Protection 101

Advancing Watershed Protection in the CWA 303(d) & 319 Programs

CWA 319 Guidelines, the 303(d) Vision, and Incorporating Protection Plans into Watershed-Wide Planning

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Agenda

- CWA 303(d) & 319 Background (30 min)
  - Healthy Watersheds Program
  - Region 8 Perspective on Protection
- State Example Spotlights (40 min)
  - CA's High Quality Waters Protection Strategy
  - WI's Protecting our Healthy Watersheds and High-Quality Waters
- Discussion (~20 min)

Protection plays a critical role in achieving Clean Water Act Goals

Clean Water Act (CWA) Section 101(a):

*"The objective of this Act is to restore and **maintain** the chemical, physical, and biological integrity of the Nation's waters."*

For example:

- **CWA Section 319:** State NPS programs identify restoration and **protection goals and program strategies**. Per EPA guidelines (2024), states have flexibility to use **Section 319 funds for protection** and can now report **NPS protection success stories.**
- **2022 – 2032 CWA Section 303(d) Vision** includes a Protection Goal highlighting the role of **protection planning** to prevent impairments and improve water quality.
- **Water Quality Standards** antidegradation requirements address the **protection of existing uses, high-quality waters, and outstanding national resource waters**.

CWA 303(d) Program

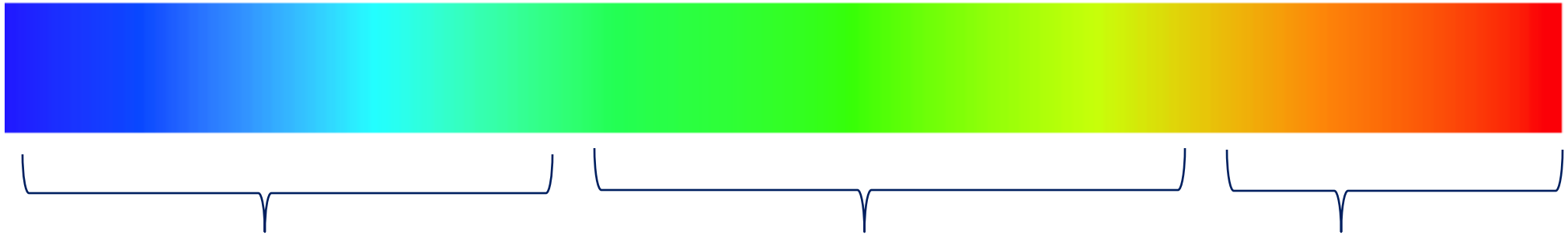
*In addition to recognizing the protection benefits that TMDLs and other restoration plans can provide, states, territories, and tribes **may develop protection plans to prevent impairments and improve water quality**, as part of a holistic watershed approach.*

The CWA Section 303(d) Program Vision 1.0 and 2.0 each have a protection goal. The working updated Protection FAQs provide more details on the key concepts underlying the Vision's protection goal.

- 13 states have submitted 1+ protection action into ATTAINS as of May 2025
- At least 15 states have called out protection efforts in their Vision Prioritization Frameworks
  - 5 of these states have never submitted a protection action in ATTAINS

What do we mean by Protection in the 303(d) Program?

Higher Quality



Impaired

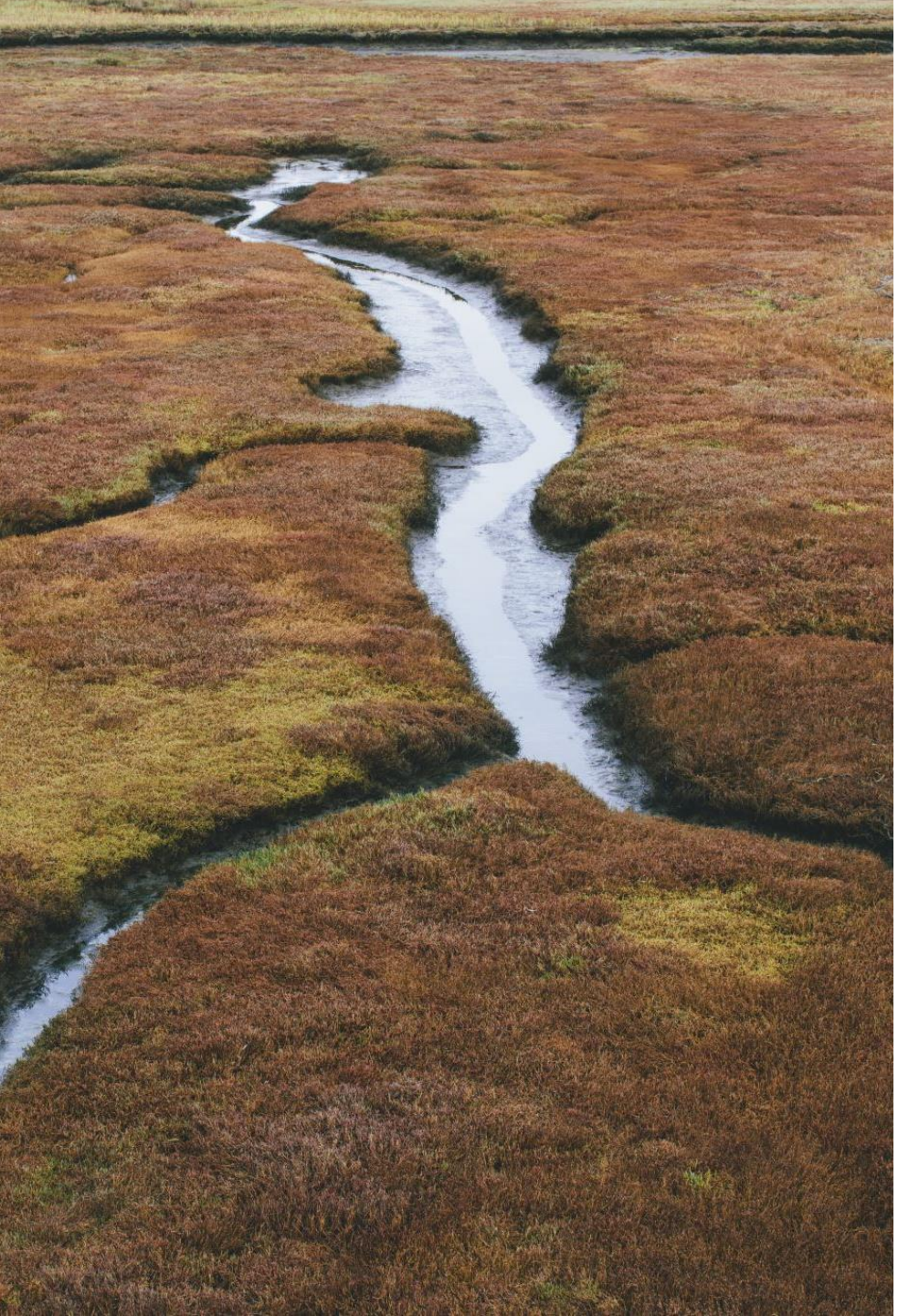
Protecting Waters of Higher Quality (e.g., Tier 2 or 2.5 waters, "highly valued waters," "exceptional waters," "outstanding state waters")

Programmatic Protection:
Implementation of the TMDL or "alternative" should not only reduce pollution levels in the impaired segments but also ensure that unimpaired segments at least do not degrade.

