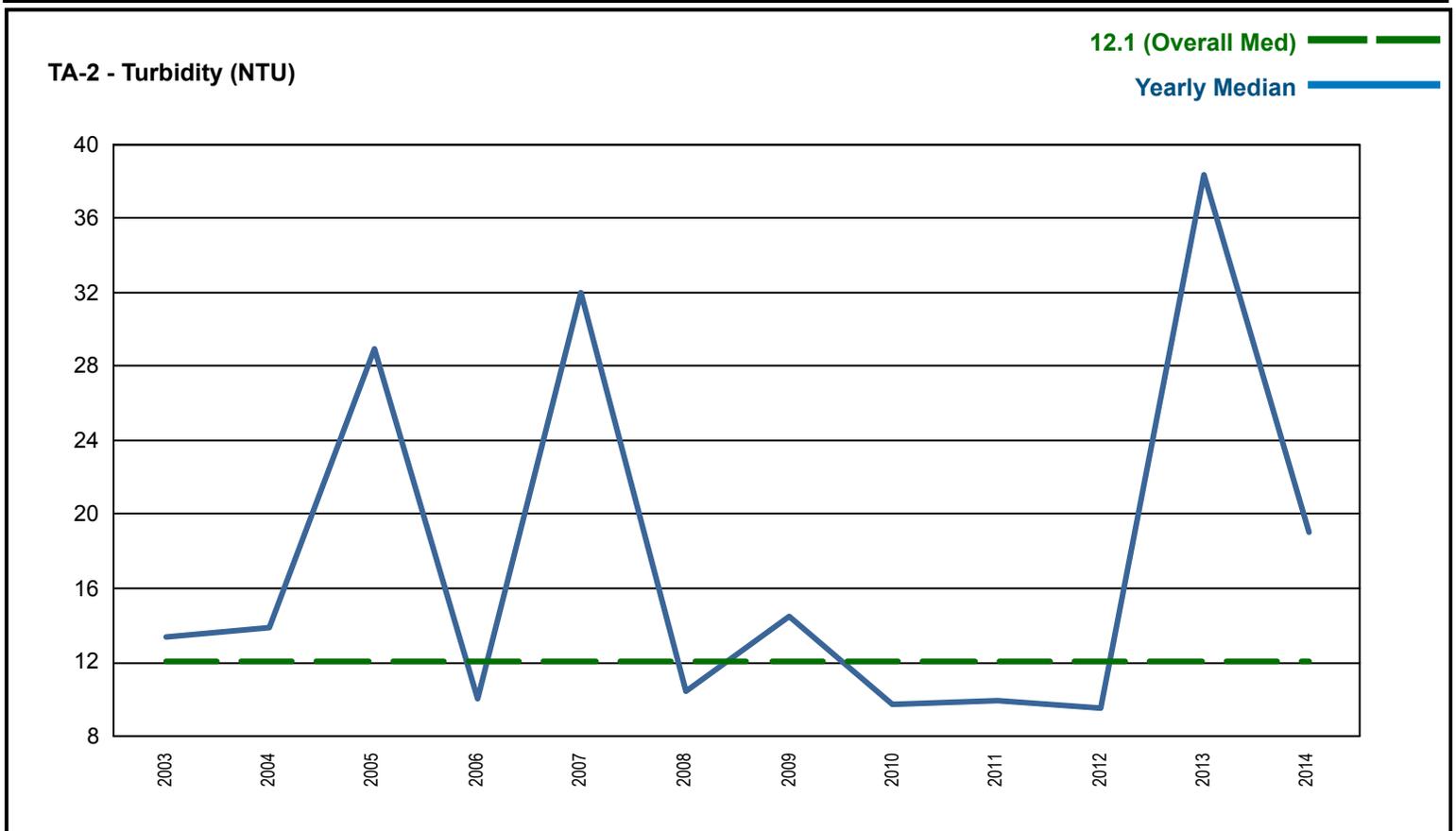
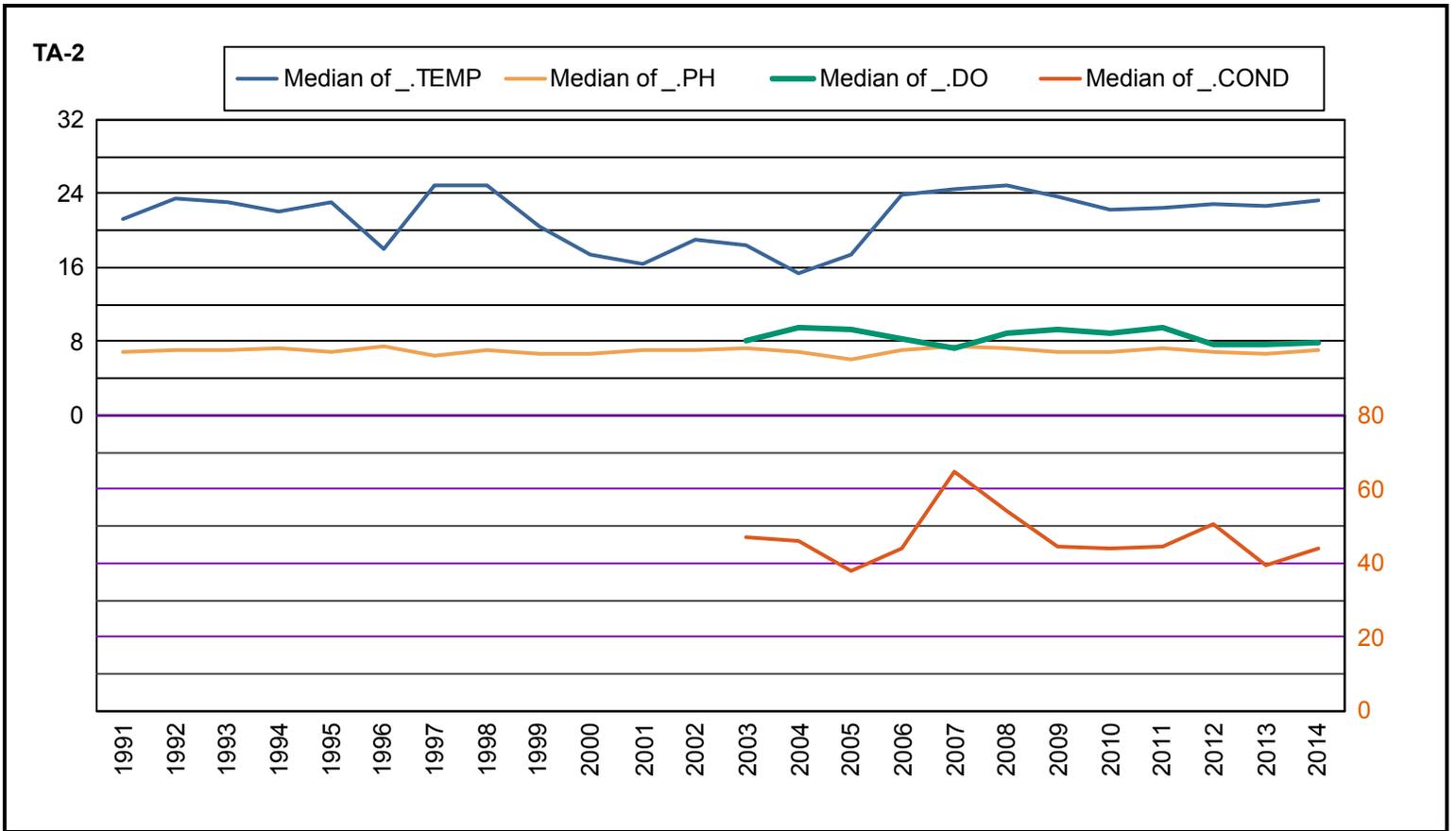
ADEM Ambient Trend Stations - Sampled 1977 - 2014



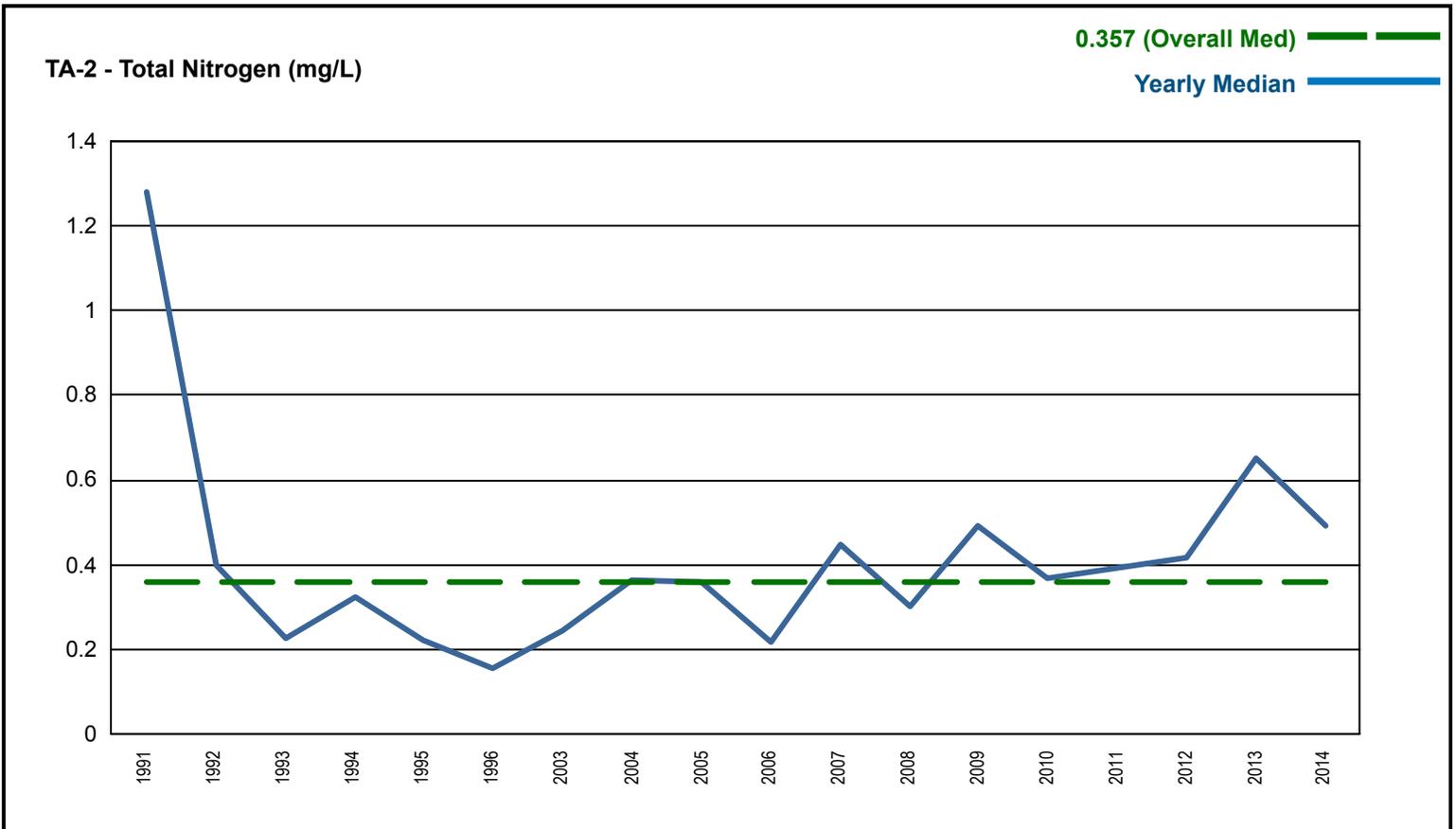
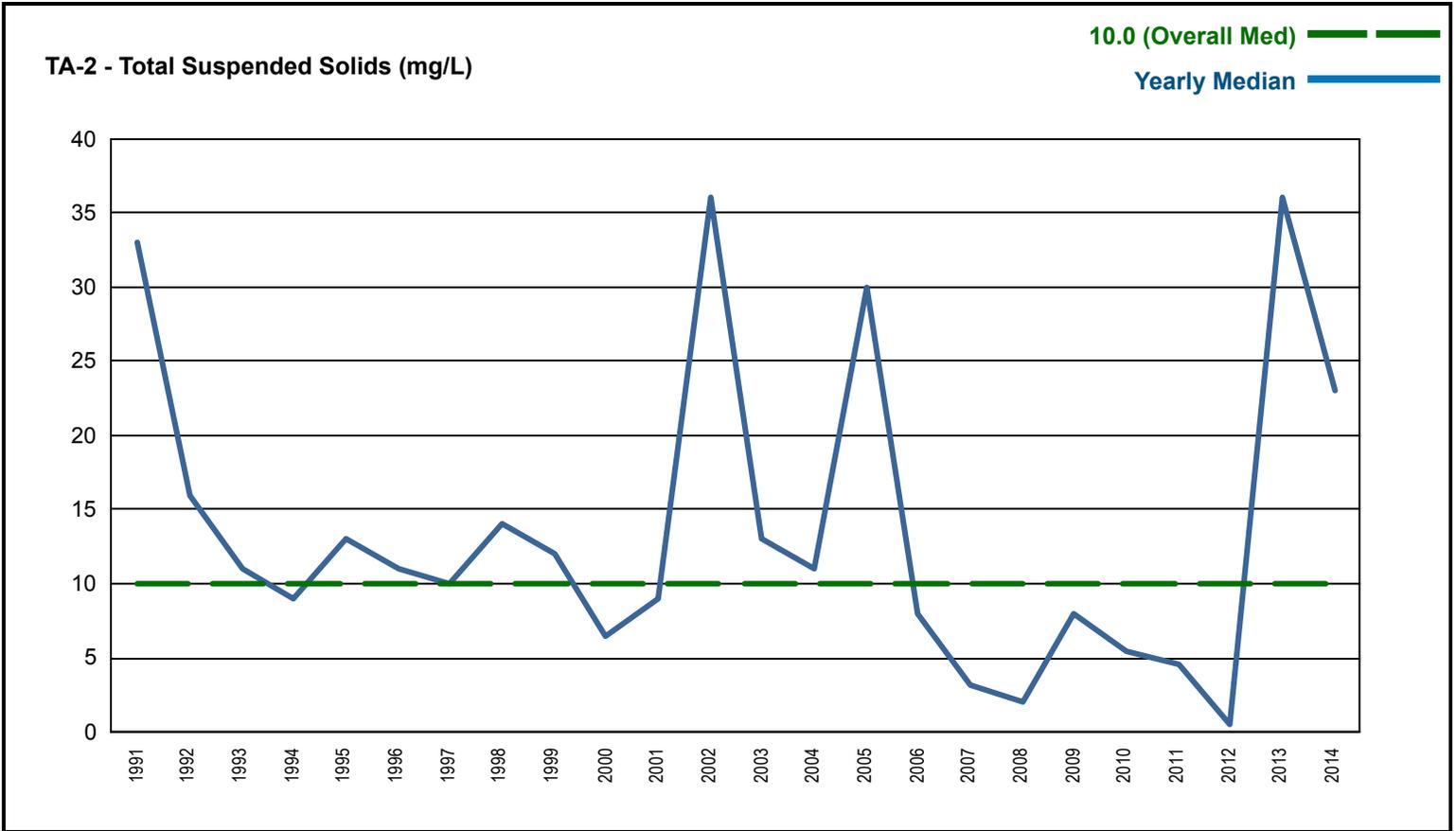
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014

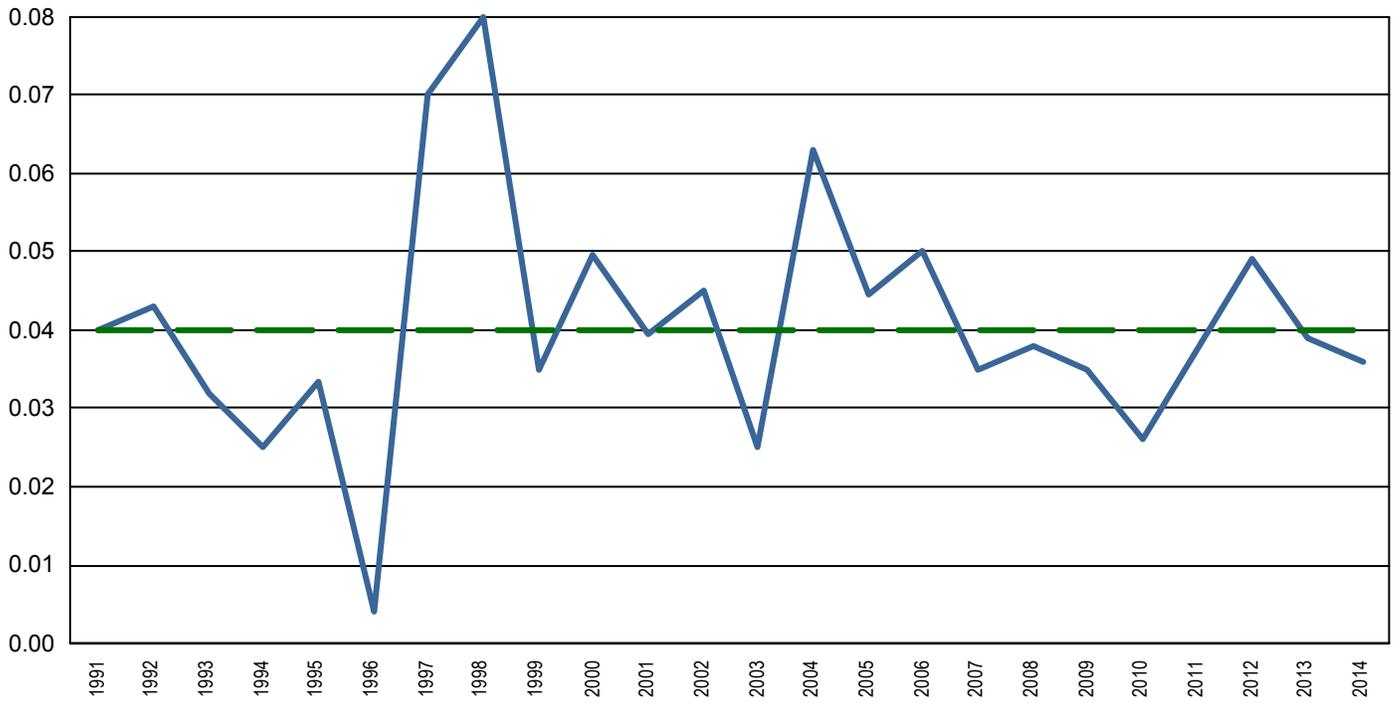


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

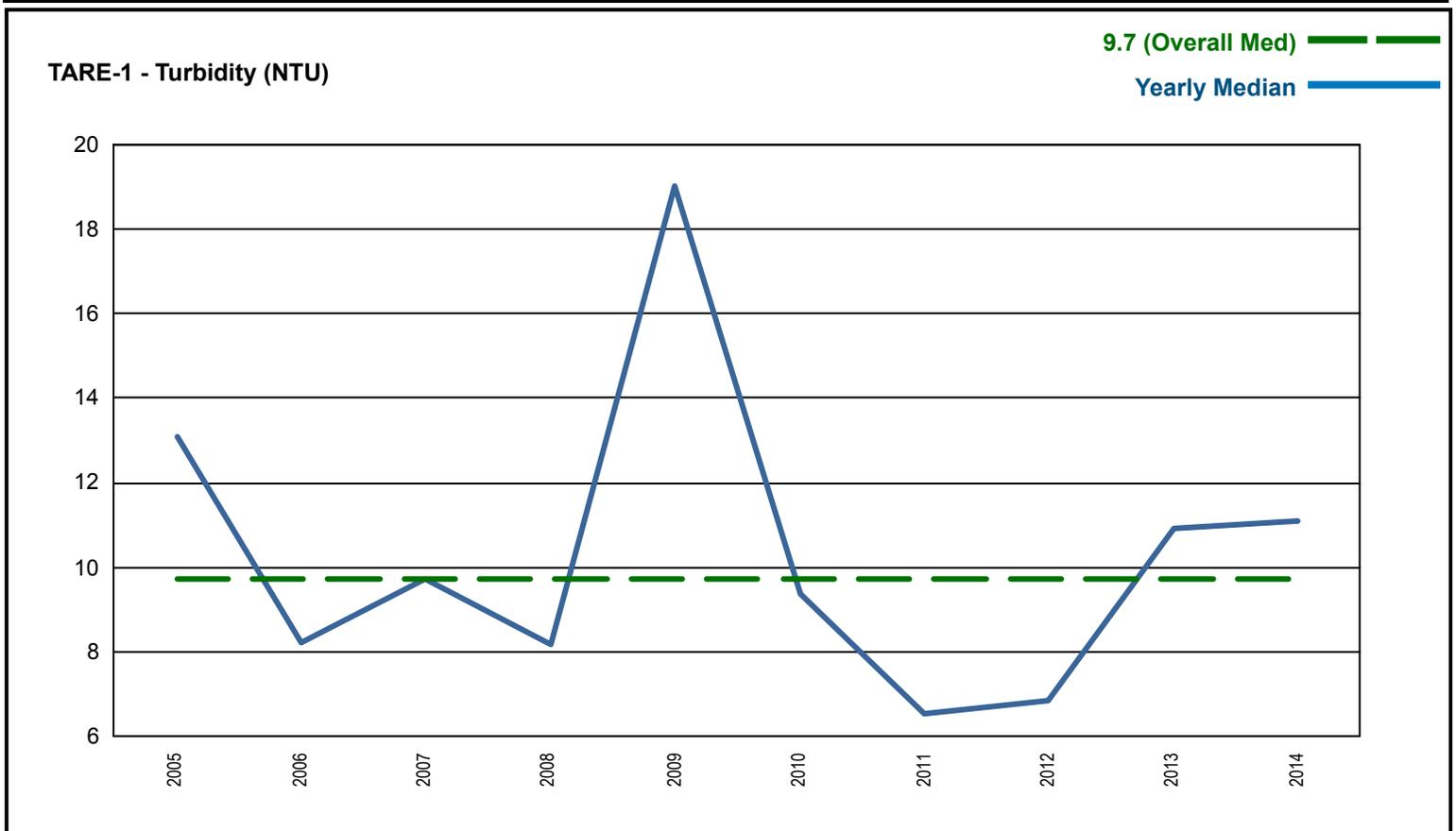
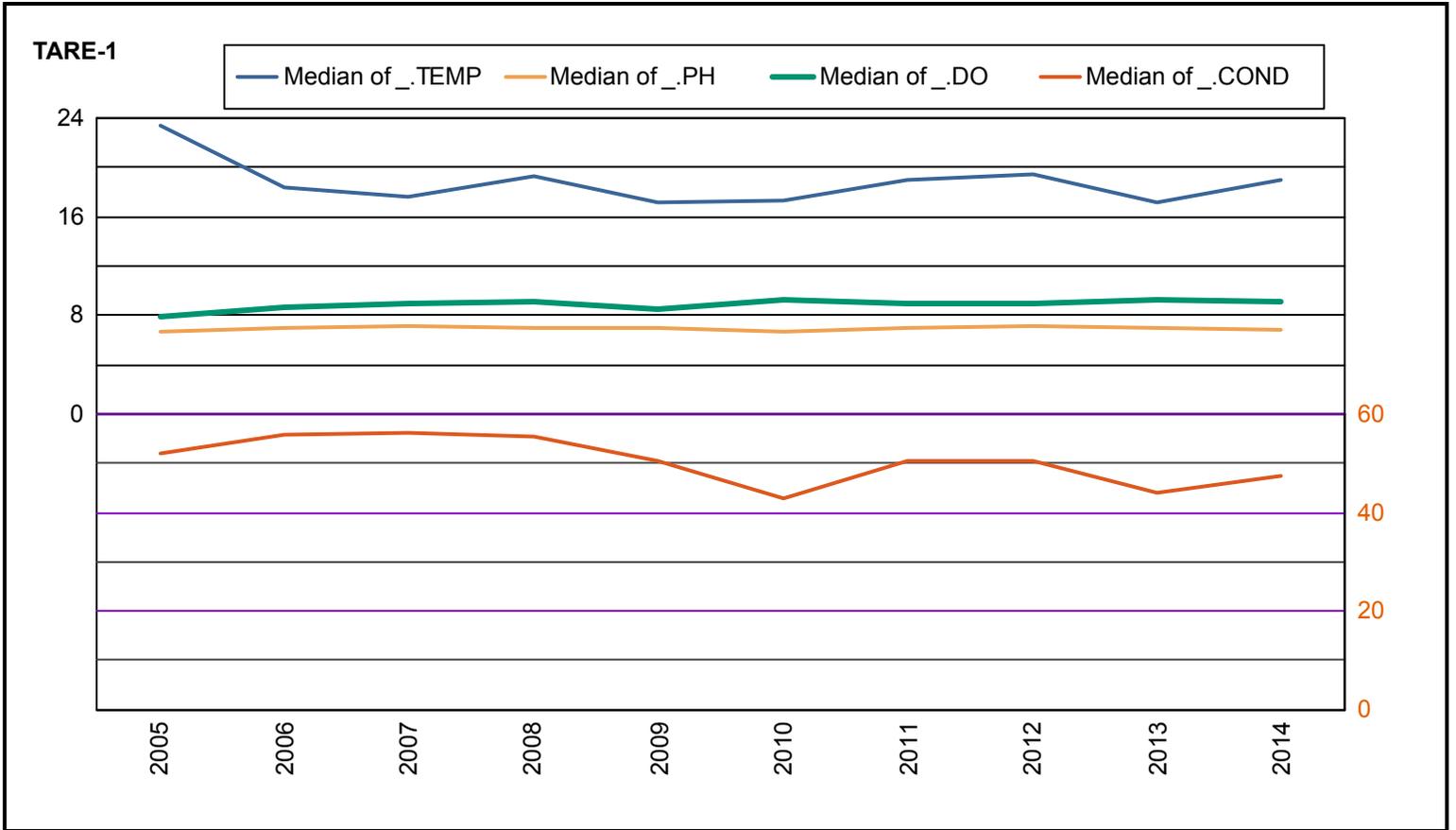
TA-2 - Total Phosphorus (mg/L)

0.040 (Overall Med) 

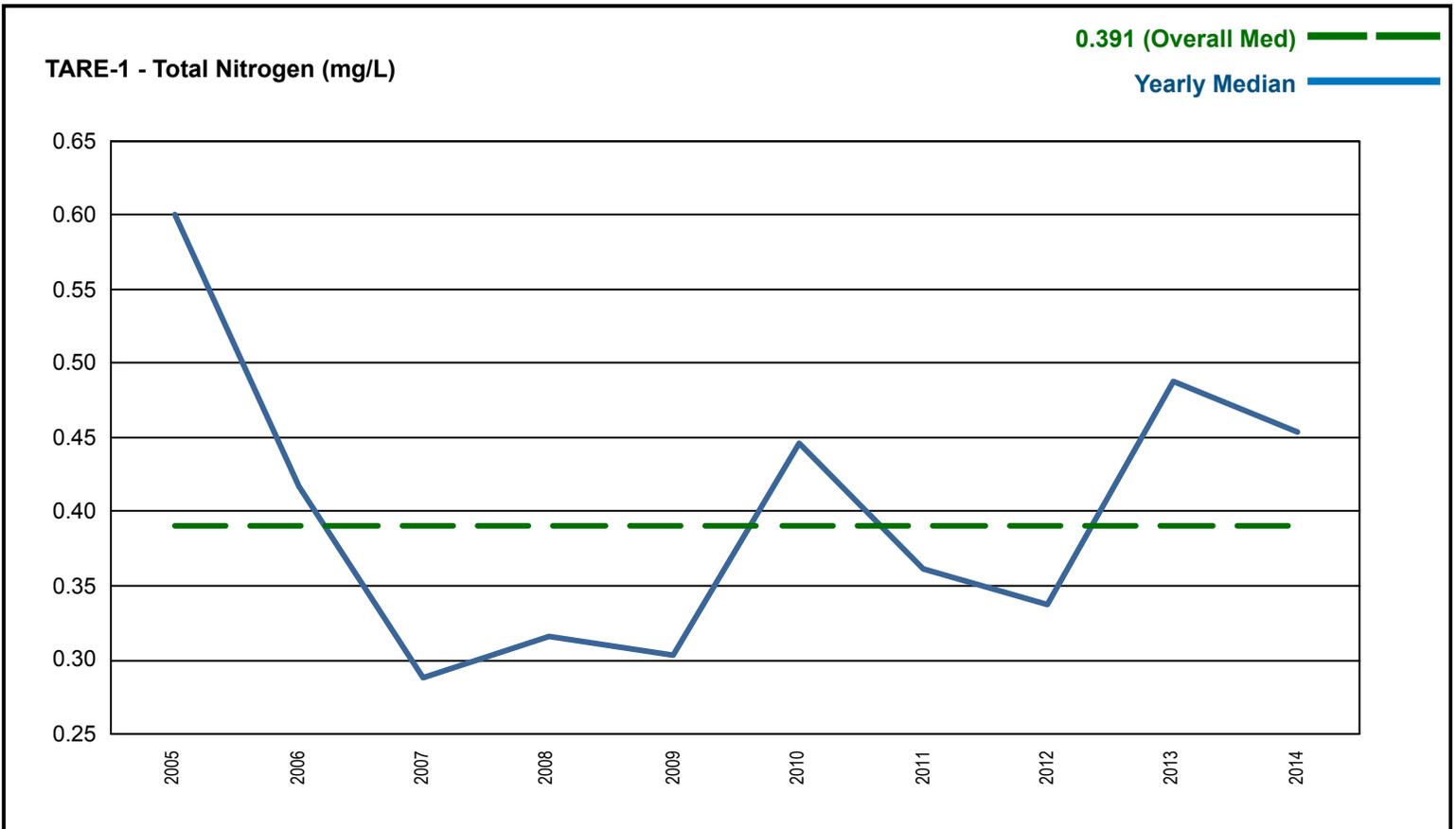
Yearly Median 



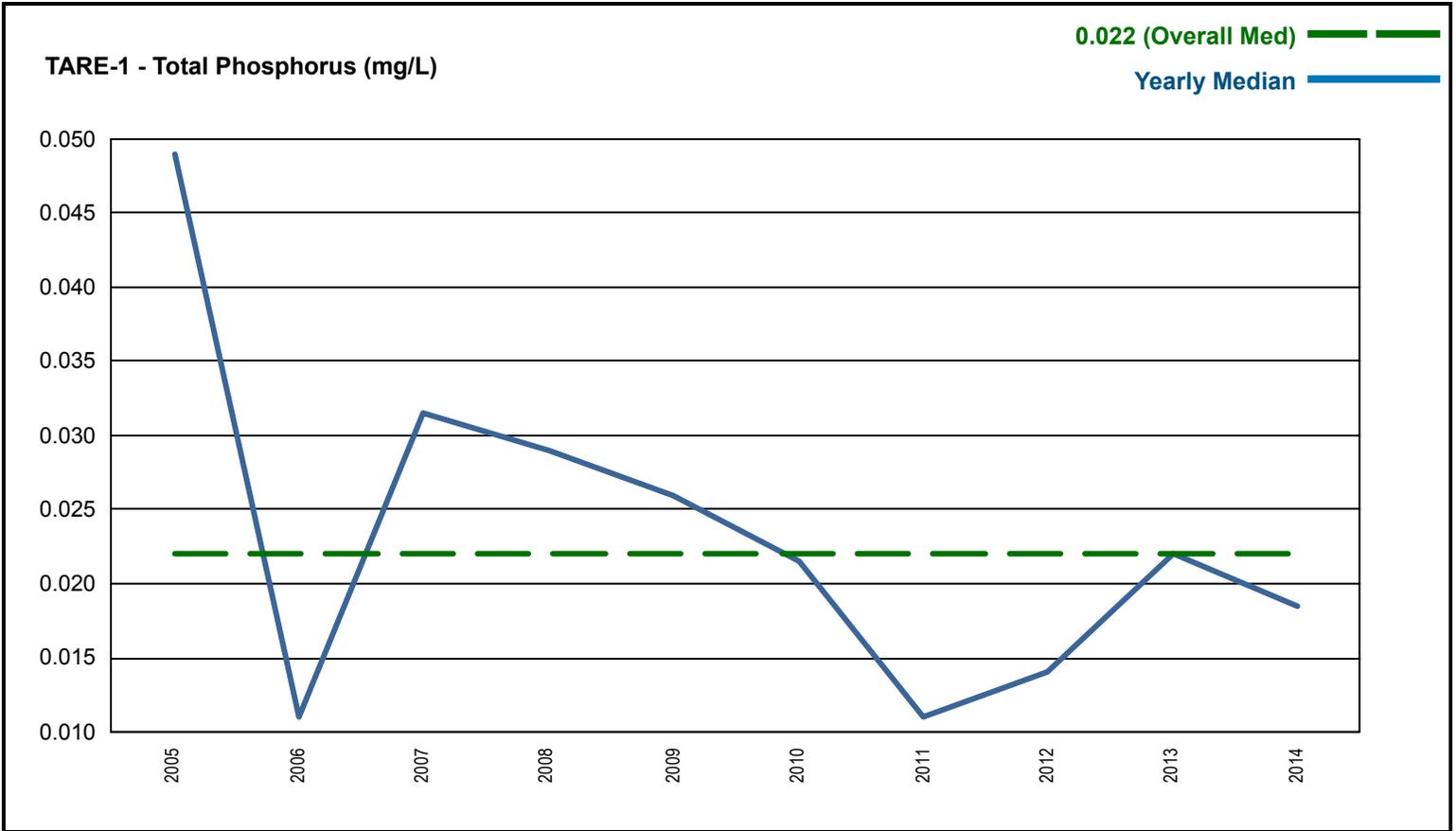
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



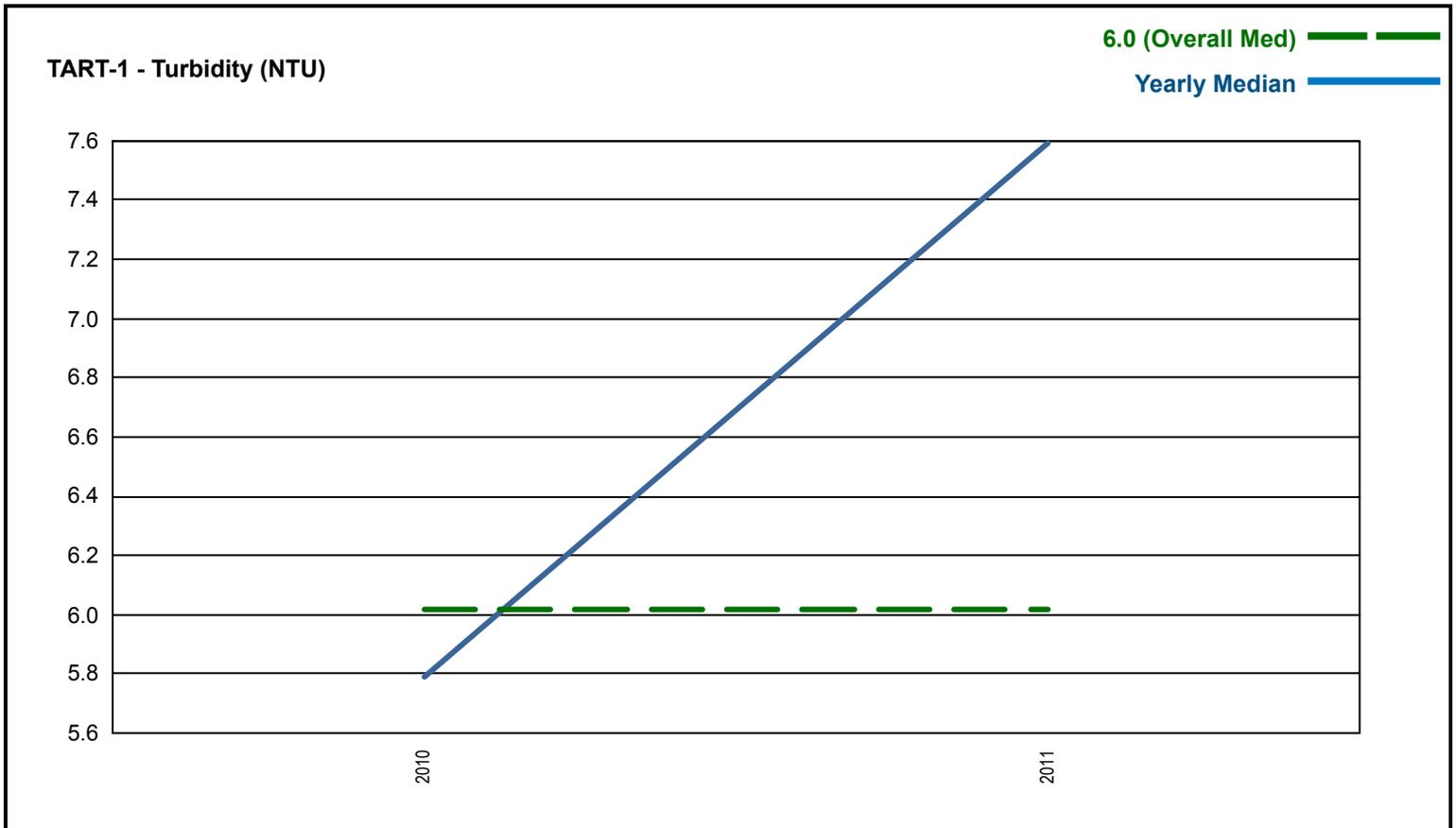
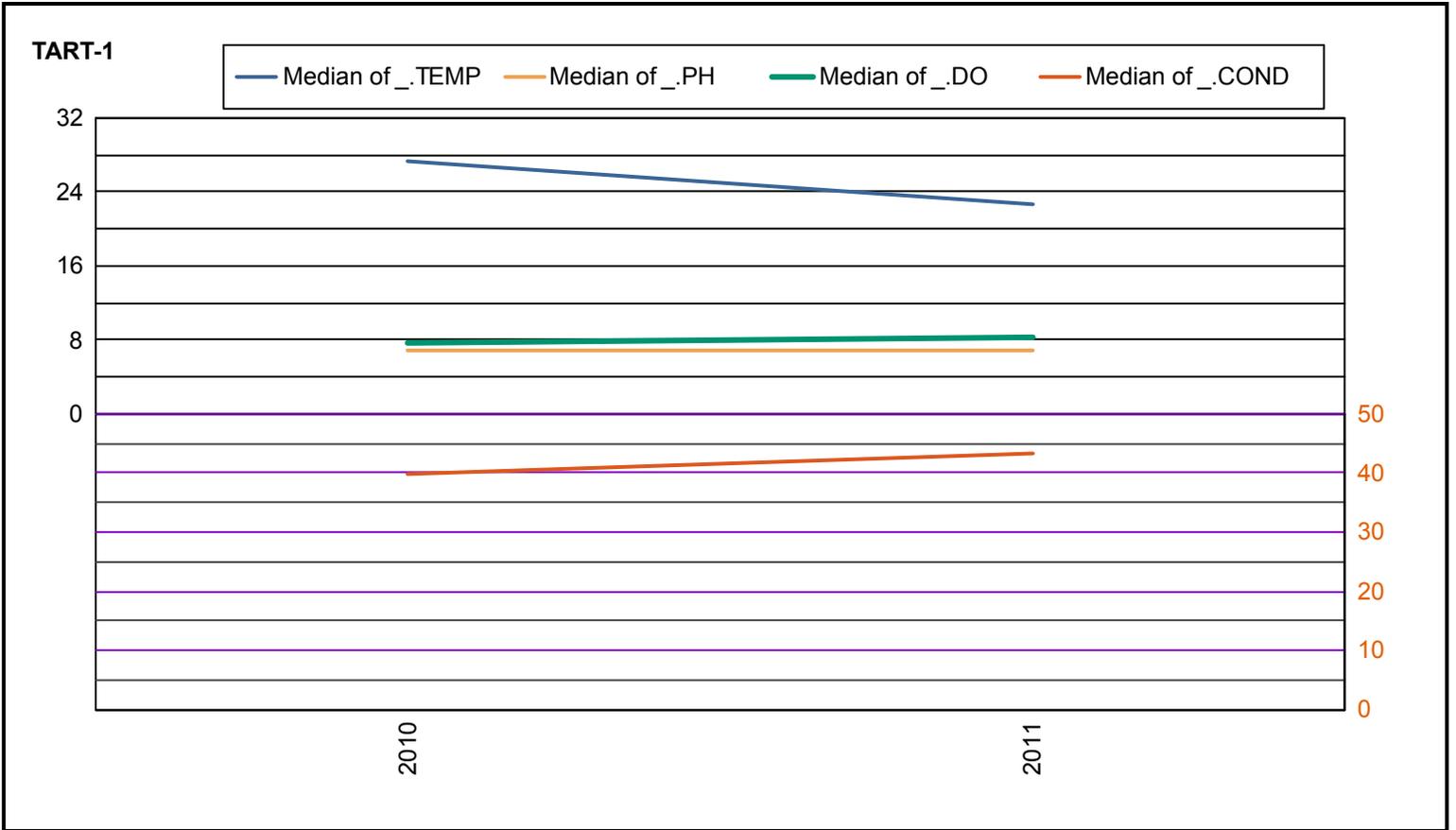
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

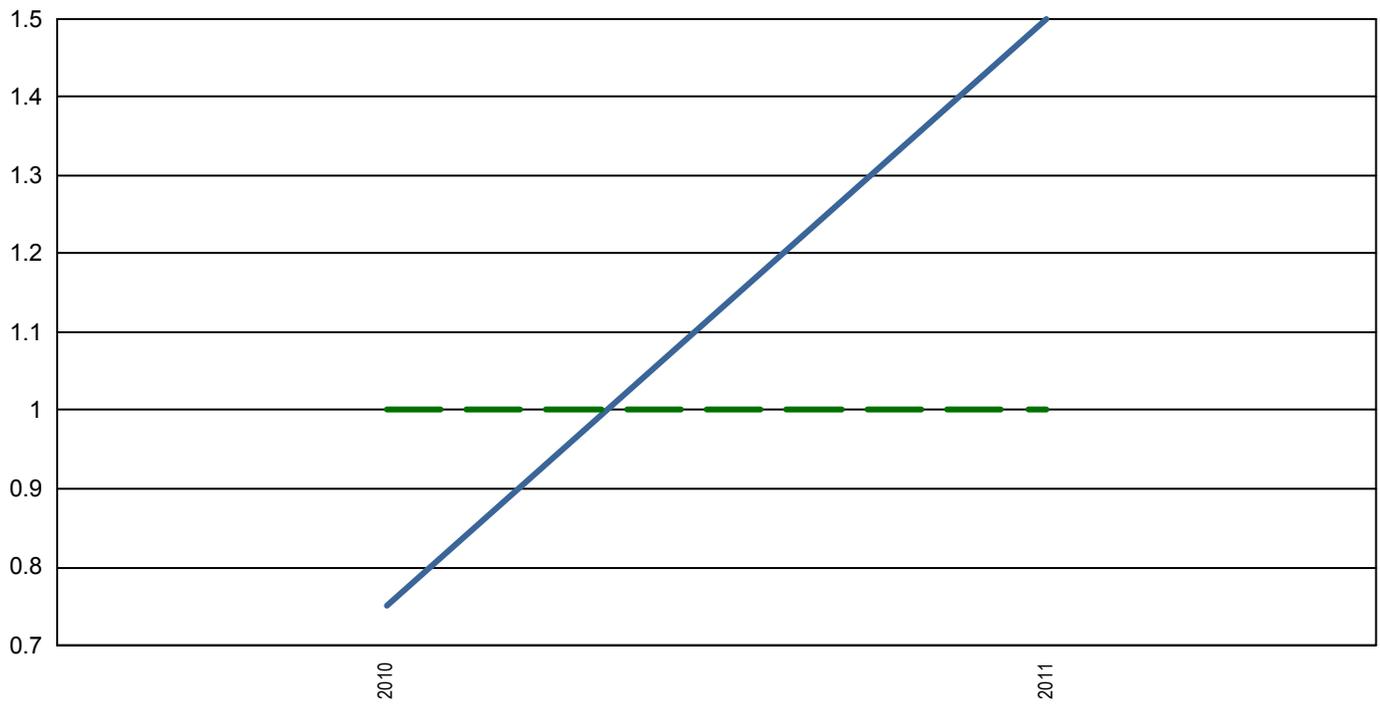


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

## TART-1 - Total Suspended Solids (mg/L)

1.0 (Overall Med) 

