# ANNUAL REPORT

## 2017-2018

**STORM WATER MANAGEMENT AUTHORITY, INC.**

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# Appendices

# 1 General Information

## 1.1 *Introduction*

The passage of **Legislative Act 95-775** in 1997 enabled the mayors of municipalities within Jefferson County to establish Storm Water Management Authority, Inc. (SWMA). The requirements of the National Pollution Discharge Elimination System (NPDES) permit # ALS000001, issued by Alabama Department of Environmental Management (ADEM), and the United States Environmental Protection Agency's (EPA) Title 40 Code of Federal Regulations Part 122 (40 CFR 122), charged that SWMA, in coordination with all co-permittees of the permit, would work to meet the obligations of the approved Storm Water Management Program (SWMP). The permit was renewed in 2001.

Over the 2016-2017 fiscal year, ADEM ended the co-permittee arrangement and issued 15 individual Phase 1 permits to member cities of SWMA. Listed below are the cities, their new NPDES permit number, and the date of their issuance:

| Permit Number | Permittee | Permit Issuance Date |
|---|---|---|
| **ALS000015** | Trussville | January 1, 2017 |
| **ALS000016** | Homewood | July 1, 2017 |
| **ALS000019** | Irondale | July 1, 2017 |
| **ALS000018** | Mountain Brook | July 1, 2017 |
| **ALS000020** | Tarrant | July 1, 2017 |
| **ALS000017** | Vestavia Hills | July 1, 2017 |
| **ALS000026** | Gardendale | August 1, 2017 |
| **ALS000028** | Hueytown | August 1, 2017 |
| **ALS000030** | Midfield | August 1, 2017 |
| **ALS000031** | Pleasant Grove | August 1, 2017 |
| **ALS000021** | Adamsville | September 1, 2017 |
| **ALS000023** | Brighton | September 1, 2017 |
| **ALS000024** | Brookside | September 1, 2017 |
| **ALS000025** | Fairfield | September 1, 2017 |
| **ALS000029** | Lipscomb | October 1, 2017 |

While the municipalities of Center Point, Clay and Pinson are members of SWMA, they do not have a permit at this time. All elements of the MS4 permit were addressed for these cities, however, the information was not included in this report. Documentation is available upon request.

SWMA continues to function on behalf of all the permittees listed above to meet the compliance requirements of each NPDES permit. SWMA has subcontracted with the Jefferson County Department of Health (JCDH) to perform certain responsibilities. SWMA members, the Board of Directors, and mayors are aware that the ultimate responsibility toward permit

compliance lies with the municipality. SWMA's contract with JCDH and SWMA Bylaws are found in **Appendix A**.

Therefore, the primary objective of SWMA, JCDH, and all permittees (hereinafter referred to as "**Program**") is to implement the SWMP in such a manner as to effectively prohibit the discharge of non-storm water into the MS4 and to reduce the discharge of pollutants from the MS4 to Maximum Extent Practicable (MEP).

The 2017-2018 annual report covers the reporting period from October 1st, 2017 through September 30th, 2018. The five year permit cycle for the members of SWMA will expire in 2022.

Submission of this report to ADEM is pursuant to Part IV of the permit.

## 1.2 *Contact Lists*

### 1.2.1 Municipality Contacts

| Municipality | Name | Title | Work # | E-mail Address | Address |
|---|---|---|---|---|---|
| Adamsville | Pam Palmer | Mayor | 674-5671 | pyropam@charter.net | 4828 Main St., Adamsville, AL 35005 |
| Adamsville | Ron Mosley | Public Works Dir. | 674-8177 | rmosley@cityofadamsville.org | 4828 Main St., Adamsville, AL 35005 |
| Brighton | Eddie Cooper | Mayor | 428-9547 | cityofbrighton@att.net | 3700 Main St., Brighton AL 35020 |
| Brighton | Hazel Williams | City Clerk | 428-9547 | cityofbrighton@att.net | 3700 Main St., Brighton AL 35020 |
| Brookside | Roger McCondichie | Mayor | 674-9275 | rogermccondichie@townofbrookside.net | 2711 Municipal Ln, Brookside, AL 35036 |
| Brookside | Debbie Keedy | City Clerk | 674-9275 | dkeedy@townofbrookside.net | 2711 Municipal Ln, Brookside, AL 35036 |
| Fairfield | Edward May II | Mayor | 788-2492 | mayoredmayesq@gmail.com | 4701 Gary Ave., Fairfield, AL 35064 |
| Fairfield | Kennedy Lee | Public Works | 783-6008 | klee@fairfieldal.us | 4701 Gary Ave., Fairfield, AL 35064 |
| Gardendale | Stan Hogeland | Mayor | 631-8789 | stan@cityofgardendale.com | 960 Main St., Gardendale, AL 35071 |
| Gardendale | Robert Ryant | Public Works Dir. | 369-9923 | rryant@cityofgardendale.com | 960 Main St., Gardendale, AL 35071 |
| Graysville | Clark-Julio Davis | Mayor | 674-5643 | | 246 S Main St., Graysville, AL 35073 |
| Graysville | Frank Barnes | Public Works Sup. | 674-5643 | fbarnes9251@bellsouth.net | 246 S Main St., Graysville, AL 35073 |
| Homewood | Scott McBrayer | Mayor | 332-6107 | Scott.McBrayer@DignityMemorial.com | 187 Citation Ct., Homewood, AL 35209 |
| Homewood | J.J. Bischoff | Chief of Staff | 332-6112 | | 187 Citation Ct., Homewood, AL 35209 |
| Hueytown | Steve Ware | Mayor | 491-7010 | mayorsteveware@hueytownal.org | 1318 Hueytown Rd., Hueytown, AL 35023 |
| Hueytown | Mike Butts | Public Works Sup. | 491-9113 | publicworks@hueytownal.org | 1318 Hueytown Rd., Hueytown, AL 35023 |
| Irondale | Charles Moore | Mayor | 956-9200 | mayor@cityofirondaleal.gov | 101 20th St. S, Irondale, AL 35210 |

| Municipality | Name | Title | Work # | E-mail Address | Address |
|---|---|---|---|---|---|
| Irondale | Frank Pennington | Public Works Director | 951-1420 | fpennington@cityofirondaleal.gov | 101 20th St. S, Irondale, AL 35210 |
| Lipscomb | Brenda Renz | Mayor | 428-6374 | bghrenz@att.net | 5512 Avenue H, Lipscomb, AL 35020 |
| Lipscomb | Jacquelyn Robertson | City Council | 428-6374 | jacquelynrobertson22@yahoo.com | 5512 Avenue H, Lipscomb, AL 35020 |
| Midfield | Garry Richardson | Mayor | 923-7578 | grichardson@cityofmidfield.com | 725 Bessemer Super Hwy Midfield, AL 35228 |
| Midfield | Jeff Zissette | Public Works Director | 923-2071 | zissettej@gmail.com | 725 Bessemer Super Hwy Midfield, AL 35228 |
| Mountain Brook | Stewart H. Welch, III | Mayor | 802-3825 | Stewart@welchgroup.com | 56 Church St., Mountain Brook, AL 35213 |
| Mountain Brook | Sam Gaston | City Manager | 802-3879 | gastons@mtnbrook.org | 56 Church St., Mountain Brook, AL 35213 |
| Pleasant Grove | Jerry Brasseale | Mayor | 744-1724 | pgmayor@cityofpg.net | 501 Park Rd., Pleasant Grove, AL 35127 |
| Pleasant Grove | Tom (Doug) Hyche | Inspector | 744-1726 | dhyche.inspections@yahoo.com | 501 Park Rd., Pleasant Grove, AL 35127 |
| Tarrant | Loxcil Tuck | Mayor | 849-2800 | ltuck@cityoftarrant.com | 1604 Pinson Valley Pkwy., Birmingham, AL 35217 |
| Tarrant | Chris O'Rear | Parks and Recreation Supervisor | 849-2800 | corear@cityoftarrant.com | 1604 Pinson Valley Pkwy., Birmingham, AL 35217 |
| Trussville | Buddy Choat | Mayor | 655-7478 | bchoat@trussville.org | 131 Main St., Trussville, AL 35173 |
| Trussville | David Arnette | Building Inspections Superintendent | 655-5483 | darnett@trussville.org | 131 Main St., Trussville, AL 35173 |
| Vestavia Hills | Ashley C. Curry | Mayor | 978-3675 | acurry@vhal.org | 513 Montgomery Hwy., Vestavia Hills, AL 35216 |
| Vestavia Hills | Jeff Downes | City Manager | 978-0195 | jdownes@vhal.org | 513 Montgomery Hwy., Vestavia Hills, AL 35216 |

### 1.2.2 JCDH Contacts

| Name | Title | Work # | E-mail Address | Address |
|---|---|---|---|---|
| Jeff Swinney | Program Manager | 930-1279 | Jeff.Swinney@jcdh.org | 1400 Sixth Ave S Birmingham, AL 35233 |
| Scott Hofer | Public Health Engineer | 930-1274 | Scott.Hofer@jcdh.org | 1400 Sixth Ave S Birmingham, AL 35233 |
| Jonika Smith | Environmental Health Specialist | 558-2103 | Jonika.Smith@jcdh.org | 1400 Sixth Ave S Birmingham, AL 35233 |

# 2 Program Evaluation

## 2.1 *Objective of Program*

The Purpose of the SWMA program is to comply with the requirements of the NPDES permits to prohibit the discharge of non-storm water into the municipal separate storm sewer system (MS4) to the maximum extent practical.

## 2.2 *Major Findings*

The Fish Bioassessment Program has been a valuable longitudinal study in determining the water quality of the watersheds within SWMA municipalities. The program has been in existence since the fall of 2010. Each major stream has two sites; one located high in the watershed and one located lower in the watershed. The procedures used for capturing fish are electrofishing and seining. After processing, all of the fish were released back into the stream. Some of the criteria used to determine the health of a stream include the number of fish species present, the species percentage of the total number present and a physical habitat assessment. The major finding of this study is that no significant trends in water quality have been identified. Therefore, the health of the streams appears to be stable with no signs of improvement or degradation over the length of the study.

## 2.3 *Major Accomplishments*

- SWMA finalized three pro forma ordinances for the member cities; illicit discharge, post-construction, and erosion and sedimentation control.
- United States Geological Survey (USGS) completed installation of five continuous monitoring sites as required by the new permits.
- JCDH and SWMA assisted the NPDES permitted members with composing their Storm Water Management Program Plan (SWMPP). A SWMPP template can be found in **Appendix B**.
- JCDH completed the first inspections of sites described in the Industrial Storm Water Runoff element of the NPDES permit. Over 450 inspections were performed within SWMA member cities.

## 2.4 *Overall Strengths and Weaknesses*

### 2.4.1 Strengths

**Industrial Storm Water Runoff** – JCDH developed a protocol for use with a smart phone to complete inspections of industrial and high-risk runoff sites. The inspections increased awareness of storm water as well as confirmed proper BMPs are in place to stop illicit discharges.

**Water Quality Monitoring** – Installation of five USGS continuous monitoring sites will provide real time data on temperature, pH, turbidity, specific conductance, dissolved oxygen, and water level in real time. The data is subject to a rigorous review and approval process by USGS. In addition, this information is available for public viewing.

**Complaints and Investigations -** The complaint system used by JCDH allows inspectors to efficiently investigate and resolve violations. The system also provides useful documentation of the number and types of complaints received.

**Member Reporting -** The online program called Storm water Online Activity Report (SOAR) allows standardized reporting of storm water related activities from member cities. City personnel submit activity information remotely that is stored in a centralized database. Standardization of the data allows for better reporting and statistical information.

**GIS Mapping of Storm Drains –** JCDH and SWMA have been mapping the storm drain systems of member cities. Mapping provides a structural inventory allowing for better maintenance and fiscal planning. This data will also allow for future modeling of the watersheds. At this time, the database includes over 28,000 structures, 88 miles of pipe, and 156 miles of open channel.

**Dry Weather Screening** – The illicit discharge program utilizes efficient and precise technology to map and record findings about each outfall. JCDH uses a smart phone to complete an electronic questionnaire and record a photo along with the physical description, and pertinent water quality data. The data is stored in the electronic cloud allowing for quick access on any device.

### 2.4.2 Weakness

**Standard Operating Procedure (SOP) Manual**- The current SOP manual was completed in 2010. Updates are needed to include new SWMPP protocols and revisions to existing protocols.

## 2.5 *Future Direction of the Program*

SWMA will continue to provide services to help member cities meet MS4 permit requirements. Accomplishing compliance with permit requirements among all members is the ultimate goal for the Program.

## 2.6 *SWMPP Overall Effectiveness*

The SWMPP has served as a guide for the Members detailing actions required and personnel responsible for completing these actions to accomplish compliance with the permit. Overall effectiveness of the SWMPP has not been determined as the Members have not had a full reporting period to implement each element. A more complete analysis should be accomplished in 2018-2019 after a full year of activity.

## 2.7 *Actions Not Accomplished*

The City of Fairfield did not complete a SWMPP during the 2017-2018 reporting period.

# 3 Narrative Report

## 3.1 *Storm Water Collections System Operations*

### 3.1.1 Objective

The objective of the Storm Water Collections System Operation Program is to inspect and maintain structural controls in order to minimize the contamination of the local waterways by storm water runoff.

### 3.1.2 Activities Complete or in Progress

**Activity 1: Permittees shall maintain a map of the structural controls.** This activity has been completed for the all member cities.

**Activity 2: Inspect existing and newly constructed structural controls on a semi-annual basis as well as maintain the structural control and remove any litter or sedimentation so that the structural control functions as designed.** This activity has been completed for the all member cities.

**Activity 3: Develop a checklist for inspection and maintenance of structural controls.** This activity has been completed.

**Activity 4: Maintain an inventory of structural controls as well as the inspection and maintenance records for each structural control.** This activity has been completed. Currently, none of the members have reported a structural owned or maintained by the municipality.

### 3.1.3 General Discussion

The member cities have completed an inventory of publically owned or maintained structural controls within their jurisdictions and none were reported. Should the need arise, the SOAR Program allows cities to store inspections and maintenance documentation online in an organized fashion. A checklist for inspections and maintenance of structural controls was developed and added to permitted SWMA members' SWMPP for use if publically-owned structural controls are constructed.

### 3.1.4 Status

The members are in compliance at this time. Mechanisms are in place for inspections and maintenance. A program is in place to allow documentation of structural controls when needed.

### 3.1.5 Assessment

Activities for this element will be assessed once a publically-owned structural control is constructed.

### 3.1.6 Proposed Revisions

There are no proposed revisions at this time.

### 3.1.7 Annual Reporting

| Annual Report Requirements for Storm Water Collection Operations | | | | | | |
|---|---|---|---|---|---|---|
| | # of Structural Controls | # of Inspections Performed | Summarization of Maintenance Activities | Amount of Floatables, Etc. removed | Is Maintenance Contracted Out? | New Permittee-owned Structural Controls |
| **Adamsville** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Brighton** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Brookside** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Fairfield** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Gardendale** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Homewood** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Hueytown** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Irondale** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Lipscomb** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Midfield** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Mountain Brook** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Pleasant Grove** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Tarrant** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Trussville** | 0 | N/A | N/A | N/A | N/A | 0 |
| **Vestavia Hills** | 0 | N/A | N/A | N/A | N/A | 0 |

## 3.2 *Public Education and Public Involvement on Storm Water Impacts*

### 3.2.1 Objective

The Public Education and Public Involvement Program was designed to inform the community about the impacts from storm water discharges on water bodies and how different segments of the community can reduce possible storm water pollutants.

### 3.2.2 Description of Educational Programs

**Informational Handouts**

The Program employs a campaign to educate citizens on the importance of proper storm water pollution prevention through the use of brochures, calendars and pamphlets. The use of these materials is an effective way to reach people that visit JCDH, SWMA, or the various member cities. Brochure holders have been dispensed to allow members the capability to distribute all materials published by SWMA and JCDH. This will allow for the distribution of brochures covering a wide variety of topics. Approximately 1100 brochures were distributed this reporting period.

SWMA and JCDH have developed eight brochures since 2010 covering the following issues: Storm Water Fees, Household Hazardous Waste, Pet Waste Disposal, Fertilizers, Pesticides, Watershed Protection, and Erosion and Sedimentation Control. These can be found in **Appendix C**.

JCDH created a storm water calendar for calendar year 2017. The calendar depicts photos of local creeks and wildlife. Additionally, information is included on various storm water topics along with links to informational sites, recycling services and community events. A copy of the calendar can be found in **Appendix C.**

**Outreach Materials**

Education and outreach materials have been developed in an effort to reach primary and secondary school students. Topics presented include: watershed protection, safety tips to reduce and/or eliminate litter, excess storm water runoff and household chemicals' entry into storm drains within SWMA member cities. The formats that have been distributed include stickers, bookmarks, magnets, branded carabiners, coloring books/activity sheets, t-shirts, and backpacks. Samples of some of these items can be found in **Appendix C**.

