# Water Quality Act Programs

April 11, 2022

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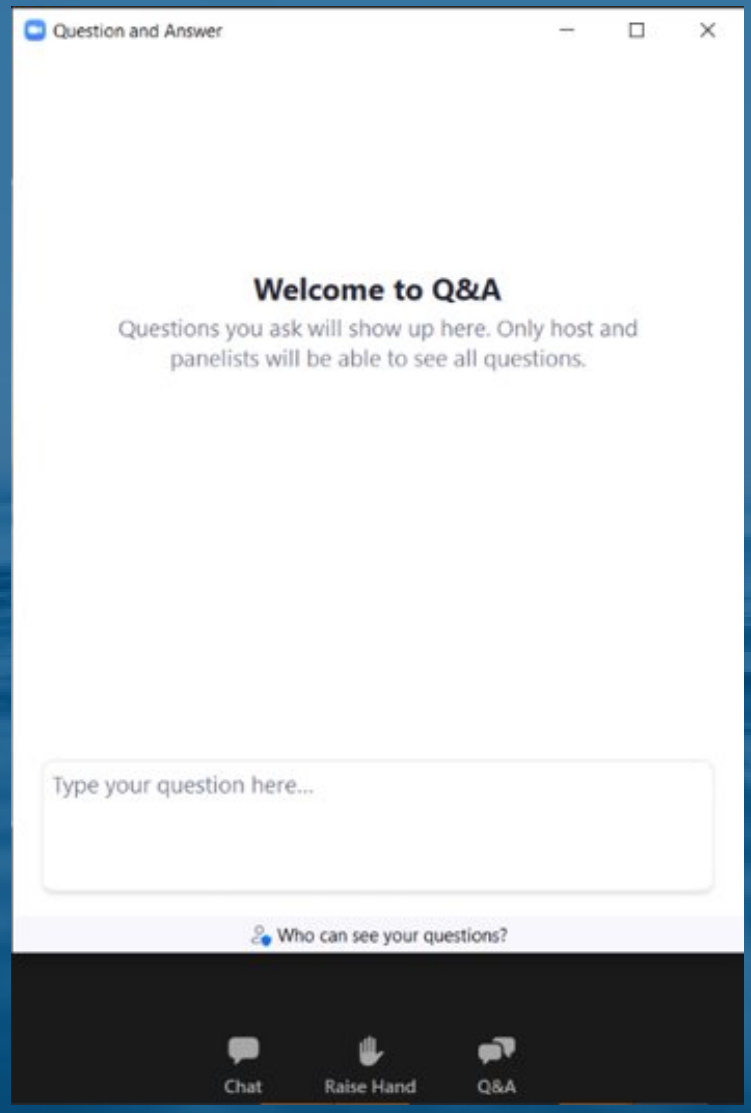
# Logistics

- Meeting Facilitator: Moira Davin
- This meeting is being recorded
- Q&A will be held at the end of the presentation
- You may enter questions into the Q&A feature at any time

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# Meeting Purpose

Present an overview of the Montana Water Quality Act programs within DEQ

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# Presenters

- Amy Steinmetz – Water Quality Division Administrator
- Myla Kelly – Water Quality Standards & Modeling Section Supervisor
- Darrin Kron – Monitoring & Assessment Section Supervisor
- Christina Staten – TMDL Planner
- Eric Trum – Nonpoint Source & Wetland Programs Supervisor
- Rainie DeVaney – Surface Water Discharge Permitting Supervisor

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# DEQ's Mission

To Champion a Healthy Environment for a Thriving Montana

# Water Quality Act Programs

- Water Quality Standards
- Water Quality Monitoring and Assessment
- Total Maximum Daily Loads (TMDLs)
- Permits
- Nonpoint Source and Wetland Programs

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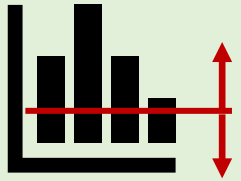
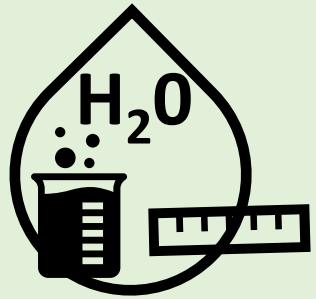
# DEQ's Water Quality Planning Process

**1 Develop Water Quality Standards**



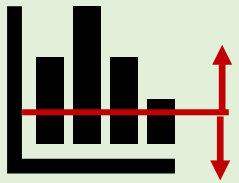
Adopt criteria to describe desired conditions and protect beneficial uses.

**2 Monitor Water Quality**



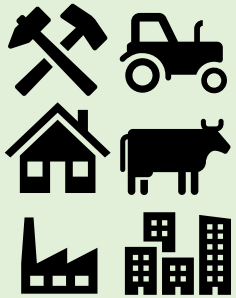

Collect data about water quality

**3 Assess Water Quality**



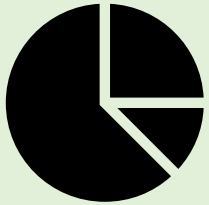
Describe water quality and determine whether waters are "impaired" (do not meet water quality standards and do not fully support beneficial uses)

**4 Identify Sources of Pollution**



Estimate amount of pollution from identified sources

**5 Develop Total Maximum Daily Loads (TMDLs)**



Determine reductions needed for impaired waters to meet water quality standards, and recommend pollution reduction strategies

**6 Support Water Quality Protection Practices**

Support efforts to reduce point and nonpoint source pollution and protect and restore water quality.