Protection from Impairment: If a water body is showing a trend of reduced water quality but is not yet impaired for a particular pollutant/parameter, or if it is close to impaired or simply targeted for protection by the state, a protection plan can be created to hasten implementation that keeps the water body from becoming impaired for that pollutant/parameter.

Legacy Protection: After restoration, the TMDL for the water body remains operative and shifts its classification from a TMDL for an impaired water body to a protection TMDL. This revised role of the TMDL ensures that the water body does not slip back into impairment.

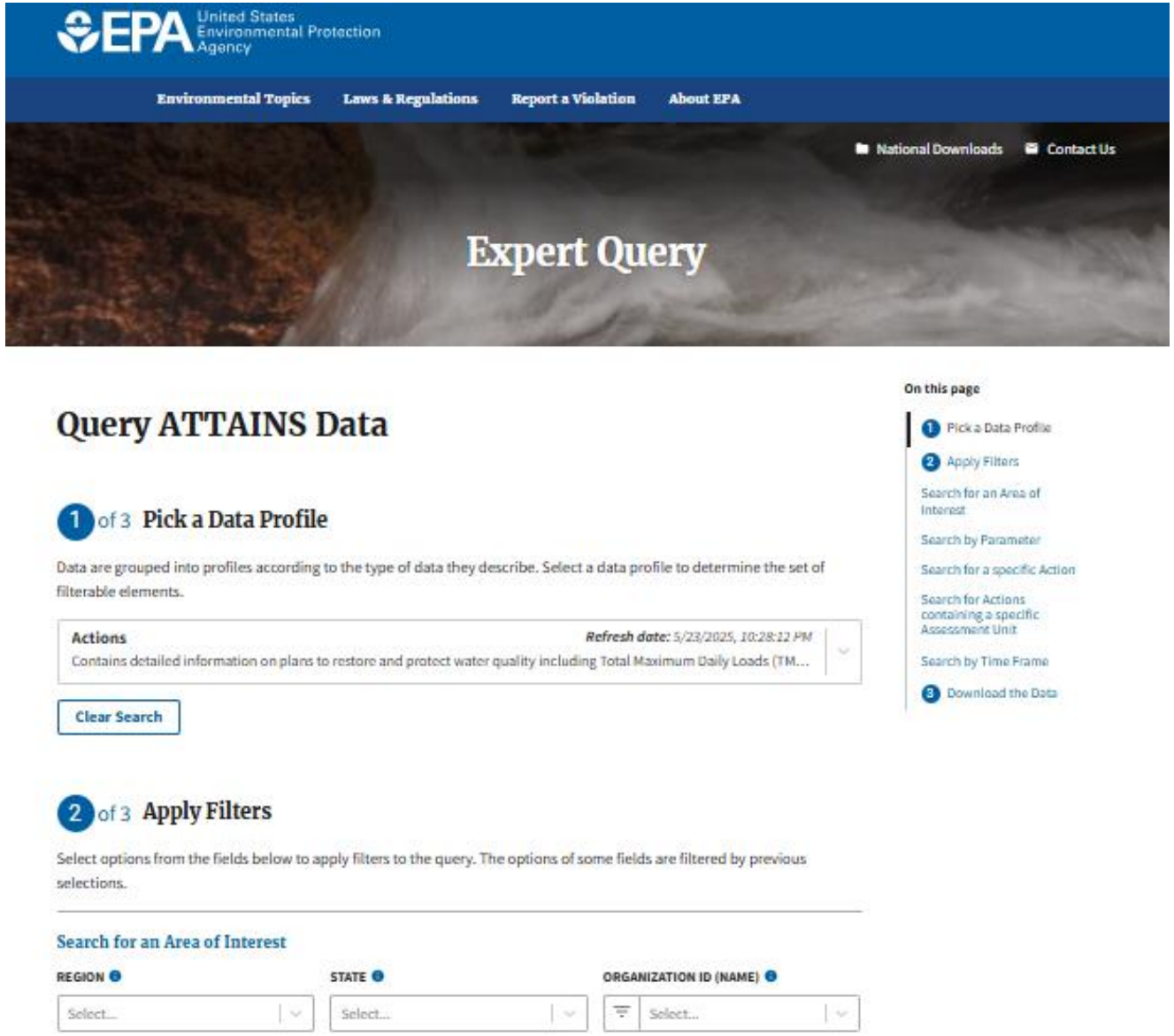
**Multiple waterbodies within TMDL may place it in more than 1 category*



Examples of Waters that could benefit from protection plans

(from the updated 303d Vision protection FAQs)

- Tier 2 high quality waters or Outstanding National Resource Waters
- Waters with unique, valuable, or threatened species or their habitats
- Waters and watersheds that constitute a public drinking water supply or source water protection area
- Watersheds currently supporting healthy aquatic ecosystems, as identified in assessments of watershed function and structure (e.g., the EPA's Healthy Watersheds Assessment)
- Healthy segments in watersheds mixed with impaired segments, including headwaters above downstream waters that are impaired.
- Waters near geographic areas where rapid land use development is occurring
- At-risk waters that are not yet impaired but showing signs of degradation
- Other healthy waters facing elevated risks of degradation



