GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Prioritization Framework for Georgia Environmental Protection Division implementing the 2022-2032 303(d) Program Vision

April 2024

History and Background

The Georgia Legislature established the Georgia Environmental Protection Division (GA EPD) in early 1972 with the passage of the Executive Reorganization Act of 1972. This reorganization of State agencies consolidated all environmental regulatory functions under the GA EPD and its Director. Water quality control, management of water supply, groundwater, air quality, solid waste, and land reclamation were placed under GA EPD's responsibility. Prior to this reorganization, Georgia's water pollution control functions were mainly carried out by the Georgia Water Quality Control Board, which was established in 1964.

In late 1972, growing public awareness and concern for controlling water pollution led the U.S. Congress to enact sweeping amendments to the 1948 Federal Water Pollution Control Act. As amended in 1972, the law became known as the Clean Water Act (CWA) and established the basic structure for regulating pollutants discharged into waters of the United States. Section 101(a) of the CWA states: "The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's Waters." Under the CWA, states and territories are required to set water quality standards for all waters, establish water quality monitoring programs, compile and assess water quality data on a regular basis, issue pollution control permits that protect water quality standards, and establish nonpoint source pollution management programs. The United States Environmental Protection Agency (US EPA) oversees the CWA programs and provides guidance and grant funding to ensure consistent implementation throughout the states and territories.

In the mid to late 1970s through the 1980s, GA EPD placed major emphasis on the construction of municipal wastewater treatment plants, issuance of National Pollutant Discharge Elimination System (NPDES) permits to municipal and industrial wastewater discharges, and initiated programs to monitor permit compliance and take appropriate enforcement actions. Beginning in the 1990s, GA EPD began to invest more resources on the management of other sources of pollution including discharges from municipal separate storm sewer systems (MS4s) and stormwater runoff from industrial and construction sites. In the late 1990's, GA EPD established a Total Maximum Daily Load (TMDL) development unit after a lawsuit by the Sierra Club. Through 2023, GA EPD has completed TMDLs for over 2000 impaired waterbody segments throughout the state of Georgia.

Section 303(c) of the CWA (33 U.S.C. 1313(c)) and the related federal regulations (40 CFR 131) establish the requirement for water quality standards and outline state and US EPA activities related to their development, revision, and implementation. Water quality standards (WQS) consist of designated uses, water quality criteria to protect the designated use(s), and an antidegradation policy. The designated use(s) and associated water quality criteria serve as the basis for 305(b) water quality reports, 303(d) list of impaired waters and TMDLs, and provide the water quality-based endpoints for NPDES wastewater permits. The Georgia Board of Natural Resources officially adopts rules relating to environmental protection based on GA EPD's recommendations. WQS are provided in Georgia Rules and Regulations 391-3-6-.03. According to federal

regulations, US EPA must approve revisions to a state's WQS before they may be implemented in the state's CWA programs.

GA EPD has established designated uses for all interstate and intrastate waterbodies in Georgia. The designated use categories listed below are meant to encompass a broad range of potential functions for both human and ecological needs. GA EPD periodically revises the designated use(s) of a waterbody based on updated information and stakeholder input.

- Drinking Water Supplies
- Recreation
- Fishing, Propagation of Fish, Shellfish, Game and Other Aquatic Life
- Wild River
- Scenic River
- Coastal Fishing

Water quality criteria are broken down into categories based on how they are defined and quantified. Numeric water quality criteria refer to specific measurable pollutants or observable conditions and the associated numeric levels that are protective of designated uses. Their development and modification require a high degree of specificity and a sound scientific understanding of the underlying ecological and epidemiological relationships. On the other hand, narrative water quality criteria establish general conditions covering all designated uses. Narrative water quality criteria are often "free from" statements that outline objectionable conditions or outcomes in broad terms and allow for wide latitude of agency interpretations and flexibility in implementation. Their downside is that they do not have a specific parameter and associated numeric endpoint to apply in other water protection programs.

