SECTION 5: WATER QUALITY STANDARDS for WETLANDS

Introduction

The following sections are to help Tribes and States develop water quality standards to protect their wetlands. First, is a section defining critical elements to characterize water quality standards. Second, are identified-actions and activities to be considered when developing a plan and/or apply for a WPDG. The final section provides additional resource links.

Definition

Tribes and States can set water quality standards to protect their wetlands and/or prevent degradation. Water Quality Standards (WQS) regulations at 40 CFR parts 131 and 132 provide specific requirements for development of Tribal and State standards, including specifying appropriate water uses to be achieved and protected, providing appropriate criteria to support those uses, and applying anti-degradation policy to all waters, including wetlands. The regulations also provide Tribes and States with the flexibility to adopt sub-categories of uses and associated criteria to allow for differentiation between types of wetlands, their expected uses, functions, and condition. However, if a Tribe or State fails to adopt standards specific to wetlands, its water quality standards then apply to wetlands. Often these default standards are not relevant to a wetland, e.g., a dissolved oxygen criterion that is inappropriately high for wetland environments. The most adaptive surface water standard is one that relies on narrative criteria rather than numeric criteria due to the high variability in wetlands particularly when compared with flowing waters. Wetland-specific water quality standards can provide robust protection for wetlands and their functions.

Developing defensible water quality standards for wetlands is a data intensive effort and is dependent on wetland monitoring and assessment. Standards can be derived and supported using measurements of wetland function or condition. Due to the unique characteristics of wetlands relative to flowing surface waters, water quality standards for wetlands may differ from traditional standards, e.g., with potentially less emphasis on water chemistry parameters and more emphasis on diversity of vegetation or macroinvertebrate communities. Generally, a suite of measures will be required for wetland water quality standards to protect the full range of wetland functions and/or ecological conditions. As with water quality criteria for other surface waters, criteria for wetlands can be narrative or numeric. Wetland standards may also differ from conventional standards by utilizing additional parts of Tribal or State statutes and regulations that do not apply to instream water quality.

The EPA Water Quality Standards for Wetlands: National Guidance (July 1990 and Appendix D of the Water Quality Standards Handbook Online Edition, 2014) identifies five key steps for developing water quality standards for wetlands: 1) define wetlands as "state waters"; (2) designate uses that protect the structure and function of wetlands; (3) adopt narrative criteria, and appropriate numeric criteria in the standards to protect the designated uses; (4) adopt narrative

biological criteria in the standards; and (5) extend the antidegradation policy and implementation methods. Like other water quality standards, wetland-specific water quality standards are submitted to EPA for approval during the triennial review process.

In 2016, EPA developed multiple templates to assist the nation in developing wetland water quality standards. The templates address three components of a water quality standard: designated uses, criteria, and antidegradation. The templates also provide wetland-specific terms and language so regulators can tailor standards to suit the needs of the wetland and their State, authorized Tribe, or Territory. Once developed, the Tribe or State may submit the wetland water quality standards to EPA for review and approval.

In general, water quality standards designed for wetlands can be a critical tool for Tribes and States to use to better manage and protect their wetland resources. For example, water quality standards specifically for wetlands (vs. adopting existing water quality standards developed for other surface water) can provide a more rigorous and appropriate foundation for protecting and enhancing Tribal or State wetlands. Wetland water quality standards can provide the basis for actions leading to an "overall increase" in wetland function and condition that some Tribes and States have as goals. They also provide the scientific basis for a variety of actions to protect and restore wetlands, such as permitting as standards provide a clear basis for making water quality-based permitting decisions under CWA sections 402 and 404 and other Tribal and State programs.

Water Quality Standards for Wetland Programs

EPA recommends that Tribes and States first establish narrative criteria when developing water quality standards for their resources. Where feasible, Tribes and States could develop numeric criteria to target specific pollutants and other parameters that could impact wetland functions.

