



**Final
Delisting Decision
for
Halawakee Creek**

Waterbody ID AL03130002-1107-110

Siltation

Chambers and Lee Counties

Alabama Department of Environmental Management
Water Quality Branch
Water Division
March 2026

Figure 1.1 Map of Halawakee Creek Watershed in the Chattahoochee River Basin

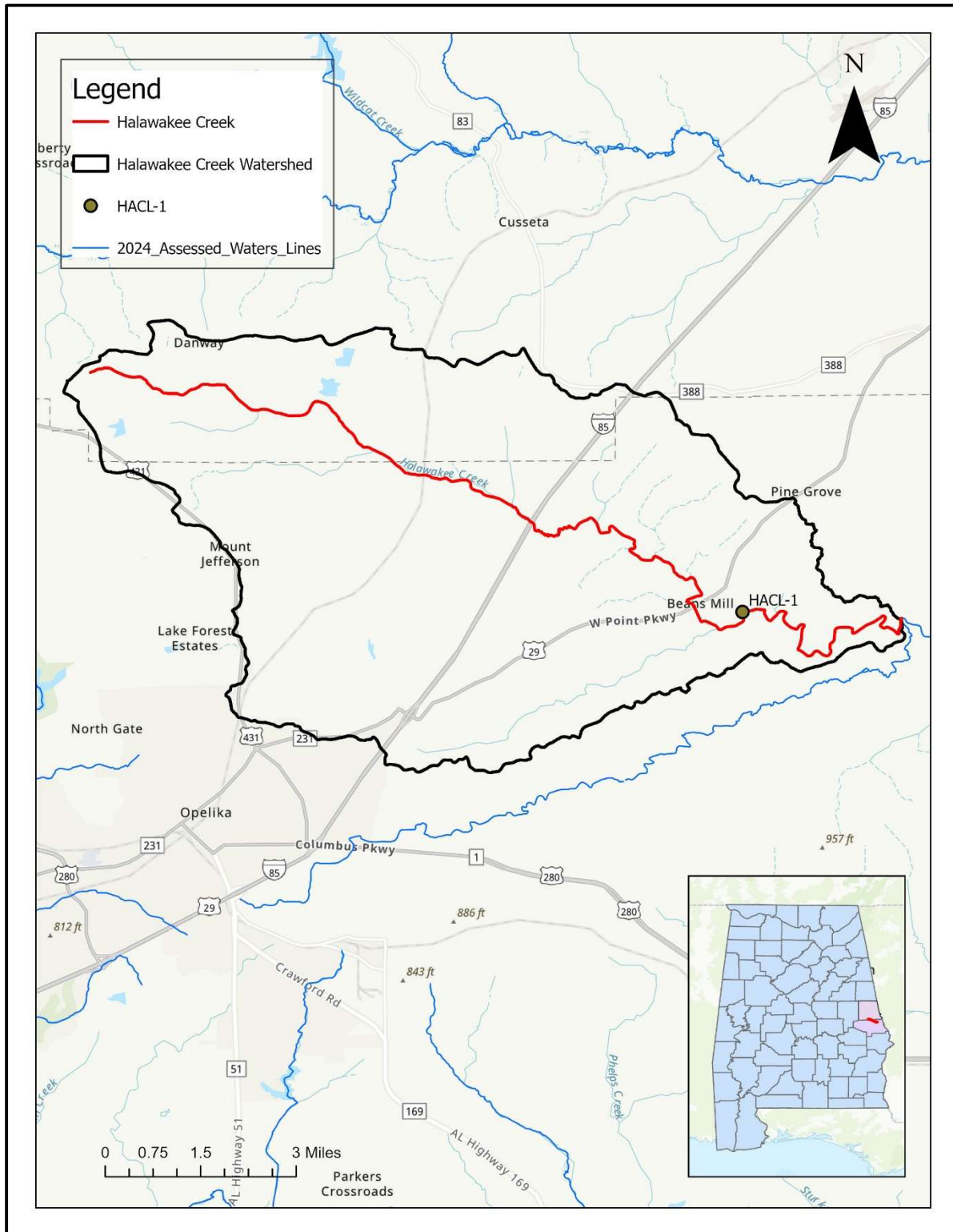


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1.0 Executive Summary

Halawakee Creek, a part of the Chattahoochee River basin, is located in east central Alabama. Halawakee Creek begins north of Opelika near the south-central border of Chambers County and flows east-southeast to its confluence with Lake Harding in Lee County. Halawakee Creek is currently included on Alabama's 2024 §303(d) list as impaired for siltation from three miles upstream of County Road 79 to its source. The §303(d)-listed segment of Halawakee Creek is 16.57 miles, and the drainage area of the watershed for the listed segment is 45.8 square miles. This segment of Halawakee Creek has a use classification of Fish & Wildlife (F&W).

In 2012, Halawakee Creek, from three miles upstream of County Road 79 to its source, was added to the State of Alabama's §303(d) list as impaired for siltation (habitat alteration). The original listing was based on data collected in 2008 by the Alabama Department of Environmental Management (ADEM). The listing was updated from siltation (habitat alteration) to siltation in 2018. Halawakee Creek has subsequently been included on the 2020, 2022, and 2024 §303(d) lists as impaired for siltation.

