

Draft

***Framework for Florida's TMDL
Prioritization 2.0***

**Ken Weaver, Ansel Bubel, and Eric Tano
Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection**

April 2022

**2600 Blair Stone Road
Mail Station 3000
Tallahassee, FL 32399-2400
<https://floridadep.gov/TMDL>**



Background

The Florida Department of Environmental Protection (DEP) must develop Total Maximum Daily Loads (TMDLs) for waterbody segments added to DEP's Verified List of Impaired Waters, as required by the Clean Water Act of 1974 and Florida Watershed Restoration Act (Chapter 403.067, Florida Statutes). A TMDL establishes the maximum amount of a pollutant that a waterbody can receive without causing water quality standard exceedances. As such, TMDL development is an important step toward restoring the state's waters to fully meeting their designated uses described in Rule 62-320.400, Florida Administrative Code (F.A.C.).

Although all impaired waters are required to eventually have a TMDL or an equivalent restoration plan developed, there is a need to select which waters will receive TMDLs first. The state has listed hundreds of impaired water segments, which vastly exceeds the number of TMDLs that can be produced each year. TMDL development requires detailed site-specific analysis that constrains the number of TMDLs that can be produced each year. Additionally, waters vary greatly in the magnitude of their impairments and in the threat that these impairments pose to human and ecological health. Therefore, there is a need to prioritize the order in which waters will receive TMDLs, to best use state resources to address pressing water quality issues. For these reasons, DEP must develop a TMDL prioritization and workplan. The first TMDL prioritization was created by DEP in 2014, in which DEP provided EPA with a priority framework document addressing how the 303(d) and TMDL Programs implement Section 303(d) of the Clean Water Act (DEP 2015a). The report focused on Florida's transition away from a pace-driven TMDL development schedule and toward a recovery-potential screening approach. In January 2020, DEP updated the approach by (1) explaining the significant changes to its priority-setting process since the summer of 2014, and (2) expanding the planning horizon for TMDL development through 2022.

DEP is initiating the development of a second TMDL prioritization, termed 'Prioritization 2.0'. Under Prioritization 2.0, DEP will lay out the procedures for prioritizing TMDL development for the 10-year period from 2022 through 2032. DEP will use these procedures to develop TMDL workplans on a biennial basis, which will coincide with the biennial assessment of Impaired Waters. DEP's goals for Prioritization 2.0 will be to select a set of waterbodies where TMDLs are the best tool to guide ecosystem restoration and support community objectives for those waters. Key prioritization factors under consideration are (1) the waterbody type (*e.g.*, estuary, lake, stream), (2) the parameter causing impairment, (3) the magnitude and/or frequency of water quality criterion exceedance, (4) the ecological significance (*e.g.*, Outstanding Florida Waters, Aquatic Preserves, parks), (5) the needs of disadvantaged and/or underserved communities, and (6) the opportunities for stakeholder-led TMDL alternatives (*i.e.*, reasonable assurance plans [RAPs] and pollutant reduction plans). The new TMDL prioritization will be developed with public input and involvement, including public workshops and associated comment periods.

Prioritization 2.0 is expected to maintain a focus on nutrient impairments; however, DEP also intends to initiate a new consolidated TMDL approach to assess fecal indicator bacteria (FIB) impairments beginning in 2022. Under this approach, individual TMDLs will be calculated for all waters verified impaired for FIBs, and all resultant TMDLs will be presented in a single consolidated document, allowing stakeholders to find information on bacteria-impaired waterbodies more easily. It also will use limited state resources more efficiently and speed up the restoration of bacteria-impaired waters.