EPA recommends that Tribes and States first identify their program-specific water quality standard capabilities and needs. After the capabilities are assessed and needs are outlined for the program, then program goals can be identified. The program goals can be used to determine which phase to enter. For example, if your goal is to develop water quality standards specifically for wetlands, Phase 1 actions and activities are the starting point. If implementation is the focus, then start with Phase 2. If program refinement or decision-making is the focus, then start with Phase 3.

EPA recommends that you design and build your program to address your specific needs, which could result in blending some activities from the same or different phases. The phases are as follows (Tables 10 - 13):

Actions	Menu of Activities
a. Adopt an appropriate definition of "waters" that includes wetlands	 Include wetlands in State/Tribal legal definition of "waters" Ensure "wetlands" definition is at least as inclusive as the CWA definition Ensure legal definition of "waters of the Tribe or State" is at least as inclusive as the CWA definition Remove any regulatory language excluding defined wetlands from water quality standards
b. Ensure the appropriate wetlands definition is included in water quality standards	• Include appropriate definition of "wetlands" in Tribal or State policy or regulations authorizing water quality standards program (e.g., wetland size, type, ownership)

Table 10. Phase 1: Water Quality Standards for Wetlands Planning Considerations

Table 11.	Phase 2:	Wetland-specific	Water	Quality	Standards	Data	Collection a	and	Assessment
Consider	ations								

Actions	Menu of Activities
a. Collect and analyze monitoring data and other information that will become basis of wetland water quality standards	 Define wetland types/classes (e.g., HGM, Cowardin or both) Identify and map wetlands that will be monitored for water quality standards Establish reference conditions for defined wetland types in terms of functional/condition performance and other physical and biological measurements Assess and document the gaps in the Tribal and State wetland protection and restoration efforts, and the consequences of failure to protect water quality and hydrologic integrity After the gaps in protection are identified, a Tribal and State can then begin to develop a plan for filling the gaps. Consider tailoring the Tribes' and States' existing monitoring and assessment activities to support better protection. Answer the following questions: a) Do functions of specific wetland types need to be documented? b) What is a logical strategy for developing future, strengthened wetland standards? and c) Does the information needed already exist or should additional monitoring or studies be conducted? An analysis should be made of existing Tribal or State authorities. Sometimes authorities exist in Tribal and State law that has not been fully utilized. Tribes and States should assess what new authorities (if any) are needed to fill the gaps. Develop a plan for more comprehensive protection by including both regulatory and non-regulatory components such as working with NRCS, local watershed groups, etc. Form an advisory group consisting of experts from pollution control, flooding, stormwater, transportation, forestry, fish & wildlife, natural hazards and other agencies to help with

Actions	Menu of Activities
	 development and implementation of a strategic plan. Conduct scientific studies to support water quality criteria to protect designated uses and determine if there are sufficient parameter or constituents to protect the designated uses. Monitor and maintain the biological, physical and chemical conditions of reference wetlands, specifically: base flow, flow regime, wetland hydroperiod; chemical, nutrient, dissolved oxygen regime of the wetland; conditions favorable to protection and propagation of threatened, endangered, and at-risk species; conductivity; floristic quality; integrity of species diversity, abundance, zonation; normal movement of fauna; pH of wetland waters; salinity (if applicable); size shape; soil type horizon structure; water currents, erosion, or sedimentation patterns; water levels or elevations; and water temperature variations.
b. Establish appropriate wetland specific designated uses to be achieved and protected	 Identify appropriate designated uses for different wetland types taking into consideration the use and value of a wetland for base flow discharge, flood flow attenuation, groundwater recharge, indigenous floral fauna diversity & abundance, nutrient cycling, organic carbon export/cycling, protection of downstream water quality, fish and wildlife habitats, cultural and traditional uses, recreational purposes, resilience against climatic effects, sediment/shoreline stabilization, and surface water storage. Monitor designated uses Map where designated uses apply
c. Adopt appropriate wetland specific designated uses to be achieved and protected	 Incorporate designated uses into Tribal and State administrative regulations, guidance, or statutes. Tribes and States may best adopt designated uses as administrative regulations with some requirements (e.g., permit guidance) issued as guidance. Develop an outreach and communication strategy to ensure Tribal and State government and the public (incl the regulated community) understand the purpose, importance, and benefits of more comprehensive and coordinated protection.
d. Establish narrative criteria where numeric criteria cannot be established or to supplement numeric criteria that qualitatively describe the condition or suite of functions that must be achieved to support a designated use	 Establish narrative physical criteria (e.g., fill material not present, no hydrologic alterations) Establish narrative biological criteria (e.g., species composition, population dynamics, structure) Develop General Requirements Determine Aesthetic Qualities language Develop Protection of Cultural and Traditional Uses language Develop Downstream Protection language Monitor and maintain the biological, physical and chemical conditions of reference wetlands,