**Signage**

During the reporting period of 2016-2017 JCDH distributed approximately 800 storm drain markers. During the 2017-2018 reporting period, JCDH designed new road signs denoting the local watershed with an anti-litter message. The signs will bring attention to the local waterways as well as convey an educational message to citizens. See **Appendix C** for pictures of this signage.

**Website**

For cities that have websites, SWMA and JCDH developed a template webpage containing information on many aspects of storm water. The template webpage informs citizens of their cities' program with information links, educational downloads, hotline numbers, and other pertinent storm water documents as required by the permit.

**Reporting Hotline**

For citizens who do not have the time or transportation to meet with SWMA or JCDH employees during regular business hours, the JCDH hotline number, 205-930-1999, provides a means to register complaints, express their concerns and to get information on watershed management in their local area.

**Watershed Meetings**

JCDH and SWMA are involved in multiple cooperative meetings regarding environmental hazards within Jefferson County, and collaborative efforts to improve storm water awareness. These meetings include committees such as the Environmental Quality and Assessment, Valley Creek Cleanup, Litter Quitters, SWMA Board of Directors, and Martin Luther King Day of Service Cleanup Committee.

**Public Presentations**

JCDH personnel spoke at multiple events throughout the reporting period. Each presentation was customized toward the host's agenda but the objective was to raise awareness of the impacts of storm water. Some of the events attended include UAB's Honors Program Forum on Urbanization and the Turkey Creek Nature Preserve Field Day.

**Public Outreach Events**

Throughout the reporting period, numerous events provided JCDH and SWMA opportunities to present educational information to a variety of people of diverse economic and cultural backgrounds. Informational brochures and outreach materials were distributed at these events. Some of the events attended include Fiesta Birmingham, Clean as a Whistle, Cahaba River Fry-Down and Valley Creek Clean-Up. Additionally, brochures, T-shirts, and backpacks were issued to the Cities for their individual outreach events.

**School Presentations**

JCDH conducts a variety presentation to students of all grade levels. Some of the topics covered this year were hydrologic water cycle, watersheds, and nonpoint source pollution. JCDH also supported and participated in the Jefferson County Water Festival.

**Jefferson County Erosion and Sedimentation Control Workshop**

On April 26th, 2018, an erosion and sedimentation control workshop was offered in a cooperative effort with the Home Builders Association of Alabama, JCDH, the City of Birmingham, the City of Bessemer, SWMA members, and Unincorporated Jefferson County. Information on construction best management practices (BMP) was presented to contractors,

homebuilders, developers, engineers, and municipal staff. The workshop was held at Birmingham's Zoo Lodge and had 34 participants.

**Cleanup Events**

Twenty-eight cleanup events were held throughout the member cities during the reporting period. The events resulted in the removal of a combined total of approximately 146.9 tons and 658 bags of trash and debris from the watersheds.

### 3.2.3 General Discussion

The Public Education and Public Involvement on Storm Water Impacts program is a combined effort by JCDH and the SWMA members. JCDH offers educational materials, educational presentations, training materials, personnel, and limited cleanup supplies. The member cities organize the cleanups and community events that provide a venue to educate citizens as well as cleanup the waterways. While the new permit requirements are similar to previous permits, the new permit requires the program to reach out to additional segments of the community.

The cities all have printed material for their storm water program. Cities that have utilized the website template have added more specific educational material in regards to different types of businesses and proper construction practices.

For cities that do not have a website, JCDH composed a calendar that includes educational information and links to information covered by the website template.

### 3.2.4 Status

The cities are in compliance with the general public component of this element.

### 3.2.5 Assessment

The educational program for the member cities is engaging and robust. For the most part, the information has reached the intended audience and appears to be having a positive impact. The cleanup events have been well received by the communities as reflected by the number of volunteers. A common goal is for future events to have a reduction in the trash and debris removed from the watersheds. Cities have been encouraged to include a visitor counter for their website.

### 3.2.6 Proposed Revisions

There are no proposed revisions at this time.

### 3.2.7 Annual Reporting

Prior to adoption of the SWMPP, the members offered a public comment period to encourage input and participation from the citizens.

A detailed list of the public education events and participants can be found in **Appendix C**.

Communication mechanisms distributed include 500 stickers, 300 bookmarks, 300 magnets, 200 branded carabiners, 1000 coloring books/activity sheets, 500 t-shirts, and 500 backpacks.

## 3.3 *Illicit Discharge Detection and Elimination (IDDE)*

### 3.3.1 Objective

The objective of the Illicit Discharge Detection and Elimination Program is to eliminate illicit discharges into the MS4 to the maximum extent practicable.

### 3.3.2 Activities Complete or in Progress

**Activity 1: Develop and annually update an MS4 map that includes the latitude/longitude of all known major outfalls as well as the names of the waters of the state contiguous to the MS4.** This activity was completed for available data.

**Activity 2: Enact an ordinance that prohibits non-storm water discharges to the MS4.** This activity is in progress.

**Activity 3: Have a dry weather screening program designed to detect and address non-storm water discharges into the MS4. A minimum of 20% of the major outfalls must be screened each year.** This activity was completed for all cities.

**Activity 4: Procedures for tracing the source of a suspect illicit discharge.** This activity was completed. Procedures can be found the 2011 SOP manual adopted by SWMA cities.

**Activity 5: Procedures for eliminating an illicit discharge.** This activity has been completed. Procedures can be found in the 2011 SOP manual adopted by SWMA cities.

**Activity 6: Procedures to notify ADEM of suspect illicit discharge discovered within the Permittee's MS4 from an adjacent MS4.** This activity was completed for all cities except Fairfield.

**Activity 7: A mechanism for the public to report illicit discharges and procedures for appropriate investigation**. This activity is in progress.

**Activity 8: A training program for appropriate personnel on identification, reporting and corrective action of illicit discharges.** SWMA and JCDH has an annual training program. This activity is complete.

**Activity 9: Post ordinances or other regulatory mechanisms on their website.** This activity is complete for the cities that have websites. The cities without websites have ordinances available at city hall.

### 3.3.3 General Discussion

SWMA has mapped the outfalls on the major waterbodies referenced in ALR00001 numerous times since the first permit cycle. The data is stored in a Geographic Information System (GIS) format. SWMA also documented their procedures for mapping, tracing sources and eliminating in the 2011 SOP Manual.

The new permit requires the Permittees to map the outfalls that lead to the waters of the state. SWMA and JCDH is using the National Hydrography Dataset (NHD) to identify the waters of the state. With many new unmapped waterways and unknown outfalls, JCDH is inspecting 20% of the total waters of the state within each Permittee's municipal boundary annually. JCDH completed 20% in all permitted cities.

During the 2016-2017 reporting period a buffer of 500 feet was added to all cities to deal with streams on borders. This approach was found to complicate the borders for adjacent cities. JCDH recalculated the stream miles within SWMA cities during the 2017-2018 reporting period without a buffer.

SWMA and JCDH completed a dedicated pro forma illicit discharge ordinance to meet the permit requirements. The members of SWMA prohibit illicit discharges from construction sites through their erosion and sedimentation ordinances enacted in 1999.

SWMA and JCDH developed a SOP for ADEM notification and included it in the SWMPPs for the cities.

Cities with websites were encouraged to publish the material developed by JCDH on their website in regards to illicit discharge. The information included a local phone number to report illicit discharge complaints and information about illicit discharges. SWMA members can refer illicit discharge complaints to JCDH for further investigation. JCDH also advertises (205) 930-1999 in all SWMA literature as a number to report illicit discharges.

JCDH offered a half-day training program to SWMA members to educate municipal workers on different aspects of storm water including illicit discharges. This class was held on the 17th and 24th of October, 2017.

### 3.3.4 Status

SWMA members are in compliance with the mapping and screening outfalls requirement. The cities with websites have published information about illicit discharges on their website.

### 3.3.5 Assessment

The program is effectively reducing discharges through complaints system as well through screening.

### 3.3.6 Proposed Revisions

JCDH has no proposed revisions at this time.

### 3.3.7 Annual Reporting

| Annual Report Requirements for Illicit Discharge Detection and Elimination | | | | |
|---|---|---|---|---|
| | Total Number of Stream Mileage in City | Stream Mileage to be Walked Each Year (20%) | Stream Mileage Walked during 2017-2018 (percentage walked) | Number of Illicit Discharges Investigated |
| **Adamsville** | 44.06 | 8.81 | 8.81 (20%) | 13 |
| **Brighton** | 4.47 | 0.89 | 0.95 (21%) | 4 |
| **Brookside** | 18.72 | 3.74 | 3.82 (20%) | 2 |
| **Fairfield** | 1.58 | 0.32 | 0.4 (25%) | 12 |
| **Gardendale** | 28.28 | 5.74 | 5.79 (20%) | 27 |
| **Homewood** | 12.27 | 2.45 | 2.74 (22%) | 29 |
| **Hueytown** | 30.24 | 6.05 | 6.3 (21%) | 33 |
| **Irondale** | 30.61 | 6.12 | 6.4 (21%) | 14 |
| **Lipscomb** | 3.14 | 0.63 | 0.76 (24%) | 0 |
| **Midfield** | 3.62 | 0.72 | 0.82 (23%) | 20 |
| **Mountain Brook** | 21.15 | 4.23 | 4.25 (20%) | 42 |
| **Pleasant Grove** | 15.17 | 3.03 | 2.98 (20%) | 17 |
| **Tarrant** | 6.65 | 1.33 | 1.26 (19%) | 3 |
| **Trussville** | 51.32 | 10.26 | 10.58 (21%) | 19 |
| **Vestavia Hills** | 35.28 | 7.06 | 7.2 (20%) | 51 |

The SWMA-approved pro forma IDDE ordinance can be found in **Appendix D**. All investigations are documented in JCDH's complaint system which includes any sampling results and corrective actions taken, including dates. These complaint reports are available from JCDH upon request. Maps of the stream sections walked during 2017 - 2018 and proposed stream sections for 2018-2019 can be found in **Appendix D**.

## 3.4 *Construction Site Storm Water Runoff Control*

### 3.4.1 Objective

The objective of the Construction Site Storm Water Runoff Program is to reduce, to the maximum extent practicable, storm water runoff into the MS4 from qualifying construction sites.

### 3.4.2 Activities Complete or in Progress

**Activity 1: Procedures to require all applicable construction sites to obtain the applicable NPDES permits.** This activity is completed for cities that submitted a SWMPP.

**Activity 2: Having an ordinance that requires effective erosion and sedimentation control.** This activity has been completed per the 2001 ordinance adopted by SWMA members.

**Activity 3: Requiring construction site operators to control waste at a construction site that may cause adverse impacts to water quality.** This activity has been completed.

**Activity 4: Enacting procedures for site plan review to ensure effective erosion and sedimentation controls.** This is in progress. Many of the municipalities have such procedures in place but they are not formalized.

**Activity 5: A mechanism for the public to report construction site pollution.** All municipalities receive complaints through their city hall. The complaints may be worked by the municipality or referred to JCDH for further investigation. The municipalities that have websites have published the city's designated party for taking construction complaints.

**Activity 6: Inspect sites in accordance with frequency specified in the permit.** This activity is in progress. The cities are aware of the frequency for inspecting sites.

**Activity 7: Training for the construction site inspection staff in the identification of appropriate construction best management practices.** The cities with active construction programs have trained personnel regarding proper construction practices.

**Activity 8: Development of a construction site inspection checklist.** This activity has been completed.

**Activity 9: Implementation of an enforcement response plan.** This activity was completed.

**Activity 10: The possession of a program that lists educational and training materials as well resources for construction site operators.** This activity is in progress. The members with websites are in the process of posting a list of training materials on their Storm Water page.

**Activity: 11 Posting ordinances or other regulatory mechanisms on their website.** This activity is completed for cities with websites. Member cities that have websites have their ordinances available to the public online. The cities without websites have their ordinances available at city hall.

### 3.4.3 General Discussion

The cities that have completed their SWMPP have finalized a formal procedure requiring construction sites to obtain applicable NPDES permits.

The member cities are aware of the prescribed frequency for inspections. Since the inspectors for the cities inspect multiple aspects of the construction sites, sites are inspected several times. The cities are evaluating their program in terms of how to effectively document their inspections.

All SWMA members adopted an Erosion and Sedimentation Ordinance in 1999. The ordinance requires effective erosion control including requiring construction site operators to control waste at the construction site. Currently the cities are updating the ordinance to reflect the individual permit status and to improve the enforcement response plan. Cities with active construction sites use a combination of verbal warning, and a "Stop Work Order".

The cities with active construction have a site plan review process.

Cities that have adopted the website template have information on their own website dedicated to storm water including information about proper construction practices.

JCDH and the member cities receive complaints about construction practices. Complaints at JCDH are entered into a compliant program that documents all aspects of the complaints. The cities receive complaints through advertised numbers as well as general city numbers. SWMA is currently developing a way for the cities to formally document their complaints.

Most cities with active construction programs have an employee trained as a Qualified Credentialed Inspector (QCI). Municipal personnel are also invited to attend Jefferson County's ESC Workshop which is an abbreviated version of the QCI training program. Additionally, several cities either contract with a Qualified Certified Professional (QCP) or have a QCP on staff.

### 3.4.4 Status

Cities with active construction sites are in compliance in terms of ordinances and inspecting construction sites. The cities are reviewing how to better document the inspections. Education materials are available to construction site operators in the form of pamphlets. Additional materials will be available with the completion of their websites. Members expect to achieve compliance of the documentation component of this element during the 2018-2019 reporting period.

### 3.4.5 Assessment

The control is effective but can be improved in terms of inspection documentation and offering additional educational materials on their website.

### 3.4.6 Proposed Revisions

There are no proposed revisions at this time.

### 3.4.7 Annual Reporting

| Ordinance Hyperlinks for Member Cities | |
|---|---|
| **Adamsville** | No existing website at this time. Can request ordinance through city hall |
| **Brighton** | No existing website at this time. Can request ordinance through city hall |
| **Brookside** | Ordinances are not posted on website at this time. Can request ordinance through city hall |
| **Fairfield** | No existing website at this time. Can request ordinance through city hall |
| **Gardendale** | https://library.municode.com/al/gardendale/codes/code_of_ordinances?nodeId=PTIILAUSDE_CH103ERSECO |
| **Homewood** | https://library.municode.com/al/homewood/codes/code_of_ordinances?nodeId=COOR_CH5BUCOREAC_ARTIVSOERSECO |
| **Hueytown** | https://library.municode.com/al/hueytown/codes/code_of_ordinances?nodeId=COOR_CH34EN_ARTIIISTMAERSECO |
| **Irondale** | http://cityofirondaleal.gov/ |
| **Lipscomb** | No existing website at this time. Can request ordinance through city hall |
| **Midfield** | http://www.cityofmidfield.com/?page_id=53 |
| **Mountain Brook** | http://www.mtnbrook.org/Default.asp?ID=261&pg=City+Ordinances+%28Codified%29&hilite=ordinances |
| **Pleasant Grove** | https://library.municode.com/al/pleasant_grove/codes/code_of_ordinances?nodeId=PTIICO_CH39EN_ARTIIERSECO |
| **Tarrant** | http://www.cityoftarrant.com |
| **Trussville** | http://trussville.org/government/ordinances/ |
| **Vestavia Hills** | http://vhal.org/departments/city-clerk/ordinances/ |

| Construction Sites Summary | | | | | |
|---|---|---|---|---|---|
| **City** | # of Construction Sites | # of Construction Site Inspections | # of Formal Enforcement Actions Description of Violations | # of Construction Site Complaints Received* | # of Trained Staff (QCI/QCP/ESC) |
| **Adamsville** | 1 | 5 | 0 | 0 | 1 (Contracted QCP) |
| **Brighton** | 0 | 0 | 0 | 0 | 0 |
| **Brookside** | 0 | 0 | 0 | 0 | 0 |
| **Fairfield** | 0 | 0 | 0 | 0 | 0 |
| **Gardendale** | 72 | 328 | None Reported | 0 | 1 (QCI)<br>1 (Contracted QCP) |
| **Homewood** | 34 | 68 | None Reported | 0 | 1 (QCI)<br>1 (Contracted QCP)<br>1 (ESC) |
| **Hueytown** | 5 | 15 | None Reported | 0 | 1 (QCI)<br>1 (Contracted QCP) |
| **Irondale** | 54 | 162 | None Reported | 0 | 2 (QCI)<br>1 (Contracted QCP) |
| **Lipscomb** | 0 | 0 | 0 | 0 | 0 |
| **Midfield** | 0 | 0 | 0 | 0 | 1 (Contracted QCP) |
| **Mountain Brook** | 36 | 116 | None Reported | 0 | 2 (QCI)<br>1 (Contracted QCP) |
| **Pleasant Grove** | 12 | 24 | None Reported | 0 | 1 (QC1)<br>1 (Contracted QCP) |
| **Tarrant** | 1 | 3 | None Reported | 0 | 1 (QCI)<br>1 (Contracted QCP)<br>1 (ESC) |
| **Trussville** | 198 | 600 | None Reported | 0 | 1 (QCI)<br>1 (QCP) |
| **Vestavia Hills** | 80 | 240 | None Reported | 0 | 1 (QCI)<br>2 (QCP) |

A list of the construction sites is found in the **Appendix E**.