Vision statement

DEP's approach for developing the prioritization procedures and 2-year works plans is guided by an overall vision to select a set of waters in which TMDLs would be the best tool available. In other words, these would be waters where TMDLS can most effectively guide the restoration of surface waters to protect the ecosystems they support and the human communities which rely on them. In carrying out this vision DEP has three main goals:

1. Working with communities and stakeholders to develop alternative restoration plans (*i.e.*, reasonable assurance plans and pollution control plans) in situations when TMDLs are not the best tool to guide restoration and/or when alternative restoration plans provide a faster and more effective route to restoration (Cleaner Water, Faster).
2. Identifying disadvantaged or underserved communities. These are communities that have historically been underrepresented in 303(d) assessments, in the development of TMDLs, and the restoration process. DEP will engage with those communities to identify their water quality concerns and implement solutions under the purview of DEAR's programs.
3. Continuing to build the TMDL program's technical capacity to develop TMDLs for different waterbody types and parameter combinations throughout the 10-year prioritization period, so that we can address the stream impairments. For example, DEP is working to develop approaches to develop TMDLs for streams that are impaired using the Rapid Periphyton Survey (RPS).

Structure of the TMDL 2.0 Prioritization

Under TMDL Prioritization 2.0, the department will prioritize impaired waters based both on water quality conditions and logistical considerations inherent in TMDL development. The first step in the process will be to screen for different impairment types to select candidate waters for initial TMDL Development (**Figure 1**). DEP plans to use a set of numerical screening criteria to select waters from the Verified List that will be candidates for TMDL development. The screening methodology varies depending on the type of parameter a given water is impaired for. From the candidate list, the DEP will then create a series of 2-year workplans. These workplans include priority waters which will be completed within the 2-year period, as well as a draft list. DEP will actively work on TMDL development for waters on the draft list; however, it may not complete these TMDLs during the current 2-year period due to modeling complexities, logistical considerations, and/or resource limitations.

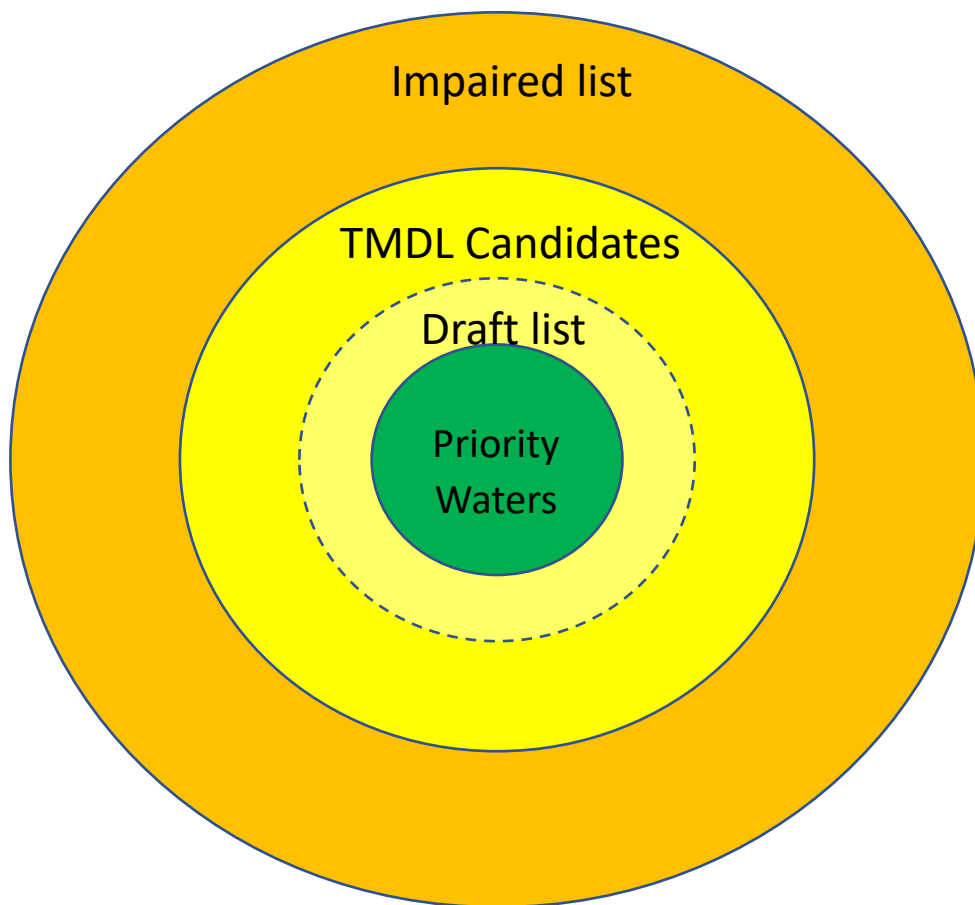


Figure 1. Conceptual TMDL Prioritization approach. Waters included on the Priority Waters and Draft Lists will constitute DEP's 2-year workplan for TMDL development. Waters will be re-evaluated every two years. individual waters will generally move inwards over the course of the 10-year priority plan.