GA EPD monitors the state waters each year at long-term trend, targeted, and probabilistic monitoring stations. Every two years, the water quality data are assessed in accordance with Georgia's Listing Assessment Methodology to determine if standards are being met and the waterbody supports its designated use. If monitoring data show standards have been violated, then the waterbody is said to be "not supporting" its designated use. Assessed waters are placed into one or more of the five categories (depending on the pollutants monitored) described below:

Category 1 - Data indicate that the waterbody is meeting its designated use(s).

Category 2 - A waterbody has more than one designated use and data indicate that at least one designated use is being met, but there is insufficient evidence to determine if all uses are being met.

Category 3 - There is insufficient data or other information to make a determination as to whether or not the designated use(s) is being met.

Category 4a - Data indicate at least one designated use is not being met, but TMDL(s) have been completed for the parameter(s) causing the waterbody not to meet its use(s).

Category 4b - Data indicate at least one designated use is not being met, but there are actions in place (other than a TMDL) predicted to lead to compliance with water quality standards.

Category 4c - Data indicate at least one designated use is not being met, but a pollutant is not causing the impairment.

Category 5 - Data indicate at least one designated use is not being met and TMDL(s) need to be completed for one or more pollutants.

Category 5R/5Alt - Data indicate at least one designated use is not being met; however, TMDL development is deferred while an alternative restoration plan is pursued. If the alternative restoration plan is not successful, then the waterbody will be placed in Category 5 and a TMDL will be developed.

Section 305(b) of the CWA (33 U.S.C. 1315) and the related federal regulations (40 CFR 130.8) requires states develop a biennial water quality report that provides a description of water quality and status of water quality standard attainment in all waters and descriptions of water quality improvements implemented by CWA programs. Section 303(d) of the CWA (33 U.S.C. 1313(d)) and the related federal regulations (40 CFR 130.7) requires that states and territories identify and prioritize waterbodies not meeting their water quality standards in need of TMDLs for pollutants causing non-attainment of their water quality standards. As these separate CWA sections have been applied over time, US EPA, states, and territories have taken the practical step of implementing them as an integrated program due to their inter-related subject matter. GA EPD includes 303(d) reporting provisions within the 305(b)water quality report in what is referred to as the Integrated 305(b)/303(d) Report. The 303(d) list of waters (i.e. waters that have violated a WQS and for which a TMDL needs to be developed) are those waterbodies on the Integrated 305(b)/303(d) List assessed as Category 5.

The Watershed Protection Branch of GA EPD houses all water-related functions, including programs to address water quality planning, water supply planning and permitting, nonpoint source management, and drinking water and wastewater permitting and compliance. These programs impact attainment of water quality standards through a variety of work functions including collecting data and information used for 305(b)/303(d) assessment and TMDL development, implementing wastewater permitting to protect water quality standards, and implementing of stormwater controls and best management practices through stormwater permits. Regular coordination between these programs ensures that GA EPD remains focused on water quality concerns and restoration opportunities that may present themselves through individual programmatic work.

Watershed Protection Branch water-quality driven programs:

- The Watershed Planning and Monitoring Program (WPMP) is primarily responsible for the development of water quality standards, monitoring of the State's waters including streams, rivers, lakes, wetlands, and estuaries, assessment of those waters for the preparation of the Integrated 305(b)/303(d) report and list of waters, and preparation of the Fish Consumption Guidelines Booklet. In addition, WPMP is tasked with wasteload allocation analysis and modeling, and TMDL modeling and report development for impaired waters on the 303(d) list. Having these activities housed within the same Program allows for close cooperation and coordination of staff on water quality data driven tasks.

- The Wastewater Regulatory Program (WRP) implements the NPDES wastewater permitting program for effluent discharges directly to waters of the state. The WRP implements a technical review process for new and expanding wastewater treatment facilities that incorporates wasteload allocations and antidegradation analysis. The WRP also issues Land Application System permits for wastewater applications to land for treatment.