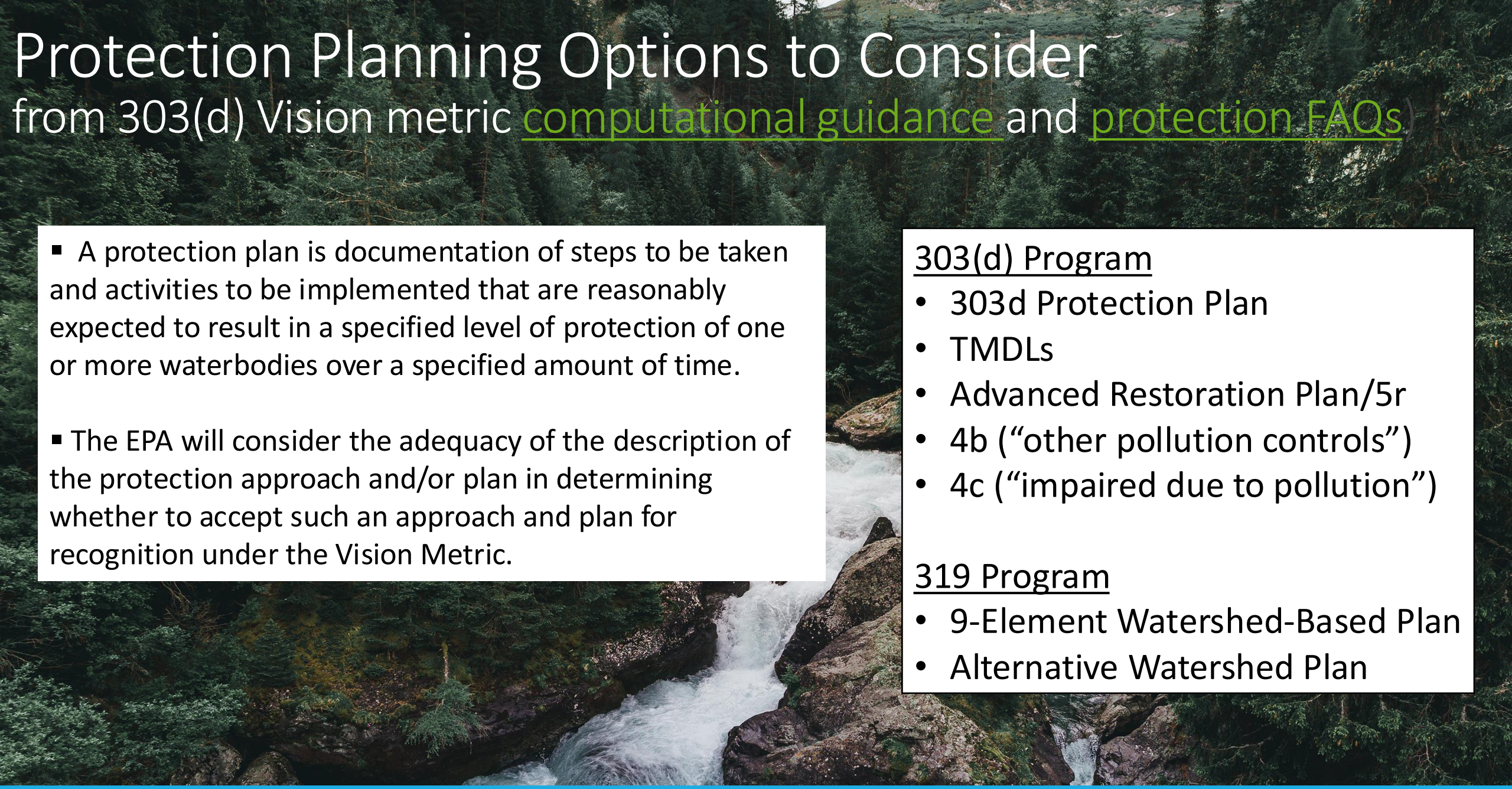
ATTAINS Expert Query – 303(d) Plans and Approaches

HTTPS://WWW.EPA.GOV/WATERDATA/EXPERT-QUERY

Protection Planning Options to Consider
from 303(d) Vision metric computational guidance and protection FAQs

- A protection plan is documentation of steps to be taken and activities to be implemented that are reasonably expected to result in a specified level of protection of one or more waterbodies over a specified amount of time.

- The EPA will consider the adequacy of the description of the protection approach and/or plan in determining whether to accept such an approach and plan for recognition under the Vision Metric.

