

PLANNING AND PRIORITIZATION FRAMEWORK

A State Plan for Prioritizing Watersheds for Restoration and Protection in Louisiana

303(d) Program Vision for the Period 2023 through 2032

DRAFT

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Louisiana Department of Environmental Quality (LDEQ)

A. Background

The Clean Water Act (CWA) Section 303(d) Program provides a mechanism for integration of implementation efforts to restore and protect the nation's aquatic resources. Through this process the nation's waters are assessed, restoration and protection objectives are systematically prioritized, and Total Maximum Daily Loads (TMDLs) and alternative approaches are adaptively implemented to achieve water quality goals with collaboration of State and Federal agencies, tribes, the regulated community, and the public. In 2016, activities associated with a new long-term vision were initiated whereby states identified and prioritized water bodies for restoration and protection efforts under the 303(d) Program (ELI 2014a, 2014b; USEPA 2013). The primary goals of this new long-term vision included prioritization, assessment, protection, alternatives, engagement, and integration. This new approach, provided many benefits for states nationwide over the period beginning in 2016 and ending in 2022. Therefore Louisiana, as well as the nation, anticipate continuing the approach for future activities. Although the wording of guidance documents and some requirements associated with this New Vision 2.0 may change slightly from the original version, the overall intent and approach will remain the same. The planning period for New Vision 2.0 is expected to be 2023 through 2032, approximately.

This document represents an update to the previous version (LDEQ, 2015) to continue providing a draft framework for planning and prioritization under the Vision. This Vision will continue to guide the realization of our clean water goals in a manner that recognizes lessons learned from past (recent and historical) implementation of 303(d) Program activities and policies while addressing new challenges with innovative solutions.

B. Purpose and Objectives

The purpose of this document is to describe the Prioritization Framework for the State of Louisiana under the long-term vision of the 303(d) Program. The objectives of this Prioritization Framework for Louisiana are:

- By December 31, 2022, to develop a draft Prioritization Framework for watershed restoration and protection in Louisiana to be shared with U.S. Environmental Protection Agency (USEPA) Region 6.
- By April 30, 2023, to have engaged partners in the Prioritization Framework development.

- By September 30, 2023, to finalize the Prioritization Framework and prioritize watersheds for restoration and protection activities.
- For the 2024 Integrated Report (IR), identify the prioritized watersheds for restoration and protection activities in Louisiana for the public to review and provide comments.

These objectives for Louisiana will be realized through the USEPA minimum elements of a Prioritization Framework, which are described below.

C. Elements of a Prioritization Framework

USEPA R6 provided LDEQ a set of minimum elements of a Prioritization Framework (USEPA R4 2014). USEPA recognizes that how states address these elements, both in their documents and in practice, may differ. USEPA stated that the intent of including these minimum elements is to ensure states have a document that can be provided to other state programs, partner agencies and stakeholders that explains and defends the choices to provide limited state time and resources to one area versus another. Seven minimum elements provided by USEPA to LDEQ include 1) mechanisms for prioritization; 2) factors considered in prioritization; 3) consideration of EPA National and Regional Priorities; 4) plan for where state will begin the work; 5) statement on flexibility and approach to changing priorities; 6) description of shifts or changes from past prioritization scheme; and 7) public engagement approach. These seven minimum elements for the Prioritization Framework for Louisiana are presented below.

1. Mechanism for Prioritization

Several mechanisms for prioritization will be considered by LDEQ in the Prioritization Framework for Louisiana. Mechanisms are presented in a relative ranking by those which may be considered high, medium, to low. High mechanisms include those that describe current and historical water quality within a watershed, available screening and decision support tools, and public participation mechanisms; medium mechanisms include knowledge of national and state water quality initiatives and other strategic frameworks for Louisiana such as the Louisiana Nutrient Reduction and Management Strategy; low mechanisms may include others that are not yet identified. These mechanisms for prioritization may be weighted and used in combination based on the relative importance to water quality restoration and protection as determined by Louisiana.

a. High Mechanisms

1. Water Quality Characteristics and Trends

Current and historical Integrated Reports (305(b)/303(d)) provide an indication of water quality characteristics and trends along with information regarding the potential pollutants of concern and their sources. Integrated Reports are provided to EPA biannually. The reports, along with the monitoring data can provide insight into the effectiveness of any restoration and protection activities. The Integrated Report also impacts priorities of the Water Permitting and Nonpoint Source Programs.

