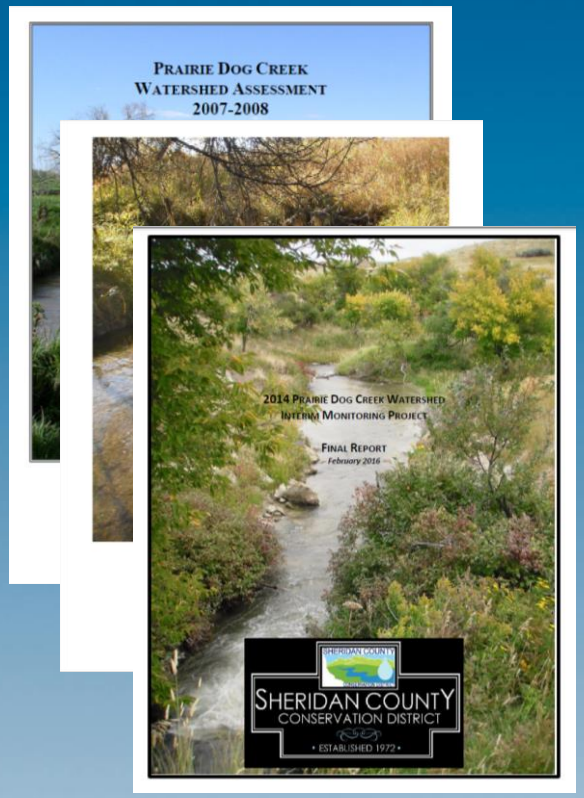
Prairie Dog Creek Watershed Plan to TMDL



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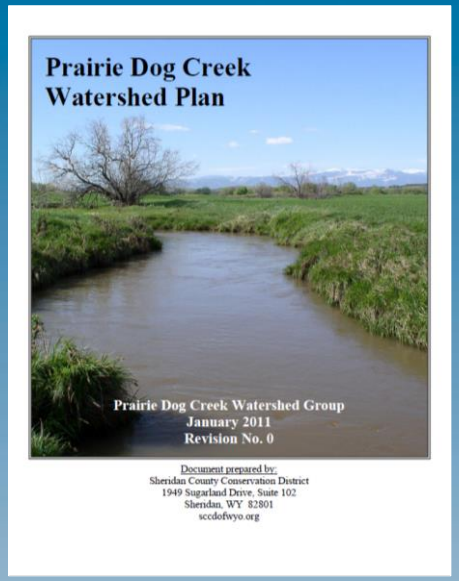