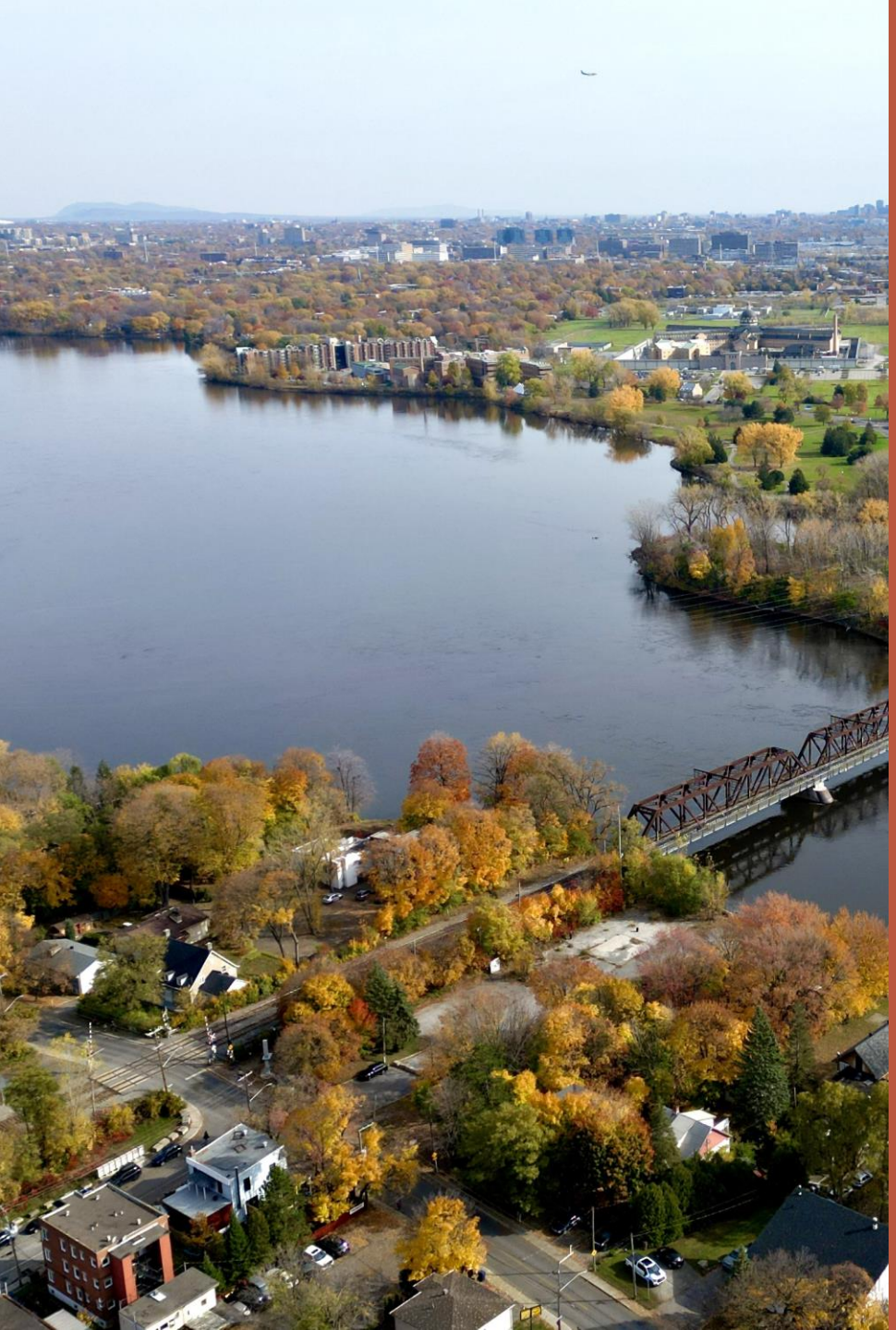


303(d) Program

- 303d Protection Plan
- TMDLs
- Advanced Restoration Plan/5r
- 4b (“other pollution controls”)
- 4c (“impaired due to pollution”)

319 Program

- 9-Element Watershed-Based Plan
- Alternative Watershed Plan



303(d) Protection Planning Efforts Underway

- Programmatic resources to support states, territories and authorized Tribes in their work on watershed protection approaches, including suggestions regarding protection planning elements.

- Updated resource that better explains how to enter a Protection Approach or Protection Plan “Action” in the Actions module of the ATTAINS User Interface.

Healthy Watersheds Protection in the CWA Section 319 Program

*See EPA 319 Guidelines for States & Territories (2024)

Protection –

- Management strategies proactively implemented to **prevent or minimize water quality degradation from a documented water quality threat.**

Examples of 'Healthy Waters' –

- Unimpaired or minimally impaired waters
- At-risk waters
- ONRWs or other specific category of high-quality waters
- Healthy aquatic resources
- Source water (including groundwater)

Healthy Watersheds Protection in the CWA Section 319 Program

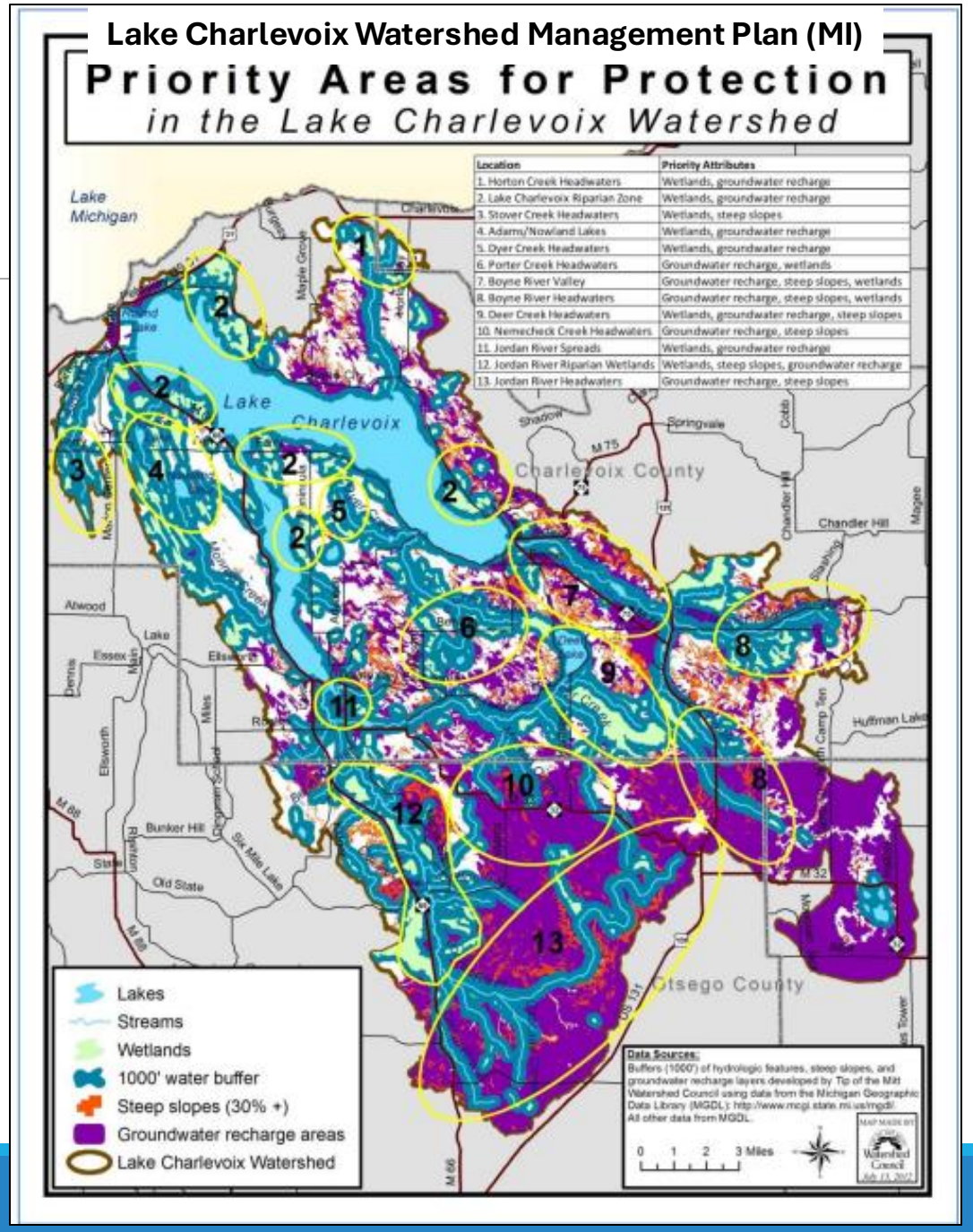
*See EPA 319 Guidelines for States & Territories (2024)

- **Key Components of an Effective State NPS Program** include:
  - #1 – Identify protection goals
  - #2 – Process for prioritizing waters for protection
- **Nine-element WBPs** should include restoration and protection goals, as appropriate.
  - **EPA-approved alternative plans** can guide protection projects
- **Section 319 watershed project funds:** No longer a cap on amount used for protection (must be consistent w/ state NPS priorities)
- **NEW NPS Success Stories for Water Quality Protection**