The universe of all waters which can receive TMDLs is comprised of all waters classified in category 5 on the statewide comprehensive 303(d) list. These waters are represented in the figure above by the complete circle, extending from the center to the edge. The outer, orange-colored ring contains those impaired waters which do not meet the selection requirements of the inner rings. Each ring moving towards the center meets an additional set of selection criteria. Moving to the inner, nested rings reveals a subset of waters where we have determined that TMDL development would be the best path to restoration. The yellow and green rings contain these TMDL candidate waters, and this is the pool of waters we will draw from for TMDL development.

The two yellow rings are TMDL candidates that are not currently on the TMDL priority waters list. The outer, darker yellow ring represents the candidate pool waters that are not assigned to either the draft list or priority waters lists and for which DEP does not intend to initiate TMDL development activities during the current 2-year workplan period. The inner, lighter yellow ring contains the subset of TMDL candidate waters that are included on the draft list and for which DEP will initiate TMDL development

during the 2-year workplan but may not complete TMDL development within the 2-year period. There are several reasons that a water would be placed on the draft list. The first group includes complex TMDLs that require years of modeling; these will be placed on the draft list once initial model setup work has begun. The second group includes waters, primarily lakes, that DEP may be able to complete in two years, contingent on staffing and workload. These waters are not included on the 2-year priority waters list because the department cannot guarantee that resources will be available to complete these projects. The third group includes waters where the department has agreed to allow a stakeholder to develop a RAP (e.g., Biscayne Bay, Sarasota Bay). Ideally, the stakeholders will succeed in developing a RAP, but the department may need to develop a TMDL if a RAP is not completed.

The last and most important category is the priority waters list, which is the list of TMDLs that the department intends to complete within the 2-year workplan period. These are a subset of the candidate list that meet the additional requisite logistical and workload constraints. This list corresponds with the innermost, green circle in **Figure 1**.

Timing

DEP proposes to develop a new 2-year workplan on all even-numbered years from 2022 through 2030 (**Table 1**). The candidate pool will also be reviewed and refined on this same schedule. The 2-year schedule aligns with the biennial assessment (BA), which will provide information for re-prioritizing TMDL development every two years. This approach will allow DEP to adaptively remove waters that are no longer impaired, add new impairments to the workplan, receive input from communities on their concerns, and collaborate with stakeholders on alternative restoration plans.

Table 1. Schedule of the TMDL prioritization and 2-year workplans

Year	BA	Prioritization Activity	TMDL Activities	Bacteria TMDLs
2022		Develop 10-year Prioritization Process and Establish 2-Year Workplan		Pilot-EWC
2023				
2024		Set 2nd 2-year Workplan (IR)		
2025				
2026		Set 3rd 2-year Workplan (IR)		
2027				
2028		Set 4th 2-year Workplan (IR)		
2029				
2030		Set 5th 2-year Workplan (IR)		
2031				

Approach

The overall procedure is to begin with the comprehensive Verified List and then apply a set of selection criteria to create a candidate pool. Then logistical considerations and other concerns will be considered

to develop the 2-year priority waters and draft lists. This process will be repeated every two years, following the adoption cycle of new Verified Lists, so that the TMDL priorities are based on the latest assessment results. DEP will public notice each new 2-year workplan and will hold at least one public workshop to receive feedback from the public and stakeholders before finalizing the workplan.

There are different modeling approaches and strategies used to address different types of impairments; therefore, the prioritization will be carried out with a separate methodology for each impairment type. Additionally, waterbody type will be considered for nutrient impairments given the differences in criteria expression and numeric nutrient criteria (NNC) derivation methodologies for each waterbody type.

