



Water Management and Drought Response Update

Tom Littlepage
Alabama Office of Water Resources

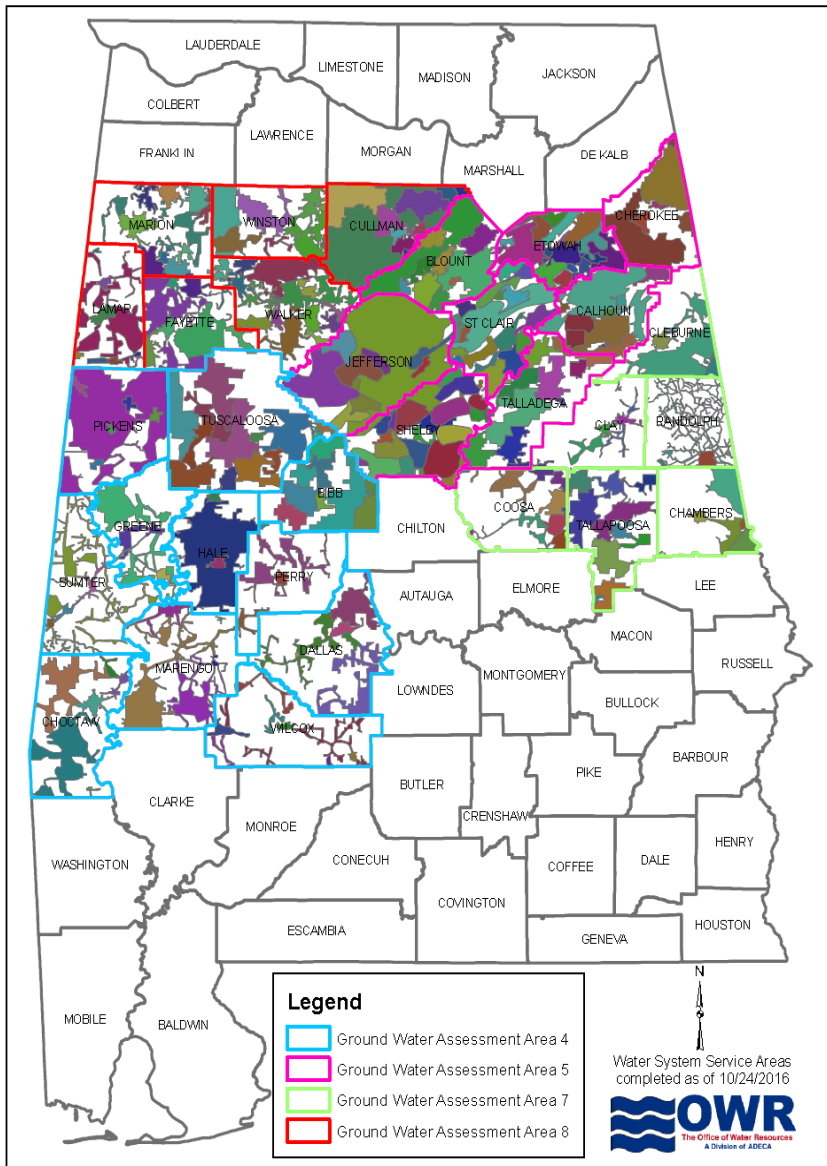


Today's Topics

- PWS Mapping
- Alabama Drought Planning Update
- Water Use Reporting Program
- Alabama Water Agencies Working Group (AWAWG) Update

Public Water System Mapping Initiative

Public Water System Mapping



- Initiative to develop GIS coverage of public water system boundaries in Alabama
- Goal is to work with local systems in updating service areas and system boundaries
- Alabama Rural Water Association has been working with OWR to update information

Public Water System Mapping (Blount County)

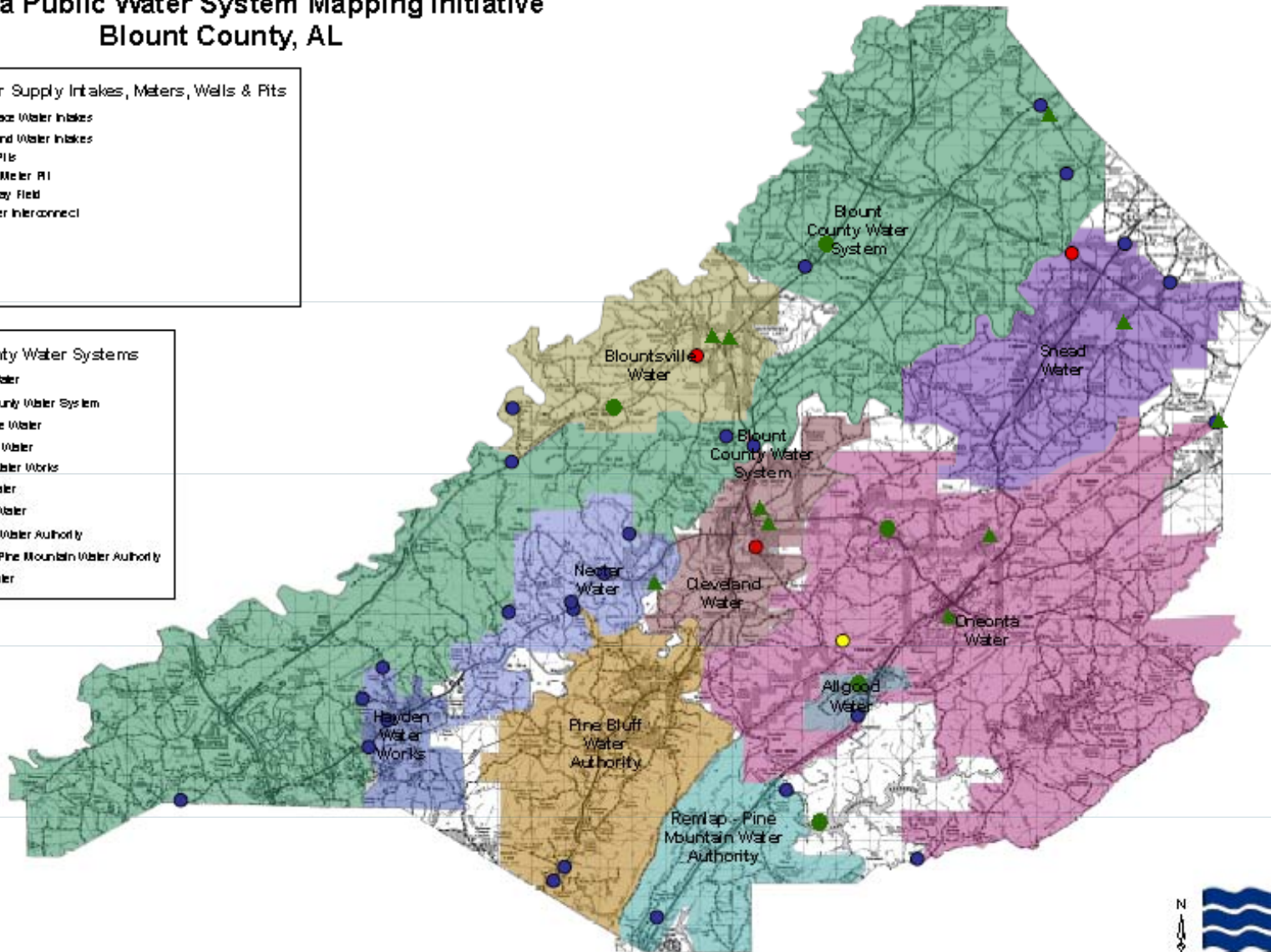
Alabama Public Water System Mapping Initiative Blount County, AL

Public Water Supply Intakes, Meters, Wells & Pits

- Blount Surface Water Intakes
- ▲ Blount Ground Water Intakes
- Meters, Wells & Pits
- Emergency Meter RI
- Lagoon Spray Field
- Master Meter Interconnect
- Meter RI
- Spring
- WWTTP
- Water Well