Additional data for Halawakee Creek was acquired in 2024 to assess its ability to meet applicable water quality standards. The data indicates that Halawakee Creek now fully supports its use classification with respect to siltation.

The following report addresses the results of the delisting analysis of Halawakee Creek for siltation. Based on an assessment of all available data, ADEM has determined that a water quality impairment due to siltation does not exist. Therefore, ADEM will not develop a total maximum daily load (TMDL) due to "more recent or accurate data," which is just cause for delisting a waterbody according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv).

2.0 Basis for §303(d) Listing

Section 303(d) of the Clean Water Act (CWA), as amended by the Water Quality Act of 1987, and the Environmental Protection Agency (EPA) Water Quality Planning and Management Regulations (Title 40 of the Code of Federal Regulations (CFR), Part 130), require states to identify waterbodies which are not meeting water quality standards applicable to their designated use classifications. The identified waters are prioritized based on severity of pollution with respect to designated use classifications. TMDLs for all pollutants causing violation of applicable water quality standards are established for each identified water. Such loads are established at levels necessary to implement the applicable water quality standards with seasonal variations and margins of safety. The TMDL process establishes the allowable loading of pollutants, or other quantifiable parameters for a waterbody, based on the relationship between pollution sources and in-stream water quality conditions, so that states can establish water-quality based controls to reduce pollution from both point and non-point sources and restore and maintain the quality of their water resources (USEPA, 1991).

Halawakee Creek was added to Alabama's §303(d) list in 2012 for siltation (habitat alteration). The original listing for siltation (habitat alteration) was reportedly based on data collected in 2008 by ADEM. A macroinvertebrate assessment at Station HACL-1 from 2008 had a Poor WMB-1 score. In addition, records at ADEM station HACL-1 from 2008 showed a maximum turbidity value of 162 NTU. The siltation (habitat alteration) listing was changed to siltation in 2018. The current §303(d) list states that Halawakee Creek (AL03130002-1107-110) is impaired due to siltation for 16.57 miles (from three miles upstream of County Road 79 to its source).

3.0 Watershed Assessment

3.1 Water Quality Target Identification

The State of Alabama currently has no numeric criteria for siltation; therefore, narrative criteria must be used to assess the siltation impairment. While numeric criteria normally have a quantifiable endpoint for a given parameter, narrative criteria are qualitative statements that establish a set of desired conditions for all State waters. These narrative criteria are commonly referred to as "free from" criteria that enable states a regulatory avenue to address pollutants or problems that may be causing or contributing to a use impairment that otherwise cannot be evaluated against any numeric criteria. Typical pollutants that fall under this category are nutrients and siltation. Historically, in the absence of established numeric criteria, ADEM and/or EPA would use available data and information coupled with best professional judgement to determine overall use support for a given waterbody. Narrative criteria continue to serve as a regulatory basis for determining use support and making listing/delisting decisions of waters in regard to Alabama's §303(d) list. ADEM's narrative criteria (ADEM Admin. Code r. 335-6-10-.06) are as follows:

335-6-10-.06 Minimum Conditions Applicable to All State Waters. *The following minimum conditions are applicable to all State waters, at all places and at all times, regardless of their uses:*

(a) State waters shall be free from substances attributable to sewage, industrial wastes or other wastes that settle to form bottom deposits which are unsightly, putrescent or interfere directly or indirectly with any classified water use.

(b) State waters shall be free from floating debris, oil, scum, and other floating materials attributable to sewage, industrial wastes or other wastes in amounts sufficient to be unsightly or which interfere directly or indirectly with any classified water use.

(c) State waters shall be free from substances attributable to sewage, industrial wastes or other wastes in concentrations or combinations, which are toxic or harmful to human, animal or aquatic life to the extent commensurate with the designated usage of such waters.

Although ADEM does not currently have numeric criteria for siltation, there is an existing criterion for turbidity. According to ADEM Admin. Code 335-6-10-.09(5)(e)9, the following criterion is applicable for a waterbody classified as Fish and Wildlife:

9. *Turbidity: there shall be no turbidity other than of natural origin that will cause substantial visible contrast with the natural appearance of the waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall the turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving water without the influence of man-made or man-induced causes. Turbidity caused by natural runoff will be included in establishing background levels.*