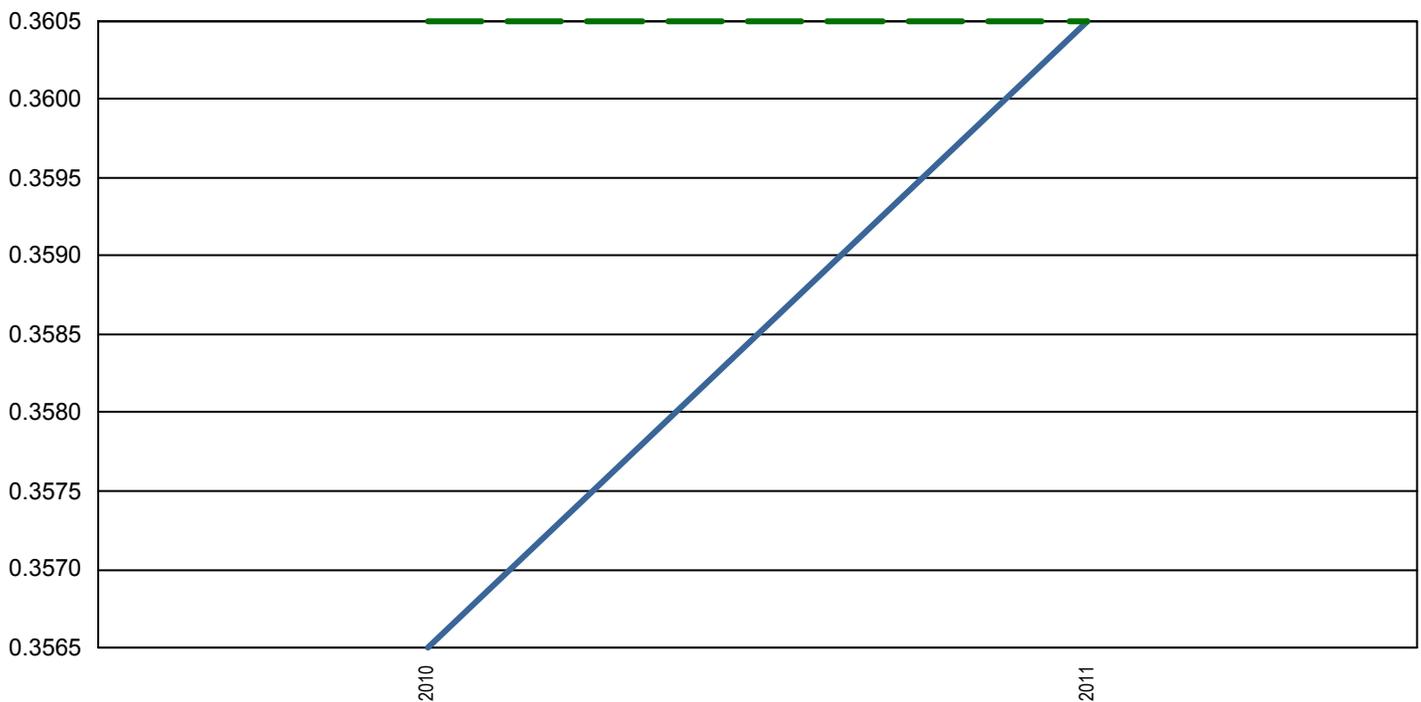
Yearly Median 



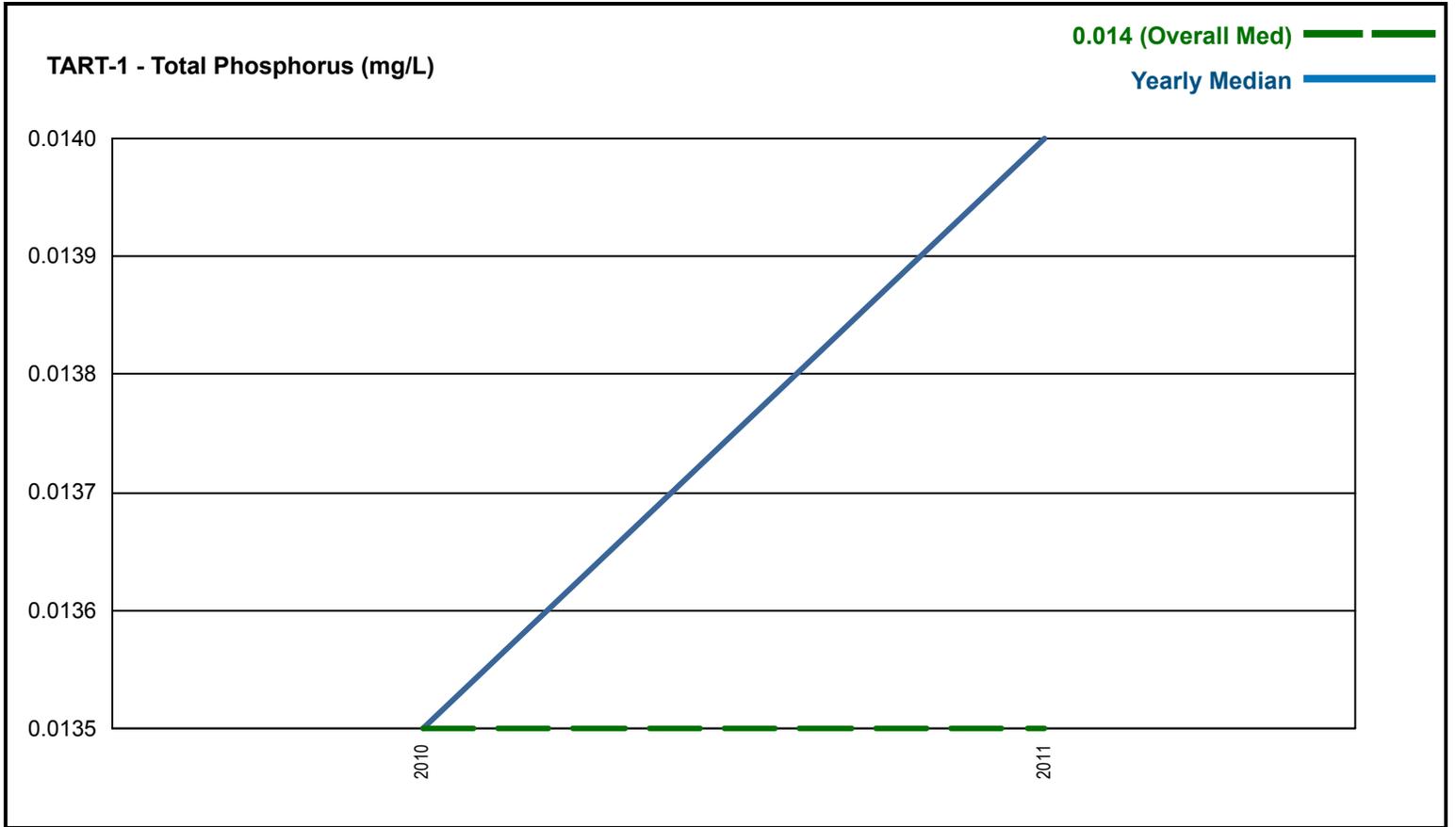
## TART-1 - Total Nitrogen (mg/L)

0.360 (Overall Med) 

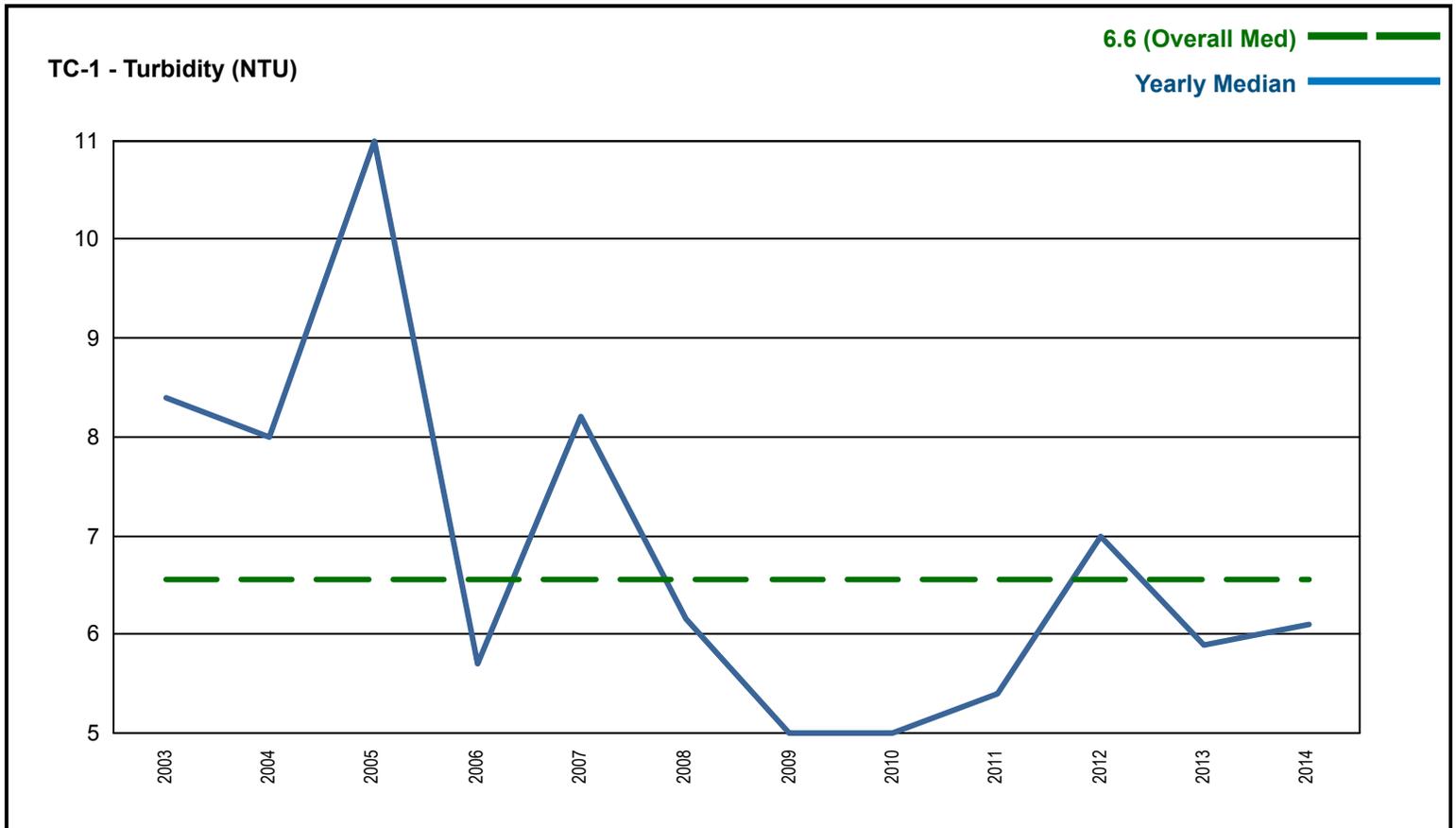
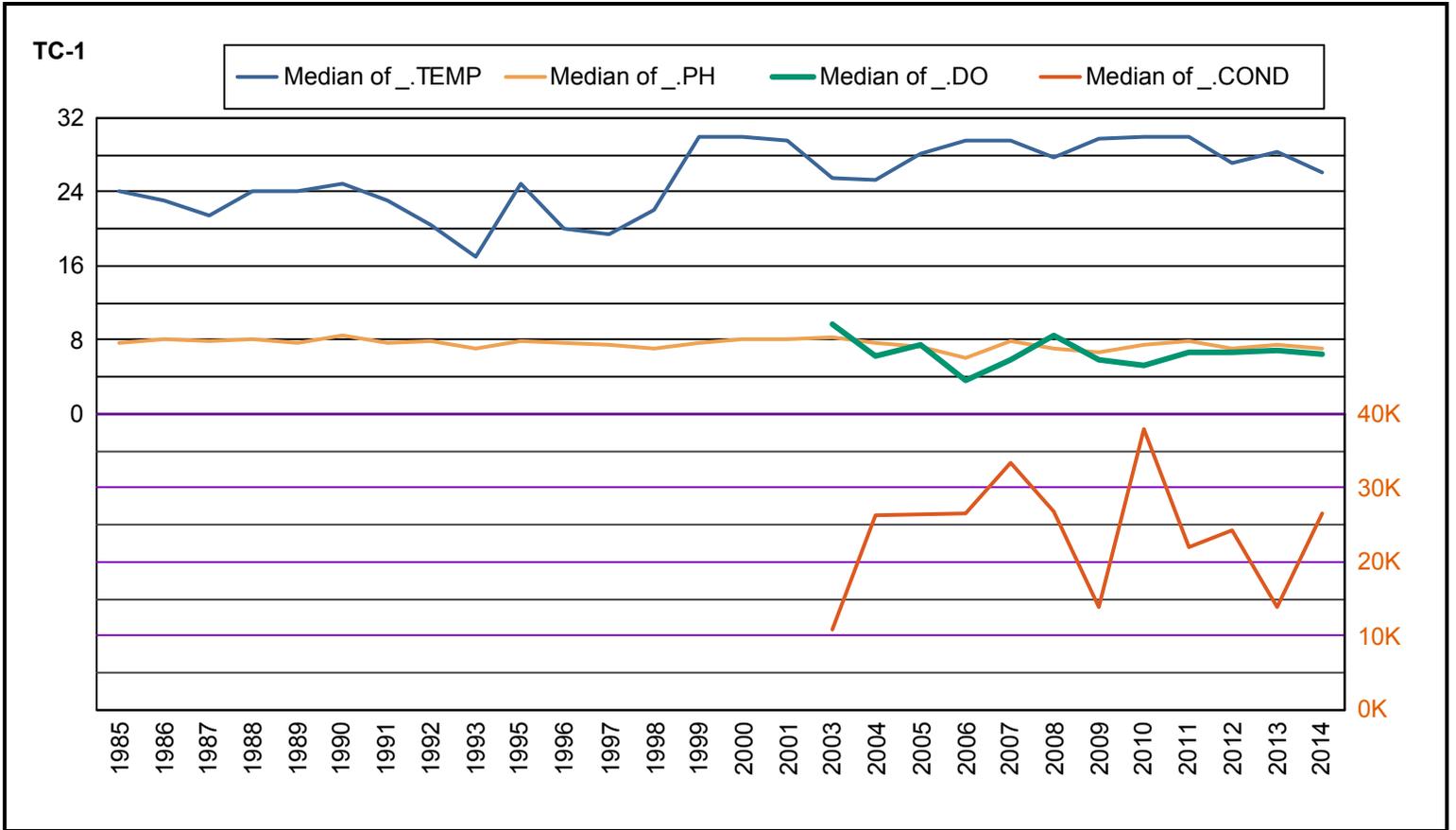
Yearly Median 



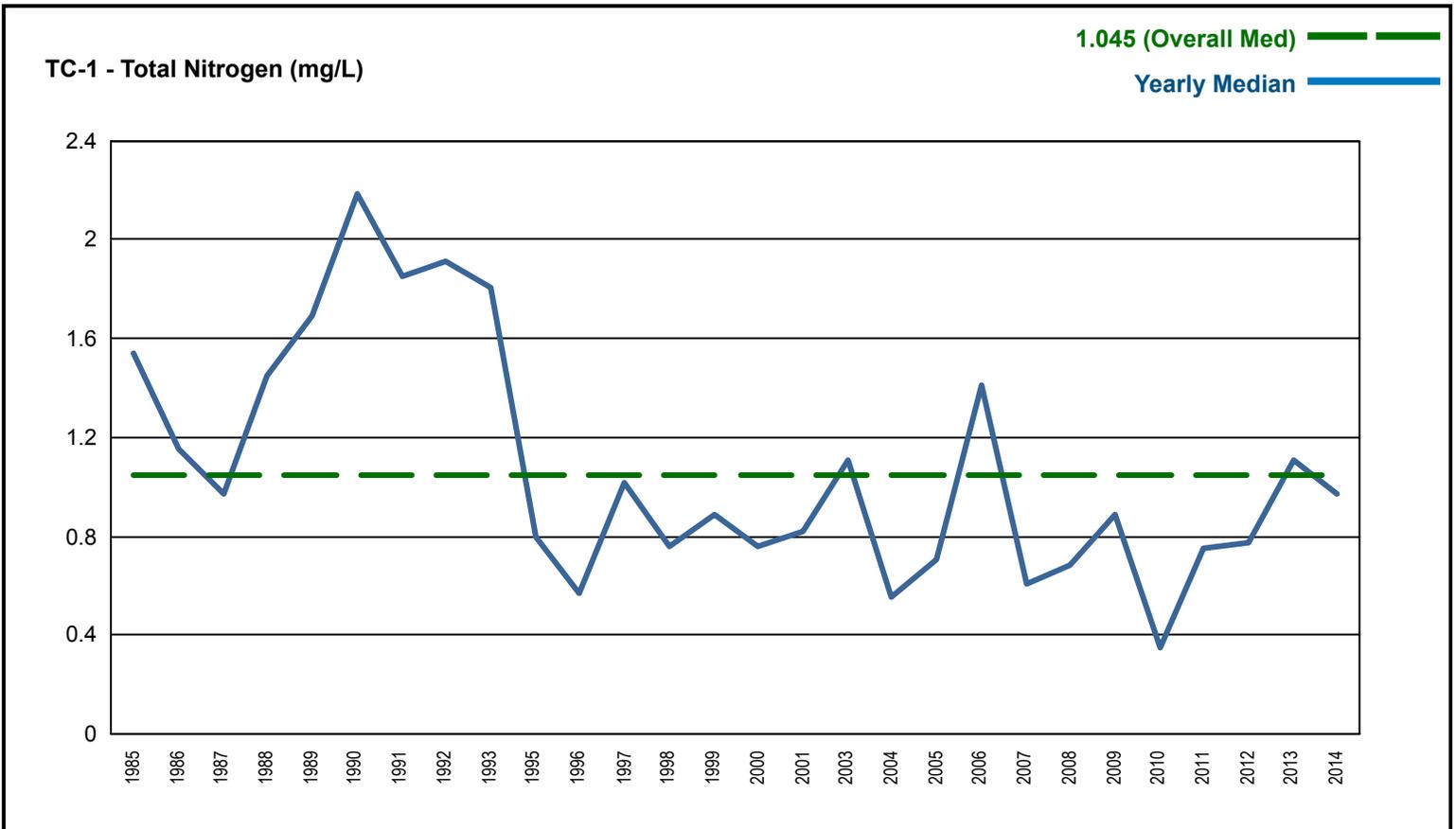
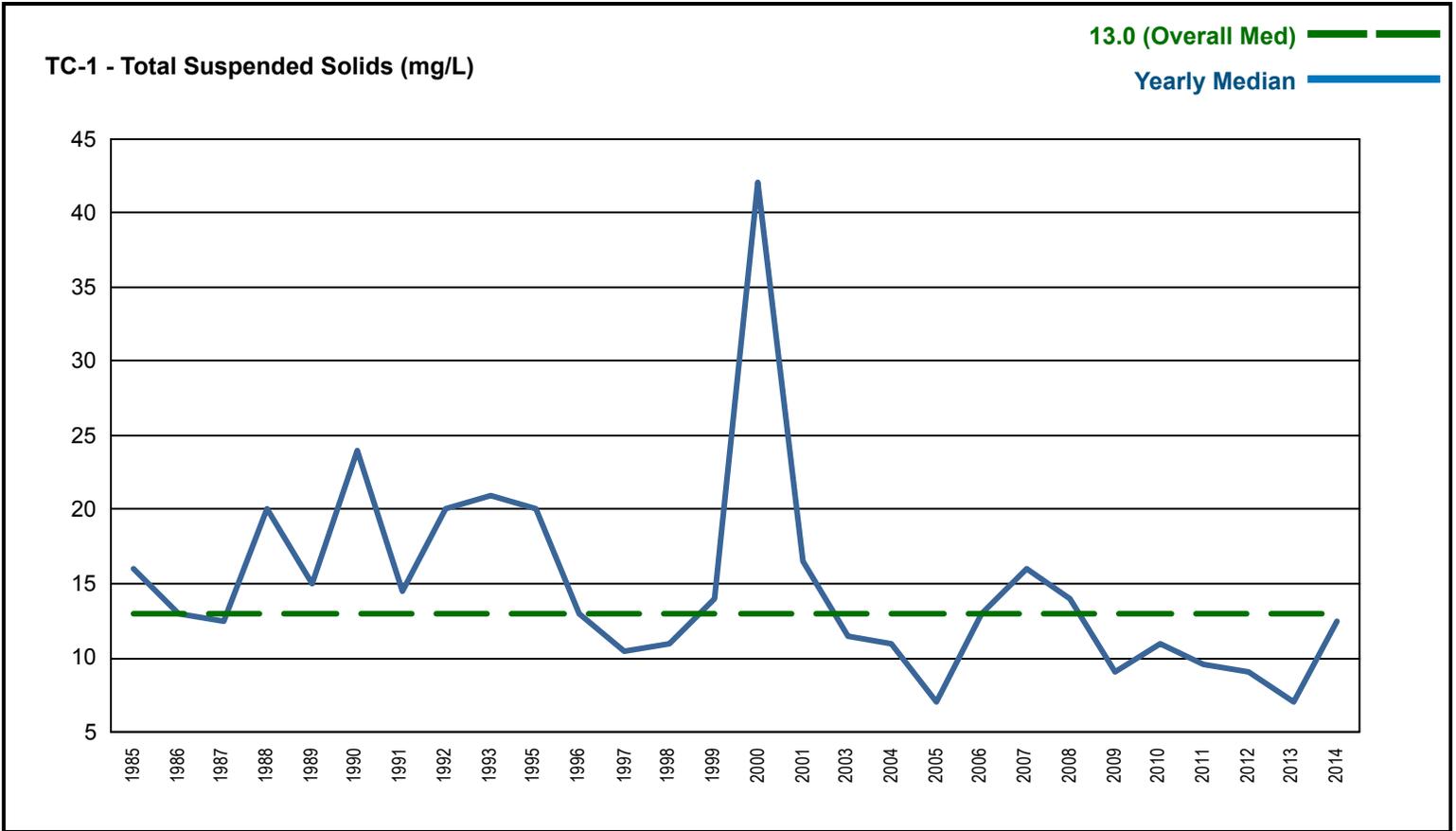
ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014



## ADEM Ambient Trend Stations - Sampled 1977 - 2014

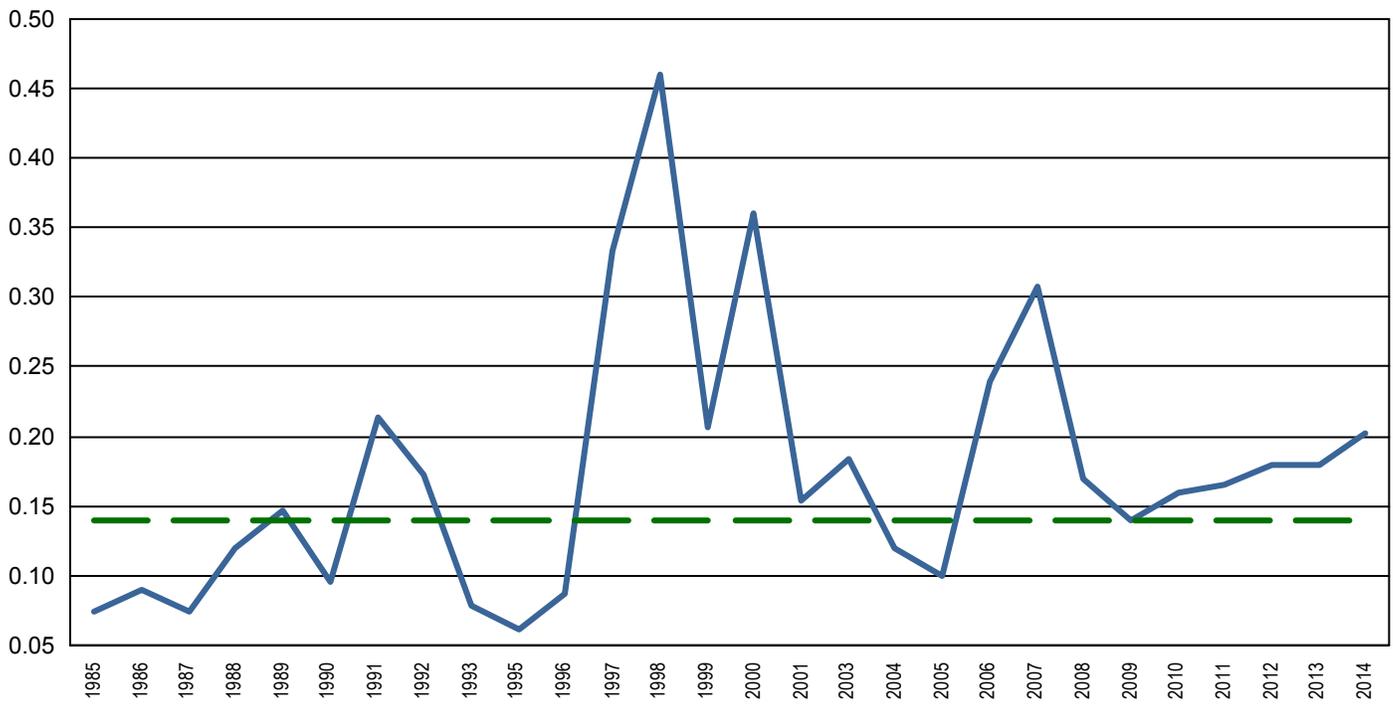


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

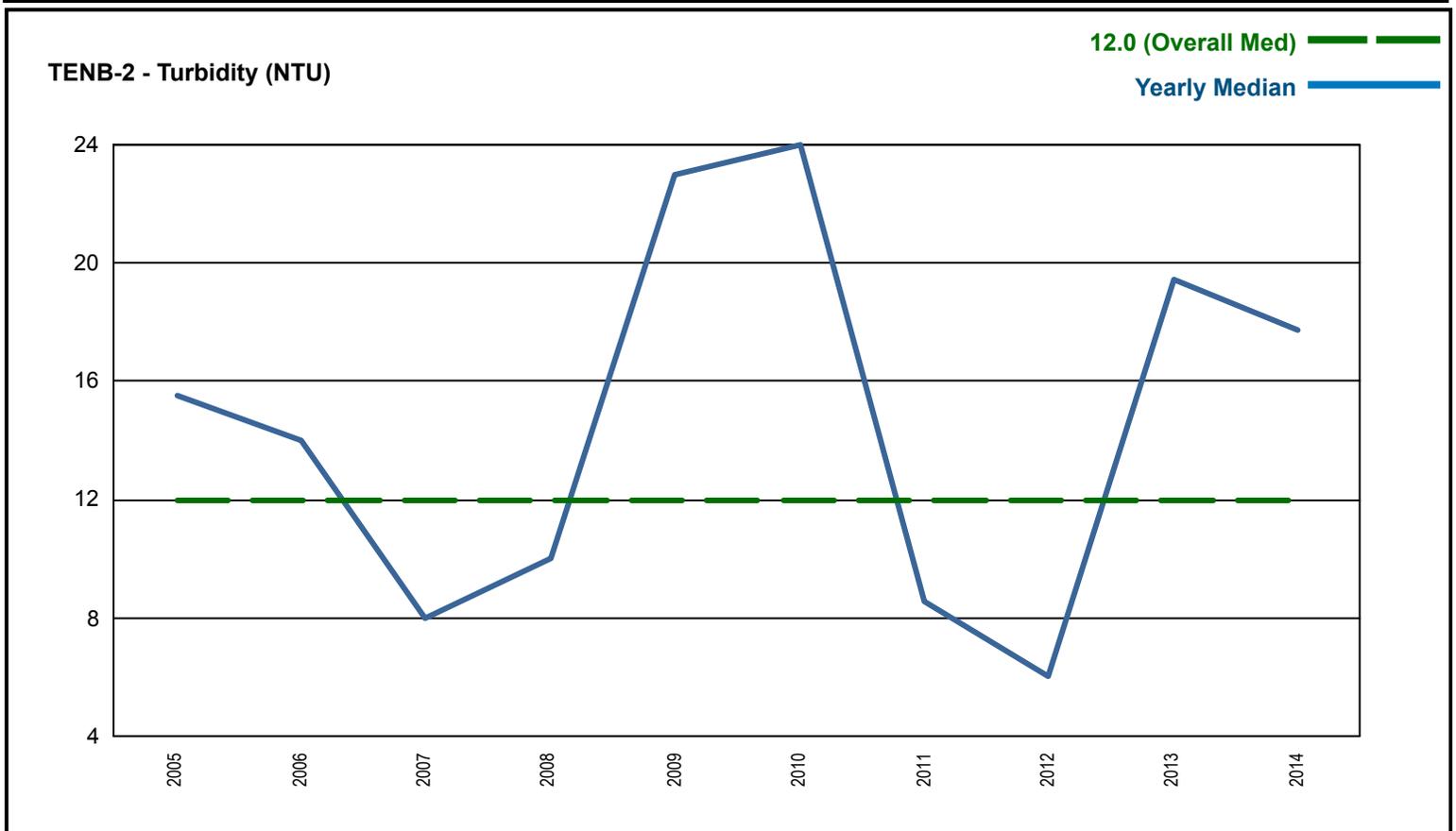
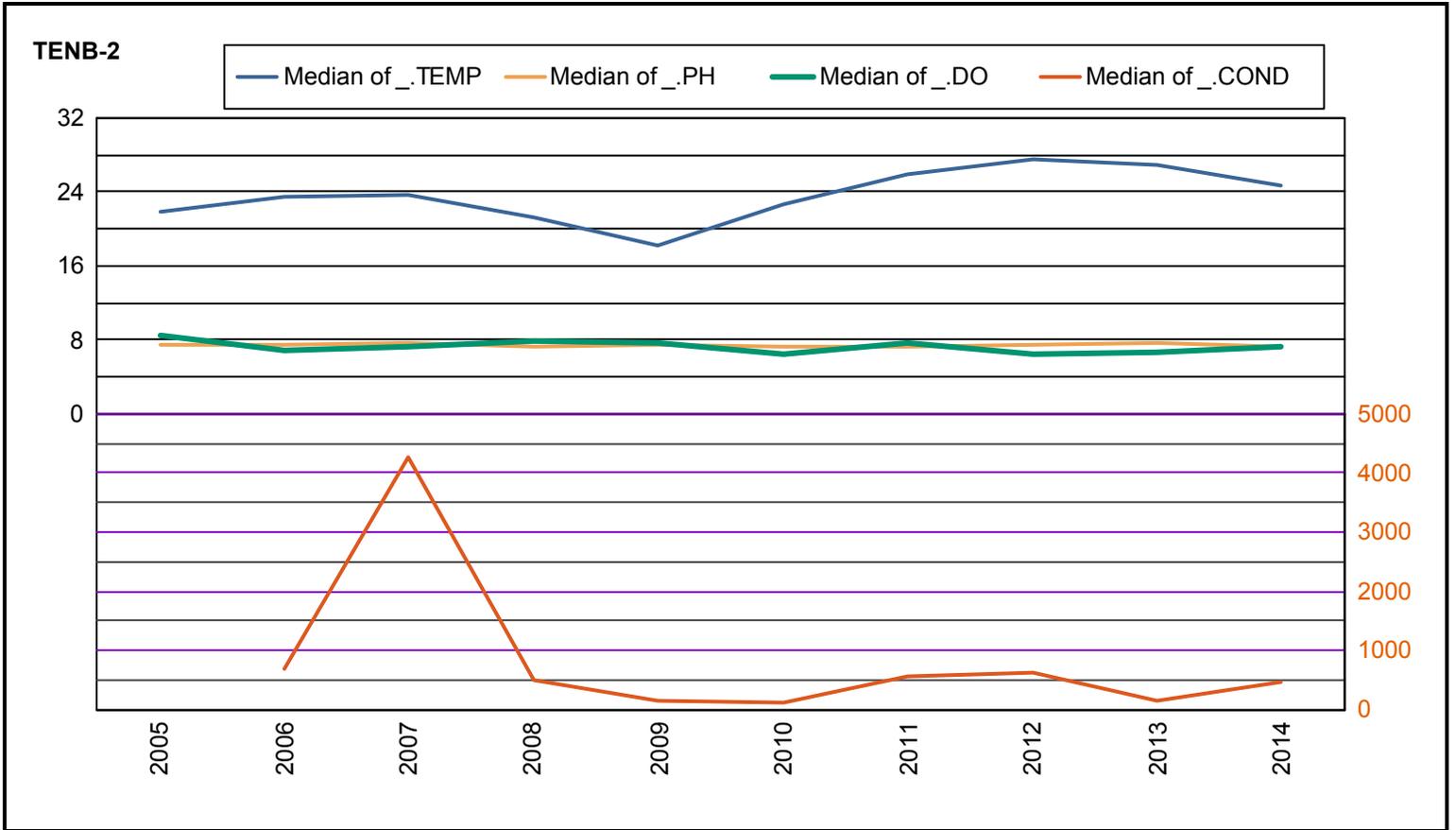
TC-1 - Total Phosphorus (mg/L)

0.140 (Overall Med) 

Yearly Median 



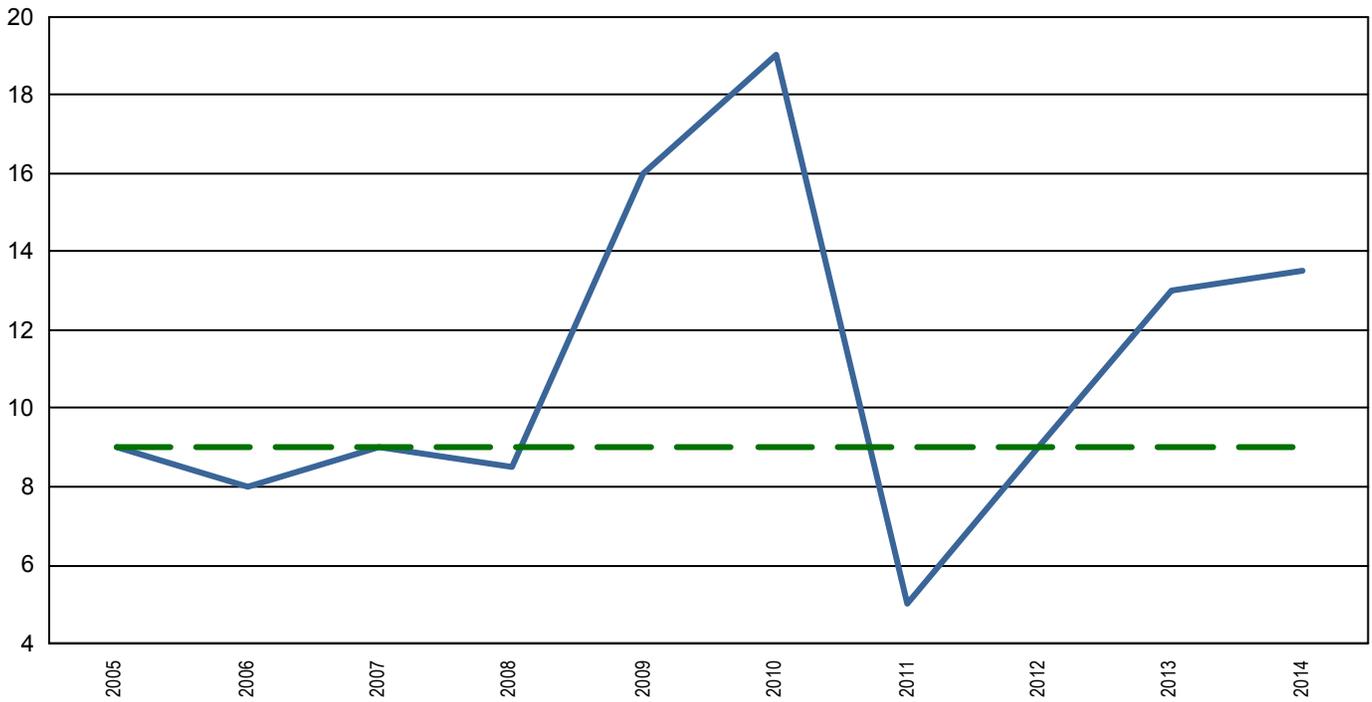
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

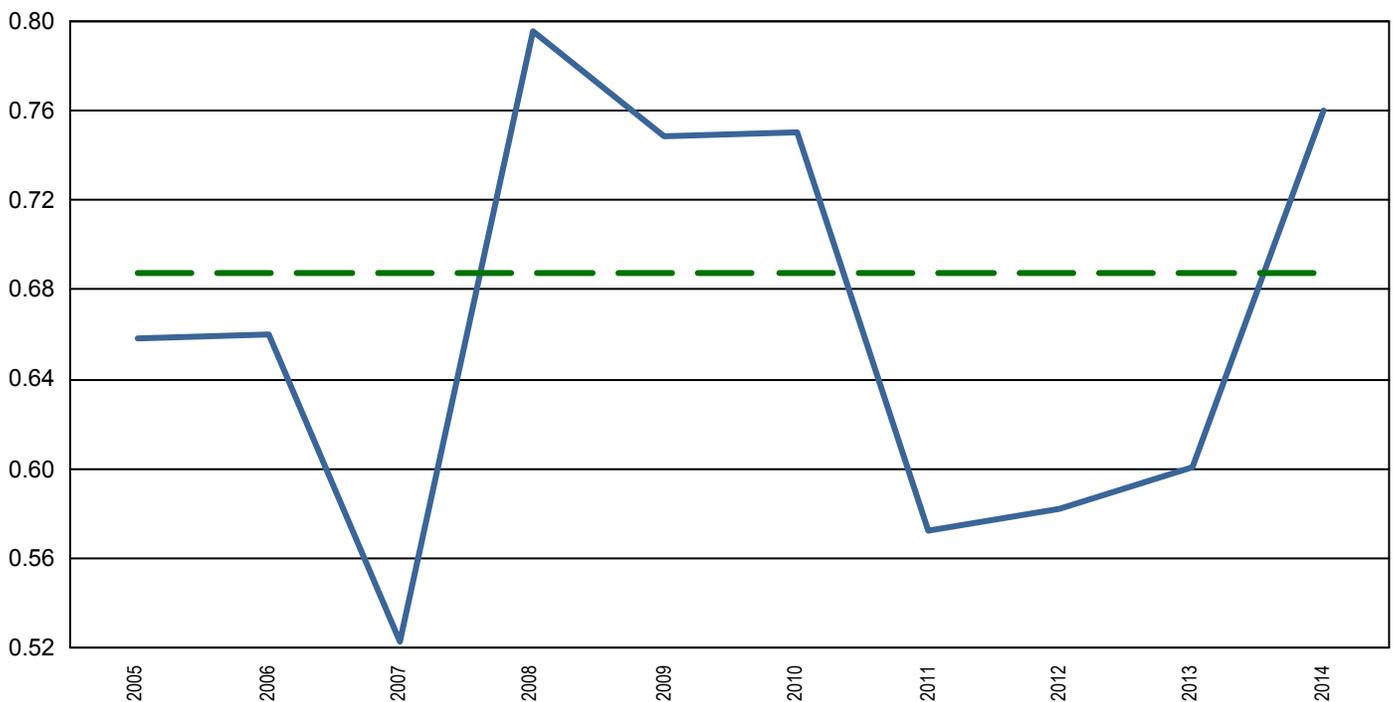
## TENB-2 - Total Suspended Solids (mg/L)

9.0 (Overall Med)   
Yearly Median 

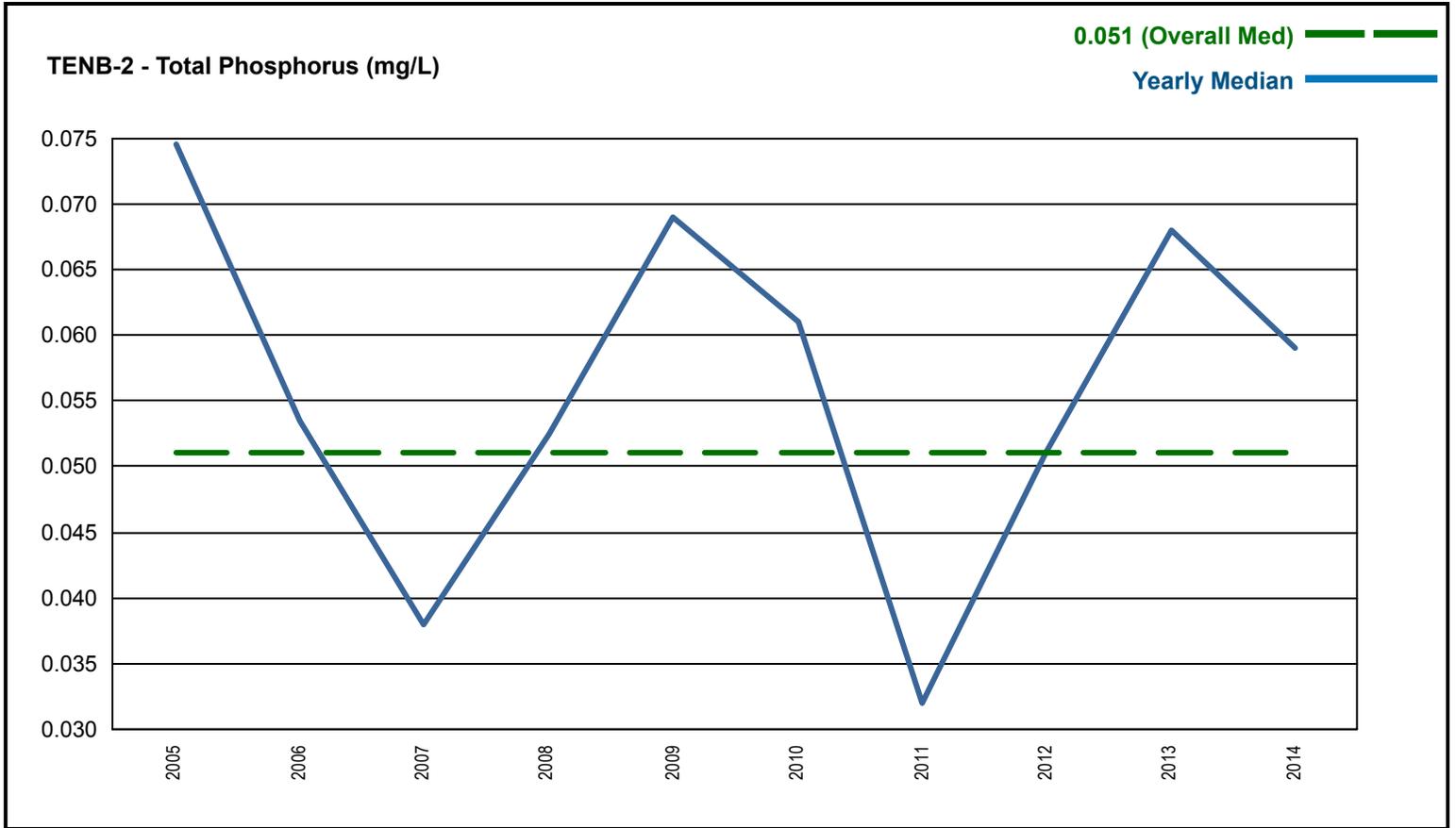


## TENB-2 - Total Nitrogen (mg/L)

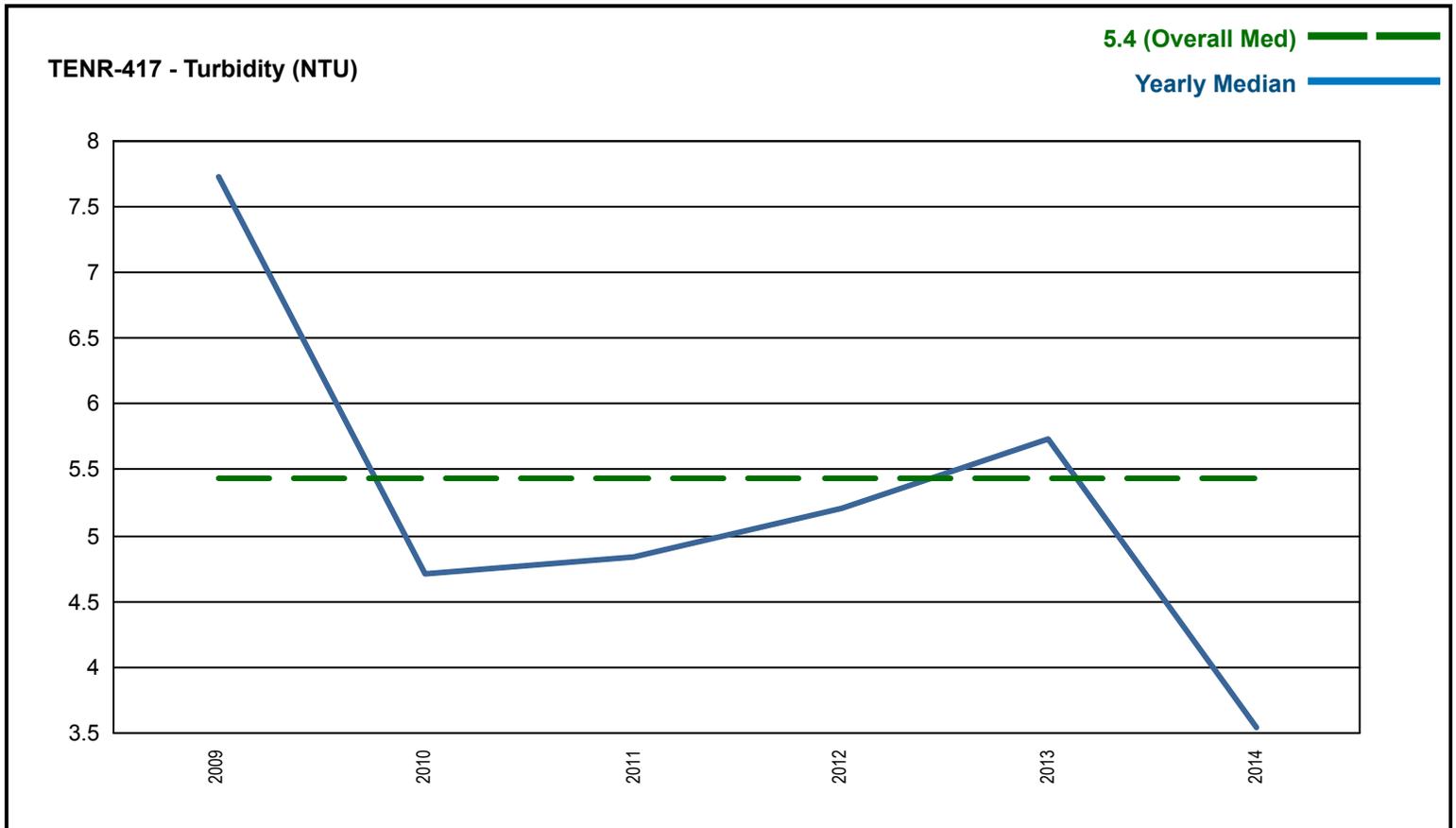
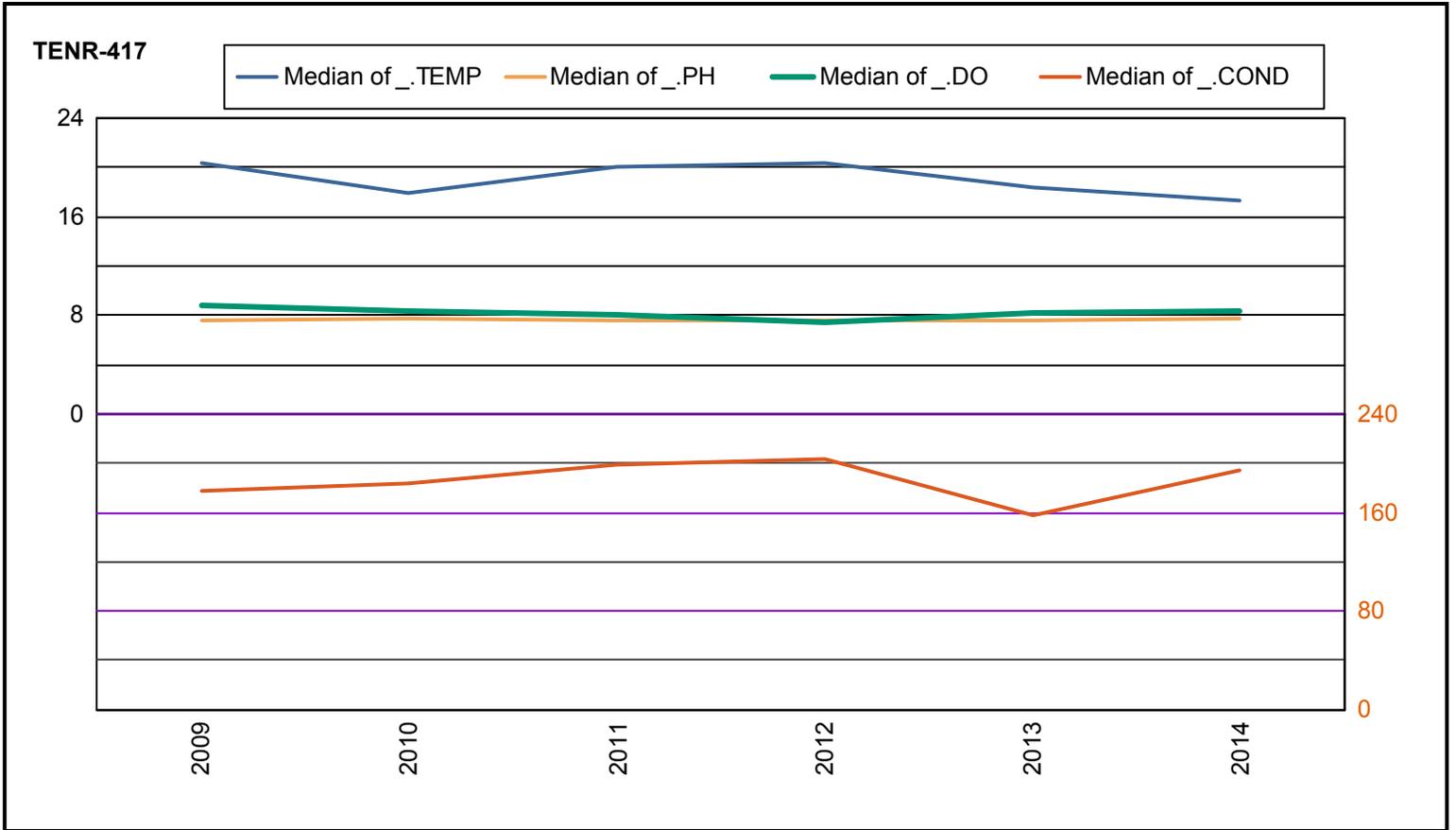
0.688 (Overall Med)   
Yearly Median 