Blount County Water Systems

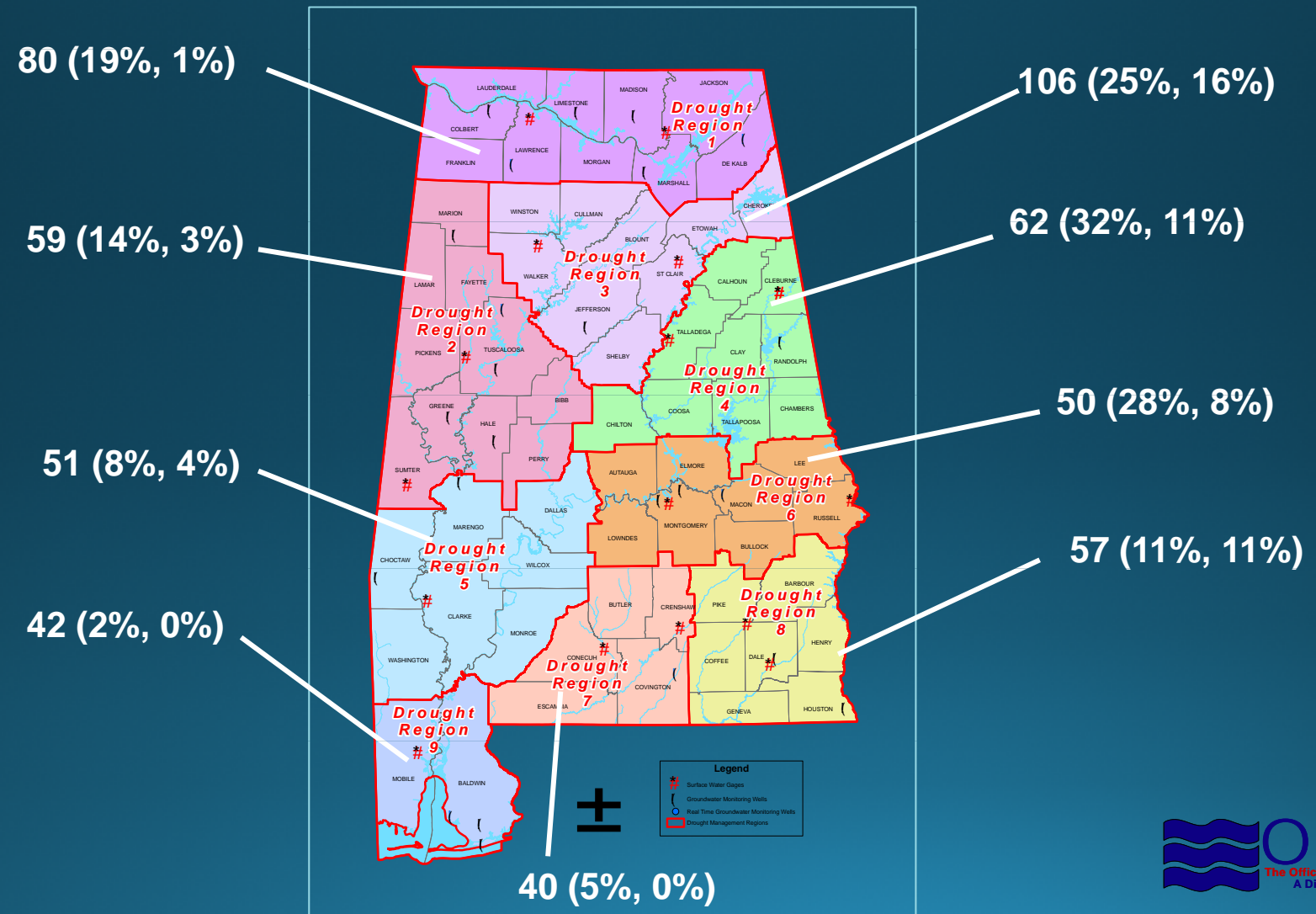
- Allgood Water
- Blount County Water System
- Blountville Water
- Cleveland Water
- Hayden Water Works
- Necker Water
- Oneonta Water
- Pine Bluff Water Authority
- Remlap - Pine Mountain Water Authority
- Sneed Water



Public Water System Restrictions

2007 Example

Number of systems (% Voluntary, %Mandatory)



Drought Planning Update

Alabama Drought Response Concept



Intent is to build a flexible process that can be easily integrated into any water management enhancements

Alabama Drought Planning & Response Act

ACT #2014-400

1 5849
2 15/214 B
3 By Representatives Boothe and McCampbell
4 RFD: Agriculture and Forestry
5 First Read: 14-JAN-14
6 RFD: 11/16/2013



Legislative Acts Details

ACT NUMBER 2014 - 400	
Bill Number	H - 49
Session Type	Regular
Category	General
Author	BOOTHE
Subject: Who	AL DROUGHT ASSESS TEAM
Subject: What	CODIFY ESTABLISHMENT OF
Subject: Where	STATE OF AL
Description	Codify establishment of the AL Drought Assessment and Planning Team created by Exec Order # 19
Signed by Governor	Yes
Approved Date and Time	4-9-2014 1:02 PM
Received Date and Time	4-9-2014 4:14 PM

Rules and Regulations

Economic and Community Affairs (ADECA) Chapter 305-7-13

ALABAMA DEPARTMENT OF ECONOMIC AND COMMUNITY AFFAIRS
OFFICE OF WATER RESOURCES

CHAPTER 305-7-13 DROUGHT PLANNING AND RESPONSE

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305-7-13-.06	Drought Declaration
305-7-13-.07	Community Public Water Conservation Plan
305-7-13-.08	Reporting Of Voluntary Restrictions Public Water
305-7-13-.09	Rulemaking

305-7-13-.01 Purpose. This chapter is to provide procedures for the assessment and plan for drought conservation and mandatory water system declaration. The purpose of this chapter is to provide procedures for the assessment and plan for drought conservation and mandatory water system declaration. The purpose of this chapter is to provide procedures for the assessment and plan for drought conservation and mandatory water system declaration.

Author: [Name]
Statute: Code of Ala. 1975, §§9-10C-1 et seq.
History: 2016, 2016; effective July 1, 2016.

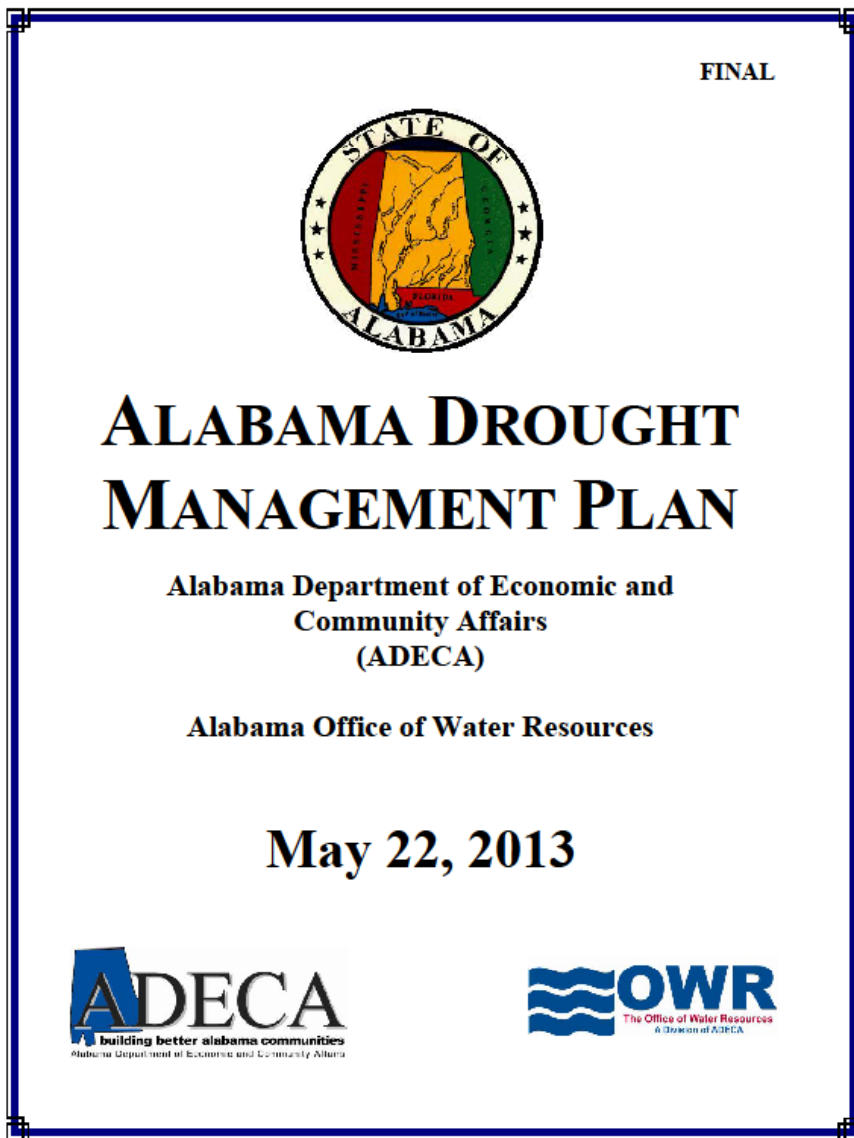
Scope. These regulations are applicable to public water systems. They require all public water systems to develop and provide a drought response plan in accordance with the requirements of the State Drought Plan.

- Focus:
 - State drought plan criteria
 - ADAPT/MIG operating procedures
 - State drought declaration process
 - Establishes requirement for drought conservation plan but allows for use of existing plans if they address drought response
 - Establishes reporting requirements for public water systems
- Rules went effective on July 1, 2016
- PWS System required to report implementation of any voluntary or mandatory restrictions
- Drought Conservation Plans due to OWR by December 31, 2016 (if not already submitted)