= TMDL

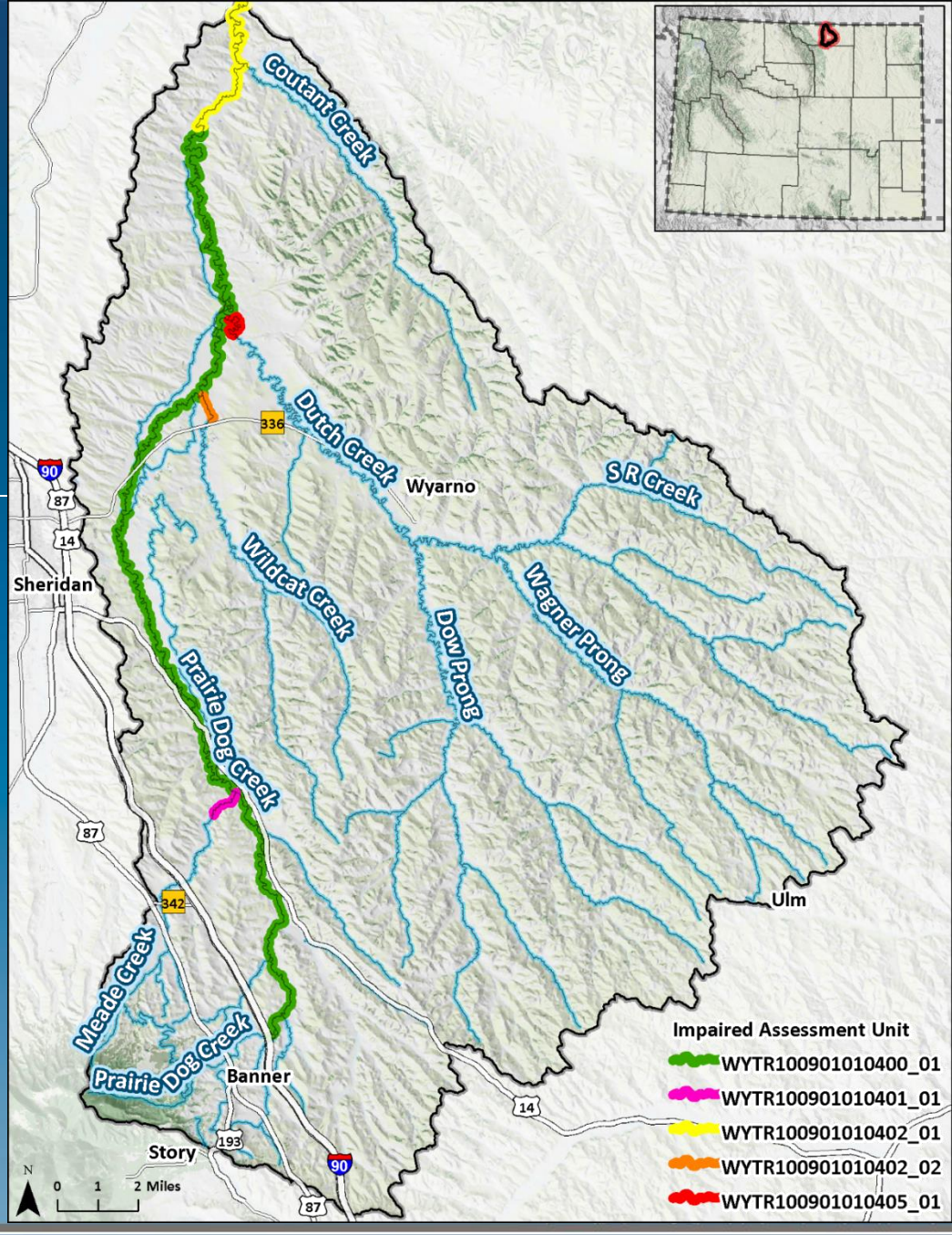
TMDL Process in Wyoming

Water Quality Standards → 303(d) List

- Numeric Criteria
- Narrative
- Beneficial Uses

List of impaired waters in need of TMDLs

Season	Criteria (organisms/100 mL)
May 1 – September 30	126
October 1 – April 30	630



Water Quality Standards → 303(d) List → TMDL Document/ Water Quality Restoration Plan

Numeric Criteria

Narrative

Beneficial Uses

List of impaired waters in need of TMDLs

✓ Watershed Characterization

Targets

Water Quality Impairment Status

Source Assessment

TMDL

Allocation

Margin of Safety

Monitoring Strategy

Restoration Strategy/RA

- ✓ 2007-2008 Assessment Report
- ✓ 2011 Interim Monitoring Report
- ✓ 2011 Watershed Plan

Water Quality Standards → 303(d) List → TMDL Document/ Water Quality Restoration Plan

Numeric Criteria

Narrative

Beneficial Uses

List of impaired waters in need of TMDLs

✓Watershed Characterization

✓Targets

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Water Quality Impairment Status

Source Assessment

TMDL

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Water Quality Standards → 303(d) List → TMDL Document/ Water Quality Restoration Plan

Numeric Criteria

Narrative

Beneficial Uses

List of impaired waters in need of TMDLs

✓Watershed Characterization

✓Targets

✓Water Quality Impairment Status

Source Assessment

TMDL

Allocation

Margin of Safety

Monitoring Strategy

Restoration Strategy/RA

- ✓ 2007-2008 Assessment Report
- ✓ 2011 Interim Monitoring Report
- ✓ ✓ 2014 Interim Monitoring Report

Water Quality Standards → 303(d) List → TMDL Document/ Water Quality Restoration Plan

Numeric Criteria

Narrative

Beneficial Uses

List of impaired waters in need of TMDLs

✓ Watershed Characterization

✓ Targets

✓ Water Quality Impairment Status

✓ Source Assessment → ✓ 2011 Watershed Plan, ✓ 2016 Update

TMDL

Allocation

Margin of Safety

Monitoring Strategy

Restoration Strategy/RA

Water Quality Standards → 303(d) List → TMDL Document/ Water Quality Restoration Plan

Numeric Criteria

Narrative

Beneficial Uses

List of impaired waters in need of TMDLs

- ✓ Watershed Characterization
- ✓ Targets
- ✓ Water Quality Impairment Status
- ✓ Source Assessment
- ✓ TMDL → ✓ 2011 Watershed Plan
  - Allocation
  - Margin of Safety
  - Monitoring Strategy
  - Restoration Strategy/RA

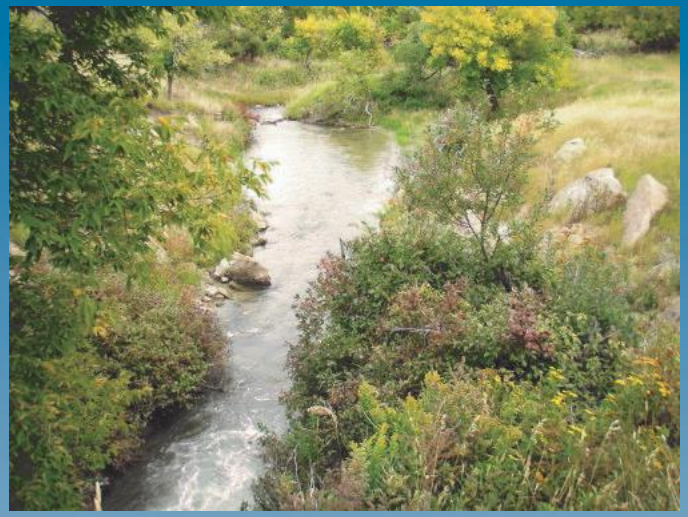
From 2011 Watershed Plan…

TMDL

Table 4.2 Summary of load reduction estimates and Critical Flow Conditions necessary to meet primary contact recreation standards

