

# Water Quality in the Priest Basin

Water quality impairments and concerns, studies on water quality and temperatures in the Idaho portion of Priest Hydrologic Cataloging Unit (17010215).



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

Robert Steed  
Water Quality Manager

# Idaho DEQ

- Primacy for the Clean Water Act in Idaho
  - Idaho Water Quality Standards (nonpoint)
    - Beneficial Uses
    - Criteria
  - IPDES (point)

<https://www.deq.idaho.gov/water-quality/surface-water/water-quality-standards/>

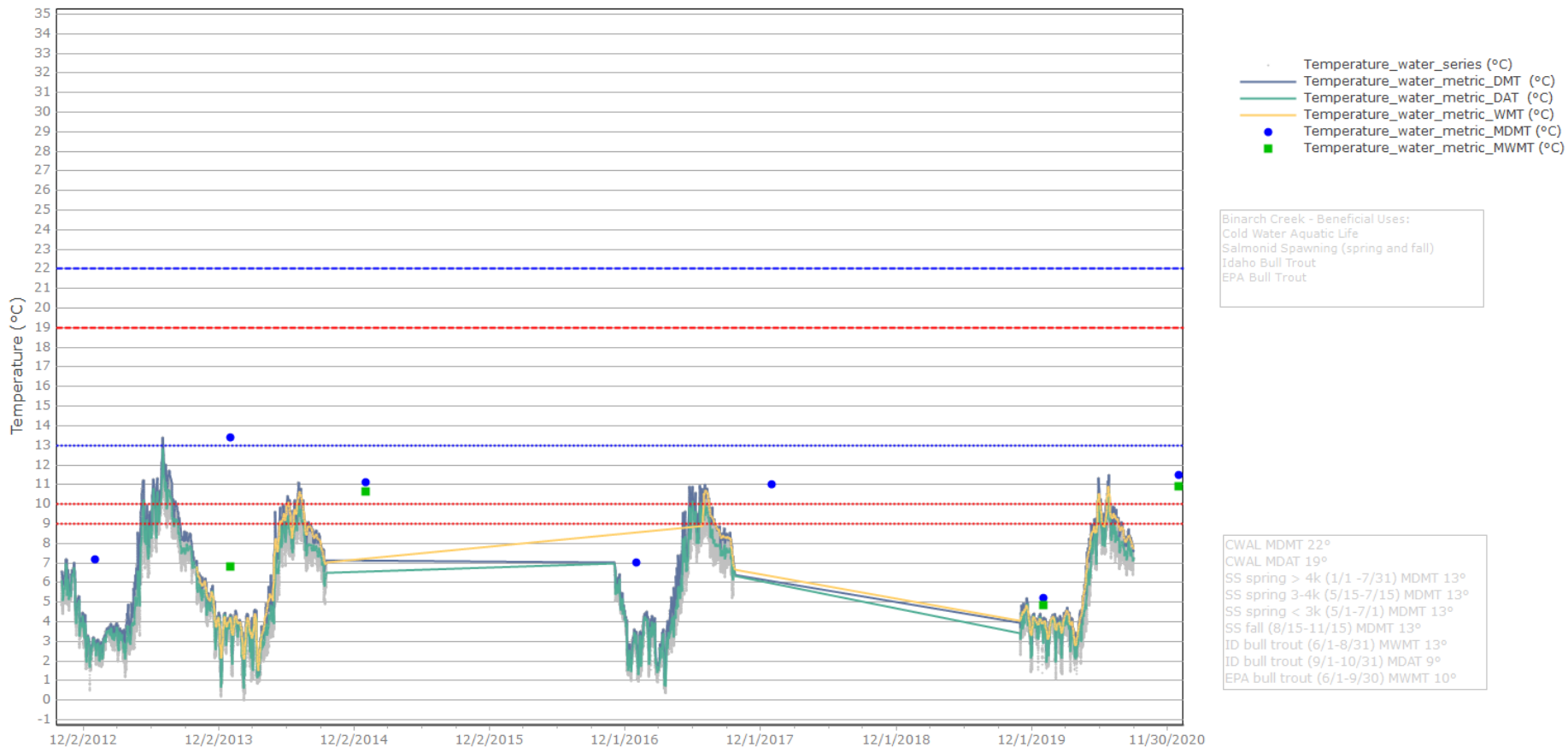


# Causes of Impairment in Priest

- Temperature (numeric)
- Sediment (narrative)
- E coli (numeric)