9-Element Watershed-Based Plans

9 Elements:

A. Causes and sources of pollution
B. Pollutant loading and expected load reductions needed
C. Management measures to achieve load reductions in targeted critical areas
D. Estimated technical and financial assistance and relevant authorities needed to implement plan
E. Information/education component
F. Project schedule
G. Interim, measurable milestones
H. Indicators to measure progress
I. Monitoring component



Alternative Watershed Plans for Protecting Healthy Waters

Goal: Streamlined planning to facilitate Section 319-funded watershed project implementation

Allowed in following scenarios:

1. Impairment not pollutant-specific
2. Emergency/public health risk
3. **Protecting priority "healthy waters"***
4. Isolated, small-scale NPS problem
5. Addressing ag NPS in NRCS NWQI watershed
6. Implementing Tribal NPS Management Plan
7. Other Circumstances (w/ EPA approval)

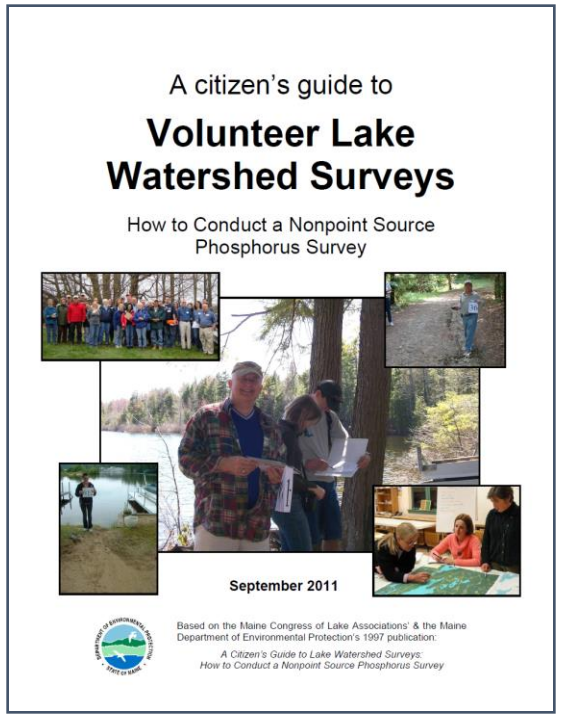
*See **Maine** and **West Virginia** for example protection plans

Alt plans must include:

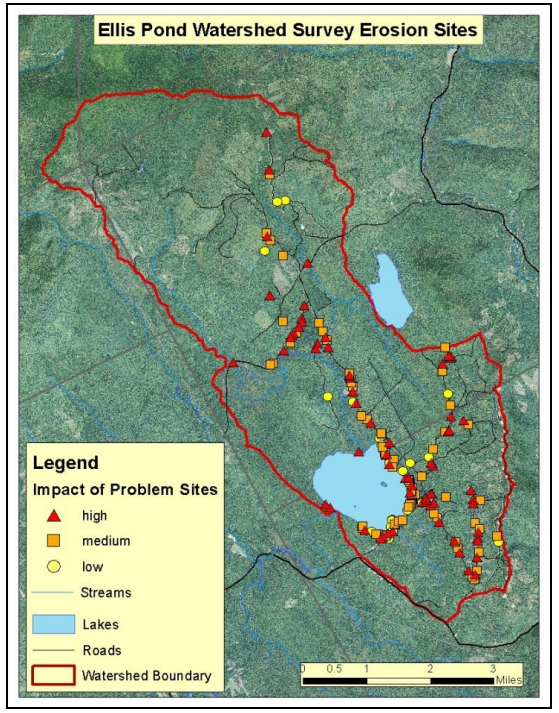
- Watershed project goal(s) & how proposed project(s) will achieve them
- Describe NPS threats to healthy waters
- Proposed mgmt measures and O&M plan
- Milestone Schedule
- Water quality results monitoring

Alternative Watershed Plan Example: **Maine Lake Protection Plans**

- *Guidance for Maine Lake Watershed-based Protection Plans* (2013)
- 49 plans reviewed and accepted since 2013
- Two-step process: (1) Watershed Survey, (2) Watershed Protection Plan:



- Volunteer teams with technical leaders
- Document erosion & other NPS sources
- Recommend BMPs



- 20-40 hours to prepare
- Mostly by Professional Staff
- DEP and EPA Review

Nonpoint Source (NPS) Watershed Projects Data Explorer

Map Viewer (NPS Projects) | **Non-Point Source Protection Projects** | Find Grants | Find Projects | Interactive Reports

Non-Point Source Protection Projects

https://www.epa.gov/nps/nonpoint-source-319-funded-projects-public-grts

These non-point source projects are designated as primarily focused on protecting unimpaired or high quality waterbodies and watersheds:

Total Number of Projects: 353

GRTS Protection Project Definition:
"51% or more of the project budget used to protect unimpaired/high quality waterbodies"

Go | Actions

Region	State	Grant No	Grantee	Appropriation Year	Title
10	AK	02J41001	ENVIRONMENTAL CONSERVATION ALASKA DEPARTMENT	2024	Chignik Subregional Watershed Plan
06	TX	99614629	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY	2024	Brays & Sims Bayous WPP Development
06	TX	99614629	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY	2024	North & Central LRGV WPP Dev. Phase 1
06	TX	99614629	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY	2024	Sandy Creek Watershed Characterization

Type 4 (new!):

As defined in 2024 EPA 319 Guidelines

Healthy Waters Protected from Water Quality Impairment

Feature **NPS activities that have resulted in the sustained prevention of water quality degradation in healthy waters threatened by NPS pollution**, including pollutant stressors and/or watershed alterations.

NONPOINT SOURCE SUCCESS STORY

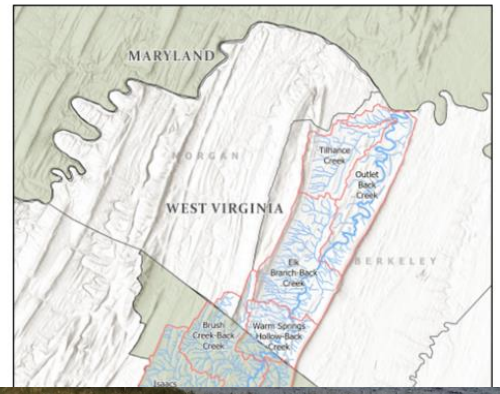
WEST VIRGINIA

West Virginia Conservation Agency protects Back Creek from Water Quality Impairment

Abstract | Water Quality | Highlights | Results | Partners & Funding

Water Body Improved

Back Creek flows through Berkeley and Morgan Counties, West Virginia, and Frederick County, Virginia (Figure 1). It includes distinctive, high-quality cold- and warm-water streams and a unique shale bedrock outcrop topography. It is one of the few streams in the Eastern Panhandle of West Virginia that does not have water quality impairments on the Clean Water Act Section 303(d) list of impaired waters – it meets all the applicable water quality standards. To protect the stream, nonprofit organizations and state and local government partners developed an



Healthy Watersheds Program
Focus Areas

Clean Water Act Program Integration

Healthy Watersheds Assessments

Growing Protection Partnerships

Protecting Healthy Watersheds

Protection Learning Exchange (2.0)

(1.0 was held virtually in 2022)

Convening of ~45 individuals from EPA, state/territorial/Tribal programs and external stakeholders to provide technical assistance and discuss strategies for protecting healthy waters and watersheds through 303d/TMDL and 319 programs.