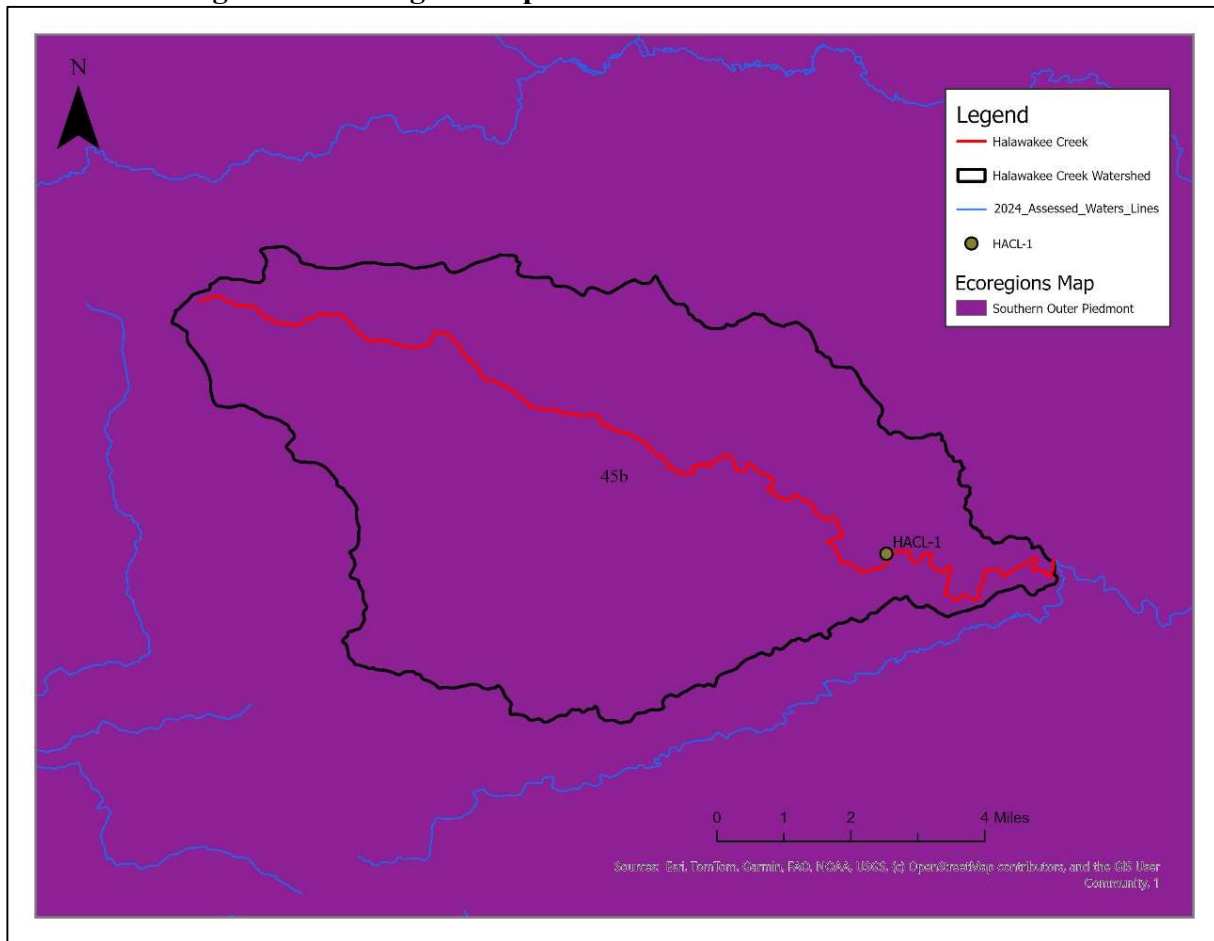
For the siltation impairment status, relative biological health and habitat suitability will be evaluated along with an assessment of the instream total suspended solids (TSS) and turbidity data.

3.2 Assessment of Ecoregional Reference Data

ADEM has established ecoregional reference guidelines for several parameters and pollutants. Reference streams, also referred to as “reference reaches” or “ecoregional reference sites,” are defined as relatively homogeneous areas of similar climate, landform, soil, natural vegetation, hydrology, and other ecologically relevant variables (USEPA, 2000b) which have remained comparatively undisturbed or minimally impacted by human activity over an extended period of time in relation to other waters of the State. While not necessarily pristine or completely undisturbed by humans, reference streams do represent desirable chemical, physical and biological conditions for a given ecoregion that can be used for evaluation purposes. The reference streams selected for a particular analysis depend primarily on the available number of reference streams and associated data within a particular ecoregion. Therefore, the total number of reference sites selected and the aerial scale (i.e. Ecoregion Level III, Level IV) used to represent a reference condition will often vary on a case-by-case basis.

The watershed for the impaired segment of Halawakee Creek (AL03130002-1107-110) is approximately 45.8 square miles and is located in ecoregion 45b (Southern Outer Piedmont). Alabama’s 2020 Ecoregional Reference Guidelines for ecoregion 45b (Level IV) were used in this analysis and are shown in Appendix 7.3. ADEM elected to use the 90th percentile of the data distributions from the selected reference sites to establish goals for siltation, specifically TSS and turbidity, on an ecoregional basis. The 90th percentile of the data distribution is considered an appropriate target since it falls within an acceptable range of “least-impacted” conditions (i.e., upper quartile). Median values are used to represent existing TSS conditions within the impaired waterbody, and turbidity values are assessed on an individual sample basis.

Figure 3.1 Ecoregion Map of the Halawakee Creek Watershed



3.3 Land Use Assessment

Land use for the Halawakee Creek watershed was determined using ArcMap with land use datasets derived from the 2021 National Land Cover Dataset (NLCD). Figure 3.2 and Table 3.1 display the land use areas for the Halawakee Creek watershed. Figure 3.3 is a graph depicting the primary land uses in the Halawakee Creek watershed.