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

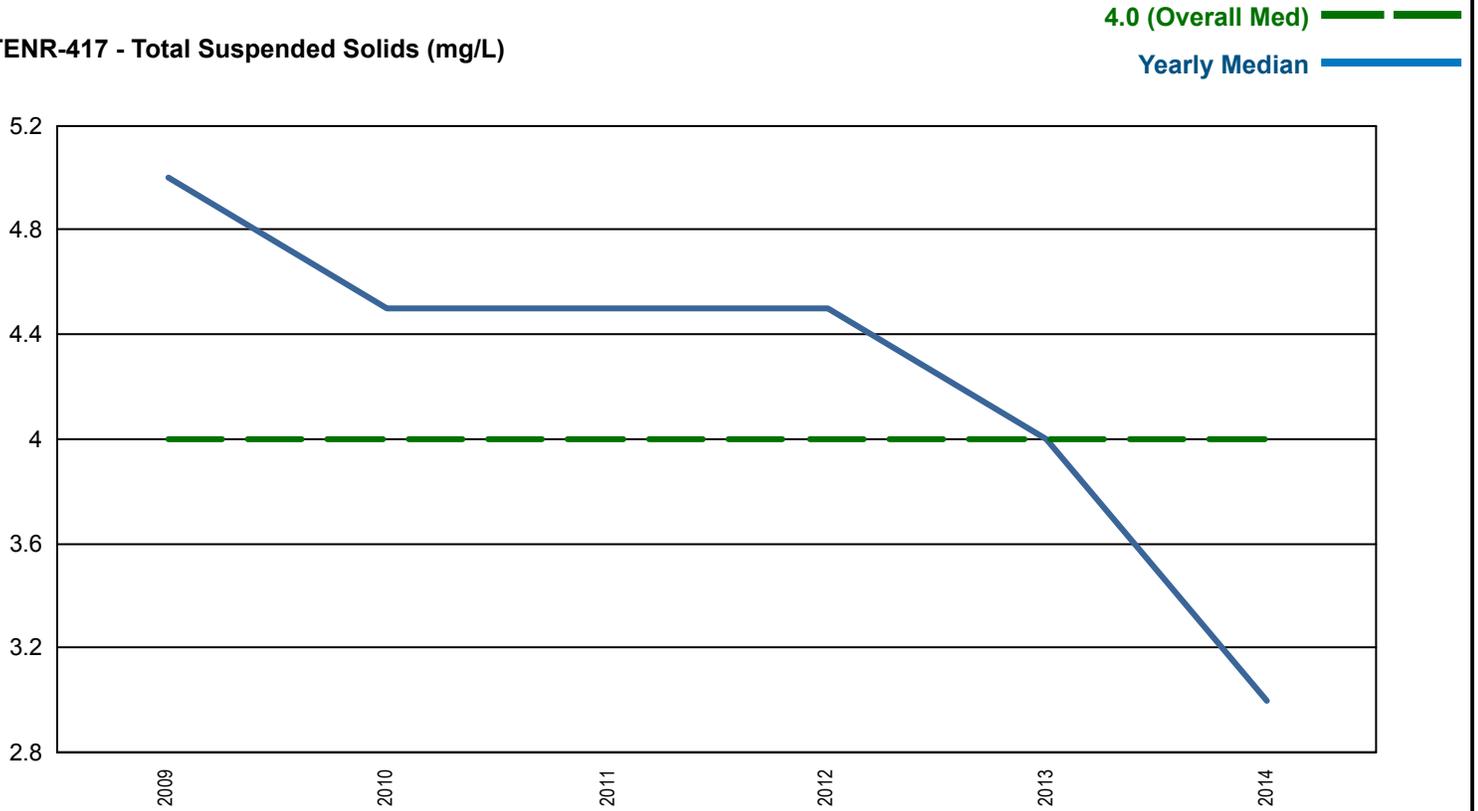


## ADEM Ambient Trend Stations - Sampled 1977 - 2014

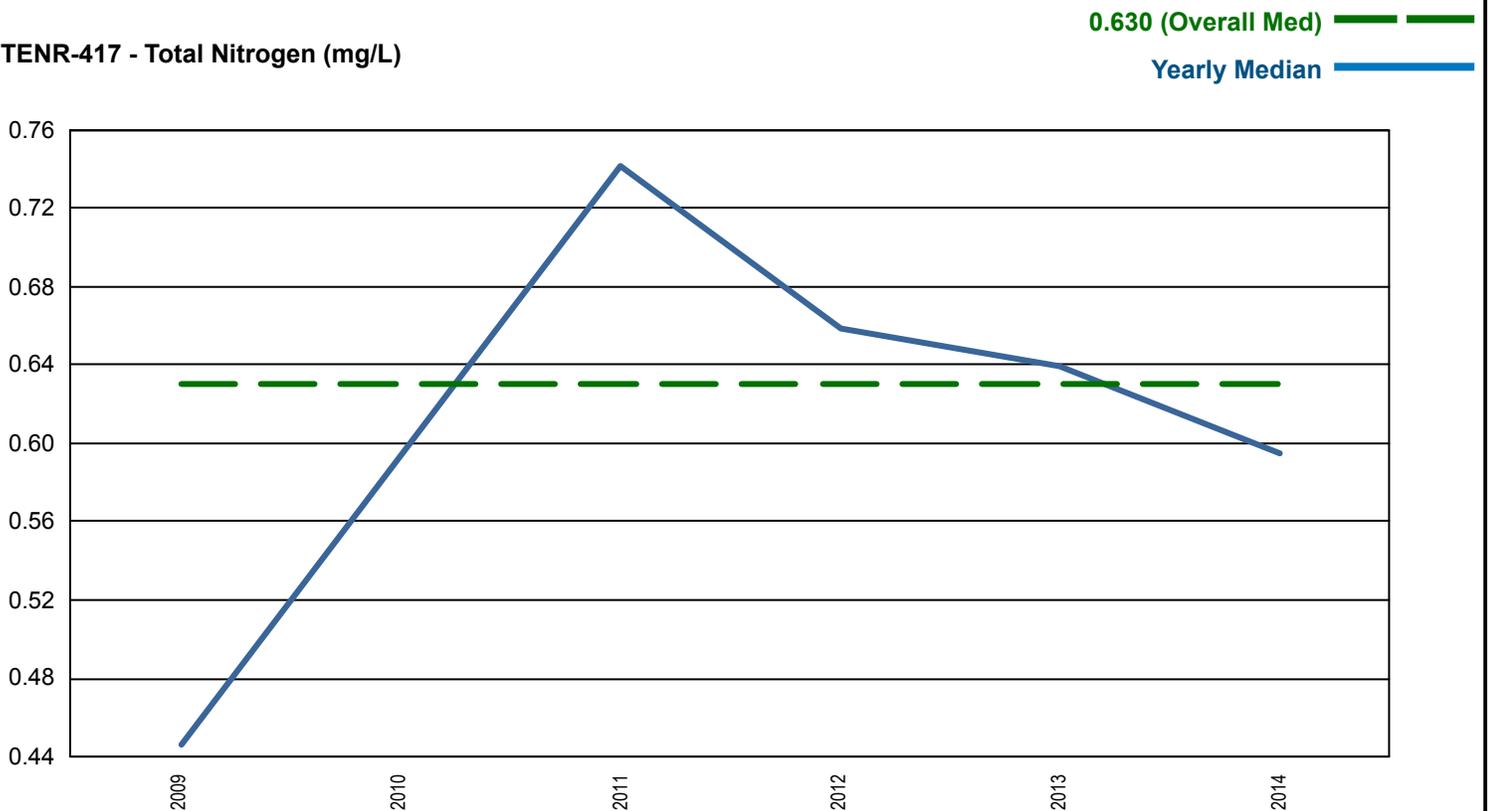


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

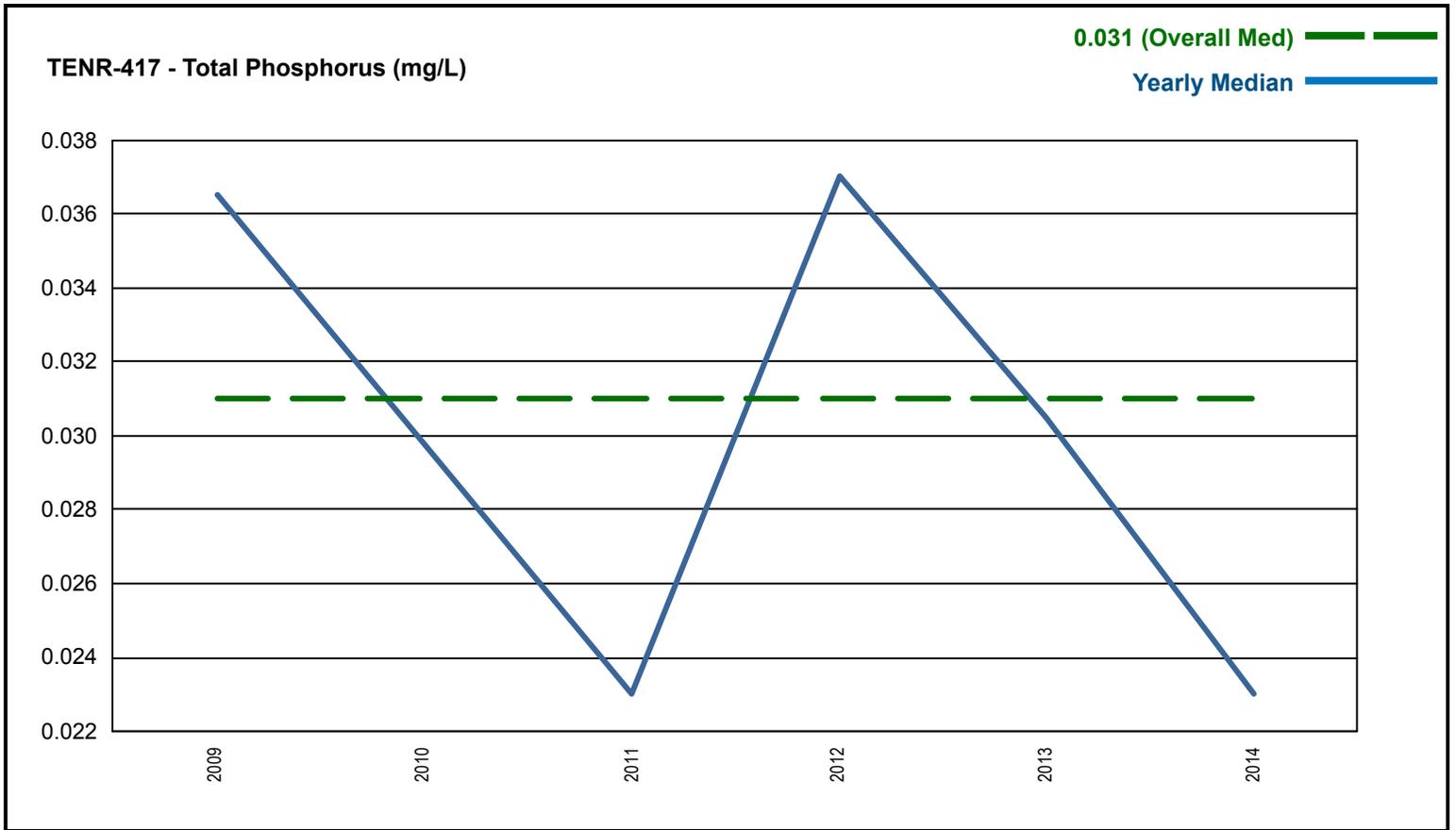
## TENR-417 - Total Suspended Solids (mg/L)



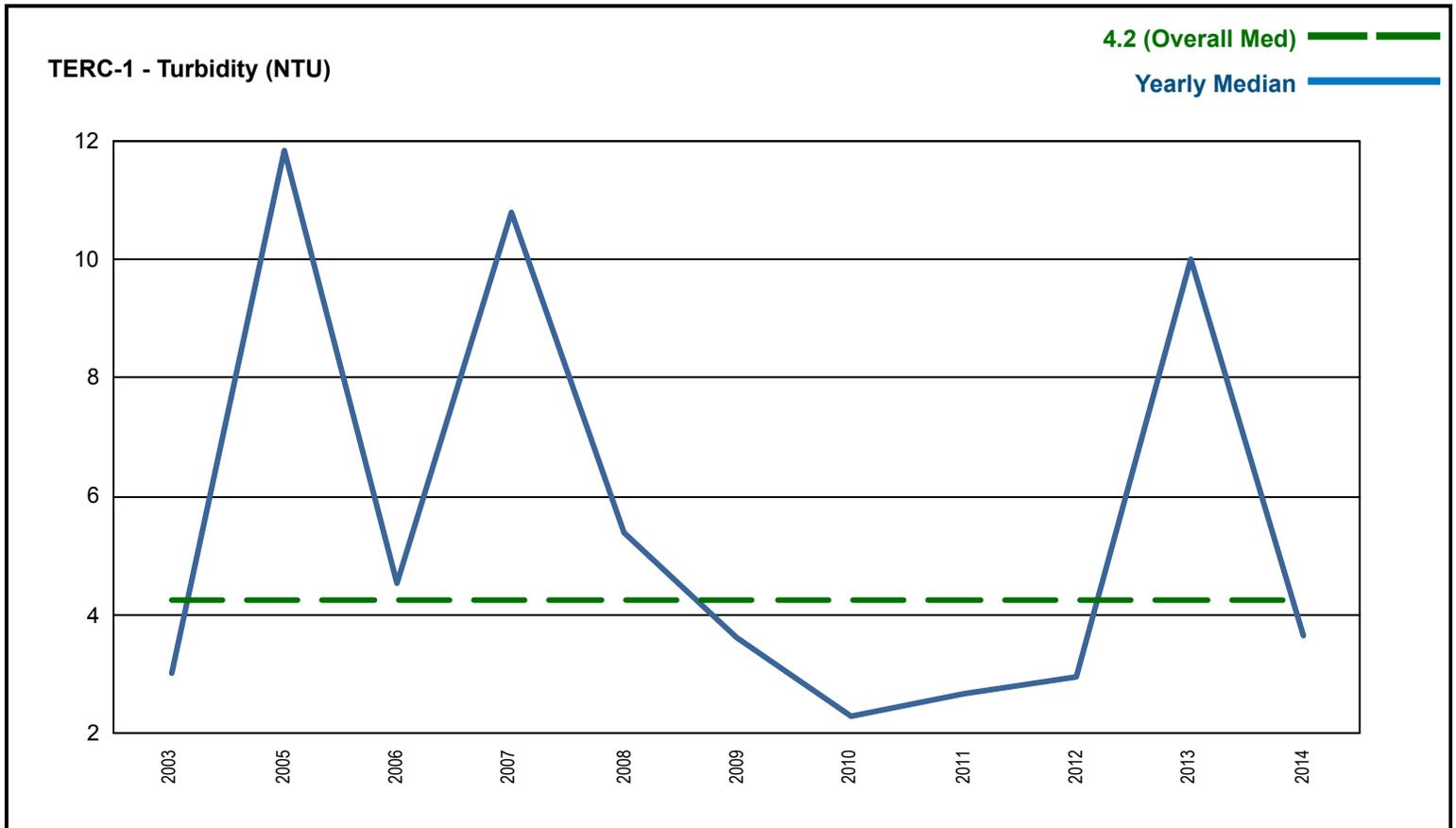
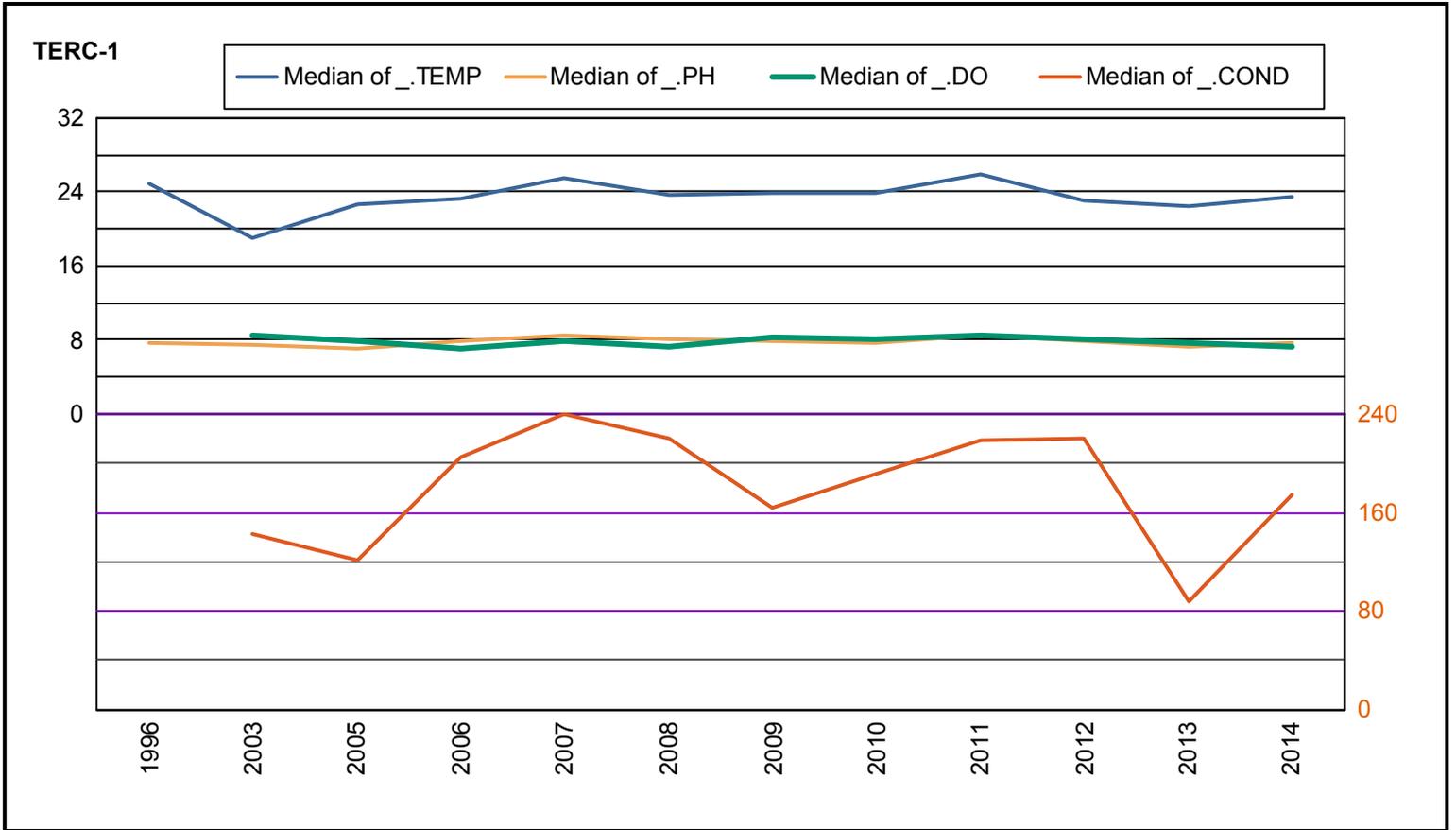
## TENR-417 - Total Nitrogen (mg/L)



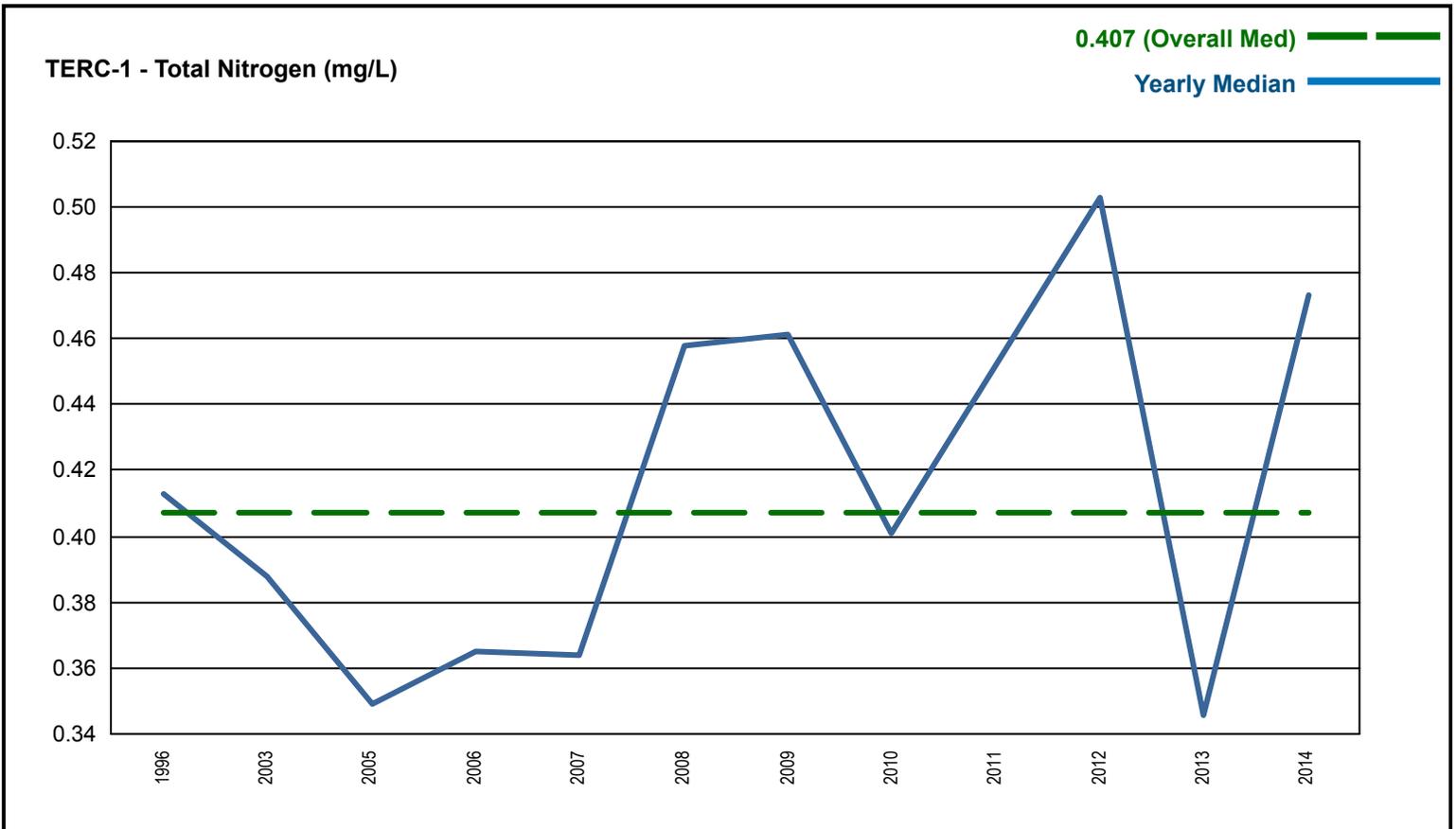
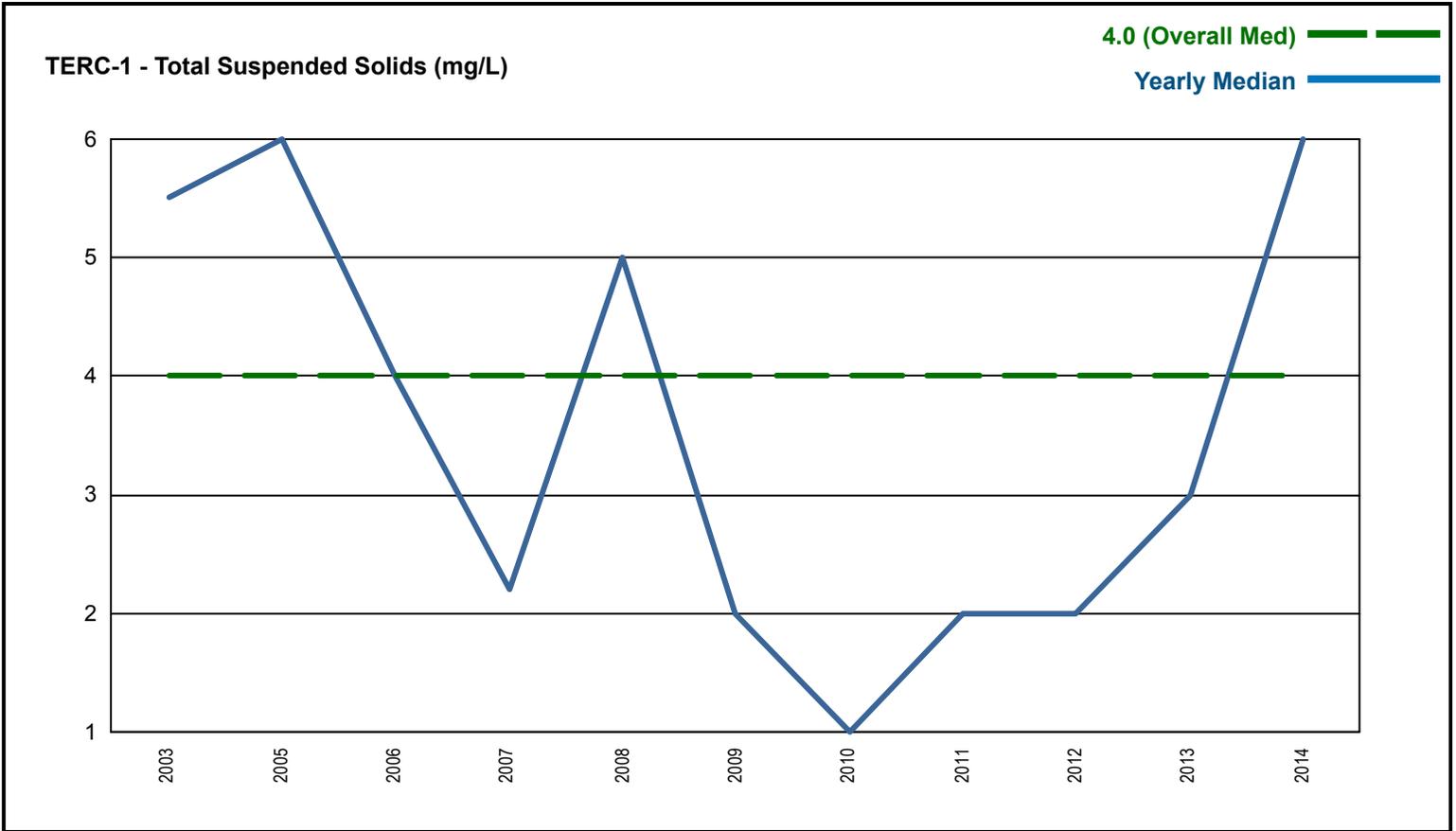
ADEM Ambient Trend Stations - Sampled 1977 - 2014



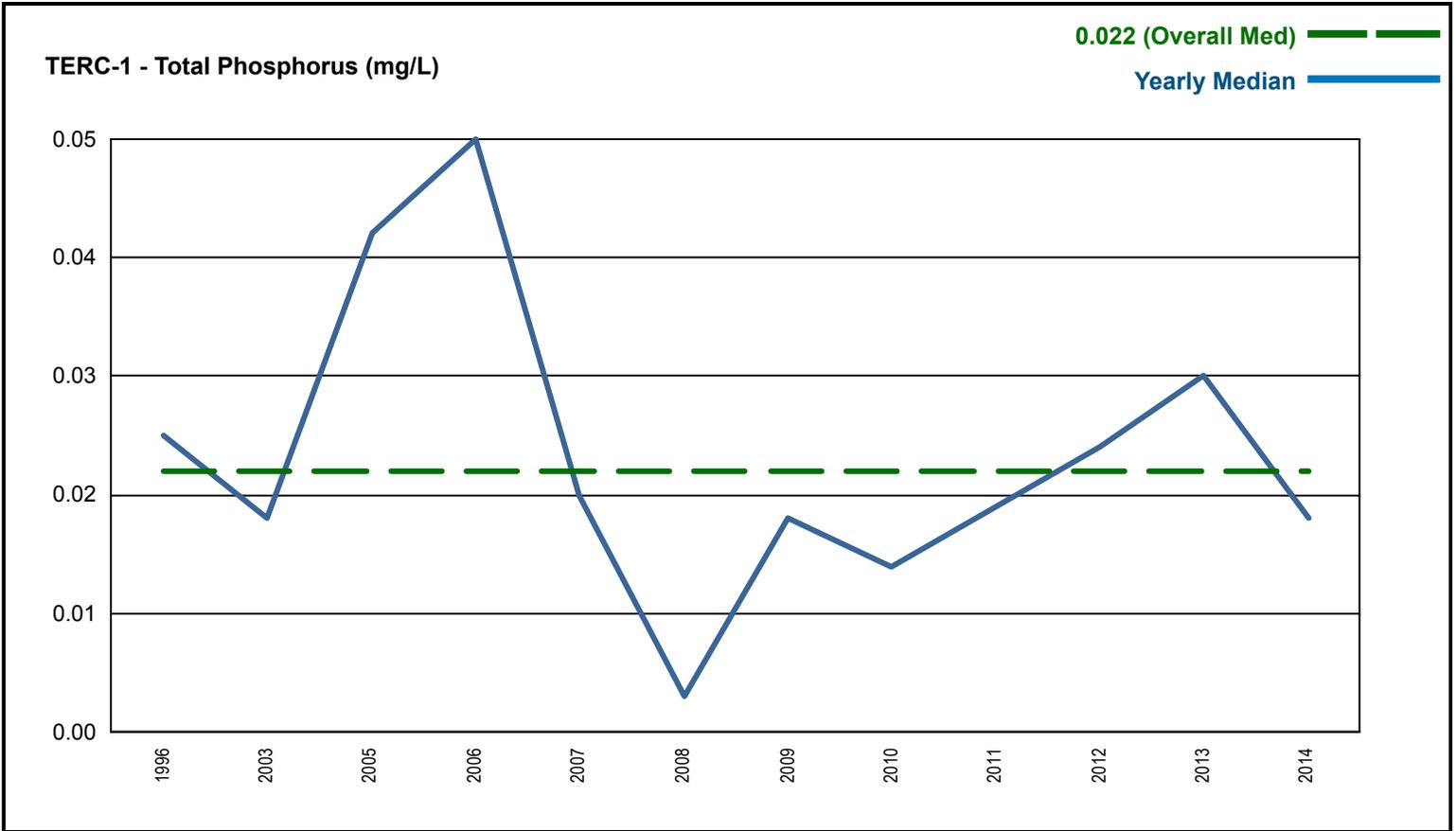
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



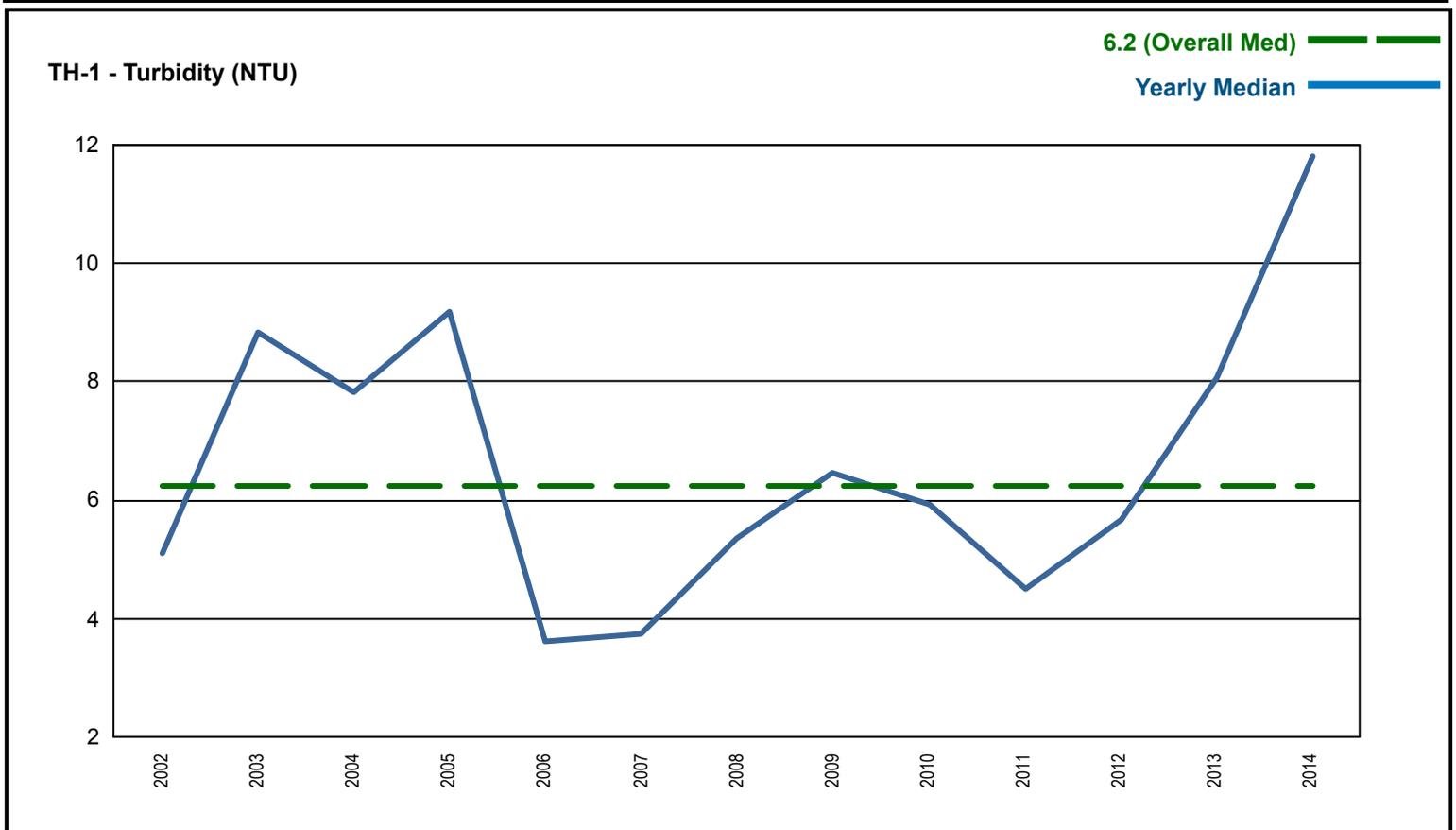
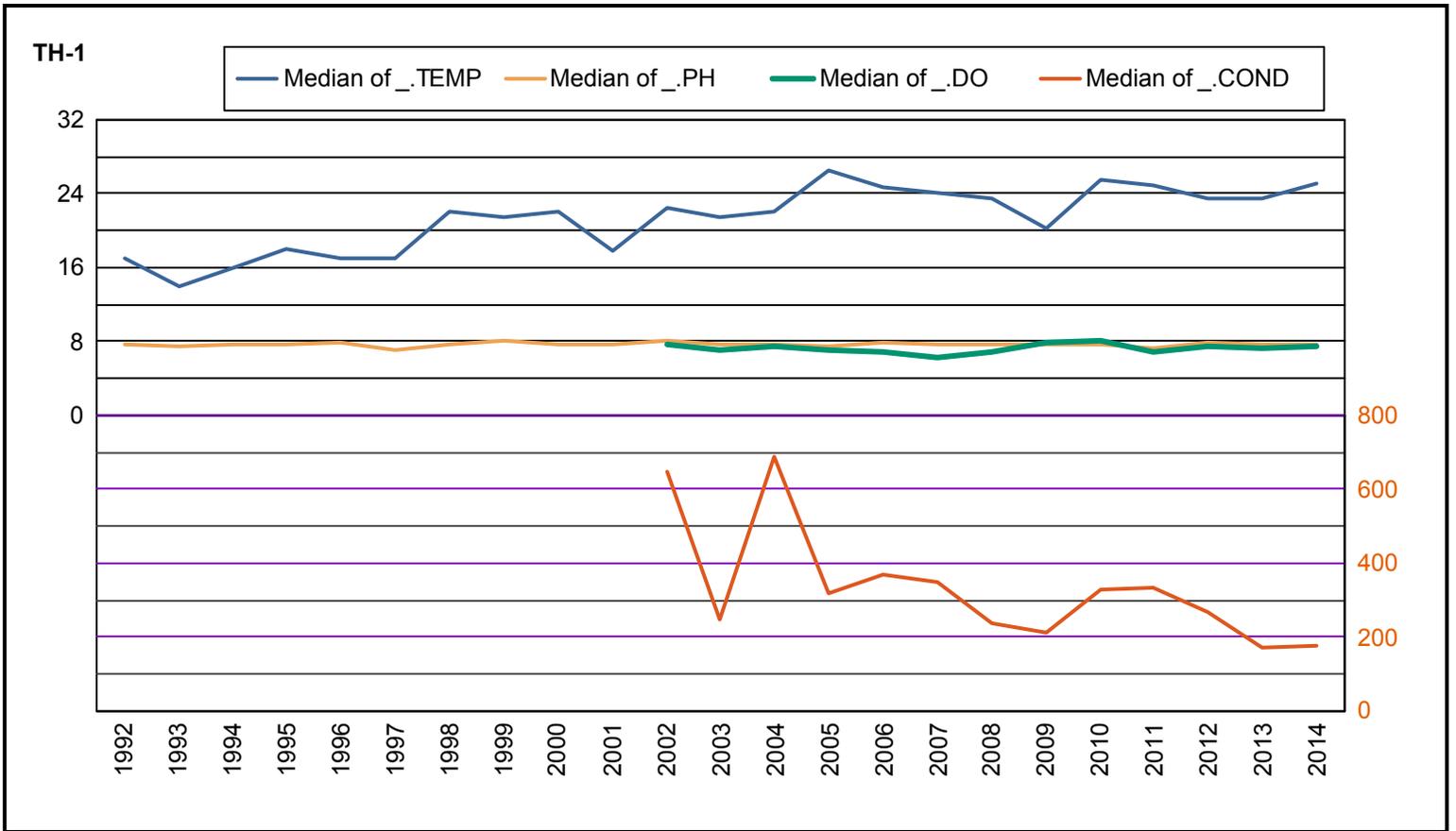
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



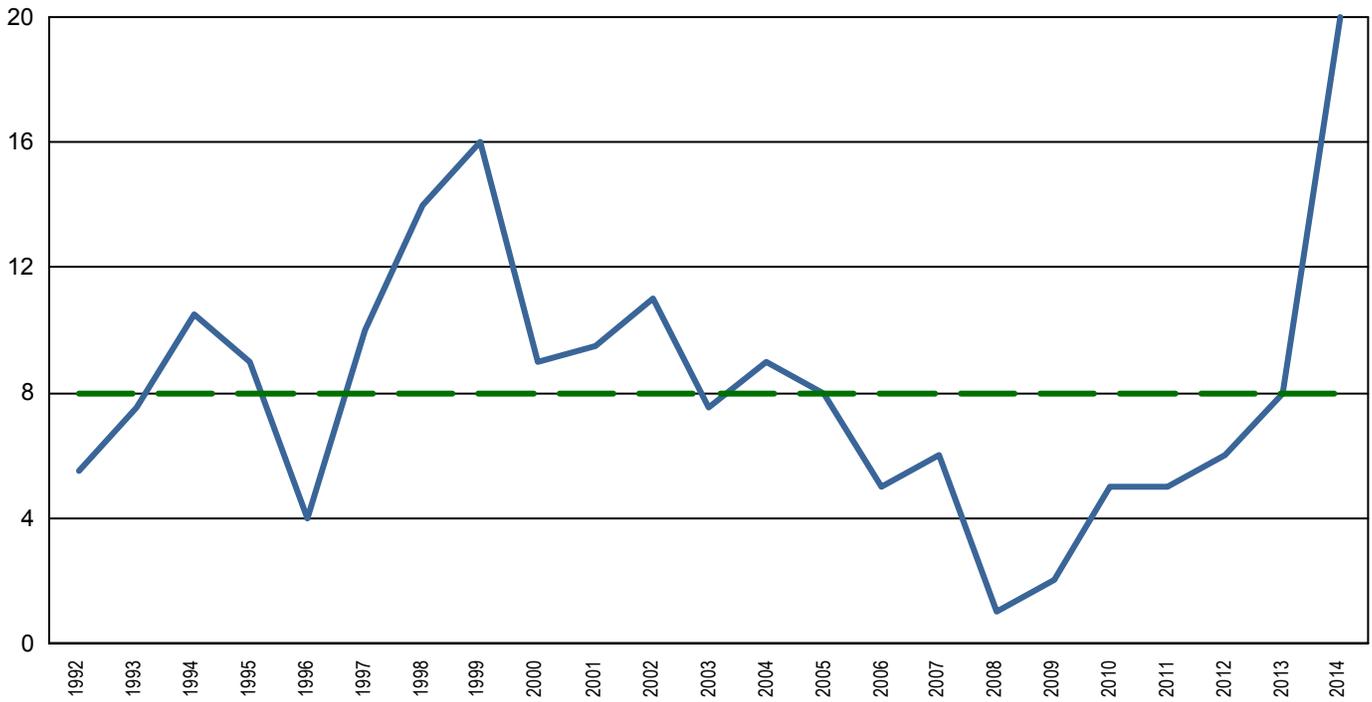
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

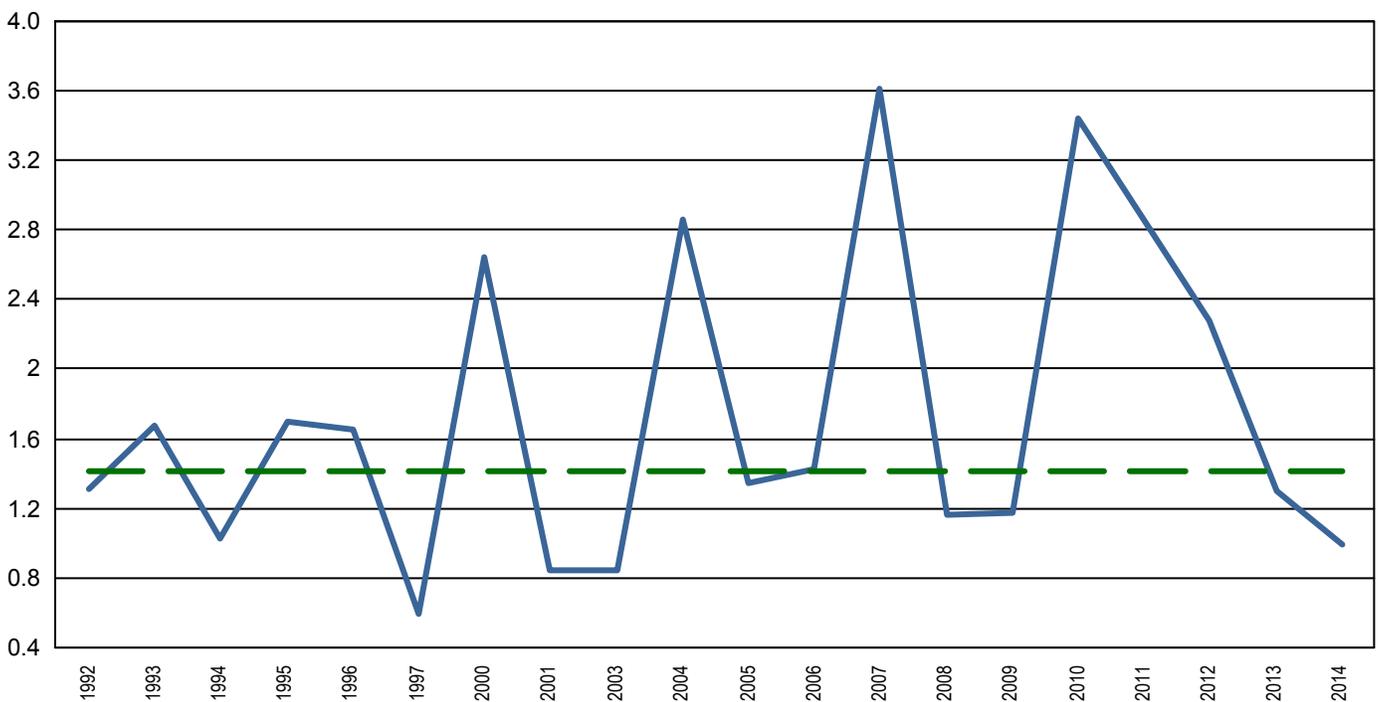
## TH-1 - Total Suspended Solids (mg/L)

