

# Citizen Water Quality Reporting

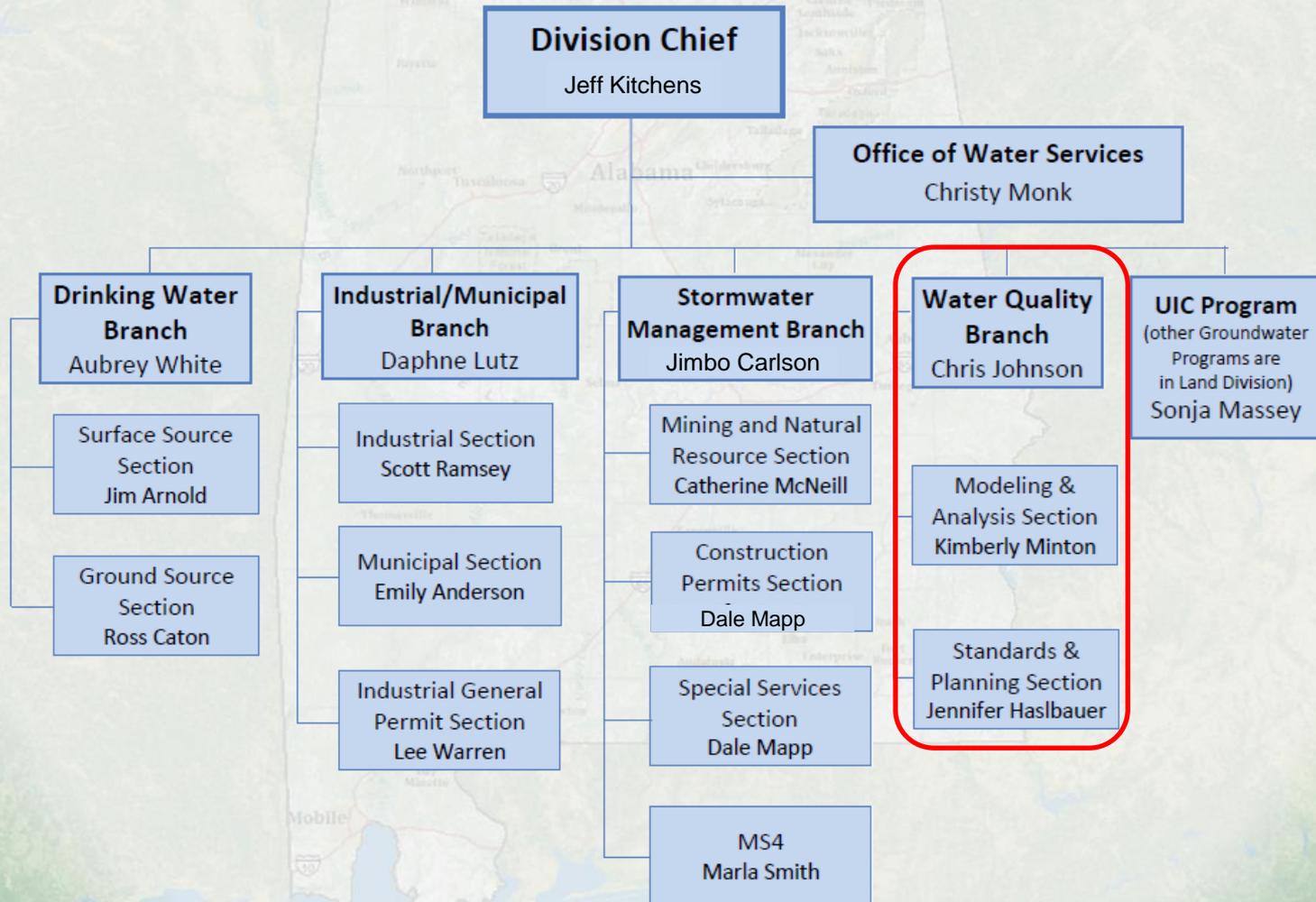
Community Action Committee  
Meeting

April 13, 2021

# Overview

- Water Quality overview
- Potential WQ issues
- Success stories
- Who to report to
- Where to report
- How to report
- When to report
- What to report
- Why report issues?
- Helpful suggestions