The majority of the Halawakee Creek watershed is forested/natural, which accounts for 69.74% of the total watershed area. Agricultural land use accounts for approximately 20.46%, while open water and developed land occupies the remaining 9.8% of land use.

Figure 3.2 Land Use Map of the Halawakee Creek Watershed

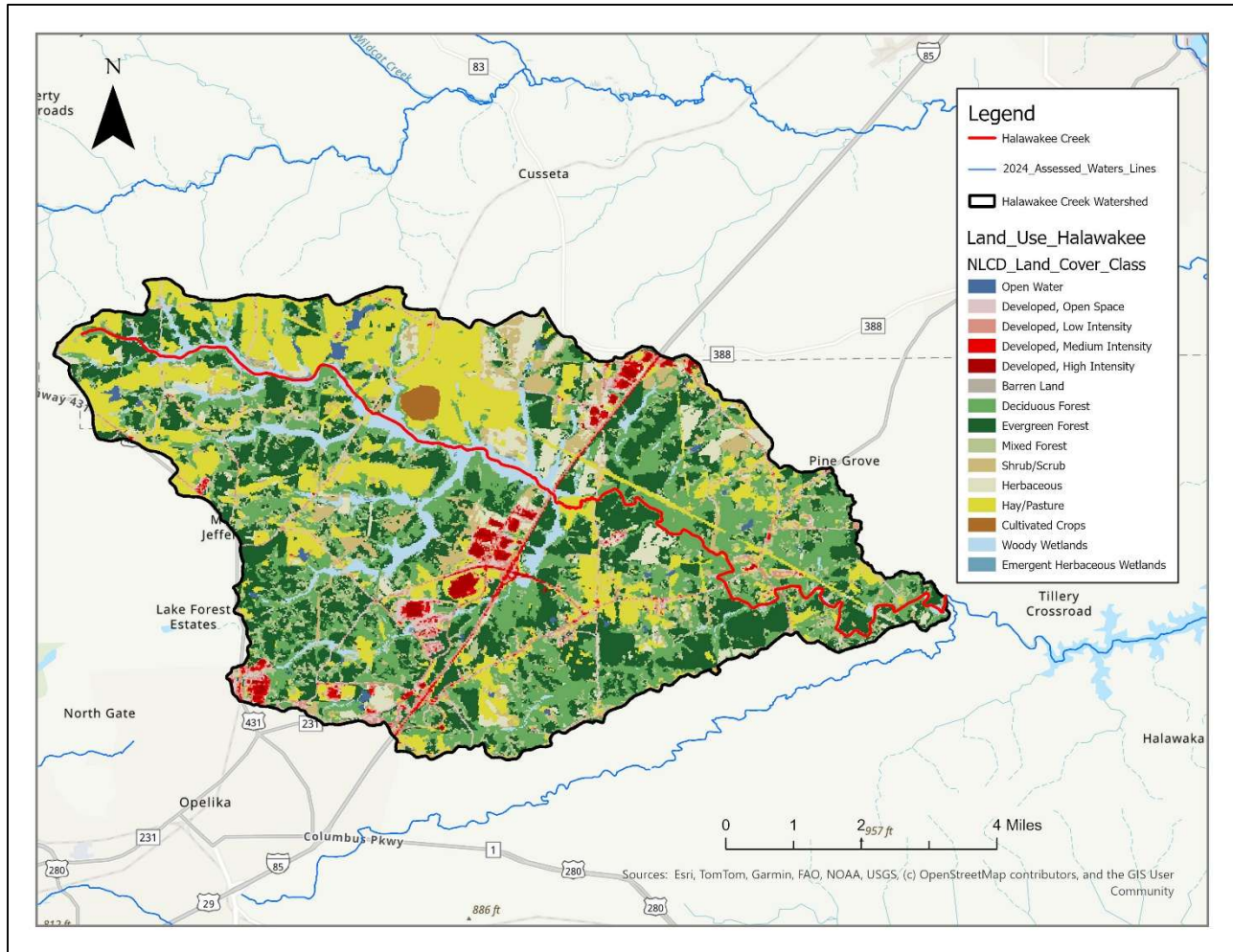
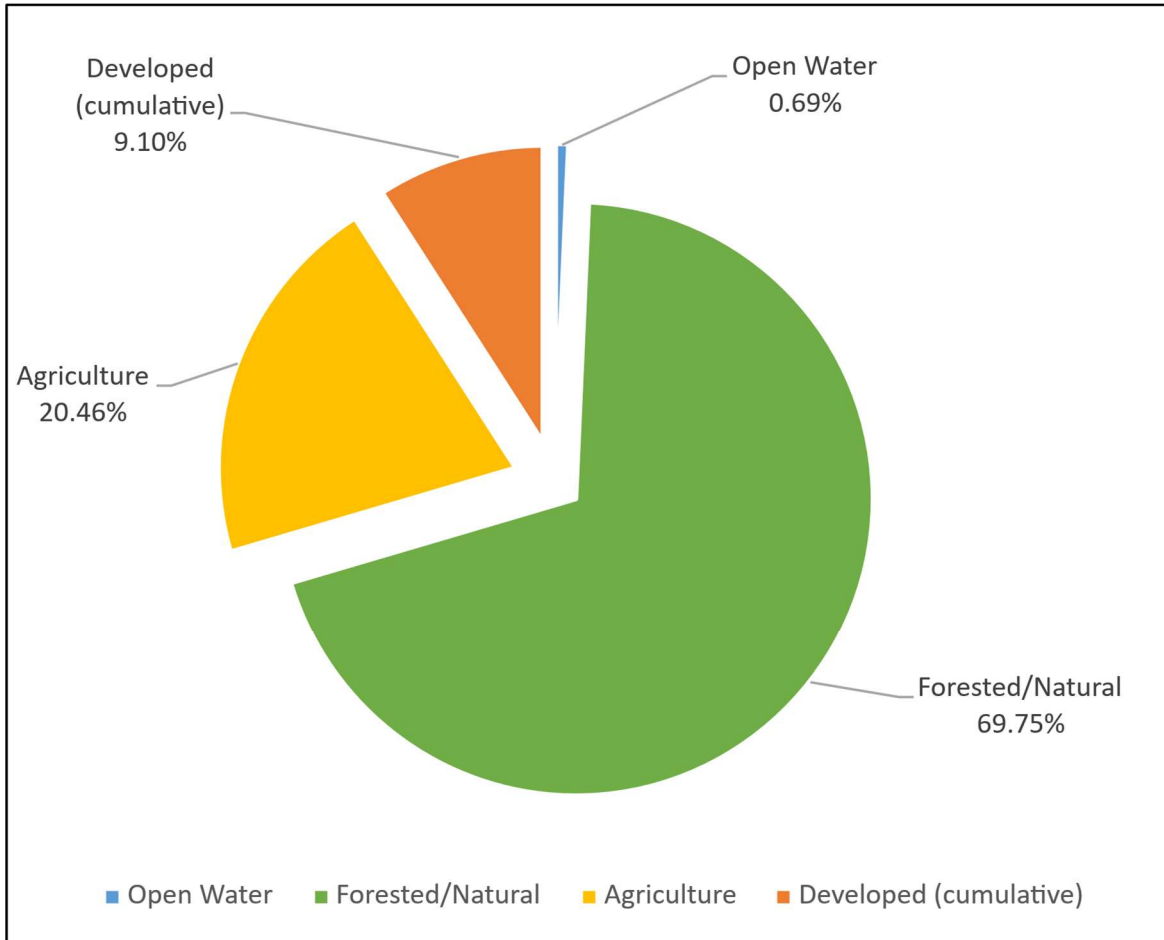