# Water Quality Standards

- Beneficial uses such as recreation, aquatic life, drinking water, agriculture
- Water quality criteria (numeric and narrative)
- Nondegradation = protection of high-quality waters

Recreation

Aquatic Life

Drinking Water

Agriculture

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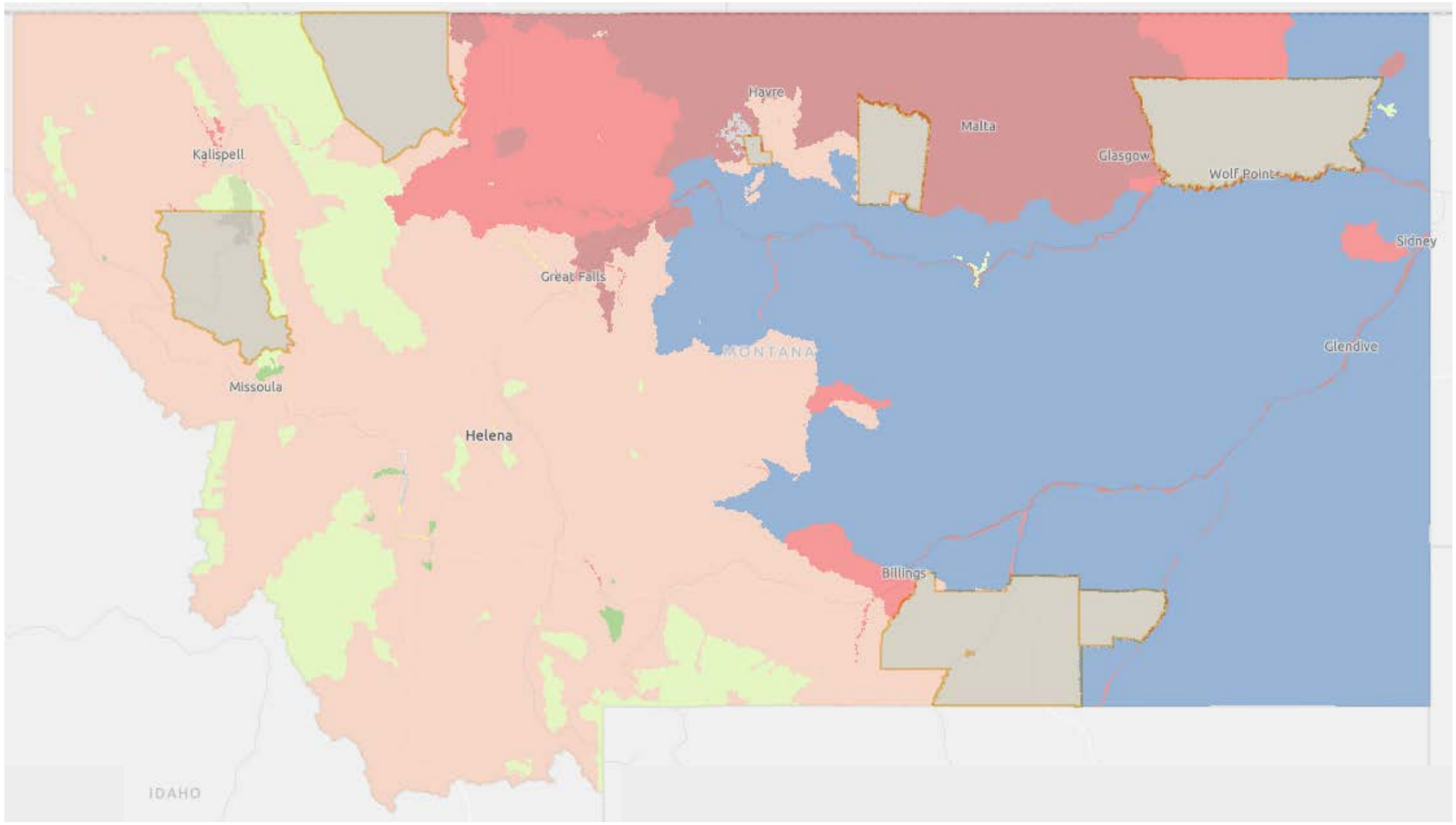
# Montana Water Quality Use Classes

Use Class

- A-1
- A-C
- B-1
- B-2
- B-3
- C-1
- C-2
- C-3
- I
- Non-State Jurisdiction

**Montana Tribal Nations (Non-state Jurisdiction)**

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# Water Quality Monitoring & Assessment

- Data collection and use
  - Quality data: Sampling Plans, Standard Procedures
  - DEQ collects data and guides others to collect quality data
  - Multipurpose uses – permits, standards, impairment, TMDL/ finding sources, tracking restoration progress

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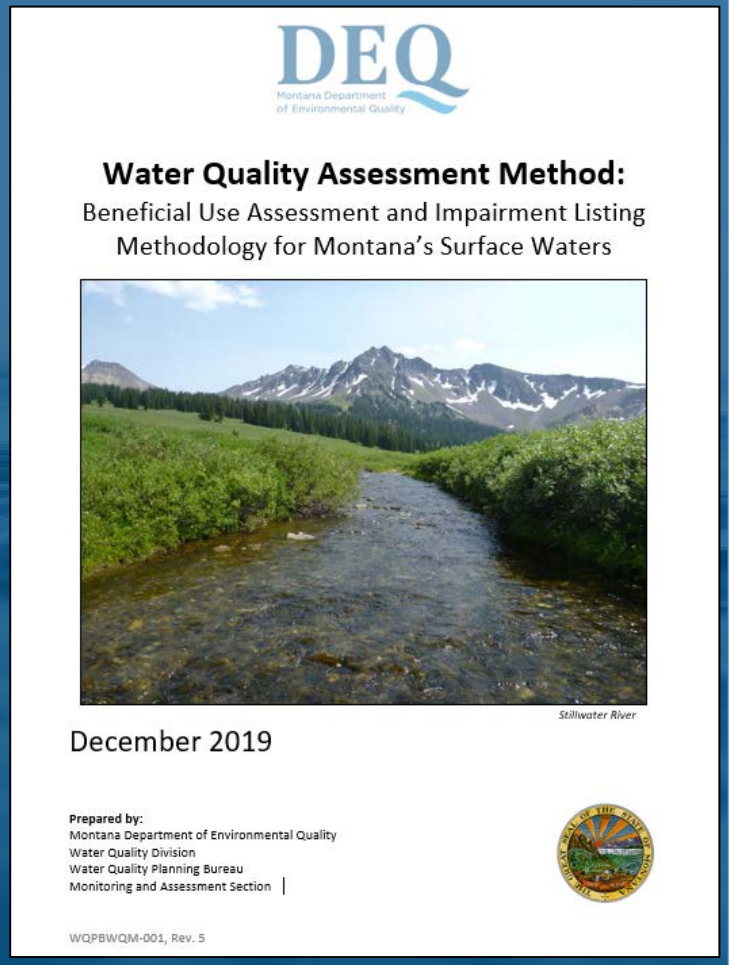
# Water Quality Assessment Method