- The Nonpoint Source Program (NPSP) implements the NPDES stormwater management permits covering municipal, construction, and industrial stormwater sources. The NPSP implements the 319(h) Grant Program for restoration of waters impacted by NPS pollution. In addition, the NPSP houses the water quality citizen outreach unit that provides training to citizen scientists interested in water quality and biological sampling of local streams.

A Vision for the 303(d)/TMDL Program

2013-2022

In December 2013, US EPA released a planning document titled, "*A Long-Term Vision for Assessment, Restoration, and Protection of waters under the Clean Water Act Section 303(d) Program*" ("2013 TMDL Vision") to coordinate and focus efforts to advance the effectiveness of the TMDL Program across the nation through 2022. The 2013 TMDL Vision document outlined six goals: 1) Prioritization, 2) Assessment, 3) Protection, 4) Alternatives, 5) Engagement, and 6) Integration.

As part of the Prioritization goal, states were to review, systematically prioritize, and report priority watersheds or waters for restoration and protection in their biennial integrated reports to facilitate strategic planning and maximize limited resources. Each state was to develop a Priority Framework and a list of priority waters for which the states would develop a TMDL, TMDL alternative, or protection plan by 2022. GA EPD developed a Priority Framework in February 2015 that outlined mechanisms for prioritization such as issue complexity (e.g., human health concerns and multimedia), interstate issues, supporting existing plans, recovery potential tool, and rotating basin approach.

Based on the 2015 framework, GA EPD prioritized the following waterbody-parameter combinations for TMDL development, restoration via "direct to implementation" efforts, and/or TMDL alternative development: 1) Lake Lanier – Chlorophyll *a*, 2) Carters Lake – Chlorophyll *a* and Total Phosphorus, 3) Savannah Harbor – Dissolved Oxygen, 4) Coosa River - Temperature, and 5) four coastal beaches listed for enterococci. As of 2022, GA EPD has completed all the TMDLs, Restoration Plans, and permits for these priority waters.

As the end of the 2013 TMDL Vision period approached, US EPA, states, territories, and tribes collaborated on the development of the next iteration of a national planning document for implementation of the 303(d) Program. While that work was ongoing, US EPA developed a TMDL program planning document to be utilized during the time between the end of the 2013 TMDL Vision period, September 2022, and the beginning of the next national TMDL program guidance period in September 2024.

This period, commonly referred to as the "Bridge Period" allowed states to choose their TMDL development and 303(d) program priorities for a short period of time with the opportunity to incorporate new information into their priority setting process. GA EPD chose to focus on TMDL development related to recent changes in the state's water quality standards, specifically, the adoption of *E. coli* and enterococci as the bacterial indicator for waters with fishing or drinking water designated uses. These bacteria indicators replaced the fecal coliform criteria that had been in place since the 1970s.

Georgia's TMDL program priorities during the "Bridge Period" were to develop TMDLs for all waterbodies in Category 5 for fecal coliform on the 2022 303(d) list of waters, which included 164 waterbodies state-wide. This allowed the 2024 303(d) list to be developed with no fecal coliform TMDLs needing to be developed. In addition, GA EPD revised existing fecal coliform TMDLs developed by US EPA from 1998 to 2006 that used a watershed modeling approach. These revised TMDLs were included to ensure all previously issued fecal coliform TMDL calculations used the loading curve approach currently being used to develop all bacteria TMDLs.