8.0 (Overall Med)   
Yearly Median 



## TH-1 - Total Nitrogen (mg/L)

1.412 (Overall Med)   
Yearly Median 

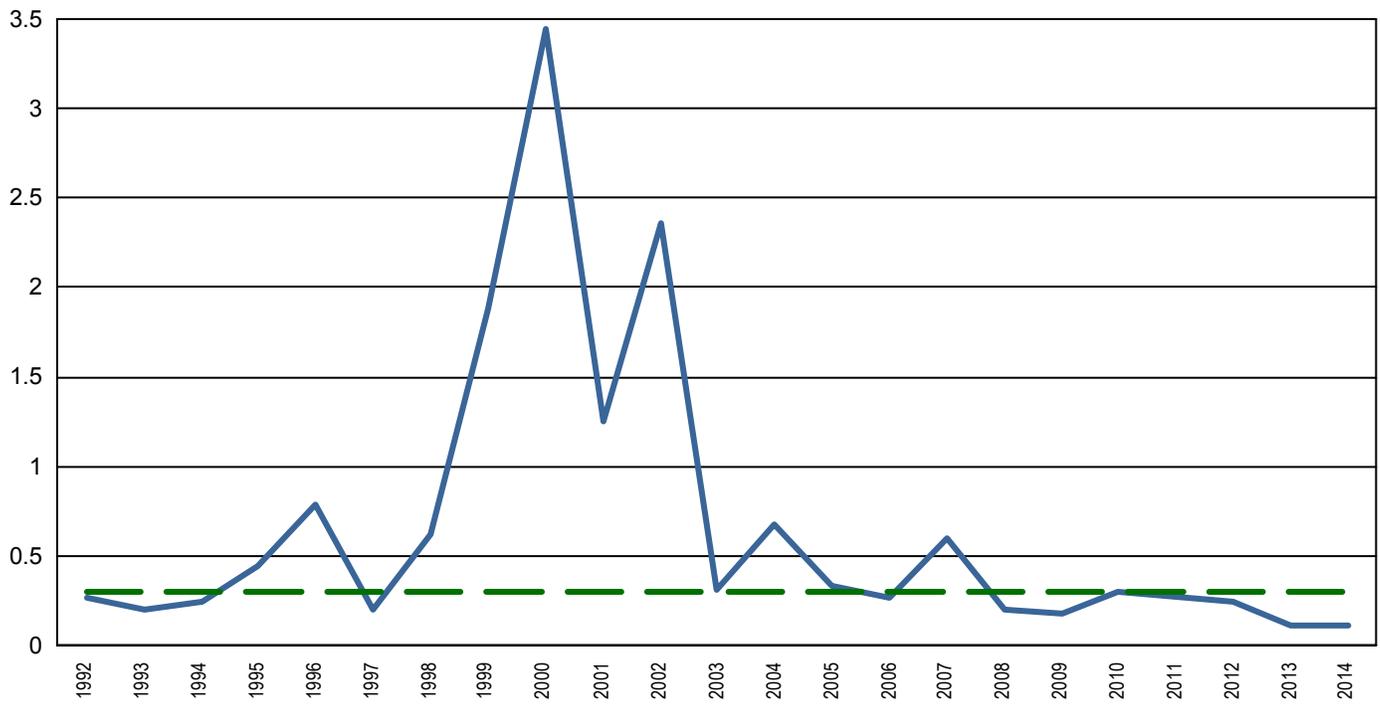


# ADEM Ambient Trend Stations - Sampled 1977 - 2014

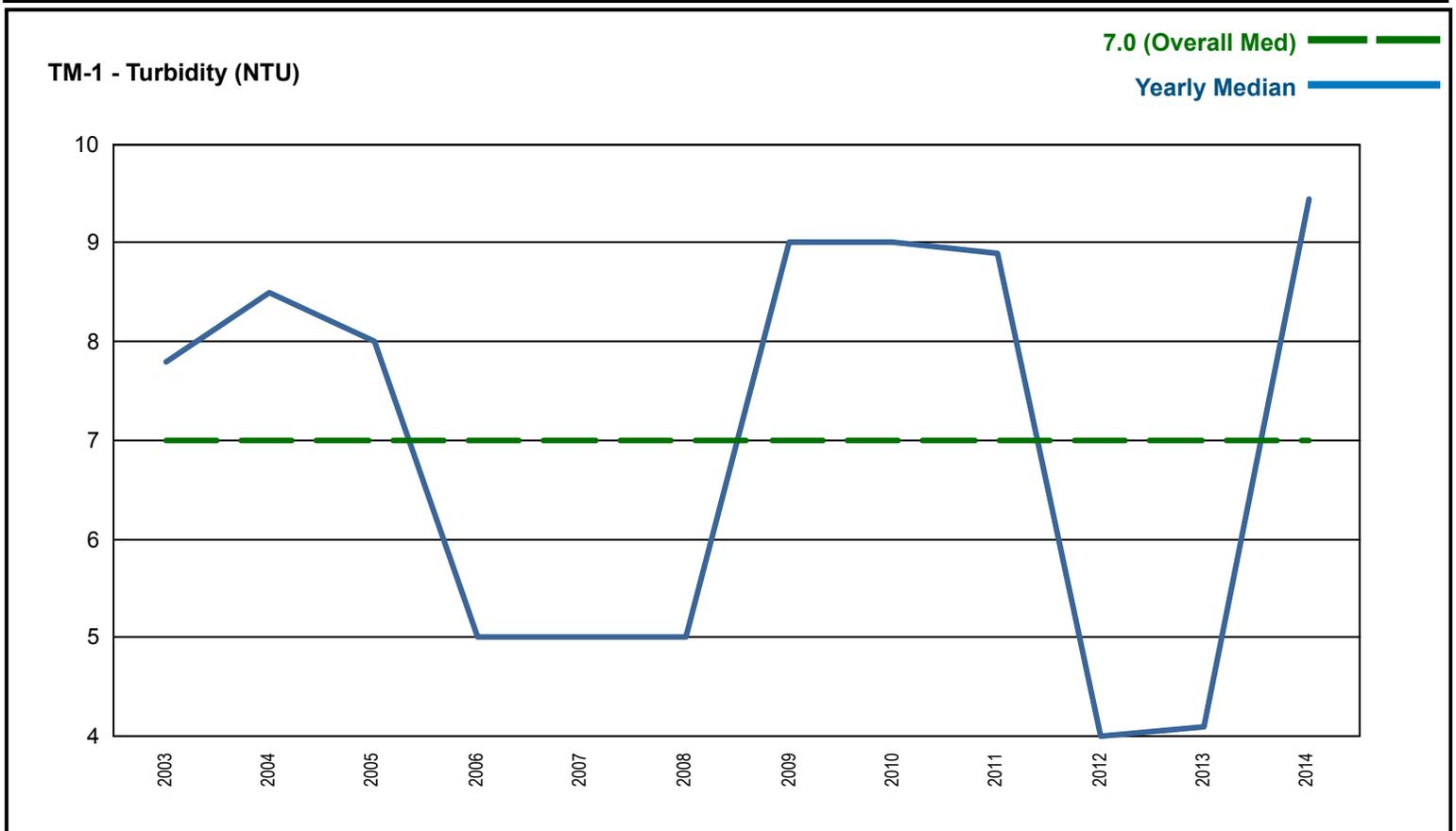
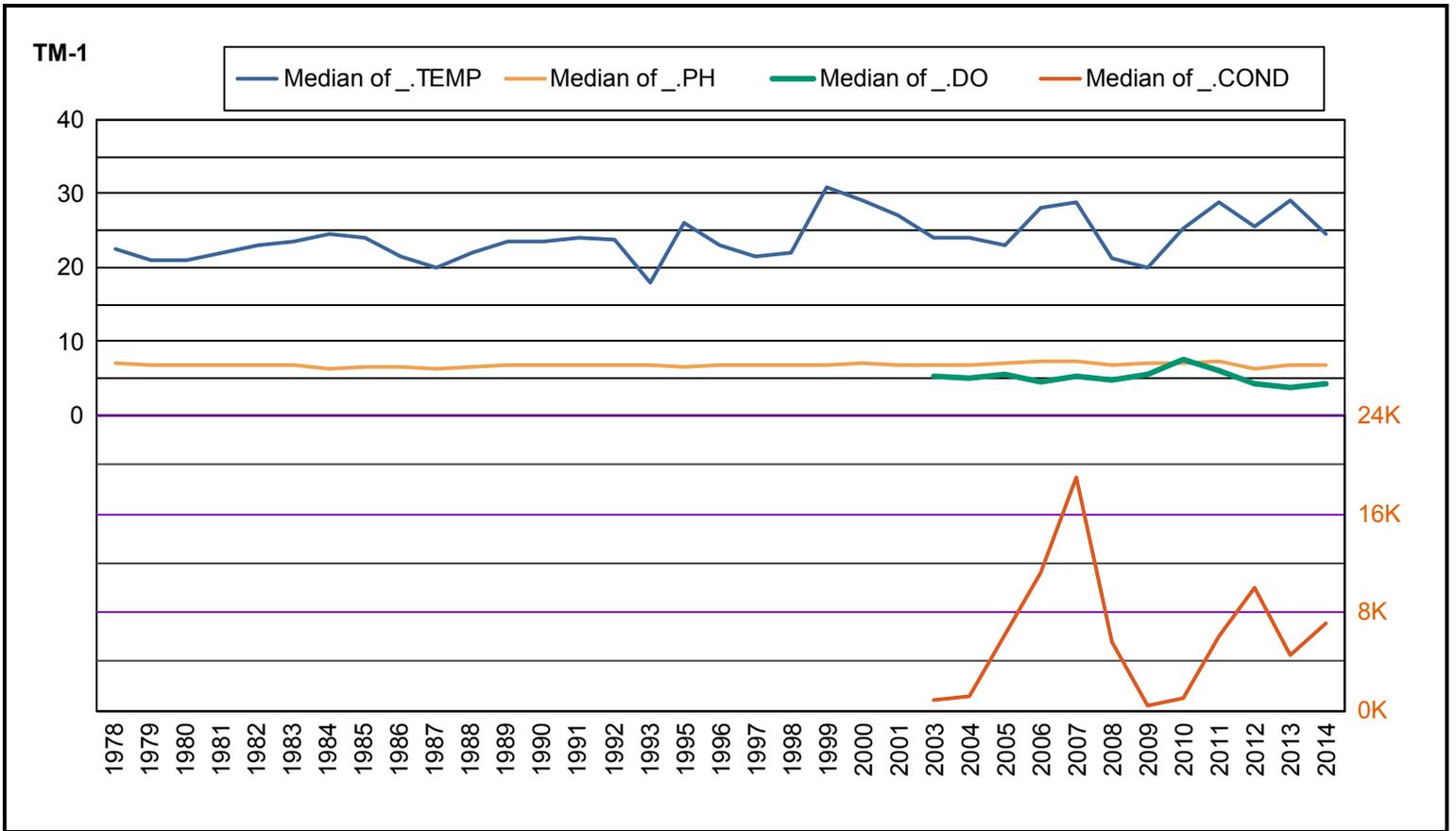
TH-1 - Total Phosphorus (mg/L)

0.304 (Overall Med) 

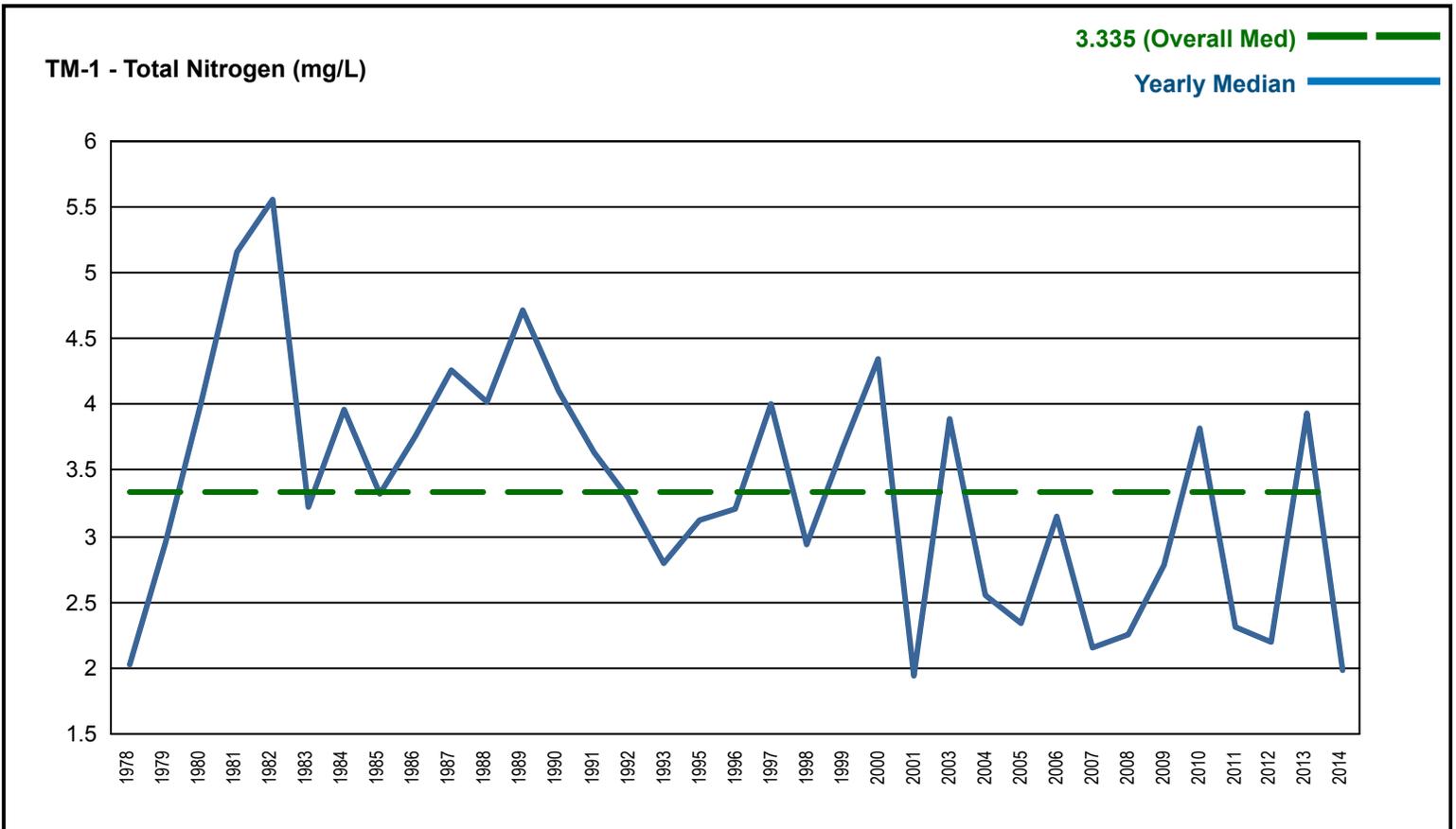
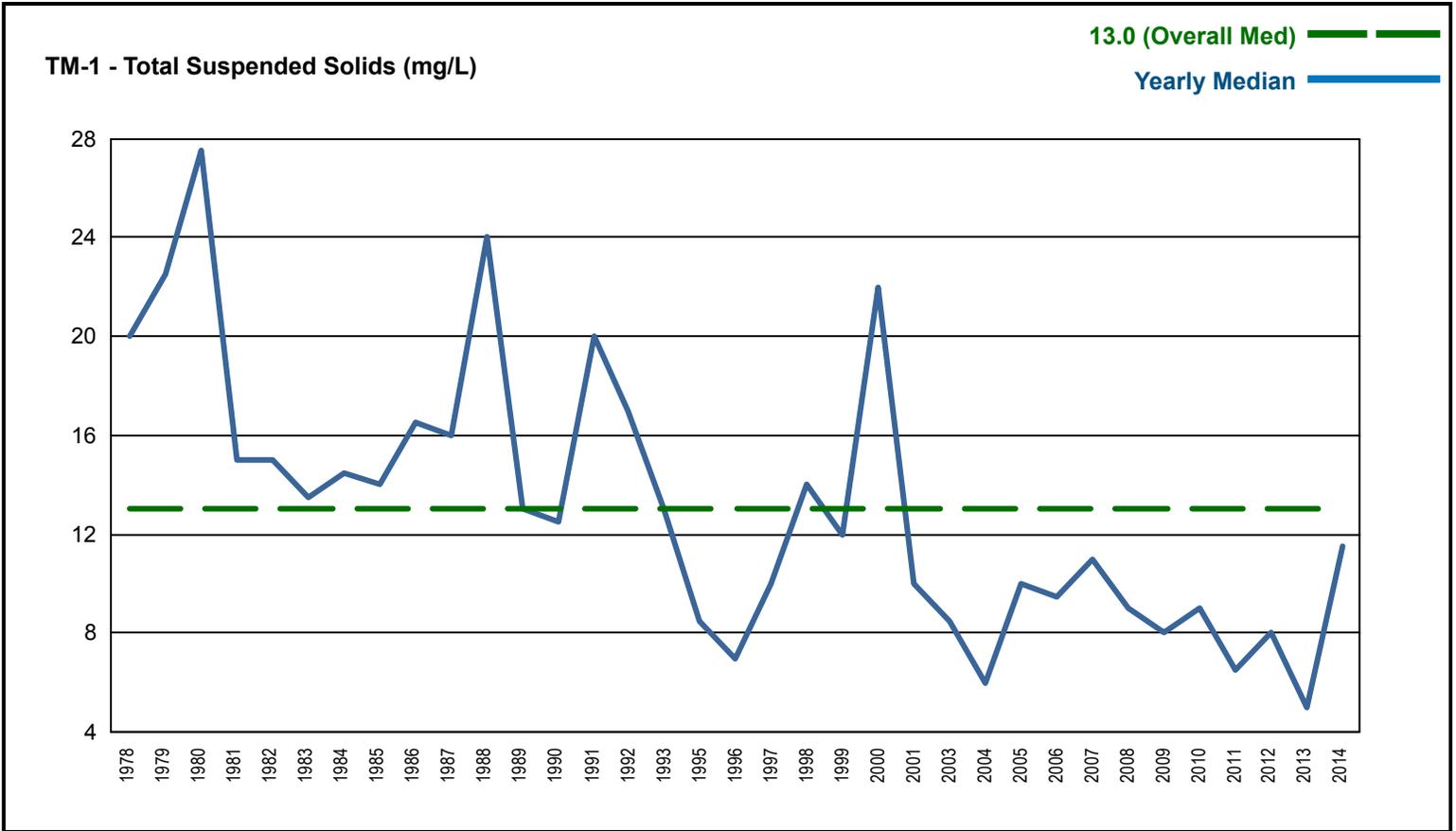
Yearly Median 



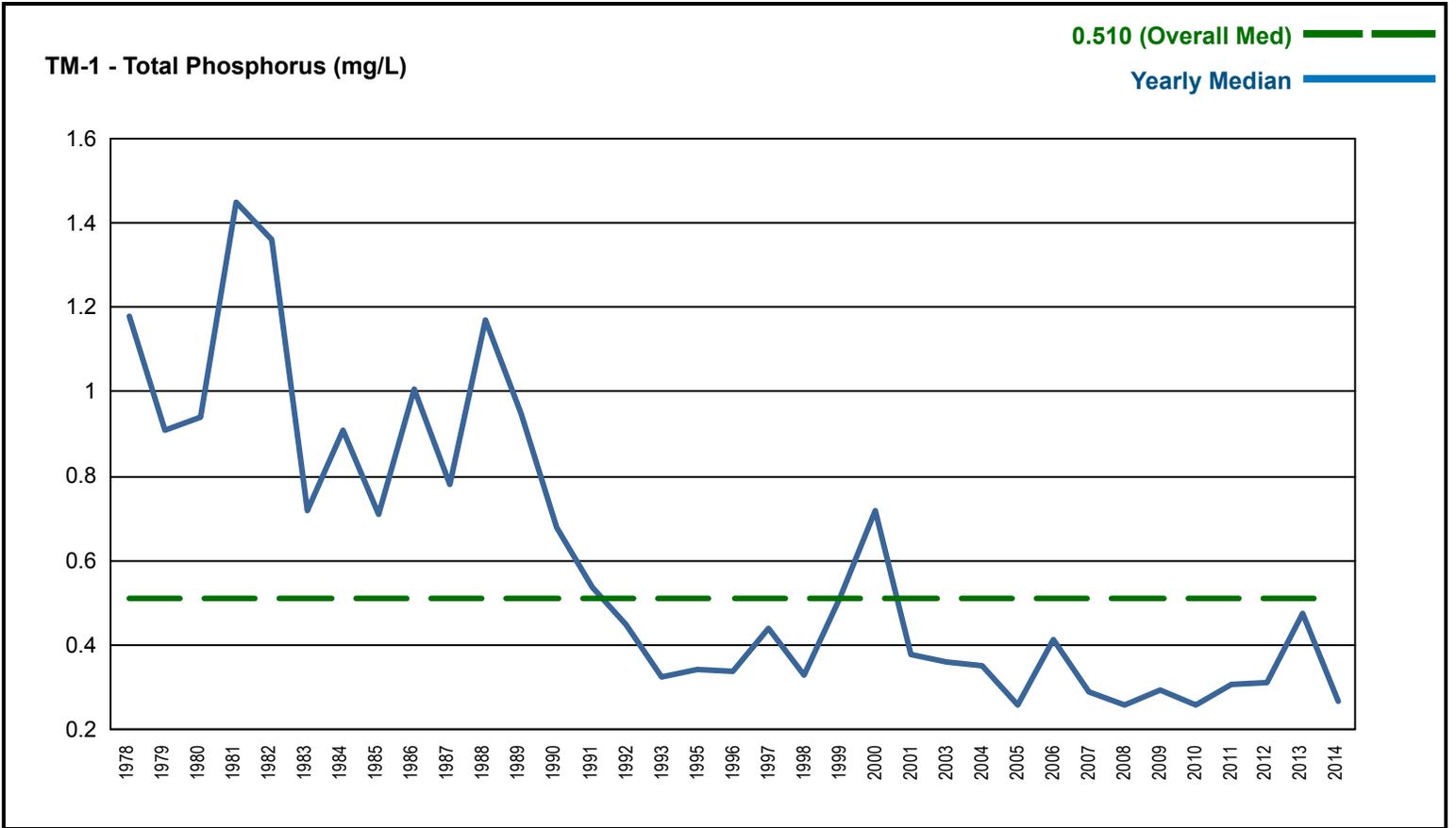
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



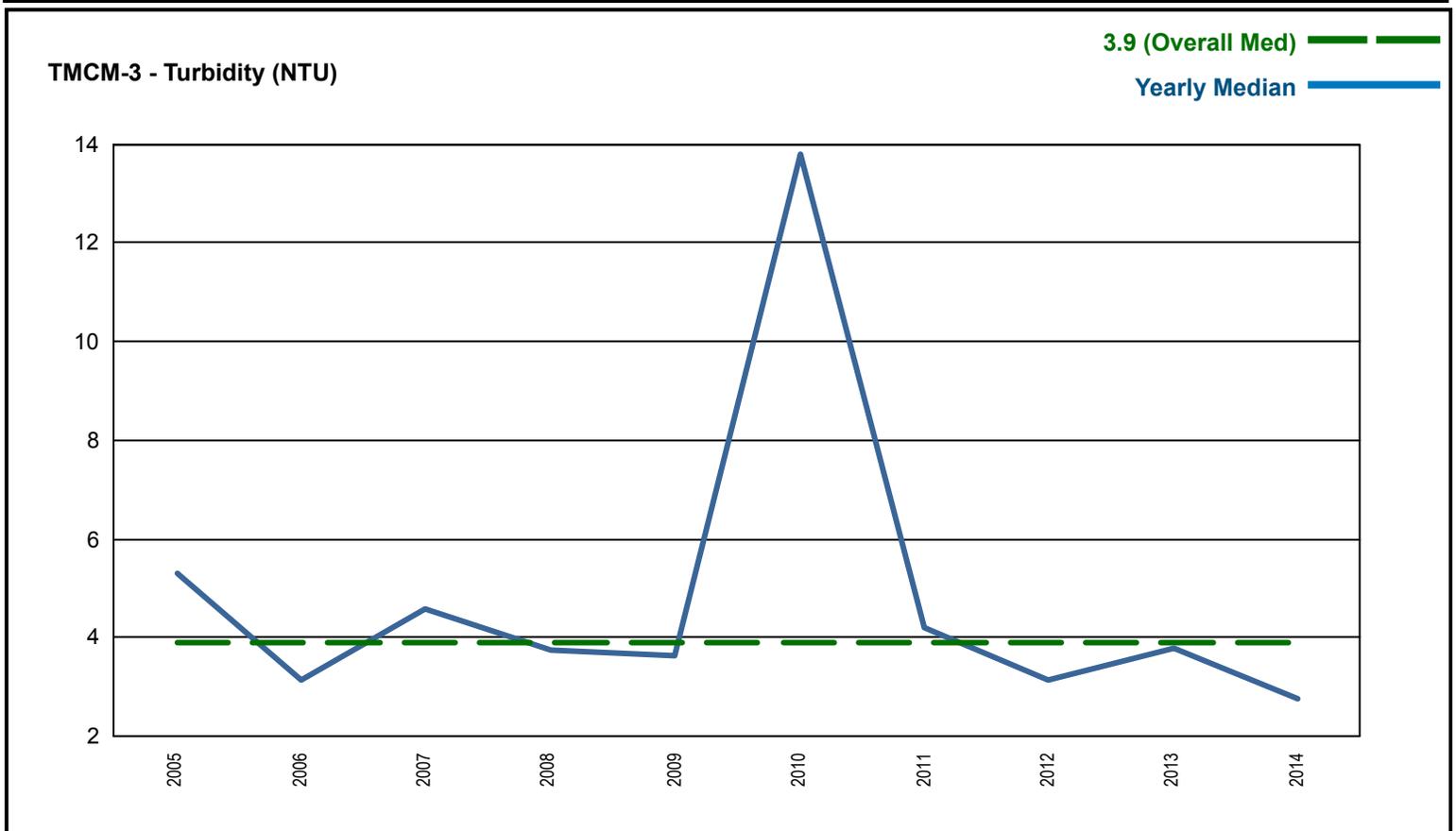
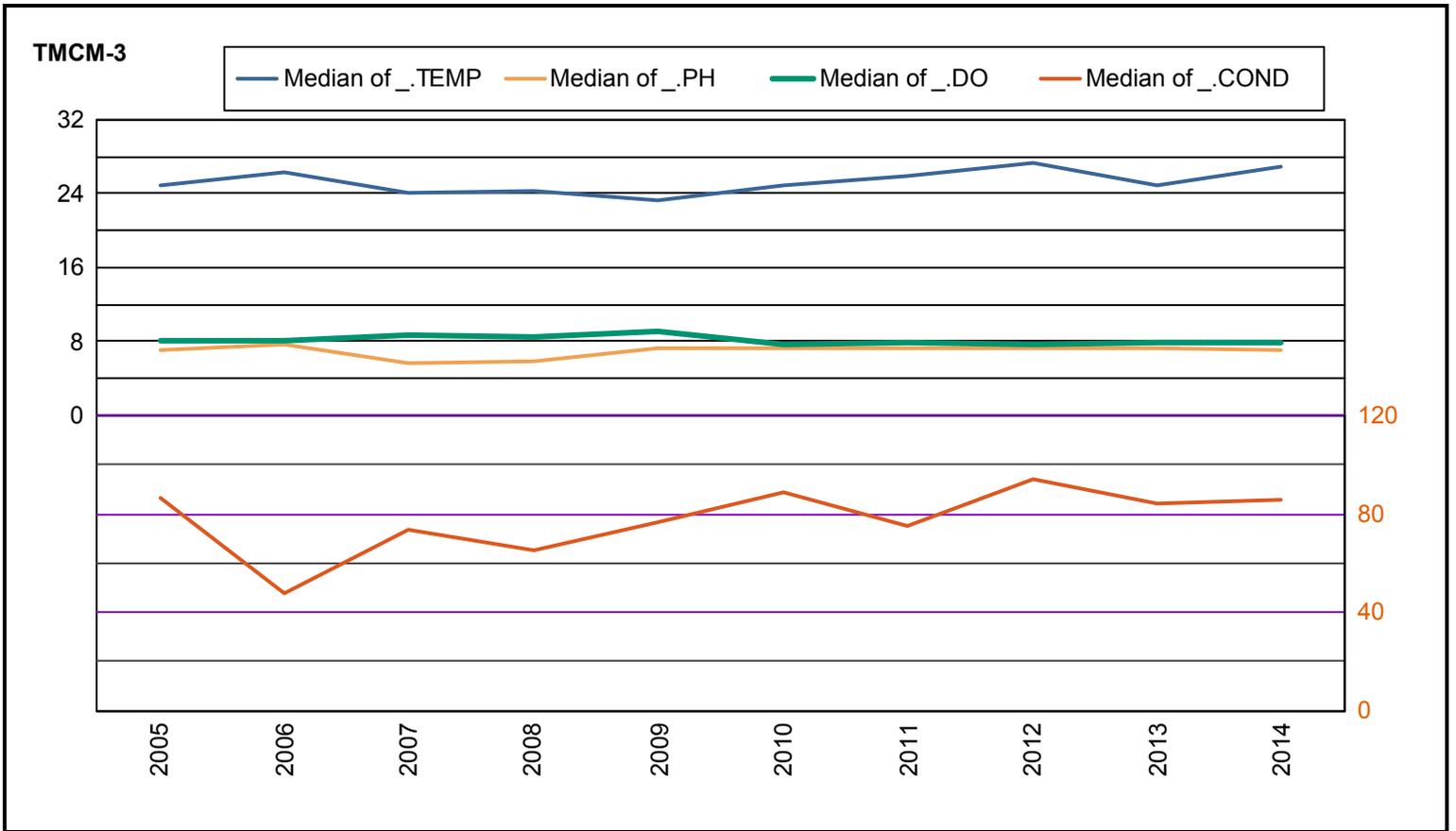
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



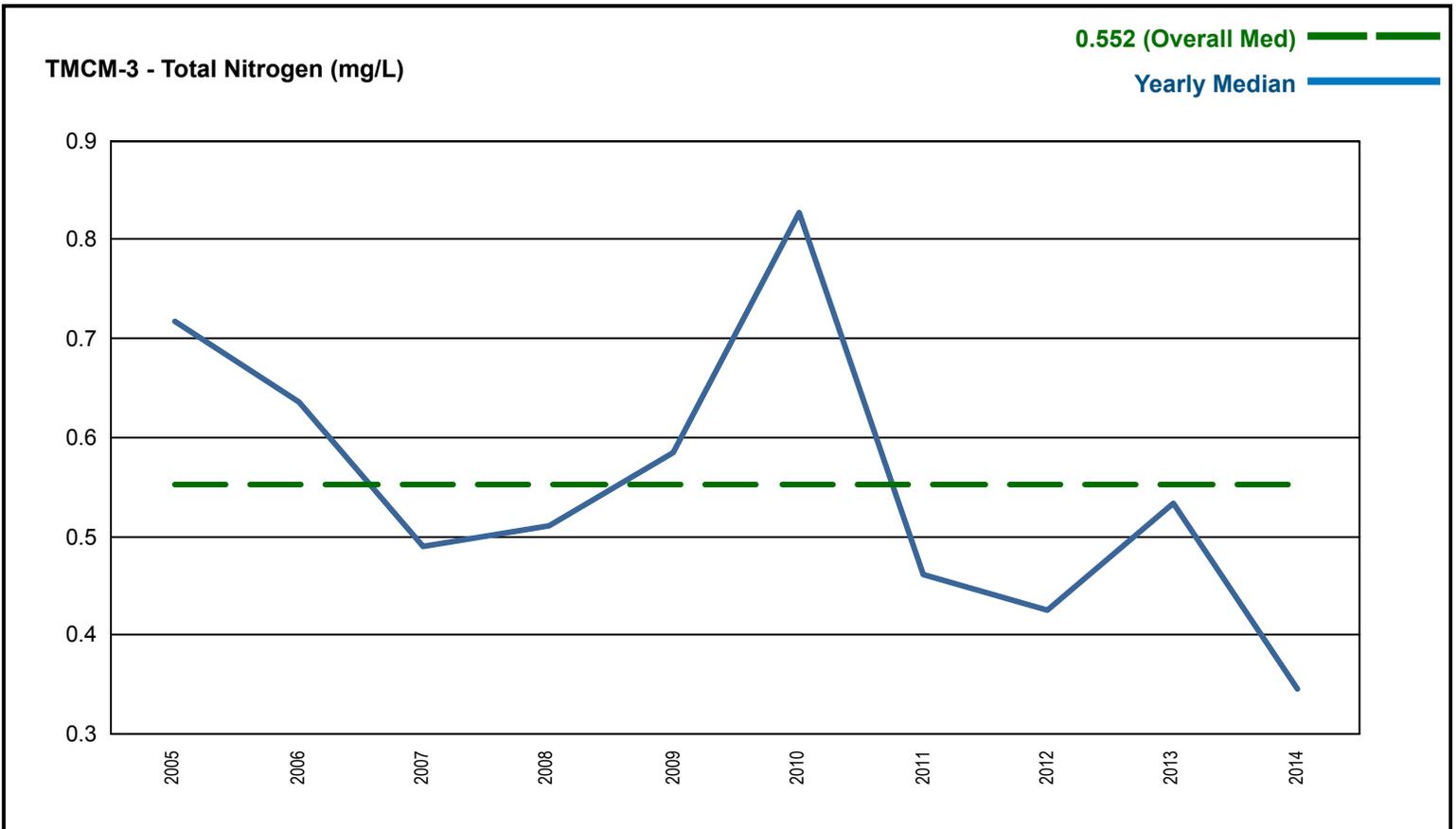
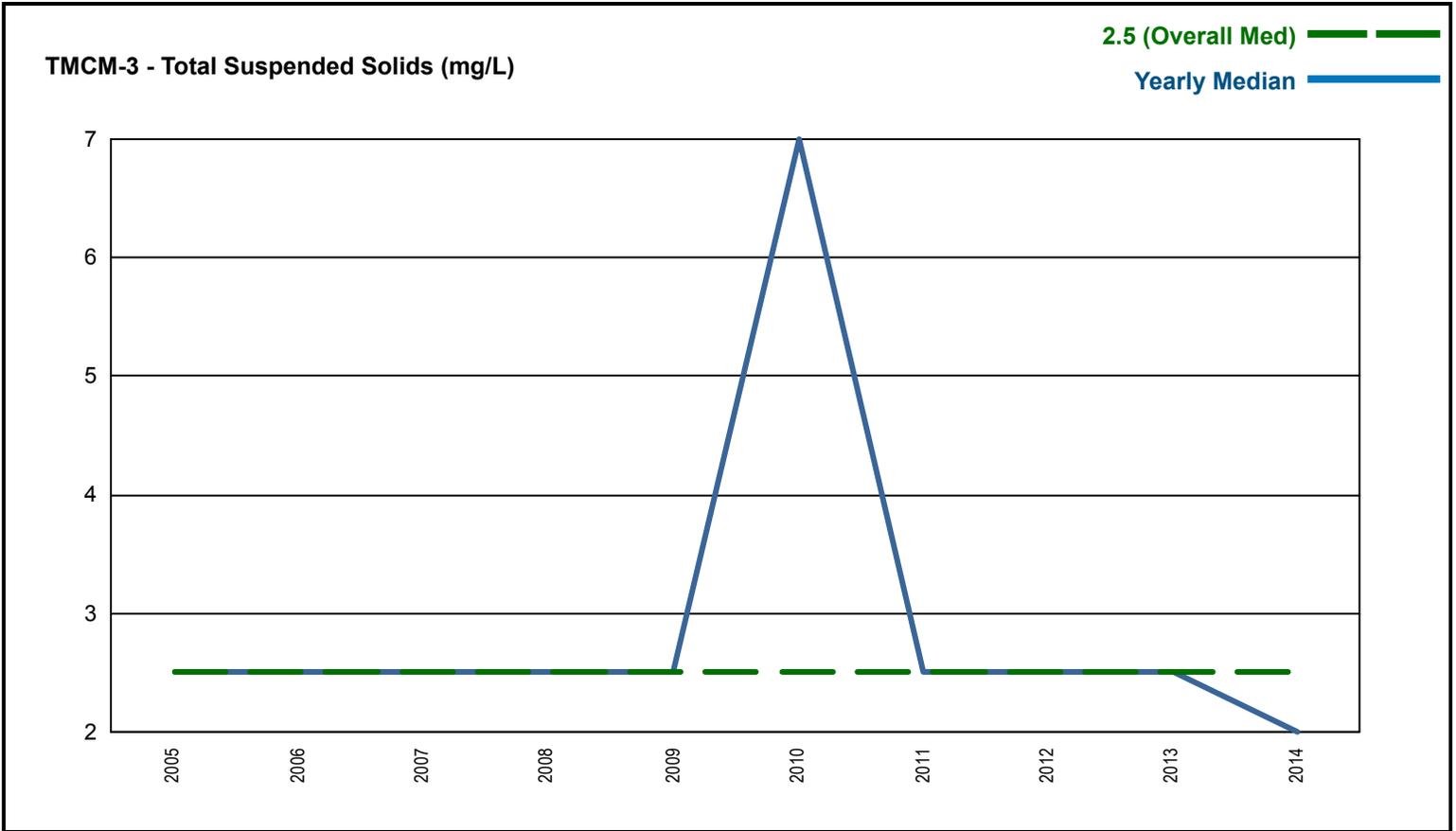
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



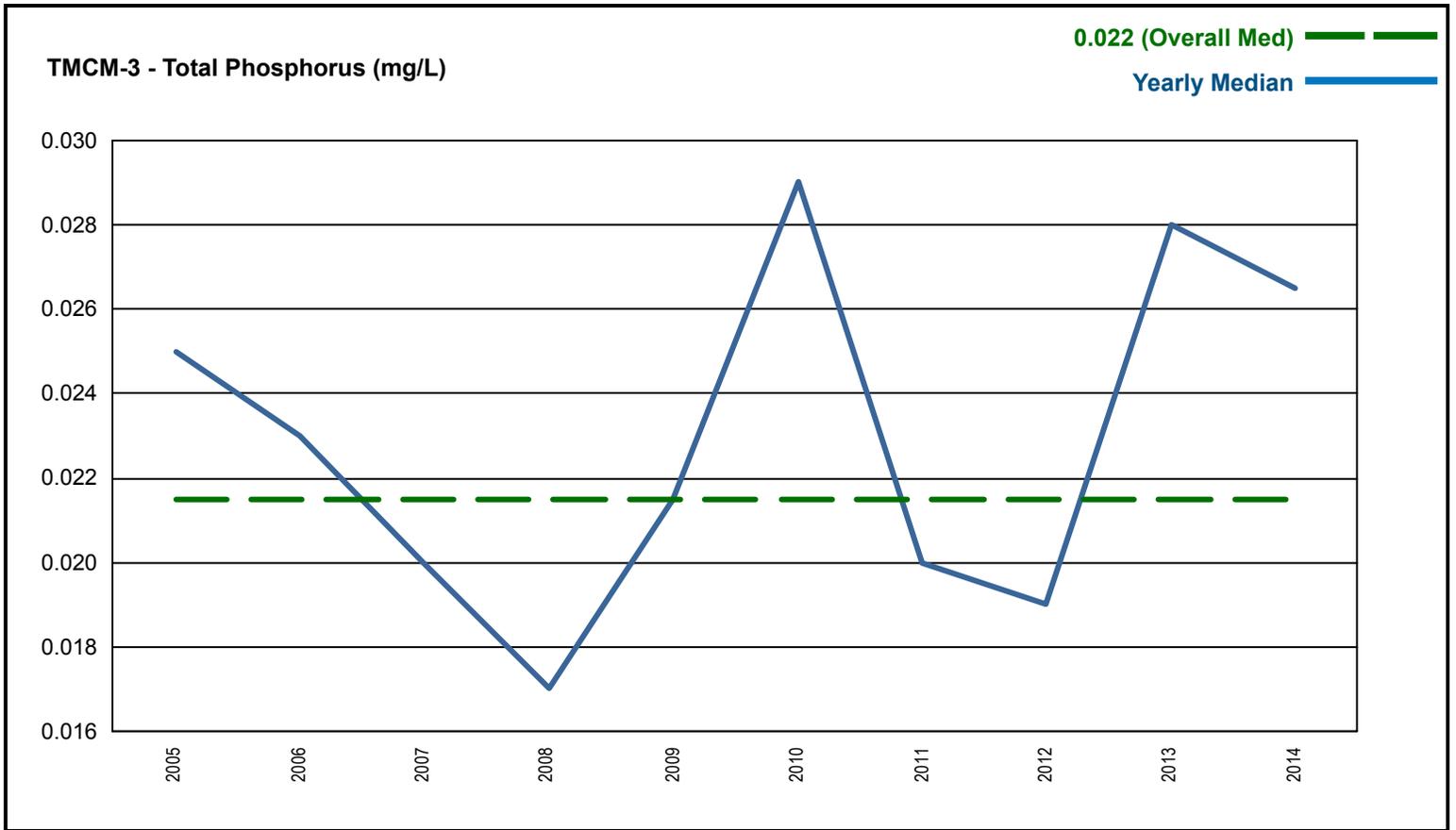
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



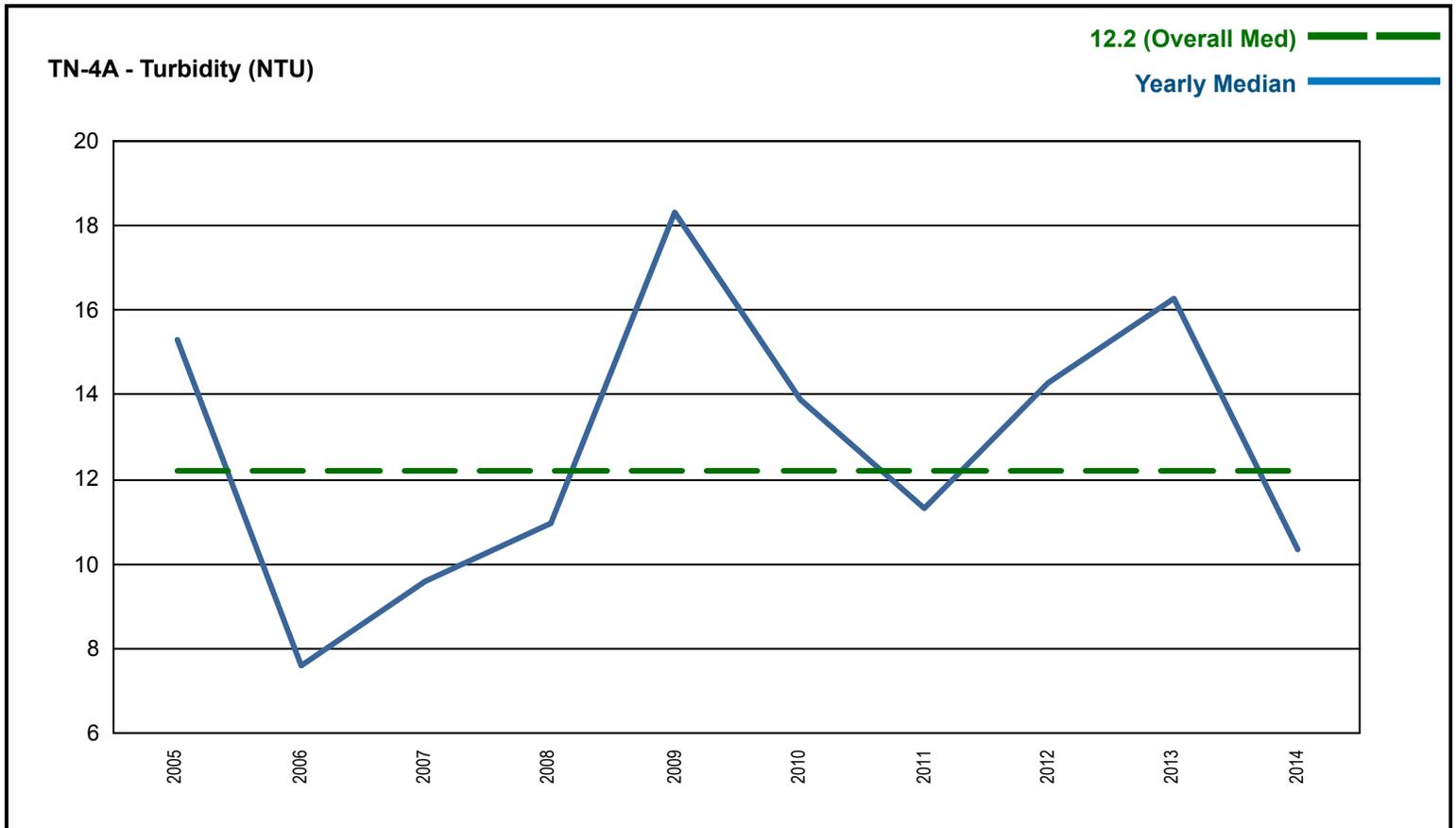
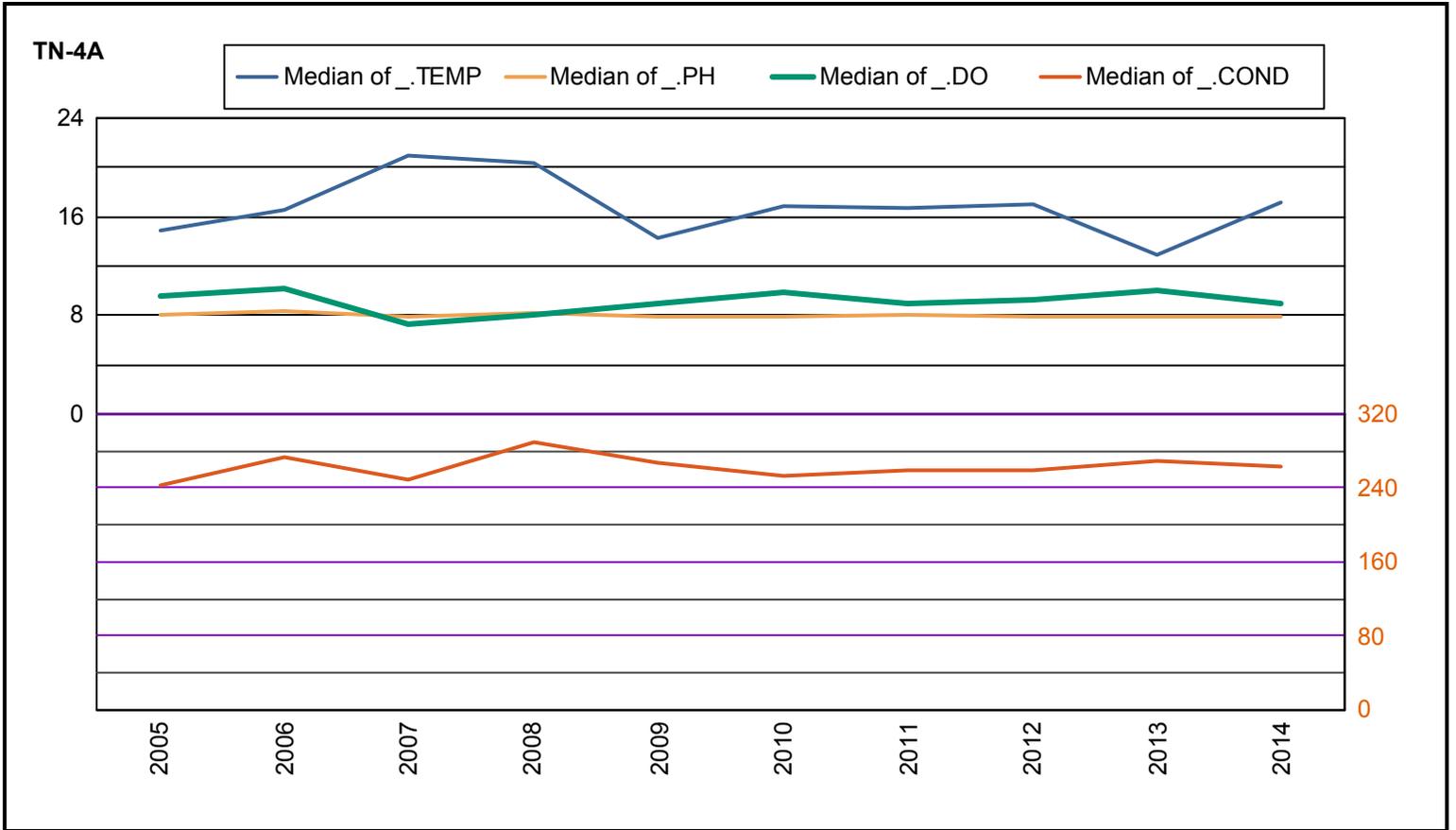
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