- Overview of indicators, thresholds, data types and pollutants that affect uses
- Data requirements: quality assurance review, minimum necessary for assessment
- Water body process and decision framework
  Waterbody – Use – Pollutant relationships
- Information tracking system and reporting overview
- Must use all readily available, applicable, quality data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**Water Quality Assessment Method:**
Beneficial Use Assessment and Impairment Listing Methodology for Montana's Surface Waters

*Stillwater River*

December 2019

**Prepared by:**
Montana Department of Environmental Quality
Water Quality Division
Water Quality Planning Bureau
Monitoring and Assessment Section

WQPBWQM-001, Rev. 5

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# Parameter-Specific Assessment Methods

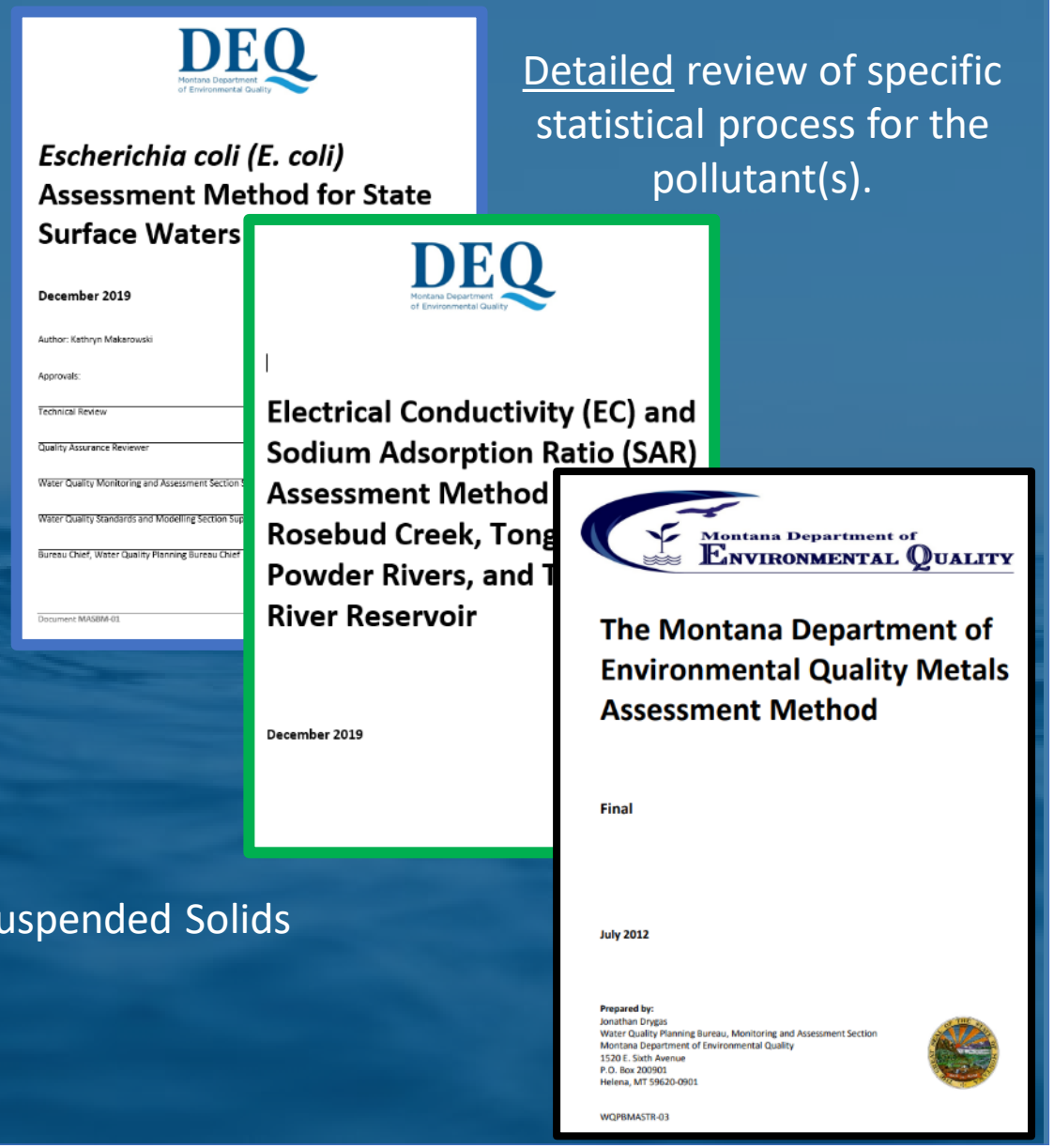
DEQ periodically revises existing or develops new parameter-specific assessment methods

Existing:

- Nutrients (wadeable streams)
- Metals
- Sediment in mountain streams
- *Escherichia coli* (*E. coli*)
- Electrical Conductivity (EC) and Sodium Adsorption Ratio (SAR)

In Development:

- PH
- Dissolved Oxygen
- PCBs/Dioxins
- Eutrophication of Lakes/Reservoirs
- Eutrophication of Large Rivers
- Temperature
- Turbidity/Total Suspended Solids




Detailed review of specific statistical process for the pollutant(s).

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# Impairment Listing Decisions

- A parameter that does not meet WQ standards is a “cause of impairment” and is added to Montana’s list of impaired waters
- Impairment causes may be *pollutants* (require a TMDL) or *non-pollutants* (do not require a TMDL)
- Impairment causes may affect one or several uses
- One or more sources are associated with each impairment cause; sources may be confirmed or not