* These numbers reflect the complaints that were referred to JCDH.

## 3.5 *Post Construction Storm Water Management in New Development and Re-Development*

### 3.5.1 Objective

The objective of the Construction Site Storm Water Runoff Program is to reduce, to the maximum extent practicable the pollutants in any storm water runoff to the MS4 from qualifying construction sites.

### 3.5.2 Activities Complete or in Progress

**Activity 1: Require landowners and developers to implement systems to reduce the discharge of pollutants.** This activity is still in progress.

**Activity 2: Require landowners and developers to mimic pre-construction hydrology runoff in post-construction using permit guidelines.** This activity is still in progress.

**Activity 3: Encourage landowners and developers to incorporate Low Impact Development.** This activity is still in progress.

**Activity 4: Adopt or amend an ordinance to ensure applicability and enforceability of post-construction BMPS.** This activity is still in progress.

**Activity 5: Require the submittal of a post-construction BMP plan.** This activity is still in progress.

**Activity 6: Require an "as built" certification within 120 days of completion.** This activity is still in progress.

**Activity 7: Perform and/or require the performance of, at a minimum, an annual post-construction inspection and maintenance of BMPs on new construction sites.** This activity is still in progress.

**Activity 8: Require the developer/owner/operator to keep records of the inspection and maintenance activities.** This activity is still in progress.

**Activity 9: Require and/or perform adequate long-term operation and maintenance of post-construction BMPs through legal means.** This activity is still in progress.

### 3.5.3 General Discussion

SWMA members approved a pro-forma post-construction ordinance that met permit requirements listed below:

- **Require landowners and developers to implement systems to reduce the discharge of pollutants.**
- **Require landowners and developers to mimic pre-construction hydrology runoff in post-construction using permit guidelines.**
- **Encourage landowners and developers incorporate Low Impact Development.**
- **Require the submittal of a post-construction BMP plan.**
- **Require an "as built" certification within 120 days of completion.**
- **Perform and/or require the performance of, at a minimum, an annual post-construction inspection and maintenance of BMPs on new construction sites.**
- **Require the developer/owner/operator to keep records of the inspection and maintenance activities.**
- **Require and/or perform adequate long-term operation and maintenance of post-construction BMPs through legal means.**

SWMA has a section in SOAR to identify all new BMPs and save inspection and maintenance sheets for each BMP.

### 3.5.4 Status

While many cities have passed the post-construction ordinance, SWMA expects all members to pass the ordinance by April of 2019.

### 3.5.5 Assessment

This program will not be fully effective until the ordinance is in place in all member cities.

### 3.5.6 Proposed Revisions

There are no proposed revisions at this time.

### 3.5.7 Annual Reporting

| . Post-Construction Controls Summary | | | | |
|---|---|---|---|---|
| **City** | Post-Construction Controls Installed and Inspected | Post-Construction Controls Owned by the Cities | # of Inspections Performed | Enforcement Actions |
| **Adamsville** | 0 | 0 | 0 | 0 |
| **Brighton** | 0 | 0 | 0 | 0 |
| **Brookside** | 0 | 0 | 0 | 0 |
| **Fairfield** | 0 | 0 | 0 | 0 |
| **Gardendale** | 0 | 0 | 0 | 0 |
| **Homewood** | 0 | 0 | 0 | 0 |
| **Hueytown** | 0 | 0 | 0 | 0 |
| **Irondale** | 0 | 0 | 0 | 0 |
| **Lipscomb** | 0 | 0 | 0 | 0 |
| **Midfield** | 0 | 0 | 0 | 0 |
| **Mountain Brook** | 0 | 0 | 0 | 0 |
| **Pleasant Grove** | 0 | 0 | 0 | 0 |
| **Tarrant** | 0 | 0 | 0 | 0 |
| **Trussville** | 0 | 0 | 0 | 0 |
| **Vestavia Hills** | 0 | 0 | 0 | 0 |

The approved pro-forma ordinance can be found in **Appendix F**

## 3.6 *Spill Prevention and Response*

### 3.6.1 Objective

The objective of the Spill Prevention and Response Program is to prevent, contain, and respond to spills that may discharge into the MS4.

### 3.6.2 Activities Complete or in Progress

**Activity 1: Investigate, respond and conduct response actions or coordinate with other agencies that may provide response actions.** This activity was completed.

**Activity 2: Develop a mechanism to track spills, responses, and clean-up activities for all spills.** This activity was completed.

**Activity 3: Use an acceptable mapping scheme to identify spill locations, inspection locations and chronic problem areas.** This activity has been completed.

**Activity 4: Implement a spill prevention/spill response plan.** This activity was completed.

**Activity 5: Provide training to appropriate personnel in spill and response procedures.** This activity was completed.

**Activity 6: Establish procedures to ensure that all spills are promptly reported.** This activity has been completed.

### 3.6.3 General Discussion

Member cities have a local mechanism to investigate, respond, and conduct response actions with other agencies. All cites have either a fire department or are part of a fire district. Jefferson County also has an Emergency Management Agency (EMA) which coordinates and/or assist cites with spills and clean-up. EMA also documents spills, response and clean-up activities. JCDH has the capability to exhibit spill locations, locations for inspections, and chronic problem areas in GIS. All of the cities are in the process of formalizing a spill prevention/spill response plan. While all fire response units have training to respond to spills, JCDH offers a training program for non-first responder personnel on spill prevention and response.

### 3.6.4 Status

SWMA members are in compliance with this program element. The SOAR program offers storage for spill documentation for incidents that do not involve EMA.

### 3.6.5 Assessment

The program has proven effective in terms of responding to spills. Documentation of spills and spill response for incidents that do not involve EMA needs improvement.

### 3.6.6 Proposed Revisions

There are no proposed revisions at this time.

### 3.6.7 Annual Reporting

| Spill Response Summary | | | | |
|---|---|---|---|---|
| **City** | Location of Spills | Spill Substance | Incident Dates and Times to Resolution | Enforcement Actions |
| **Gardendale** | I-65 at MM 274 | 7,200 gal. of Gasoline | 10/09/17 | None Reported |
| **Mountain Brook** | US 280W at Cherokee Rd | 30 gal. of Diesel and Engine Fluids | 10/30/17 | None Reported |
| **Fairfield** | 1-20/59 E-N at Lloyd Nolan overpass Exit 118 | 250 gal. of Diesel | 11/02/17 | None Reported |
| **Irondale** | 1-20 W near Exit 135 | 40 gal. of Diesel | 12/16/17 | None Reported |
| **Irondale** | 1459 NB@ MM 26.9 / Grants Mill Road Exit | 20 gal. of Engine Oil/Coolant and 50 lbs. of Carbon Black Powder | 06/09/18 | None Reported |
| **Irondale** | 120 EB Ramp from 1459 NB | 10 gal. Diesel and 39,000 lb. of Chicken Parts | 06/13/18 | None Reported |

## 3.7 *Pollution Prevention/Good Housekeeping for Municipal Operations*

### 3.7.1 Objective

The objective of the Pollution Prevention/Good Housekeeping Program is to prevent and reduce the discharge in storm water run-off from municipal operations to the MEP.

### 3.7.2 Activities Complete or in Progress

**Activity 1: An inventory of all Municipal facilities.** This activity is completed for all members except Fairfield.

**Activity 2: Develop and implement a short and long term strategy and program for removal of trash from waterways and tributaries.** This activity has been completed.

**Activity 3: Require appropriate Best Management Practices for events.** This activity is in progress.

**Activity 4: Provide trash receptacles for high trash generated areas.** This activity has been completed.

**Activity 5: Develop a Standard Operating Procedure detailing good housekeeping practices.** This activity was completed.

**Activity 6: Develop a program to inspect municipal facilities with checklists and procedures for correcting noted deficiencies.** This activity was completed.

**Activity 7: Develop a training program for municipal staff on good housekeeping.** This activity is complete.

**Activity 8: Assess the water quality impacts of flood management programs.** This activity is in progress.

### 3.7.3 General Discussion

Members of SWMA have been documenting their pollution prevention/good housekeeping activities and municipal operations inspections since 2012. This information is stored in the SOAR program. Completion of the SWMPP will provide members a more accurate record of total municipal facilities and may increase the number of inspections to be performed. The cities have active programs for removing trash from waterways and tributaries. In 2011 SWMA adopted a SOP manual that contains procedures regarding this program element. A SOP for special events was developed and included in the template SWMPP for SWMA cities. SWMA and JCDH offered a half-day training program for municipal employees that covered this program element.

### 3.7.4 Status

The cities of Tarrant and Vestavia Hills are the only members that have flood management projects in place. The members are in the process of assessing the existence of flood management programs that may be under their responsibility.

### 3.7.5 Assessment

The members have been successful in removing trash to prevent it from entering waterways and tributaries. Several members sponsor city wide clean ups which also serve to educate the public on importance of clean water. Member cities have adopted a SOP Manual that outlines procedures for numerous pollution prevention/good housekeeping activities.

### 3.7.6 Proposed Revisions

There are no proposed revisions at this time.

### 3.7.7 Annual Reporting

| City | Amount of Floatable Materials Collected from The MS4 | Amount of Leaves Collected | # of Inspections Performed |
|---|---|---|---|
| **Adamsville** | 1424.4 tons | 3950 tons | 1 |
| **Brighton** | 184 bags | None Reported | None Reported |
| **Brookside** | 32 bags | None Reported | None Reported |
| **Fairfield** | 630 cu. yards | None Reported | None Reported |
| **Gardendale** | 786 bags | None Reported | None Reported |
| **Homewood** | 125 bags | None Reported | 4 |
| **Hueytown** | 81 bags | 2765 bags | 3 |
| **Irondale** | 1,177.5 bags | 11,641 bags | 3 |
| **Lipscomb** | 53.68 tons | None Reported | None Reported |
| **Midfield** | 5,545 bags | 164 cu. yards | 4 |
| **Mountain Brook** | 413 bags and 78 cu. yards | 11,494 cu. yards | 3 |
| **Pleasant Grove** | 80 bags | 100 bags | None Reported |
| **Tarrant** | 1182 bags and 90 tons | 15 tons | 12 |
| **Trussville** | 587 bags | 4,118 cu. yards | 9 |
| **Vestavia Hills** | 685 bags | None Reported | 4 |

With the exception of Fairfield, all permitted members updated to their municipal inventory, inspection plan or SOP of good housekeeping. The updates can be found in each SWMPP.

## 3.8 *Application of Pesticides, Herbicides and Fertilizers (PHFs)*

### 3.8.1 Objective

The objective of the Pesticides, Herbicides and Fertilizers Program is to reduce, to the maximum extent practicable, the discharge of pollutants related to the storage and application of PHFs applied by employees or contractors, to public rights of way, parks, and other public property.

### 3.8.2 Activities Complete or in Progress

**Activity 1: Identify all areas known to receive high application of PHFs and develop a program to detect improper usage.** This activity is in progress.

**Activity 2: Require evidence of proper certification and licensing for all applicators.** This activity is complete.

**Activity 3: Maintain an inventory of on-hand PHFs with information about the formulation of the product.** This activity is complete.

**Activity 4: Maintain information on equipment use and maintenance.** This activity is in progress.

**Activity 5: Have training on safe usage, storage and disposal of PHFs.** This activity is complete.

**Activity 6: Inspect and monitor facilities where PHFs are stored.** This activity is complete.

**Activity 7: Have recordkeeping.** This activity is complete.

### 3.8.3 General Discussion

SWMA members that have active PHF programs are in compliance with keeping records on usage, storage, and disposal of PHFs. The maintenance and use of equipment is addressed in their SWMPP. A plan to inspect and monitor PHF storage facilities in similar fashion to the required municipal facilities inspections of the Good Housekeeping program element is also included in the SWMPP. Members that spray provide the proper training to the personnel involved. JCDH also offered training for city employees on general usage of PHFs. Cities record all PHF related activities in SOAR.

### 3.8.4 Status

The members comply with the documentation of application and storage of PHFs. The storage facility inspection requirement is addressed in the SWMPP. JCDH and SWMA are in the process of developing a program to include a report of improper usage.

### 3.8.5 Assessment

Members are documenting areas of PHFs application and storage inventory. Inspection of storage facilities was included in the SWMPP. Efforts to improve detection of improper PHF usage are in progress.

### 3.8.6 Proposed Revisions

There are no proposed revisions at this time.

### 3.8.7 Annual Reporting
All records for PHFs are housed in the SOAR program.

## 3.9 *Oils, Toxics, and Household Hazardous Waste Control*

### 3.9.1 Objective
The objective of oil, toxics and household hazardous waste control program is to prohibit, to the maximum extent practicable, the discharge of used engine fluids and household hazardous waste into the MS4.

### 3.9.2 Activities Complete or in Progress

**Activity 1: making educational materials on this program available to the public.** This activity is complete.

**Activity 2: Advertise the location of used oil collection facilities.** This activity is complete.

**Activity 3: Provide employee training on spill prevention related to this program.** This activity is complete.

### 3.9.3 General Discussion
Currently JCDH and SWMA provide information addressing oils, toxics, and household hazardous wastes that are distributed at each member's city hall. Storm water calendars, website materials and brochures are tools that members use to address these topics including used oil collection facilities. Determining the quantity of used oil collected within each city is difficult due to large number of municipalities located within Jefferson County. Citizens can easily drop off their used oil anywhere regardless of the municipality. Currently, information on the total gallons of recycled oil for Jefferson County is received from the largest used oil collector. JCDH and SWMA also offered a half-day training program for municipal employees that covers this program element. Many cities offered electronics takeback days independently. JCDH is planning two Household Hazardous Waste Takeback Events in 2019 for all Jefferson County residents.

### 3.9.4 Status
Members are in compliance with all components of this element.

### 3.9.5 Assessment
Training for employees on Household Hazardous Waste was offered during the 2017-2018 reporting period.

### 3.9.6 Proposed Revisions
There are no proposed revisions at this time.

### 3.9.7 Annual Reporting

Within Jefferson County, Universal Environmental Services received 385,461 gallons of recycled oil from Express Oil Change Services, Inc., during this reporting period. Amounts for individual cities were not available.

Regional Electronics takeback events were held in Adamsville and Center Point. The Cities of Vestavia Hills and Clay held independent takeback events. The U.S. Drug Enforcement Administration also held two prescription drug takeback events throughout Jefferson County.

JCDH presented a MS4 training class that included discussion of oils, toxics, and household hazardous waste control on October 17 and 24, 2018. The attendance sheet and agenda can be found in **Appendix G.**

## 3.10 *Industrial Storm Water Runoff*

### 3.10.1 Objective

The objective of the industrial storm water runoff program is to inspect, monitor, and control pollutants in the storm water runoff from high-risk facilities.

### 3.10.2 Activities Complete or in Progress

**Activity 1: Annual inspection of Municipal waste landfills, hazardous waste treatment, storage, disposal (TSD) and recovery facilities.** This activity is complete.

**Activity 2: Annual inspections of industrial facilities and high-risk commercial facilities.** This activity is complete.

**Activity 3: Use data collected from NPDES permitted facility to review sites.** This activity is complete.

### 3.10.3 General Discussion

JCDH and SWMA implemented a standalone program to inspect the sites from a more storm water-focused perspective. With the completion of each cities' SWMPP, a list of industrial and high-risk commercial facilities was compiled. Facilities within those cities were inspected or documented during the 2017-2018 reporting period. Lists will be updated as needed. Although JCDH did not perform inspections of the Fairfield sites, the City provided documentation that its sites were inspected by the Fairfield Fire Department. This document can be found in **Appendix H**.

### 3.10.4 Status

This element is complete for all cities.

### 3.10.5 Assessment

An assessment of this element is not available at this time.

### 3.10.6 Proposed Revisions

There are no proposed revisions at this time.

### 3.10.7 Annual Reporting

| Member Cities | # of Inspections |
|---|---|
| **Adamsville** | 35 |
| **Brighton** | 2 |
| **Brookside** | 1 |
| **Fairfield** | Completed by Fairfield Fire Department |
| **Gardendale** | 47 |
| **Homewood** | 53 |
| **Hueytown** | 79 |
| **Irondale** | 44 |
| **Lipscomb** | 4 |
| **Midfield** | 18 |
| **Mountain Brook** | 14 |
| **Pleasant Grove** | 17 |
| **Tarrant** | 88 |
| **Trussville** | 17 |
| **Vestavia Hills** | 54 |

The inspections are in the in **Appendix H**. JCDH also reviewed the 20 NPDES Permits and found a total of 43 instances of excursions. The Discharge Monitoring Reports for the Permitted sites can be found in **Appendix H**.

# 4 Monitoring

## 4.1 Objective

The objective of the Monitoring Program is to provide data necessary to assess the effectiveness and adequacy of BMPs implemented under the SWMPP.

## 4.2 Monitoring Program

Monitoring is accomplished by using both continuous monitoring stations and grab samples collected during a qualifying rain event (wet samples). Grab samples are collected as described, and at the frequency determined by the Member's permit. Analysis of the sampling data is used to assess the water quality of the streams and to identify potential water quality impairments.