# Water Division Org Chart



# WQ Branch

- WQ Standards
  - Designated Uses
  - Narrative and Numeric Criteria
  - Antidegradation
- Listing and Assessment
  - 303(d) List
  - Integrated Report
- TMDLs



# Designated Use Classifications

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

# The Categories Are...

- Category 1 – WQ standards attained
- Category 2
  - Cat 2a – high impairment potential; more data needed
  - Cat 2b – low impairment potential; more data needed
- Category 3 – No data available; unassessed
- Category 4
  - Cat 4a – TMDLs completed & approved
  - Cat 4b – TMDLs not needed; other measures in place
  - Cat 4c – impairment not caused by a pollutant
- Category 5 – Impaired; 303(d) listed waters

# Clean Water Act (CWA) Requirements



CWA Section 303(d); 40 CFR Part 130.7 requires the following by April 1 of every even numbered year:

- List of impaired waters still requiring a TMDL
- TMDL development schedule (next 2 years)
- Methodology used to develop list
- Description of data and info used
- Rationale for not using certain data and info
- Any other reasonable request by EPA

# WQ Monitoring

- Field parameters (pH, Temperature, etc.)
- Conventional parameters (Nutrients, CBOD<sub>5</sub>, etc.)
- Bacteriological parameters (E. coli, Enterococci)
- Toxics (Metals, etc.)
- Habitat assessments
- Fish Tissue
- Fish IBI
- Macroinvertebrates
- Periphyton
- Diurnal studies
- Flows



# ADEM's Water Quality Assessment Methodology

- A detailed description of how the status of surface water quality is determined
  - Types and sources of data
  - Minimum data requirements
  - Temporal and spatial considerations
  - QA / QC considerations
- Categorization of surface waters based on assessment results

# Data and information

- USGS
- USEPA
- TVA
- NOAA
- USFWS
- Mobile Bay NEP
- Dauphin Island Sea Lab
- GSA
- NRCS
- Soil and Water Cons.
- ADCNR
- ACWP
- ADPH
- Citizen/watershed groups

# Data and information

- Data and information from other agencies, industry or industry groups, neighboring states, and watershed groups will be considered and evaluated
  - Must meet min. data requirements and comply with QA/QC requirements
  - Assists the Dept. in making use support determinations and focus WQ monitoring priorities from year to year.

# Data and information

- Section 4.9 of methodology details QA/QC
- Data submitted should include methods used to collect data
  - Study plans
  - SOPs
  - Documentation data was or was not collected consistent with requirements in methodology

# Data and information

## – How to access ADEM [methodology](#)

**Traducciones**



**Disability Assistance**

[Final 2002 303\(d\) Fact Sheet](#)

[Final 2000 303\(d\) List](#)  
[Final 2000 Fact Sheet](#)

[Final 1998 303\(d\) List](#)  
[Final 1996 303\(d\) list](#)

Once the impaired waters are identified, Section 303(d) requires that the states establish total daily maximum loads (TMDLs) that will meet water quality standards for each listed water, considering seasonal variations and a margin of safety (MOS) that accounts for uncertainty.

EPA's regulations for implementing Section 303(d) can be found in the Codified Federal Register (CFR) for Water Quality Planning and Management at 40 CFR Part 130. The regulations define terms used in Section 303(d) and otherwise interpret and expand upon the statutory requirements.