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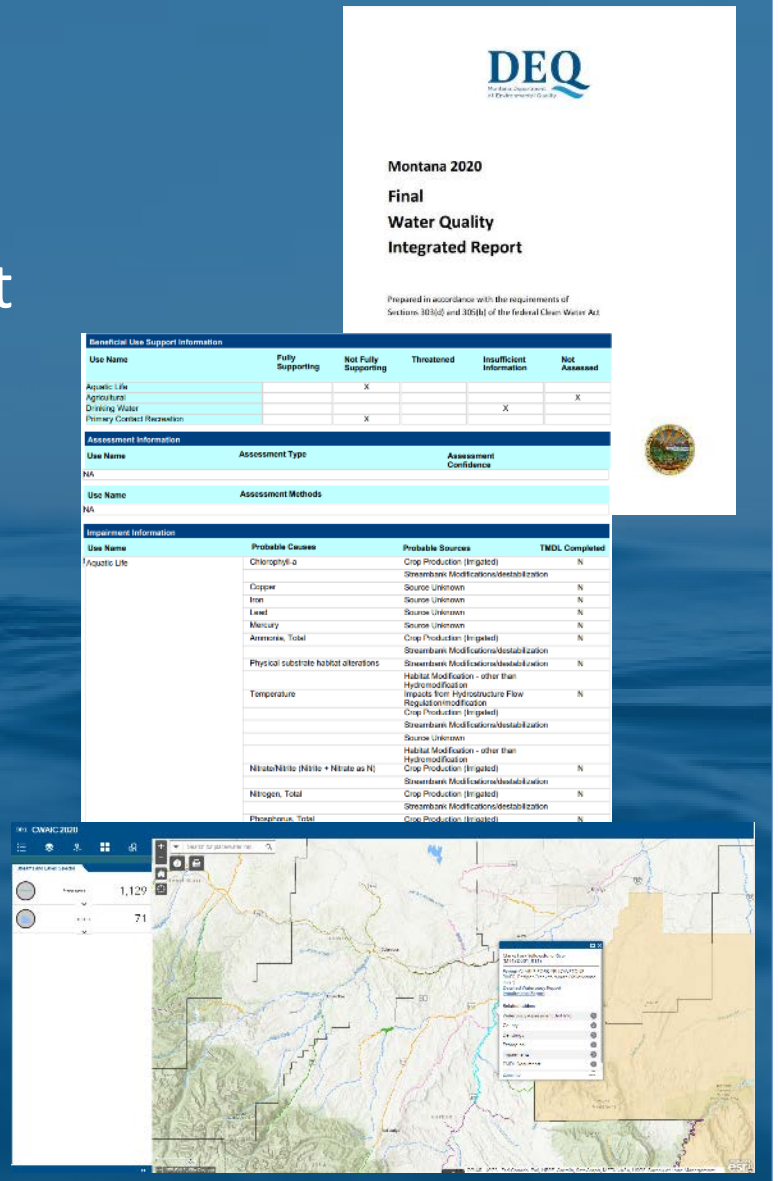
# Water Quality Assessment

- Information is tracked via an impaired waters list that includes the waterbody-pollutant impairment causes that require TMDL development
- CWA calls for biennial reporting
- MT WQ Act requires reporting every 5 years, or when requested for a specific waterbody
- Call for data, public comment period
- Report, mapping and water body reviews are provided on DEQ website

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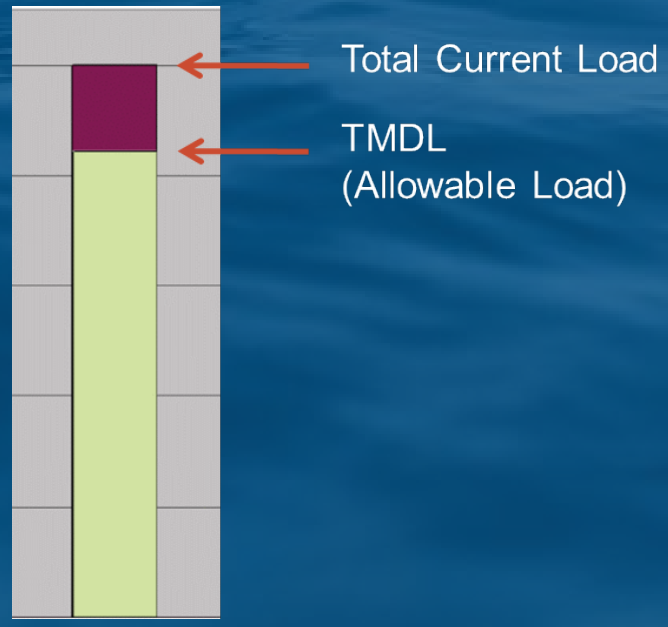
# Total Maximum Daily Loads (TMDLs)

Total Maximum Daily Load is the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards





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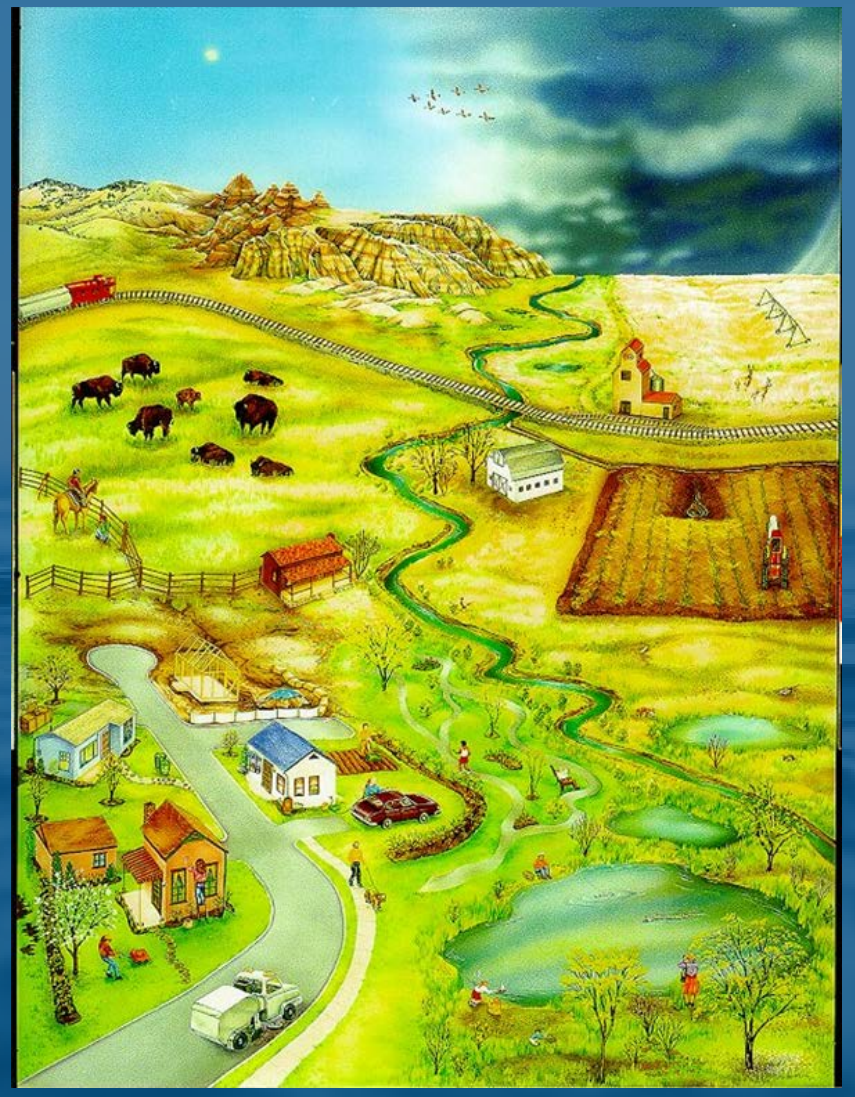
# Why TMDLs are Useful