### 4.2.1 Continuous Monitoring

There are five continuous monitoring sites strategically placed throughout SWMA members on Shades Creek, Cahaba River and Valley Creek. The sites are maintained, calibrated, and the data is approved by USGS. The data is available to the public through USGS's website (https://www.usgs.gov/ ). The continuous monitors test for six parameters: temperature, pH/ORP turbidity, conductivity, dissolved oxygen and water level. For this reporting period, analysis of the data was not possible due to stations having different start dates, partial sampling periods and most of the information was not approved by USGS.

The sites are shown in the table below:

| WATERSHED | SITE NAME | USGS NAME | LONGITUDE | LATITUDE | APPROXIMATE WATERSHED SIZE (SQ. MI.)* |
|---|---|---|---|---|---|
| UPPER SHADES CREEK | MOU-SHC-065M | SHADES CREEK AT ELDER ST NEAR SPRINGDALE AL (02423571) | -86.716126 | 33.521084 | 9.1 |
| LOWER SHADES CREEK | HOM-SHC-087M | SHADES CREEK NR HOMEWOOD ALA (02423586) | -86.813676 | 33.448607 | 26.9 |
| UPPER CAHABA RIVER | LEE-CAR-053M | CAHABA RIVER NEAR WHITES CHAPEL AL (02423160) | -86.549324 | 33.605167 | 50.8 |
| LOWER CAHABA RIVER | VES-CAR-085M | CAHABA RIVER NEAR MOUNTAIN BROOK (02423380) | -86.712765 | 33.481772 | 140.3 |
| VALLEY CREEK | BRI-VAC-015M | VALLEY CREEK BELOW BRIGHTON, ALA (02461405) | -86.95317 | 33.425456 | 35.0 |

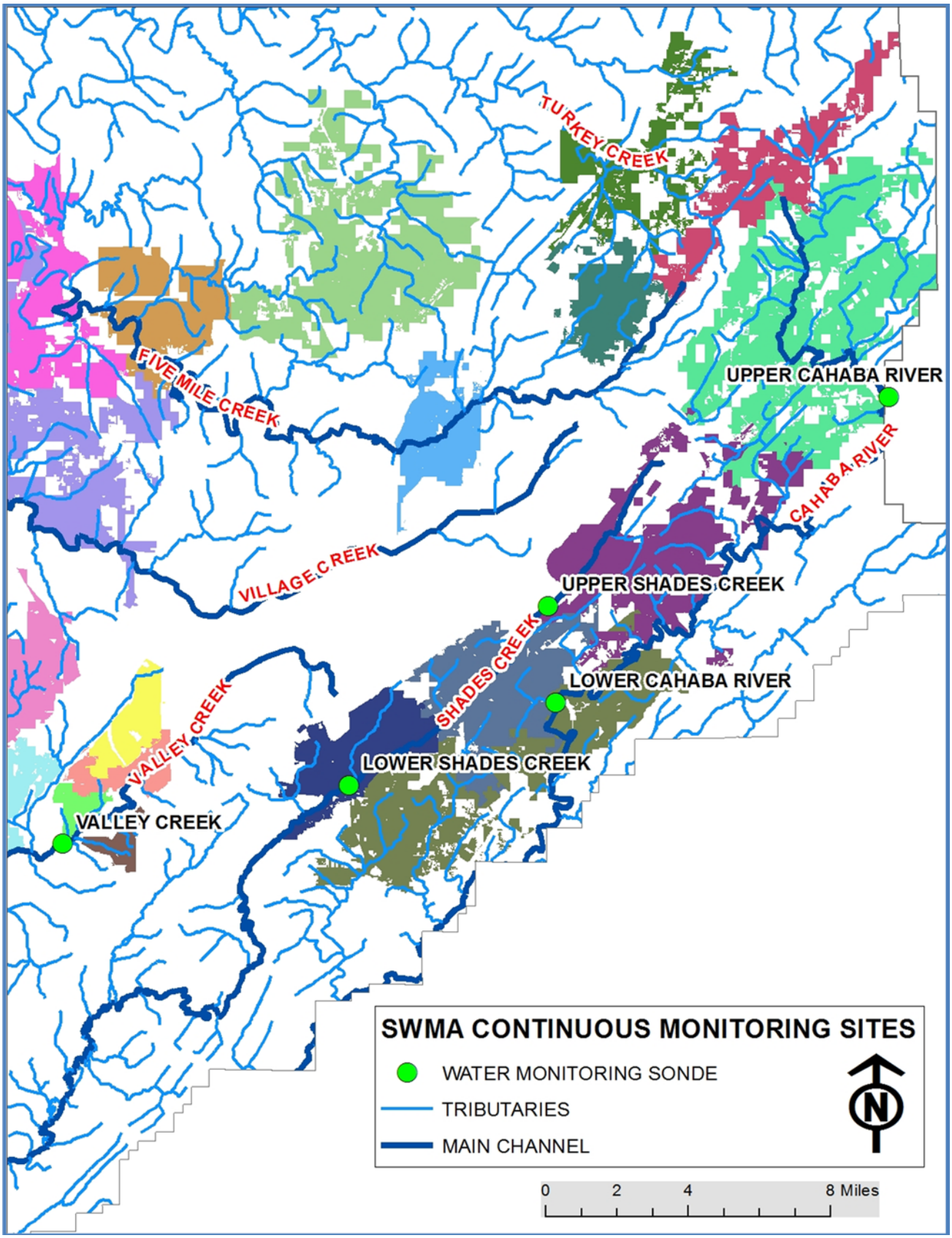
*The watershed size was derived from the USGS Watershed Boundary Dataset in conjunction with USGS topographical maps. This information shown is an approximation of watershed size.

The activation dates are shown in the table below:

| Parameter Recorded | Upper Shades Creek | Lower Shades Creek | Upper Cahaba River | Lower Cahaba River | Valley Creek |
|---|---|---|---|---|---|
| Dissolved Oxygen | 5/9/2018 | 5/9/2018 | 8/9/2011 | 4/20/2018 | 5/14/2018 |
| pH | 5/9/2018 | 5/9/2018 | 9/6/2017 | 8/21/2018 | 5/14/2018 |
| Specific Conductance | 10/12/2017 | 5/9/2018 | 8/9/2011 | 4/20/2018 | 5/14/2018 |
| Temperature | 10/12/2017 | 5/9/2018 | 8/9/2011 | 4/20/2018 | 5/14/2018 |
| Turbidity | 5/9/2018 | 5/9/2018 | 9/6/2017 | 4/20/2018 | 5/14/2018 |
| Water Level | 10/2/2017 | 3/28/2018 | 8/9/2011 | 10/1/1994 | 3/30/2018 |

The percentage of data that is provisional is shown in the table below.

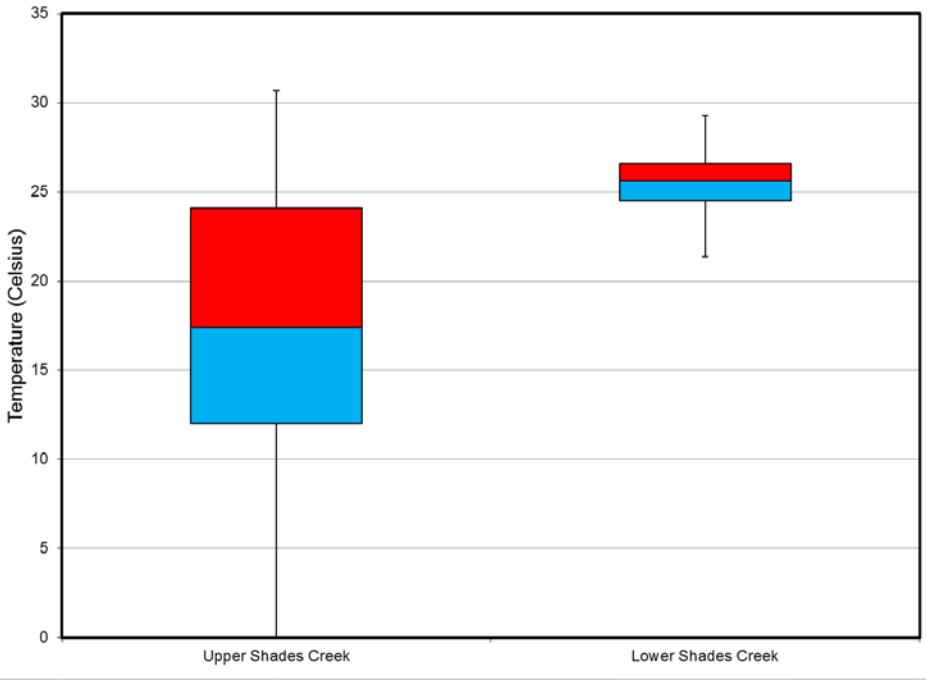
| Parameter Recorded | Upper Shades Creek | Lower Shades Creek | Upper Cahaba River | Lower Cahaba River | Valley Creek |
|---|---|---|---|---|---|
| Dissolved Oxygen | 100% | 100% | 75% | 100% | 100% |
| pH | 100% | 100% | 100% | 100% | 100% |
| Specific Conductance | 100% | 100% | 75% | 100% | 100% |
| Temperature | 69% | 100% | 75% | 100% | 100% |
| Turbidity | 100% | 100% | 100% | 100% | 100% |
| Water Level | 100% | 100% | 5% | 0% | 100% |


TURKEY CREEK
FIVE MILE CREEK
UPPER CAHABA RIVER
CAHABA RIVER
VILLAGE CREEK
UPPER SHADES CREEK
SHADES CREEK
LOWER CAHABA RIVER
VALLEY CREEK
LOWER SHADES CREEK
VALLEY CREEK
SWMA CONTINUOUS MONITORING SITES
WATER MONITORING SONDE
TRIBUTARIES
MAIN CHANNEL
N
0 2 4 8 Miles

