Montana’s Watershed Restoration Approach

Improving Water Quality In Montana

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Outline of Presentation

• Background on Montana Watershed Planning
• Evolution of Montana Watershed Restoration Plans
• 2 examples with hurdles, tools, problems, successes
• What's next?
Montana Watersheds

- Fourth largest state in US; about 100 4th code HUCs; Population: 1,033,000
- EPA/DEQ was under consent decree to develop TMDLs from 2000. Several negotiated agreements with plaintiffs who had forested lands and fisheries interests. Met decree/negotiated settlement in 2014
- DEQ has developed 1,442 TMDLs (pollutant/waterbody combinations)
- Montana’s TMDLs have generally been done on a watershed basis at the 4th-5th code HUC
- State law requires DEQ consult with conservation districts and watershed advisory groups in TMDL development
- Most listed impairments originate largely from nonpoint sources
- Causes are largely sediment/siltation, nutrients, metals, temperature, salinity
TMDLs are specific to a waterbody segment - pollutant combination. Some project areas with completed TMDLs may still require TMDL development for additional waterbody - pollutant combinations. Priority areas are subject to change. Updated 5/15/15.
Montana Watersheds

- TMDL Watershed Advisory Groups typically include many local watershed group members
- With TMDL development, watershed group involvement often leads to interest in addressing identified problems
- Montana’s Nonpoint Source Management Plan encourages watershed groups to develop their own “local road map” to implementing the load reductions called for in the TMDLs, with the EPA required nine elements
- Call these plans “Watershed Restoration Plans” (WRPs)
- Montana DEQ provided NPS “project” funding to develop watershed restoration plans until 2014
Montana Watersheds

- For DEQ WRP acceptance, generally require that TMDLs are developed before WRPs are done. TMDLs provide critical elements a, b, and c
- WRPs have generally been done at a similar scale as Montana’s TMDLs – usually 4th-6th code HUCs
- First WRPs accepted in Montana were done in 2010. Prior to that, Montana was using the TMDL documents as framework WRPs
- Have been ‘raising expectations’ with newer WRPs. Provide pollutant, waterbody priorities, criteria for project selection, etc.
Locally Developed Watershed Restoration Plans

- Resources have included Big Sky Watershed Corps – college graduate VISTA workers, other state agency funding (Department of Natural Resources), and technical assistance
- DEQ reviews for consistency with TMDL documents, and containing adequate level of detail for implementation and covering all nine elements
Pros and Cons of Locally Developed Watershed Restoration Plans

• Pros:
  • Buy-in at local level is high
  • Establishes local priorities
  • Encourages NPS TMDL load reductions
Pros and Cons of Locally Developed Watershed Restoration Plans

Cons:

- Some groups struggle with technical aspects of plan
  - Realistic schedules and funding need estimates
  - Interim measurable milestones
  - Criteria for determining if load reductions are being met
  - Monitoring effectiveness of implementation
- Inconsistent formats, level of detail
- Local priorities may not address most significant source locations or sources
- Funding for plan development is problematic
- Can be difficult process to get through
Pros and Cons of Locally Developed Watershed Restoration Plans

• DEQ believes that the pros outweigh the cons -
  • Reliance on landowners voluntarily implementing water quality improvements: buy-in more likely with more local leadership
  • A DEQ goal is to address many of the cons through additional assistance to watershed groups
Example MT WRPs – Deep Creek

- Deep Creek Watershed Restoration Plan
  - Largely agricultural watershed, 6th code HUC
  - Sediment TMDL developed in 1996
  - Originally listed for sediment, habitat alteration/flow depletion
  - WRP developed by Conservation District, accepted by DEQ in 2014
  - NRCS NWQI watershed: 2014 - 2016
  - De-listed for sediment in 2016
  - Listed for temperature in 2016
Example MT WRPs – Deep Creek

- Deep Creek
  - CD Struggled with schedule, milestones, criteria and monitoring elements
  - Worked with DEQ on appropriate milestones and criteria
Deep Creek Watershed Sampling and Analysis Plan

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Deep Creek Watershed Outcomes and Future Efforts

- Riparian fencing based on channel migration zone, native riparian woody vegetation, off-stream water being provided through NWQI and 319 funds
- Three water diversion changes resulting in in-stream water savings. One addresses a long-term streambank instability. Streambank project funded with 319 $
- DEQ 2019, 2024 use assessment monitoring, BEHI evaluation for streambank project
- FW&P & Broadwater CD monitoring fish, beaver, macroinvertebrates, temperature, flow
Deep Creek Watershed Outcomes and Future Efforts (continued)

- Long-term commitment by Broadwater CD to ranchers and farmers to provide support for riparian fencing, native riparian planting, with emphasis on willows, cottonwoods, alders, box elder, etc. for bank stability and shade
- Bio-engineering emphasis on willow soil lifts, and woody fascines, encouragement of beaver dams and floodplain access
- Will continue to evaluate potential in-stream flow savings through water conservation and water diversion changes
Example MT WRPs - Lake Helena

• Lake Helena Watershed Restoration Plan
  • Extremely diverse watershed – historical mining, forest lands, agriculture, urban and suburban landscape
  • TMDLs developed in 2006 – 18 listed waterbodies, 109 TMDLs
  • WRP development led by Lewis and Clark County Water Quality Protection District
  • WRP planning began in 2008, accepted by DEQ in 2016
Example MT WRPs - Lake Helena

- Lake Helena Watershed Restoration Plan
  - Struggled with jurisdictional boundaries, priorities and milestones, schedule, format of document, level of detail, contractor, etc.
- DEQ provided 319 project funding ($30K) and significant technical support
- Water Quality District has staff and resources to direct WRP implementation
- Has priority waterbodies, pollutants and source areas
Example MT WRPs - Lake Helena

- Lake Helena Watershed Restoration Plan
  - Implementation includes L&C County addressing septic system maintenance regulations (big deal) in valley (nitrogen)
  - Helena National Forest addressing road-derived sediment and abandoned mines
  - Two EPA Superfund sites: East Helena smelter, upper Tenmile mining district
  - Several grazing/riparian management projects, with additional interest on Prickly Pear Creek (a primary area of WRP focus through 2023)
Future Direction for DEQ in WRP Support

- DEQ will provide additional technical assistance
  - Translating TMDL information into key elements in plans
  - Suggested priorities and milestones
  - Assisting with identification of load reductions
  - Monitoring recommendations and continued assistance
- Work with Montana Association of Conservation Districts to provide additional writing, formatting support, Montana examples of good WRP element development
Additional Considerations for Montana DEQ in WRP Support

• “Competing”/overlapping planning boundaries with different priorities
• Expectation that developing WRPs will lead to 319 funding
• How to tie protection efforts into restoration planning
• Addressing state NPS needs with available resources
It’s as much about the people as it is the projects”

Denise Thompson, Broadwater CD
Questions?