### Temperature Assessment Coeur d'Alene Region - Cold Water Aquatic Life



Binarch Creek - Beneficial Uses:  
 Cold Water Aquatic Life  
 Salmonid Spawning (spring and fall)  
 Idaho Bull Trout  
 EPA Bull Trout

CWAL MDMT 22°  
 CWAL MDAT 19°  
 SS spring > 4k (1/1 -7/31) MDMT 13°  
 SS spring 3-4k (5/15-7/15) MDMT 13°  
 SS spring < 3k (5/1-7/1) MDMT 13°  
 SS fall (8/15-11/15) MDMT 13°  
 ID bull trout (6/1-8/31) MWMT 13°  
 ID bull trout (9/1-10/31) MDAT 9°  
 EPA bull trout (6/1-9/30) MWMT 10°

# Integrated Report

- Submitted to Congress
- Approved by EPA
- Biannual
- DEQ and all readily available data

## Category 1

- Waters are wholly within a designated wilderness or 2008 Idaho Roadless Rule "Wild Land Recreation" area and are presumed to be fully supporting all beneficial uses.

## Category 2

- Waters are fully supporting those beneficial uses that have been assessed. The use attainment of the remaining beneficial uses has not been determined due to insufficient (or no) data and information.

## Category 3

- Waters have insufficient (or no) data and information to determine if beneficial uses are being attained or impaired. Category 3 has an additional subcategory:

**Category 3t:** Waters are wholly or partially on Indian reservations and are not subject to the state's § 305(b)/§ 303(d) reporting requirements. Beneficial use attainment is not determined or reported for these waters.

## Category 4

- Waters do not support one or more beneficial uses, but they do not require development of a TMDL. Category 4 has three subcategories:

**Category 4a:** Waters have a TMDL completed and approved by EPA.

**Category 4b:** Waters have had pollution control requirements other than a TMDL placed on them, and these waters are reasonably expected to attain the water quality standard within a reasonable period of time.

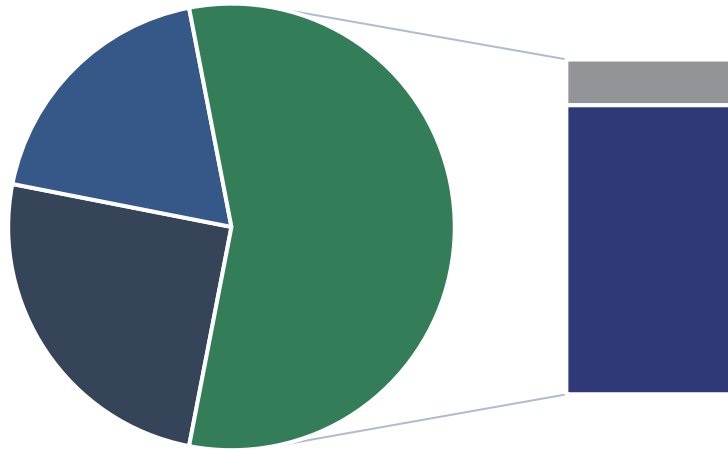
**Category 4c:** Waters failing to meet applicable water quality standards due to other types of pollution (e.g., flow alteration), not a pollutant.

## Category 5

- Waters do not meet applicable water quality standards for one or more beneficial uses due to one or more pollutants; therefore, an EPA-approved TMDL is needed. Category 5 water bodies make up the § 303(d) list.