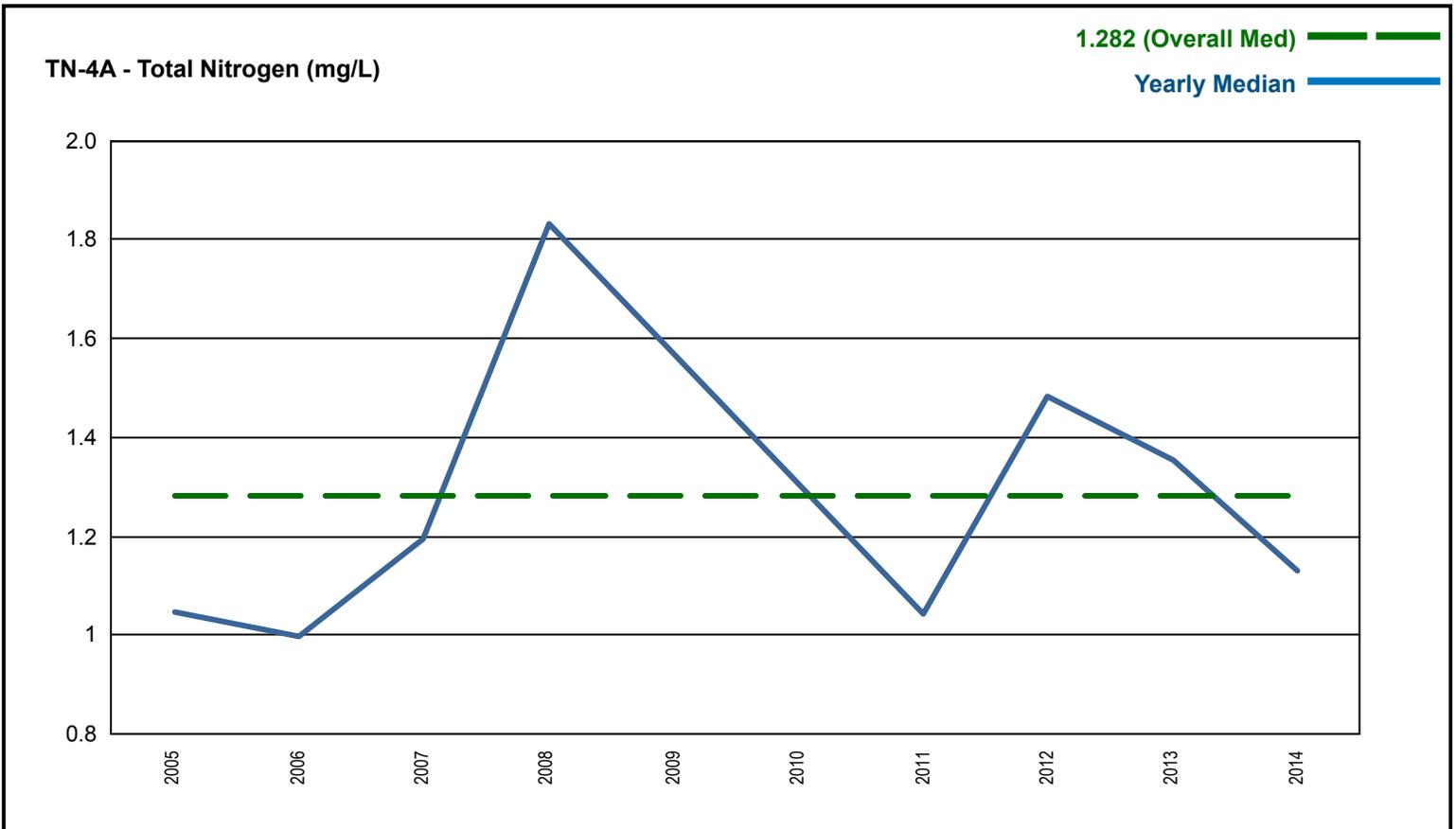
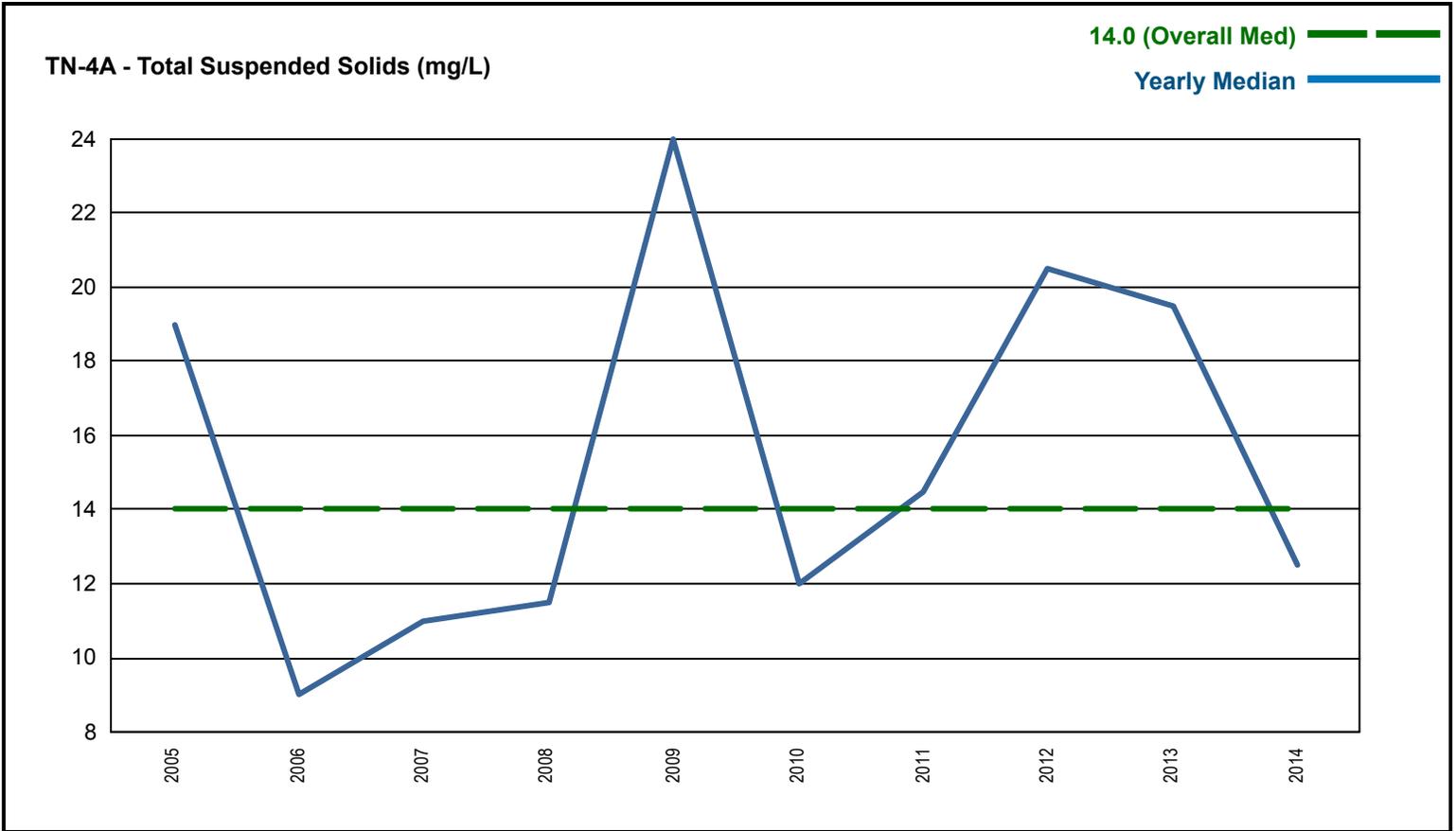
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



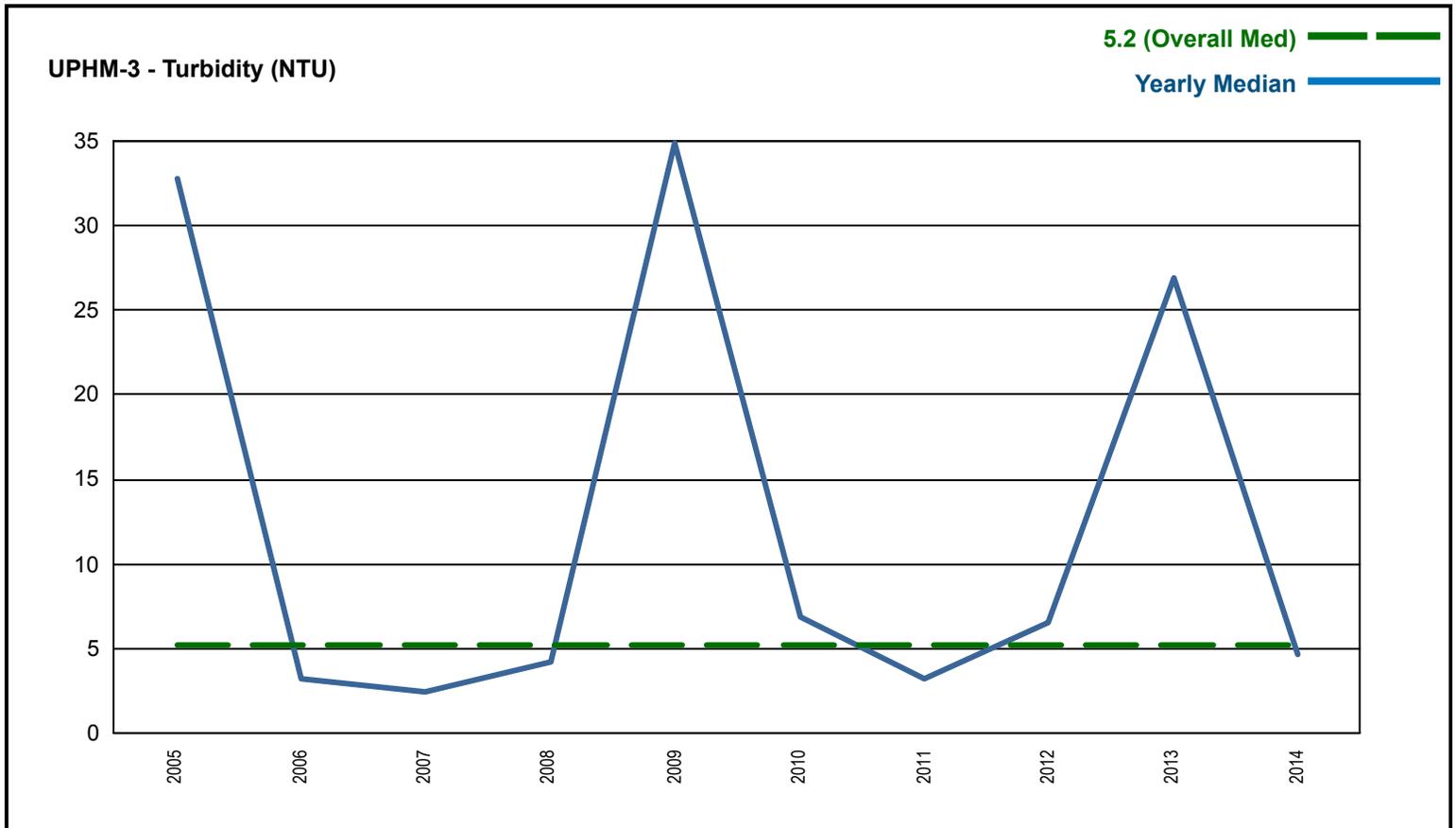
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



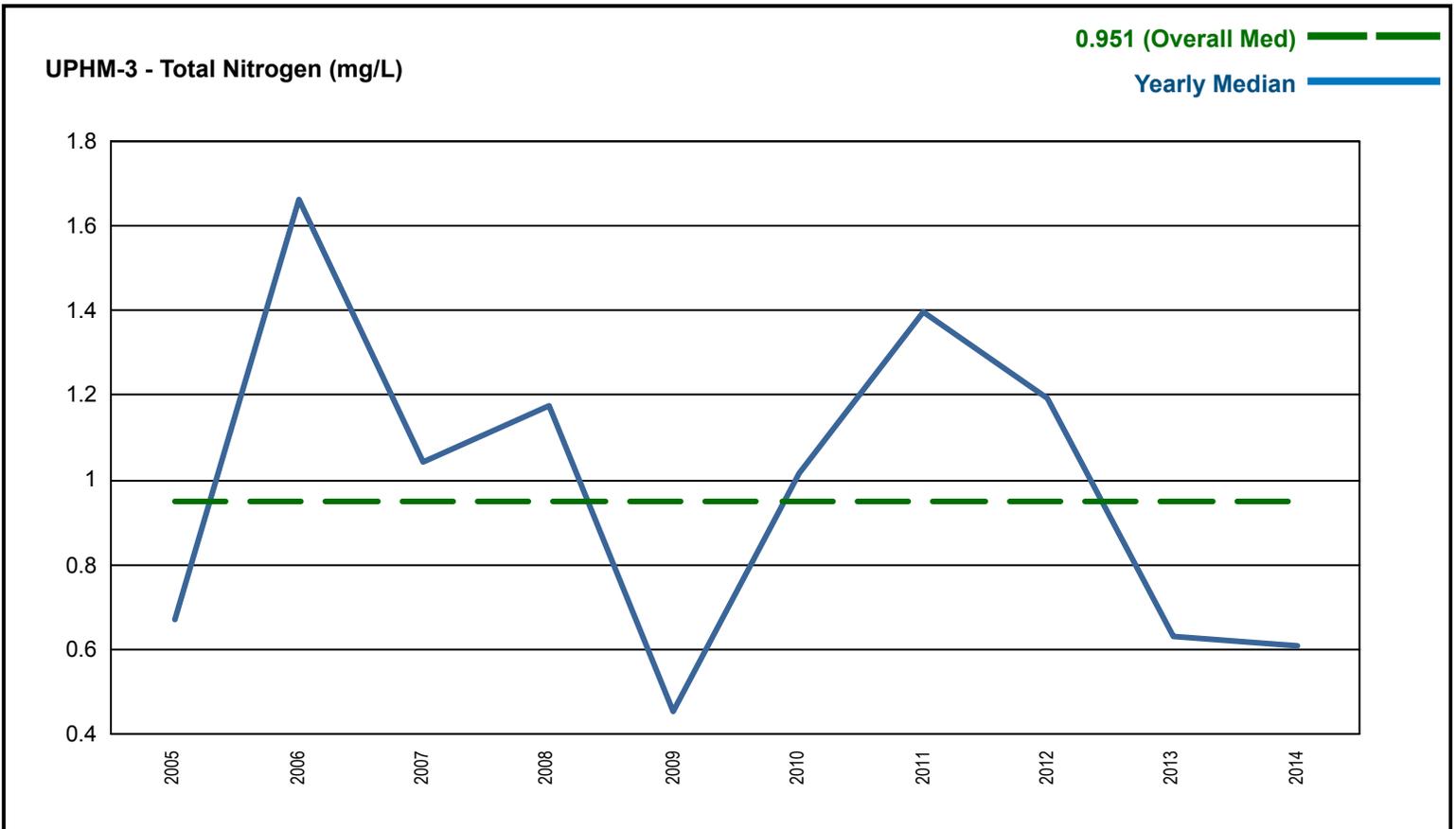
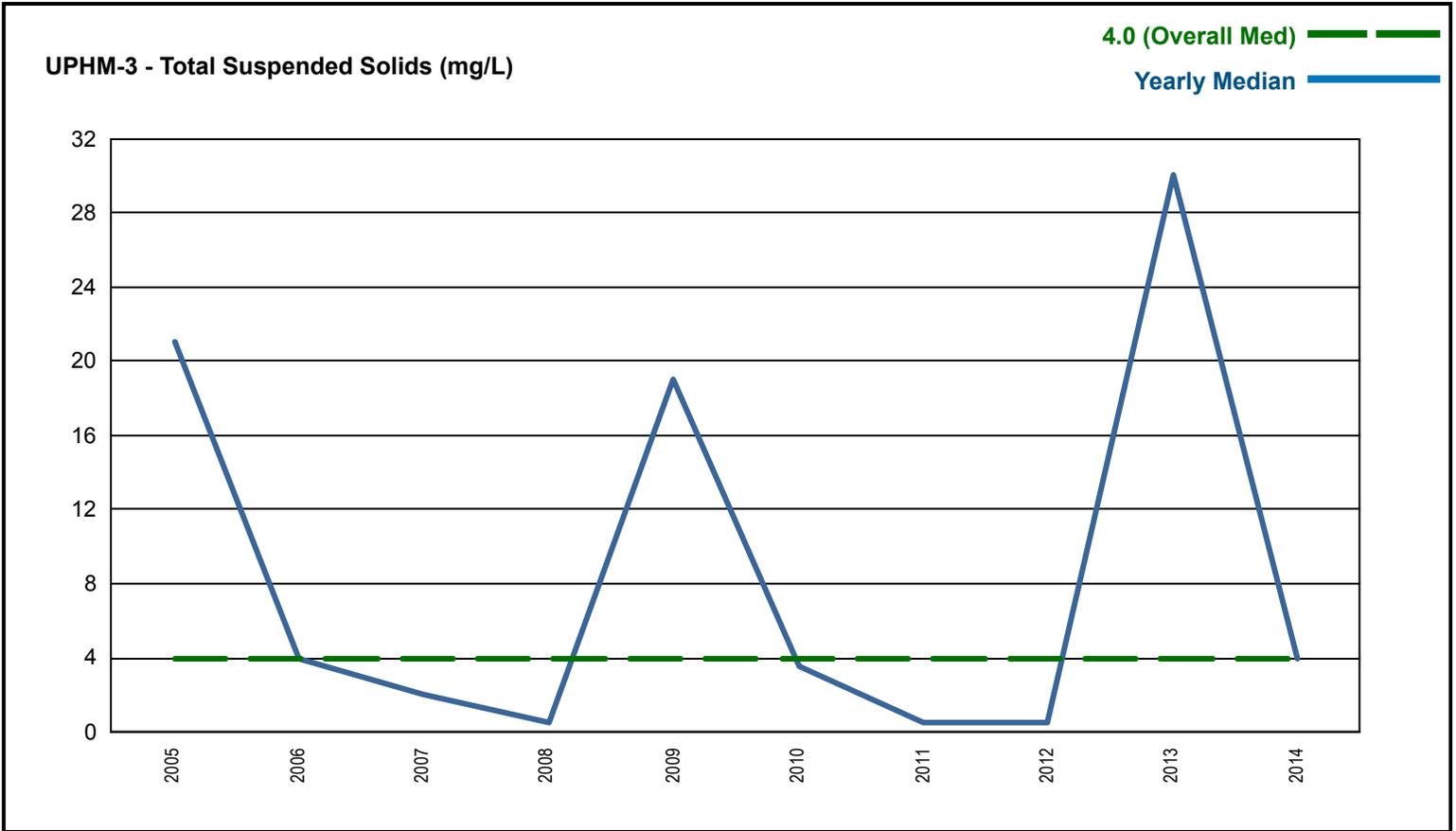
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



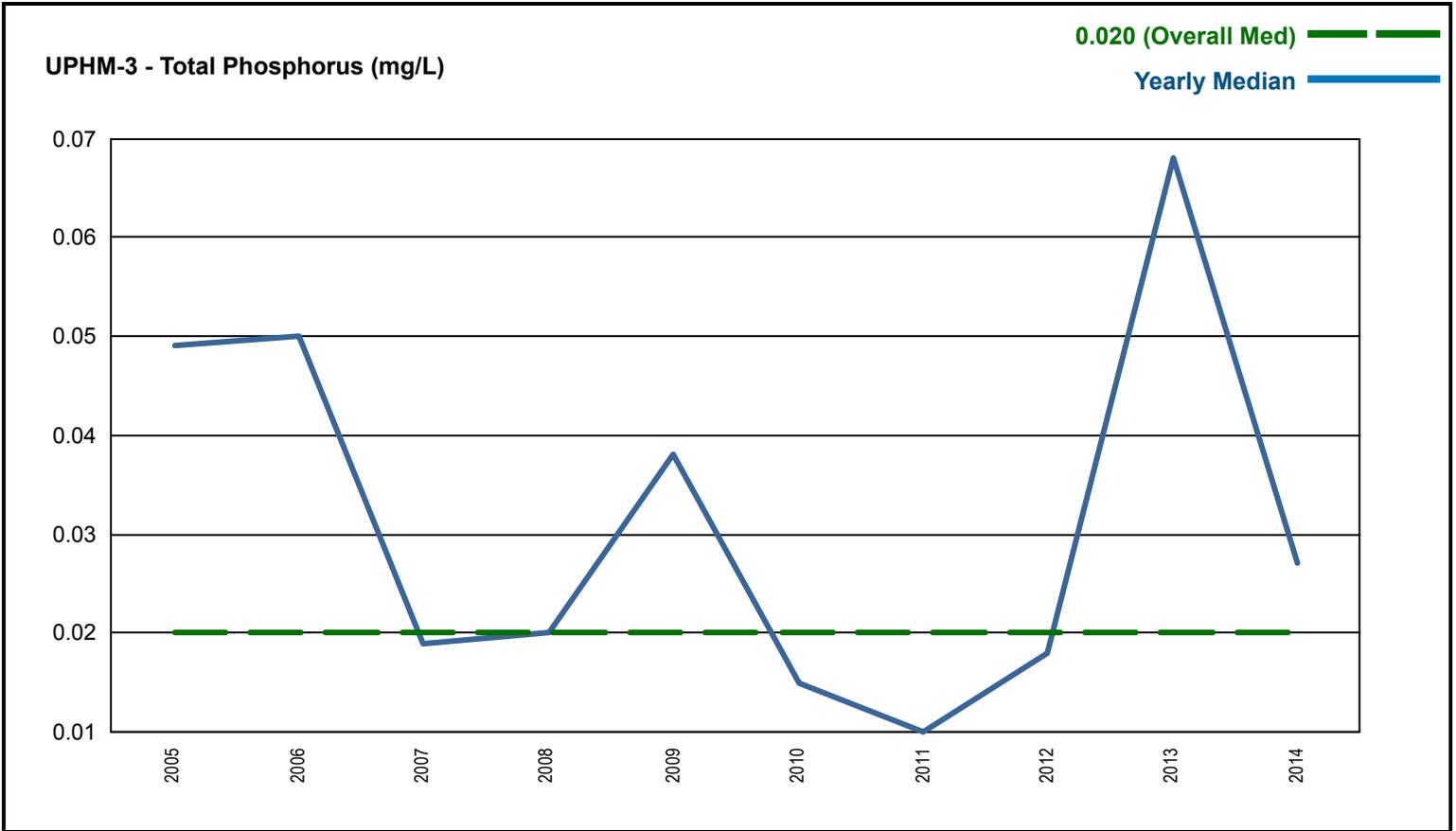
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



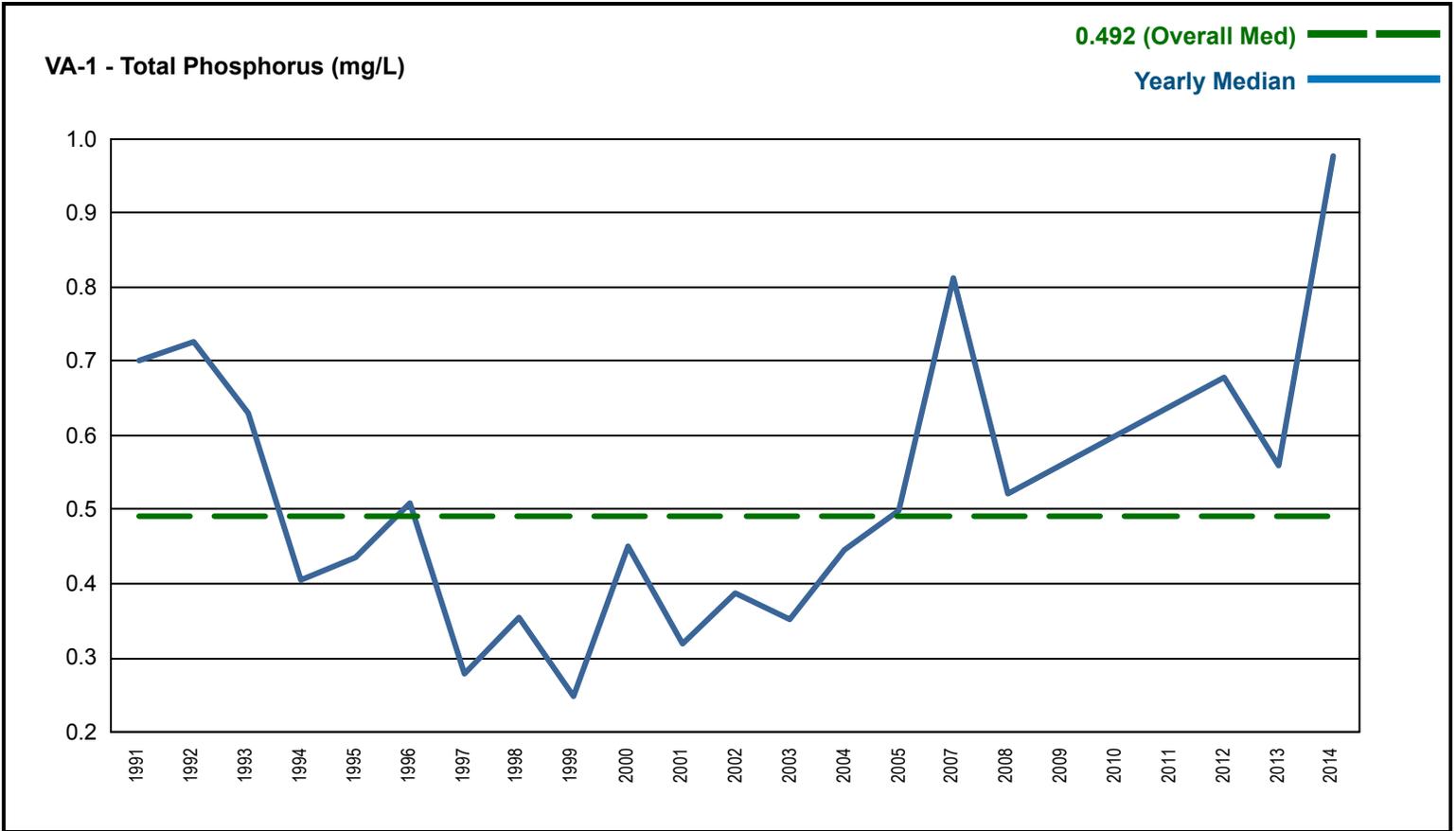
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



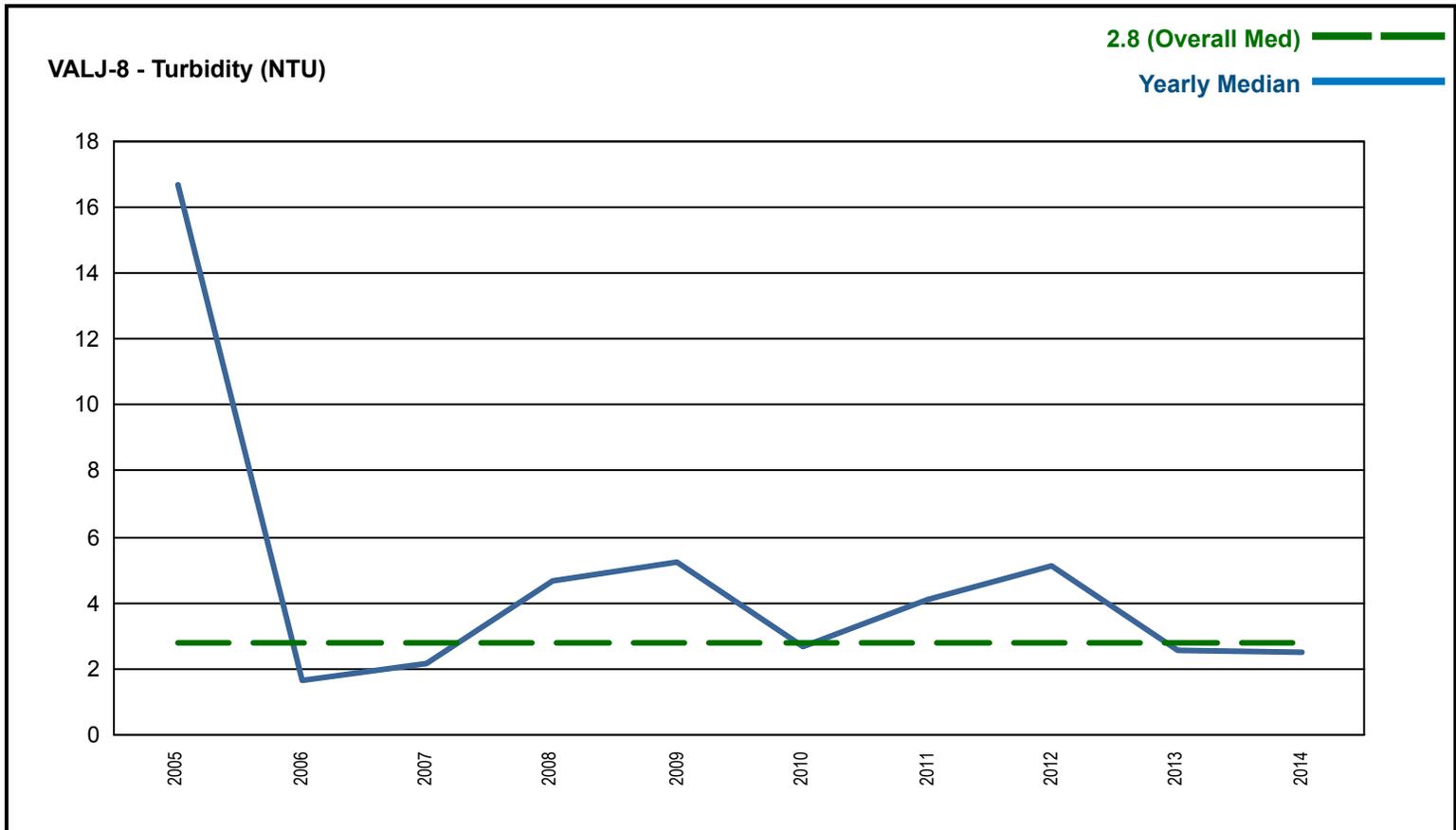
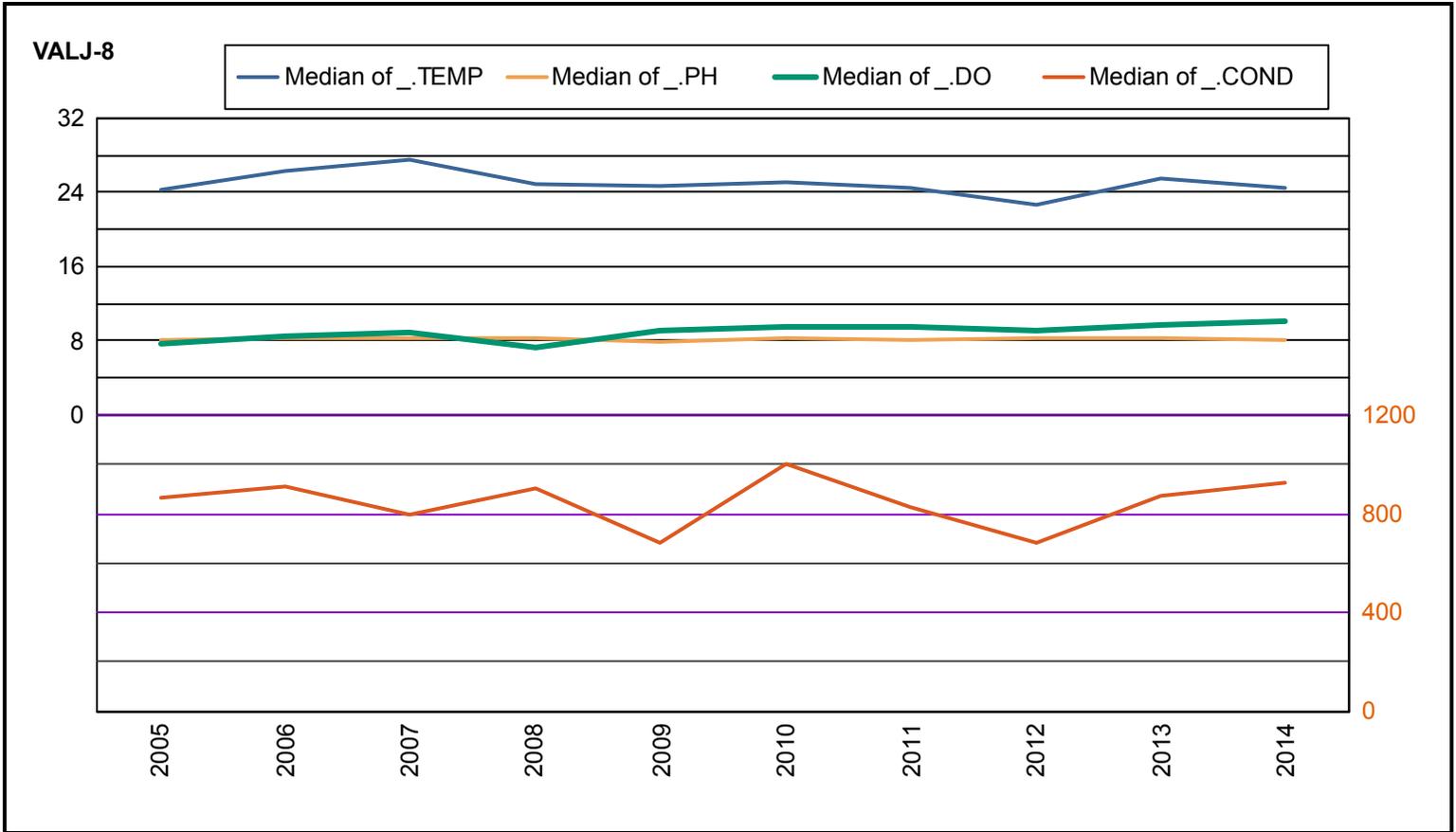
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



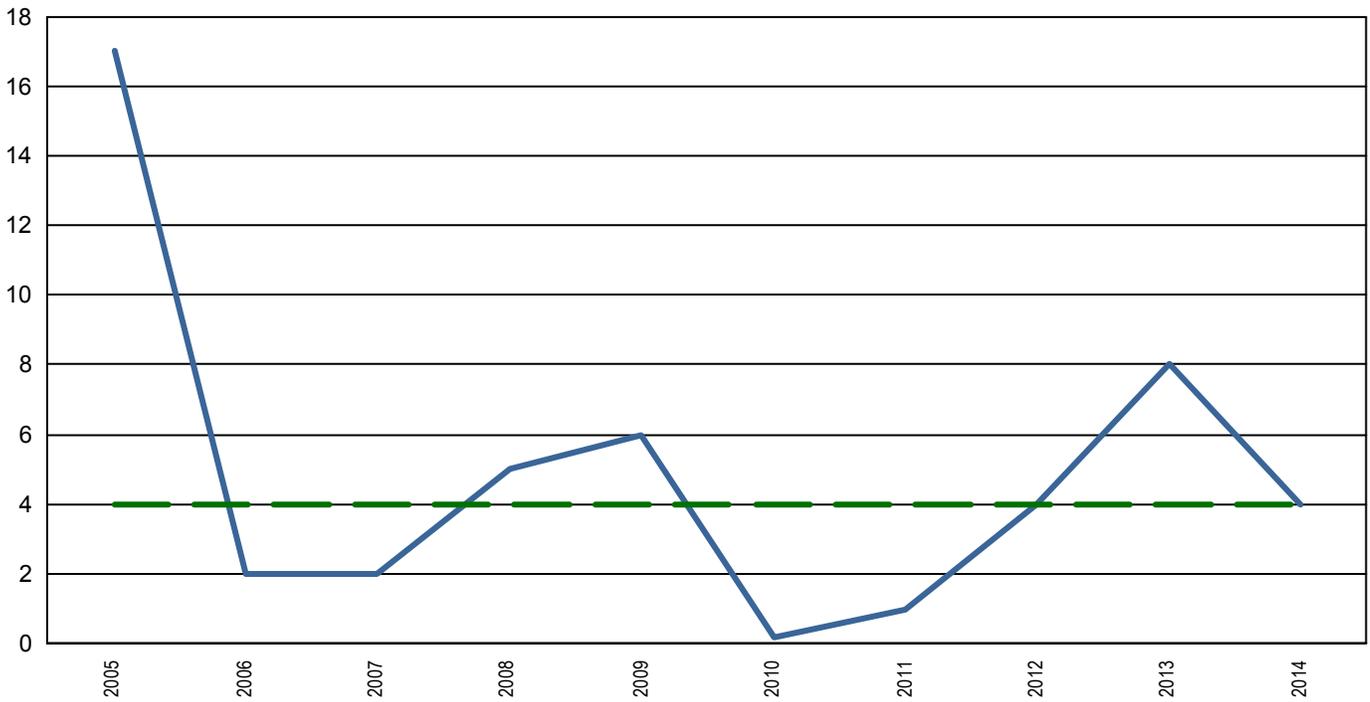
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

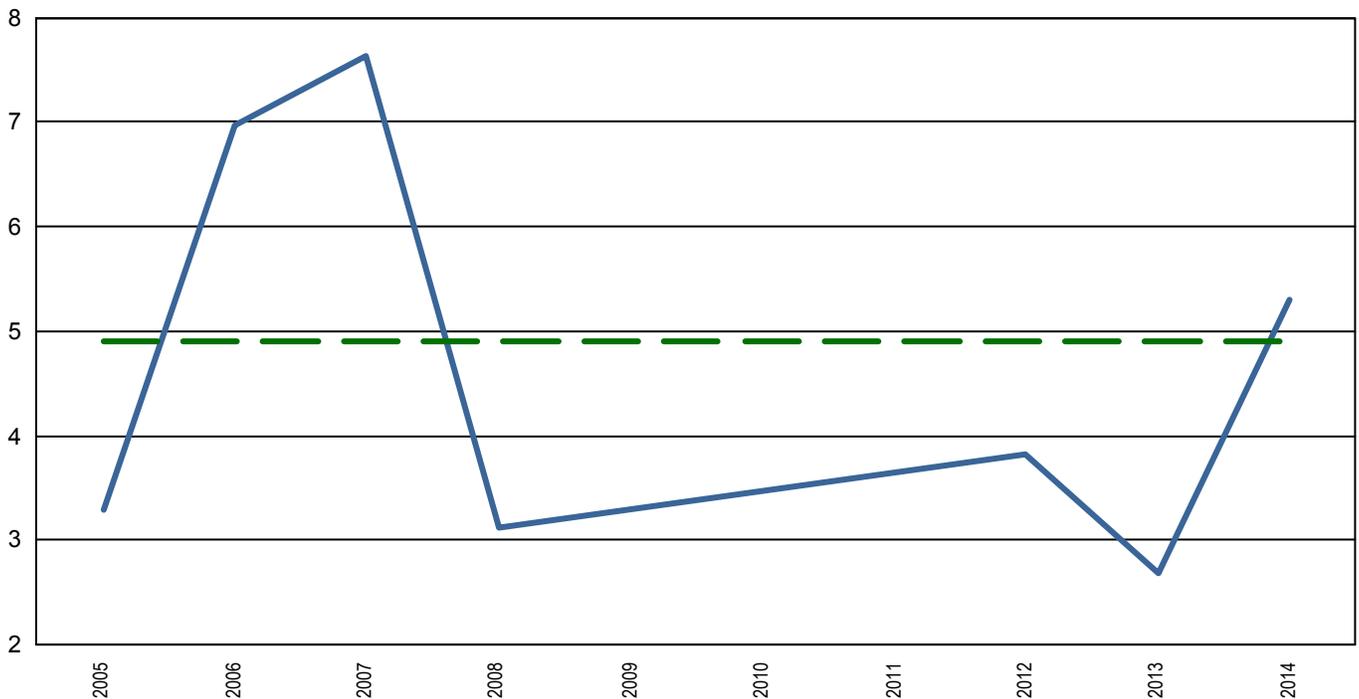
## VALJ-8 - Total Suspended Solids (mg/L)

4.0 (Overall Med)   
Yearly Median 

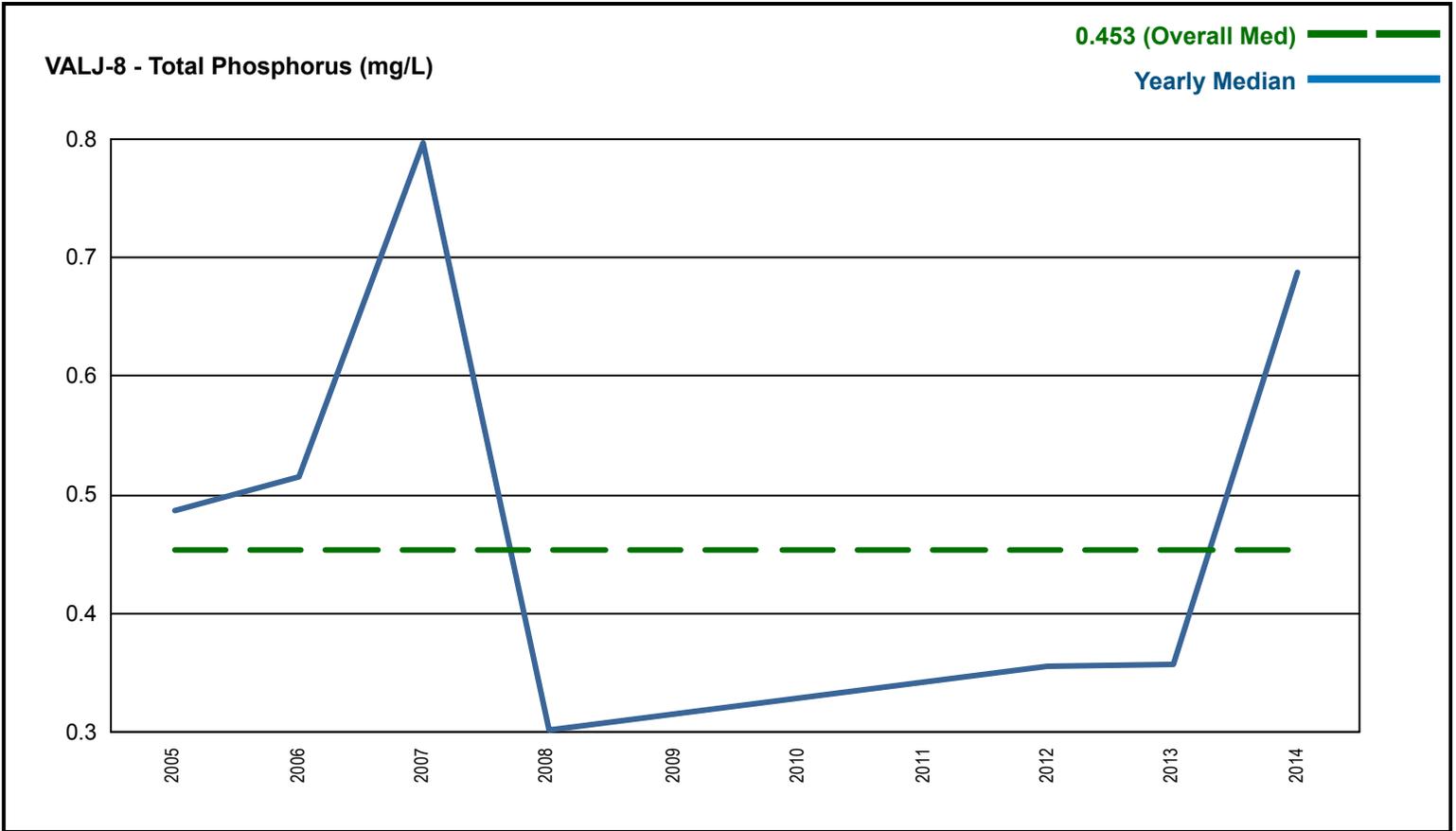


## VALJ-8 - Total Nitrogen (mg/L)

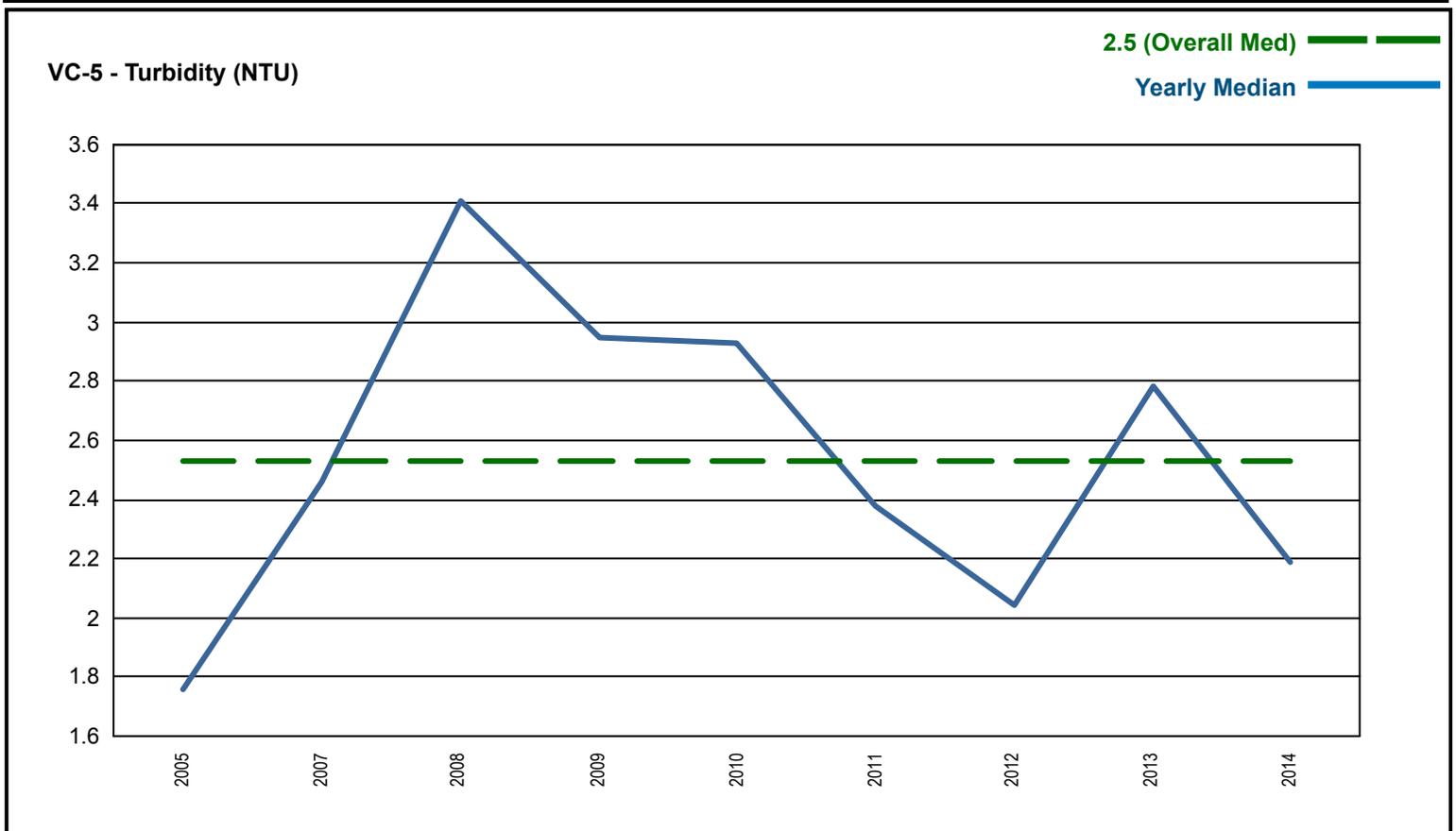
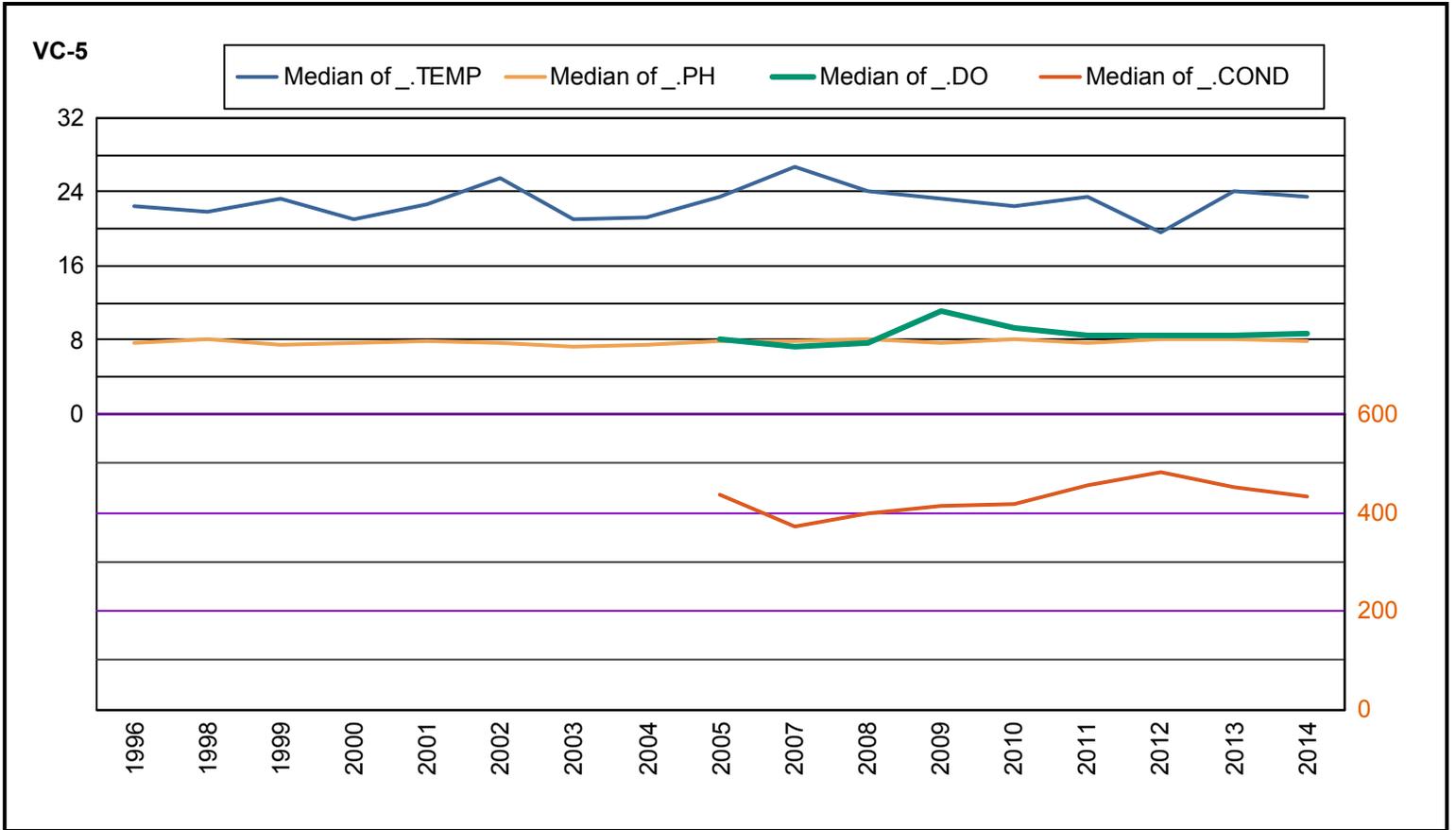
4.896 (Overall Med)   
Yearly Median 