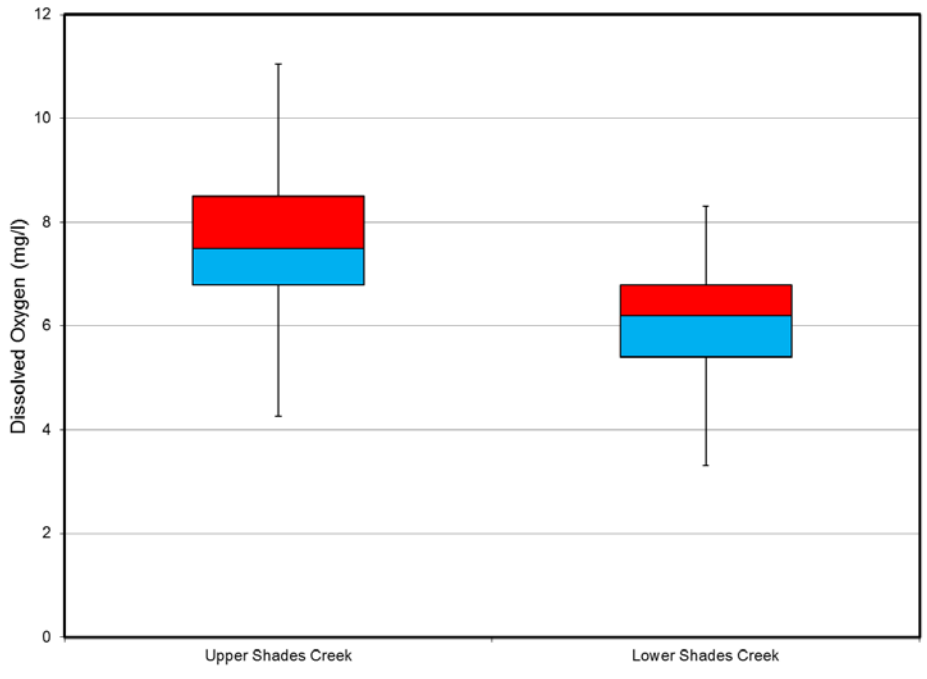
### 4.2.2 Continuous Monitoring Data

#### *4.2.2.1 Shades Creek Data*

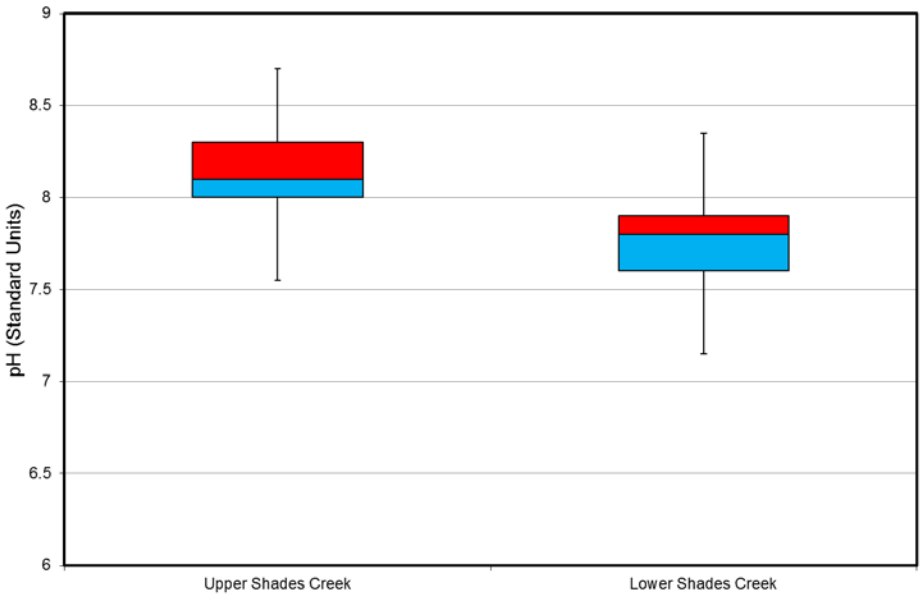
**Temperature**



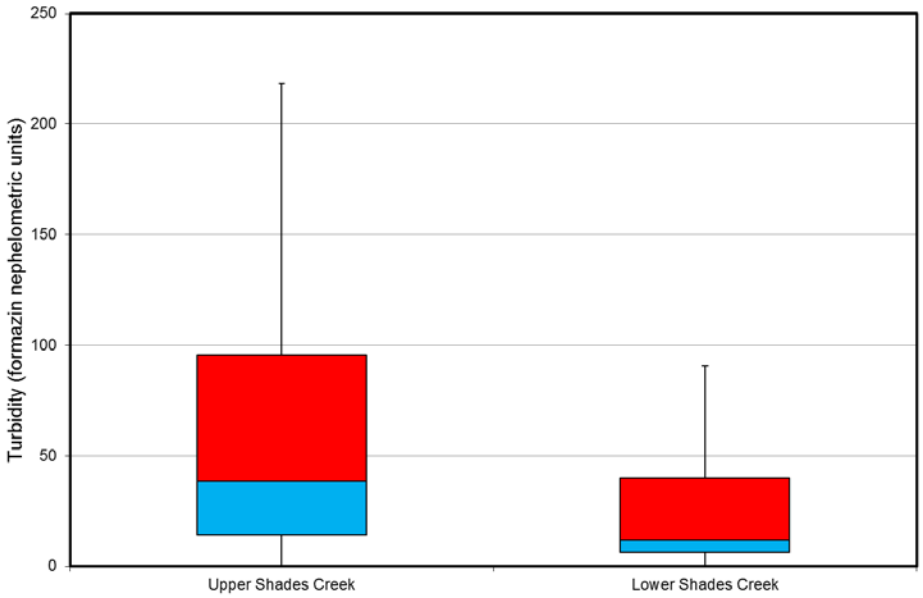

**Dissolved Oxygen**



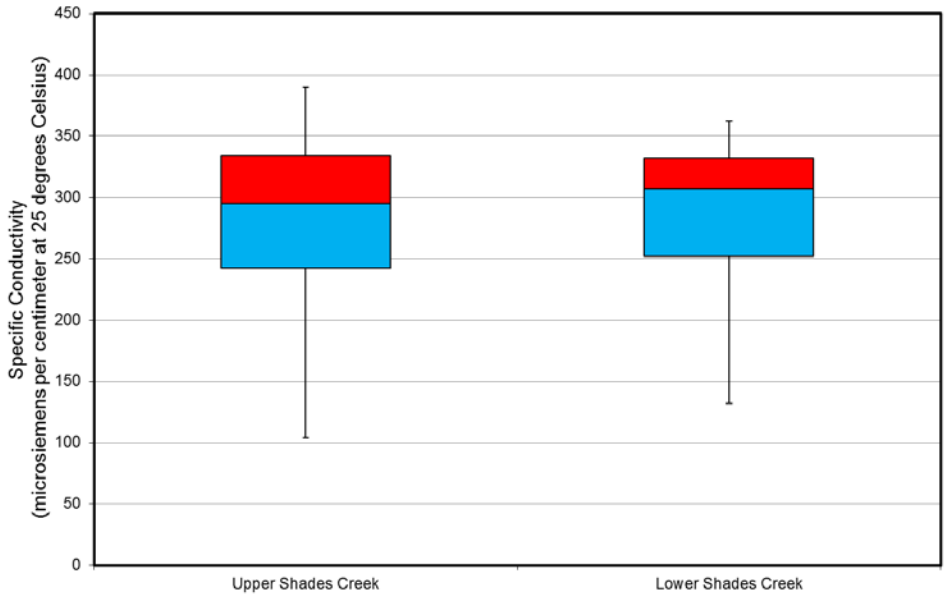
**pH**




**Turbidity**

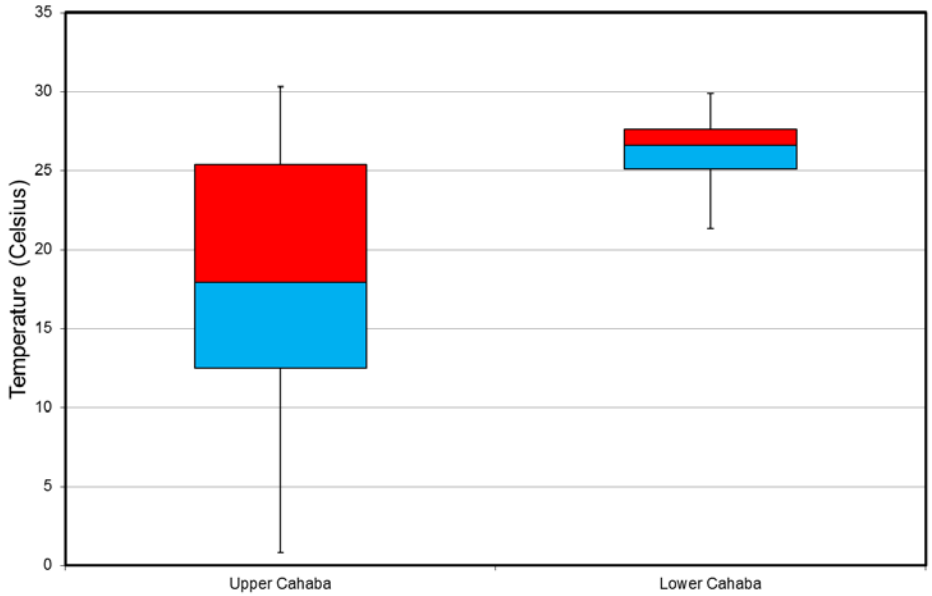


## Specific Conductance

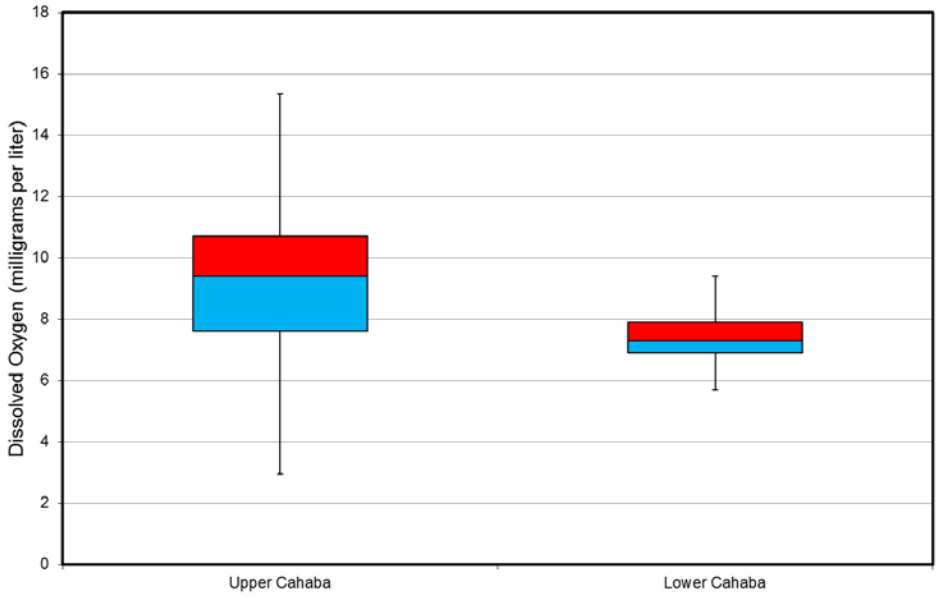


### 4.2.2.2 Cahaba River Data

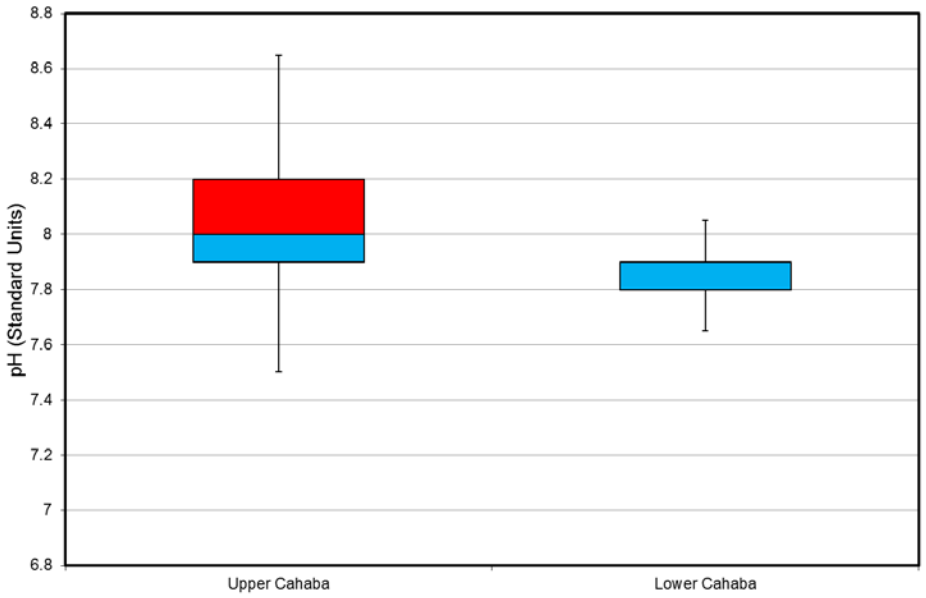
**Temperature**



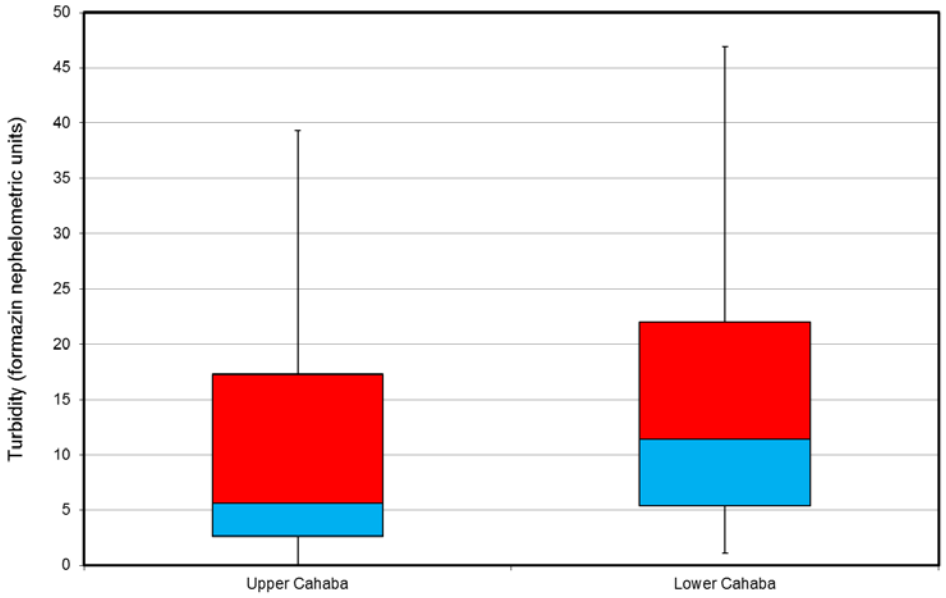

**Dissolved Oxygen**



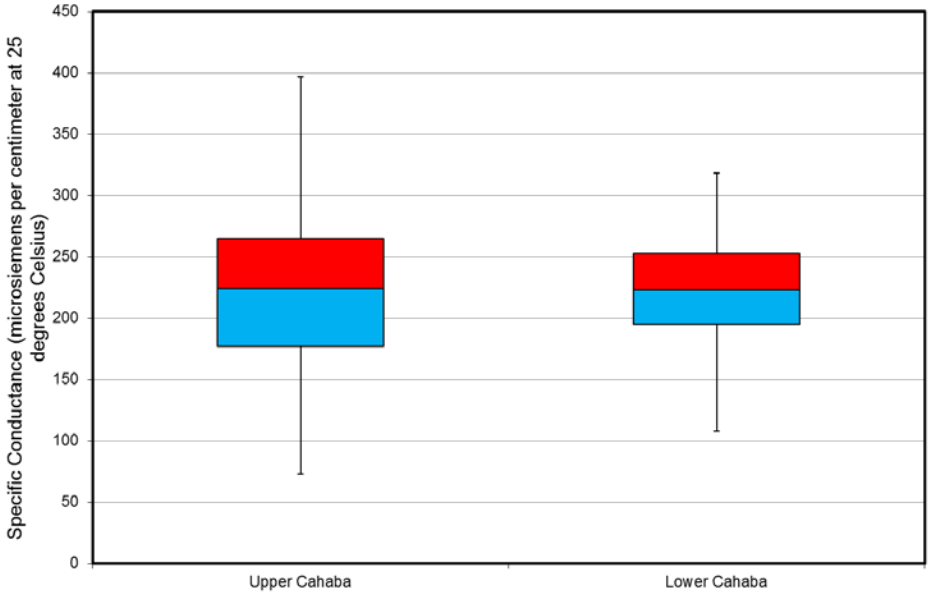
**pH**




**Turbidity**

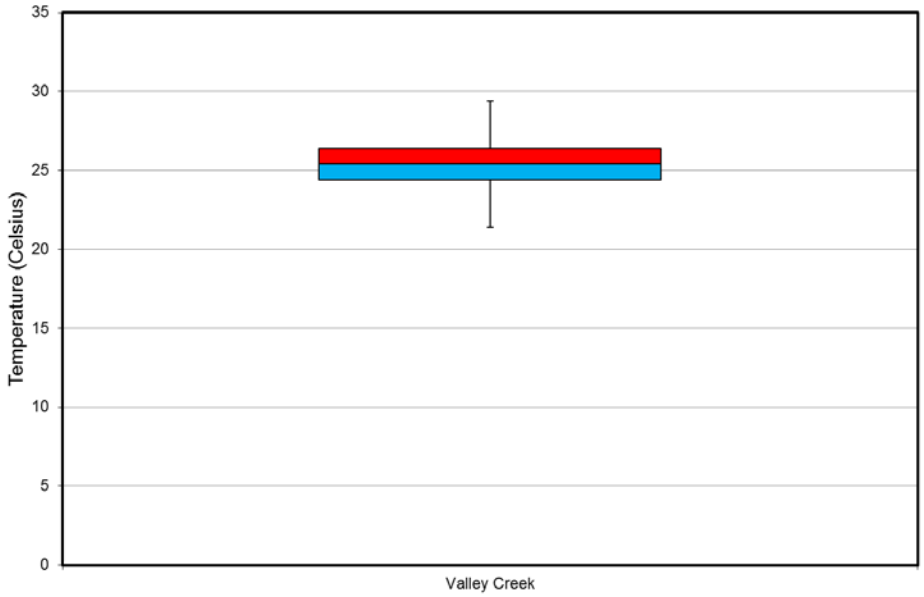


**Specific Conductance**

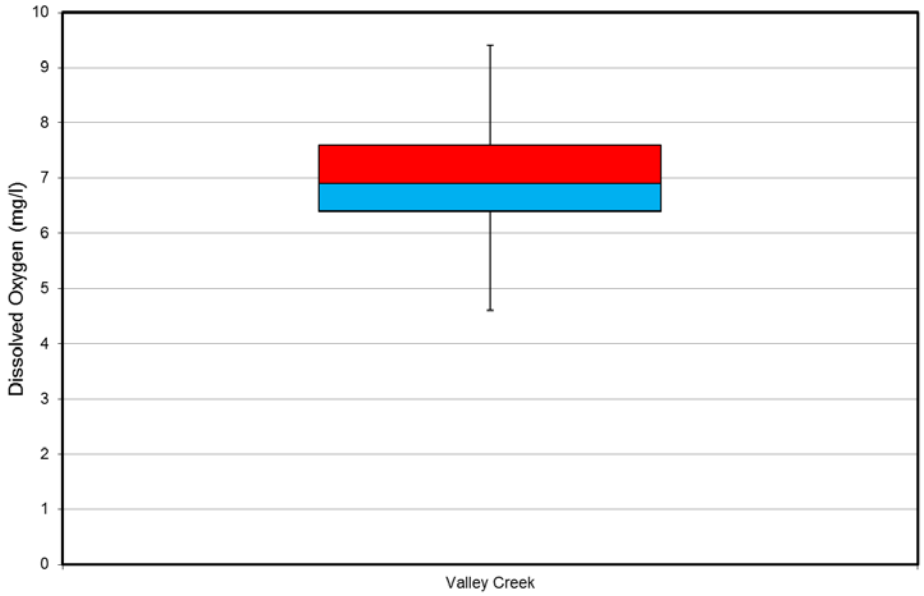


### 4.2.2.3 Valley Creek Data

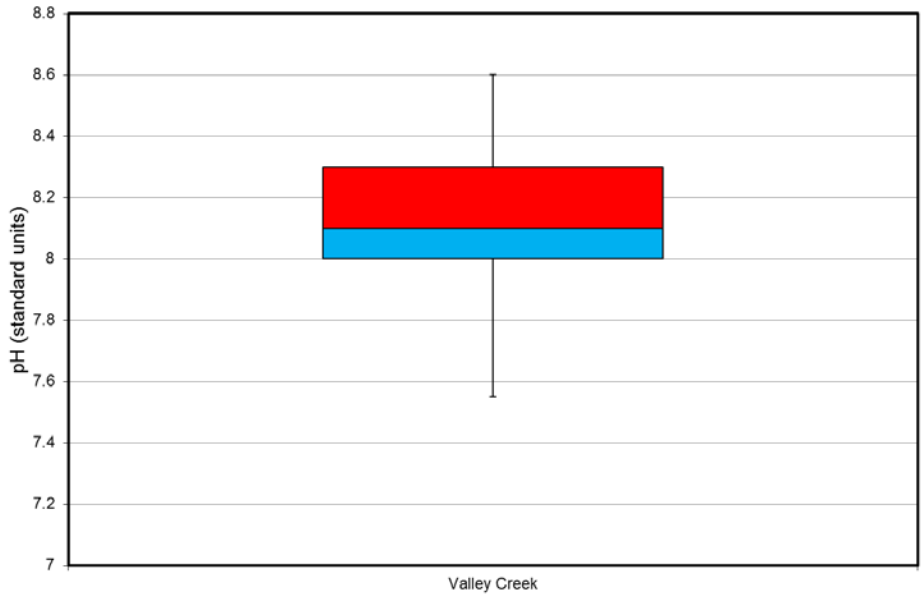
**Temperature**



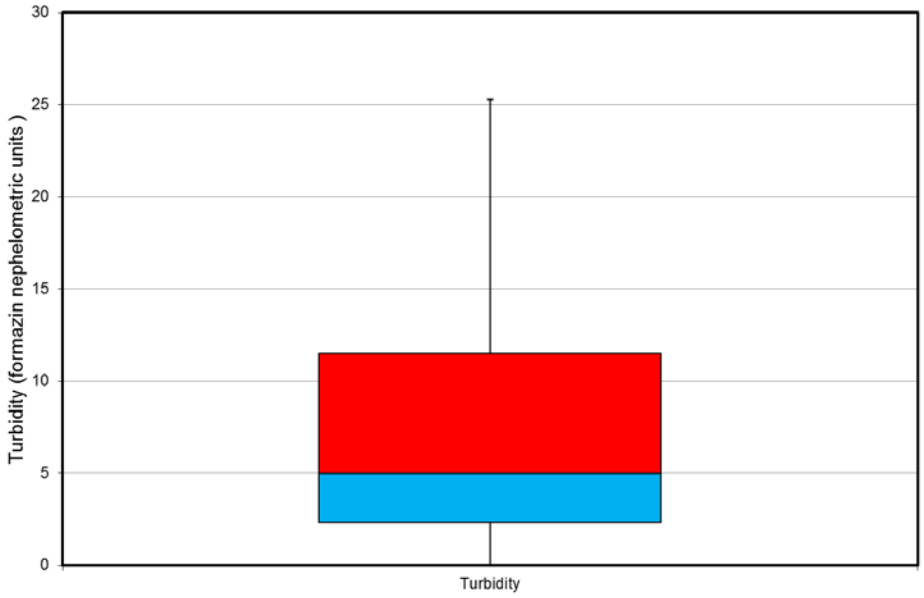

**Dissolved Oxygen**



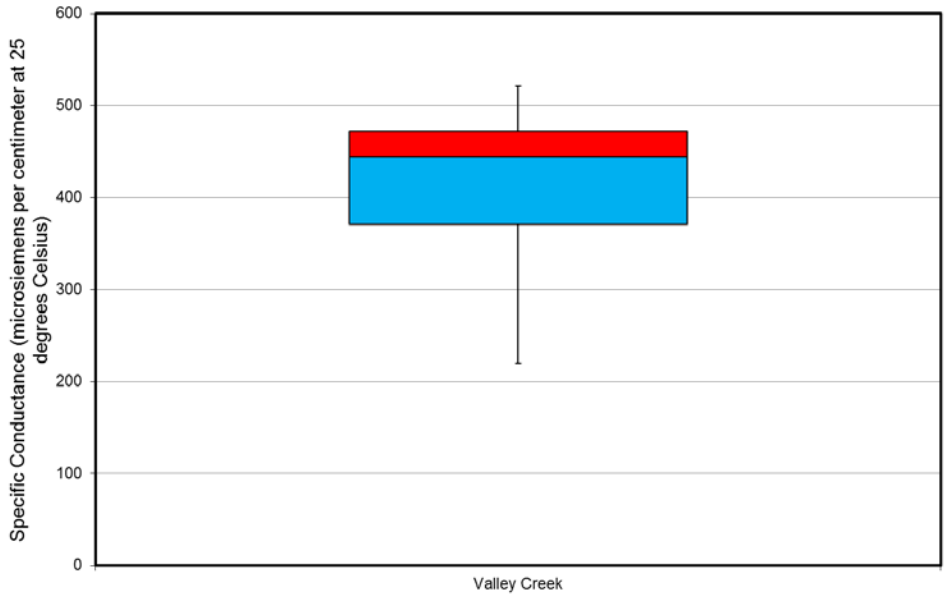
**pH**




**Turbidity**



## Specific Conductance



### 4.2.3 Wet Weather Sampling

The locations of sampling stations are based upon multiple factors that include, past sampling sites for longevity studies of water quality, ease of access, and strategically located sampling sites to reduce duplication of sampling on the same water body.