Bacteria

DEP is piloting a new approach for setting TMDLs for FIB Impairments. DEP is calling this new strategy a 'consolidated approach' in which all new eligible FIB impairments across the state are combined into one document and adopted as a group. This consolidated approach significantly increases the pace at which FIB TMDLs can be developed. DEP is piloting this approach in the Everglades West Coast basin in 2022 and will apply the new approach to all waters with bacterial impairments in 2023. Going forward, most new FIB impairments will be placed on the 2-year priority waters list and then receive a TMDL in the year following each new biennial assessment. Given that this new approach can efficiently set TMDLs for all new impairments every two years, there is no need to set priorities among the available FIB impairments.

Copper

The TMDL section is currently piloting an approach to develop copper TMDLs for impairments in the Naples Bay area. The department will finalize this TMDL in the first prioritization phase and develop a broader approach in 2024 as part of the second 2-year workplan.

Nutrients

Nutrient impairments are more complicated than most other pollution problems given that the waterbody is being stressed by multiple nitrogen and phosphorus species, which can cause varied biological responses. Therefore, the resulting TMDL needs to be able to show how reductions in nitrogen and phosphorus will lead to improvements in biological response variables. Different biological systems respond differently to nutrient inputs, with variations in residence time, color, and salinity being the main modulators of waterbody responses. Additionally, the expression of Florida's NNC varies by waterbody type, so the correct water quality assessment methodology should be applied to the corresponding waterbody type. Similarly, the TMDL program will divide its approach for prioritizing nutrient impairments by system type, with separate methods for selecting streams, lakes, springs, and estuaries for TMDL development. For streams and estuaries, there will be a two-phased approach to selecting waters. First, numerical screens will be used for all nutrient impaired waters to determine (1) which are good candidates for TMDL development, and (2) provide an initial priority ranking. Second, the initial priority ranking will be reviewed against other considerations including logistical and community concerns, the magnitude of the impairment, the ecological significance, and proximity to other impaired waters to develop a logical order in which to address groups of impaired waters.

Stream NNC are more complex than other NNC, incorporate floral and faunal metrics, and vary geographically (**Table 2**). For streams, if a site-specific interpretation pursuant to paragraph 62-

302.531(2)(a), F.A.C., (TMDL, SSAC, Level II WQBEL, or Reasonable Assurance Plan) has not been established, nutrient thresholds are used to interpret the narrative nutrient criterion in combination with biological information. The narrative nutrient criterion in paragraph 62-302.530(48)(b), F.A.C., shall be interpreted as being achieved in a stream segment if the following conditions are met:

- There is floral information supporting a determination that there is not an imbalance in flora and fauna in the system. These data can come from chlorophyll *a* concentrations, the absence or algal mats or blooms, the absence of nuisance macrophyte growth, and a lack of changes in algal species composition that otherwise would indicate an imbalance in flora or fauna.
- Additionally, there needs to be confirming support from one of two other indicators; either the Stream Condition Index (SCI) or an evaluation of the nutrient thresholds. To meet the SCI requirement, the average score of at least two temporally independent SCIs performed at representative locations and times is 40 or higher, with neither of the two most recent SCI scores less than 35 (*i.e.*, no faunal imbalance). Alternatively, the support can include the nutrient concentration not exceeding their thresholds more than once in a 3-year period.

Table 3. Stream nutrient thresholds for total phosphorus and total nitrogen.

Nutrient Watershed Region	Total Phosphorus Nutrient Threshold ¹	Total Nitrogen Nutrient Threshold ¹
Panhandle West	0.06 mg/L	0.67 mg/L
Panhandle East	0.18 mg/L	1.03 mg/L
North Central	0.30 mg/L	1.87 mg/L
Peninsular	0.12 mg/L	1.54 mg/L
West Central	0.49 mg/L	1.65 mg/L
South Florida	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.	No numeric nutrient threshold. The narrative criterion in paragraph 62-302.530(47)(b), F.A.C., applies.

¹These values are annual geometric mean concentrations not to be exceeded more than once in any three calendar year period.