Table 3.1 Land Use Areas for the Halawakee Creek Watershed

Cumulative Land Use	Mi ²	Acres	Percent
Open Water	0.32	202.25	0.69%
Forested/Natural	31.94	20442.19	69.74%
Agriculture	9.37	5997.24	20.46%
Developed (cumulative)	4.17	2667.39	9.10%
Total	45.80	29309.07	100.00%

Figure 3.3 Land Use Graph of the Halawakee Creek Watershed



4.0 Data Availability and Analysis - Basis for Delisting

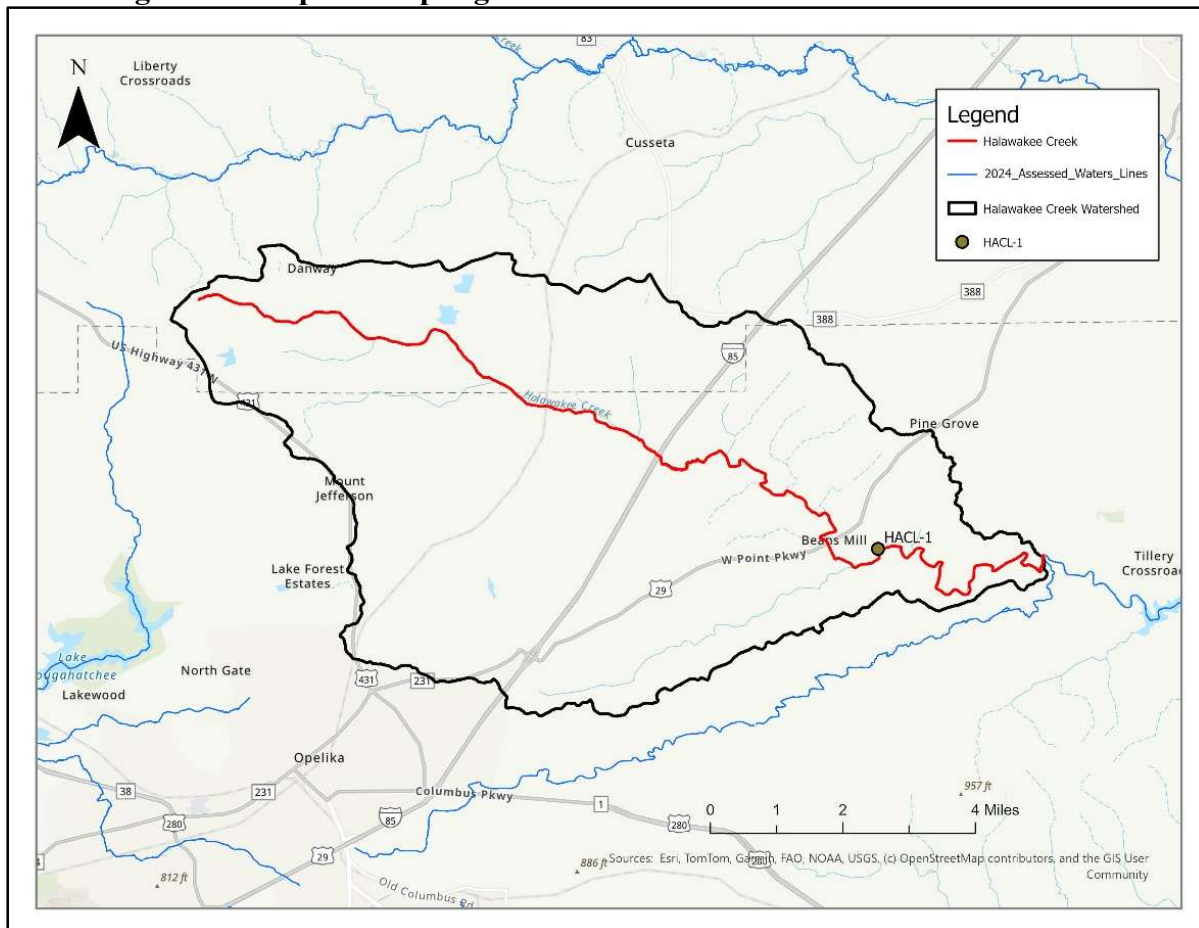
The data used for this analysis is from 2024. It should be noted that Halawakee Creek has been sampled prior to 2024, but this data is older than six years of age. Only data that is six years in age or less will be used in this analysis, which is consistent with *Alabama's Water Quality Assessment and Listing Methodology* (ADEM, 2024).