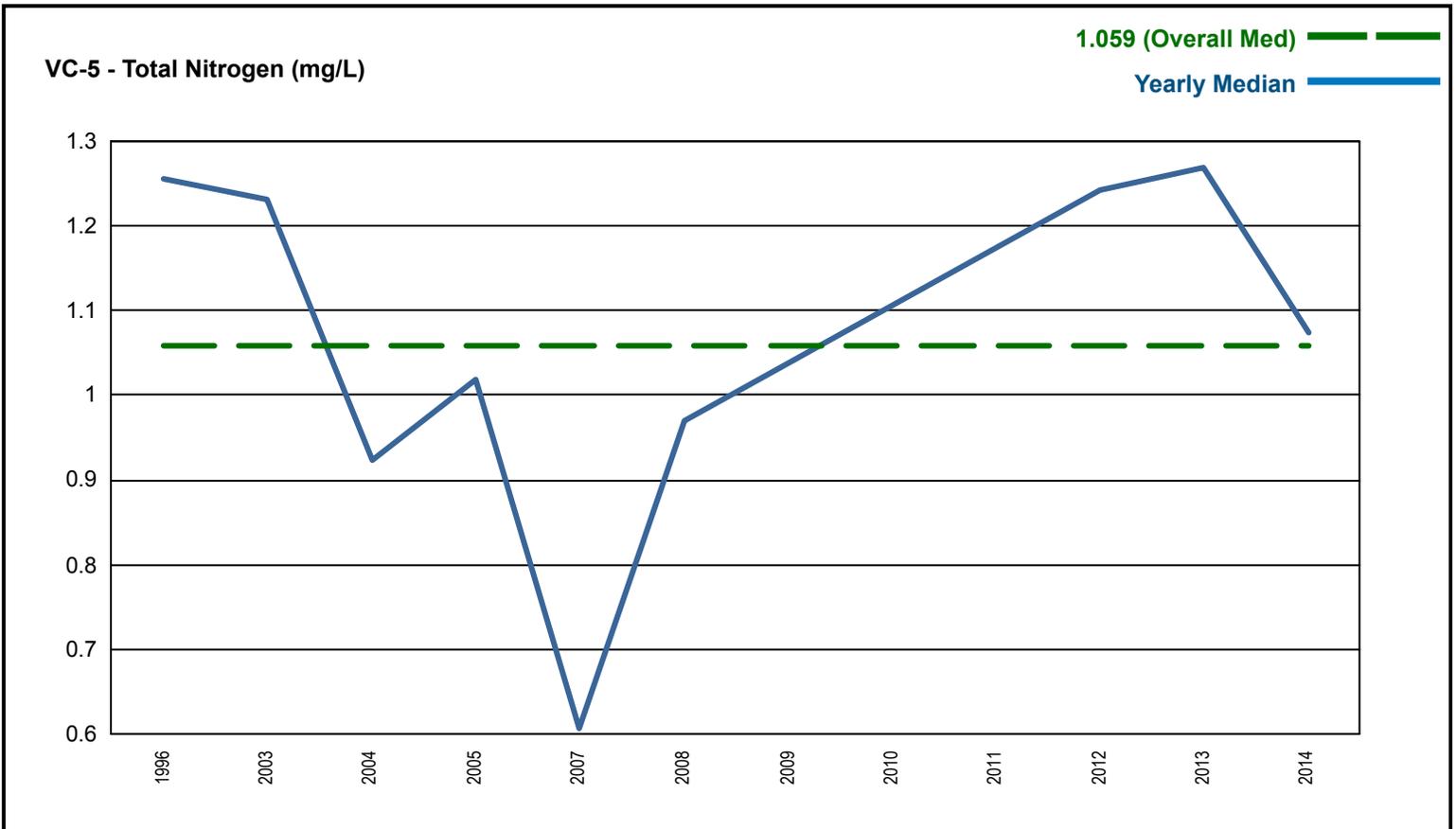
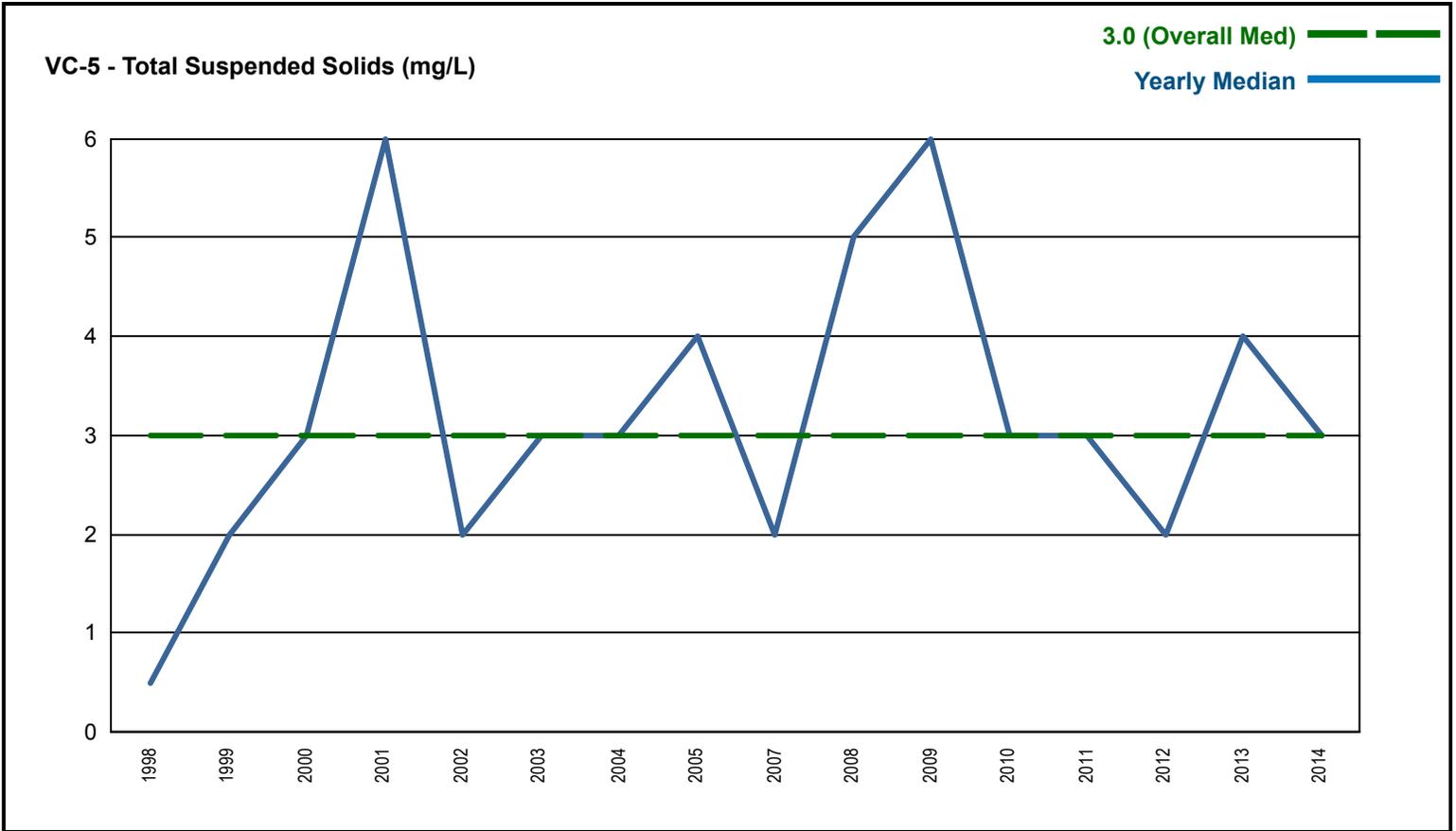
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



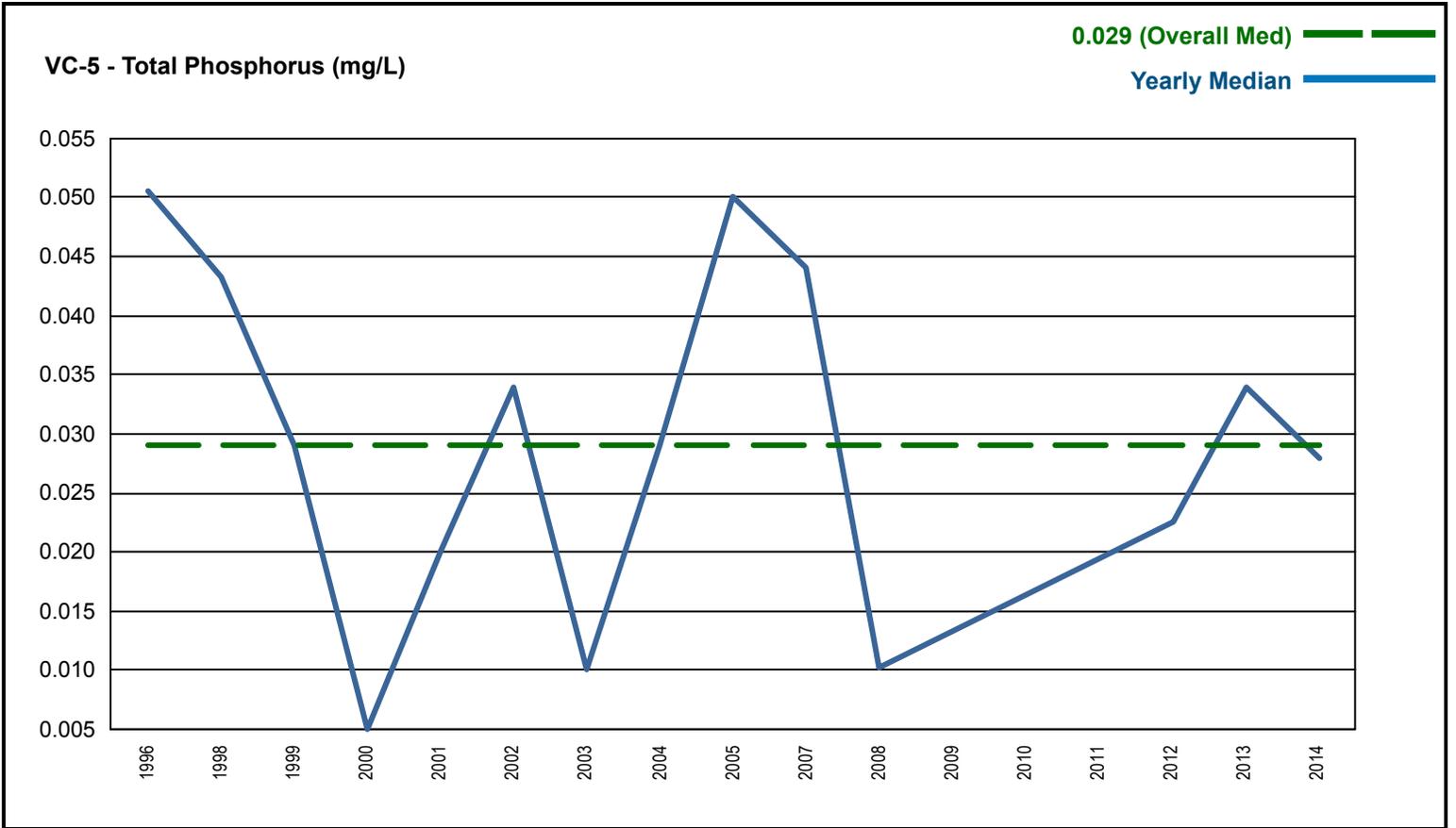
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



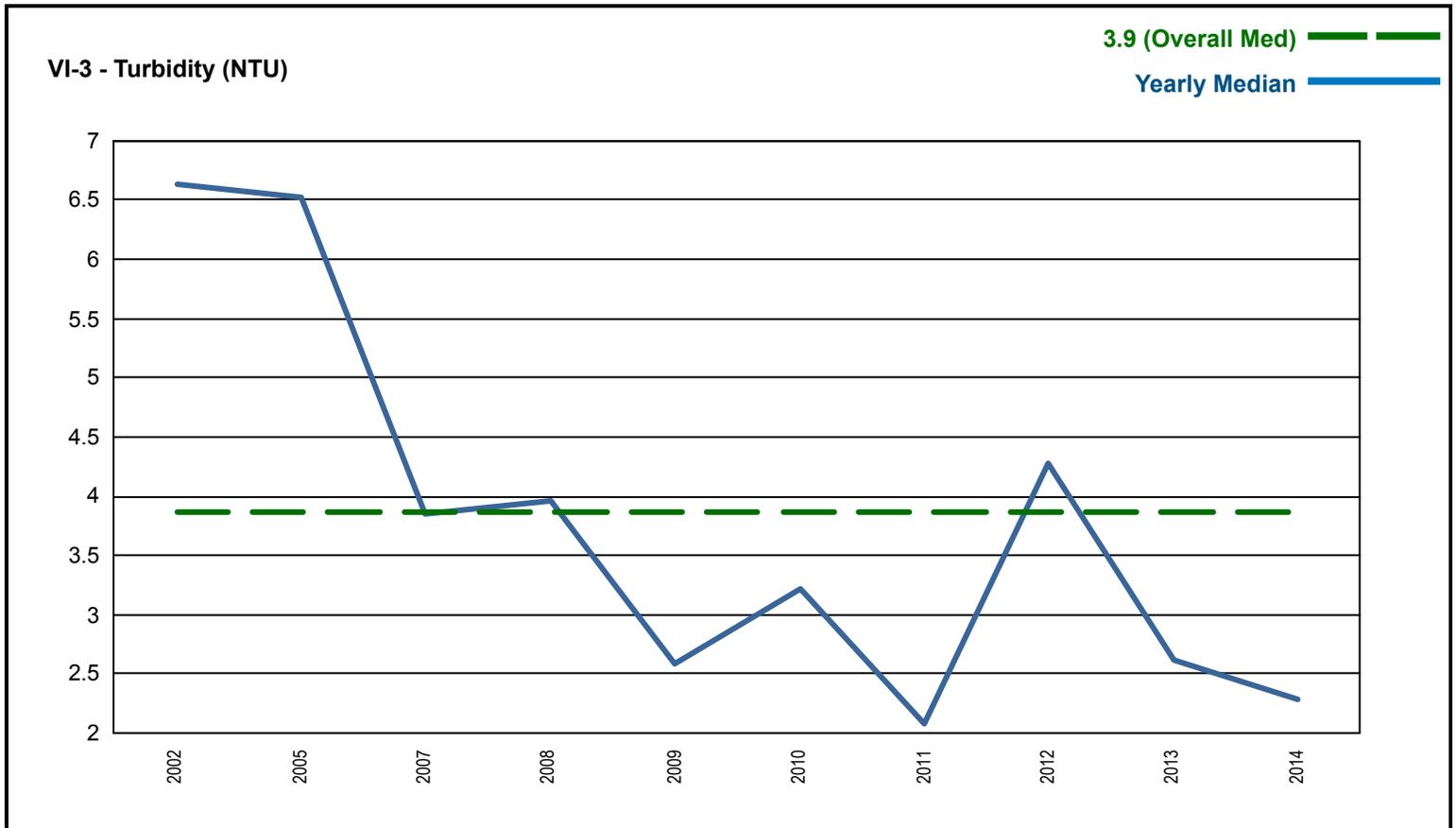
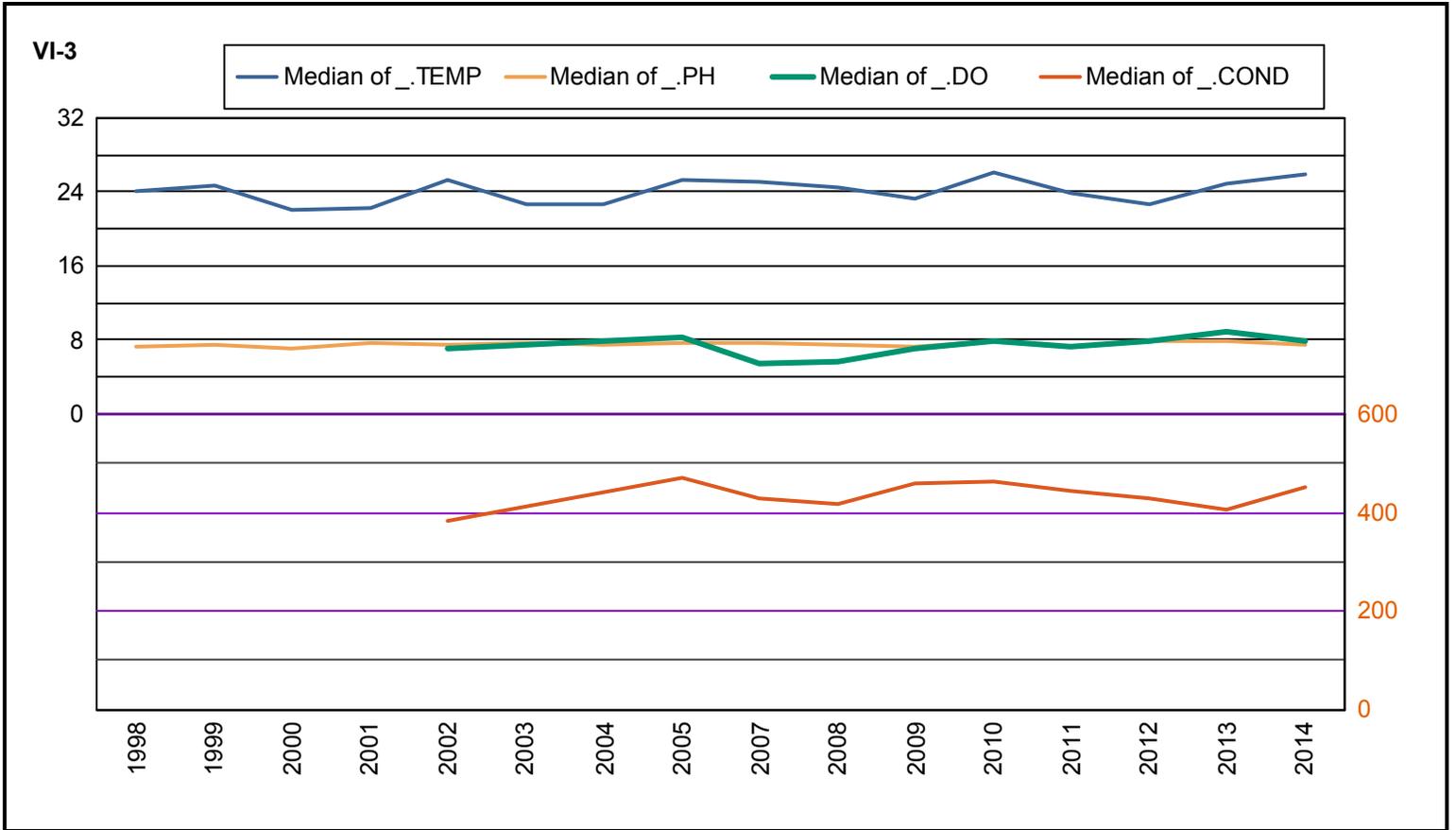
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



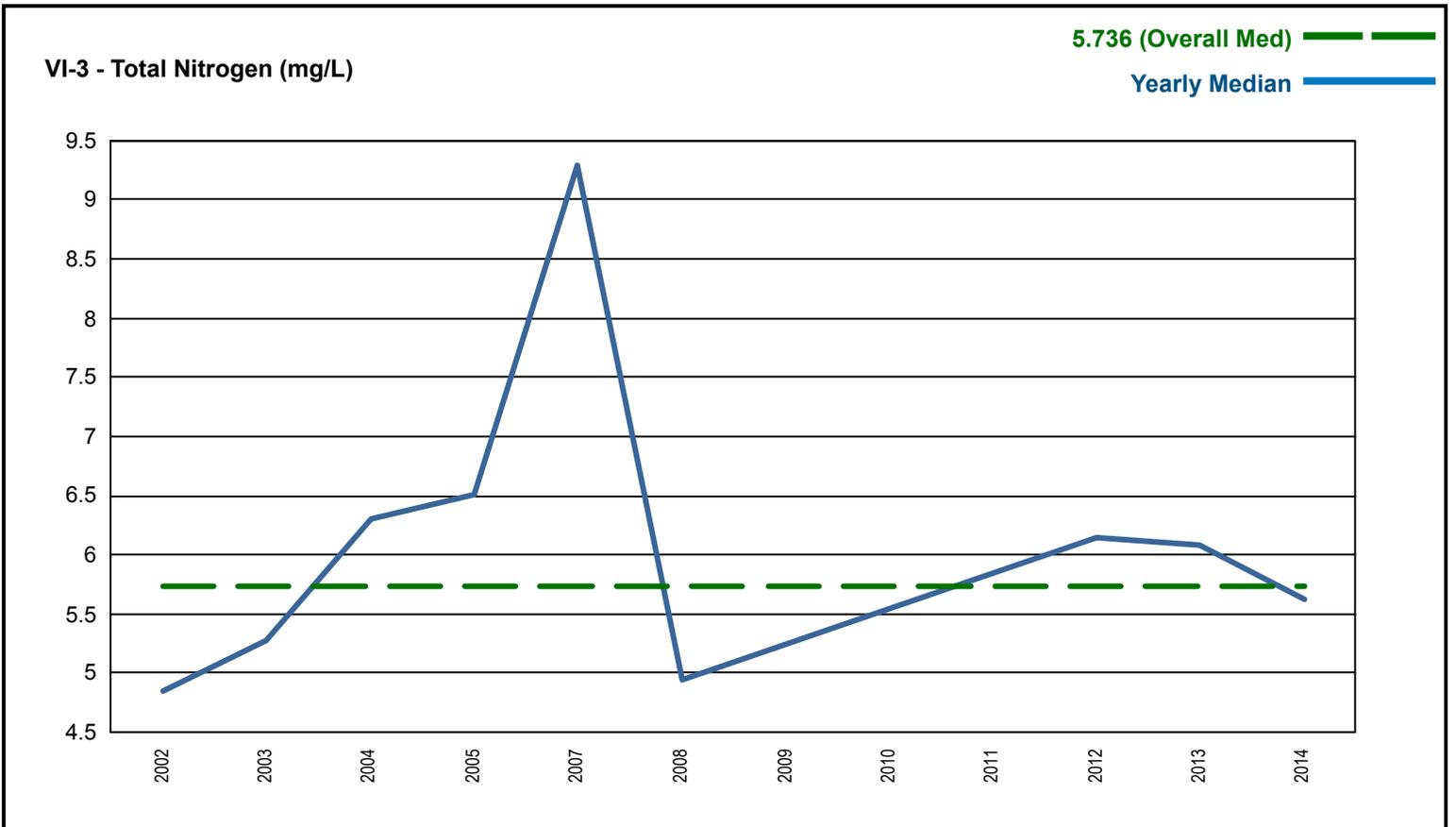
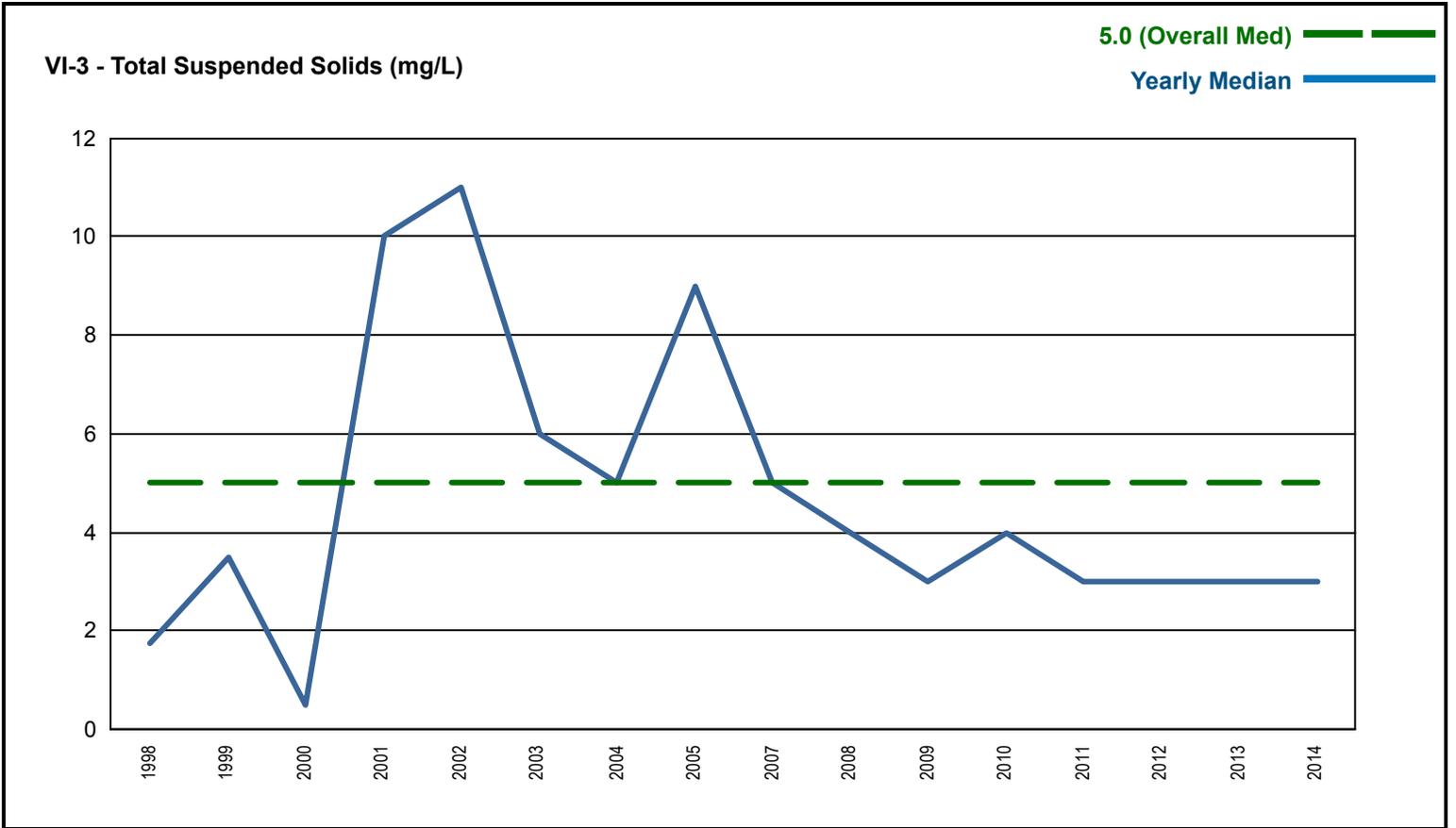
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



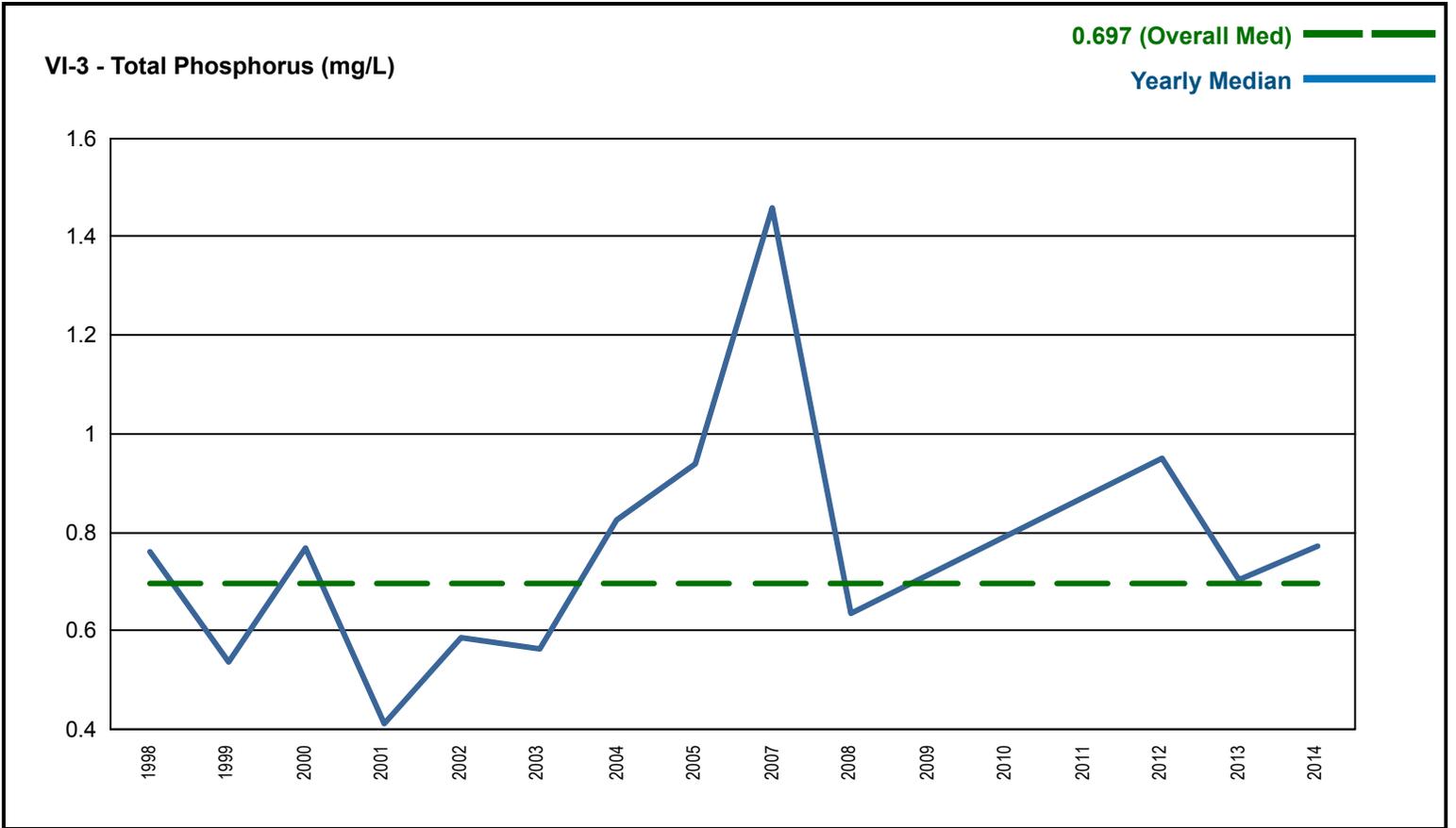
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



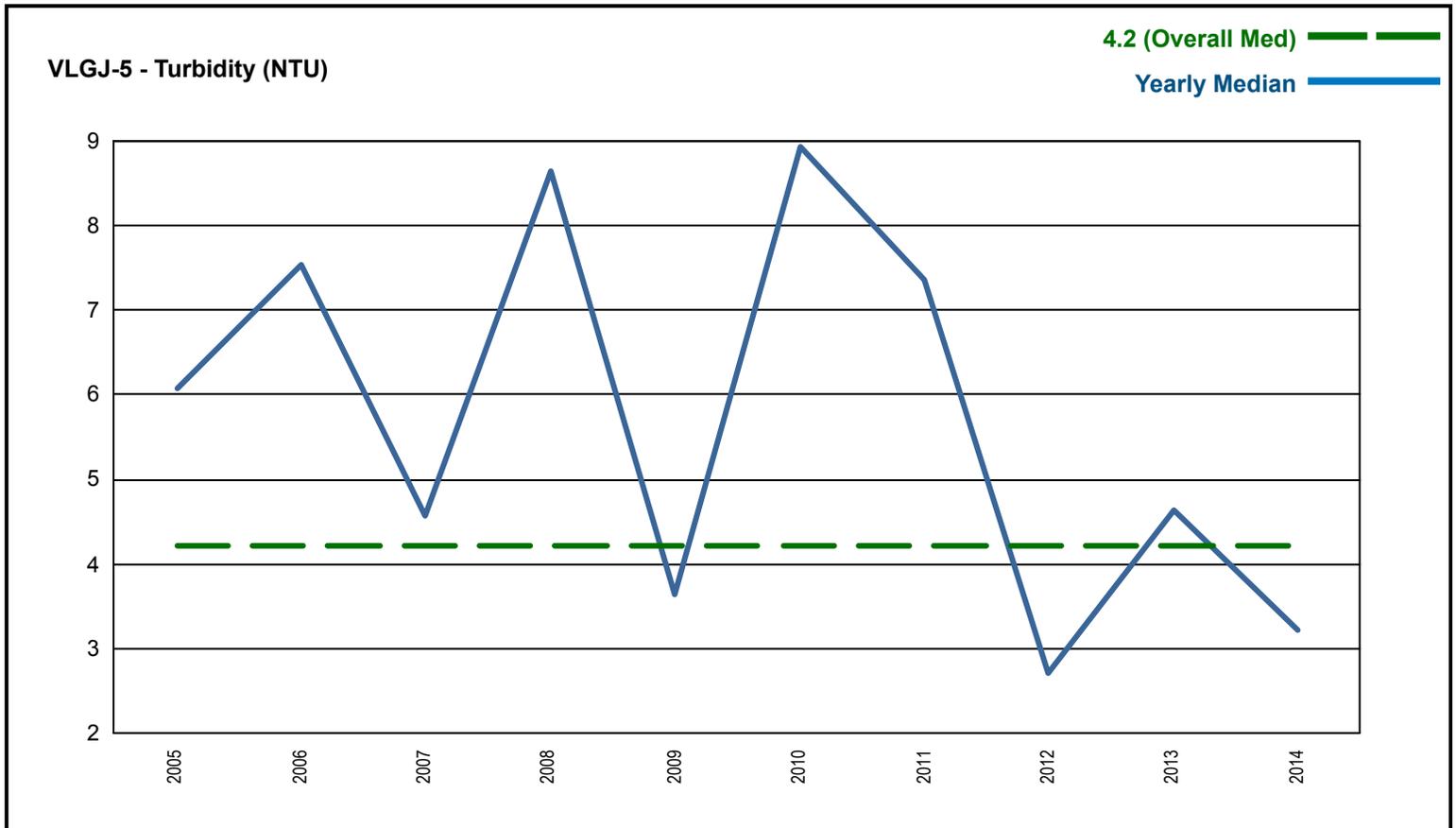
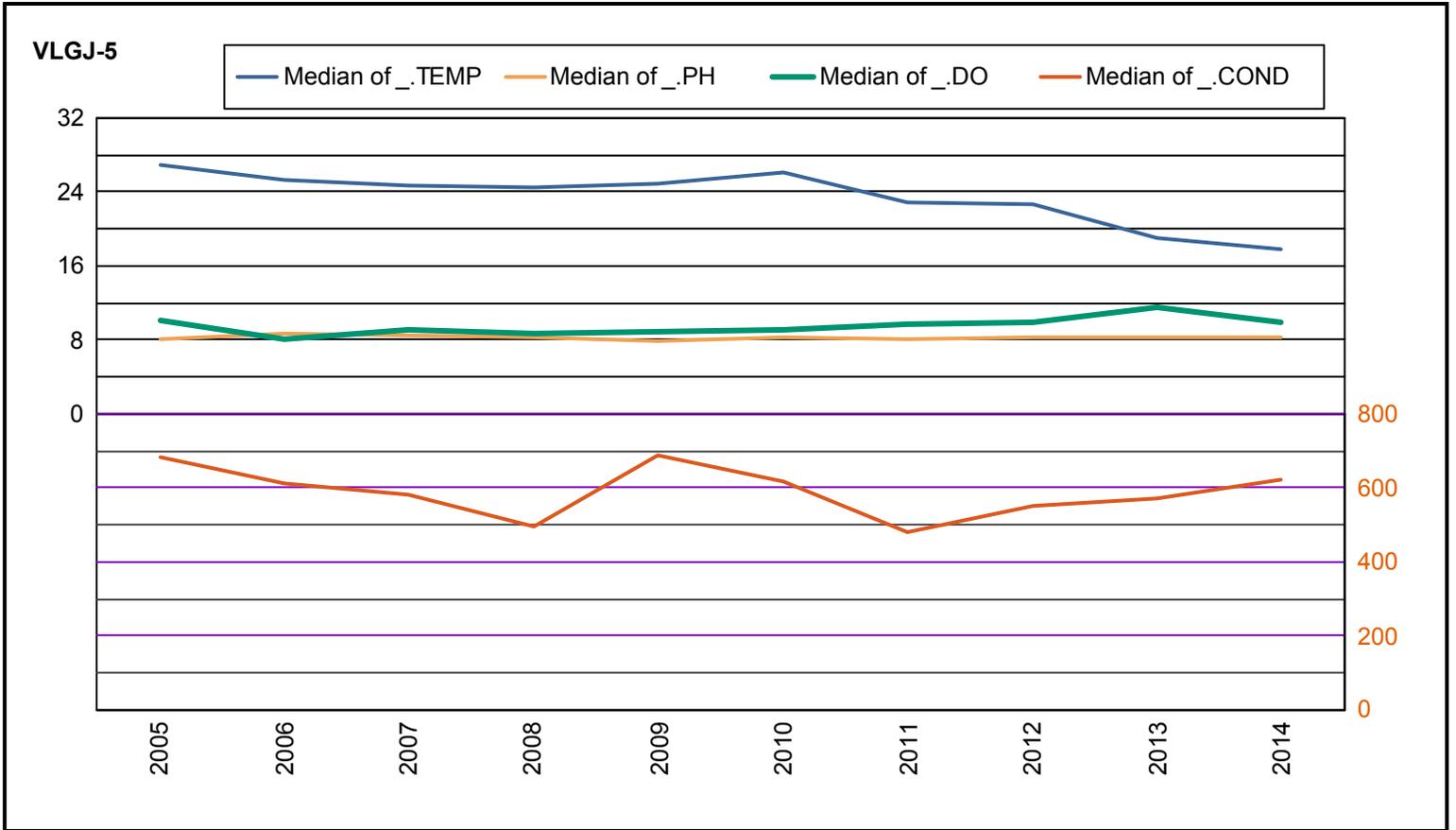
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



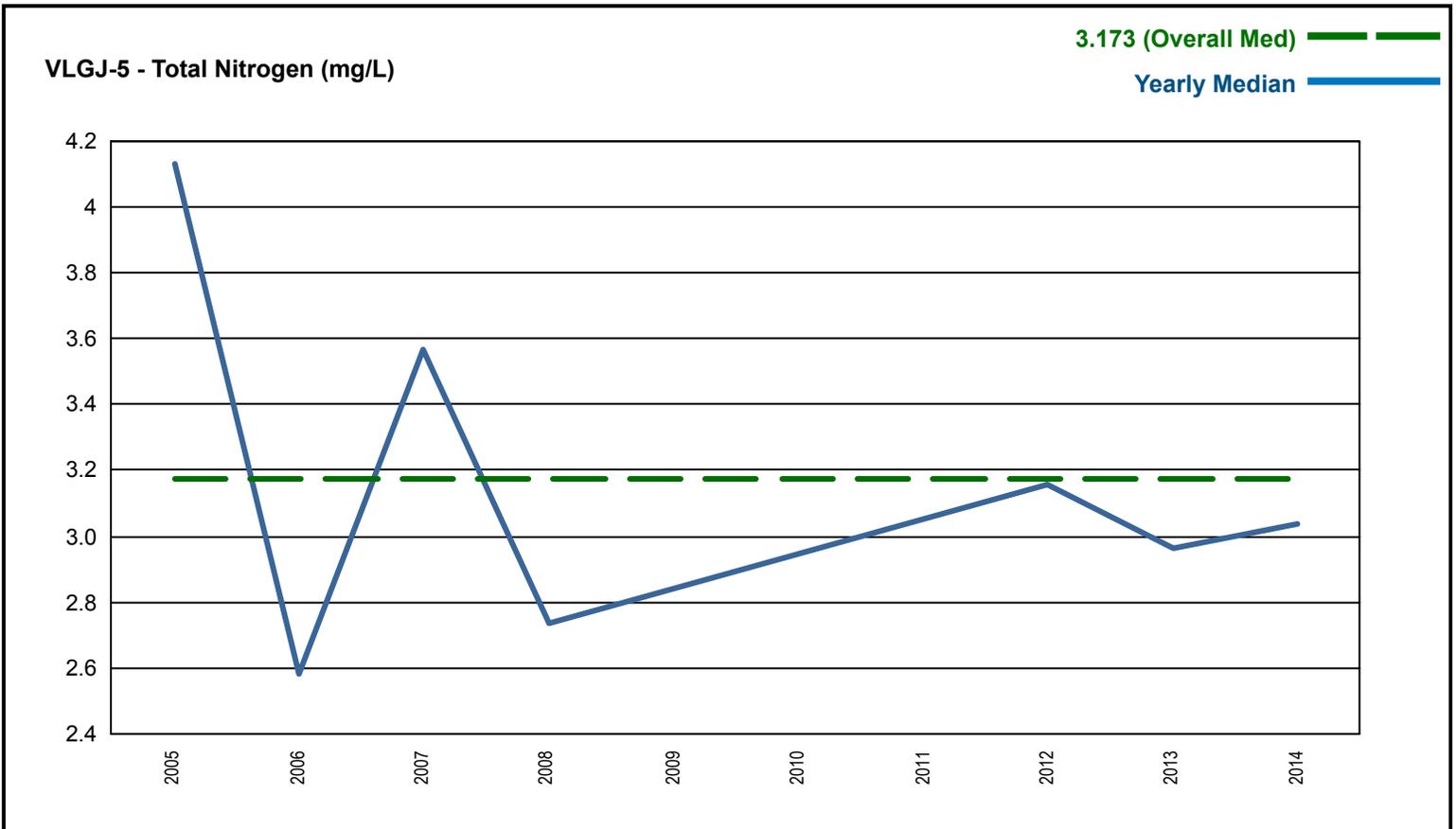
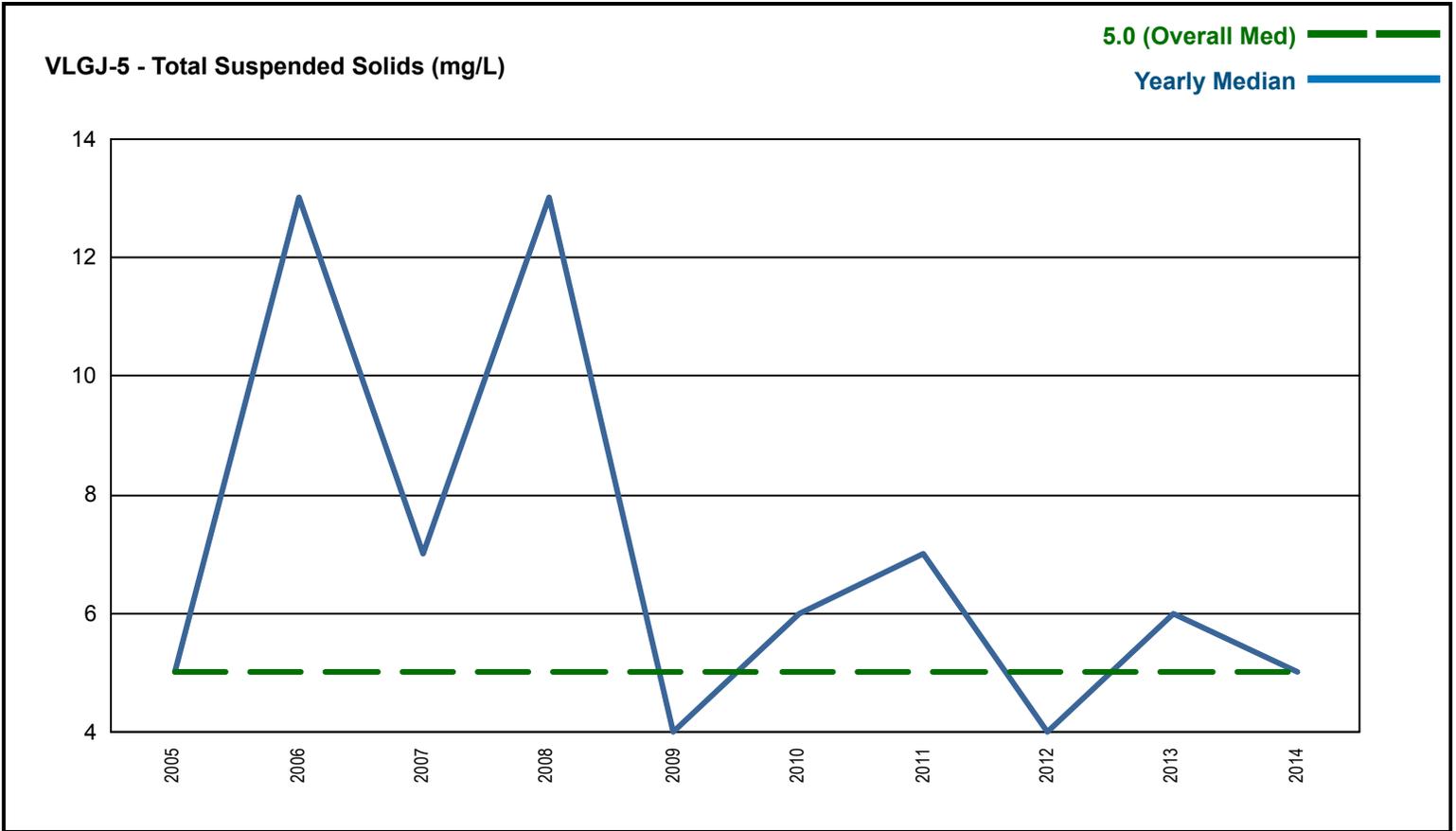
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