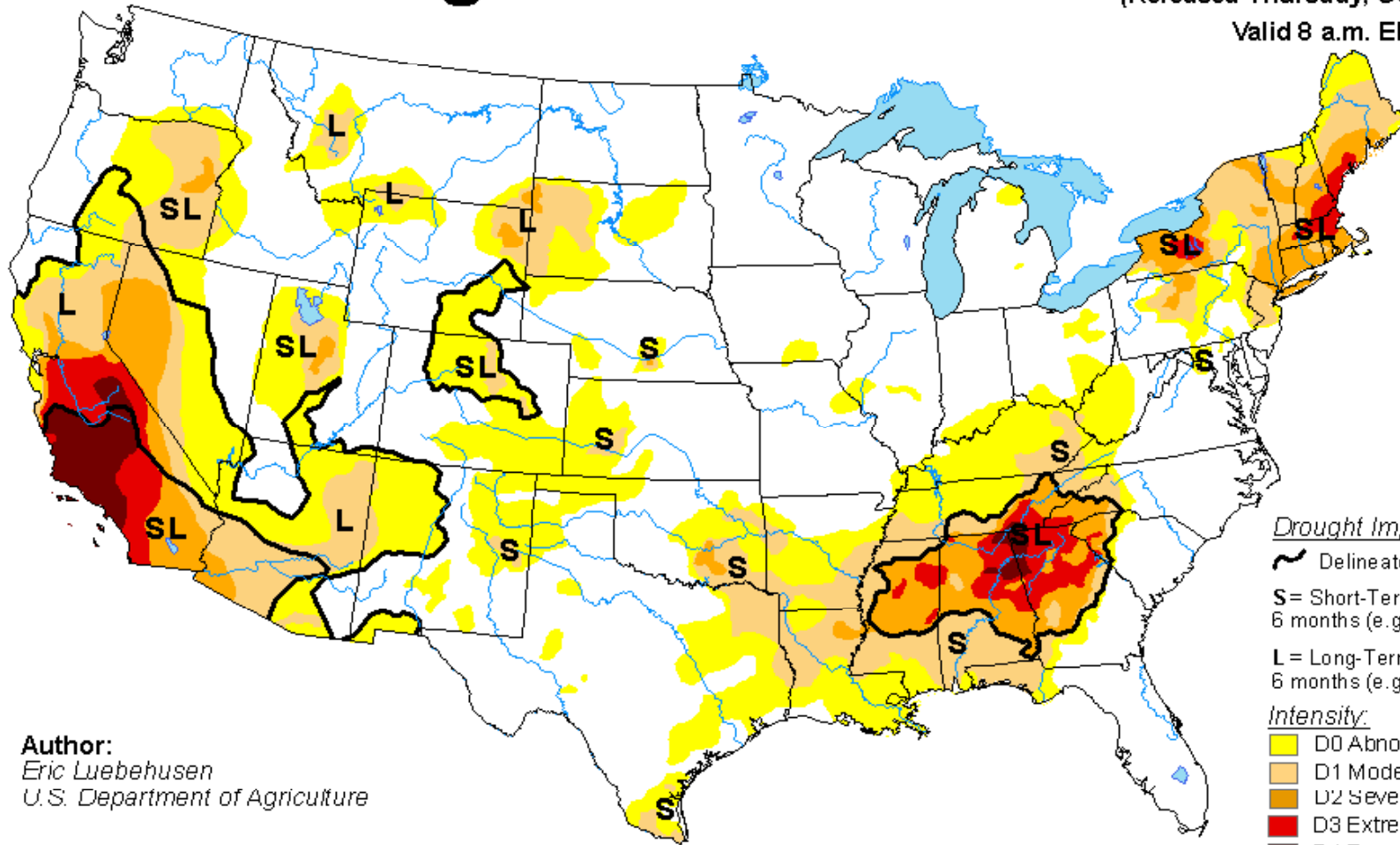
Alabama Drought Management Plan

- Revisions under development for Alabama Drought Management Plan to comply with Drought Planning and Response Act



U.S. Drought Monitor

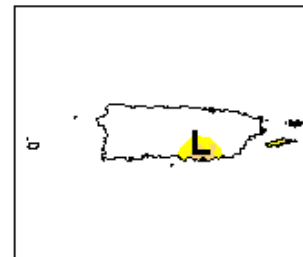
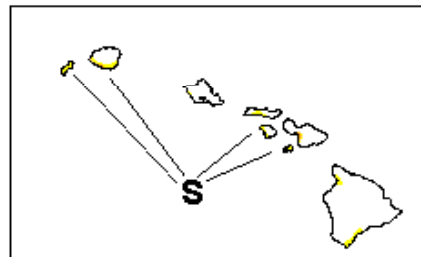
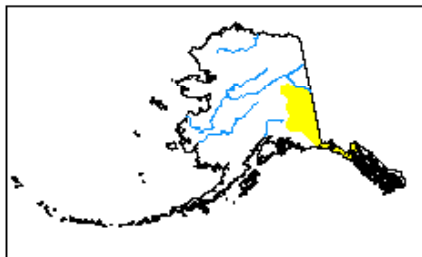
October 18, 2016
 (Released Thursday, Oct. 20, 2016)
 Valid 8 a.m. EDT



Author:
 Eric Luebehusen
 U.S. Department of Agriculture

- Drought Impact Types:
- ~ Delineates dominant impacts
 - S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
 - L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
- Intensity:
- D0 Abnormally Dry
 - D1 Moderate Drought
 - D2 Severe Drought
 - D3 Extreme Drought
 - D4 Exceptional Drought

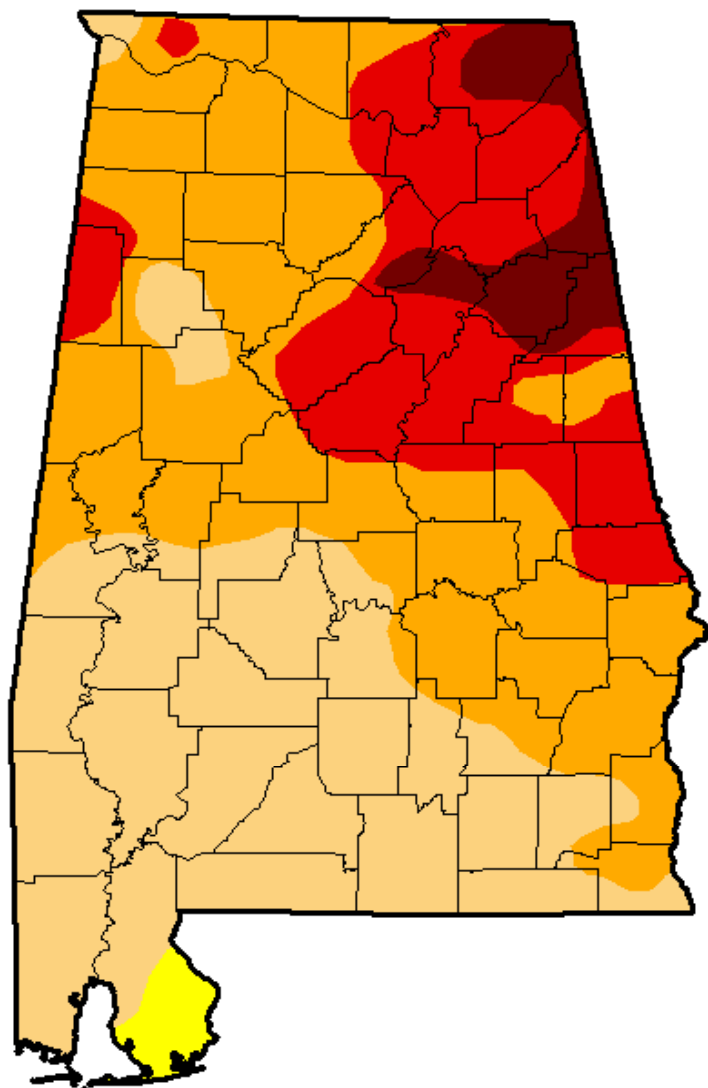
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor Alabama

October 18, 2016
(Released Thursday, Oct. 20, 2016)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	0.00	1.52	36.59	37.96	18.95	4.98
Last Week <i>10/11/2016</i>	0.00	28.06	34.63	20.61	13.49	3.22
3 Months Ago <i>7/19/2016</i>	37.02	21.44	26.94	11.87	2.72	0.00
Start of Calendar Year <i>12/29/2015</i>	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year <i>9/27/2016</i>	17.15	35.74	29.17	11.58	6.36	0.00
One Year Ago <i>10/20/2015</i>	28.99	46.60	22.78	1.63	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

*Eric Luebehusen
U.S. Department of Agriculture*



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Release Date: October 18, 2016

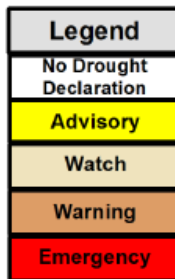
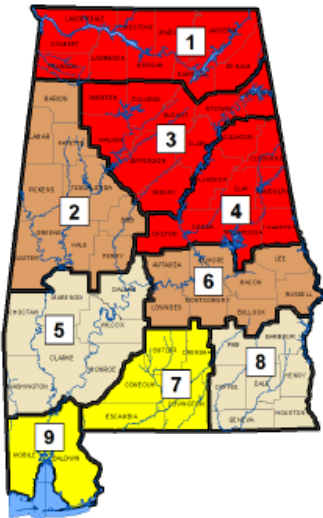


For Public Dissemination Alabama Drought Declaration

In accordance with the Alabama Drought Planning and Response Act (Code of Ala. 1975, §9-10C-1, et seq.) and the Alabama Drought Management Plan, the ADECA Office of Water Resources (OWR), based on a review of current and anticipated conditions, has declared the following portions of Alabama to be under the specified drought declaration levels.

Declaration Level

- Emergency** Regions 1, 3, and 4 in the Alabama Drought Management Plan which includes the counties of: Blount, Calhoun, Chambers, Cherokee, Chilton, Clay, Cleburne, Colbert, Coosa, Cullman, DeKalb, Etowah, Franklin, Jackson, Jefferson, Lauderdale, Lawrence, Limestone, Madison, Marshall, Morgan, Randolph, Shelby, St. Clair, Talladega, Tallapoosa, Walker, and Winston
- Warning** Regions 2 and 6 in the Alabama Drought Management Plan which includes the counties of: Autauga, Bibb, Bullock, Elmore, Fayette, Greene, Hale, Lamar, Lee, Lowndes, Macon, Marion, Montgomery, Perry, Pickens, Russell, Sumter, and Tuscaloosa
- Watch** Regions 5 and 8 in the Alabama Drought Management Plan which includes the counties of: Barbour, Choctaw, Clarke, Coffee, Dale, Dallas, Geneva, Henry, Houston, Marengo, Monroe, Pike, Washington, and Wilcox
- Advisory** Regions 7 and 9 in the Alabama Drought Management Plan which includes the counties of: Baldwin, Butler, Conecuh, Covington, Crenshaw, Escambia, and Mobile
- None** None



Conditions across Alabama are continuing to degrade due to very little precipitation and above normal temperatures. Northern, central, and eastern portions of the state are experiencing very low streamflows and reservoir inflows. In addition, groundwater levels are declining. Water managers are urged to carefully monitor water sources and implement water conservation measures as needed. Public water system customers are encouraged to follow their local water system's recommendations regarding water use.