2022-2032

In September 2022, US EPA released "*2022 - 2032 Vision for the Clean Water Act Section 303(d) Program"* ("2022 TMDL Vision") to help coordinate and focus efforts to advance the effectiveness of CWA Section 303(d) program implementation. This document is a refinement of the 2013 TMDL Vision document that incorporated feedback from all stakeholders and lessons learned from the 2013 TMDL Vision implementation. The vision statement included in the 2022 TMDL Vision document is:

> *The Clean Water Act Section 303(d) program strives to strategically plan and prioritize activities, engage partners, and analyze and utilize data to develop water quality*

> *assessments, plans, and implementation approaches to restore and protect the Nation's aquatic resources.*

To achieve the goals set out in the Clean Water Act and meet the vision statement as provided above, the 2022 TMDL Vision establishes the following goals as aspirations and opportunities that each state should consider for their 303(d) program activities.

- Planning and Prioritization Goal: Develop a holistic strategy for implementation of Vision Goals, systematically prioritize waters or watersheds for TMDL and other plan development (restoration and/or protection), and report on the progress towards development of plans for priority waters.

- Restoration Goal: Develop TMDLs and other restoration plans to attain and maintain water quality standards, facilitate effective implementation, and drive restoration of impaired waters.

- Protection Goal: Develop protection plans to prevent impairments and improve water quality, as part of a holistic watershed approach.

- Data and Analysis Goal: Coordinate with other government and non-governmental stakeholders to facilitate data production and sharing, and effectively analyze data and information necessary to fulfill its multiple functions.

- Partnerships Goal: Meaningfully communicate and collaborate with other government programs and non-governmental stakeholders to restore and protect water quality effectively and sustainably.

The 2022 Vision document also highlights new focus areas that US EPA has prioritized for consideration by States, Territories, and Tribes that may be of national, regional, and local importance.

- Environmental Justice
- Climate Change
- Tribal Water Quality and Program Development
- Program Capacity Building

Implementation of the 2022 TMDL Vision document will be measured by US EPA through progress or completion of state TMDL, Restoration Plan, or Protection plan development commitments. States will use the items identified in their prioritization frameworks to make a list of plans to be developed on a two-year basis coinciding with the years when states complete and receive approval of their 303(d) list of impaired waters (even numbered years). States will submit the priorities by October 1st of every even year. The priorities may include TMDLs, Restoration,

and/or Protection plans that will be completed or that will be in development during the next two-year cycle.

Prioritization Framework

The ultimate endpoint of all water protection programs within GA EPD is the attainment of water quality criteria and support of a waterbody's designated uses, ensuring the fulfillment the goal of the CWA that all waters be fishable and swimmable. The concepts outlined below provide a holistic strategy to be considered in the implementation of the 2022 TMDL Vision Goals. GA EPD will use this framework to systematically prioritize waters or watersheds for TMDL, Restoration, and Protection plan development. Every two years, a progress report on the development of plans for the identified priority waters will be provided to US EPA. A visual representation of concepts discussed below can be found in the programmatic flow chart on page 16.

Planning and Prioritization

The GA EPD 2022 303(d) list has approximately 599 unique waterbody-parameter combinations, increased from 375 unique waterbody-parameter combinations in 2020. The sheer number of category 5 waterbodies (599) precludes the completion of TMDLs for all these waters within the ten-year timeframe covering the 2022 TMDL Vision. Therefore, GA EPD must plan and prioritize TMDLs for development. This will allow the appropriate allocation of staff and resources to ultimately yield improvements in water quality.

GA EPD plans to use a parameter and waterbody-based approach to prioritize TMDL development to ensure that holistic impacts of causal pollutants and response parameters can be addressed. This will also mirror historical TMDL development processes to ensure consistency for partners who utilize TMDLs for implementation purposes. Parameters that affect human and ecological health will be prioritized. In addition, waterbodies where water quality improvements have been made or are possible in the near-term will be addressed. Below is the list of parameters that will be prioritized with a brief description of impacts to be addressed.

Nutrients, including the causal parameters Total Phosphorus and Total Nitrogen and the response parameter Chlorophyll *a*.