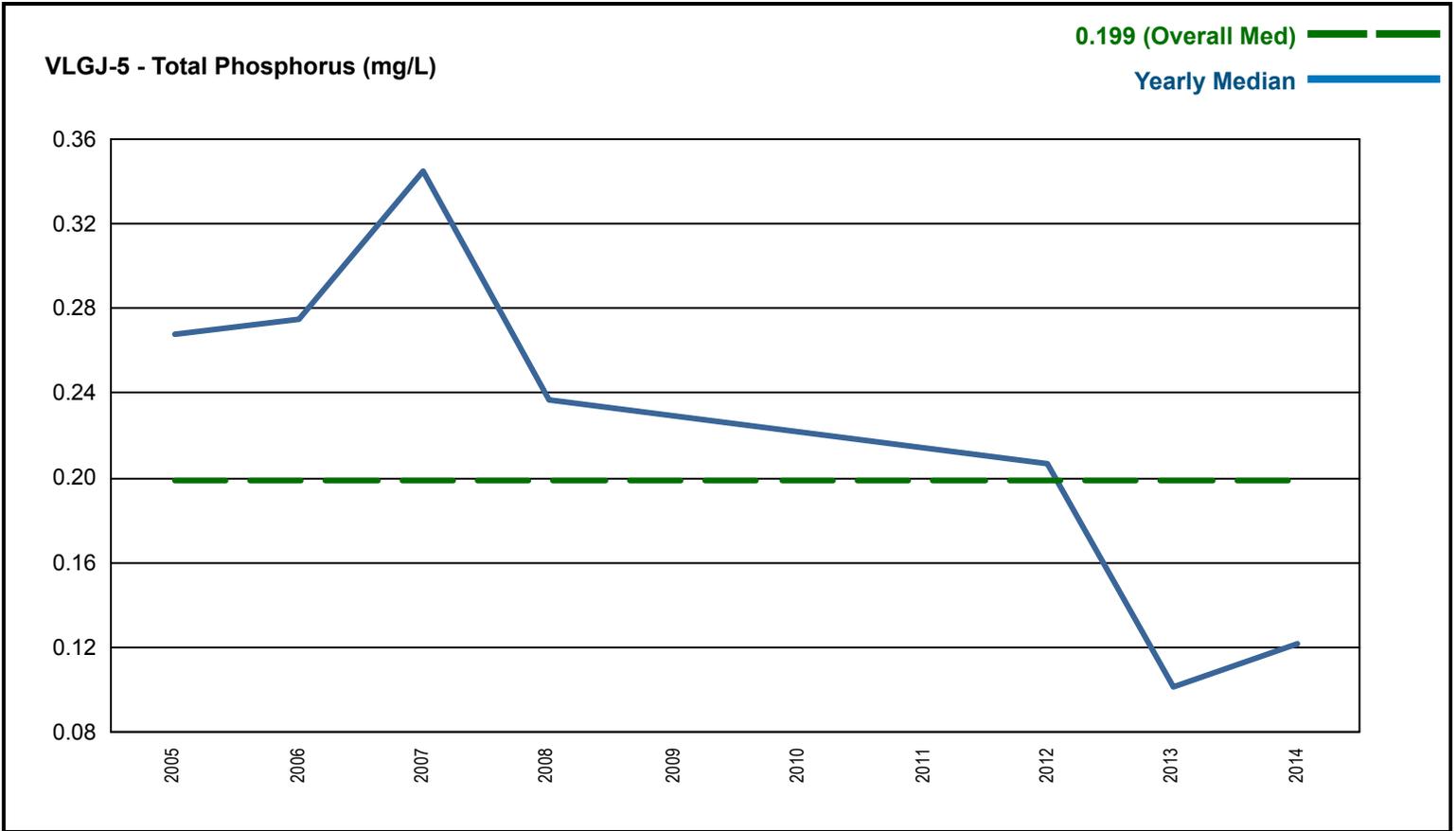
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



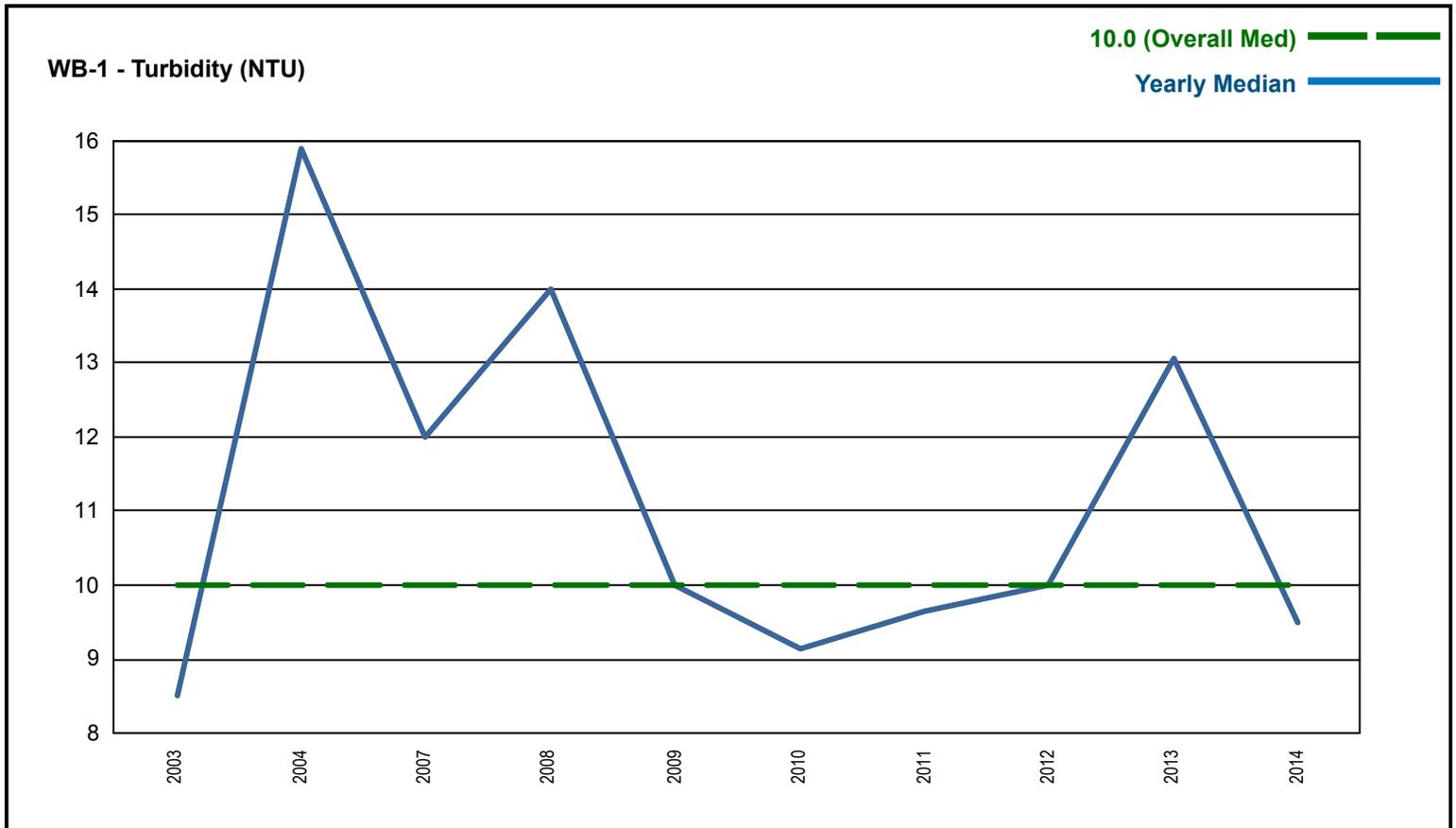
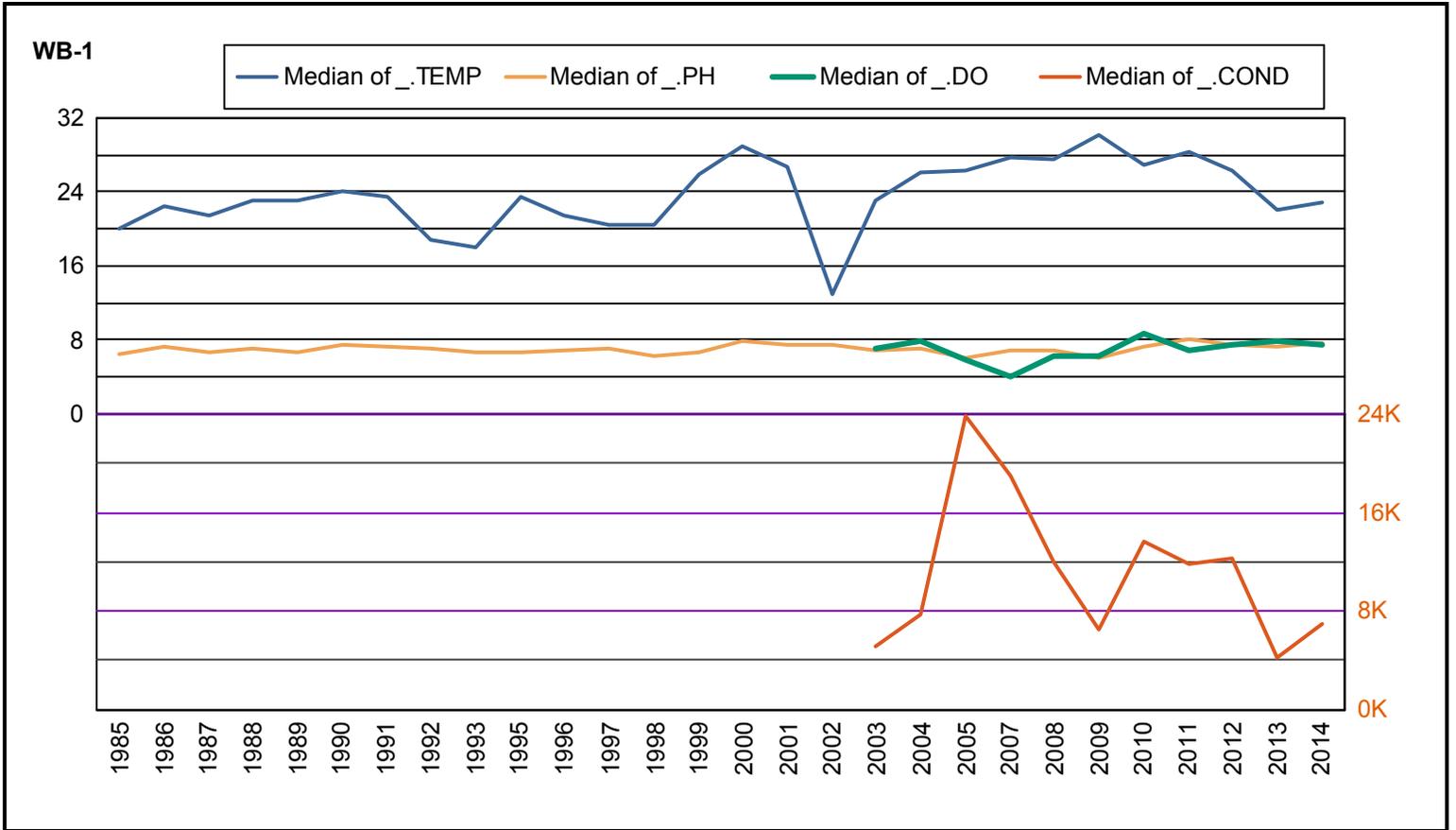
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



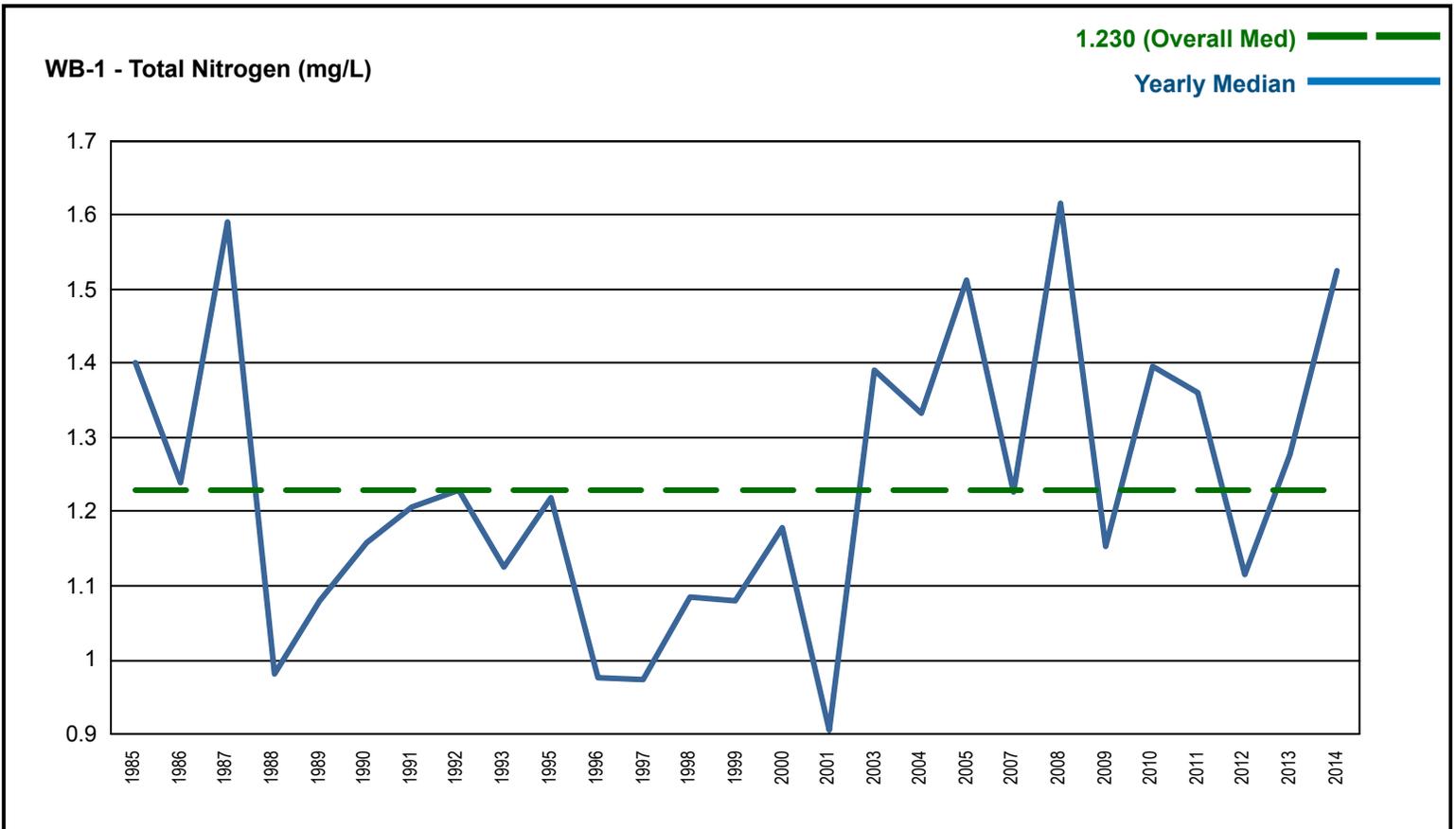
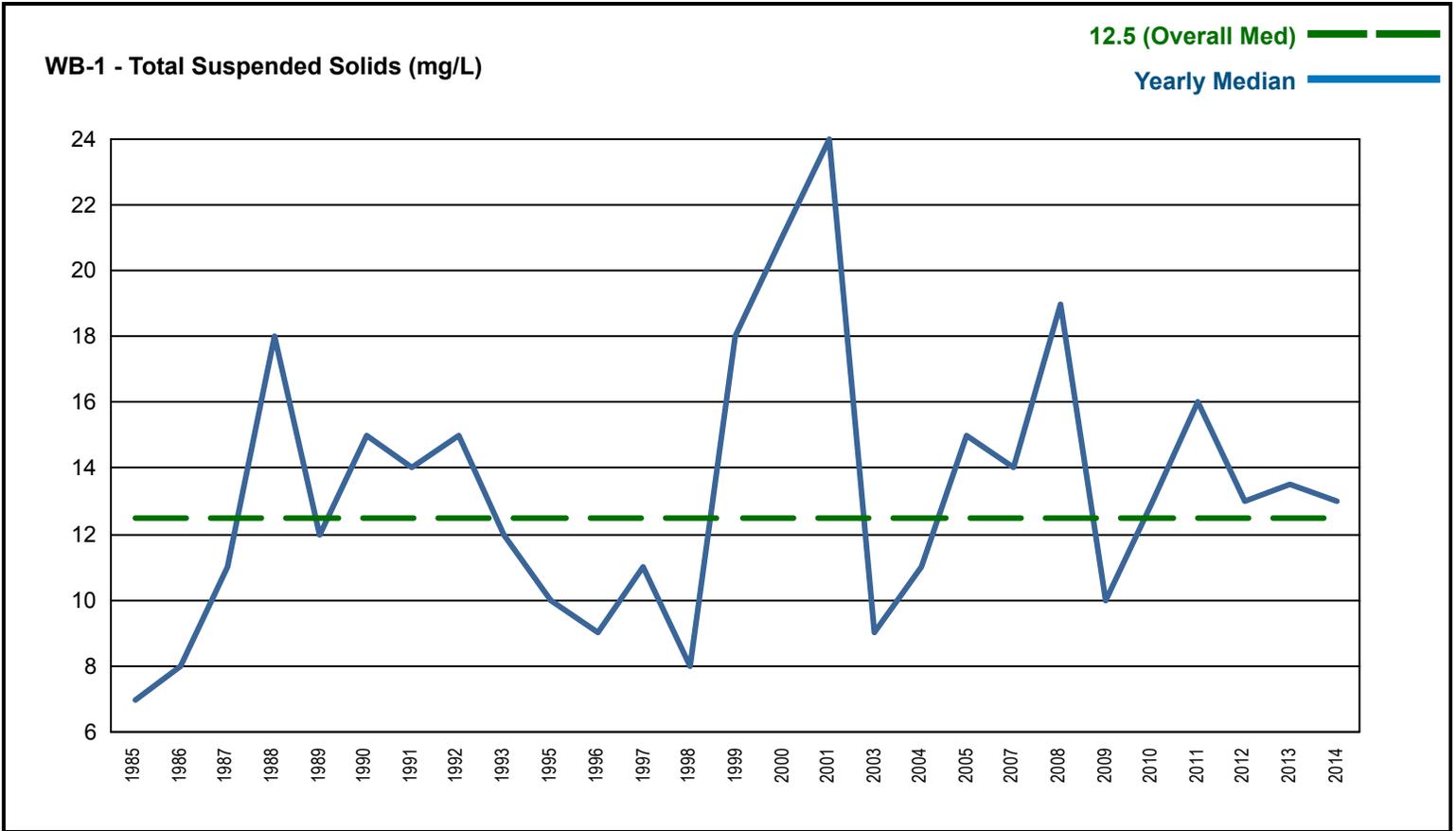
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



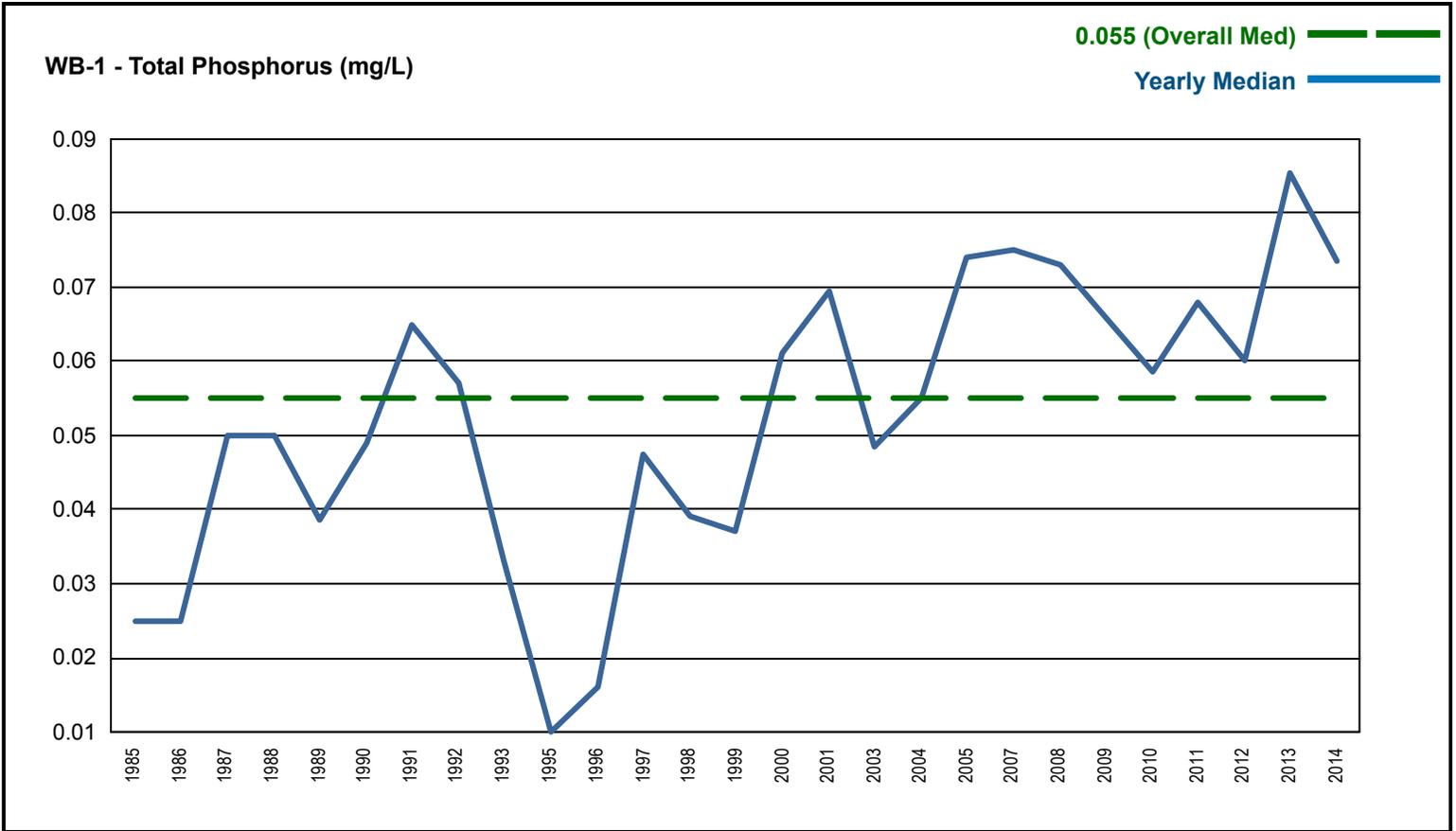
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



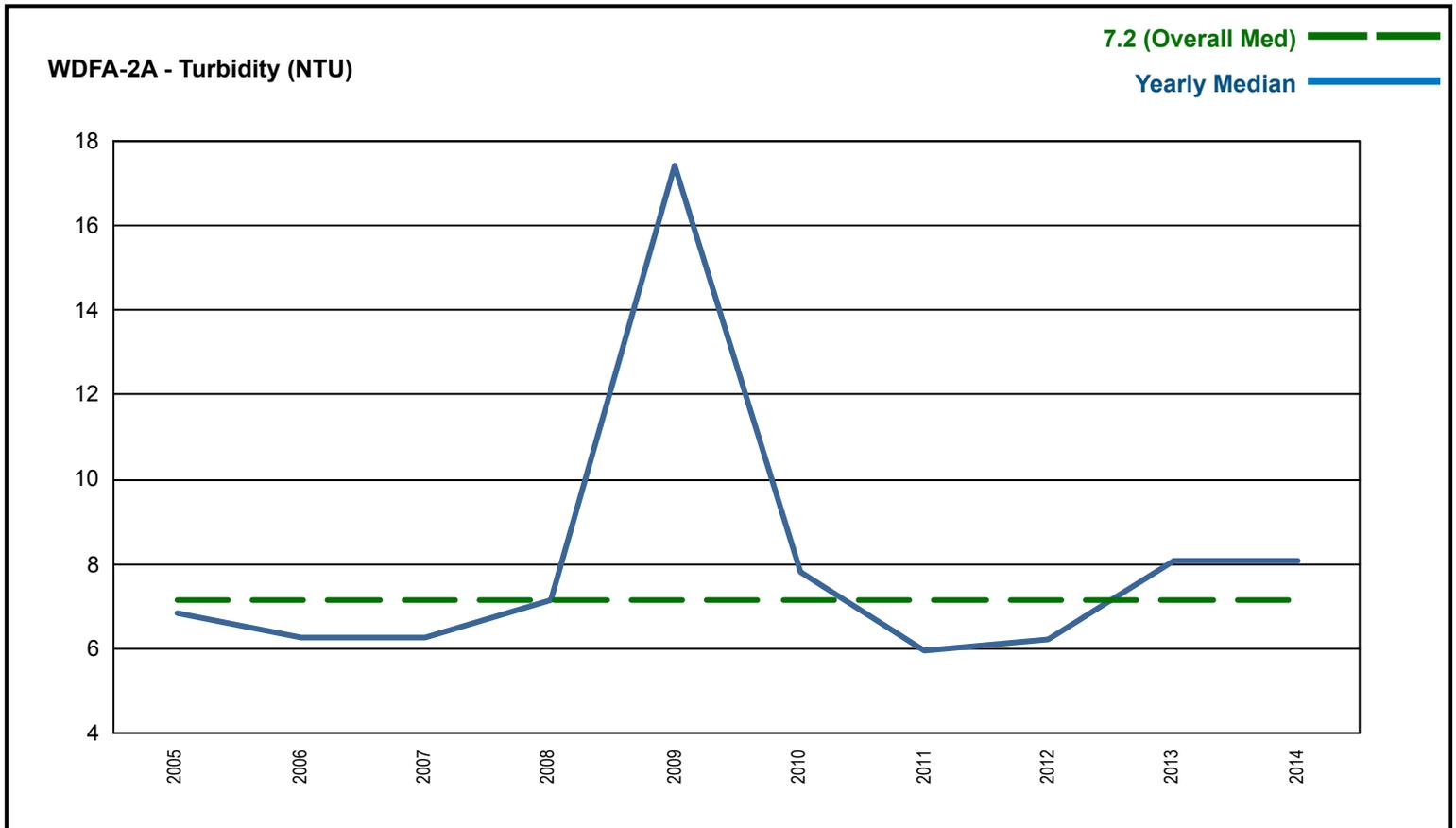
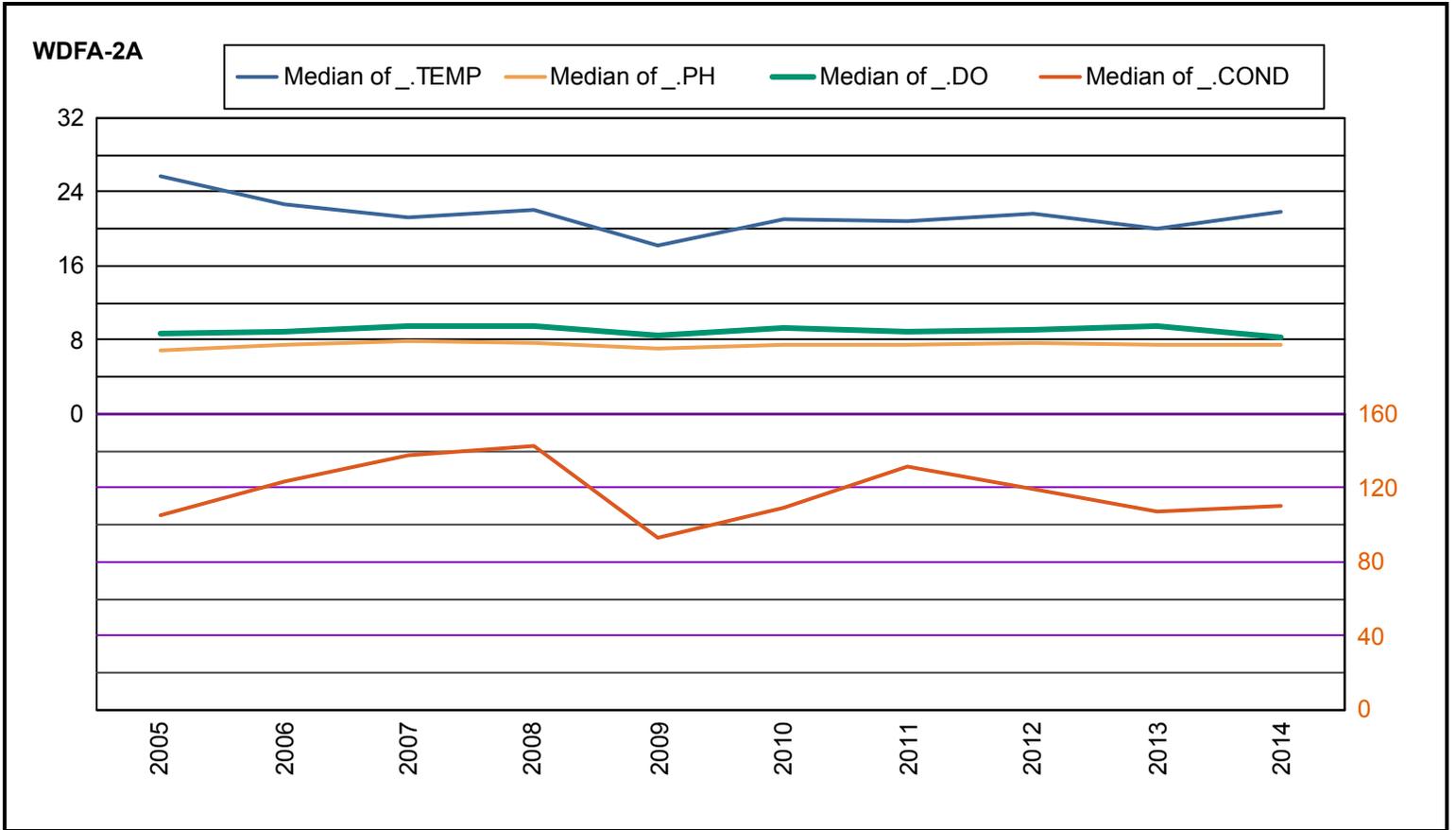
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



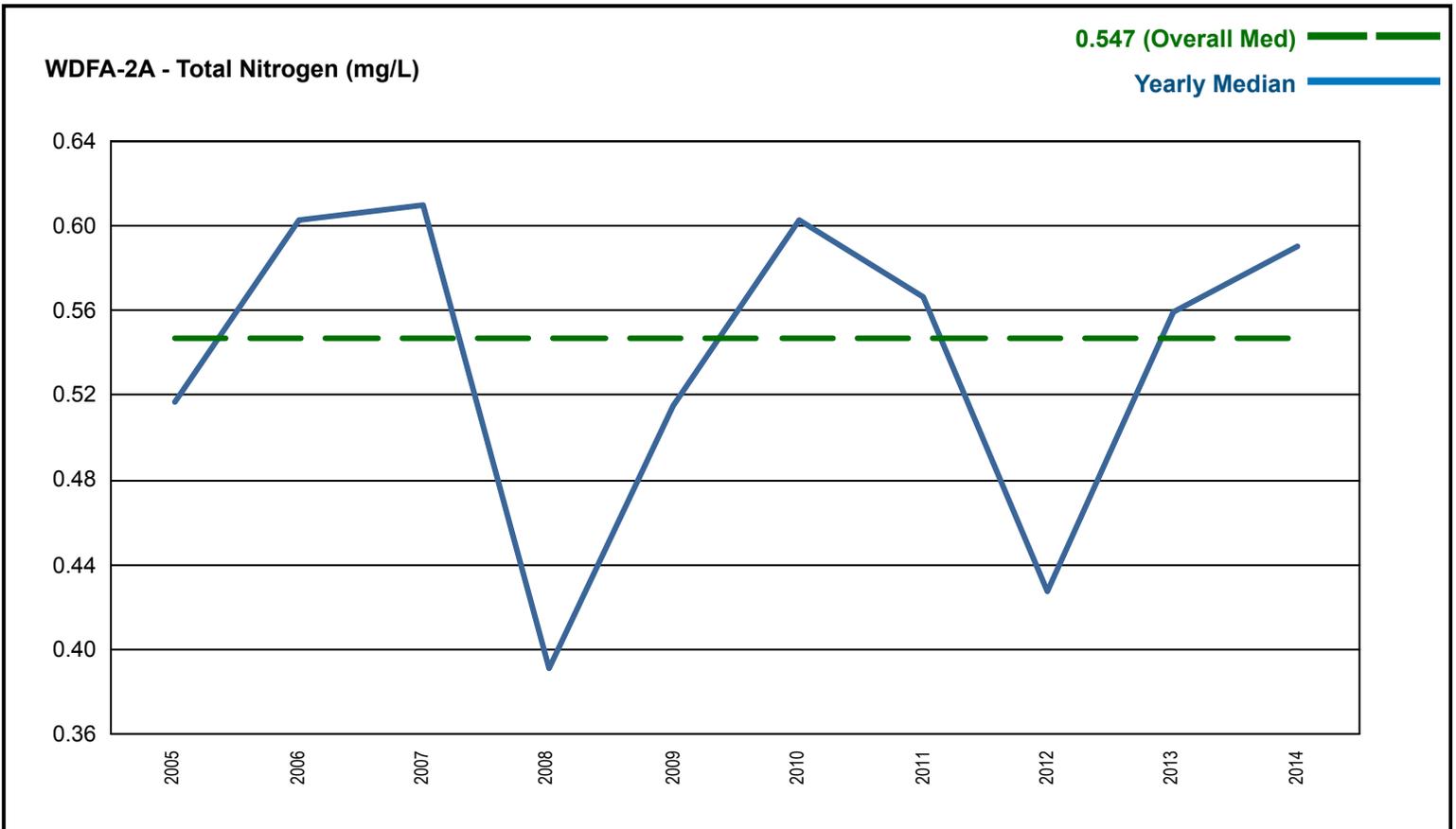
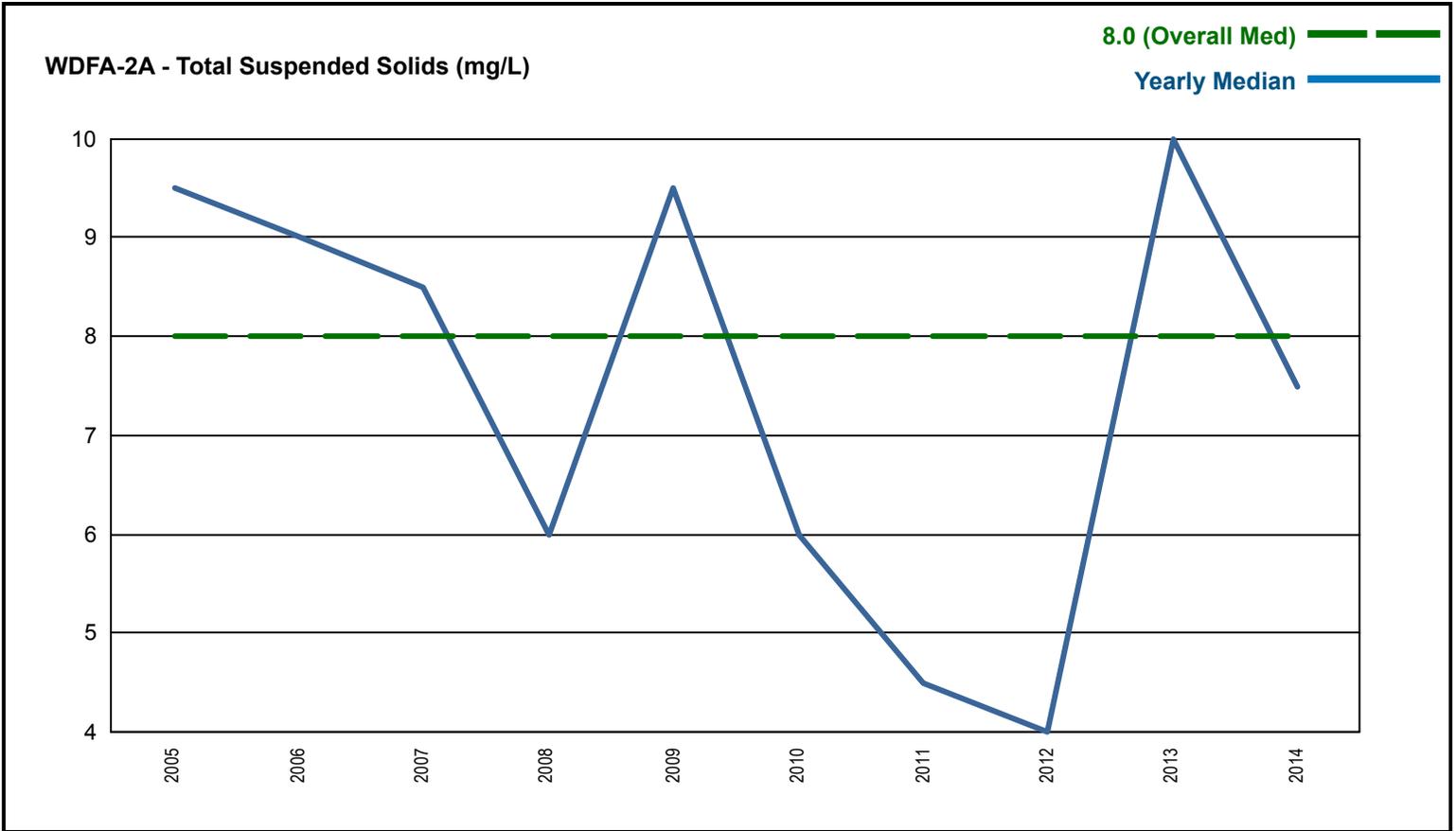
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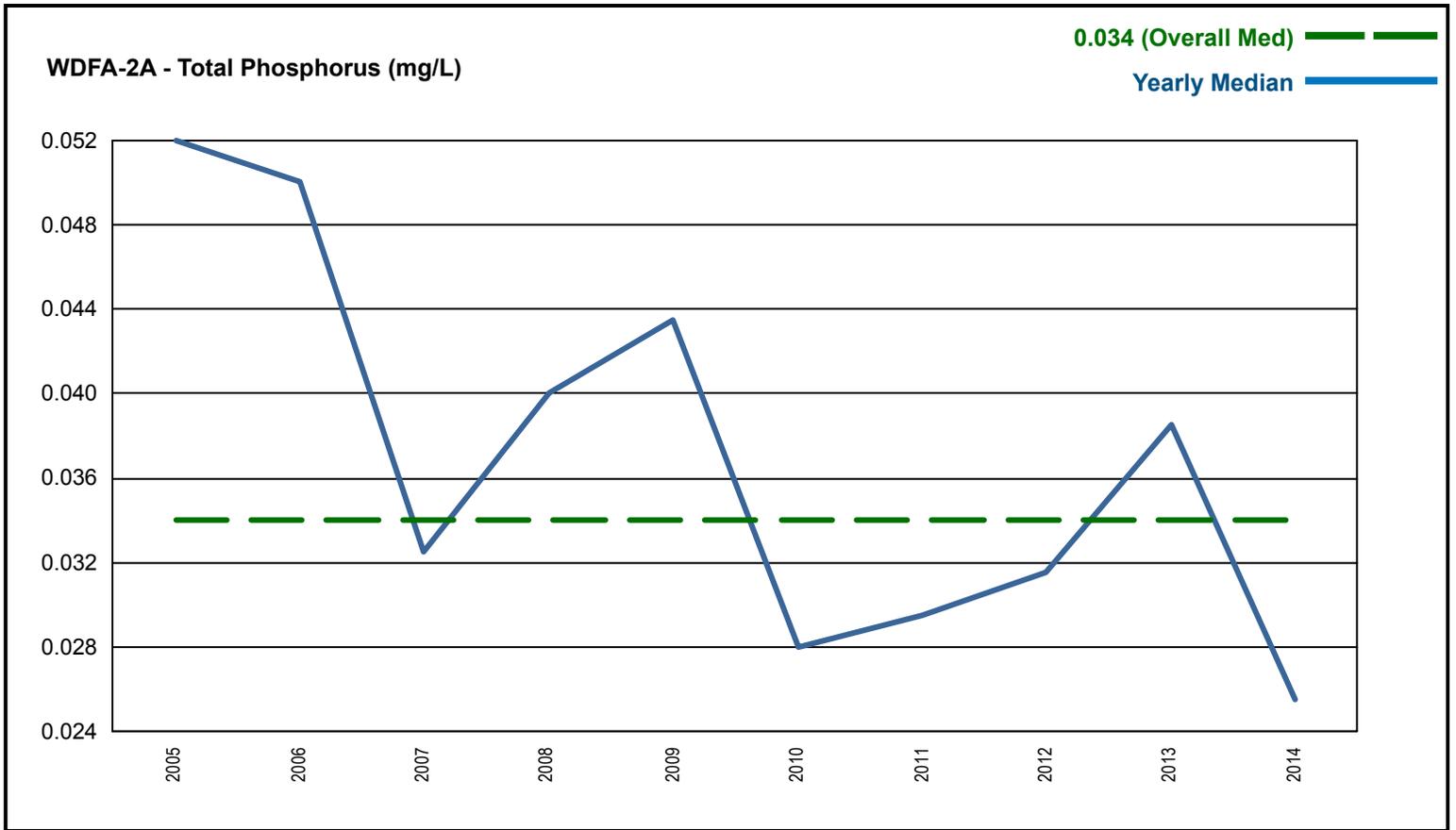
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