- Address cumulative impacts
- Incorporate multiple source types, both regulated and non-regulated
- Guide future restoration work and prioritization of projects
- Help landowners identify ways to protect water quality



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# How a TMDL is Developed

1. Define the TMDL water quality targets
2. Define the TMDL (allowable loading rate)
3. Determine sources of pollutant loading
4. Determine TMDL allocations
5. Develop water quality improvement recommendations

*Note: TMDL revisions and development in conjunction with AMPs is a potential path forward*

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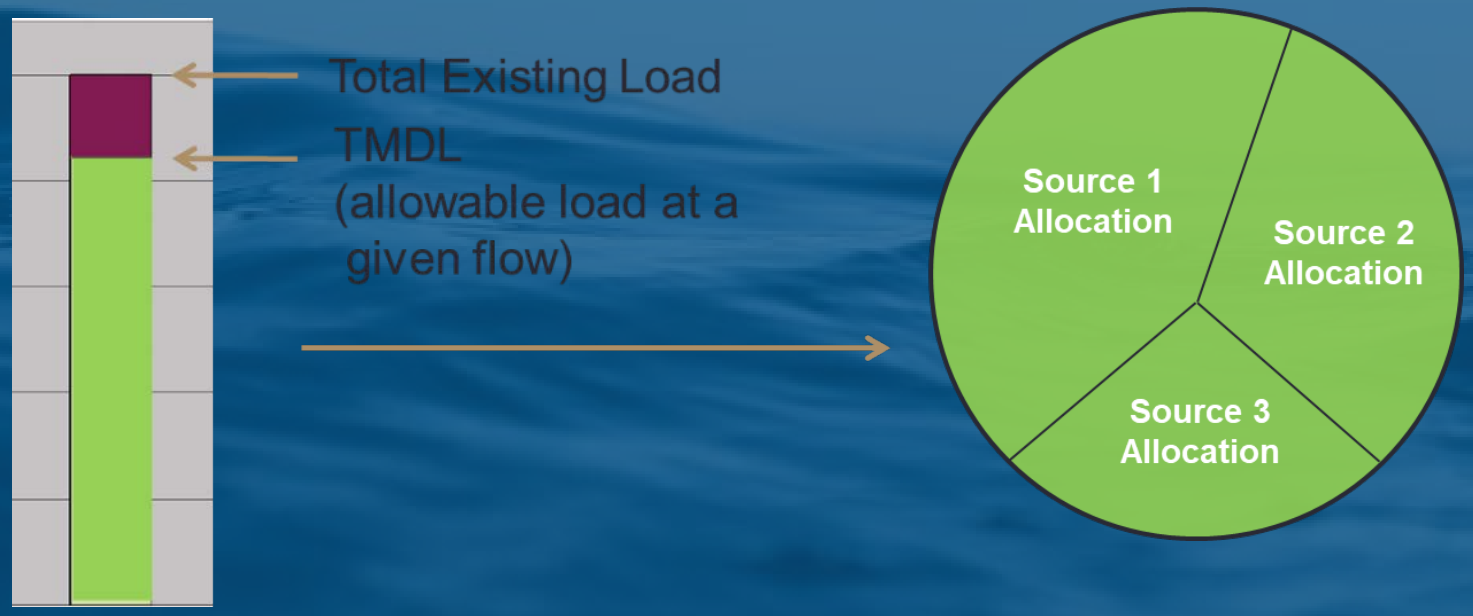
# TMDL Allocations: Conceptual Diagram

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# TMDL Allocations: Implementation

- Allocations to non-regulated sources, such as agriculture and water management practices, are predominately based on voluntary landowner actions
- Allocations can require changes to discharge limits for permitted facilities

- *Note that TMDLs are calculated using example flow conditions and hardness values, and the numbers shown in the document are not meant to be incorporated directly into permits*

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# Water Protection Bureau

- Permitting:
  - Surface water
  - Ground water
  - 401 water quality certification
  - 318 authorization
    - Temporary turbidity
- Technical assistance and wastewater system inspections
- Source water protection program

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# Montana Pollutant Discharge Elimination System (MPDES) - Surface Water Permitting

MPDES permits for point source discharges of pollutants to state surface waters

- federal regulations
- state law and rules

Protect beneficial uses through effluent limits, monitoring and reporting requirements and special conditions

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# MPDES Permits Limit Types

- **TBELs** – technology-based effluent limits:
  - Minimum level of treatment required for given industry-type
  - Industry specific and Parameter-specific
  - Federal rules; Effluent Limitation Guidelies
- **WQBELs** – water quality-based effluent limits:
  - Protect beneficial uses
  - Parameter specific
  - Limits if reasonable potential to contribute to exceedance of numeric or narrative water quality standard
  - Includes WLA in a TMDL

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# Montana Pollutant Discharge Elimination System (MPDES) Permits

Compliance schedule included if necessary for permittee to meet new limits.