Halawakee Creek was sampled at station HACL-1 in 2024. Table 4.1 below provides a description of the sampling station location, which is also shown on the maps in Figure 3.1 and Figure 4.1. Habitat and macroinvertebrate assessments were performed at HACL-1; physical and chemical data were also collected.

Table 4.1 Halawakee Creek Station Location

Station	Latitude	Longitude	Description
HACL-1	32.696328	-85.256032	Halawakee Creek @ Co Rd 390

Figure 4.1 Map of Sampling Location in the Halawakee Creek Watershed



4.1 Macroinvertebrate Assessment and Habitat Assessment

A macroinvertebrate assessment and a habitat assessment were conducted by ADEM's Field Operations Division at station HACL-1 on April 25, 2024. The macroinvertebrate community was assessed as fair-good (Figure 4.2). The habitat was rated as fair (Figure 4.3). The 2024 macroinvertebrate and habitat results provide evidence that there is no impairment in Halawakee Creek due to siltation.

Figure 4.2 Macroinvertebrate Assessment – April 25, 2024

Table 4. Results of the Macroinvertebrate survey conducted on Halawakee Creek at HACL-1, 04/25/2024.		
Macroinvertebrate Assessment	Results	Scores
Taxonomic richness and diversity metrics		
Taxa Count	58	58
# rare and highly sensitive taxa	2	2
# sensitive taxa	22	22
# sensitive EPT taxa	12	12
Percent taxon metrics		
% rare and highly sensitive taxa	3	3
% sensitive taxa	38	38
% sensitive EPT taxa	21	21
% highly tolerant taxa	9	9
Percent individual metrics		
% rare and highly sensitive individuals	0	0
% sensitive individuals	5	5
% sensitive EPT individuals	2	2
% tolerant individuals	48	48
WMB-I Survey Score		3.5
WMB-I Survey Rating		Fair-good (3.5-3.849)
Index Description		
The benthic macroinvertebrate community was sampled using ADEM's Intensive Multi-habitat Bioassessment methodology (WMB-I). Measures of taxonomic richness, community composition and pollution tolerance were used to assess the overall health of the macroinvertebrate community in comparison to conditions expected in north Alabama streams and rivers. Each site is placed in one of six levels ranging from 1, or natural, to 6, or highly altered.		

Figure 4.3 Habitat Assessment– April 25, 2024

Table 3. Results of the habitat assessment survey conducted on Halawakee Creek at HACL-1, April 25, 2024. Macroinvertebrates were also collected.		
Habitat Survey	% Max Score	Rating
Instream Habitat Quality	73	Sub-optimal (55-74.999)
Sediment Deposition	46	Marginal (30-49.999)
Frequency of Riffles	58	Sub-optimal (55-74.999)
Bank Vegetative Stability	56	Sub-optimal (55-74.999)
Riparian Zone Measurements	61	Sub-optimal (55-74.999)
Habitat Assessment Score	158	
% Maximum Score	61	Fair (41-63.999)
Index Description		
Habitat quality and availability was evaluated using ADEM's Habitat Survey for Low Gradient Streams. Measures of instream habitat availability and quality, sediment deposition, reach sinuosity, bank stability, and riparian zone quality are used to assess the overall availability and quality of habitat in comparison with reference reaches in the same ecoregion. Each metric is scored and rated as percent of maximum score. The overall habitat score and rating is the average of all metric scores. The length of reach being evaluated for habitat conditions depends on the type of biological survey being conducted: wadeable macroinvertebrate survey=100m; nonwadeable macroinvertebrate survey=500m; wadeable fish IBI=300m.		