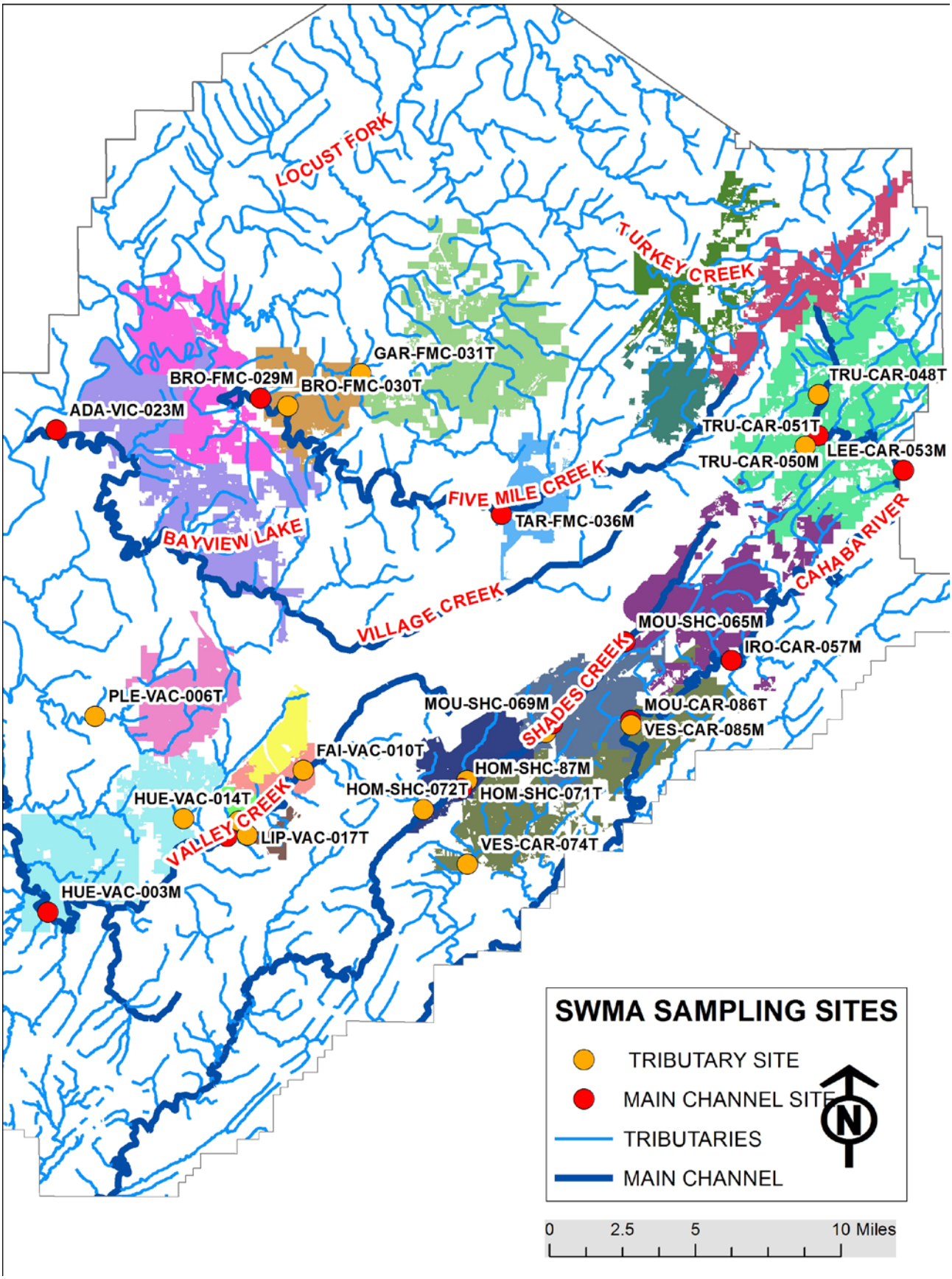
The table below describes the member cities and the sites that receive runoff from them. Note the use of color coding to signify sites that have receive runoff from multiple municipalities.

| CITY | WATERSHED | ADEM PERMIT REQUIREMENTS | SITE NAME | LONGITUDE | LATITUDE | APPROXIMATE WATERSHED SIZE (SQ. MI.)* |
|---|---|---|---|---|---|---|
| ADAMSVILLE | VILLAGE CREEK | VILLAGE CREEK | ADA-VAC-023M | -87.053491 | 33.628143 | 94.4 |
| BRIGHTON | VALLEY CREEK | TRIB TO VALLEY CREEK | BRI-VAC-018T | -86.946071 | 33.43316 | 1.4 |
| BRIGHTON | VALLEY CREEK | | BRI-VAC-015M | -86.95317 | 33.425456 | 35.0 |
| BROOKSIDE | FIVE MILE CREEK | NEWFOUND CREEK | BRO-FMC-030T | -86.915614 | 33.63953 | 15.7 |
| BROOKSIDE | FIVE MILE CREEK | FIVE MILE CREEK | BRO-FMC-029M | -86.932013 | 33.643603 | 81.6 |
| FAIRFIELD | VALLEY CREEK | TRIB TO VALLEY CREEK | FAI-VAC-010T | -86.907794 | 33.45815 | 0.7 |
| FAIRFIELD | VALLEY CREEK | | BRI-VAC-018T | -86.946071 | 33.43316 | 1.4 |
| FAIRFIELD | VALLEY CREEK | | BRI-VAC-015M | -86.95317 | 33.425456 | 35.0 |
| GARDENDALE | FIVE MILE CREEK | TRIB TO FIVE MILE CREEK | GAR-FMC-031T | -86.872087 | 33.655549 | 7.7 |
| HOMEWOOD | SHADES CREEK | SHADES CREEK | HOM-SHC-087M | -86.813676 | 33.448607 | 26.9 |
| HOMEWOOD | SHADES CREEK | TRIBUTARIES TO SHADES CREEK | HOM-SHC-072T | -86.83654 | 33.438338 | 3.7 |
| HOMEWOOD | SHADES CREEK | TRIBUTARIES TO SHADES CREEK | HOM-SHC-071T | -86.810539 | 33.452564 | 4.0 |
| HUEYTOWN | VALLEY CREEK | VALLEY CREEK | HUE-VAC-003M | -87.059665 | 33.388139 | 93.2 |
| HUEYTOWN | VALLEY CREEK | TRIB TO VALLEY CREEK | HUE-VAC-014T | -86.978983 | 33.434358 | 2.4 |
| IRONDALE | SHADES CREEK | SHADES CREEK | MOU-SHC-065M | -86.716126 | 33.521084 | 9.1 |
| IRONDALE | CAHABA RIVER | CAHABA RIVER | IRO-CAR-057M | -86.652636 | 33.511484 | 128.6 |
| LIPSCOMB | VALLEY CREEK | TRIB TO VALLEY CREEK | LIP-VAC-017T | -86.941052 | 33.425927 | 0.7 |
| LIPSCOMB | VALLEY CREEK | | BRI-VAC-015M | -86.95317 | 33.425456 | 35.0 |

| CITY | WATERSHED | ADEM PERMIT REQUIREMENTS | SITE NAME | LONGITUDE | LATITUDE | APPROXIMATE WATERSHED SIZE (SQ. MI.)* |
|---|---|---|---|---|---|---|
| MIDFIELD | VALLEY CREEK | VALLEY CREEK | BRI-VAC-015M | -86.95317 | 33.425456 | 35.0 |
| MIDFIELD | VALLEY CREEK | | FAI-VAC-010T | -86.907794 | 33.45815 | 0.7 |
| MIDFIELD | VALLEY CREEK | | BRI-VAC-018T | -86.946071 | 33.43316 | 1.4 |
| MOUNTAIN BROOK | SHADES CREEK | SHADES CREEK | MOU-SHC-069M | -86.759513 | 33.48057 | 16.5 |
| MOUNTAIN BROOK | SHADES CREEK | TRIBUTARIES TO SHADES CREEK | MOU-SHC-068T | -86.763681 | 33.476147 | 3.0 |
| MOUNTAIN BROOK | CAHABA RIVER | TRIBUTARIES TO SHADES CREEK** | MOU-CAR-086T | -86.712698 | 33.479676 | 2.4 |
| PLEASANT GROVE | VALLEY CREEK | ROCK CREEK | PLE-VAC-006T | -87.03124 | 33.485591 | 16.2 |
| TARRANT | FIVE MILE CREEK | FIVE MILE CREEK | TAR-FMC-036M | -86.788948 | 33.584886 | 28.8 |
| TRUSSVILLE | CAHABA RIVER | CABABA RIVER | TRU-CAR-050M | -86.599899 | 33.622915 | 21.1 |
| TRUSSVILLE | CAHABA RIVER | CABABA RIVER | LEE-CAR-053M | -86.549324 | 33.605167 | 50.8 |
| TRUSSVILLE | CAHABA RIVER | PINCHGUT CREEK | TRU-CAR-051T | -86.607729 | 33.617775 | 6.8 |
| TRUSSVILLE | CAHABA RIVER | DRY CREEK | TRU-CAR-048T | -86.599393 | 33.643242 | 3.1 |
| VESTAVIA HILLS | CAHABA RIVER | CAHABA RIVER | VES-CAR-085M | -86.712765 | 33.481772 | 140.3 |
| VESTAVIA HILLS | PATTON CREEK | PATTON CREEK | VES-CAR-074T | -86.810525 | 33.410772 | 6.7 |

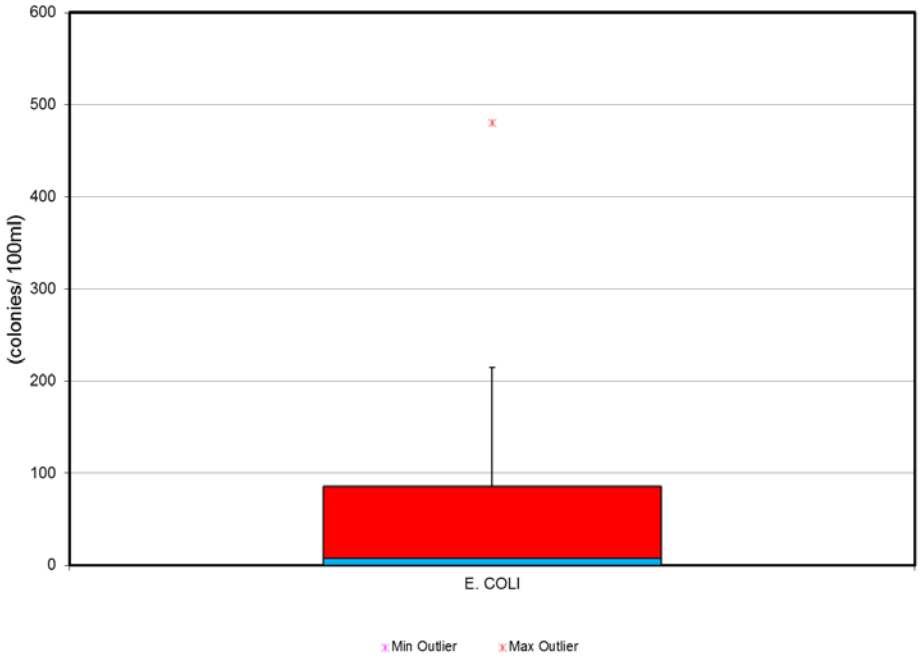
*The watershed size was derived from the United State Geological Survey's (USGS) Watershed Boundary Dataset in conjunction with USGS topographical maps. This information shown is an approximation of watershed size.

**Needs to be modified to be a part of Cahaba River.

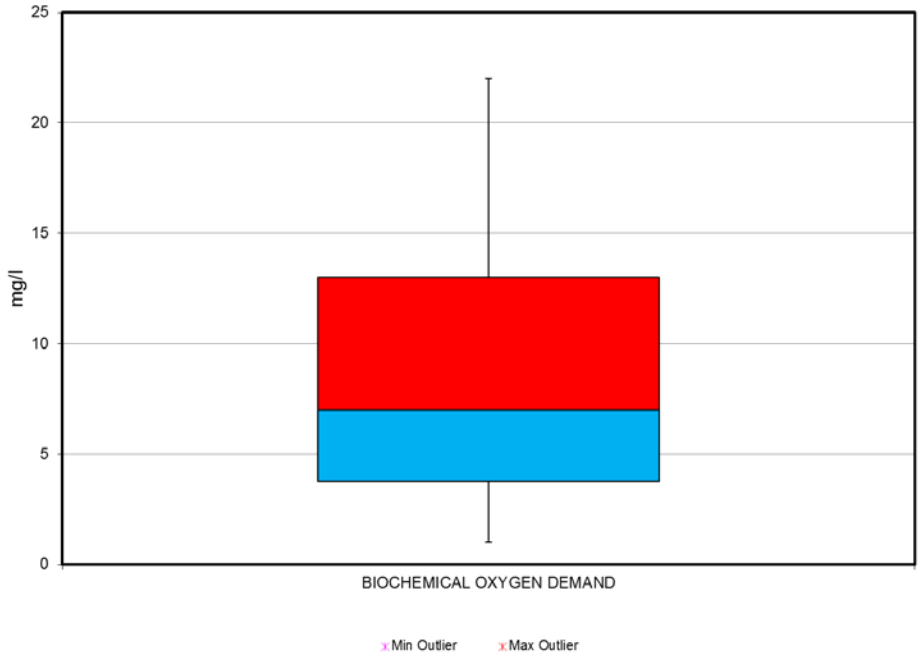

LOCUST FORK
TURKEY CREEK
GAR-FMC-031T
BRO-FMC-029M
BRO-FMC-030T
ADA-VIC-023M
TRU-CAR-048T
TRU-CAR-051T
LEE-CAR-053M
TRU-CAR-050M
FIVE MILE CREEK
TAR-FMC-036M
BAYVIEW LAKE
CAHABA RIVER
VILLAGE CREEK
MOU-SHC-065M
IRO-CAR-057M
SHADES CREEK
PLE-VAC-006T
MOU-SHC-069M
MOU-CAR-086T
VES-CAR-085M
FAI-VAC-010T
HOM-SHC-87M
HOM-SHC-072T
HOM-SHC-071T
HUE-VAC-014T
VALLEY CREEK
LIP-VAC-017T
VES-CAR-074T
HUE-VAC-003M
SWMA SAMPLING SITES
TRIBUTARY SITE
MAIN CHANNEL SITE
TRIBUTARIES
MAIN CHANNEL
N
0
2.5
5
10 Miles