DEP established the NNC for streams but also acknowledged that the relationships between nutrients and biological responses are highly influenced by site-specific and mitigating factors. In streams, these mitigating factors can include residence time, canopy cover, water velocity, depth, hydrologic modification, and habitat condition. Habitat and hydrologic modification are known to influence biological communities; therefore, DEP has determined that habitat condition and artificial channelization should be initial screening metrics in setting stream TMDL prioritization. Using this methodology will allow DEP to focus on streams that are primarily stressed by nutrients rather than those where habitat or channelization are the dominant contributing factors. Accordingly, DEP will use the Habitat Assessment (HA) and Artificial Channelization sub-score to select candidates and prioritize streams for TMDL development. Streams will be ranked based on available HA and Artificial Channelization scores as shown in **Table 2**. Streams with high HA scores (HA > 80, Artificial Channelization Score > 5), which are indicative of less disturbed stream channels, will be ranked as higher priorities. Streams will be ranked on a 1 to 4 scale with rank 1 being the highest priority and rank 4 being the lowest. Stream rankings of 1 and 2 will be considered candidates. Stream rankings of 3 and

4 will be initially considered non-candidates. The non-candidate streams will need to undergo either a stream exclusion review or a stressor identification study before being considered for addition to the candidate list.

Table 2. Stream priorities as affected by HA scores and channelization scores

Stream Ranking	HA Score	Artificial Channelization Score	Notes
4	≤40	N/A	Consider a stream exclusion review.
4	>40–80	≤5	
3	>40–80	>5–10	Consider a stream exclusion review and subsequent stressor identification study.
3	>80–100	≤5	
2	>80–100	>5–10	Evaluate against other considerations.
1	>80–100	>10	Evaluate against other considerations.
1	>100	N/A	

For those streams that have relatively intact habitats as indicated by higher HA scores, additional screening criteria will be applied to select streams to be added to the priority and draft lists. The additional screening criteria include the basis of listing, specifically whether the stream was listed for exceeding floral metrics, or a combination of Stream Condition Index (SCI) and the stream thresholds. Streams with Linear Vegetation Survey (LVS) impairments will be considered non-candidates until an empirical relationship between the metric and nutrients is established. Streams with RPS or chlorophyll *a* impairments would be considered for TMDL development, with the HA scores and exceedances of the TN and TP thresholds influencing whether the waterbody would receive an hierarchy 1¹ (H1) TMDL or a non-H1² TMDL. Similarly, SCI impairments with a TN and/or a TP impairment would be considered for non-H1 TMDL development. For the first phase of the prioritization, two types of impairments will be considered for TMDL development. First, streams that fail TN and/or TP and SCI, and pass RPS, LVS, and chlorophyll *a* will be considered for non-H1 TMDL development. Second, Streams that fail chlorophyll *a* and pass RPS and LVS will be considered for H1 or non-H1 nutrient TMDL development. The department will work on building capacity to address RPS impairments during the first prioritization phase with the goal of addressing these impairments in the second prioritization phase.

Site specific NNC for estuaries have been established based on several different expression and derivation approaches. Estuaries with NNC developed based on adopted TMDLs or Reasonable Assurance Plans will be considered non-candidates for additional TMDL development, given that a TMDL and associated restoration efforts are already in place for these waters. Most estuaries have NNC expressed as annual geometric mean (AGM), annual arithmetic means (AAM), or values not to be exceeded in more than ten percent of samples over the evaluation period. The AGM and AAM-based NNC were derived using robust long-term datasets. Conversely, the percentage-based criteria were derived in circumstances when DEP had more limited data (less than seven years). Given the limited

¹ Hierarchy 1 (H1) TMDLs establish site specific numeric interpretations of the narrative nutrient criterion, which replace the generally applicable NNC for the given waterbody type.

² Non-H1 TMDLs are based on attainment of the generally applicable NNC for the given waterbody type and do not establish a site specific nutrient criterion.

data sets and associated uncertainty in the percentage-based criteria, DEP proposes to re-evaluate the NNC for any impaired estuary with percentage-based NNC before initiating TMDL development. These waters remain non-candidates pending the outcome of the NNC review. The NNC review will involve re-evaluating the NNC for the estuary using DEP's reference period approach including a re-evaluation of the quantitative data screening thresholds, which include the achievement of (1) estuary-specific transparency (where targets were available), (2) chlorophyll *a* (indicating a lack of algal blooms), and (3) attainment of dissolved oxygen criteria (DEP 2015b). The NNC re-evaluation will result in two possible determinations: (1) that the estuary is still in a healthy biological condition (*i.e.*, meeting it is designated use) and the NNC need to be revised, or (2) that that estuary is not biologically healthy and a TMDL or alternative restoration plan is needed. Estuaries for which the later determination is true will be considered for TMDL prioritization during the development of the next 2-year workplan.