Eutrophication in lakes and estuaries can potentially impact all designated uses through different paths. Waters with the designated use of "Recreation" can be affected by the presence of algal and cyanobacteria blooms that can inhibit the opportunity for recreational activities in and on the water. Waters with the designated use of "Drinking Water" can be affected where eutrophic waters are the raw water source for drinking water systems. Algal blooms can cause taste and odor issues and cyanobacteria blooms can release toxins. Both problems are an additional treatment challenge for drinking water systems to overcome. Waters with the designated use of "Fishing" can be affected by eutrophication resulting in excessive algal and cyanobacteria blooms that cause dissolved oxygen depletion during nightly cellular respiration. Subsequently, if a large part of bloom dies,

the ensuing decomposition of the algal biomass by other aquatic organisms can also decrease the available dissolved oxygen. Both processes can lead to mortality events for fish and other aquatic life.

Bacteria including *E. coli* and enterococci in waters that are designated as primary recreational waters where there can be human health impacts due to excess bacteria.

Prior to 2016, the bacteria indictor for waters with the designated use of "Recreation" was fecal coliform. Following the change to Georgia regulations and US EPA approval, the bacteria indicator was changed to either *E. coli* or enterococci, for freshwaters or estuarine waters, respectively, depending on the water salinity. *E. coli* and enterococci are bacteria that live in the intestinal tract of warm-blooded animals including humans. These organisms are excreted in extremely high numbers and are indicator organisms that suggest the presence of viruses, pathogenic bacteria or parasitic protozoa in surface waters that can cause gastrointestinal illnesses, respiratory illnesses, skin rashes, and ear, eye, and wound infections. Waters with high levels of these bacteria represent areas with potential for human health risks for those who recreate in and on the water.

Ammonia toxicity from POTW effluents.

In 2013, US EPA published an updated recommendation for ammonia aquatic life criteria. The recommended ammonia criteria apply to all freshwaters for the protection of all aquatic life, including fish, mussels, and snails. Freshwater mussels are highly sensitive to ammonia toxicity and represent the most sensitive species in the dataset used for developing criteria recommendations. Both mussels and snails are important to the environment because they serve as food sources for other organisms in the food web and provide vital services in improving and maintaining water quality. Mussels are filter feeders and can filter nutrients, toxics, and other pollutants out of the water. Snails feed on organic debris reducing the effects of eutrophication and keep bottom substrates clean for other benthic organisms.

GA EPD chose not to adopt US EPA's updated ammonia recommendation into WQS, but rather is using the existing narrative toxicity criteria (391-3-6-.03(5)(e)), the wasteload allocation (WLA) process, and instream monitoring to implement the ammonia criteria in NPDES permits. This approach is protective of aquatic life since NPDES permits must have water quality-based limits that consider the effects of critical pH and critical temperature, and instream monitoring will allow GA EPD to determine if the narrative toxicity criteria for mussels are being met.

In 2017, GA EPD developed an ammonia permitting strategy that grouped NPDES permittees into five categories based on the size of the discharge and the need for water quality-based effluent limits. Category 1 consists of NPDES permits that contain ammonia effluent limits that comply with 2013 ammonia criteria, and the permits are reissued with current ammonia limits. Category 2 consists of NPDES permits that contain ammonia effluent limits that do not meet the 2013 ammonia criteria; however, the facility can meet the 2013 criteria based on demonstrated

performance. Therefore, the permits are reissued with ammonia limits that comply with 2013 criteria. Category 3 consists of major (≥ 1 MGD) and minor (≥ 0.5 MGD) NPDES permits that contain ammonia effluent limits that do not meet with 2013 ammonia criteria. The NPDES permits are reissued with ammonia limits that meet the criteria with a compliance schedule. Category 4 consists of minor NPDES permits with permitted monthly flows less than 0.5 MGD that contain ammonia limits that do not meet with 2013 criteria. The ammonia limit will be maintained during reissuance of the NPDES permit and upstream and downstream monitoring of ammonia, pH and temperature will be required. Category 5 consists of NPDES permits that do not have ammonia limits. Effluent ammonia monitoring is included in the reissued NPDES permit, and GA EPD will conduct instream monitoring upstream and downstream of the facility as staff and resources allow.