### 4.2.4 Wet Sampling Data

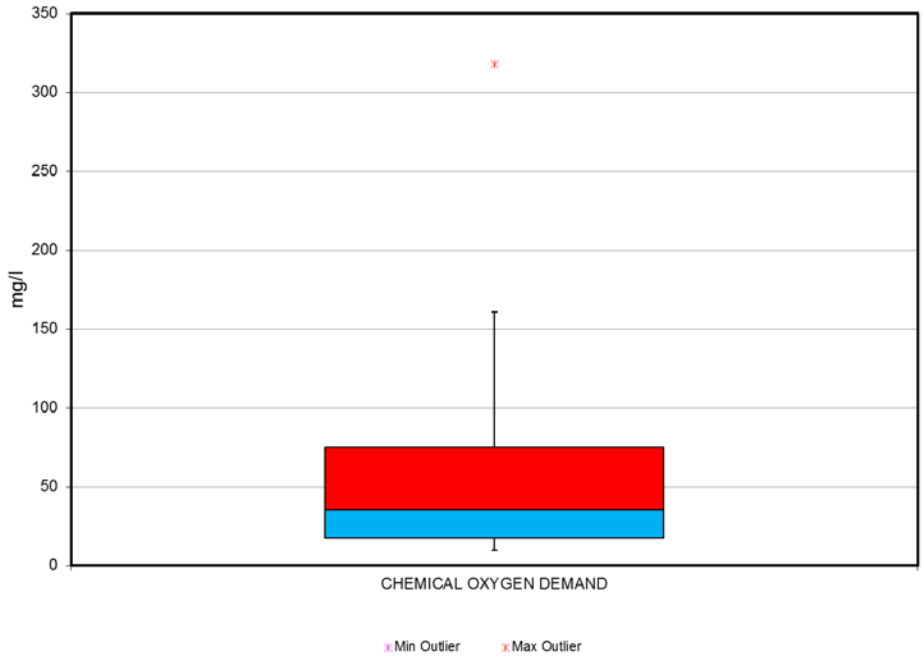
**E. Coli**



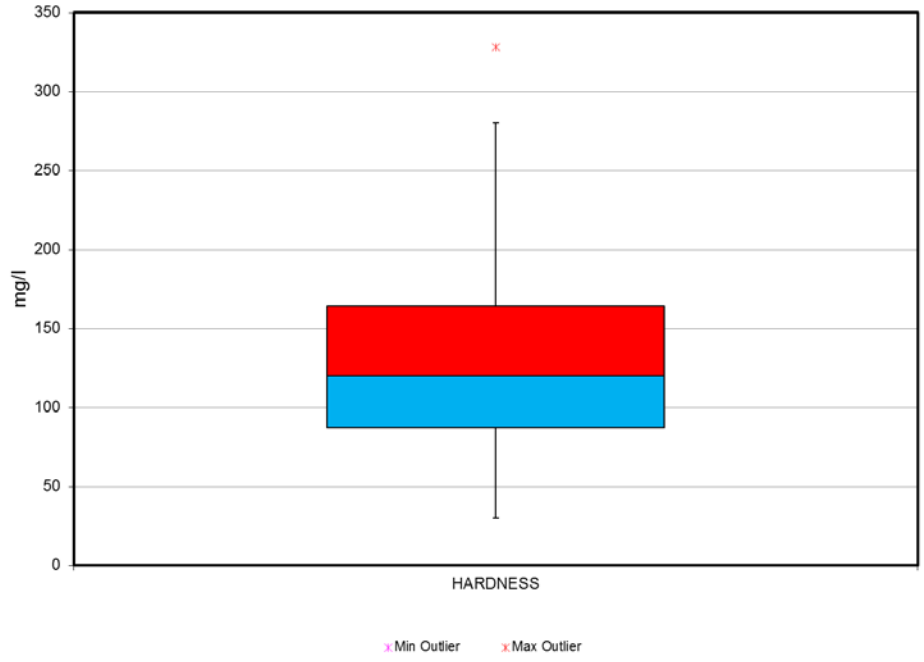

**Biological Oxygen Demand**



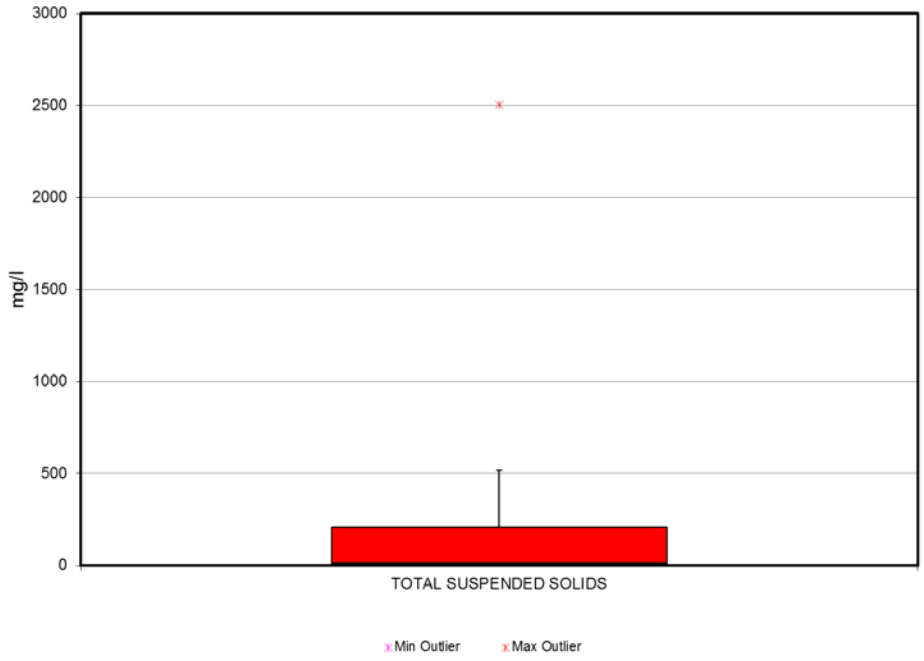
## Chemical Oxygen Demand (COD)



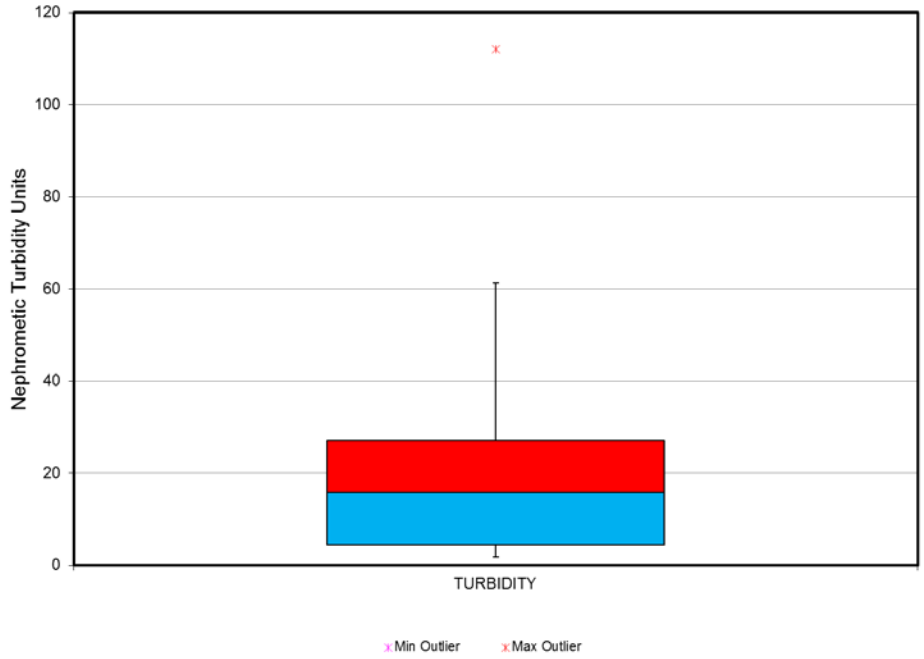

## Hardness



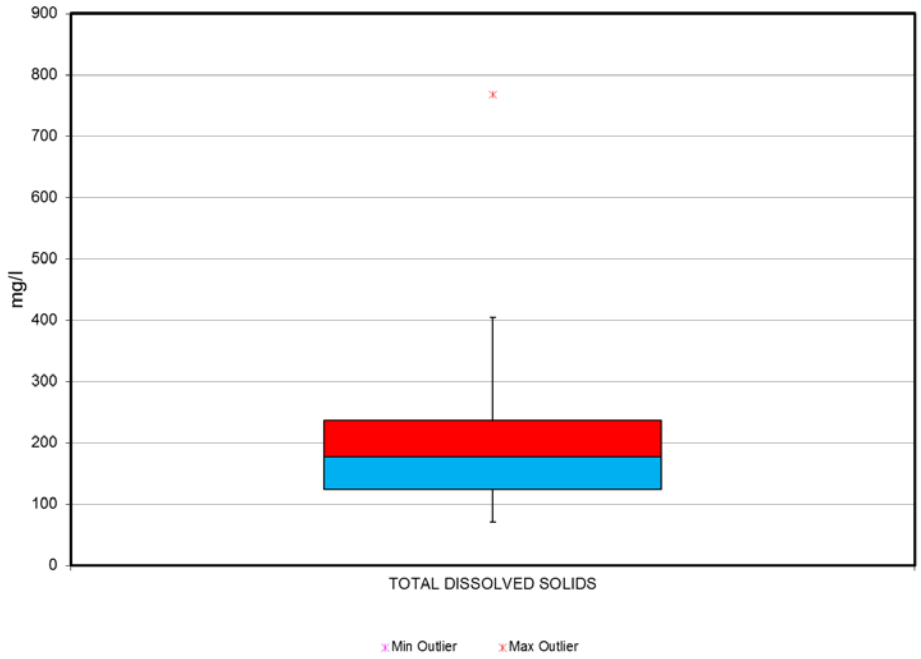
## Total Suspended Solids (TSS)




## Turbidity

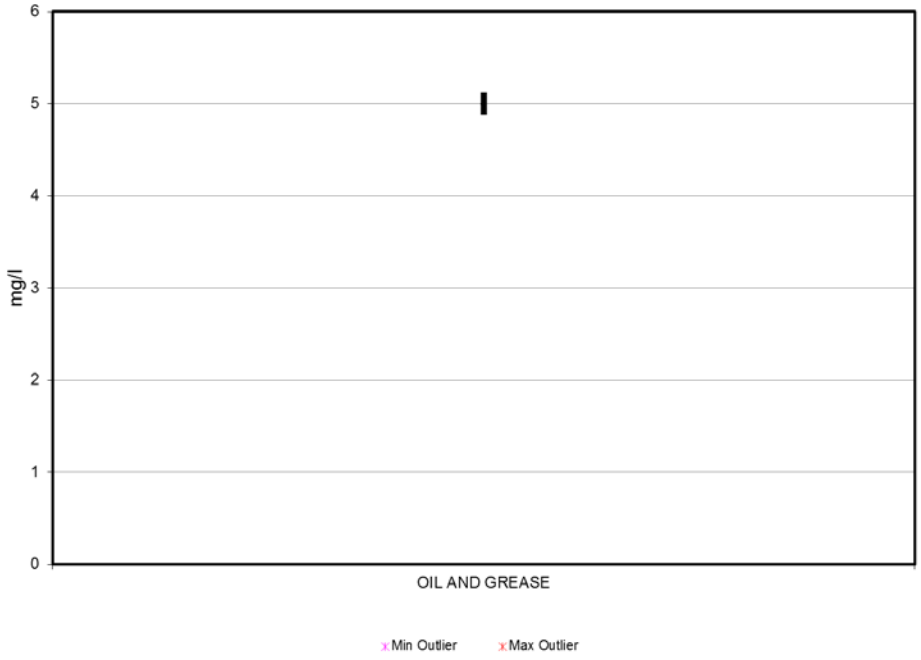


## Total Dissolved Solids (TDS)

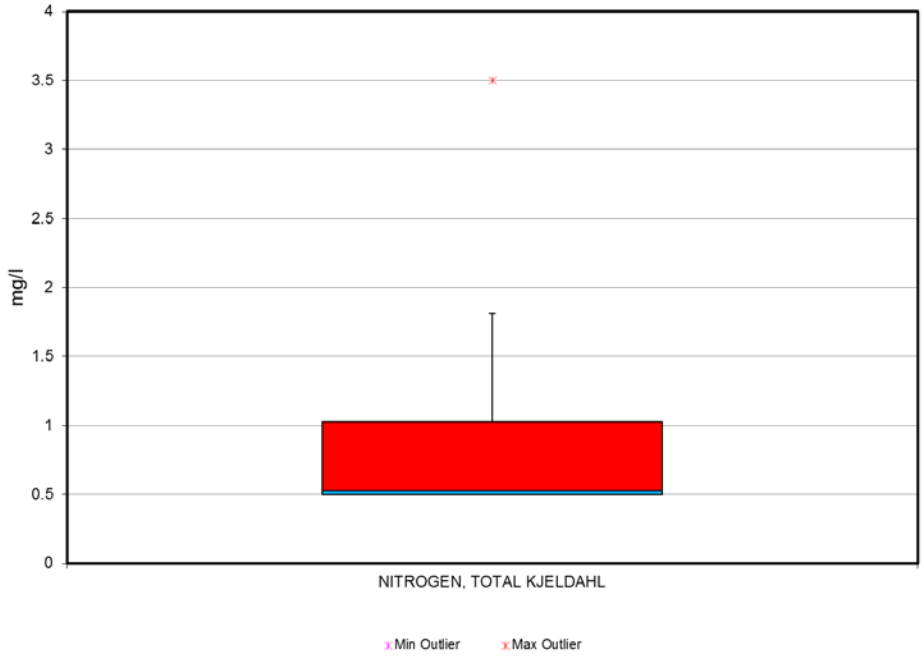



## Oil and Grease

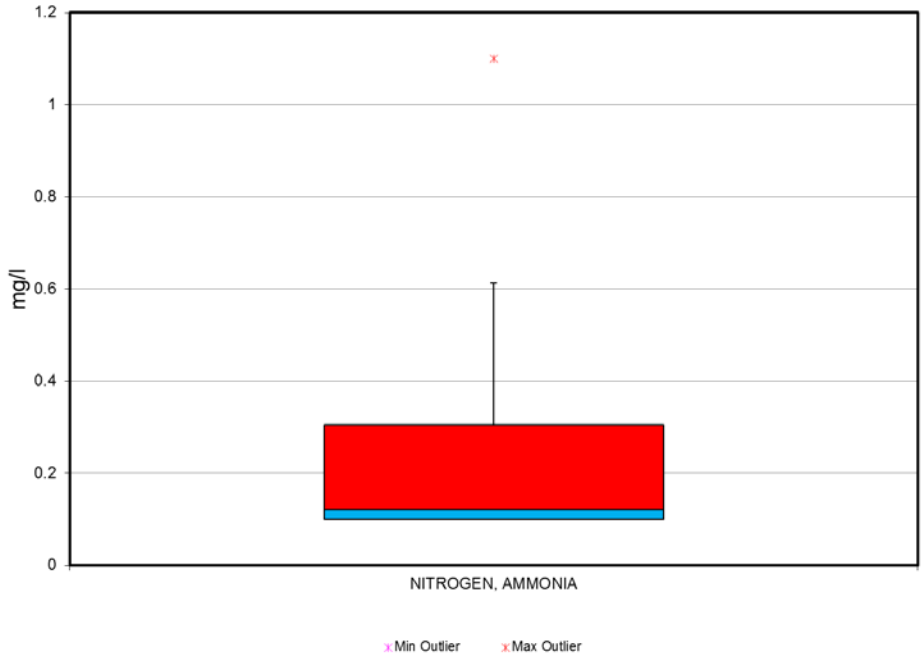
The oil and grease values for dry weather sampling were all less than 5mg/l.