- Sept 29 – Oct 2, 2025 at Nat'l Conservation Training Center (WV)
- Via HQ coop agreement with the Environmental Law Institute
  - Some non-EPA invitational travel will be supported through agreement
- Applications due **Wed, June 18.** Contact your EPA Regional 303d/TMDL or 319 coordinator for details!

EPA Healthy Watersheds Program Resources

https://www.epa.gov/hwp

Data, Assessments & Tools

- Restoration & Protection Screening (RPS) Tool – new web-based version of tool available
- Preliminary Healthy Watersheds Assessments Dataset – new updated dataset released May 2025
- Pollutant Load Estimation Tool (PLET) – includes a new '*Protected Lands Calculator*'

Programmatic Resources

- EPA Healthy Watersheds Program Web Area - newly updated!
- CWA Section 303(d) Protection Page
- Environmental Law Institute Compendium of State 303(d) Approaches to Protection
- CWA Section 319 Guidelines, NPS Protection Success Stories – new!, GRTS Protection Projects
- 2022 CWA Section 303(d)/319 Protection Learning Exchange Materials
- Water Quality Standards Handbook – Antidegradation Chapter
- EPA Source Water Protection

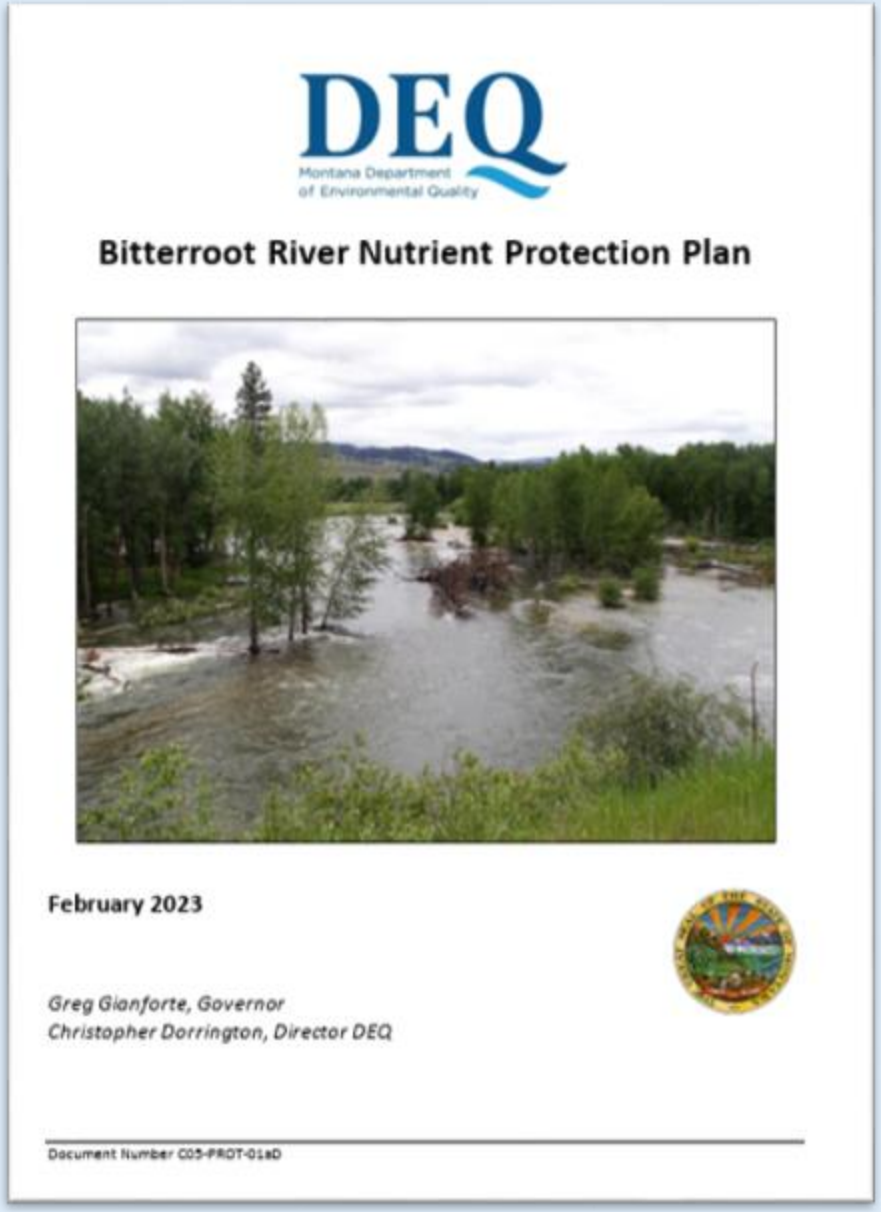
Protection Partnerships

- Advancing Watershed Protection Through Land Conservation
- EPA Healthy Watersheds Learning Exchanges

Photo: Morgan Swamp Wetlands, Ohio.
Source: Kent Mason (TNC)

Protection Plans in Region 8

Justin Wiese, EPA Region 8



Background

- In 2023, R8 received our first Protection Plan from the state of Montana, DEQ
- Region 8 Qs…
  - What components should be part of a Protection Plan?
  - What steps should a reviewer follow when a Protection Plan is received for review?
  - How do we determine if a Protection Plan is “acceptable”?

Outlining Processes

1. Encourage states to share early draft of document to EPA for review and coordination with other programs (i.e. NPS, Monitoring and Assessment)
2. Maintain formal submission of document to EPA
3. Utilize standardized review process to identify specified components to determine acceptability
4. Compile record of review and acceptance
5. Communicate EPA decision
6. Upload Plan and associated documents to ATTAINS

Evaluating R8 Protection Plans

R8 looks For..