If instream data indicates a problem with the numeric criteria and/or narrative toxicity criteria for ammonia and the waterbody is listed as impaired, then based on priority considerations regarding water quality impacts, GA EPD may go straight to implementation and reissue or modify the NPDES permits providing limits that complies with water quality standards. The permits will include compliance schedules to meet these criteria.

To prioritize the specific TMDLs that will be developed during the 2022 TMDL Vision period, the following concepts will be given consideration.

- Magnitude and extent of water quality criteria violation(s).
- Model complexity and data requirements needed to develop the TMDL.
- Interstate issues and need for protection of downstream water quality and designated uses.
- US EPA Recommendations for WQS and resulting revisions.
- Identified sources of impairment such as point sources, nonpoint sources, regulated stormwater, etc., and the distribution thereof.
- Partner interest and commitment to restoration implementation.

During the preparation of the two-year priority list for plan development for submittal to US EPA by October 1st of even-numbered years, each of these areas will be revisited and evaluated.

Stakeholders play key roles in making important environmental decisions, such as identifying what waterbodies to prioritize. A stakeholder is an individual or group that has an interest in a project, area, or topic of concern. Essentially, any person or group who is affected by a project, who represents a given area or watershed, or focuses on a given topic can be considered a stakeholder. The parameter-based approach and prioritization concepts outlined above, in addition to stakeholder input, will form the core inputs to GA EPD's 303(d) priority setting framework. GA EPD plans to engage the public and stakeholders by conducting outreach events, where information will be exchanged, and the public will be provided the opportunity to make recommendations on the 2022 TMDL Vision.

Restoration Plans

Another consideration for prioritization will be development of Restoration Plans for waters where TMDLs have already been developed (Category 4a waters) or for waters currently impaired that are on the 303(d) List (Category 5Alt/5R waters). A Restoration Plan could include 9-key element watershed-based plans for nonpoint sources pollution (NPS) management. Watershed-based restoration plans that meet US EPA's Nine Elements of Watershed Planning can leverage 319(h) grant funding opportunities provided by GA EPD Nonpoint Source Program.

GA EPD will explore opportunities to supplement the work of partners interested in the implementation of restoration plans and other actions that will lead to successful water quality restoration.

Protection Plans

GA EPD utilizes a watershed approach for many of the TMDLs that have been developed over the past 20+ years, including waters impaired for chlorophyll a (phosphorus), dissolved oxygen (BOD_5 and ammonia), bacteria (*E. coli* and enterococci), and biological (macroinvertebrate and/or fish) communities (sediment). Where resources allow, GA EPD may identify and analyze options for preparing protection plans for healthy waters (i.e., Category 1 and Category 2 waters currently supporting their designated uses) or those that have high ecological value that may not have been assessed.

There may be opportunities to develop Protection Plans in conjunction with the development of numeric nutrient and chlorophyll *a* criteria for lakes and estuaries. These criteria are usually developed using water quality models, including linking watershed models to 3-dimensional lake and/or estuary models. By using water quality models, a variety of scenarios can be run allowing GA EPD to evaluate the impact of nutrient pollution on water quality from both point and nonpoint sources within the watershed. Protection Plans developed using this process may serve as guides for partners who seek to implement protection strategies for waterbodies supporting their designated uses. The plans may also provide specific allowable loading information for point source discharges that can be used by GA EPD to develop protective NPDES permits.

Where opportunities present themselves to protect downstream designated uses and the criteria that have been established by other states, GA EPD may develop watershed-based protection plans that define wasteload allocations for permitted point sources and load allocations for nonpoint sources of pollution. This concept may be used to ensure that downstream state's numeric criteria are met at the state line.