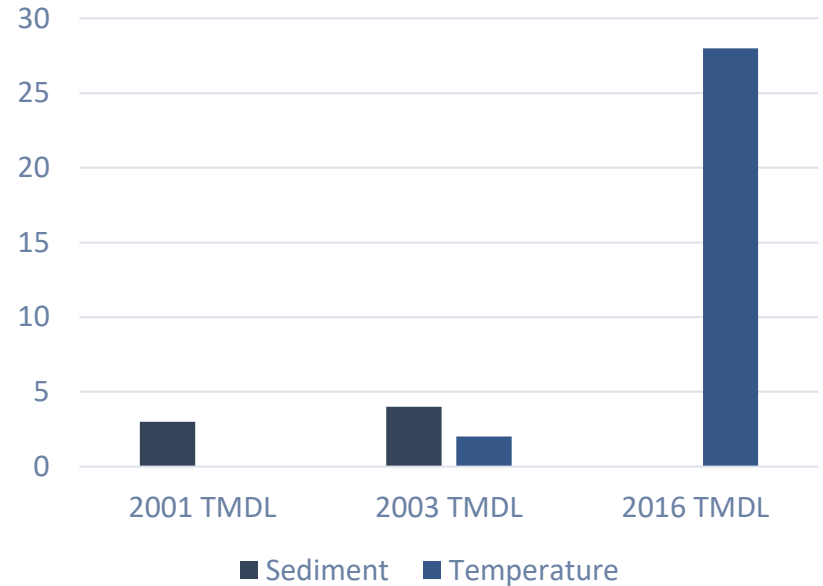
# 2022 Priest Streams Status

## Support Status (miles)



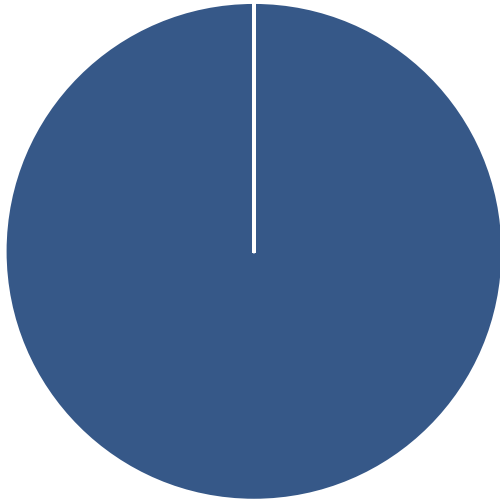
- Full Support
- Not Assessed
- Not Full Support 5
- Not Full Support 4a

## Not Full Support 4a (count)



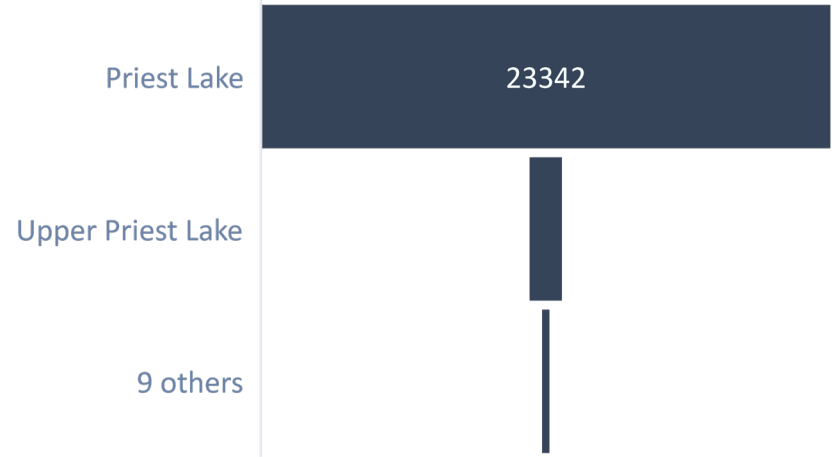
# 2022 Priest Lakes Status

Support Status (acres)



■ Fully Supporting ■ Not Assessed ■ Not Fully Supporting

Lake Surface Area (acres)



Others: Blue, Caribou, Chase, Hunt, Kent, Mirror, Standard, Two Mount, unnamed Lakes



Map Legend Search by Basin Charts

\*\*Please Note: DEQ §305(b) NHD 1:100K GIS waters may not reflect a complete representation of hydrography in Idaho.