Depending on resource availability, the water quality characteristics and trends may be further evaluated by LDEQ for specific pollutants. The water quality characteristics will describe the current observed concentrations for a specific pollutant in a water body to aid in determining the degree/severity of the impairment. Water quality trends identified through statistical analysis in

SAS or other applicable software can illustrate the overall trajectory of a specific pollutant that may be causing impairment by indicating whether an impaired water body is on the trajectory for recovery through improving water quality, whether the water body is on a trajectory of declining water quality, or whether no observable trend is detected, in which case the water body may not be on a trajectory toward improvement. The information on water quality characteristics and trends, both newly evaluated for this round of the Vision or those developed for previous Vision rounds, can aid in prioritization efforts by identifying current water quality concentrations and the trajectory toward improvement or non-improvement.

2. Screening Tools

LDEQ has identified several tools, either currently existing or under development, that may serve as screening tools or provide useful information for the screening process. These tools may be employed at any point in the restoration/protection process.

There are currently three identified tools developed by the USEPA and the USGS which may prove useful in determining prioritization for Louisiana. The USEPA Recovery Potential Screening Tool (RPST) provides a systematic approach for comparing waters or watersheds and identifying differences in how well they may respond to restoration (USEPA 2014). The RPST is a Microsoft Excel based spreadsheet tool that can be customized to the water bodies and characteristics for each state. The RPST is a technical method for comparing the relative restorability of large numbers of water bodies. This is a method that measures, for each water or watershed, several ecological, stressor, and social context indicators that are associated with the likelihood that a restoration effort may succeed. The user selects the indicators based on what is most appropriate to the waters being assessed and their surrounding communities, the availability of quality data, and the goals of the restoration effort. Measuring the same indicators on all waters allows for a systematic, even-handed and information-based comparison. Outputs based on scenario criteria selected by the user include ranked watersheds and a statewide map to visualize recovery potential for watersheds in the state.

Another USEPA tool is the WATERSCAPE ArcView Tool (WATERSCAPE – WATERShed Characterization And Prioritization for Environmental results). WATERSCAPE is a GIS-based framework for identifying priority watersheds which enables users to quickly visualize maps and compare alternative prioritization scenarios that reflect their own value systems while recognizing resource limitations. WATERSCAPE, developed by ESRI as an add-on to ArcGIS, combines two types of “scored” state-normalized HUC12 data (relative and intrinsic) on properties of interest in order to identify priority watersheds. The user determines watershed to be evaluated, properties on which to base the analysis, and weighting factors for the priorities. The tool ranks the watersheds based on the predetermined properties and weighting factors. Results are provided in a geospatial layer that is color-coded based on the resulting scores.

The U.S. Geological Survey (USGS) Spatially-Referenced Regression On Watershed attributes (SPARROW) Modeling Decision Support System (SPARROW DSS) is another tool that may aid Louisiana in prioritization (USGS 2014). SPARROW DSS is an online tool that is watershed based and designed for use in predicting long-term average values of water characteristics, such as concentrations and amounts of selected constituents that are delivered to downstream receiving waters. SPARROW models are available for nitrogen, phosphorus, total organic carbon, suspended sediment, and total dissolved solids. Model estimates can be illustrated through detailed

maps that provide information about constituent loadings at multiple scales for specific watersheds or geographic areas.

The Nature Conservancy has developed several tools that may provide information that can be utilized for planning and/or prioritizing watersheds. The Louisiana Watershed Initiative is also working with The Nature Conservancy to develop a tool to aid in the planning of flood mitigation/resiliency projects. Given the strong relationship(s) between water quality and hydrology/hydraulics, this tool will likely provide information that can be utilized for planning and prioritizing for watershed restoration and protection.

Watershed Assessment of River Stability and Sediment Supply (WARSSS) (Rosgen 2006) protocols, including Rapid Resource Inventory for Sediment and Stability Consequence, may be utilized for restoration and protection projects related to impairments associated with stream dredging, channelization, and other alterations. These protocols were originally developed by Dave Rosgen for the U.S. Environmental Protection Agency (EPA).