Partnerships

GA EPD plans to engage partners where there is interest in developing Restoration Plans and Protection Plans. A partner is a person or group who is in a mutually beneficial relationship with

GA EPD regarding a project, area, or topic. This is any person or group who is actively involved with the implementation of the project. These plans will further define implementation strategies to move the waterbody closer to water quality standard attainment or protect healthy waterbodies. This process will be driven by partner interest and will be enhanced if willing public partners are involved who have resources to dedicate to the implementation of water quality restoration and protection strategies.

GA EPD will provide support for and collaborate on opportunities to further the restoration of water quality by providing agency resources and data to interested partners to help their efforts succeed. GA EPD will also seek to complement work currently being done by interested partners to implement restoration plans and to develop and implement protection plans. Engagement with partners will provide GA EPD a better understanding of waterbodies or parameters of interest, that will allow GA EPD staff to review restoration and protection options that may be considered in the future. This will ensure that GA EPD can develop strategies to protect waterbodies currently supporting their designated use(s) and incorporate these strategies into current work processes.

The Watershed Protection Branch will also partner with the Air and Land Protection Branches of GA EPD to work with their regulatory programs to maximize water quality benefits of their work where opportunities present themselves. The Air Protection Branch programs provide air emission limitations on pollutants that can contribute to impairment of waters (e.g. Mercury) throughout the state. The Land Protection Branch manages cleanup activities that may have impacts on surface water and groundwater under the federal Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

In addition, GA EPD will continue to work with sister agencies within the Department of Natural Resources (DNR), including the Wildlife Resources Division (WRD), Coastal Resources Division (CRD), and Parks and Historic Sites Division (PHSD), to collect data to evaluate the health of waterbodies around the state. Types of data collection include fish community health used for biological assessments, fish tissue data used to develop fish consumption guidelines, and bacteria data in shellfish harvesting areas, at coastal beaches, and at freshwater State Park beaches throughout the state used to evaluate impacts to human health.

Other State Agencies that partner with GA EPD to implement programs that benefit water quality in their area of expertise include:

- GA Dept of Agriculture
    - Implements review and issuance of Confined Animal Feeding Operation general wastewater permits through collaboration with GA EPD
- GA Forestry Commission
    - Maintains a compendium of best management practices for forestry operations to protect water resources. Conducts surveys to monitor BMP implementation about every other year.
- GA Soil and Water Conservation Commission

    - Local Soil and Water Conservation Districts offer conservation education, technical and financial assistance to land users, and planning and implementation resources to enhance soil and water resources.

Federal Agency partners include:

- US Environmental Protection Agency
    - Region IV Water program staff
    - Office of Research and Development
    - Office of Water
- Natural Resources Conservation Service
    - Funding for implementation of nonpoint source pollution controls and benefits from extensive relationships with agricultural landowners
- US Fish and Wildlife Service
    - Endangered Species Act provisions and funding. National Wildlife Refuge system implementation.
- US Geological Survey
    - Maintain a network of river gage stations that continuously measure a variety of flow and water quality parameters. Perform water quality sampling under contract with GA EPD at selected locations.

Data and Analysis

Each year GA EPD either monitors or contracts with USGS and Columbus Water Works to monitor various waterbodies throughout the State. Data is collected by GA EPD staff or their contractors under Quality Assurance Project Plans (QAPPs) and various standard operating procedures. Some waterbodies are monitored every year and provide trend data, other waterbodies are targeted for specific reasons and are only monitored for a year, and others are selected randomly to provide a sufficiently large sample size to make a statistically valid inference about Georgia's overall water quality. These data are input into GA EPD's publicly assessable database, Georgia's envirOmental Monitoring and Assessment System (GOMAS). This GA EPD dataset is complemented by data collected by GA DNR WRD, CRD, and PHSD. GA EPD also accepts data collected by interested stakeholders under an approved Sampling Quality Assurance Plan (SQAP) as required in the data acceptance provision of GA water quality standards (391-3-6-.03(13)) for listing and delisting purposes. All these data are considered regulatory and make up the dataset compared to water quality criteria when producing the biennial 305(b)/303(d) List.