[2020 303\(d\) GIS Layers](#)

[2020 All Impaired Waters GIS Layer](#)

[2020 Assessed Waters GIS Layers](#)

[Final 2020 Water Quality Assessment and Listing Methodology](#)

[Final 2018 Water Quality Assessment and Listing Methodology](#)

[Final 2016 Water Quality Assessment and Listing Methodology](#)

[Final 2014 Water Quality Assessment and Listing Methodology](#)

[Final 2012 Water Quality Assessment and Listing Methodology](#)

[Final 2010 Water Quality Assessment and Listing Methodology](#)

[Final 2008 Water Quality Assessment and Listing Methodology](#)

[2020 Approved TMDLs GIS Layers](#)

[back](#)

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This page best viewed in IE7+ or Firefox.

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# Potential WQ Issues

- Specific Criteria
  - pH, Temperature, DO, bacteria, turbidity, nutrients
  - Toxic substances and/or taste, odor, and color-producing substances attributable to sewage, industrial wastes, or other wastes
- General
  - Livestock in state waters
  - Illegal dumps
  - Septic tank leaks



# Potential WQ Issues

- F&W classification example
  - DO  $\geq$  5mg/l
  - pH between 6.0-8.5 (non-coastal) and 6.5-8.5 (coastal)
  - Turbidity  $\leq$  50 NTU above background
  - Temperature  $\leq$  90°F (with exceptions)
  - Bacteria

<b>Fish and Wildlife (F&amp;W)</b>	<i>E. coli</i> (colonies/100 ml) <u>May through October</u> <ul style="list-style-type: none"> <li>• Geometric Mean <math>\leq</math> 126</li> <li>• Single Sample Max <math>\leq</math> 298</li> </ul> <u>November through April</u> <ul style="list-style-type: none"> <li>• Geometric Mean <math>\leq</math> 548</li> <li>• Single Sample Max <math>\leq</math> 2507</li> </ul>	<i>Enterococci</i> (colonies/100 ml) <u>May through October</u> <ul style="list-style-type: none"> <li>• Geometric Mean <math>\leq</math> 35</li> <li>• Single Sample Max <math>\leq</math> 158</li> </ul> <u>November through April</u> <ul style="list-style-type: none"> <li>• Single Sample Max <math>\leq</math> 275</li> </ul>
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# Potential WQ Issues

- Negative effects
  - Fish kills, smell/odor issues, algal issues, human health and aquatic life risks