For further information, please visit our web site at <http://water.alabama.gov> and follow the links to the Office of Water Resources. You may also reach our office at (334) 242-5499, fax at (334) 242-0776, or e-mail at water@adeca.alabama.gov.

Current Alabama Drought Declaration

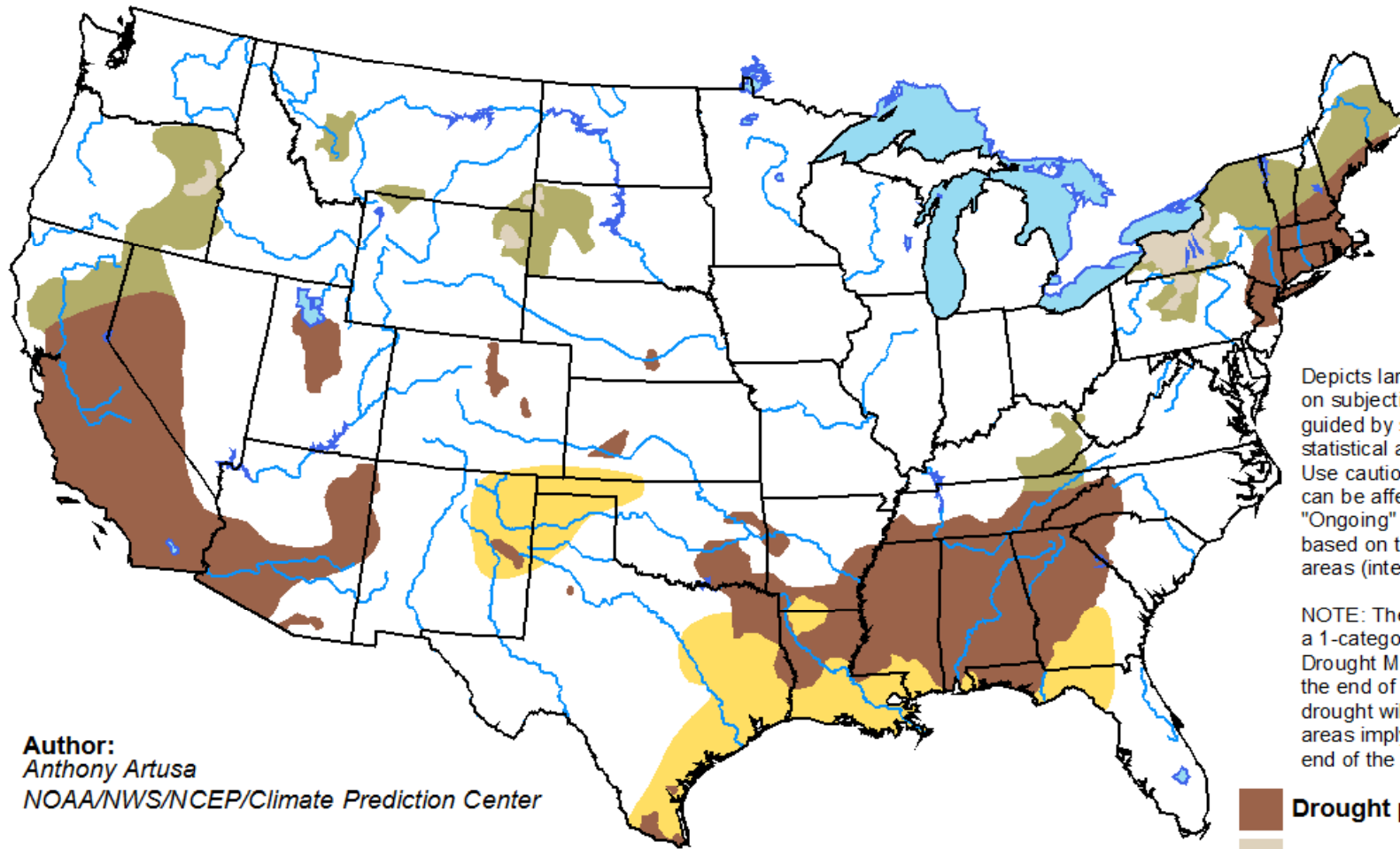
October 18, 2016



U.S. Seasonal Drought Outlook





Drought Tendency During the Valid Period

Valid for October 20 - January 31, 2017
Released October 20, 2016

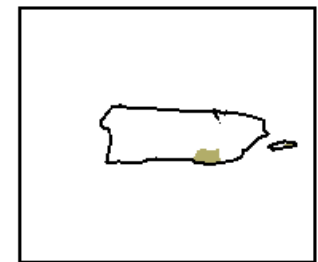
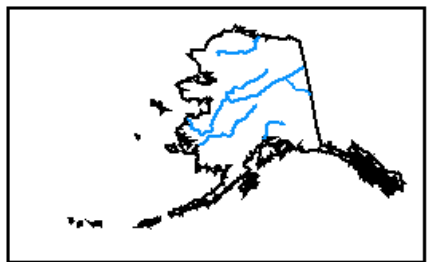


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

-  Drought persists
-  Drought remains but improves
-  Drought removal likely
-  Drought development likely

Author:
Anthony Artusa
NOAA/NWS/NCEP/Climate Prediction Center



<http://go.usa.gov/3eZ73>

Current Restrictions

<input type="checkbox"/> Date Received	Category	Entity	Drought Region	Action	Effective Dates	Comments	Active Restriction	M or V
<input checked="" type="checkbox"/> 10/24/2016	PWS	Cullman Utilities Board NEW	3	Phase-2 Mandatory Conservation	20/24/2016	Mandatory restrictions with surcharges	Yes	M
10/20/2016	PWS	Mulga Water Department	3	Stage 3 Drought Warning	10/20/2016	Mandatory restrictions	Yes	M
10/20/2016	PWS	Brookside Water System NEW	3	Stage 2 Drought Watch	10/20/2016	Voluntary Conservation with odd/even schedule	Yes	V
10/20/2016	PWS	Auburn Water Works Board NEW	6	Phase-1 Drought Watch	10/20/2016	Voluntary Conservation	Yes	V
10/19/2016	PWS	Birmingham Water Works	3	Stage 3 Drought Warning	10/19/2016	Mandatory restrictions with surcharges	Yes	M
10/13/2016	PWS	Cullman Utilities Board	3	Voluntary Conservation	10/14/2016-10/24/2016	Voluntary Conservation (Source: ADEM)	No	V
10/13/2016	PWS	East Cullman Water System	3	Voluntary Conservation	10/13/2016	Voluntary Conservation (Source: ADEM)	Yes	V
10/13/2016	PWS	Lineville Water Board	4	Voluntary Conservation	10/13/2016	Voluntary Conservation (Source: ADEM)	Yes	V
10/13/2016	PWS	Walter Water Authority	3	Voluntary Conservation	10/13/2016	Voluntary Conservation (Source: ADEM)	Yes	V
10/13/2016	PWS	V.A.W. Water Department	3	Voluntary Conservation	10/13/2016	Voluntary Conservation (Source: ADEM)	Yes	V
10/13/2016	PWS	Mulga Water Department	3	Stage 2 Drought Watch	10/13/2016-10/20/2016	Voluntary Conservation	No	V
10/13/2016	PWS	Ashville Water Works	3	Voluntary Conservation	10/13/2016	Voluntary Conservation (Source: ADEM)	Yes	V
10/13/2016	PWS	Johnson's Crossing Water	3	Voluntary Conservation	10/13/2016	Voluntary Conservation (Source: ADEM)	Yes	V
10/13/2016	PWS	Cullman County Water Department	3	Voluntary Conservation	10/13/2016	Voluntary Conservation (Source: ADEM)	Yes	V
10/12/2016	Forestry	Ala Forestry Commission		Fire Emergency	10/12/2016	46 Ala Counties	Yes	
10/11/2016	PWS	Trussville Gas and Water	3	Voluntary Conservation	10/11/2016	Voluntary Conservation (Source:Trussville Tribune)	Yes	V
10/11/2016	PWS	Springville Water Authority	3	Stage 2 Drought Watch	10/11/2016	Voluntary Conservation (Source: System website)	Yes	V
10/11/2016	PWS	Brookside Water System	3	Stage 1 Drought Advisory	10/11/2016-10-20-2016	Voluntary Conservation	No	V
10/11/2016	PWS	Pine Bluff	3	Stage 1 Voluntary Conservation	10/11/2016	Voluntary	Yes	V
10/6/2016	PWS	Birmingham Water Works	3	Stage 2 Drought Watch	10/6/2016-10/19/2016	Additional Voluntary Conservation and Outreach	No	V
10/6/2016	PWS	Graysville Water Works Board	3	Stage 1 Drought Advisory	10/6/2016	Voluntary Conservation	Yes	V
10/6/2016	PWS	Mulga Water Department	3	Stage 1 Drought Advisory	10/6/2016-10/13/2016	Voluntary Conservation	No	V
10/6/2016	Forestry	US Forest Service		Fuels and Fire Behavior Advisory	10/7/2016 - 10/21/2016	Multi-state alert for Southern Appalachian Mountains	Yes	
10/5/2016	Forestry	Ala Forestry Commission		Fire Danger Warning	10/5/2016-10/12/2016	46 Ala Counties	No	
9/30/2016	PWS	Birmingham Water Works	3	Stage 1 Drought Advisory	9/27/2016 - 10/6/2016	Voluntary Conservation	No	V
6/14/2016	Agriculture	USDA		USDA Disaster Declaration	7/6/2016	26 primary counties; 14 contiguous counties	Yes	