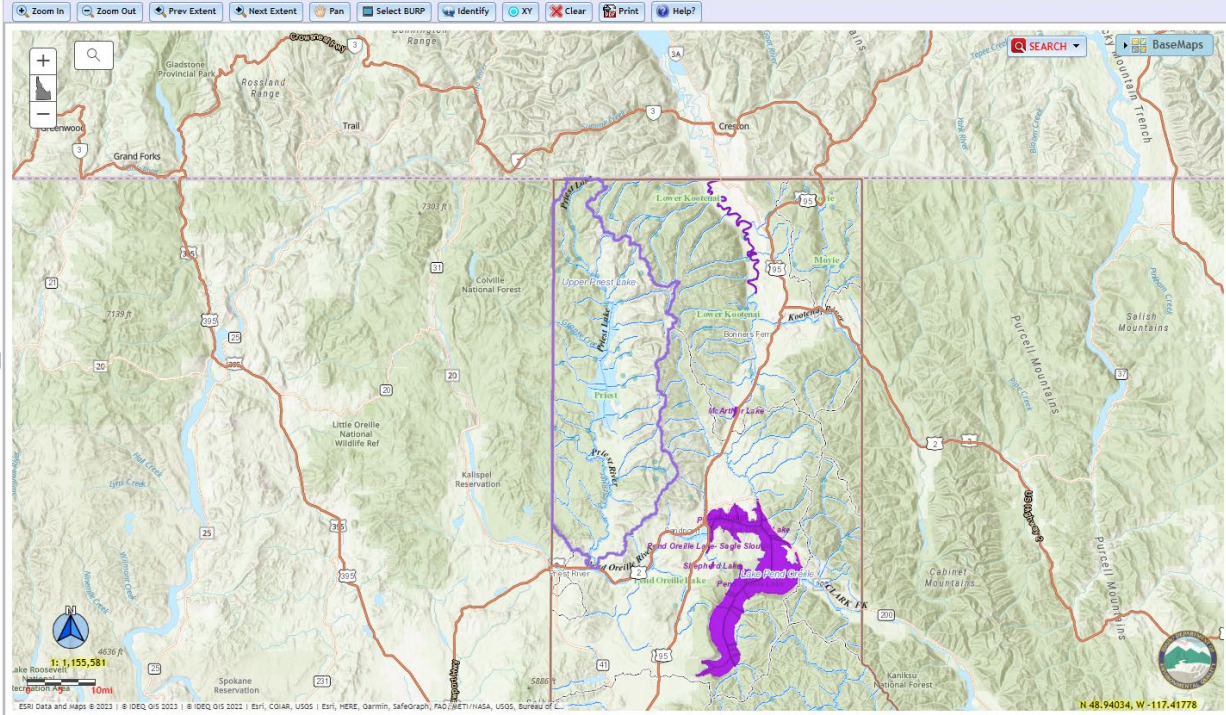
List §305(b) Waters by Subbasin:

Priest-17010215

Subbasin by Code..

Layers Activate as the Scale Increases

- US Cities & Boundaries
- US Streets & Highways
- World Transportation
- Map Contents-ID305B 2022
  - Idaho Cities/Towns
  - IDEQ Stream Monitoring(BURP)
  - Basins
  - 4th Field HUCs (Idaho)
  - Waterbodies Mercury Impaired (2022)
  - Lakes Mercury Impaired (2022)
  - Lakes
  - River-Streams
  - Major Rivers
  - IDEQ 2022 305B Layers
    - Reservation Boundaries
    - Streams (250K)
    - Wilderness Areas
    - Roadless Areas
    - Ecoregion IV SiteClass
    - EcoRegions IV
    - Surface Management Agency (BLM)
    - NLCD (2019)