Other tools, not yet in existence, may be considered as they are developed.

3. Public Participation

Public participation (engagement and outreach) is crucial to the success of watershed restoration or protection activities. Both LDEQ's Public Participation Group and Communications Section serve as information outlets for LDEQ as well as avenues to engage with the public. The Public Participation Group conducts public notice and hearing activities for the Department. Through these activities, LDEQ provides information to the public about departmental decisions and activities and receives feedback from the public. LDEQ's Communication Section oversees all media outlets for the department and provides guidance on messaging for Vision media activities. These media outlets provide additional opportunities for LDEQ to engage with the public.

LDEQ plans to public notice the prioritization framework and the priority waterbodies through the periodic publishing and public noticing of Louisiana's Integrated Reports. Draft TMDL and alternative reports will also be public noticed. All public notices will be handled by the Public Participation Group. In addition, LDEQ plans to initiate the development of citizen advisor groups in selected watersheds. These groups will focus on participation from all communities within the watershed, including those that may not typically be involved in addressing environmental issues or may be considered disadvantaged.

b. Medium Mechanisms

1. National, State and Local Water Quality Initiatives

National and state water quality initiatives will also be considered in the Louisiana Prioritization Framework. Current national initiatives active in Louisiana include the U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS) sponsored Mississippi River Basin Initiative (MRBI), and the National Water Quality Initiative (NWQI). In Louisiana, the USDA NRCS has prioritized five HUC 12 level watersheds under the MRBI program and seven HUC 12 level watersheds under NWQI. These USDA NRCS programs provide targeted conservation practice implementation in the prioritized watersheds to aid water quality protection and restoration.

State water quality initiatives address both nonpoint and point sources. The LDEQ Nonpoint Source Program (NPS) has currently prioritized 33 impaired water bodies for restoration activities. The LDEQ NPS works closely with the Louisiana Department of Agriculture and Forestry (LDAF) and the USDA NRCS in Louisiana on identifying and implementing appropriate best management and conservation practices for these targeted watersheds. The LDEQ Compliance Monitoring Strategy, first implemented in 2007, outlines approaches for monitoring permit compliance to aid in addressing potential point source issues (LDEQ 2014a). Through the Compliance Monitoring Strategy, LDEQ performs Watershed Based Inspections to identify both unpermitted point source dischargers and nonpoint sources within targeted watersheds.

Local water quality initiatives typically include those directed by local governments as well as local watershed-based organizations such as districts, conservancies, and citizen-based groups. .

2. Other Strategic Frameworks

Other strategic frameworks for Louisiana will be considered in the Louisiana Prioritization Framework. For example, the Louisiana Nutrient Reduction and Management Strategy provides a framework for the state of Louisiana to manage nitrogen and phosphorus to protect, improve, and restore the nutrient-related water quality in Louisiana's inland and coastal waters (Louisiana Nutrient Management Strategy Interagency Team 2014). The Louisiana Nutrient Reduction and Management Strategy recognizes the role all stakeholders, through voluntary participation within a watershed community, play in nutrient management. The Louisiana Nutrient Reduction and Management Strategy implementation is focused on key areas that include 1) river diversions, 2) nonpoint source management, 3) point source management, 4) incentives, 5) leveraging opportunities, and 6) new science-based technologies/applications. Through this effort the state will comprehensively evaluate the nutrient management activities that are already occurring within the state to leverage the best use of existing resources and future planned activities regarding nutrient water quality in Louisiana.

In order to improve community resiliency to flooding statewide, the Louisiana Watershed Initiative (LWI) "is pursuing a holistic approach to watershed management, one that goes beyond conventional mitigation measures and incorporates nature-based solutions. LWI is also developing computer models and a river and rain gauge network to better understand flood risk and help select projects best suited for investment in each watershed region." The activities, resources, tools, and programs associated with the LWI are expected to provide significant benefits to water quality as well as flooding. LDEQ will continue to look for opportunities to coordinate and partner with the LWI to meet water quality goals associated with the Vision's stream restoration and protection efforts.