These data are also leveraged in all water quality modeling efforts undertaken by GA EPD. Removing barriers to the collection of high-quality data that can be used to support multiple water quality goals is a GA EPD priority. GA EPD will continue to seek opportunities to partner with interested partners, local governments, and other groups to expand the amount of water quality data collected under the SQAP framework. This includes exploring ways to accept a broader range

of water quality data, while ensuring that it meets the rigor and quality control practices that are established for GA EPD and USGS sampling and analysis.

GA EPD's regulatory water quality dataset has shown that waters in certain areas of the state regularly vary outside of established water quality criteria for dissolved oxygen (DO) and pH. GA EPD is working to determine a path forward to develop appropriate criteria for these waterbodies that may reflect natural conditions and are protective of aquatic life. To advance GA EPD's understanding of the complex situation surrounding DO and pH, staff will evaluate available data, research appropriately protective water quality criteria, collect additional water quality and biological data, and analyze the spatial and ecological relationships that define these waters. Some of this work may be done by university partners.

GA EPD also requires publicly owned treatment works (POTWs) with discharges ≥ 1 MGD or any new or expanding POTW to develop and implement Watershed Protection Plans that include long-term monitoring. These data are input into GOMAS along with all GA EPD's regulatory data. However, these data are non-regulatory and therefore, are not used to develop the 305(b)/303(d) List.

The Georgia Adopt-A-Stream Program (AAS) is a citizen monitoring and stream protection program. Volunteers use physical, chemical, and biological methods, and evaluate habitats and watersheds at over 600 sites. AAS has an online database that houses volunteer water quality monitoring data and programmatic information. The website provides visitors with real time stats and graphs automatically generated by the information volunteers submit. These data are also non-regulatory.

GA EPD may seek to leverage these underutilized datasets collected by municipal NPDES permittees under the watershed protection plan program and volunteers under the Adopt-a-stream program. GA EPD could use these data for screening purposes to better understand areas with water quality concerns. Establishing methodologies to regularly evaluate these datasets and promptly provide information regarding areas of concern that could lead to quicker analysis by the 303(d) program and successive restoration and/or protection efforts.

GA EPD regularly collaborates with other state 303(d) programs, US EPA Regional Offices, and other non-governmental organizations to share and learn about best practices and tools for data analysis, data management, and water quality modeling. Current opportunities for enhancing staff knowledge in these areas include regional program meetings organized by US EPA Region IV, Association of Clean Water Administrators (ACWA) committee meetings and conferences, and US EPA Office of Research and Development and Office of Water webinars and conferences. GA EPD will continue to incorporate the techniques and methods demonstrated during these training and learning opportunities into staff development to ensure that water quality protection programs increase effectiveness and efficiency.

Focus Areas

The 2022 TMDL Vision provides additional focus areas of Environmental Justice, Climate Change, Tribal Water Quality and Program Development, and Program Capacity Building. Georgia does not contain any federally recognized tribal areas that would be associated with the Tribal Water Quality focus area. The two focus areas of Environmental Justice and Climate Change will continue to be evaluated as new information and data becomes available. This will ensure that GA EPD can incorporate these focus areas into programmatic planning and work processes as opportunities are identified.

Program capacity building has been a long-term task for GA EPD that is challenged in times of staffing shortfalls and retirements. GA EPD managers and staff have sought to incorporate planning and knowledge transfer processes that ensure institutional knowledge is not compromised when staff departures occur. GA EPD will continue to evaluate and update these internal processes and take advantage of external opportunities to efficiently build staff capacity to ensure that effective 303(d) program implementation can be sustained long-term.

303(d) Programmatic Flow Chart