Special conditions included when information or improvements are needed. Examples:

- Mixing zone studies
- Operation & Maintenance requirements
- Optimization studies
- Infiltration/Inflow reports

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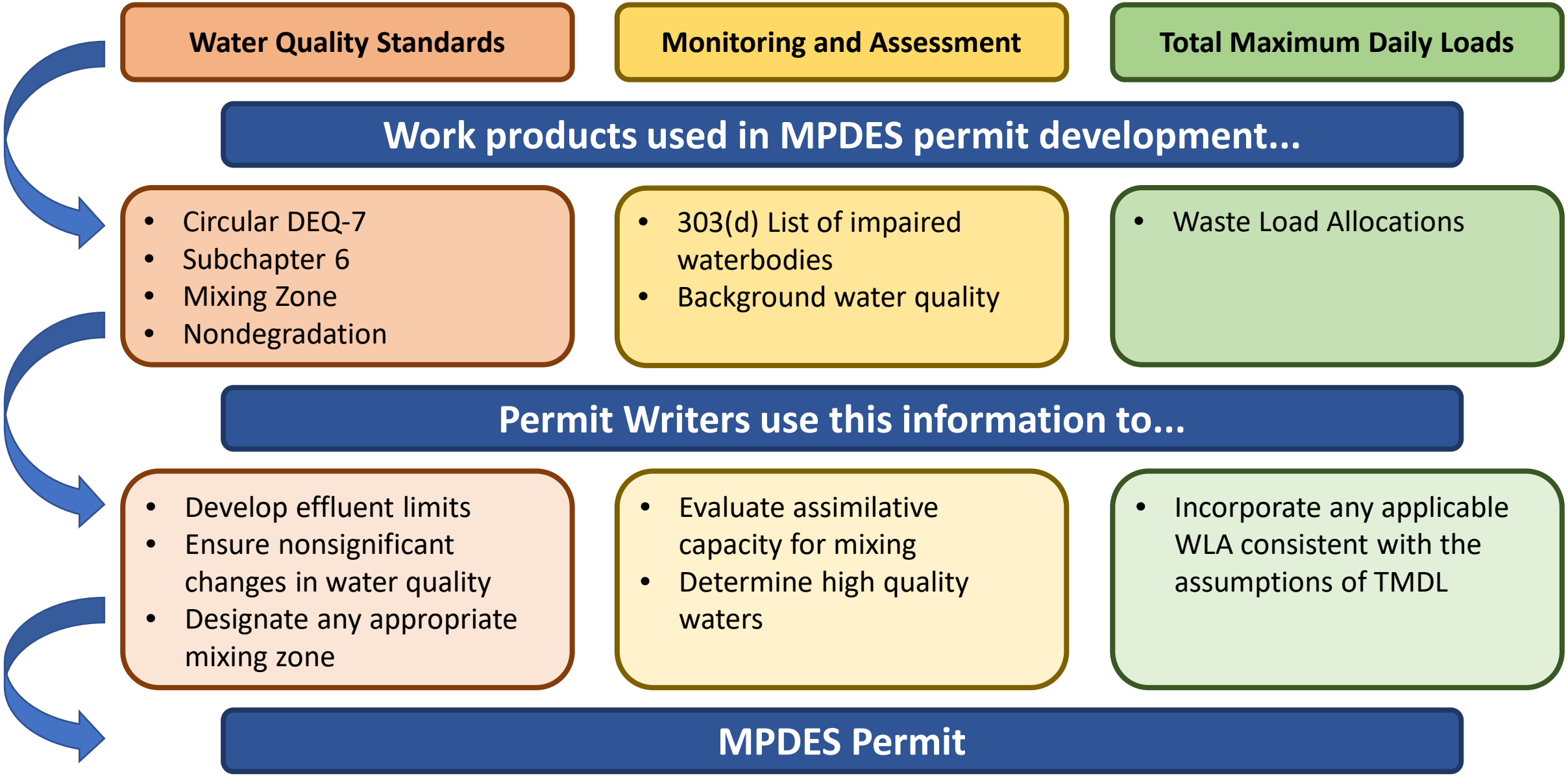
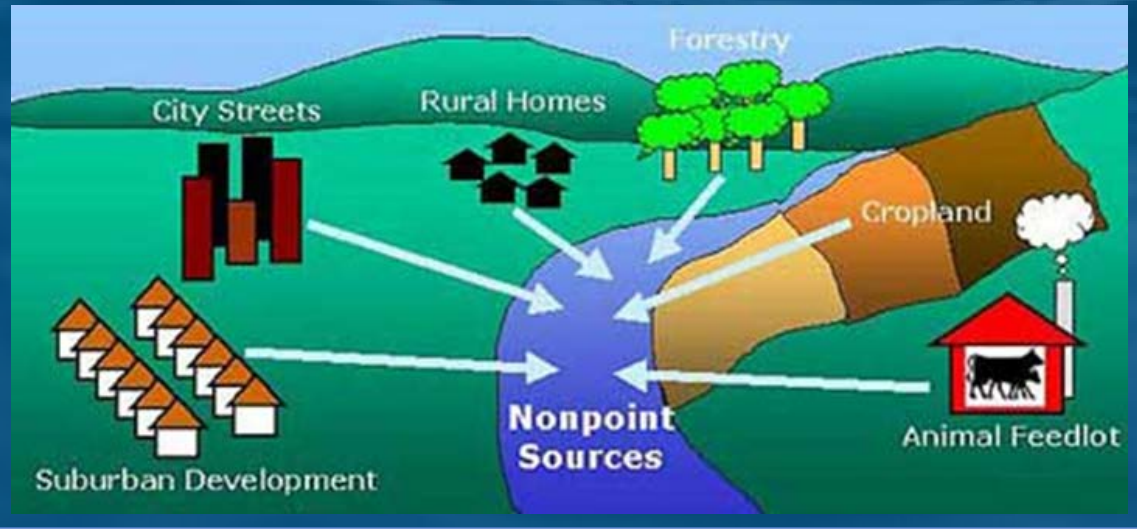
# Inputs for MPDES Permit Development



# Nonpoint Source Pollution (NPS) and Wetlands

- NPS not specifically defined in Clean Water Act or Montana WQA
- NPS pollution from broad and diffuse sources
- Actions to address NPS pollution are largely voluntary
- DEQ provides technical and financial support for implementation