	Actions	Menu of Activities
		 specifically: base flow, flow regime, wetland hydroperiod; chemical, nutrient, dissolved oxygen regime of the wetland; conditions favorable to protection and propagation of threatened, endangered, and at-risk species; conductivity; floristic quality; integrity of species diversity, abundance, zonation; normal movement of fauna; pH of wetland waters; salinity (if applicable); size shape; soil type horizon structure; water currents, erosion, or sedimentation patters; water levels or elevations; and water temperature variations Develop technical documents to support the narrative criteria with numerical data; this document describes the types of narrative and numerical data that will be used in determining attainment of the standard
e.	Adopt narrative criteria that qualitatively describe the condition or suite of functions that must be achieved to support a designated use	• Incorporate narrative criteria into state/tribal administrative regulations, guidance, or statutes. Tribes and States may best adopt narrative criteria as administrative regulations with some requirements (e.g., permit guidance) issued as guidance.
f.	Establish numeric criteria representing wetland specific values for chemical, physical, and biological parameters that may not be exceeded, must be exceeded, or some combination to protect or restore designated uses	 Establish numeric criteria for biological attributes based on wetland type and location (e.g., plant or macroinvertebrate indices, algae) Establish numeric criteria for chemical constituents based on wetland type and location (e.g., nutrients) Establish numeric criteria for physical parameters based on wetland type and location (e.g., buffer characterizations, microhabitats) Review the numeric water quality criteria in Tables 1-6 (EPA's Section 304a National Recommended Water Quality Criteria). Determine if omitting a criterion for some or all of its wetlands is needed. Determine if any adjustments need to be made to any or some of the criterion values before adopting them into the Tribal or State water quality standards.
g.	Adopt numeric criteria representing wetland specific values for chemical, physical, and biological parameters that may not be exceeded, must be exceeded, or some combination to protect or restore designated uses	• Incorporate numeric criteria into state/tribal administrative regulations, guidance, or statutes. Tribes and States may adopt numeric criteria as administrative regulations with some requirements (e.g., permit guidance) issued as guidance.
h.	Better define Tribal and State antidegradation policies for wetlands, requiring full protection of existing uses (functions and/or condition), maintenance of functions/condition in high quality wetlands, and a prohibition against lowering functions/conditions in outstanding national resource waters	 Include wetlands in antidegradation policies Include restoration potential of wetlands in antidegradation policies Administer and enforce antidegradation policies for wetlands Develop measures to ensure antidegradation is being applied successfully in a manner specific to wetlands

Actions	Menu of Activities
	 Develop general policies addressing implementation issues (e.g., low flows, variances, mixing zones). Tribes and States must not only adopt water quality standards for "waters of the United States." but must assess waters and review and revise water quality standards (CWA section 303(c))
i. Draft and finalize water quality standard regulations	 Examine the regulations and WQS of other Tribes and States such as Wisconsin, Minnesota, Ohio, and North Carolina Consider EPA's 1990 recommendations for state wetland water quality regulations; consider the draft regulations in Appendices A and B of the templates Anticipate and plan for EPA approval of your water quality standards for wetlands at a future date. The Tribal or States regulations should be structured so that it is possible for only the 'standards" portion of the state's program to be forwarded to EPA for review and approval. Determine if adopting such regulations, or as a comprehensive approach such as adopting wetland water quality standards and a new permitting authority all at once