Subwatershed	*E. coli* load sampled	*E. coli* daily load capacity	Reduction required
	(GIGA cfu/day)	(GIGA cfu/day)	(%)
Lower Subwatershed Average (n=2)			
Moist conditions	***546***	***119***	***78%***
Mid range conditions	203	65	68%
Dry conditions	96	45	53%
Dutch Subwatershed Average (n=1)			
Moist conditions	14	8	43%
Mid range conditions	4	2	50%
Dry conditions	***4***	***1***	***75%***
Middle Subwatershed Average (n=5)			
Moist conditions	***533***	***97***	***82%***
Mid range conditions	276	66	76%
Dry conditions	120	38	69%
Upper Subwatershed Average (n=5)			
Moist conditions	391	100	74%
Mid range conditions	***249***	***59***	***76%***
Dry conditions	111	32	71%

Water Quality Standards	303(d) List	TMDL Document/ Water Quality Restoration Plan
Numeric Criteria	List of impaired waters in need of TMDLs	✓Watershed Characterization
Narrative		✓Targets
Beneficial Uses		✓Water Quality Impairment Status
		✓Source Assessment
		✓TMDL
		Allocation → Not Completed by SCCD
		Margin of Safety
		Monitoring Strategy
		Restoration Strategy/RA



Water Quality Standards	303(d) List	TMDL Document/ Water Quality Restoration Plan
Numeric Criteria	List of impaired waters in need of TMDLs	✓Watershed Characterization
Narrative		✓Targets
Beneficial Uses		✓Water Quality Impairment Status
		✓Source Assessment
		✓TMDL
		Allocation
		✓Margin of Safety → ✓ 2011 Watershed Plan
		Monitoring Strategy
		Restoration Strategy/RA

Water Quality Standards → 303(d) List → TMDL Document/ Water Quality Restoration Plan

Numeric Criteria

Narrative

Beneficial Uses

List of impaired waters in need of TMDLs

- ✓ Watershed Characterization
- ✓ Targets
- ✓ Water Quality Impairment Status
- ✓ Source Assessment
- ✓ TMDL
- Allocation
- ✓ Margin of Safety
- ✓ Monitoring Strategy
- Restoration Strategy/RA

→

- ✓ 2011 Watershed Plan
- ✓ 2016 Update

Water Quality Standards	303(d) List	TMDL Document/ Water Quality Restoration Plan
Numeric Criteria Narrative Beneficial Uses	List of impaired waters in need of TMDLs	✓Watershed Characterization ✓Targets ✓Water Quality Impairment Status ✓Source Assessment ✓TMDL Allocation ✓Margin of Safety ✓Monitoring Strategy ✓Restoration Strategy/RA

- ✓ 2011 Watershed Plan
- ✓ 2016 Update

Water Quality Standards	303(d) List	TMDL Document/ Water Quality Restoration Plan	Implementation
Numeric Criteria Narrative Beneficial Uses	List of impaired waters in need of TMDLs	✓Watershed Characterization ✓Targets ✓Water Quality Impairment Status ✓Source Assessment ✓TMDL Allocation ✓Margin of Safety ✓Monitoring Strategy ✓Restoration Strategy/RA	WPDES for PS **NA** Grants, partnerships, voluntary measures for NPS **Ongoing**

What did we accomplish?

- **Addressed 5 waterbody/pollutant combinations on our 303(d) list, which were prioritized for the Wyoming 2022 LTV.**
- **Summarizing and combining all of SCCD's work into a single document and "administrative record", we were able to:**
  - Streamline the TMDL development process,
  - Capitalize on work done by stakeholders, which was guided and partially funded by the WDEQ NPS Program,
  - Facilitate EPA's job of reviewing and approving this TMDL.
- **Set an example of collaboration between WDEQ and Local Conservation Districts, which hopefully can be used in the future.**

CWA 303(d) Integration Challenges

- So far, the Prairie Dog Creek example is **one of a kind**.
- There are numerous instances in Wyoming where monitoring and implementation is out ahead of the TMDL program.
- **Rarely** do third parties provide us with most/all of the pieces we need to complete TMDLs.
- Where there alternatives to completing this TMDL?
- Did completing this TMDL result in improved water quality?

CWA 303(d) Integration Opportunities

- This is a potential example of coordination of local stakeholders with state NPS and TMDL programs.
- In this case, where monitoring and implementation was ongoing before the TMDL was completed, the WDEQ TMDL Program coordinated with the Sheridan County Conservation District, Tetra Tech, and the EPA to summarize the existing watershed based plan and monitoring reports to complete the TMDL.