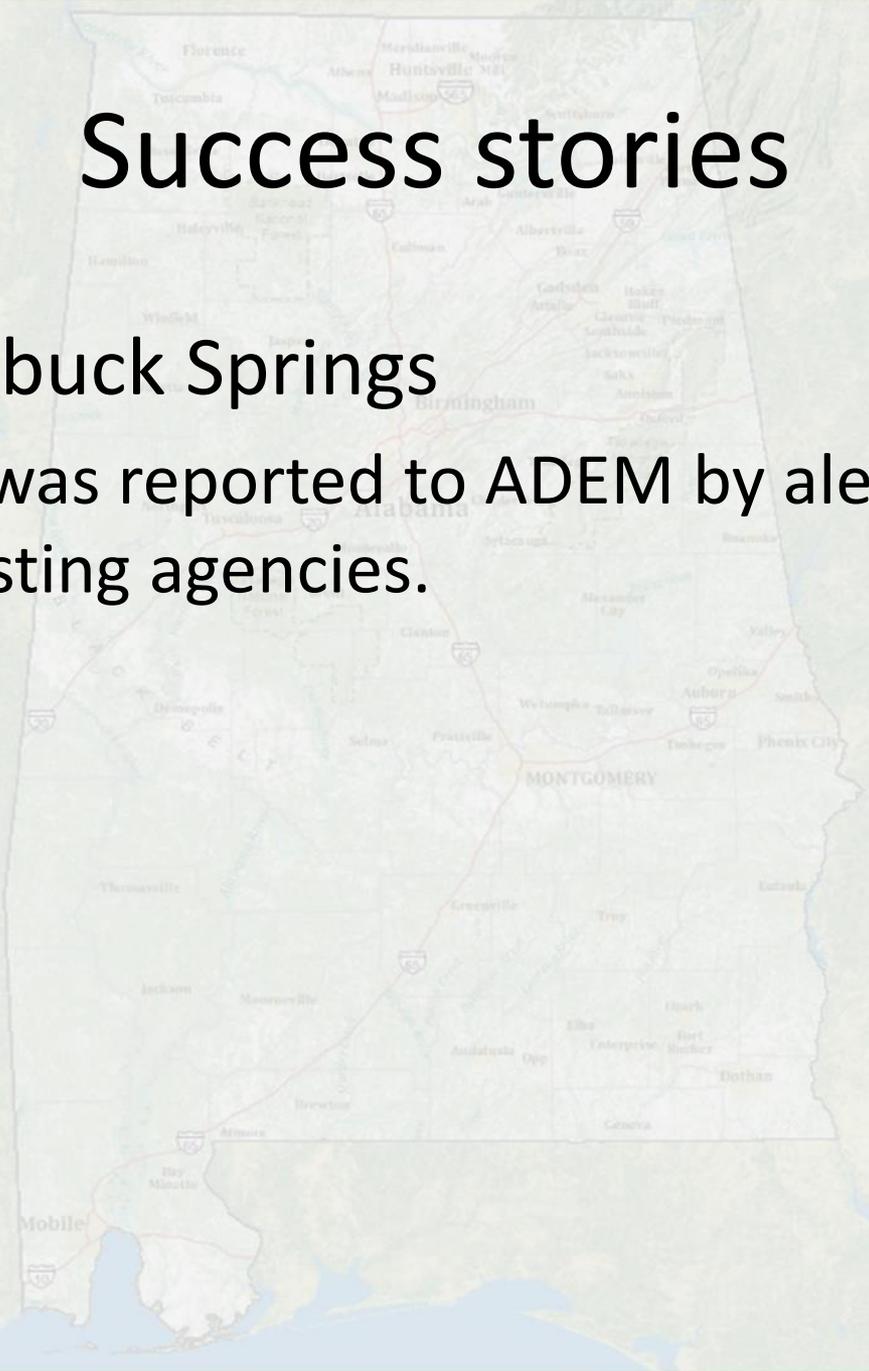


# Success stories

- Ryan Creek Pathogen TMDL
  - AWW data was beneficial in understanding how Ryan Creek behaves under different hydrological conditions.
- Choccolocco Creek
  - Pathogen data from Coosa Riverkeeper assisted in listing waterbody for pathogens
- Miller Creek
  - DO data from AWW indicated low DO levels which prompted more monitoring by the Dept.

# Success stories

- UT to Roebuck Springs
  - Fish kill was reported to ADEM by alert citizens and assisting agencies.