Actions	Menu of Activities
a. Use wetland water quality standards as basis for regulatory decisions	 Use wetland water quality standards (as part of the Tribe or State's water quality requirements) to develop CWA section 401 certification decisions Base permit decisions, including mitigation requirements, on wetland water quality standards Track wetland impacts avoided or mitigated based on wetland water quality standards, via permitting actions
b. Use wetland water quality standards as basis for evaluating restoration/protection projects and mitigation/compensation projects	 Use wetland water quality standards in restoration guidelines Track restoration/protection projects that are monitored for compliance with wetland water quality standards Track restoration/protection sites that meet wetland water quality standards Identify remedial measures for sites that do not meet wetland water quality standards
c. Incorporate wetland water quality standards into monitoring and assessment program	 Update monitoring strategy and methods based on wetland water quality standards Track acres monitored for compliance with wetland water quality standards Regularly report on wetland status and trends relative to wetland water quality standards
d. Develop geographically defined wetland protection, restoration, and management plans	 Identify and prioritize management areas (e.g., identify vulnerable wetlands, prioritize restoration potential underserved or overburdened communities) Incorporate wetlands into a comprehensive Watershed Plan that serves Tribal and State water quality management needs and addresses all waters Evaluate progress toward meeting wetland objectives identified in other projects/programs (e.g., wildlife action plans, climate action plans, and water and equity strategies) Inform broader watershed activities (e.g., reducing erosion, providing floodplain storage, reducing nutrient loading, reducing risks to underserved/overburdened communities)

 Table 12. Phase 3: Refinement and Wetland Specific Water Quality Standards Decision Making

 Considerations

APPENDIX A: EPA WEBSITE RESOURCES

EPA Basic Information about Wetland Restoration and Protection:

• <u>https://www.epa.gov/wetlands/basic-information-about-wetland-restoration-and-protection</u>

EPA Core Elements of Effective State and Tribal Wetlands Program document.

• <u>https://www.epa.gov/sites/default/files/2015-</u> 10/documents/2009_03_10_wetlands_initiative_cef_full.pdf

EPA National Guidance Water Quality Standards for Wetlands:

• <u>https://www.epa.gov/cwa-404/national-guidance-water-quality-standards-wetlands</u>

EPA Partnering with Land Trusts Fact Sheet:

• <u>https://www.epa.gov/sites/default/files/2021-</u> 01/documents/wetlands protection partnering with land trusts.pdf

EPA Templates for Developing Wetland Water Quality Standards:

• https://www.epa.gov/wqs-tech/templates-developing-wetland-water-quality-standards

EPA Wetland Monitoring and Assessment Information:

• https://www.epa.gov/wetlands/wetlands-monitoring-and-assessment

EPA Wetlands Program Development Grants:

• https://www.epa.gov/wetlands/wetland-program-development-grants-and-epa-wetlands-grant-coordinators

EPA Wetland Program Development Grants [Tribal] Case Studies:

• <u>https://www.epa.gov/wetlands/wetland-program-development-grants-case-studies</u>

EPA Wetland Program Plans:

- https://www.epa.gov/wetlands/developing-state-or-tribal-wetland-program-plan
- https://www.epa.gov/climate-adaptation/climate-adaptation-plans
- https://www.epa.gov/environmentaljustice/resources-creating-healthy-sustainable-and-equitable-communities

EPA Wetland Restoration Fact Sheet:

• https://www.epa.gov/sites/default/files/2021-01/documents/wetland_restoration.pdf

APPENDIX B: BIBLIOGRAPHIC RESOURCES LINKS

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