Consideration of other strategic frameworks as they become known will aid in the prioritization for Louisiana.

c. Low Mechanisms

1. Others Not Yet Identified

Other mechanisms for prioritization that are subsequently identified may be evaluated for consideration in future iterations of this Prioritization Framework.

2. Factors Considered in Prioritization

Louisiana will consider several factors in the prioritization of water bodies for restoration and protection under the new vision of the 303(d) Program. Factors are presented in a relative ranking by those which may be considered high, medium, to low. These factors include high factors of pollutants causing the impairment; sources; Water Permits and Nonpoint Source Program priorities; local government and stakeholder support; and restoration potential; medium factors of state and federal agency partnerships; regionalization efforts; and low factors of watershed characteristics; water quality standards, monitoring, assessment, and modeling; TMDL modeling and development; inspections and compliance; and funding availability.

a. High Factors

1. Pollutant Causing Impairment

The specific pollutant that is causing or contributing to water quality impairment will be considered in the prioritization. Pollutants that represent human health and aquatic life concerns may be given higher priority than those that are less of a concern to human health and aquatic life. In addition, the number of pollutants that may be contributing to the impairment will be considered such that a restoration measure that is being implemented may help to improve multiple pollutants and water quality impairments. Impairment history will be considered such that long-term impairments may be given a higher priority or new impairments, which may be corrected more easily may be given a higher priority. The degree and severity of impairment will be considered.

2. Pollutant Sources

Suspected sources of pollutants will be considered in prioritization such that those suspected to be from natural sources may be given lower priority. In certain cases, LDEQ may conduct investigative activities to verify the pollutant sources. Sources that can be easily identified and remedied may be given a higher priority. Items that do not have a clear path to resolution may receive a lower priority. Considerations may include population, land use, and climate changes.

3. Water Permits and Nonpoint Source Program Priorities

Both the Water Permits and Nonpoint Source Programs are dependent or impacted by activities conducted by the TMDL\Alternative program. In turn, the Water Permits and Nonpoint Source Programs conduct activities that impact the TMDL\Alternative Program. Therefore, it is critical that the priorities of both the Water Permits and Nonpoint Source Programs be considered when planning and prioritizing activities under the New Vision. This requires ongoing coordination among all three programs.

Permitting needs will be considered. The Louisiana Pollutant Discharge Elimination System (LPDES) Permitting Program administers the surface water discharge permitting program for Louisiana. Changes in loading to Louisiana streams may require additional activities to be undertaken to implement water discharge permits. Such activities may include new or revised TMDLs, instream modeling, or watershed (nonpoint source) modeling.

The LDEQ NPS works to address nonpoint sources within Louisiana water bodies through prioritization of impaired water bodies and development and implementation of Watershed Implementation Plans (WIPs) in partnership with state and federal agencies. The prioritized

water bodies in the LDEQ NPS Program will be considered in the prioritization under the new vision of the 303(d) Program.

4. Local Government and Stakeholder Support

Local government and stakeholder support is critical to any watershed restoration and protection projects. LDEQ will consider the potential of such support during the prioritization process.

5. Restoration Potential

Water bodies where specific pollutant concentrations are severely impaired compared to the respective water quality attainment goal may be in more need of intervention through restoration measures than those with less severity (those where specific pollutant concentrations may be close to meeting the attainment goal). Conversely, water bodies that are less severely impaired may be closer to attaining the water quality goal and may require minimal implementation efforts to help them achieve restoration. Finally, water bodies that are healthy but show declining water quality could be considered as candidates for protective actions.

b. Medium Factors

1. State and Federal Agency Partnerships

State and federal agency partnerships are instrumental to water quality restoration and protection in Louisiana. Enhanced partnerships among state agencies including the LDAF, Louisiana Department of Natural Resources (LDNR), Louisiana Department of Health and Hospitals (LDHH), Louisiana Department of Wildlife and Fisheries (LDWF), and the Coastal Protection and Restoration Authority of Louisiana (CPRA) and among federal agencies including USEPA, USGS, and USDA NRCS provide a multitude of opportunities for collaboration on water quality priorities for the state of Louisiana. Interagency efforts currently underway, such as the LDEQ NPS Program, the Louisiana Nutrient Reduction and Management Strategy, and the LWI will be continued and enhanced as resources allow to aid in determining prioritization for water bodies in Louisiana under the new vision of the 303(d) Program.