For estuaries with criteria expressed as AGM or AAM concentrations, DEP will prioritize based on the magnitude of exceedance as a means of addressing the most enriched waters first. These estuaries will be ranked in priority from 1 to 3, with rank waters 1 having the highest priority and rank 3 waters given the lowest priority. For waters with AAM- and AGM-based NNC that consistently exceeded their criteria, the magnitude of the NNC criteria will be buffered by 20% for prioritization purposes. Waters that exceed the buffered chlorophyll *a* more than once in a 3-year period will be added to the candidate list with a ranking of 1. Waters that exceed the buffered TN and/or TP criteria more than once in a 3-year period and exceed the adopted chlorophyll *a* criterion will be added to the candidate pool with a priority of 2. Waters that exceed the applicable NNC but did not exceed the buffered criteria for any one of the nutrient analytes would be added to the candidate pool with a priority of 3. As with other nutrient impairments, the 2-year workplan would be selected from waters appearing in the candidate pool based on their ranked priority and other considerations (e.g., geographic proximity to higher ranked waters).

For lakes, data sufficiency screens will be applied to ensure that enough data are available to establish a TMDL and that the impairment represents long-term conditions. Certain waters are susceptible to dry or wet conditions, and we want to ensure that the impairment is reflective of long-term conditions rather than a short-term meteorological event. In addition, models require several years of data to represent the processes occurring in waterbodies. Specifically, DEP is requiring at least five years of TN, TP, and chlorophyll *a* data and confirmation of a chlorophyll *a* impairment in the last biennial assessment in order to put a waterbody in the candidate pool. The 2-year workplan will be developed in consideration of modeling approaches and geographic clustering to develop address all impairments in a watershed in the same report.

An approach to prioritizing TMDLs for springs will be developed over the first 2-year workplan period (2023–2024). All first-magnitude springs already have adopted TMDLs, as required by the Florida Legislature. DEP will evaluate the best approach(es) to address newly impaired springs.

Other considerations

After selecting the candidate waters the described priority rankings, DEP will consider several factors to set the final 2-year workplan. The creation of a short-term workplan involves balancing workload and expected project logistics. Large-scale TMDL projects, which involve complex hydrodynamic and water quality modeling, often take more than two years and will therefore need to have modeling completed

and public outreach in progress before including the water on the 2-year priority waters list. Likewise, DEP must develop tools, translators, and methods to address floral impairments in streams before these waters can be considered for the 2-year workplan. Conversely, DEP has well established approaches to address nutrient impairments in lakes; therefore, the 2-year workplan will continue to include many lakes. DEP will consider the grouping of waters to take advantage of geographical clustering when developing TMDLs. Impaired waters in close proximity can often be addressed in a combined TMDL report and rulemaking effort that saves significant time over approaching TMDLs within separate reports. Waters within, or near a managed area (e.g., OFW, aquatic preserve, park) will be considered a higher priority. Finally, DEP will consider community needs and climate change when establishing the 2-year workplan. Although, as described below, these considerations will be phased into the prioritization framework over the 10-year period as DEP builds its capacity to address and consider these issues.

DEP will begin by evaluating clusters of waters on the candidate pool in order to find the most efficient way to group waters into hydrologically connected modeling domains. Groups of adjacent waters located within the same drainage basin will typically be completed as one TMDL project.

The TMDL section has extensive experience developing TMDLs for lakes and can complete these TMDLs rapidly. Simple and medium complexity lake TMDLs can be completed within one 2-year workplan period and will likely represent a majority of the nutrient TMDLs developed.