Water Use Reporting Program

Alabama Water Use Program

- Application – Declaration of Beneficial Use (DBU)
 - Renewal process once every ten years
- Certificate Of Use
- Annual Reports


Declaration of Beneficial Use (DBU)

- General application form
 - Contact info
 - Site specific system information
 - Legal status documentation
 - Certification statement
- Signature and date on forms
- Attach property owner information and maps
- Please write neat and legible
 - Including estimated Average Annual Usage and Maximum Capacity
- Name of Withdrawal ID is up to you

Page 1 of 2 Certificate No. _____



Declaration of Beneficial Use
 Alabama Water Use Reporting Program
(AN APPLICATION IS REQUIRED FOR EACH WITHDRAWAL OR DIVERSION)



Primary Water Use (check one) Public Non-Public Irrigation Estimated Date of Diversion _____

Company Name _____ Operator/Contact Person _____
 Title _____

Mailing Address _____ Mailing Address _____
 City _____ State _____ Zip _____ City _____ State _____ Zip _____

Phone _____ Fax _____ Phone _____ Fax _____
 Email _____ Email _____

APPLICATION FOR:

Type of Water Source: (check one) Well Surface Water Combination Public - Bulk Purchase Only
 The withdrawal/water source is in _____ County _____ River Basin _____

If the Application is for a WELL, complete this section:

If your facility has multiple wells, attach Form DBU-GW.

Withdrawal ID _____ Date of Pump/Well Installation _____
 Pump Capacity _____ gallons per minute Latitude and Longitude _____ / _____
 Well Depth _____ feet Depth of Pump Intake below Ground Surface _____ feet
 Depth of Well Casing _____ feet Average Withdrawal _____ million gallons per year
 Aquifer: _____ Maximum Withdrawal Capacity _____ million gallons per day
 Estimation Method Metered Worksheet Other _____

If the Application is for SURFACE WATER, complete this section:

If your facility has multiple surface water withdrawals, attach Form DBU-SW.

Withdrawal ID _____ Date of Pump Installation _____
 Pump capacity _____ gallons per minute Latitude and Longitude _____ / _____
 Critical Intake Elevation _____ feet Average Withdrawal _____ million gallons per year
 Water Source _____ Maximum Withdrawal Capacity _____ million gallons per day
 Estimation Method Metered Worksheet Other _____

If the Application includes OTHER WATER SOURCES complete this section

If your facility buys water from or sells water to another source answer the following questions and attach Form DBU-Bulk.

No. of Bulk Sales Customers > 100,000 gallons per day _____ (Complete Form DBU-Bulk)
 No. of Bulk Purchase Customers > 100,000 gallons per day _____ (Complete Form DBU-Bulk)

If the application is for a Public system that purchases all of the water supply from another system, answer the following:

Water System(s) you purchase from _____ Average Purchased _____ million gallons per year

If the Application includes DISCHARGES TO SURFACE WATER complete this section

If your facility has multiple discharges, attach Form DBU-Disc.

Discharge ID _____ Latitude and Longitude _____ / _____
 Receiving Stream _____ Average Discharge _____ million gallons per year
 River Basin _____ Maximum Withdrawal Capacity _____ million gallons per day

BASIS FOR LEGAL USE OF WATER

The Declaration of Beneficial Use shall, at a minimum, also include the following attachments to establish that the proposed water use constitutes a lawful, reasonable and beneficial use of such water, is consistent with the public interest, and does not interfere with any legal usage of water existing at the time of the substantial and complies with the Alabama Water Resources Act and the Rules of the ADECA, Office of Water Resources and the Alabama Water Resources Commission (§§ 305-7-9 through 305-7-12). This form should be accompanied by a map showing the location of the water source and its proximity to the actual use, in case of a stream, river, or lake indicate whether the source is navigable or non-navigable, and briefly explain how the withdrawal/diversion/consumption does not interfere with any presently known existing legal use of water.

CERTIFICATION



To the best of my knowledge and belief, the information provided by this Declaration of Beneficial Use is true, accurate and complete.

Signature of Owner or Representative _____ Date _____
 Name (Typed or printed) _____ Title _____

ADECA • Office of Water Resources • P.O. Box 5690 • 401 Adams Avenue • Montgomery, AL 36103-5690 • (334) 242-5400 • Fax (334) 242-0776

Certificate of Use

- Once the DBU is complete, a Certificate of Use (COU) is issued
 - The COU acknowledges:
 - Average Annual Withdrawal
 - Maximum Capacity
 - The Duration of the COU
- When a COU is up for renewal
 - Notification letter mailed by July of year prior to expiration
 - Customized DBU forms are included with letter
 - Includes all information on file with OWR
 - Makes the process for renewal easier for user
 - Certificates are valid for ten years

STATE OF ALABAMA		CERTIFICATE OF USE		Alabama Water Use Reporting Program		Certificate Number: 1173.0	
 							
Test5							
Owner							
123 Main street							
Address							
Montgomery	AL	36104					
City		State		Zip Code			
Classification <input type="checkbox"/> Public							
Estimated System Withdrawal Capacity:						1000.000	Million Gallons /Day (MGD)
Estimated System Average Daily Withdrawal:						100.000	Million Gallons /Day (MGD)
Bulk Sales						Yes	
Water Use Reporting Requirements:							
<p>As a condition of the Certificate of Use, water use reports shall be submitted to the Office of Water Resources no later than March 31st of each year. The annual water use reporting form(s) shall contain water withdrawn, diverted, or consumed, in gallons, and tabulated for average daily use per month and peak day for the previous calendar year, and other data as deemed appropriate by the Office of Water Resources. The reporting forms shall be provided by the Office of Water Resources to the holder (or representative) of this Certificate of Use. Alternate reporting options must be reviewed and approved by the Office of Water Resources for appropriateness prior to submittal.</p>							
<p>Issued by the Office of Water Resources in accordance with the Alabama Water Resources Act, Code of Alabama 1975, Section 9-10B-19 and the Administrative Rules implementing the Alabama Water Use Reporting Program.</p>							
By: _____						Issued on: _____ January 01, 2004	
J. Brian Atkins, P.E., Division Director						Last Revised on: _____	
Office of Water Resources						Certificate of Use	
Alabama Department of Economic and Community Affairs						EXPIRATION DATE: _____ May 14, 2004	
<p>THE ISSUANCE OF THIS CERTIFICATE OF USE SHALL NOT CONFER OR MODIFY ANY PERMANENT INTERESTS OR RIGHTS IN THE HOLDER THEREOF TO THE CONTINUED USE OF THE WATERS OF THE STATE OF ALABAMA.</p>							
<p>ADECA ♦ Office of Water Resources ♦ P.O. Box 5690 ♦ 401 Adams Avenue ♦ Montgomery, AL 36103-5690 ♦ (334) 242-5499 ♦ Fax (334) 242-0776</p>							


Certificate of Use (Your Responsibility)

Two major requirements for COU holders


- Notify the Office of Water Resources if there is any change in withdrawal capacity
 - Adding of new wells, surface water intakes
 - This requires an official modification to COU
- Report water usage annually on forms that are provided

Annual Reporting Forms

- Separate forms for each Withdrawal, Bulk Sale, Bulk Purchase, and Discharge.
 - Each form must be signed and dated
- Withdrawal forms consist of Daily Average and Peak columns for each month of the year
- Sale and Purchase forms have a column for Monthly Volume Sold or Purchased for each month of the year
- Discharge forms have a column for Average Daily Discharge for each month of the year



Annual Water Use Report for 2011
Alabama Water Use Reporting Program



Certificate Number: 1173

Owner: TestS

Ground Water Withdrawal: Well New Status: Active

Calendar Year 2007	Average Withdrawal (mgd)	Peak Withdrawal (mgd)
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

CERTIFICATION: To the best of my knowledge and belief, the information contained in this report is true, accurate and complete.

Certified by: _____

Date: _____

Please return completed forms to ADBCA - Office of Water Resources.

ADBCA • Office of Water Resources • P.O. Box 5000 • 401 Adam Avenue • Montgomery, AL 36103-5000 • (334) 242-5400 • Fax (334) 242-0770

Annual Reporting Points

- Sign and Date the forms
- Please write neat and legible
- Verify the proper units are shown (MGD or MGM)
- Remember the due date (March 31st of the following year)
- Please round to three decimal places when appropriate

Annual Reporting Forms

- Contact Information Update
 - This page contains Owner and Point of Contact Information as well as information on the number of Residential and Non-Residential connections
 - We ask that you read over this and make any necessary updates and mail it in with your Annual Use Reporting Forms

Certificate of Use Number 1173

Contact Information Summary

The following information is based on the files in our system for Certificate of Use 140. Please review and make any changes directly on this form or write in the missing information. If there are changes to any critical aspect of your Certificate (i.e. Name of the Certificate holder, maximum capacity to withdraw water (including adding new wells, pumps, intakes or shutting down existing ones), or changes to your average annual usage of water, these will require a formal modification to your Certificate of Use. Contact us for information on such changes.