- Problem identification
- Goals
- Rationale
- Sources/stressors
- Actions

State Specific Examples - Montana Bitterroot Protection Plan

- First (and only so far) Protection Plan reviewed and accepted in Region 8 in 2023
- *"…identifies a strategy for maintaining a high-quality status (i.e., unimpaired)"*
- Total Nitrogen and Total Phosphorus for three segments
- Montana's constitution directs *"the state and each person shall maintain and improve a clean and healthful environment…and this need to maintain high quality water is reiterated in the federal Clean Water Act and Montana Water Quality Act."*

Source: MTDEQ Bitterroot Protection Plan

Source: MTDEQ Bitterroot Protection Plan

Highlights of Bitterroot Protection Plan – Rationale for Protection Plan

- One of the fastest growing populations in the state (DOC & REMI, 2020; Figure 2.1).
- Increase of population growth = additional septic systems and impervious surfaces leading to increased delivery of pollutants to surface waters
- Benefits of maintaining high-quality conditions…
  - Prevents need for increased drinking water and wastewater treatment = increased $$$
  - Quality groundwater/irrigated water supply for landowners
  - Downstream community benefits

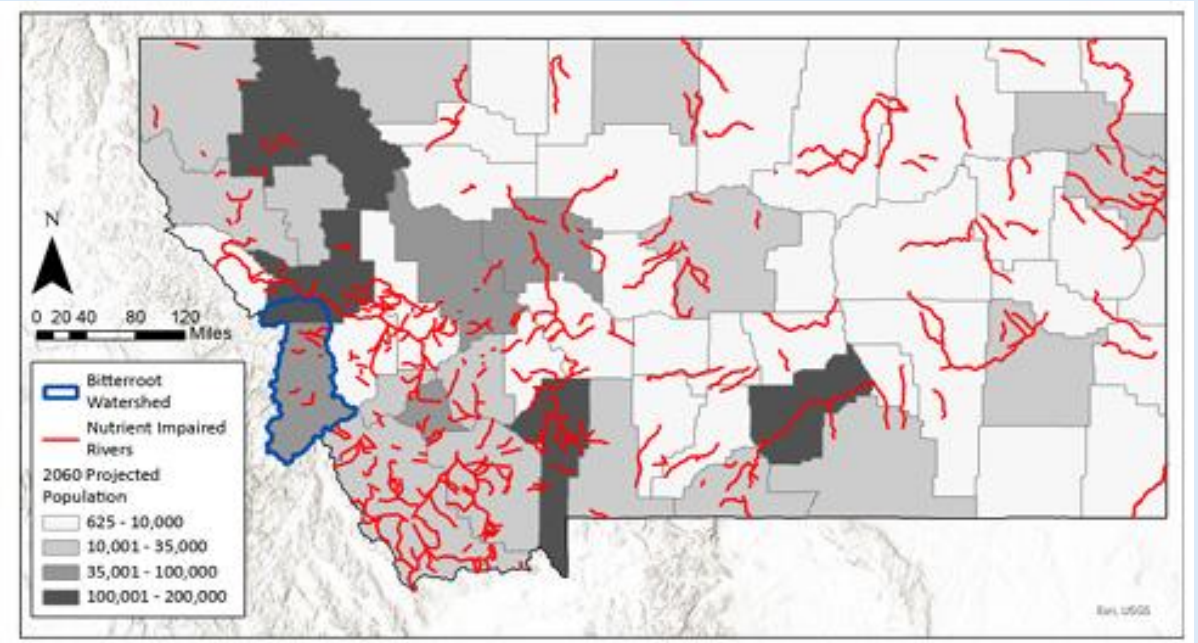


Figure 2.1. Projected population for 2060 by county (DOC & REMI, 2020), overlaid by rivers and lakes with nutrient or chlorophyll-*a* impairment. The Bitterroot River watershed, which is encompassed by Ravalli County and a small portion of southern Missoula County, is within some of the fastest growing counties in the state. It is rare for rivers of similar size and setting to not have a nutrient impairment.

Source: MTDEQ Bitterroot Protection Plan

Highlights of Bitterroot Protection Plan (cont.) – Current vs Maximum Sustainable Loads