2. Watershed Groups Partnerships

Watershed groups that are active in projects to restore and protect water quality and are most knowledgeable of water quality issues impacting their local water bodies will be key to realizing water quality improvements under the new vision of the 303(d) Program. Participation of watershed groups, such as the Lake Pontchartrain Basin Foundation and the Bayou Vermilion District, that play an active role in improving water quality will be considered in the prioritization of water bodies for Louisiana.

3. Regionalization

Some areas in Louisiana are experiencing rapid population growth. Some local governments and parishes or regions in Louisiana may consider regionalization for sewer treatment systems without a centralized waste treatment facility in heavily populated areas. LDEQ supports such regionalization efforts that will reduce the number of dischargers, reduce the pollutant loads, and result in water quality improvements. If known, regionalization efforts proposed and under development in Louisiana will be considered in prioritization.

c. Low Factors

1. Water Quality Program Activities

Water quality standards provide the basis for determining whether a water body is meeting its designated uses and criteria. LDEQ recognizes the importance of having appropriate water quality standards in Louisiana with consideration of natural conditions, such as naturally dystrophic waters, and ecoregional characteristics found in the state. LDEQ is working through an improved, streamlined Use Attainability Analysis (UAA) process for refining water quality standards which are currently inappropriate for many Louisiana water bodies. For example, LDEQ is continuing to revise the dissolved oxygen (DO) water quality standard based on an ecoregional approach throughout the state. Thus, status of water quality standards projects will be considered in prioritization.

LDEQ conducts water quality monitoring in Louisiana water bodies through the Ambient Water Quality Monitoring Network (AWQMN) and performs biennial assessments in Sections 303(d)/305(b) Integrated Reporting (IR). Routine monitoring activities under the AWQMN provide water quality data that is used to make determinations of water body impairments in the biennial IR. Monitoring through the AWQMN is based on a rotating schedule, where each water body is monitored monthly for a full year once every 4 years. The water sampling year under the AWQMN is November through October. Consideration in prioritization will be made regarding the routine monitoring schedule for water bodies across the state.

Water quality modeling and Total Maximum Daily Loads (TMDLs) will be considered in prioritization. As water quality standards are revised to those more appropriate for Louisiana water bodies, existing TMDLs may need to be revised to reflect those revised standards. Prioritization will consider the need for TMDL revision for a water body.

2. Inspections and Compliance

Inspections and compliance regarding water quality in Louisiana will be considered in prioritization. The LDEQ Compliance Monitoring Strategy provides an approach for monitoring permit compliance, identifying unpermitted dischargers, and documenting nonpoint sources in watersheds. Under the Compliance Monitoring Strategy, the LDEQ Inspection Division annually selects targeted watersheds to perform Watershed Based Inspections. Consideration will be given regarding the watersheds targeted by the LDEQ Compliance Monitoring Strategy for a given fiscal year. In addition, regionally-based resources such as availability of personnel and equipment, and the occurrence within a watershed of other environmental response situations may be given consideration in prioritization.

3. Watershed Characteristics

Watershed characteristics will also be considered in prioritization. Land use, watershed basin, and ecoregion may be considered when prioritizing water bodies. Changes in land use and hydrology, especially those accompanied by potential or actual changes in water quality, will be considered. Land uses such as forest, agricultural, or urban; watershed basins that encompass local drainage patterns; and an ecoregional approach whereby the natural ecology of a region is considered may play a role in prioritization for Louisiana. General agency knowledge of the watershed and of activities occurring in the area can also be useful in determining prioritizations.

4. Funding Availability

Funding availability will also be considered in prioritization in Louisiana. The availability of funding in watersheds and those watersheds with existing or planned funding to support water quality restoration and protection through state or federal programs may aid in determining prioritization for Louisiana.