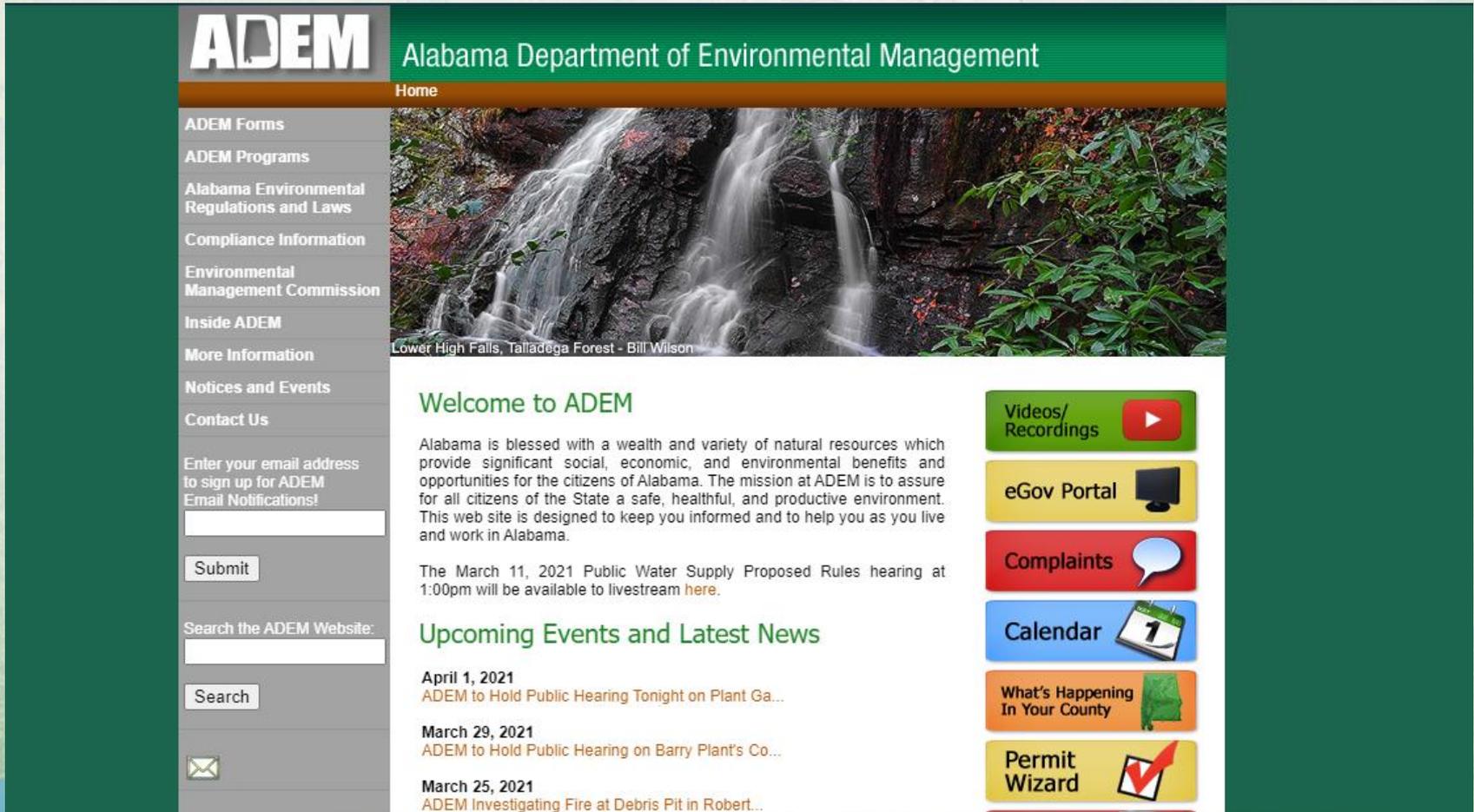
# Who to report to

- AL Dept of Environmental Management (ADEM) – [www.adem.Alabama.gov](http://www.adem.Alabama.gov)
- AL Dept of Public Health (county or state ADPH) - [www.alabamapublichealth.gov](http://www.alabamapublichealth.gov)
- AL Dept of Conservation & Natural Resources (ADCNR) – [www.outdooralabama.com](http://www.outdooralabama.com)



# Where to report

- [www.adem.alabama.gov](http://www.adem.alabama.gov)



The screenshot shows the ADEM website homepage. At the top, the ADEM logo and name are displayed. Below the header is a navigation menu with links to various sections. A large image of a waterfall is featured in the main content area. To the right of the waterfall image is a sidebar with several utility buttons. Below the waterfall image, there is a 'Welcome to ADEM' section with a paragraph of text and a link to a public hearing. Below that is an 'Upcoming Events and Latest News' section with a list of events. The sidebar on the right contains buttons for 'Videos/Recordings', 'eGov Portal', 'Complaints', 'Calendar', 'What's Happening In Your County', and 'Permit Wizard'.