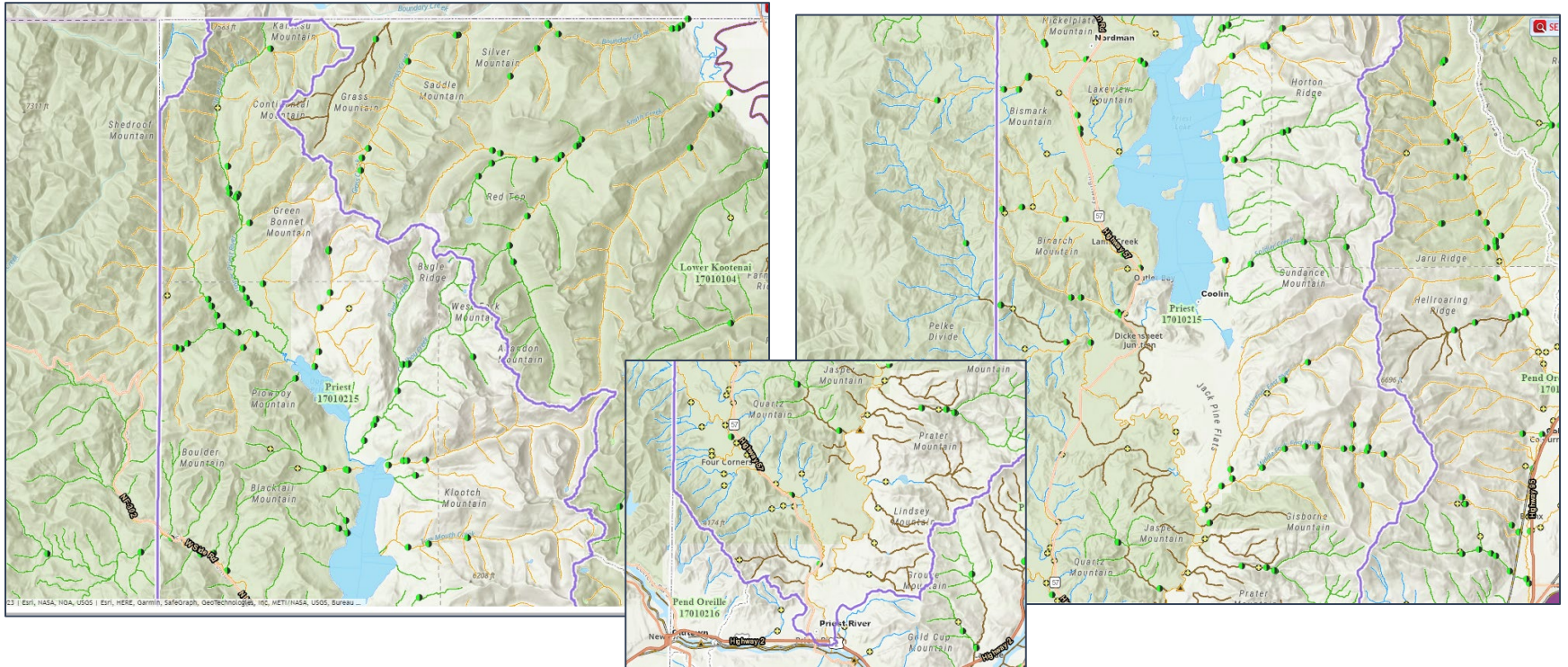


**Priest.** Click on the Assessment Unit ID to Zoom in on, the AU Support Status or Approved TMDLs for Additional Info.

ASSESSMENT UNIT ID	WATERBODY NAME	WB TYPE	STATUS 2022	CATEGORY5	APPROVED TMDLs	MILES/ACRES
ID17010215PN001_02	Unnamed NHD Waterbody	Stream	Not Supporting	303D LISTED		30.28
ID17010215PN001_02	Benton Creek	Stream	Not Supporting	303D LISTED		4.03
ID17010215PN001_02	Ribe Creek	Stream	Not Supporting	303D LISTED		3.01



# Integrated Report Mapper





SUBBASIN  
17010215 - Priest

ASSESSMENT UNIT STATUS REPORT 2022

Assessment Unit ID: ID17010215PN026\_02  
 Assessment Unit Name: Binarch Creek - Idaho/Washington border to mouth  
 Assessment Unit Type: RIVER  
 Assessment Unit Size: 13.24 Miles