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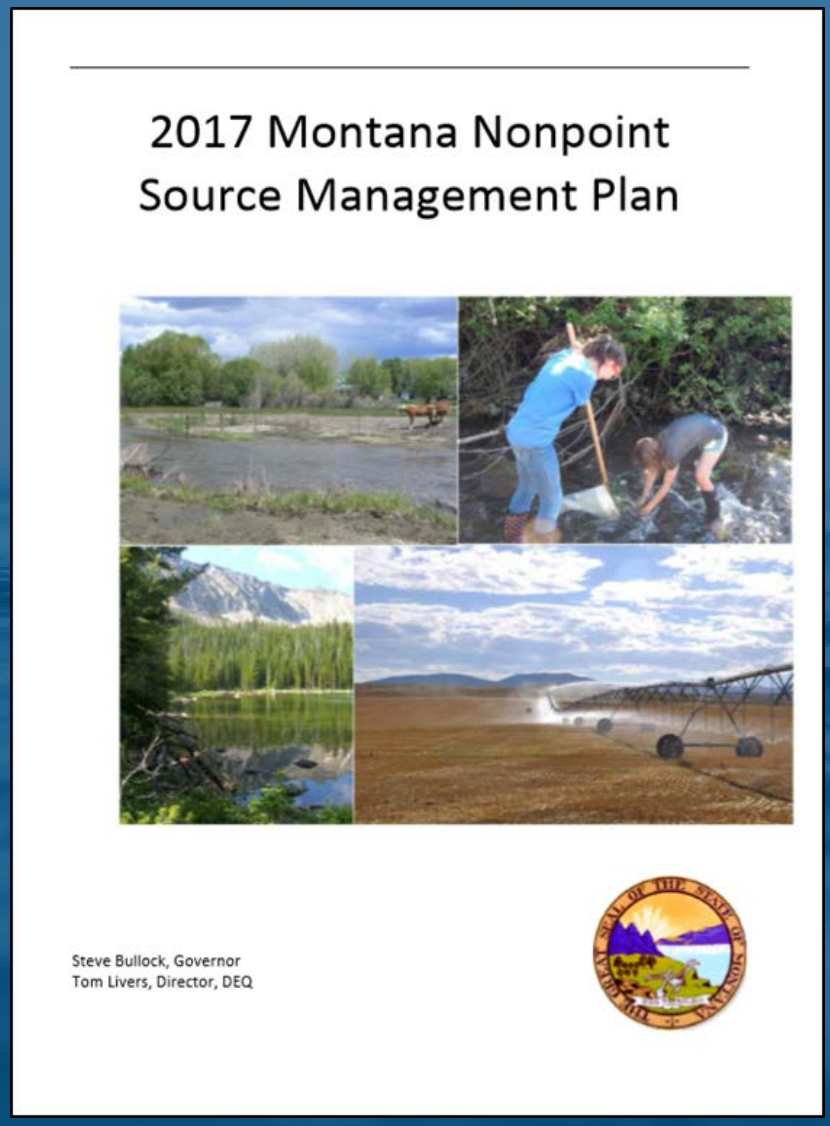
# NPS Management Plan

- Goal: to protect and restore water quality from nonpoint sources of pollution
  - **Inform** Montana citizens about NPS pollution
  - **Identify** how NPS pollution is being addressed by partners
  - **Describe** how DEQ will work with partners and provide statewide leadership for implementation
  - **Articulate** strategies, programs and resources for protecting and restoring water quality affected by NPS pollution

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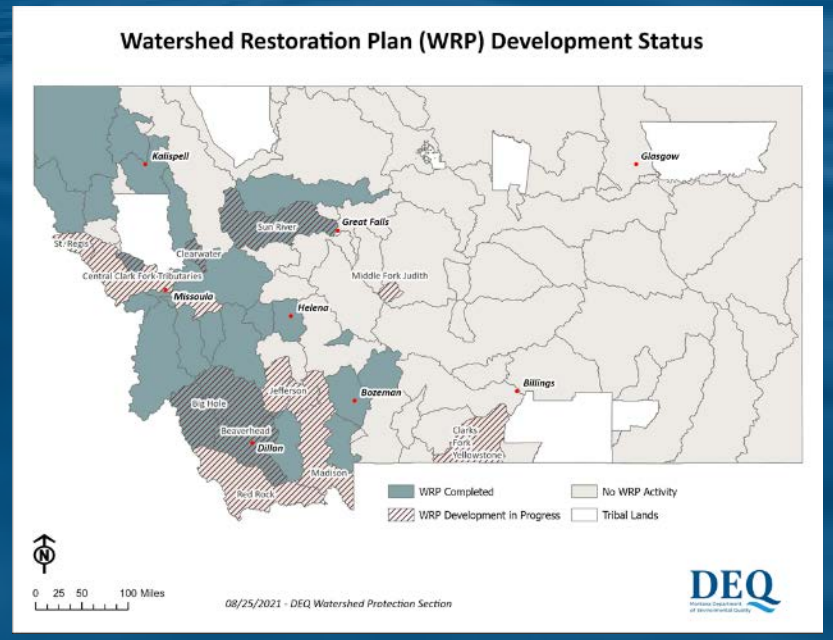
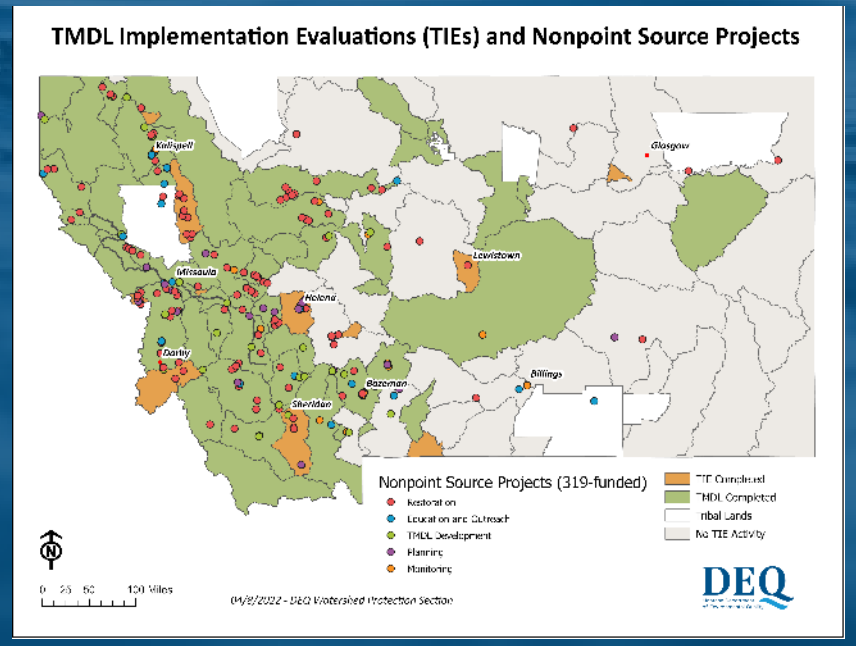
# NPS Management Plan – Interim Outcomes