**ADEM** Alabama Department of Environmental Management

Home

ADEM Forms  
ADEM Programs  
Alabama Environmental Regulations and Laws  
Compliance Information  
Environmental Management Commission  
Inside ADEM  
More Information  
Notices and Events  
Contact Us

Enter your email address to sign up for ADEM Email Notifications!  
  
Submit

Search the ADEM Website:  
  
Search



**Lower High Falls, Talladega Forest - Bill Wilson**

**Welcome to ADEM**

Alabama is blessed with a wealth and variety of natural resources which provide significant social, economic, and environmental benefits and opportunities for the citizens of Alabama. The mission at ADEM is to assure for all citizens of the State a safe, healthful, and productive environment. This web site is designed to keep you informed and to help you as you live and work in Alabama.

The March 11, 2021 Public Water Supply Proposed Rules hearing at 1:00pm will be available to livestream [here](#).

**Upcoming Events and Latest News**

**April 1, 2021**  
ADEM to Hold Public Hearing Tonight on Plant Ga...

**March 29, 2021**  
ADEM to Hold Public Hearing on Barry Plant's Co...

**March 25, 2021**  
ADEM Investigating Fire at Debris Pit in Robert...

Videos/Recordings 

eGov Portal 

Complaints 

Calendar 

What's Happening In Your County 

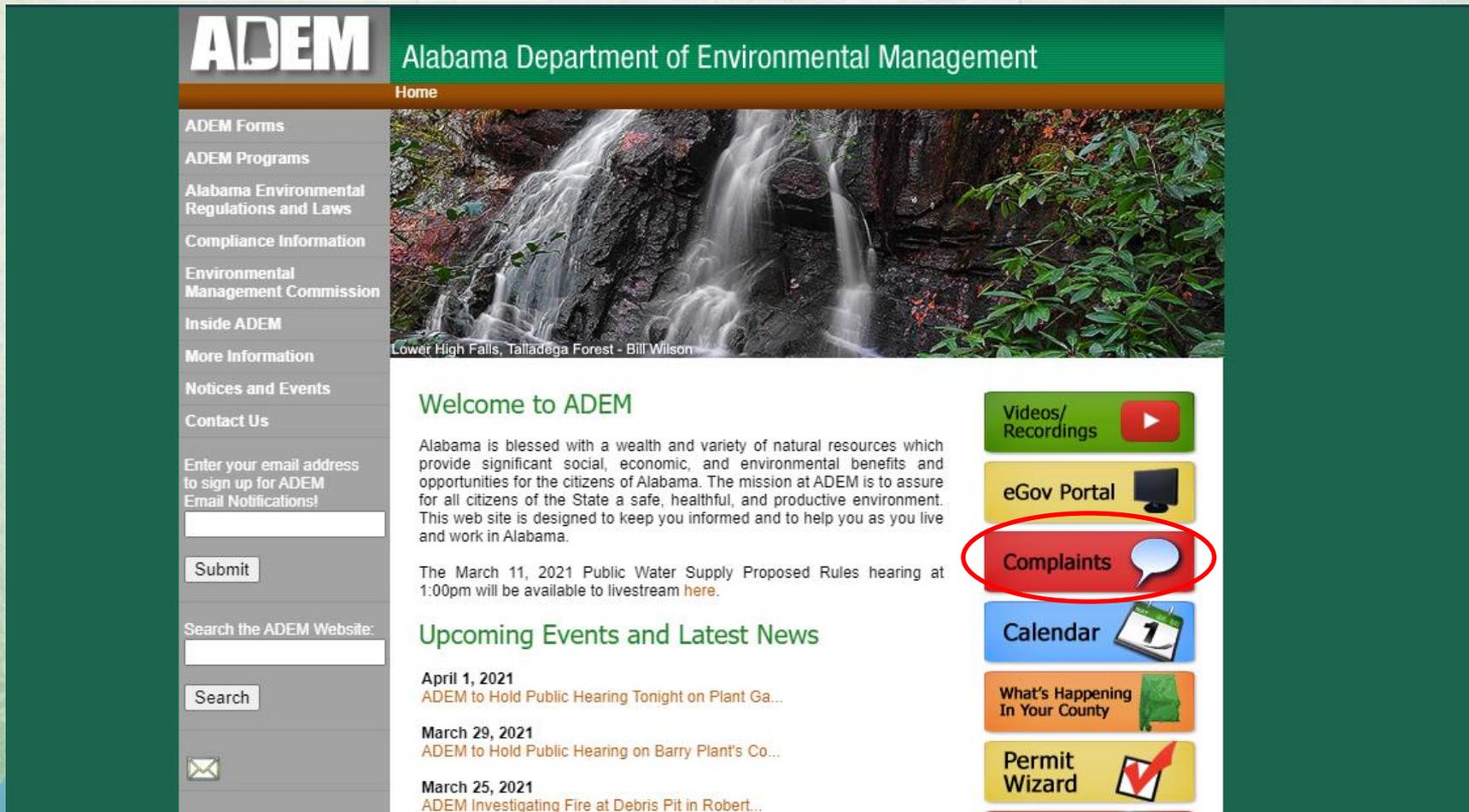
Permit Wizard 

# How to report

- Complaint submission form
- Contact via phone or email
- Emergency Response after-hours

# How to report

- [Complaint form](#) and contacts



The screenshot shows the ADEM website homepage. The header includes the ADEM logo and the text "Alabama Department of Environmental Management". Below the header is a navigation menu with links such as "ADEM Forms", "ADEM Programs", "Alabama Environmental Regulations and Laws", "Compliance Information", "Environmental Management Commission", "Inside ADEM", "More Information", "Notices and Events", and "Contact Us". The main content area features a large image of a waterfall with the caption "Lower High Falls, Talladega Forest - Bill