D. Consideration of USEPA National and Regional Priorities

LDEQ will consult with USEPA R6 during the stakeholder engagement phase of drafting the Prioritization Framework (between December 31, 2022 and September 30, 2023) to discuss the National and Regional Priorities of USEPA R6. LDEQ will consider information presented by USEPA R6 on National and Regional priorities. USEPA priorities will be acknowledged as a factor to be considered (see elements 3.1 National, State and Local Water Quality Initiatives and 10. State and Federal Agency Partnerships) in prioritizing watersheds for restoration and protection.

E. Plan for Where the State will Begin Work

LDEQ will develop a plan to work on restoration and protection with consideration of the rotating monitoring schedule of the AWQMN and limited available regional-based resources. LDEQ will focus on watersheds, impairments, or designated uses in which intervention can provide significant benefit. LDEQ will consider TMDL revisions as needed based on permitting needs, loading changes, or following water quality standards refinement.

In order to address the significant challenges with limited resources, LDEQ plans utilize a phased planning and prioritization approach in which the period beginning in 2023 and ending in 2032 will be separated into 3 phases. Each phase is expected to cover three to four years and include approximately one of each of the three following activities: 1) new TMDL, 2) TMDL revision, 3) and TMDL alternative. Additionally, it is expected that remaining commitments from the original 2016-2022 Vision will be completed in the first phase of the new 2023-2032 Vision.

LDEQ will develop a planning list of candidate watersheds, designated uses, impairments, or some combination thereof, that may be addressed during the designated period. Priorities will be chosen from these candidates as indicated in the appropriate integrated report. However, for the first one or two years of the “New Vision 2.0” cycle, LDEQ may focus on completing priorities established for the “New Vision 1.0” cycle as well as beginning activities for the current “New Vision 2.0” cycle. LDEQ will revisit priorities during each biennial reporting cycle and will report any changes in priorities in the biennial reporting in April of even numbered years.

F. Statement on Flexibility and State’s Approach to Changing Priorities

LDEQ will utilize adaptive management to address changing priorities or conditions impacting water quality in Louisiana.

G. Description of Changes From the Past to New Prioritization Scheme

Prior to 2012, LDEQ employed a prioritization approach that was mandated by an USEPA consent decree for TMDLs. Under that approach, TMDL work was prioritized by basin and restoration. TMDL alternatives, while they may have been implemented, were not directly considered under the 303(d) Program. Beginning in 2016, long-term vision for the 303(d) Program allowed states

to prioritize watersheds for the development of TMDLs or alternative restoration or protection plan. Both states and the EPA recognize the need to continue the processes established under the original “Vision” and that these processes will result in more effective watershed restoration and protection activities. This framework represents a continuation of the processes established with the original “Vision” while making adjustments for the lessons that were learned.

H. Public Engagement Approach

LDEQ will solicit stakeholder engagement on the Prioritization Framework and a list of waterbodies to be considered as candidate for priority listing over the entire duration of New Vision 2.0 prior to April 30, 2023. However, due to the planning nature of the Vision during the current period (2023-2032), it is anticipated that additional engagement regarding the Prioritization Framework will continue periodically for the duration of the period. Targeted stakeholders may include those within LDEQ, other state and federal agencies, watershed groups, local governments, special groups, the regulated community (such as industry), the non-regulated community (such as agricultural groups and non-governmental groups), and the general public. These stakeholder engagement interactions may be in the form of in-person meetings, conference calls, postings on LDEQ webpages, and/or presentations at local or regional meetings or conferences. LDEQ will consider for the Prioritization Framework the feedback garnered from all stakeholders during the engagement phase.

Following the engagement phase, LDEQ will prioritize the watersheds for restoration and protection. Beginning with the 2024 Integrated Report, LDEQ will identify the priorities for restoration and protection over the subsequent 2-year cycle for all stakeholders to review and provide comments. Remaining priorities will be identified in subsequent 2-year cycles. LDEQ will utilize the agency website and social media outlets to disseminate information and provide documents to the public on the Prioritization Framework for Louisiana (LDEQ 2014b). LDEQ will review and update the Prioritization Framework during subsequent biennial IR reporting. Additionally, LDEQ will continually compile any new information or stakeholder interest received to capture for priority setting in the next IR.

I. References

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