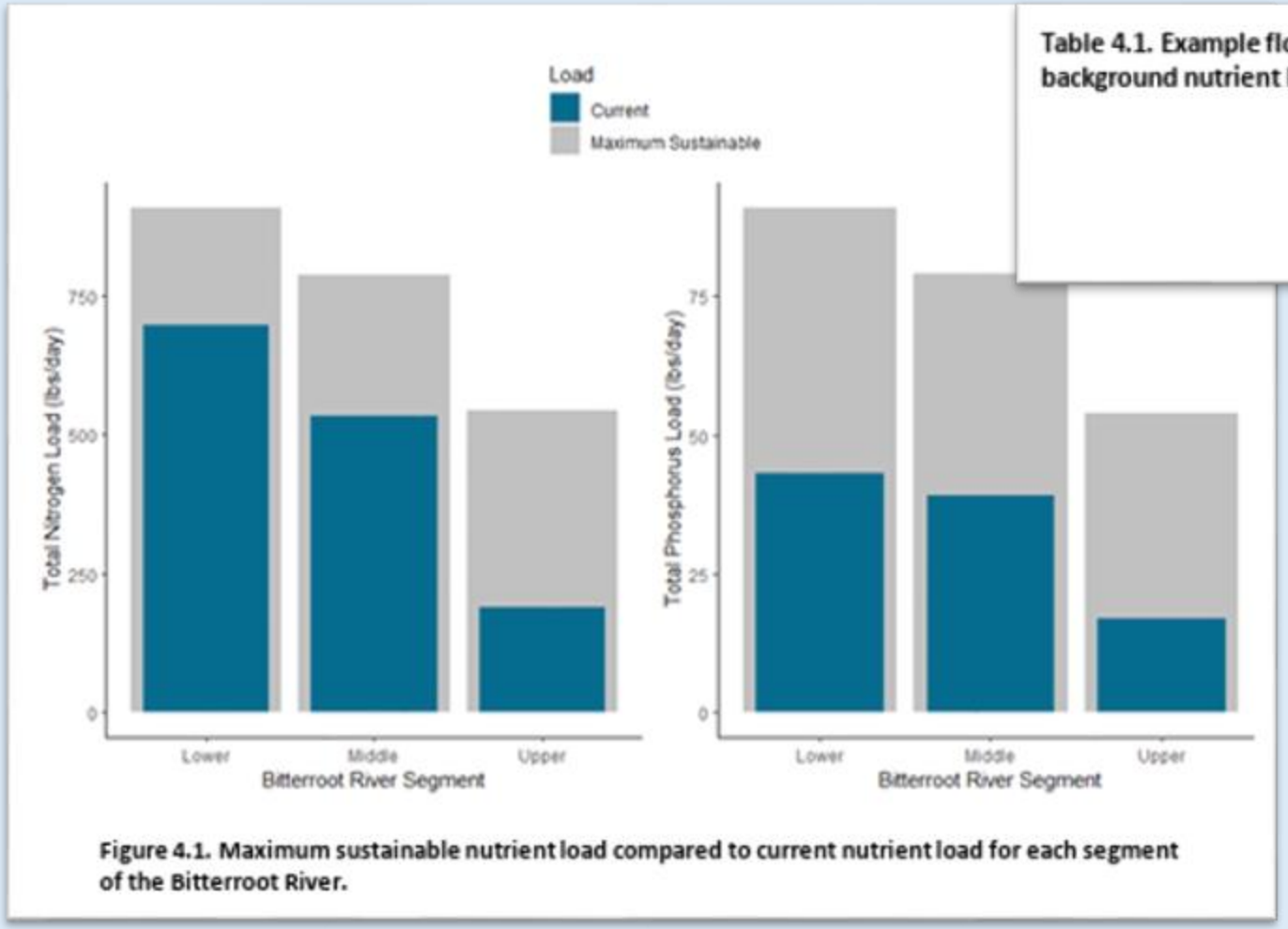


Figure 4.1. Maximum sustainable nutrient load compared to current nutrient load for each segment of the Bitterroot River.

Source: MTDEQ

Table 4.1. Example flow values used for calculating maximum sustainable, current, and natural background nutrient loads

Bitterroot Segment (Assessment Unit ID)	Example flow used throughout this document
Lower (MT76H001_030)	561 cfs
Middle (MT76H001_020)	487 cfs
Upper (MT76H001_010)	336 cfs

Source: MTDEQ

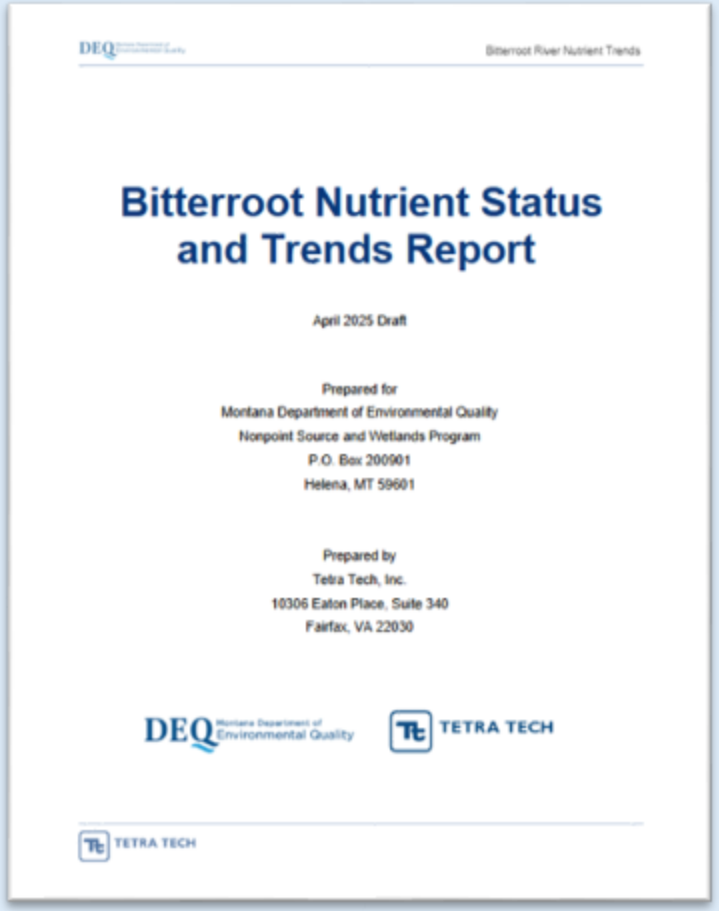
- Water quality monitoring data from 2013-2021 were used to compare the current 75th percentile nutrient load with the maximum sustainable load in Figure 4.1.
- Assimilative Capacity - Amount of pollutant loading that a waterbody can take on while continuing to meet suggested water quality targets.

Experiences/Lessons Learned/Challenges

- Overall, level of analysis effort was similar to a TMDL
- Determining if Plan was acceptable was difficult in absence of national template on Protection Plan (i.e. What needs to be included in a Protection Plan?)
- Internal only review document makes it more challenging to effectively communicate to States where improvement could/should be made for future Protection Plans
- It would be helpful to have a national template to ensure consistency in Regions' review of Protection Plans

Connections between TMDL and NPS Efforts - Background

- NPS funds supporting trend analysis to provide Bitterroot watershed community with WQ status of Bitterroot
  - Analyze new data since the Protection Plan was published
  - Summarize point and nonpoint source improvements
  - Guide future protection and restoration priorities, with reference back to recommendations from the Protection Plan
- MT will use results to inform a NPS Type 4 Success Story (Healthy Waters Protected from Water Quality Impairment)



Source: MTDEQ

State Specific Examples (cont.) - Wyoming Boysen Hybrid Plan

- Not currently listed as impaired
- Public drinking water supply
- High level of recreational use
- Downstream water is Class 1 Outstanding Water
- Trout fishery located within the Wind River managed by the Shoshone and Arapaho Tribes Fish and Game

Source: WYDEQ

Boysen Hybrid Plan (cont.)

- 2024 HQ NPS funds used to support data compilation and modeling development
- Hybrid plan approach
  - Addresses minimum EPA requirements for Nine-Element Watershed Based Plans and includes components of both Advance Restoration Plans and Protection Plans
  - Dependent on future modeling results and 303d assessments
- Addresses priorities for both NPS and TMDL Teams

State Specific Examples (cont.) - South Dakota Spearfish Creek and Rapid Creek Protection Plans

- Spearfish Creek – Project goals
  - Provides natural resource agencies with tool to guide management activities and provide stakeholders/residents a voice in decision making process
  - Protect Key WQ parameters that verify beneficial uses are maintained for premier trout fishery…”
    - TSS, Temperature, *E. coli*
- Rapid Creek - Project goals
  - Protect and improve WQ through erosion control, stream restoration, and soil and riparian health BMPs
  - Implement BMPs to address protection of non 303(d) listed waters
    - Nutrients, Sedimentation, *E. coli*

Source: HDR Engineering

Source: USGS