Wilson". Below the image is a "Welcome to ADEM" section with a paragraph about Alabama's natural resources and a link to a public hearing. To the right of the main content is a sidebar with several buttons: "Videos/Recordings", "eGov Portal", "Complaints" (circled in red), "Calendar", "What's Happening In Your County", and "Permit Wizard".

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Lower High Falls, Talladega Forest - Bill Wilson

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**Complaints**

Calendar

What's Happening In Your County

Permit Wizard

# When to report

- Depends
  - If after-hours and an emergency, call emergency response at 1-800-843-0699
  - Fish kills, illegal dumps, etc. – notify the Department via phone, email, or complaint form
  - Citizen data and general concerns that warrant a review but are not considered life threatening or serious - notify the Department via phone, email, or complaint form

# What to report

- Perceived
  - Fish kills
  - Illegal dumps
  - Chemical smells or strong, noxious odors
- Data-based
  - High pathogen counts
  - Significant chemistry changes

# What to report

- Complaint Form
  - When was complaint observed?
  - Description of the problem
  - Affected environment
  - Location details (address, facility, lat/long)
  - Photos
  - Your contact information
    - Public record but can choose to remain anonymous
  - QA/QC Data (if available)

# Why report

- Helps protect human health and aquatic life
- Assists the Department in monitoring
- Assists in determining impairments
- Reduces or prevents future issues
- Can't be in every place at all times



# Helpful Suggestions

- Consider monitoring more 4a waters
  - <http://adem.alabama.gov/programs/water/waterforms/2018Category4.pdf>
- Identify priority areas within watersheds
  - Land-uses, known impairments, high water quality

Thank you for volunteering!

# Questions??

Jennifer Haslbauer  
Chief, Standards & Planning Section  
Water Quality Branch  
334-274-4250  
[jhaslbauer@adem.alabama.gov](mailto:jhaslbauer@adem.alabama.gov)