4.2 TSS and Turbidity Data Analysis

TSS and turbidity data collected at station HACL-1 during 2024 were compared to Alabama's 2020 Ecoregional Reference Guidelines for Level IV ecoregion 45b. Eight TSS samples were collected at HACL-1 during the 2024 sampling season. The median of the TSS samples was compared to the ecoregional reference guideline of 12.3 mg/L. The TSS data is shown below in Table 4.2.

Table 4.2 TSS Data at Station HACL-1

Station HACL-1				
Sample Date	TSS (mg/l)	TSS (mg/l), DET_COND*	Median TSS (mg/l)	Ecoreference Value (mg/l)
3/27/2024	8		5.5	12.3
4/10/2024	5			
5/22/2024	6			
6/18/2024	3			
7/24/2024	34			
8/27/2024	2	Jl		
9/16/2024	8			
10/30/2024	2	Jl		

*Jl: The identification of the analyte is acceptable; the reported value is an estimate. The reported value is between the MDL (method detection limit) and the RL (Reporting Level).

Individual turbidity samples were compared to the applicable numeric criterion (50 NTU plus ecoregional reference value). Nine turbidity samples were collected at HACL-1 during the 2024 sampling season. This data can be seen below in Table 4.3. A summary of the TSS and turbidity data collected at HACL-1 is also located in Appendix 7.2.

Table 4.3 Turbidity Data at Station HACL-1

Station HACL-1				
Sample Date	Turbidity (NTU)	Ecoreference Value (NTU)	Maximum Turbidity (NTU) at Station	Maximum Criterion (50 NTU + Background)
3/27/2024	19.2	24.98	69.6	74.98
4/10/2024	9.3			
4/25/2024	14			
5/22/2024	18.8			
6/18/2024	6.7			
7/24/2024	69.6			
8/27/2024	6.9			
9/16/2024	22.2			
10/30/2024	11.5			

As shown above, the median value for the TSS samples collected at station HACL-1 was 5.5 mg/l. This value is lower than the applicable reference value of 12.3 mg/l. All of the turbidity samples collected at station HACL-1 were less than the applicable criterion of 74.98 NTU (50 NTU + ecoregional guideline value).

5.0 Conclusion

From examination of all available data, ADEM has determined that a water quality impairment due to siltation does not currently exist within Halawakee Creek. 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).

6.0 Public Participation

As part of the public participation process, this Delisting Decision (DD) was placed on public notice and made available for review and comment. The public notice was prepared and published in newspapers in Montgomery, Huntsville, Birmingham, and Mobile, as well as submitted to persons who requested to be on ADEM's postal and electronic mailing distributions. In addition, the public notice and subject DD were made available on ADEM's Website: www.adem.alabama.gov. The public could also request paper or electronic copies of the DD by contacting Ms. Kimberly Minton at 334-271-7826 or kminton@adem.alabama.gov. The public was given an opportunity to review the DD and submit comments to the Department in writing. No written comments were received during the public notice period.

7.0 Appendix

7.1 References

ADEM Administrative Code, 2025. Water Quality Program, Chapter 335-6-10, Water Quality Criteria, and Chapter 335-6-11 Use Classifications for Interstate and Intrastate Waters.

Alabama Department of Environmental Management's Monitoring Program. 2024.

Alabama Department of Environmental Management. *Alabama's Water Quality Assessment and Listing Methodology*, January 2024.

Alabama Department of Environmental Management, 2012, 2014, 2016, 2018, 2020, 2022 and 2024 §303(d) Lists and Fact Sheets. ADEM.

Alabama Department of Environmental Management. Standard Operating Procedures #4910, Revision 7.2 - Laboratory Data Qualification. January 2022.

United States Environmental Protection Agency. April 1991. Guidance for Water Quality-Based Decisions: The TMDL Process, Office of Water, EPA 440/4-91-001.

7.2 Data Summary

Table 7.1 2024 Halawakee Creek Data Summary

Station HACL-1				
Sample Date	Measured Flow (cfs)	TSS (mg/l)	TSS (mg/l), DET_COND*	Turbidity (NTU)
3/27/2024	74.68	8		19.2
4/10/2024	47.07	5		9.3
4/25/2024	34.44			14.0
5/22/2024	28.24	6		18.8
6/18/2024	16.53	3		6.7
7/24/2024	36.61	34		69.6
8/27/2024	4.94	2	Jl	6.9
9/16/2024	14.08	8		22.2
10/30/2024	8.01	2	Jl	11.5

*Jl: The identification of the analyte is acceptable; the reported value is an estimate. The reported value is between the MDL (method detection limit) and the RL (Reporting Level).