- Sources of pollutants identified are sufficient for local planning efforts
- Plans are in place to ensure efficient and effective implementation
- Projects and practices are implemented to address NPS issues
- Project implementation and effectiveness is tracked and reported

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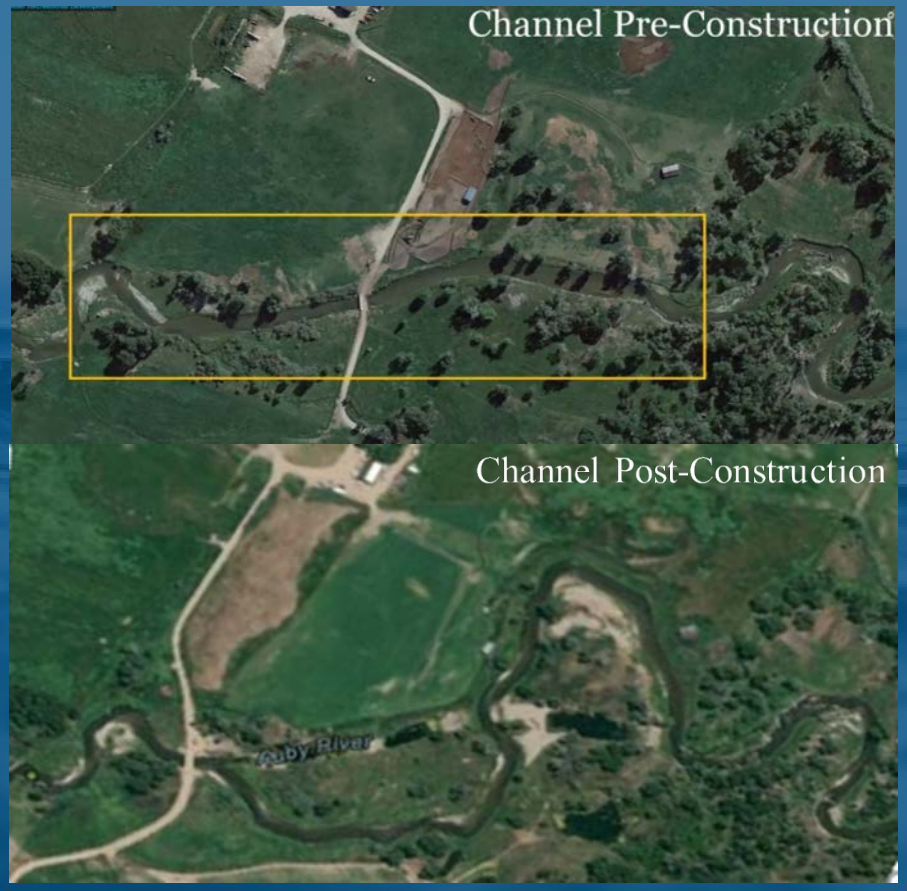
# NPS Management Plan - Implementation

Ruby River Restoration – Miller Ranch

Total Cost - $839,084.89
DEQ 319 - $117,000
Partners:

- Miller Cattle Company
- Miller Recreational Development
- NRCS
- MT FWP FFIP
- MT Chapter of American Fisheries Society
- Sacajawea Audubon
- Private Landowners
- Alder School
- Montana Watershed Coordination Council

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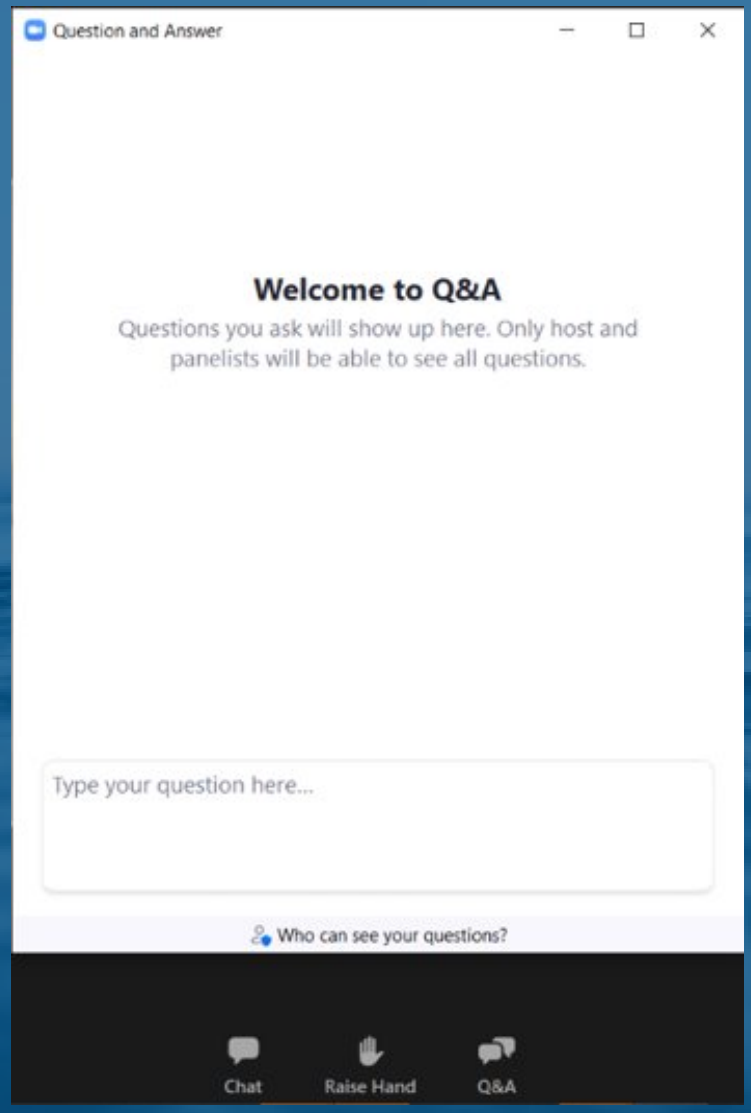
# Questions?

- Raise your hand to be called on and unmuted
- Or type questions into the Q&A feature

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