Owner Information for XYZ WATER SYSTEM

Address: 401 Adams Avenue
City, State, Zip: Montgomery, AL 36104
Phone Number: 334-242-5499
Fax Number: 334-242-0776
E-mail address:

Point of Contact Information:

Contact Name: Mr. Tom Littlepage
Contact Title: Water Use Branch Manager
Address: 401 Adams Avenue
City, State, Zip: Montgomery, AL 36104
Phone Number: 334-242-5499
Fax Number: 334-242-0776
E-mail address: Tom.Littlepage@adeca.alabama.gov

PUBLIC WATER SYSTEMS ONLY

If you are a public water system, please verify the following information so that our records can be updated if necessary.

Number of Residential Connections: 1234
(Defined as a ¾ inch service connection or less)
Number of Non-Residential Connections: 123
(Any service connection not defined as residential)

If the enclosure does not include a form for all of your bulk sale/purchases, please complete and attach one for each bulk sale/purchase not included.

IRRIGATION USERS ONLY

To help clarify how data for irrigation is to be reported, the following example calculation of water usage based on pumping capacity and the number of days pumped in a given month is provided.

If you assume a pump capacity of 600 gpm and that irrigation took place an average 4 hours a day for 15 days during the month of July, then your water use for July would be:

4 hrs × 15 days = 90 hrs for July
90 hrs/month × 60 min/hr × 600gpm = 3,240,000 gallons per month
3,240,000 gallons per month ÷ 31 days in July = 104,516 gallons per day or 0.104 million gallons per day (mgd).
0.104 mgd would be entered in the Average Withdrawal column for July 2007. If the pump was run longer than 4 hours on any one day in July, calculate a Peak Withdrawal value. Otherwise use the same value in both columns.

Please return any corrections with your 2007 Annual Water Use Report to the address below. If you have any questions or comments, please do not hesitate to contact the Alabama Office of Water Resources at:

Phone: Toll free 1-877-ALAWATER (1-877-252-9283) or (334) 242-5499

Fax: (334) 242-0776

E-mail: water@adeca.alabama.gov

Physical Address:

ADECA Office of Water Resources
401 Adams Ave
Suite 434
Montgomery, Alabama 36104

Mailing Address:

ADECA Office of Water Resources
P.O. Box 5690
Montgomery, Alabama 36106-5690

Common Errors

- Confusion between Annual Reporting Process and Certificate Renewal Process
- No Signature on DBU forms and Annual Usage Forms
- Incorrect units on Annual Use Forms
 - Withdrawals and Discharges are in Million Gallons per Day
 - Bulk Purchases/Sales are in Million Gallons per Month

Information Uses

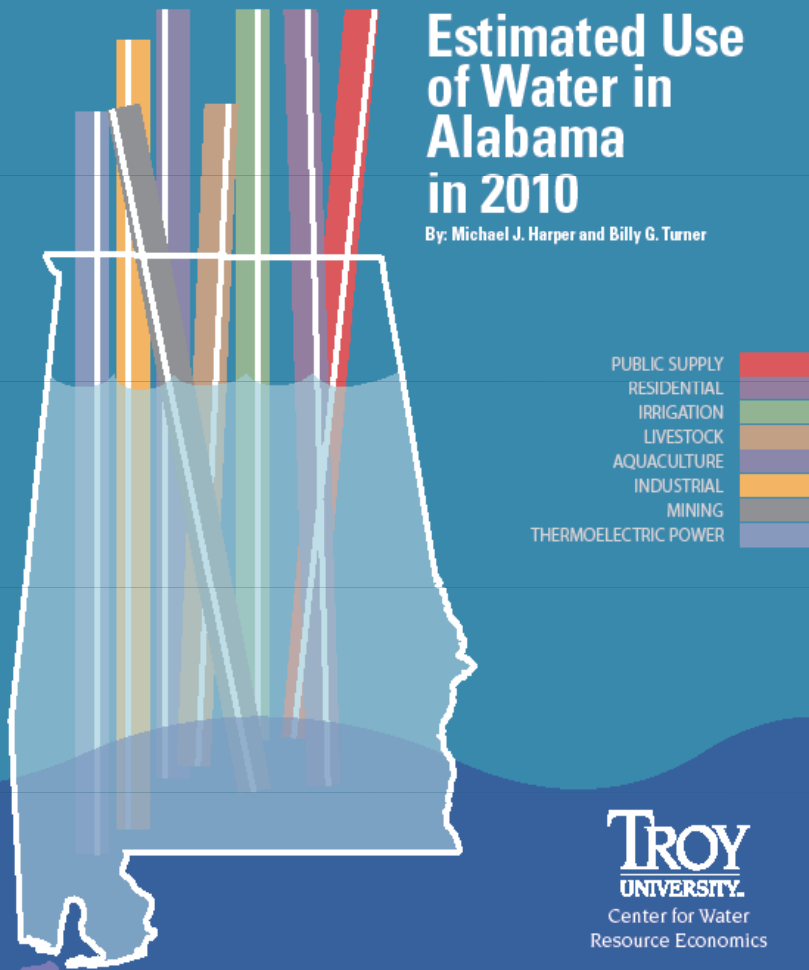
- Water Use Assessments
 - “Water Use in Alabama”
 - Watershed Assessments
- Demographic Analysis
- Demand Forecasting
- Water Resource Studies
- Analyzing Economic and Industrial Trends

2010 Water Use Report



Estimated Use of Water in Alabama in 2010

By: Michael J. Harper and Billy G. Turner



TROY
UNIVERSITY
Center for Water
Resource Economics

- Comprehensive water withdrawal assessment
- County and 8 digit sub-basin breakouts in eight water use sectors:
 - Public Supply
 - Self-Supplied Residential
 - Irrigation
 - Livestock
 - Aquaculture
 - Mining
 - Industrial
 - Thermoelectric
- OWR partnered with the Troy University Center for Water Resource Economics (CWRE) to publish the 2010 Water Use Report
- Report and Fact Sheet available at: <http://water.alabama.gov>



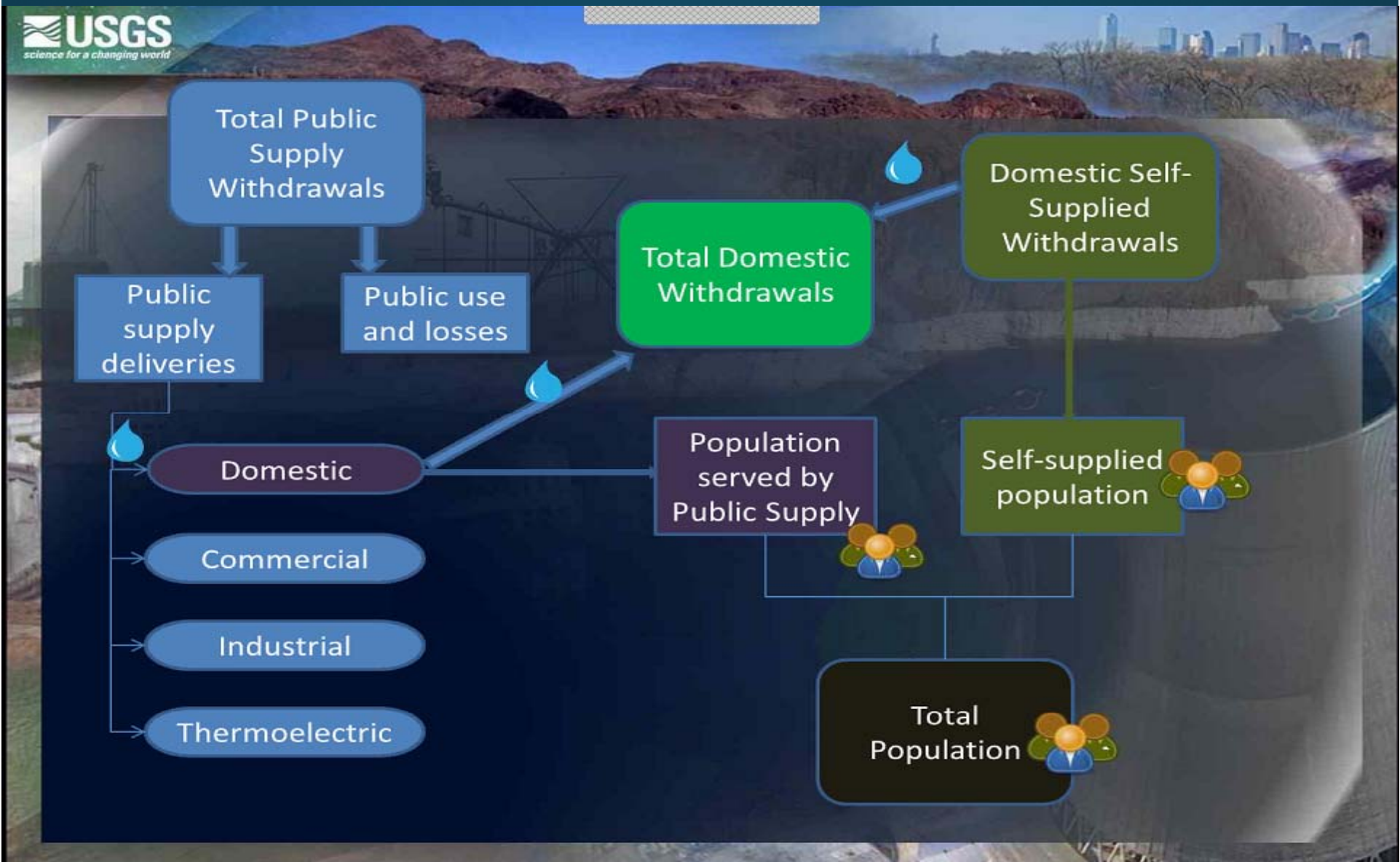
2015 Water Use Report Data Sources



This is your data!