Alternative Restoration Plans

DEP encourages local stakeholders to develop plans at the earliest practical time to restore waters not meeting state water quality standards. The Impaired Waters Rule (IWR) authorizes two types of restoration plans that avoid placement of a waterbody on the Verified list; the optimal time to propose or submit one of these is during the assessment cycle and/or before TMDL development. Waterbodies with restoration plans meeting the requirements of rule 62-303.600, F.A.C. (“4b plans” or “Reasonable Assurance Plans”) are not placed on the Verified List or the 303(d) list. Waterbodies with restoration plans only meeting the requirements of Rule 62-303.390(2)(d), F.A.C. (“4e plans”) are placed on the Study List and the 303(d) list. The 4b and 4e restoration plans are established in a streamlined manner compared to the process leading to BMAPs and are a preferred alternative to the typical regulatory steps by the department as they expeditiously focus limited resources on remedying the identified impairment.

Waters with approved or accepted 4b or 4e plans for the parameter under consideration will not be considered for TMDL development unless the waterbody is placed back into category 5 for the given parameter. DEP will consider the status and expected development and implementation schedule for proposed alternative restoration plans when setting the 2-year priority waters and draft lists. The primary determining factor in this consideration will be whether DEP has a reasonable expectation that the proposed alternative restoration plan will result in water quality restoration sooner than the DEP implemented TMDL route. DEP is considering including proposed reasonable assurance (4b) plans on the draft list as a means of providing public transparency. Alternative restoration plans will be considered by DEP for waters on the 2-year year workplan; however, a plan will only be accepted as an alternative to a TMDL if the planned restoration activities can be initiated before the TMDL is completed by DEP. It is unlikely that DEP will accept an alternative plan in cases where TMDL development has already been initiated.

Community Needs

The 2014 Prioritization included Environmental Justice (EJ) as one of the seven indicators used to prioritize impaired waters for TMDL development. The EJ indicator was based on data from EPA's EJSCREEN, which is an environmental justice screening and mapping tool that uses demographic and environmental data to highlight places that may have higher environmental burdens and more vulnerable populations. DEP intends to continue to consider the needs of disadvantaged and historically underserved communities under Prioritization 2.0 in a phased manner. The first phase of the effort will involve using demographic data to identify potentially disadvantaged or underserved communities and then evaluate the historic level of water quality monitoring in waterbodies most likely used by these communities. The emphasis of the review is on water quality parameters that may affect the economic value of the waters or negatively affect human health including metals (copper and lead), nutrients, and fecal indicator bacteria to address whether sufficient data are currently being collected to assess the waterbodies under the Impaired Waters Rule (Chapter 62-303, F.A.C.). DEP will then use this information to help set future monitoring priorities under its Strategic Monitoring Plan. The second phase of the effort will involve community outreach and engagement so that DEP can receive input on community needs and concerns, which will then be used to refine future 2-year workplans or other restoration outreach (e.g., support for 4b and 4e plan development). The complete scope and nature of the community outreach have not yet been determined; however, it will be driven by one core question: how can TMDLs and/or other restoration pathways at DEP's disposal help to address the community's needs and concerns? DEP expects to initiate the outreach in 2023 and start incorporating community concerns into the 2024 to 2026 TMDL workplan.

Climate Change

The department will similarly evaluate climate change and its impact on impaired waters. The department will consider whether there is a nexus between impaired waters and the impacts of climate change that requires immediate attention. Some areas of focus may include the potential for Onsite Sewage Treatment and Disposal System (OSTDS) failures in low-lying coastal areas and decreased stormwater treatment effectiveness caused by "king tide" mitigation pumps. DEP will also consider whether coastal waters will become more susceptible to eutrophication under future climate and sea-level configurations.

References

- Florida Department of Environmental Protection (DEP). 2015a. *Priority Framework Document*. Tallahassee, FL: Division of Environmental Assessment and Restoration.
<https://floridadep.gov/sites/default/files/PriorityFrameworkDocument.pdf>
- _____. 2015b. *Numeric Nutrient Criteria for Estuaries Addressed in the August 1, 2013 Report to the Governor and Legislature*. Tallahassee, FL: Division of Environmental Assessment and Restoration, Water Quality Standards Program.