Assessment Date: 2021-04-12

This Assessment Unit is in Category: 4A

Assessed Beneficial Use	Assessed Date	User Flag	Support Status	Parameter	Parameter Status	TMDL ID	Category
Cold Water Aquatic Life	04-12-2021	EXISTING	Not Supporting	DISSOLVED OXYGEN	Meeting criteria		
Cold Water Aquatic Life	04-12-2021	EXISTING	Not Supporting	PH	Meeting criteria		
Cold Water Aquatic Life	04-12-2021	EXISTING	Not Supporting	SEDIMENTATION/SILTATION	Not meeting criteria	6509	4a
Salmonid Spawning	04-12-2021	EXISTING	Not Supporting	SEDIMENTATION/SILTATION	Not meeting criteria	6509	4a
Salmonid Spawning	04-12-2021	EXISTING	Not Supporting	TEMPERATURE	Not meeting criteria	ID_PRIES_5-15-2019	4a
Secondary Contact Recreation	12-17-2002	PRESUMED	Fully Supporting				

Unassessed Beneficial Uses

- Aesthetic
- Agricultural Water Supply
- Industrial Water Supply
- Wildlife Habitat

User Flag

- DESIGNATED
- DESIGNATED
- DESIGNATED
- DESIGNATED

Beneficial Use Comments

Cold Water Aquatic Life

7/3/2019 (RE): Historical and 2017 BURP data meet criteria to assign CWAL as an existing use (Idaho's WBAG III, section 3.2.1). BURP site 2017SCDAA023 received a site condition rating of 3, indicating full support of CWAL (Idaho's WBAG III, section 6.4.3). However, CWAL for this AU is associated with an approved TMDL and will remain "not supporting". 12/30/2019 (KL): Temperature logger data from the Kallispel Tribe, collected in 2013, 2014, and 2017, do not exceed numeric temperature criteria for CWAL. However, CWAL for this AU is associated with an approved TMDL and will remain "not supporting". 4/12/2021 (CN) 2019 and 2020 external temperature logger data submitted by the Kallispel Tribe, for site BIN1, do not exceed the temperature criteria for Cold Water Aquatic Life. Dissolved oxygen did not exceed criterion. It is worth noting, a pH measurement of 6.28, recorded 4/20/2020, was outside the criterion range. The granitic parent material is acid-generating rock. Cold Water Aquatic Life for this Assessment Unit is associated with an approved TMDL and will remain "not supporting".

Salmonid Spawning

7/3/2019 (RE): Salmonids less than 100 millimeters were collected at BURP site 2017SCDAA023. Salmonid Spawning for this AU is associated with an approved TMDL and will remain "not supporting". 12/30/2019 (KL): Temperature logger data from the Kallispel Tribe, collected in 2013, 2014, and 2017, exceed the DAT numeric temperature criterion for Salmonid Spawning. Assessment information is in attached documents. Salmonid Spawning for this AU is associated with an approved TMDL and remains "not supporting". 4/12/2021 (CN) 2019 and 2020 external temperature logger data submitted by the Kallispel Tribe, for site BIN1, indicates continued exceedance in the temperature criteria for Salmonid Spawning. Salmonid Spawning for this Assessment Unit remains "not supporting".

BURP Summary Report (WBAG III)

BURPID	STREAM	SITECLASS	SMI2	SMI2Score	SFI2	SFI2Score	SHI2	SHI2Score	Rating Average	In Cycle (2022)
2017SCDAA023	Binarch Creek	Foothills	62	3	100	3	81	3	3.00	No

Monitoring (Historical) WBAG II (1993 - 2011) Show

Cold Water Aquatic Life Existing Use Flag.

Years in which BURP data indicate Cold Water Aquatic Life is an Existing Use (criteria in WBAG III, Figure 3, p14, are met)