How is Water Used within PWS Systems and By How Many People?



2015 Water Use Report



- Work has begun on the 2015 Report
- 2015 Reporting Package included a Public Water Survey, similar to 2005 and 2010, to collect more detailed information
 - Population served
 - Residential connections/water sold
 - Commercial/industrial connections/water sold
 - In-systems uses and losses
 - Flushing, firefighting, leaks, etc.
- Also will include some additional analysis on consumption

**2015 Update
Underway**

Estimated Use
of Water

SUPPLY	
RESIDENTIAL	
IRRIGATION	
LIVESTOCK	
AQUACULTURE	
INDUSTRIAL	
MINING	
THERMOELECTRIC POWER	

TROY
UNIVERSITY.
Center for Water
Resource Economics



2015 Water Use PWS Surveys



Alabama Public Water System
COU # 3 - ALBERTVILLE MUNICIPAL UTILITIES BOARD

2015 Information Update

ALABAMA PUBLIC WATER SYSTEM SURVEY - 2015 WATER USE DATA

Name: _____ Title: _____
Phone: _____ Fax: _____
E-mail: _____ Date: _____

- Does your water system have a strategic long term/short term plan outlining future capacity needs?
 Yes No, if Yes, please send a copy of the plan to OWR. Attached Previously Submitted
 - Does your water system have a Service Area Map dictating the boundaries of the water system?
 Yes No, if Yes, please send a copy of the map to OWR. Attached Previously Submitted
 - Does your water system have a Water Conservation or Drought Plan?
 Yes No, if Yes, please send a copy of the plan to OWR. Attached Previously Submitted
- (NOTE: If you have already submitted any of this information to OWR, there is no need to resubmit.)

Reporting Period: Calendar Year January 2015 – December 2015
Water Volume Units Reported (For information requested below)
Check one: Gallons Thousand Gallons Million Gallons

- Total amount of raw water withdrawals _____
- Total amount of water sold to other public water systems _____
- Number of public water systems to which water was sold _____
- Total amount of water sold to residential customers _____
- Number of billed residential accounts for period of record*
*average monthly number of billed residential accounts _____
- Total amount of water sold to commercial customers _____
- Number of billed commercial accounts for period of record _____
- Total amount of water sold to industrial customers _____
- Number of billed industrial accounts for period of record _____
- Total amount of water used for purposes such as firefighting, flushing, maintenance, and other public uses and/or losses _____

Or percentage of water used for such purposes. _____
*NOTE: If you do not separate residential, commercial and industrial customers, please check the box below and report all values under Question # 7 above.
 We do not separate residential, commercial and industrial customers.

- Please list information relating to the five (5) largest commercial/industrial users on your system.

Name of User	Type of Use	NAICS Code	Water sold/year

Please return this Survey Form by March 31, 2016 with your 2015 Water Use Report.

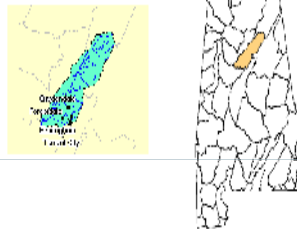
- In addition to annual water use data, we are asking for updated information to help better understand how water is used by Alabama's PWS customers
- Let us know if you have any questions



Example of Consumption for 2015

03160111-Locust Fork

Area (Thousand Acres) 773,785
 Estimated Population (2010) 390,935
 River Basin Black Warrior

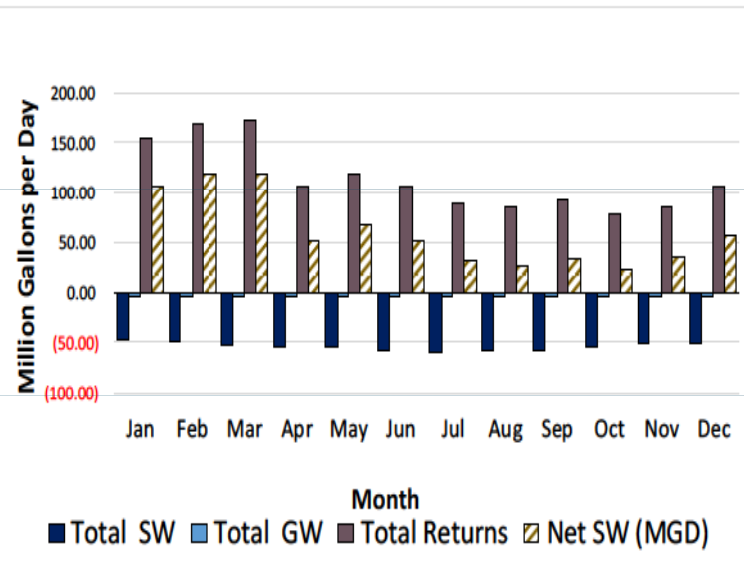


PROVISIONAL DATA

Withdrawals													
Category		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Public Supply	GW	(2.56)	(2.50)	(2.51)	(2.40)	(2.38)	(2.60)	(2.64)	(2.49)	(3.12)	(2.91)	(2.88)	(3.05)
	SW	(46.61)	(49.00)	(50.95)	(51.59)	(50.23)	(51.86)	(54.01)	(53.42)	(53.17)	(51.73)	(50.26)	(49.74)
Industrial/Mining	GW	(0.93)	(1.03)	(0.88)	(0.86)	(0.99)	(0.87)	(0.84)	(0.90)	(1.00)	(0.86)	(0.89)	(0.86)
	SW	(0.35)	(0.35)	(0.35)	(0.35)	(0.35)	(0.35)	(0.35)	(0.35)	(0.35)	(0.35)	(0.35)	(0.35)
Thermoelectric	SW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agriculture	GW	(0.53)	(0.55)	(0.60)	(0.77)	(0.91)	(1.15)	(1.23)	(1.05)	(0.90)	(0.78)	(0.60)	(0.54)
	SW	(0.20)	(0.30)	(0.55)	(1.94)	(3.02)	(4.37)	(5.08)	(4.39)	(4.17)	(2.67)	(0.74)	(0.20)
Total	SW	(47.16)	(49.64)	(51.85)	(53.88)	(53.59)	(56.58)	(59.43)	(58.16)	(57.69)	(54.75)	(51.35)	(50.28)
Total	GW	(4.01)	(4.09)	(3.99)	(4.03)	(4.28)	(4.62)	(4.71)	(4.44)	(5.01)	(4.55)	(4.37)	(4.44)

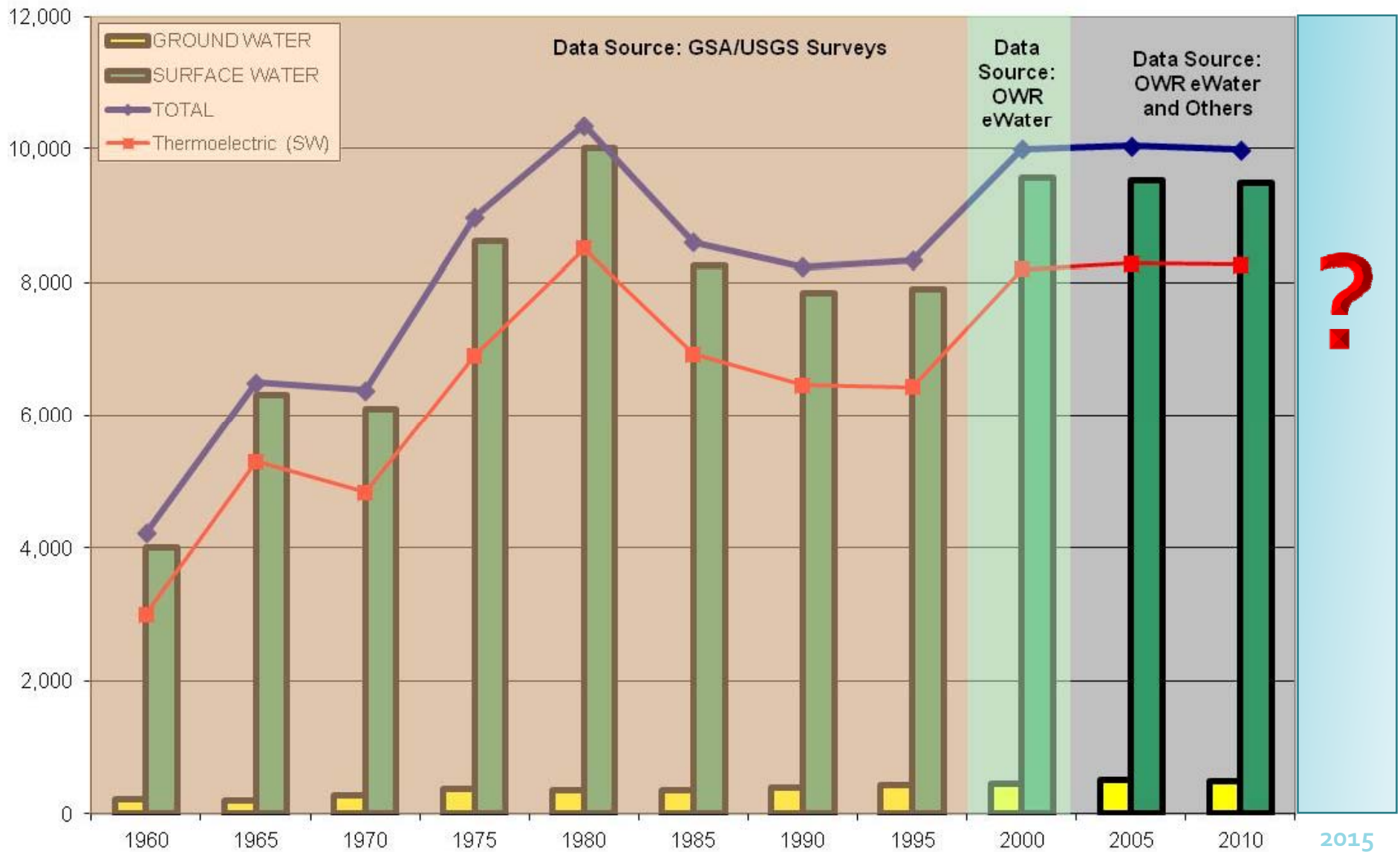
Returns													
Category		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Public Supply		125.70	139.80	142.41	86.10	104.88	89.69	75.97	66.85	66.98	62.18	71.94	80.67
Industrial/Mining		11.74	11.74	12.87	12.09	11.79	12.10	10.89	11.10	9.73	9.78	9.07	9.08
Thermoelectric		16.16	16.16	16.16	7.11	3.15	5.63	2.85	7.11	14.59	5.30	4.51	16.16
Agriculture		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Returns		153.60	167.70	171.44	105.30	119.82	107.41	89.71	85.06	91.31	77.25	85.52	105.91