7.3 Ecoregional Reference Guidelines

Table 7.2 2020 Ecoregional Reference Guidelines for Ecoregion 45b

		Level 4
Parameters	Basis of comparison	45b
Physical		
Temperature (°C)	90th Percentile	25.28
Turbidity (NTU)	90th Percentile	24.98
Total Dissolved Solids (mg/L)	90th Percentile	61.00
Total Suspended Solids (mg/L)	90th Percentile	12.30
Specific Conductance (µmhos/cm@25c)	Median	52.55
Hardness (mg/L)	Median	16.35
Total Alkalinity (mg/L)	90th Percentile	27.80
Chemical		
Dissolved Oxygen (mg/L)	10th Percentile	7.40
pH (SU)	10th Percentile	6.70
pH (SU)	90th Percentile	7.70
Ammonia Nitrogen (mg/L)	90th Percentile	0.0404
Nitrate + Nitrite Nitrogen (mg/L)	90th Percentile	0.3540
Total Kjeldahl Nitrogen (mg/L)	90th Percentile	0.4720
Total Nitrogen (mg/L)	90th Percentile	0.6960
Dissolved Reactive Phosphorous (mg/L)	90th Percentile	0.0302
Total Phosphorous (mg/L)	90th Percentile	0.0470
CBOD-5 (mg/L)	90th Percentile	2.43
Total Chlorides (mg/L)	90th Percentile	5.10
Total Metals		
Total Aluminium (mg/L)	90th Percentile	0.5334
Total Iron (mg/L)	90th Percentile	2.8250
Total Manganese (mg/L)	90th Percentile	0.5171
Dissolved Metals		
Dissolved Aluminium - Al (mg/L)	90th Percentile	0.0435
Dissolved Antimony - Sb (µg/L)	90th Percentile	1.00
Dissolved Arsenic - As (µg/L)	90th Percentile	0.4370
Dissolved Cadmium - Cd (µg/L)	90th Percentile	0.4211
Dissolved Chromium - Cr (µg/L)	90th Percentile	2.00
Dissolved Copper - Cu (µg/L)	90th Percentile	2.50
Dissolved Iron - Fe (mg/L)	90th Percentile	0.8756
Dissolved Lead - Pb (µg/L)	90th Percentile	1.00
Dissolved Manganese - Mn (mg/L)	90th Percentile	0.4452
Dissolved Mercury - Hg (µg/L)	90th Percentile	-
Dissolved Nickel - Ni (µg/L)	90th Percentile	3.00
Dissolved Selenium - Se (µg/L)	90th Percentile	5.00
Dissolved Silver - Ag (µg/L)	90th Percentile	1.50
Dissolved Thallium - Tl (µg/L)	90th Percentile	0.50
Dissolved Zinc - Zn (µg/L)	90th Percentile	3.00
Biological		
Chlorophyll a (mg/m ³)	90th Percentile	1.636
E Coli (mpn/dl)	10th Percentile	46.33

7.4 *Halawakee Creek Photos*

Photo 7.1 Halawakee Creek at HACL-1 on June 18, 2024, upstream view.

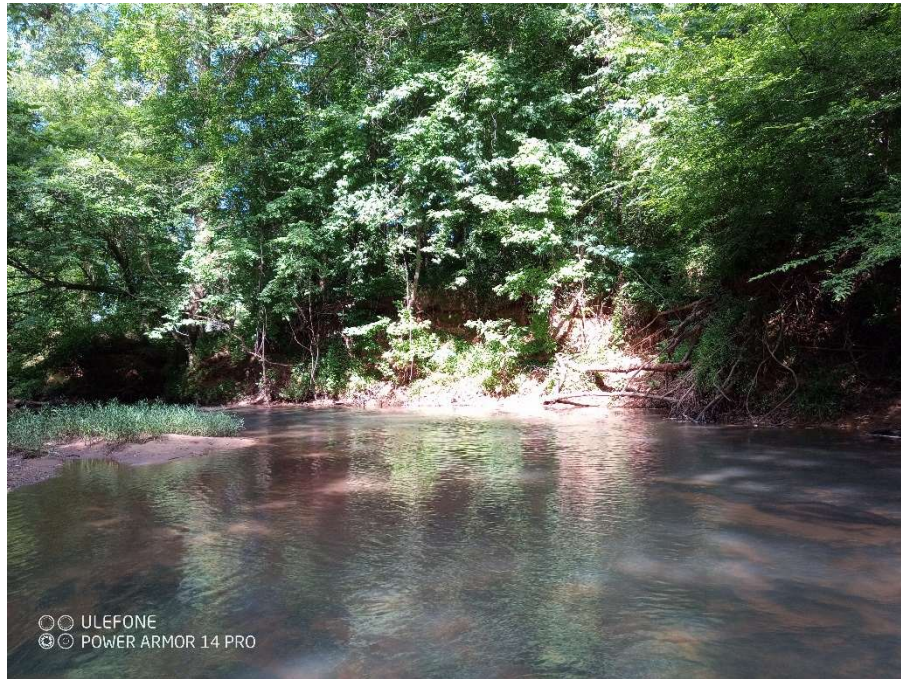


Photo 7.2 Halawakee Creek at HACL-1 on June 18, 2024, downstream view.