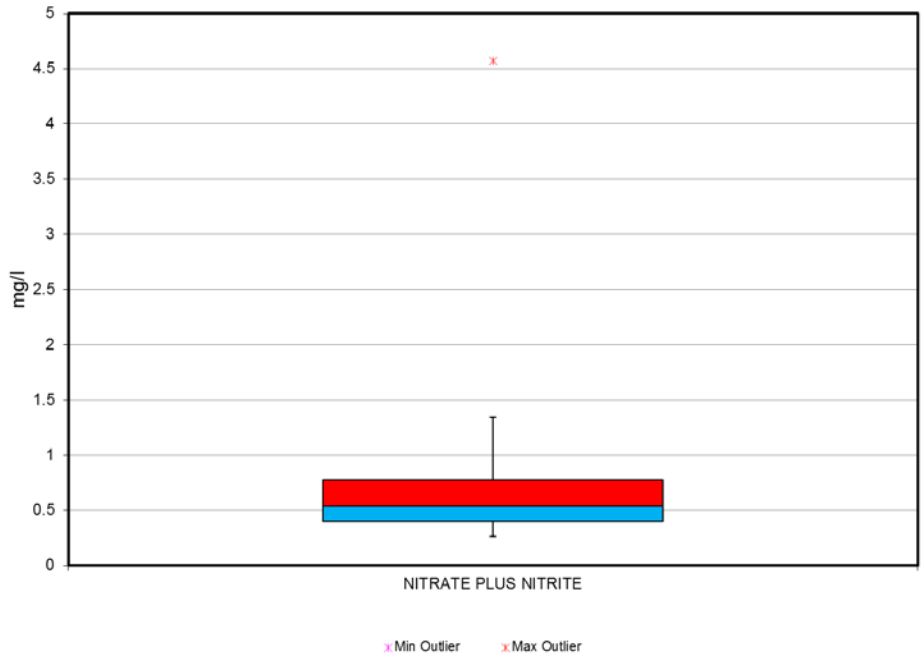
## Total Kjeldahl Nitrogen (TKN)



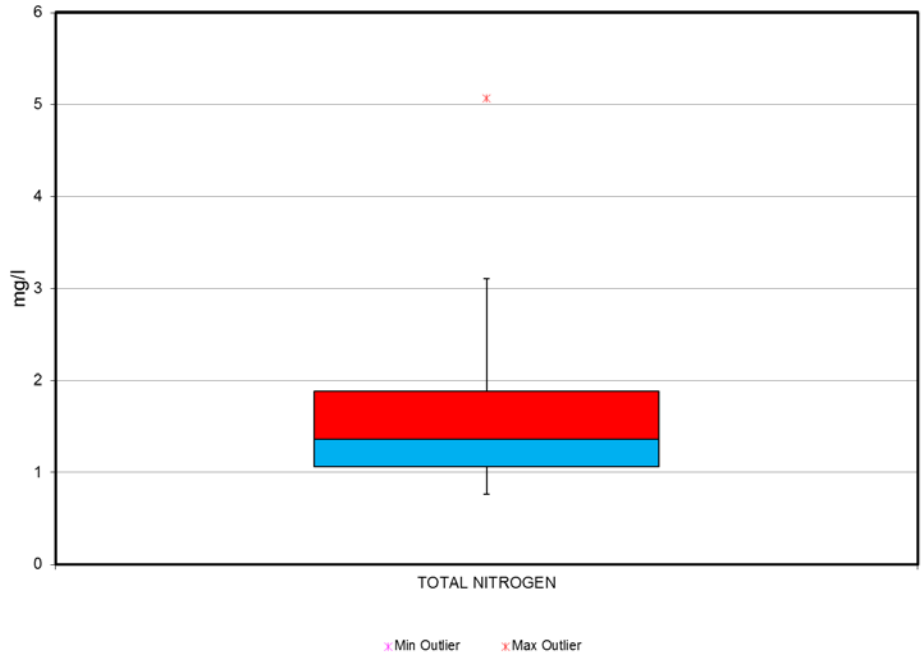

## Ammonia



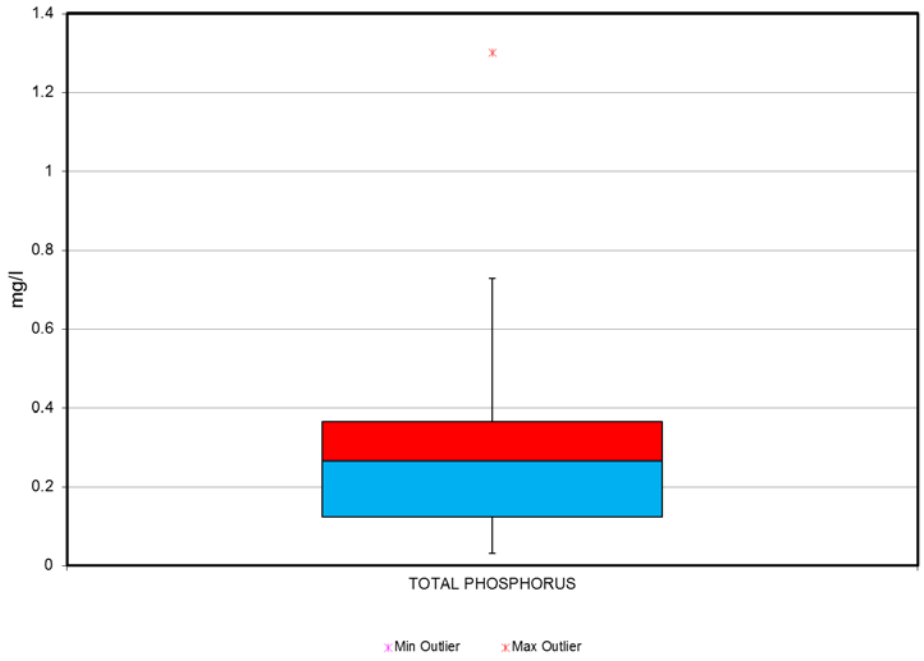
## Nitrate Plus Nitrite



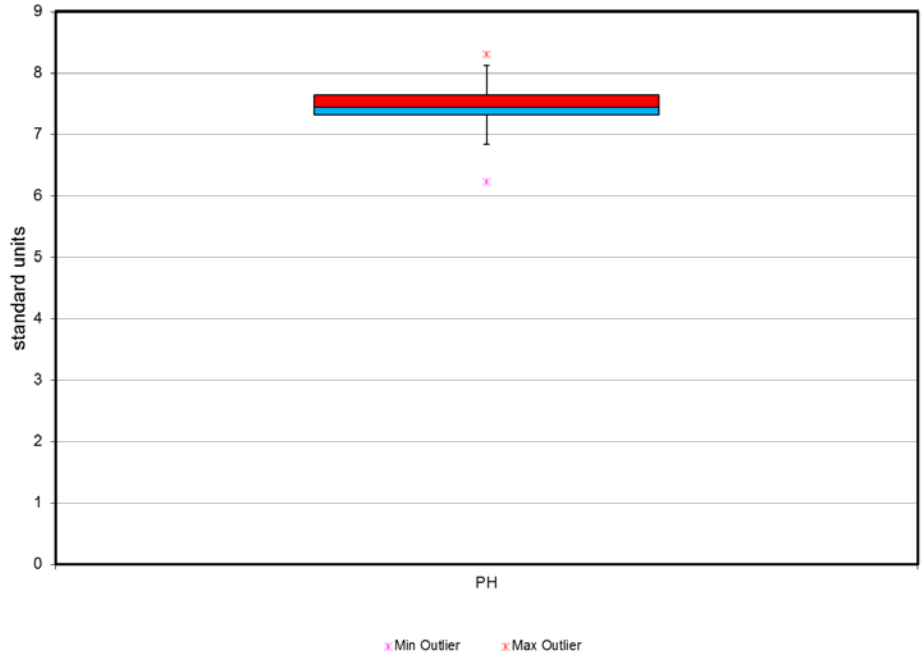

## Total Nitrogen



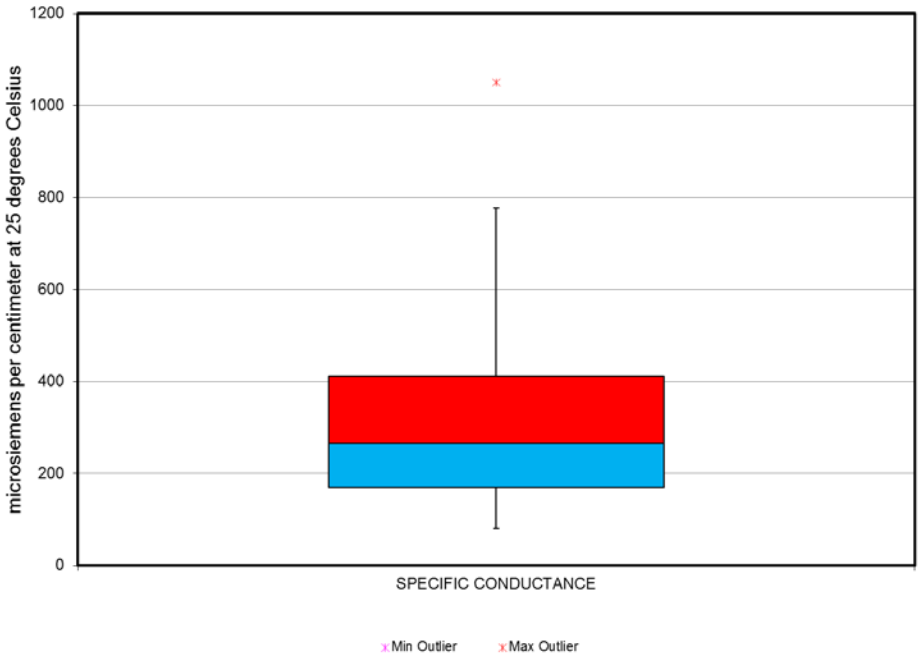
## Total Phosphorus



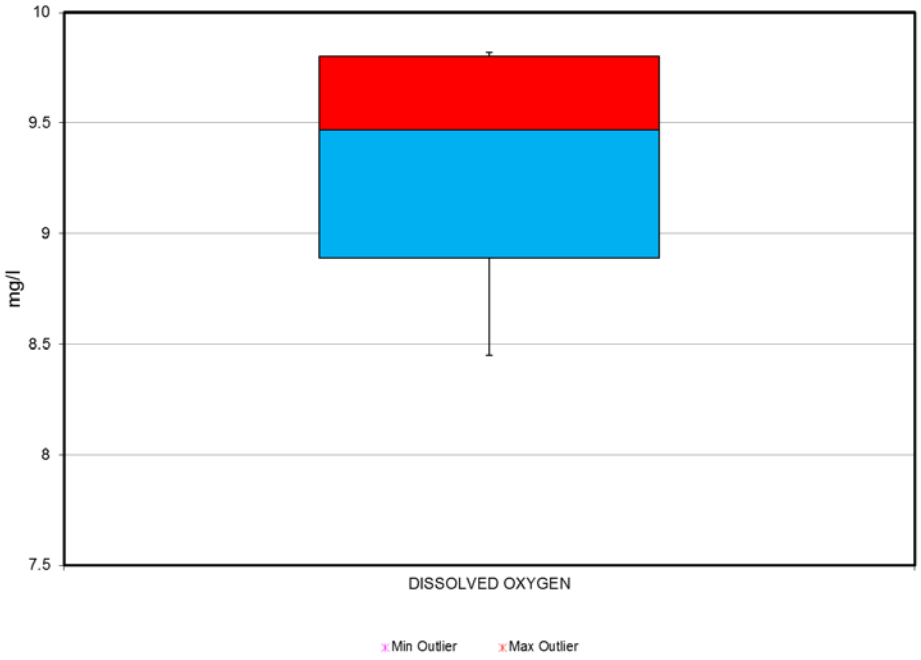

## pH



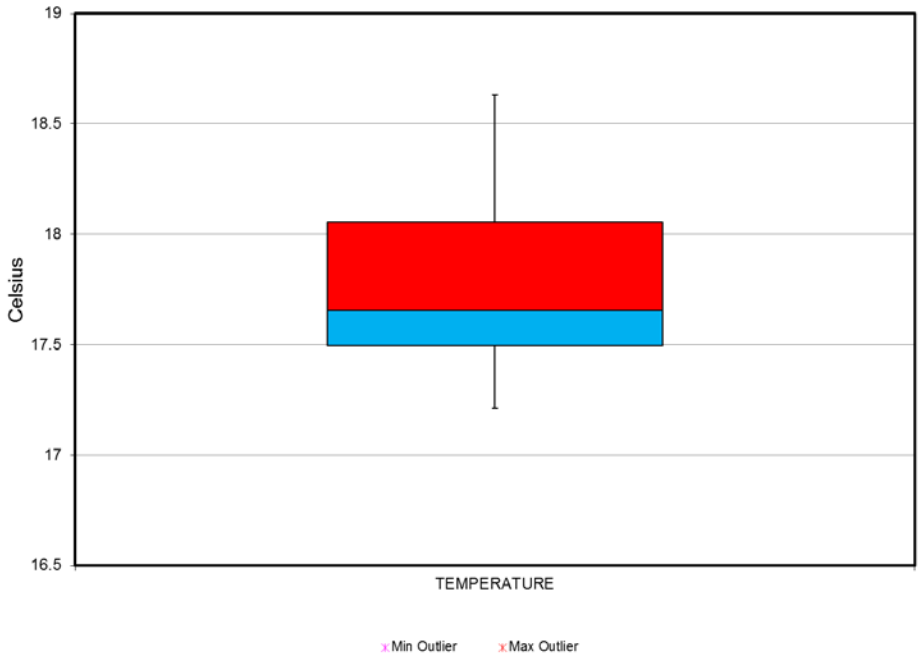
## Specific Conductance




## Dissolved Oxygen



**Temperature**



## 4.3 *General Discussion*

A comparison of the data from the monitoring sites was difficult for various reasons. For example, monitoring sites on the Upper and Lower Shades Creek and the Upper and Lower Cahaba River had different activation dates. Also, the site on Valley Creek was only active for five months during this reporting period. Additionally, the provisional status of much the data created difficulty in completing an analysis. Given more time to collect additional data, USGS will be better able to promptly review and approve the information and allow better analysis of the data for the 2018 -2019 reporting period. Totaled

Review of the wet sample data shows several sites consistently have elevated readings in multiple parameters. In order to identify the sites with multiple elevated parameters, the top three data points of each parameter were weighted with the highest given three points, the second highest given two points and the third highest given one point. The total points for each site were calculated for a score. The sites with the highest score had the most elevated parameters with the highest levels. See **Appendix I** for raw data and the score results.

The top five sites with multiple elevated parameters in order from highest are HOM-SHC-071T, HOM-SHC-087M, BRO-FMC-029M, ADA-VIC-023M, and PLE-VAC-006T.

HOM-SHC-071T showed elevated parameters for Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Ammonia Nitrogen, Total Kjeldahl Nitrogen, Total Phosphorus, Total Nitrogen, and Total Suspended Solids (TSS). This site is located on Griffin Creek in Homewood within a heavily urbanized watershed with commercial and high density residential zones. HOM-SHC-087M showed elevated parameters for BOD, COD, Total Kjeldahl Nitrogen, Total Phosphorus, and TSS. This site is located on Shades Creek in Homewood downstream of the convergence of Griffin Creek with Shades Creek. This area of Shades Creek Watershed will need further investigation during the upcoming reporting period for potential runoff sources.

BRO-FMC-029 had high results for Ammonia Nitrogen, Nitrate plus Nitrite, Specific Conductance, Total Dissolved Solids (TDS), and Total Nitrogen. It is located in a rural area of Brookside on Five Mile Creek with limited MS4 infrastructure. ADA-VIC-023M showed elevated results for Nitrate plus Nitrite, Specific Conductance, TDS, and Total Nitrogen. The sampling site is located on Village Creek in Unincorporated Jefferson County downstream of Adamsville. This sampling site is also in a rural area with limited MS4 infrastructure. The MS4s for Brookside and Adamsville will need further investigation during the upcoming reporting period to see if they are the source of the elevated parameters.

PLE-VAC-006T showed elevated results for Specific Conductance and TDS. This site is located in a rural area of Unincorporated Jefferson County on Rock Creek and has limited MS4 infrastructure. One unnamed tributary upstream of this sampling site is located in Pleasant Grove was investigated for elevated parameters during dry weather screening for reporting

period 2017-2018. The water quality was concluded to be the result of drainage from an abandoned mining site.

Attempts were made to fulfill the grab sample requirement for each site but runoff was not always present during minimum qualifying rain events. This issue was further impacted by the small size of some of the watersheds. Temperature and Dissolved Oxygen were not taken on some sites due to equipment malfunction.

## 4.4 *Status*

Wet samples were completed on all sites except LIP-VAC_017T. The installation of the continuous monitors was completed during the reporting period.

## 4.5 *Assessment*

Comparison of the continuous monitoring sites was not achieved during this reporting period. Analysis of the wet sample data indicates several sites need further investigation to determine causes of elevated parameters. Additional testing will be performed on these sites during the upcoming reporting period.

## 4.6 *Proposed Revisions*

There are no proposed revisions at this time.

## 4.7 *Annual Reporting*

The following information is a graphical summary of the data with an explanation of the data for each component of the monitoring program. Raw sampling data is found in **Appendix I**.

# 5 Fiscal Analysis

For the Permit year 2017-2018, SWMA was paid based on a $5.00 per residence and $15.00 per commercial rate by each member according to land usage. In accordance with Act 2014-439, Alabama Department of Revenue received 5% of the storm water fee collected.

The money collected by SWMA was used to help members meet ADEM permit requirements. The most recent fiscal information available is included in **Appendix J**.

SWMA has been designated to be the authorized agent to prepare the 2017-2018 Annual Report on NPDES Permits for the municipalities listed below. Furthermore, the staff of SWMA, at the direction of the Board of Directors, has prepared and reviewed the content of such report on behalf of the Permittees.

"I certify under the penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

City of Adamsville
Mayor Pam Palmer

City of Brighton
Mayor Eddie Cooper

City of Brookside
Mayor Roger McCondichie

City of Fairfield City Manager
~~Mayor Edward May Jr~~
MARY Roberson

City of Gardendale
Mayor Stan Hogeland

City of Homewood
Mayor Scott McBrayer

City of Hueytown
Mayor Steve Ware

City of Irondale
Mayor Charles Moore

City of Lipscomb
Mayor Brenda Renz

City of Midfield
Mayor Gary Richardson

City of Mountain Brook
Mayor Stewart Welch III

City of Pleasant Grove
Mayor Jerry Brasseale

City of Tarrant
Mayor Loxcil Tuck

City of Trussville
Mayor Buddy Choat

City of Vestavia Hills
Mayor Ashley Curry