03160111-Locust Fork												PROVISIONAL DATA	
Total	SW	(47.16)	(49.64)	(51.85)	(53.88)	(53.59)	(56.58)	(59.43)	(58.16)	(57.69)	(54.75)	(51.35)	(50.28)
Total	GW	(4.01)	(4.09)	(3.99)	(4.03)	(4.28)	(4.62)	(4.71)	(4.44)	(5.01)	(4.55)	(4.37)	(4.44)
Withdrawal Total		(51.17)	(53.73)	(55.84)	(57.91)	(57.87)	(61.19)	(64.14)	(62.59)	(62.70)	(59.30)	(55.72)	(54.72)
Total Return		153.60	167.70	171.44	105.30	119.82	107.41	89.71	85.06	91.31	77.25	85.52	105.91
Net SW (MGD)		106.44	118.06	119.59	51.42	66.22	50.84	30.28	26.90	33.62	22.50	34.17	55.63



Provisional

Total Alabama Water Withdrawals 1960 - 2010



Preliminary Timeline for “2015 Water Use in Alabama” Report

- Data Entry complete – January 1, 2017
 - Withdrawals and Returns
- Data review complete – May 1, 2017
 - Ready for publication
- Report to publisher – September, 1 2017
 - Report to be online with limited copies available on CD

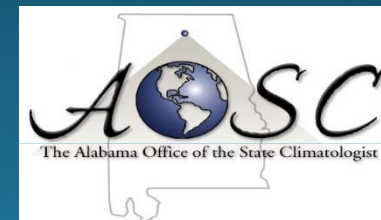
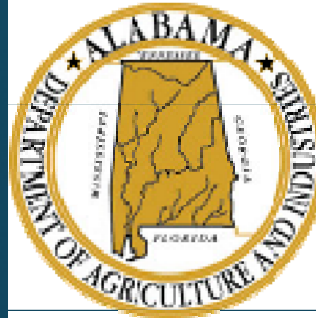
Alabama Water Agencies Working Group (AWAWG)

Alabama Water Agencies Working Group (AWAWG) Update

MAPPING THE FUTURE OF ALABAMA WATER RESOURCES MANAGEMENT: Policy Options and Recommendations



A Report to
The Honorable Robert Bentley
Governor of Alabama
by the
Alabama Water Agencies Working Group
December 1, 2013



Process Support Track

Support and funding from the Governor's Office and Legislature

Stakeholder Outreach Track

Public outreach (stakeholder survey regional workshops)

OWR water user meetings/surveys

Outreach to legislature and AWRC

Water plan website
Open input process
Social media

Focus Panel Track

Riparian/Legal

Instream flow

Local/Regional planning

COU/Permitting IBTs

Water Conservation Efficiency & Reuse

Technical Track

Water availability assessments
Surface water
Groundwater

GAP analysis and support at the state and watershed level
IBTs, Risk analysis
Instream flow
Permitting
Interstate issues

Water resources data support

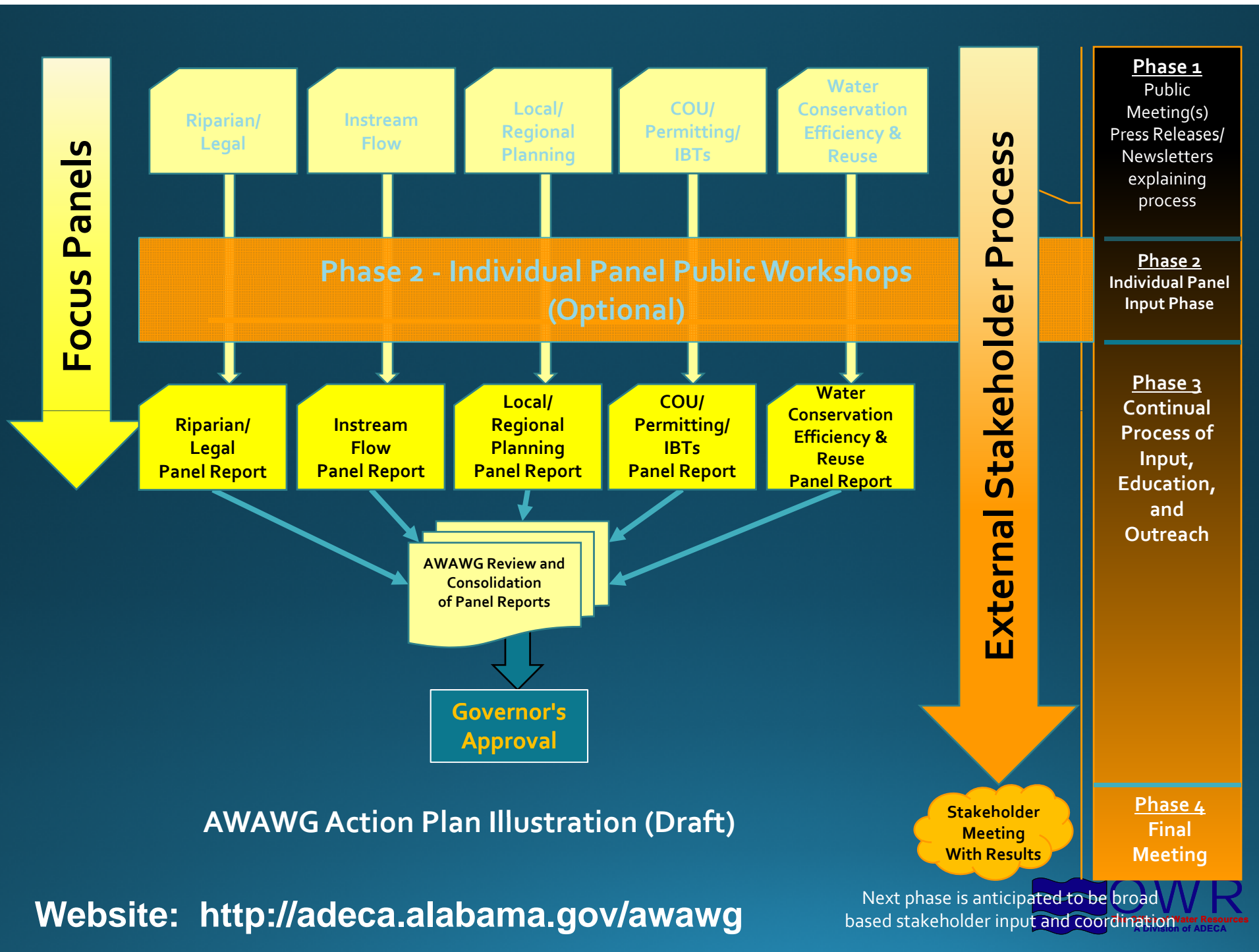
Current and projected water use and consumption

AWAWG

Alabama MAP Process

Focus Panel Track

Goal is to involve technical subject matter experts who will discuss and make recommendations with respect to these water resource issues



Summary

- OWR is responsible for managing and collecting water data information
- Drought response in Alabama needs to be based on local conditions and impacts
- Information is vital to the ability to summarize and understand:
 - How much water is being used
 - Source of that water
 - When it is being used
 - Where it is being used
- 2015 Report collection cycle is underway
- AWA WG process is looking at options for enhancing water resources management in Alabama

Questions?

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Phone: (334) 242-5499 or

Toll Free 1-877-ALAWATER

(1-877-252-9283)

FAX: (334) 242-0776