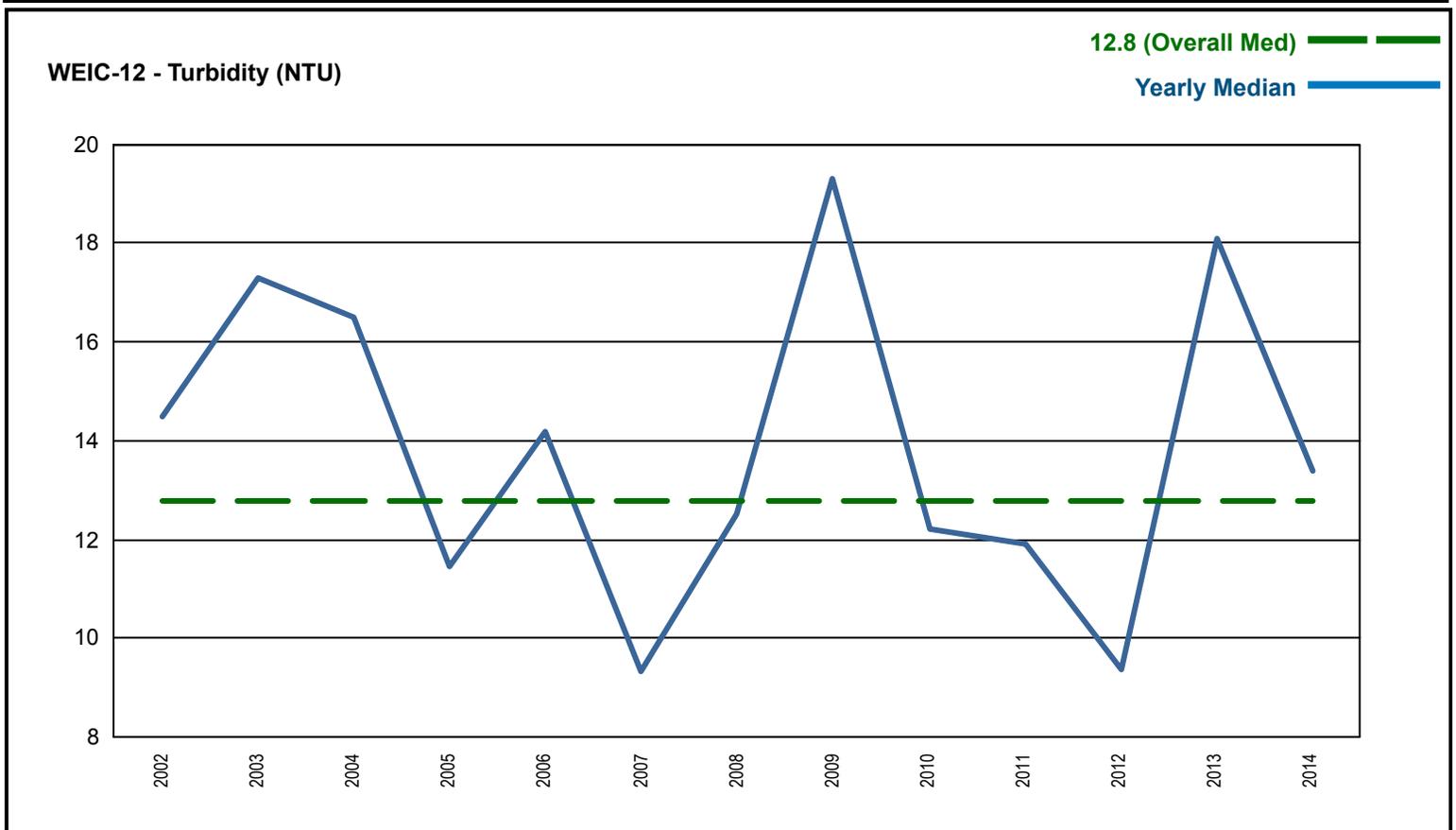
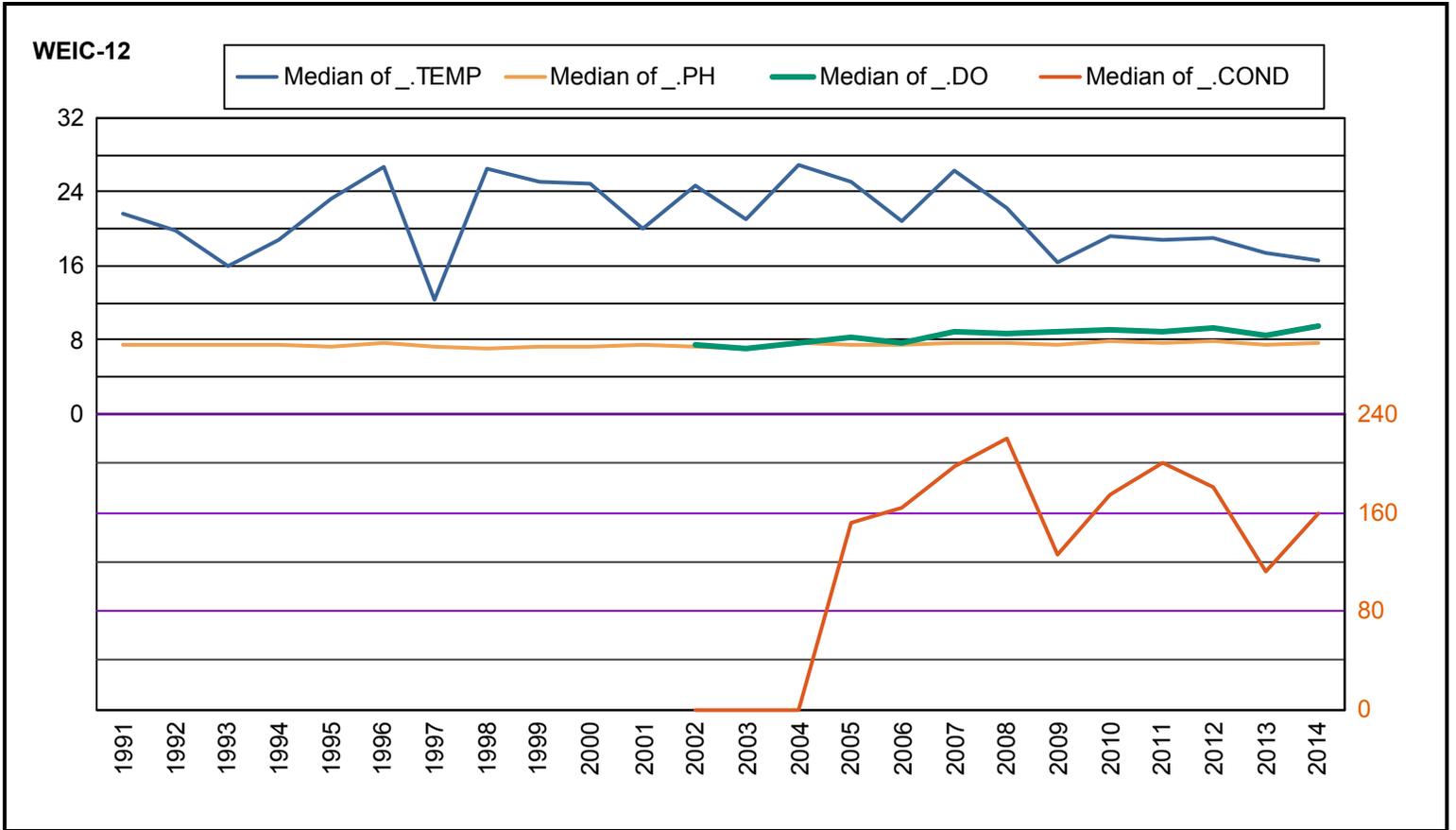
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



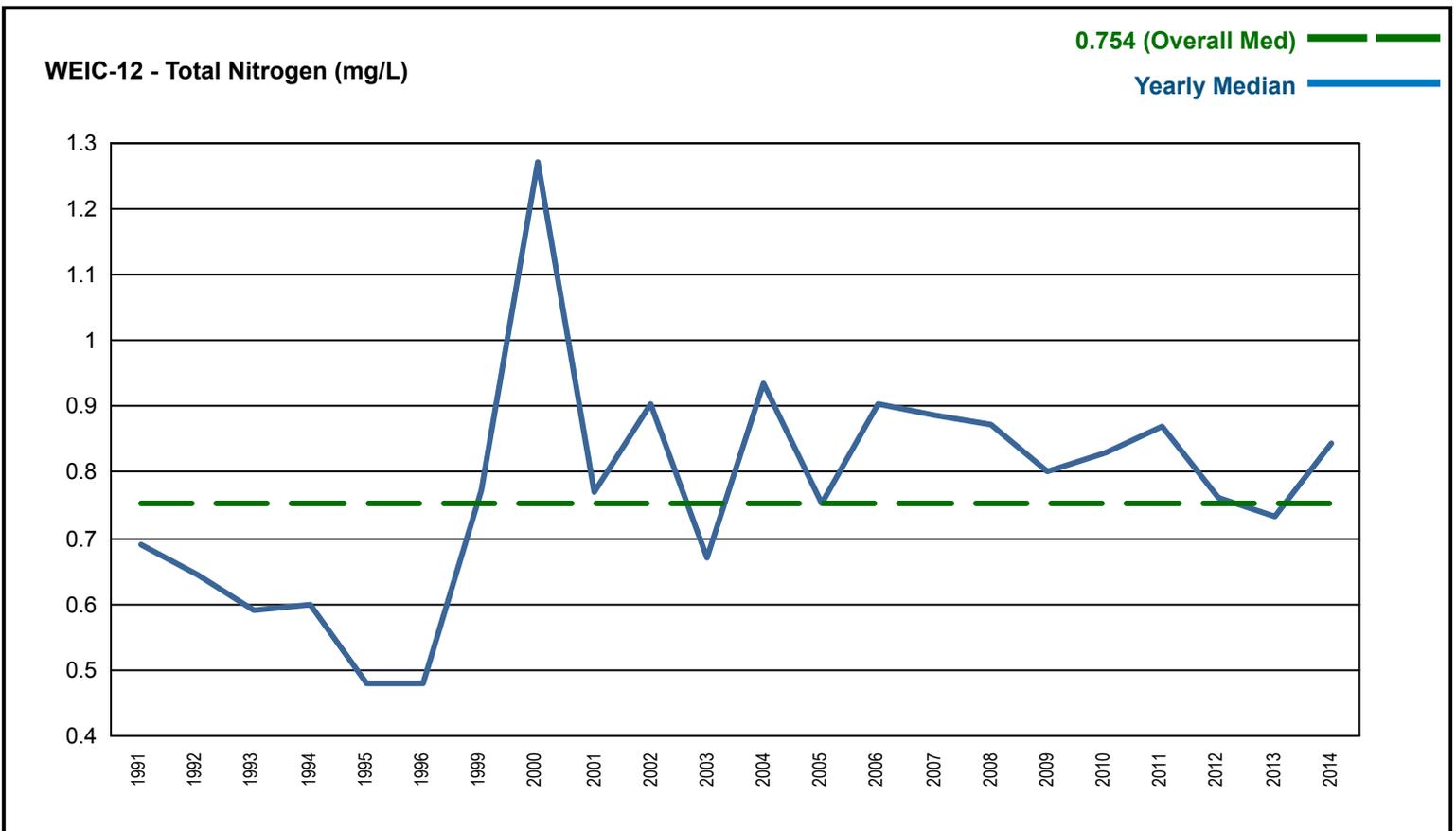
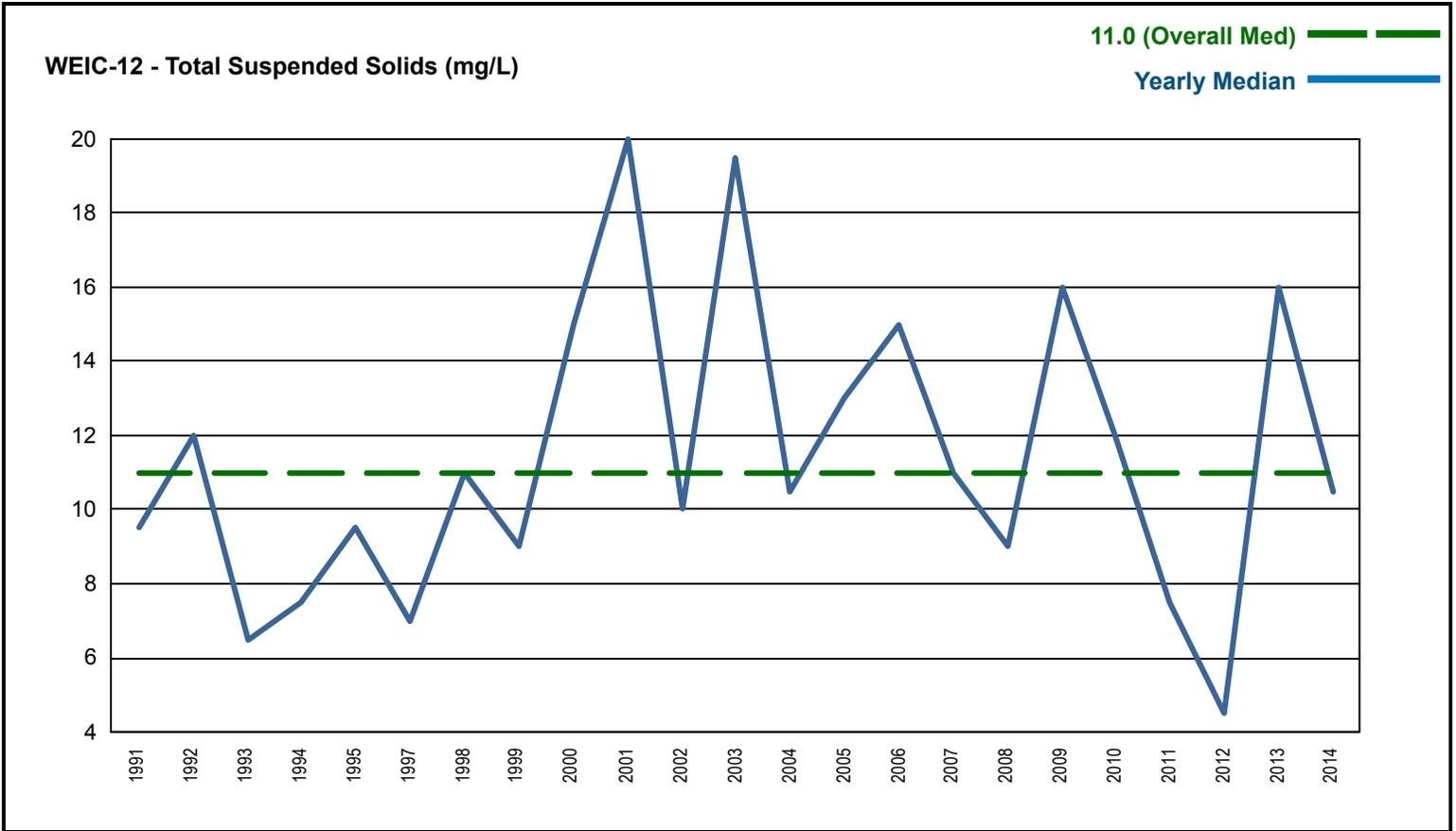
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



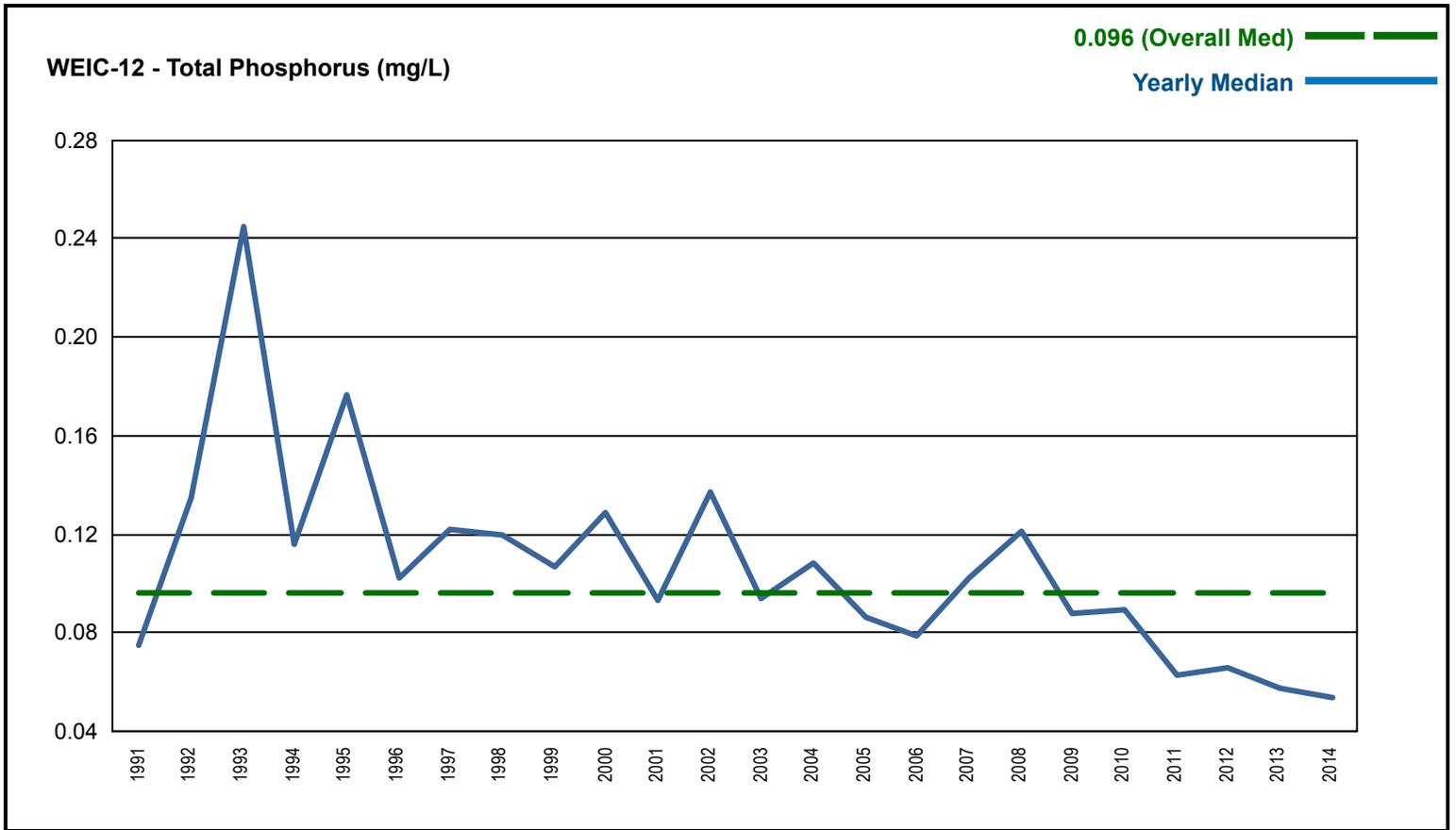
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



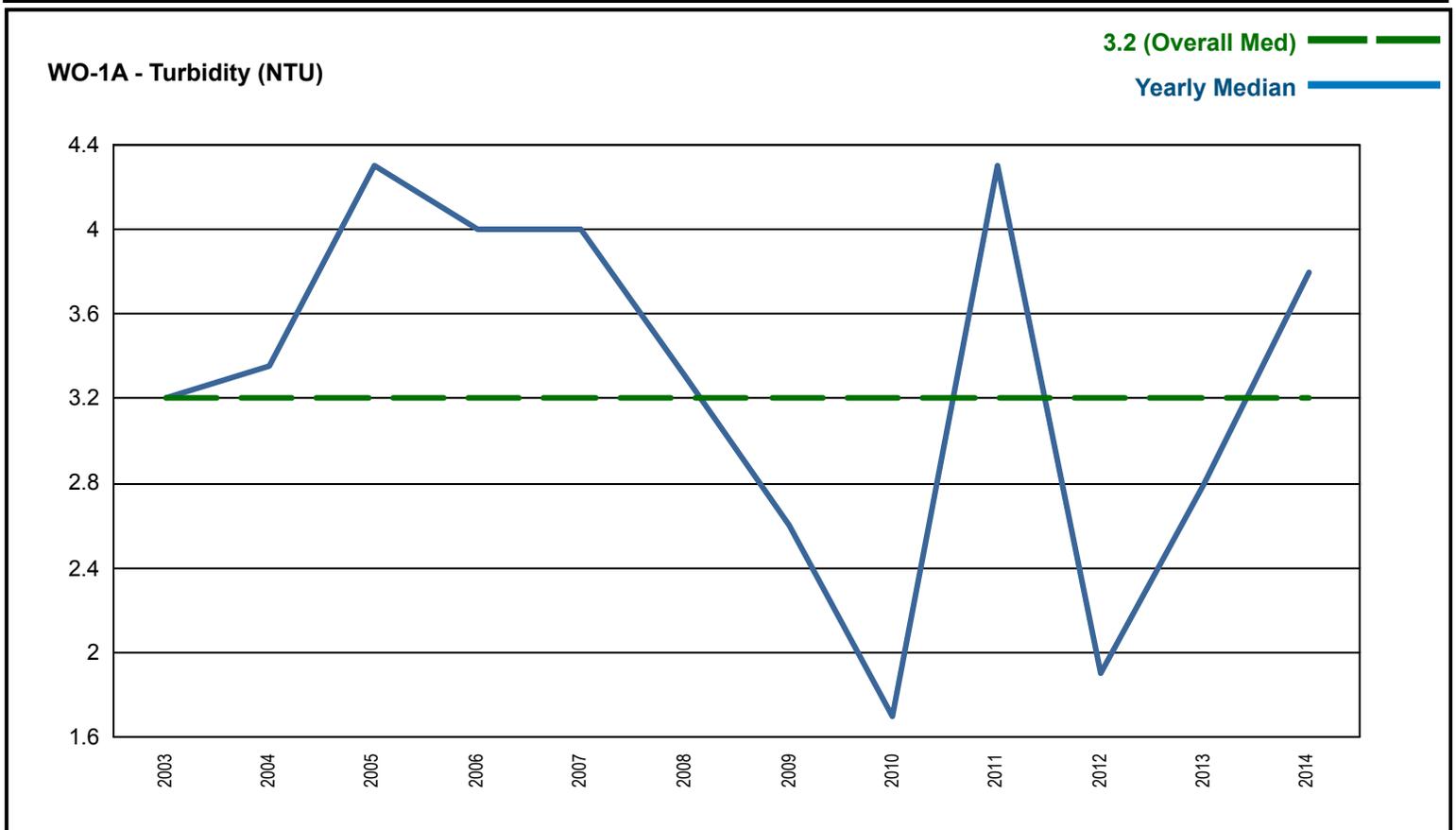
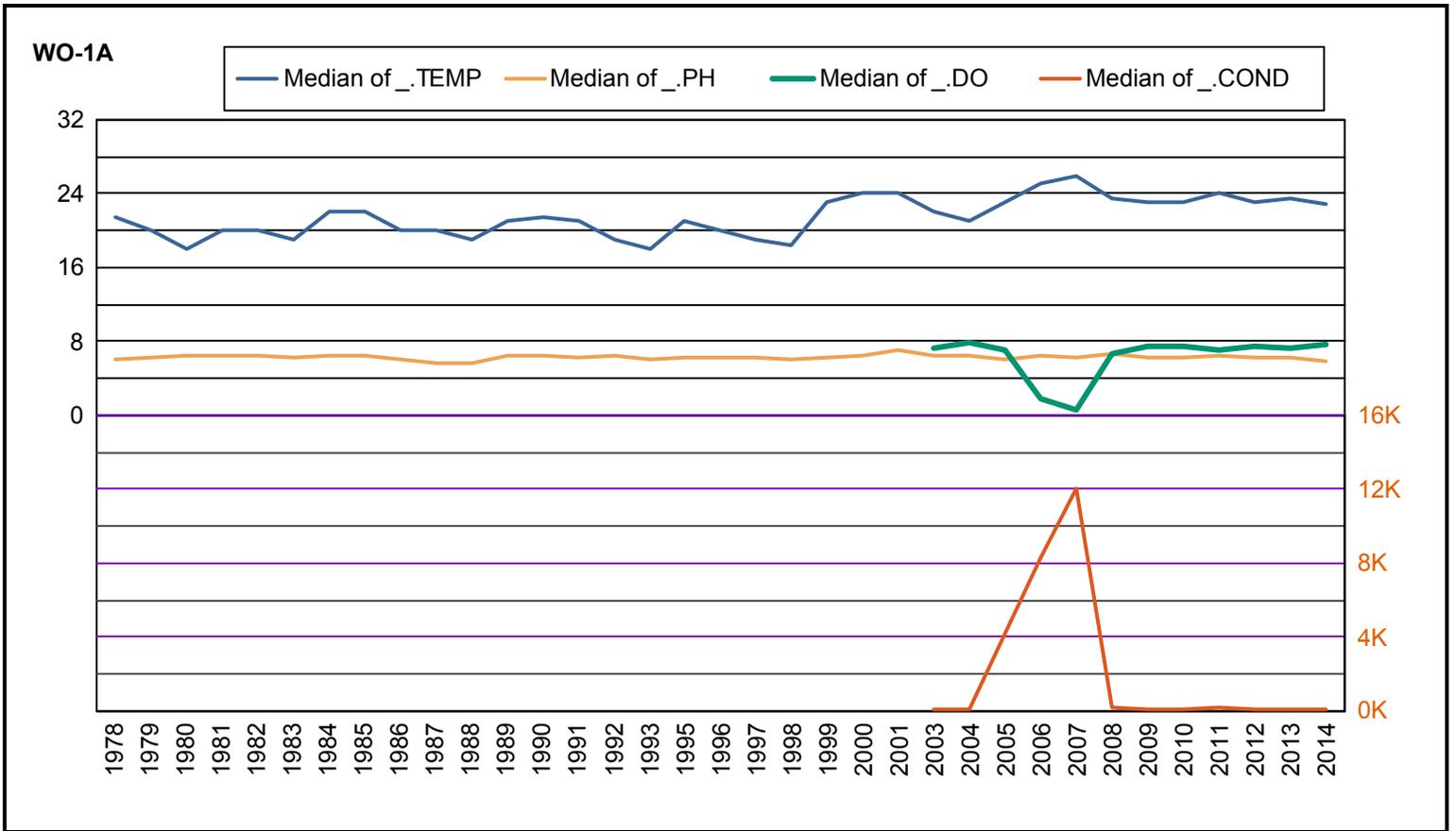
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



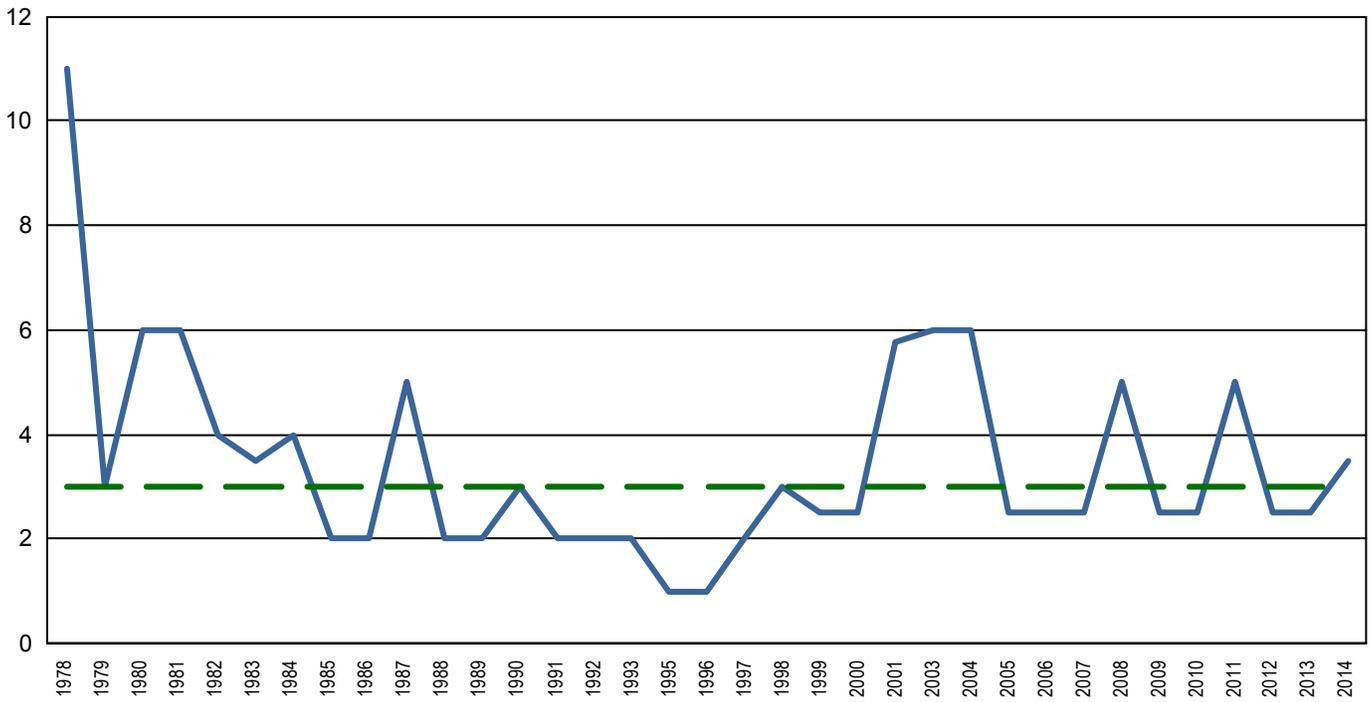
## ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

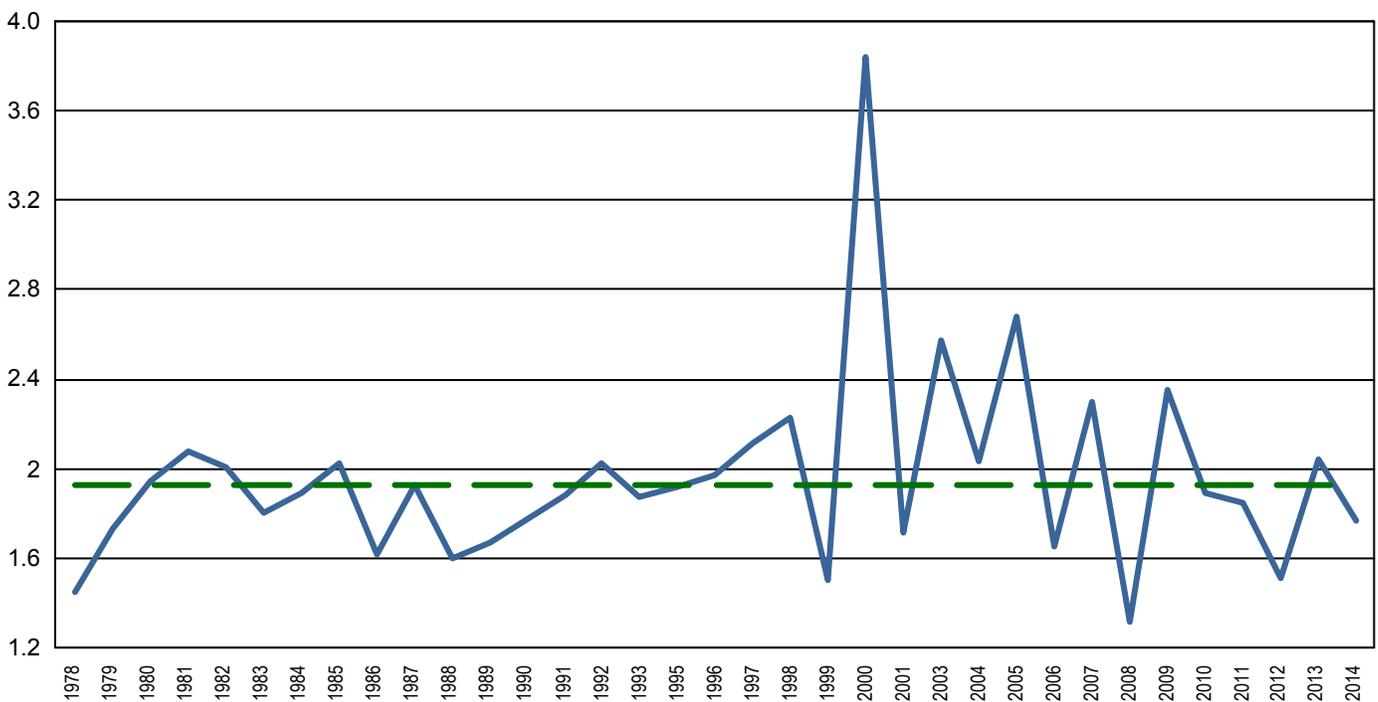
## WO-1A - Total Suspended Solids (mg/L)

3.0 (Overall Med)   
Yearly Median 

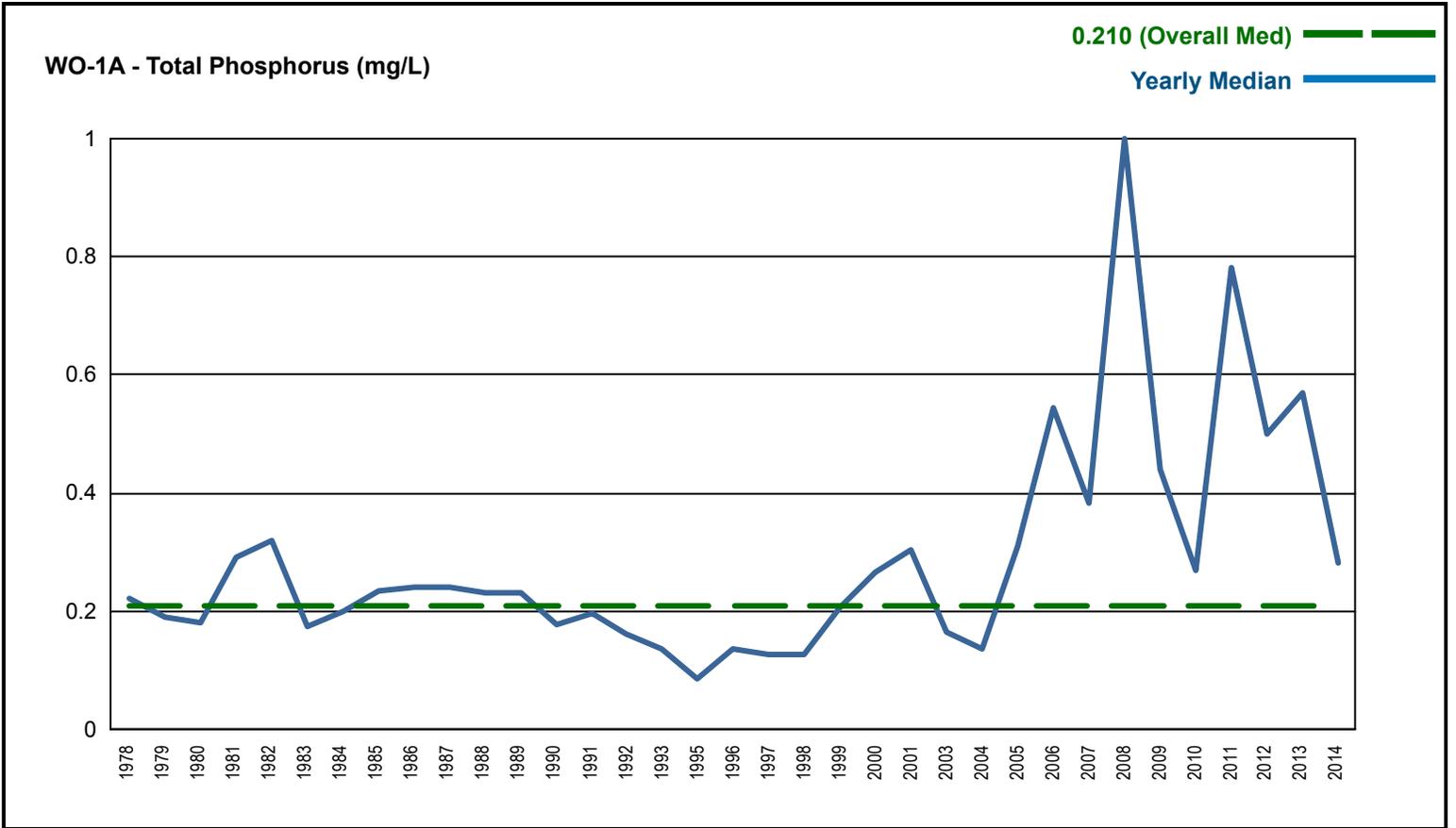


## WO-1A - Total Nitrogen (mg/L)

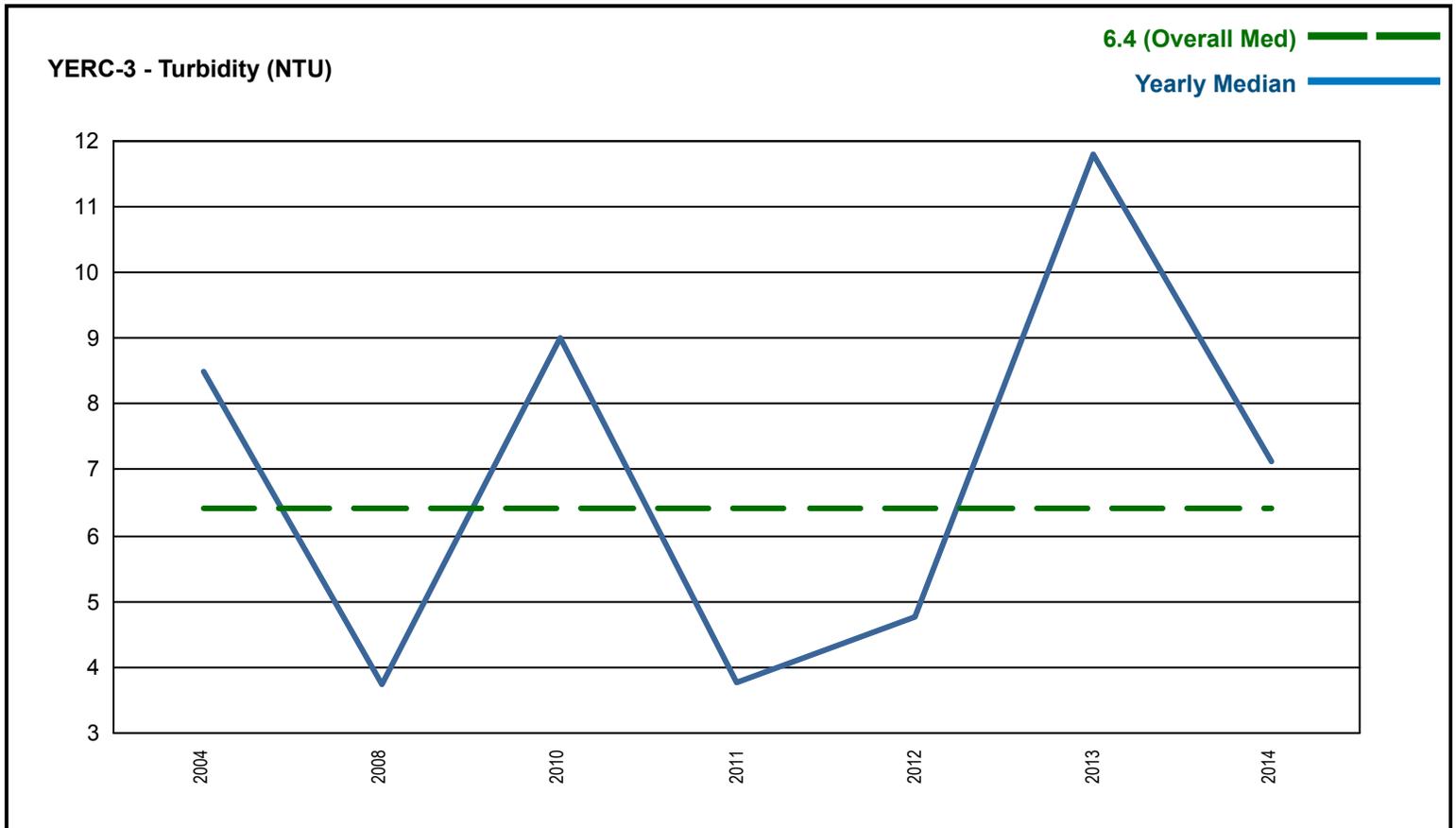
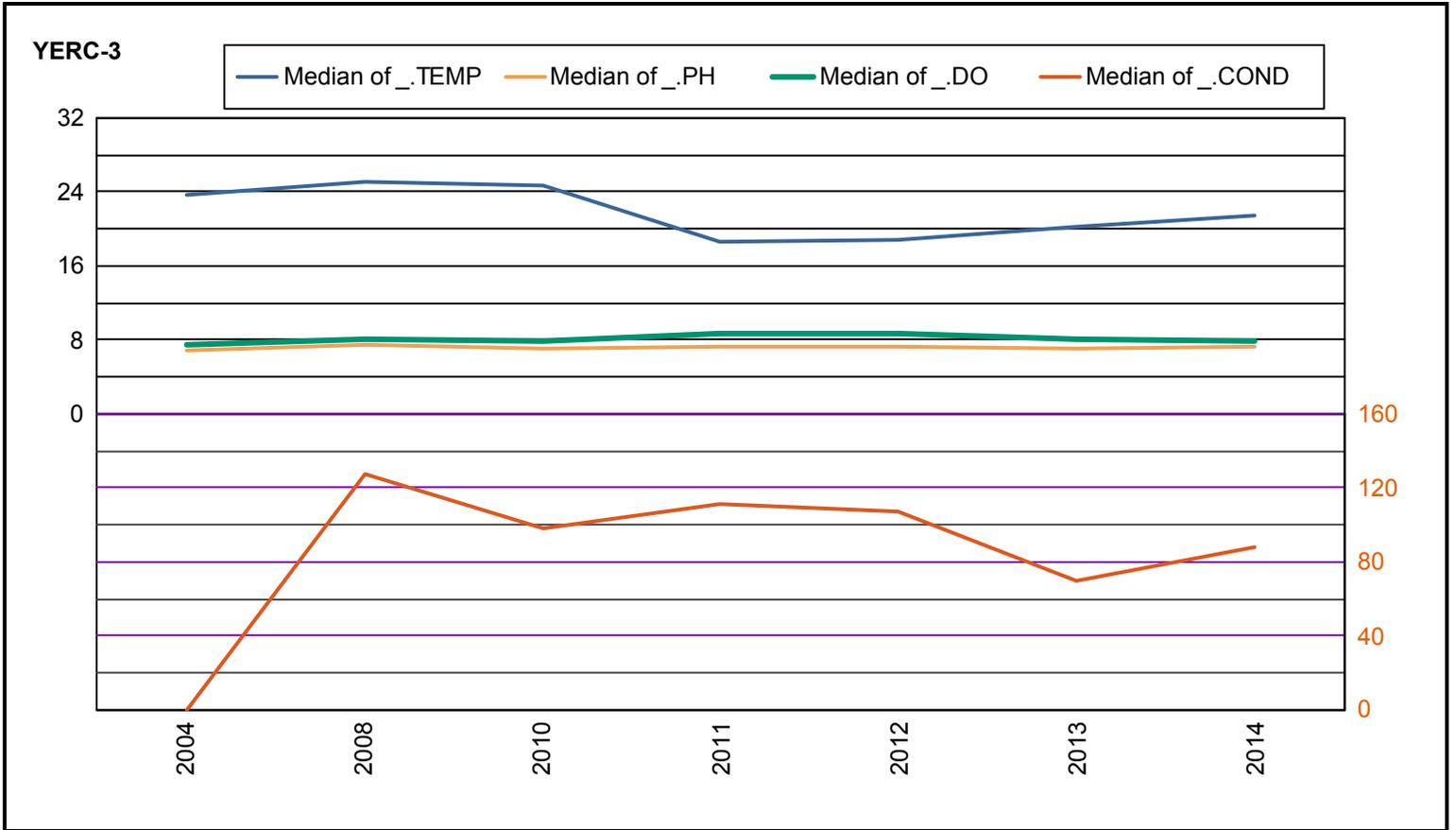
1.930 (Overall Med)   
Yearly Median 



# ADEM Ambient Trend Stations - Sampled 1977 - 2014



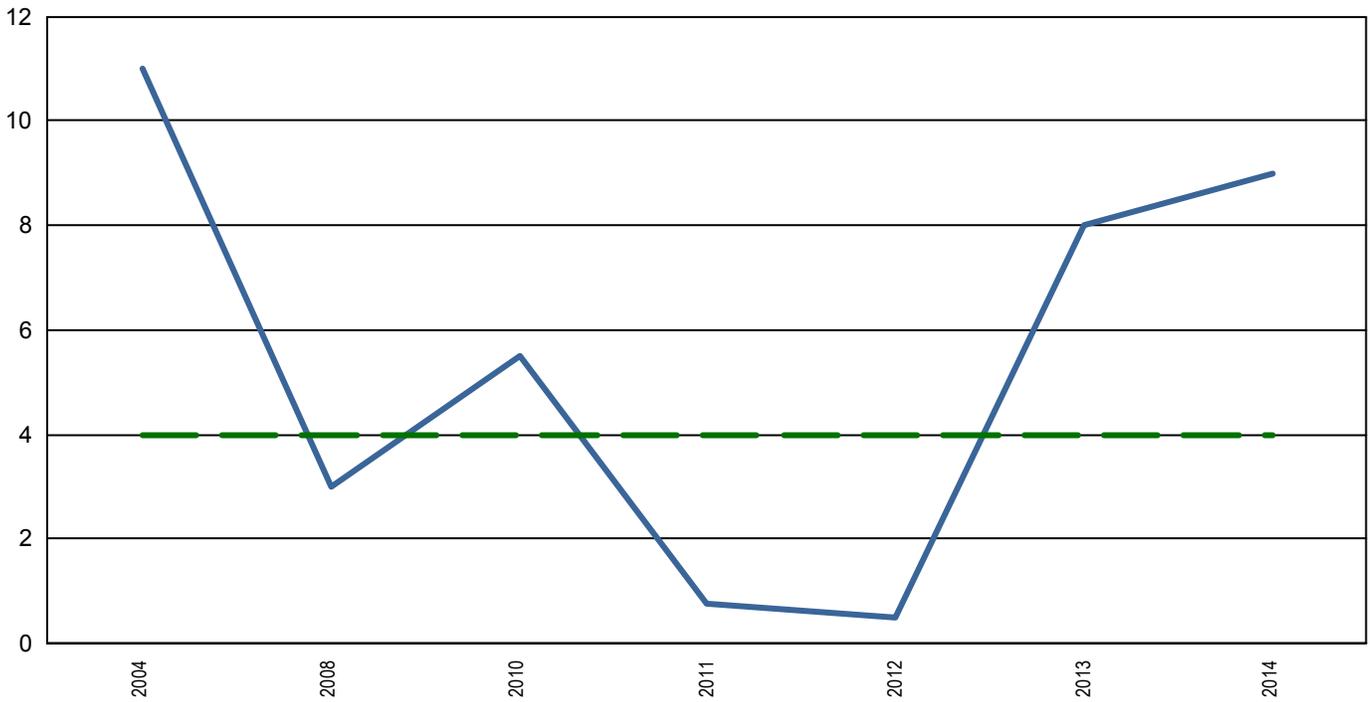
# ADEM Ambient Trend Stations - Sampled 1977 - 2014



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

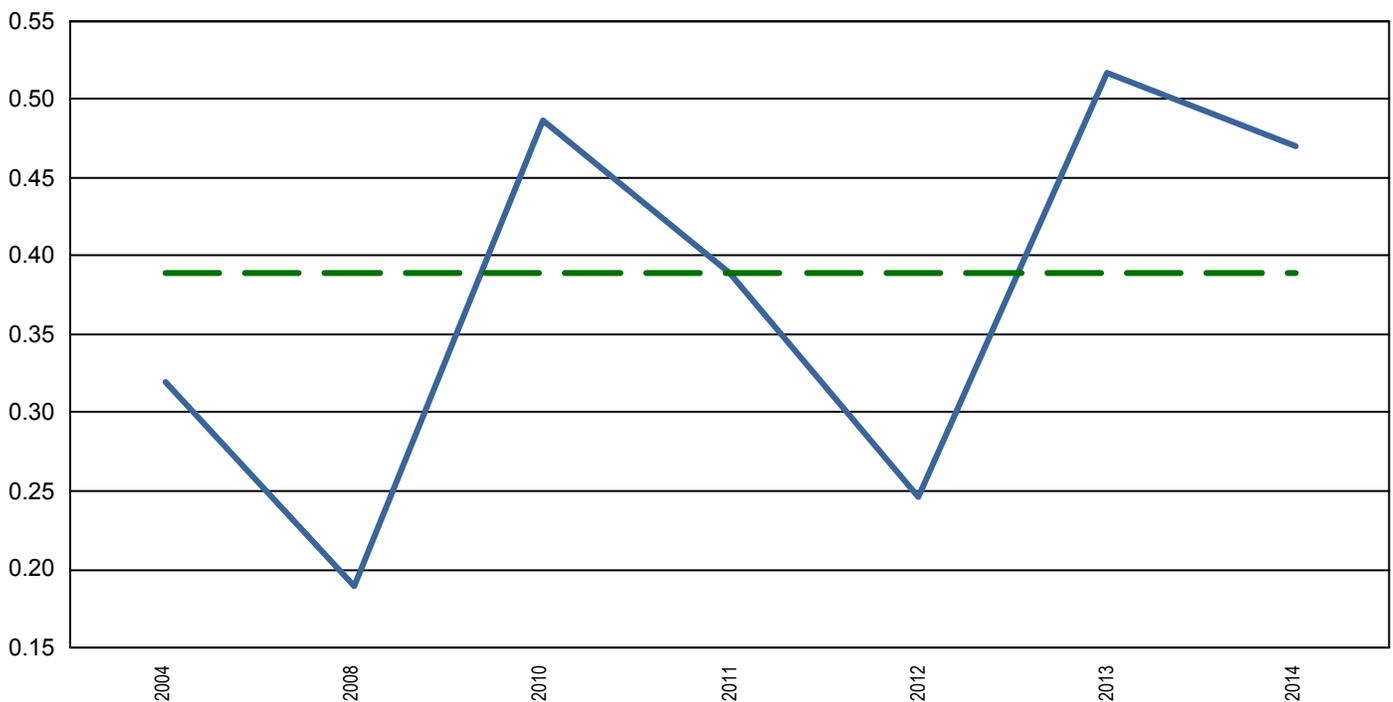
## YERC-3 - Total Suspended Solids (mg/L)

4.0 (Overall Med)   
Yearly Median 



## YERC-3 - Total Nitrogen (mg/L)

0.388 (Overall Med)   
Yearly Median 



# ADEM Ambient Trend Stations - Sampled 1977 - 2014