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17010215 - Priest

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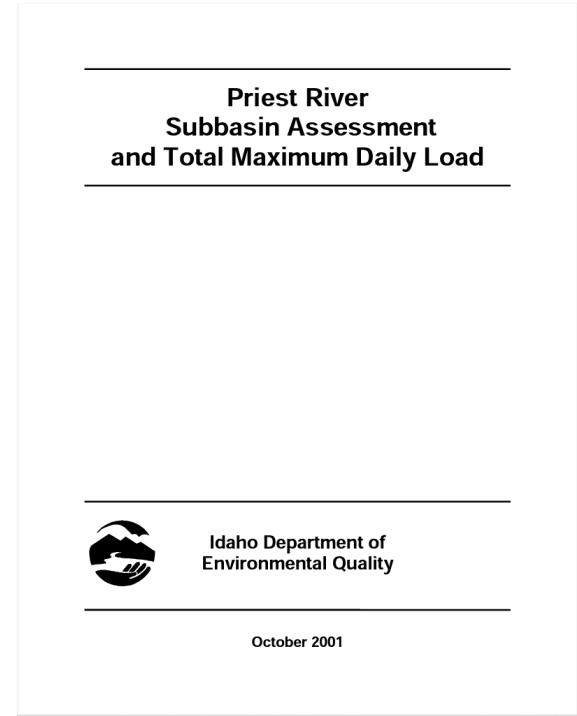
# Priest River TMDL

- 2001 SBA and TMDL
- 2003 Addendum
- 2016 Temperature Addendum



# 2001 SBA and TMDL

- Kalispell Creek and Lower West Branch Priest River for Sediment



# 2003 Addendum

- Sediment and Temperature

Stream	Pollutants
Reeder Creek	Sediment
Binarch Creek	Sediment
East River	Sediment (entire watershed), temperature
Middle Fork East River	Temperature
North Fork East River	Temperature
Lower Priest River	Sediment

## Addendum Priest River Subbasin Assessment And Total Maximum Daily Load

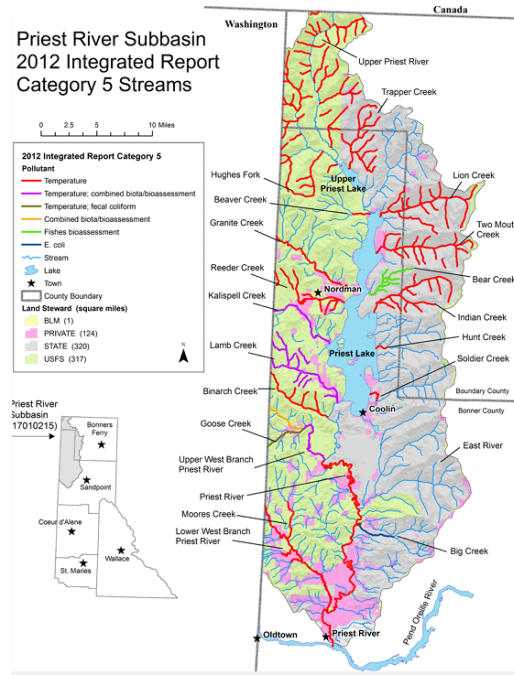


April 2003



# 2016 Temperature Addendum

- 28 Assessment units
- Potential Natural Vegetation TMDLs
- Shade deficit maps
- Watershed Advisory Group (§39-3601 et seq.)



## Priest River Subbasin Assessment and Total Maximum Daily Load

2016 Temperature Addendum  
Hydrologic Unit Code 17010215

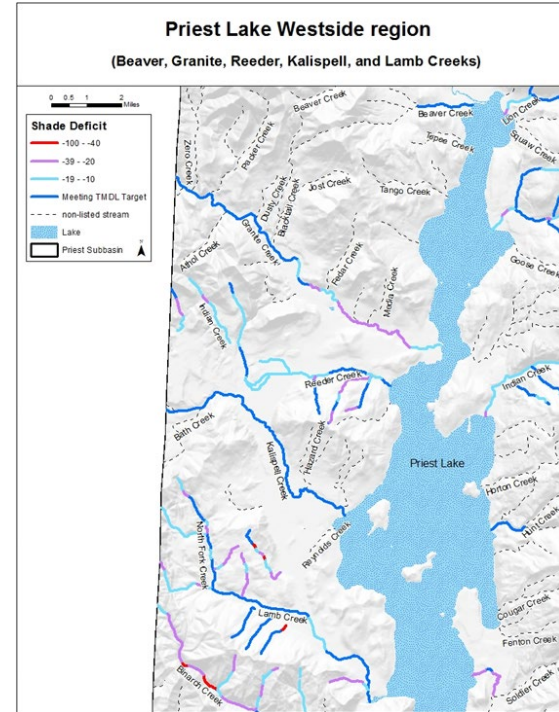
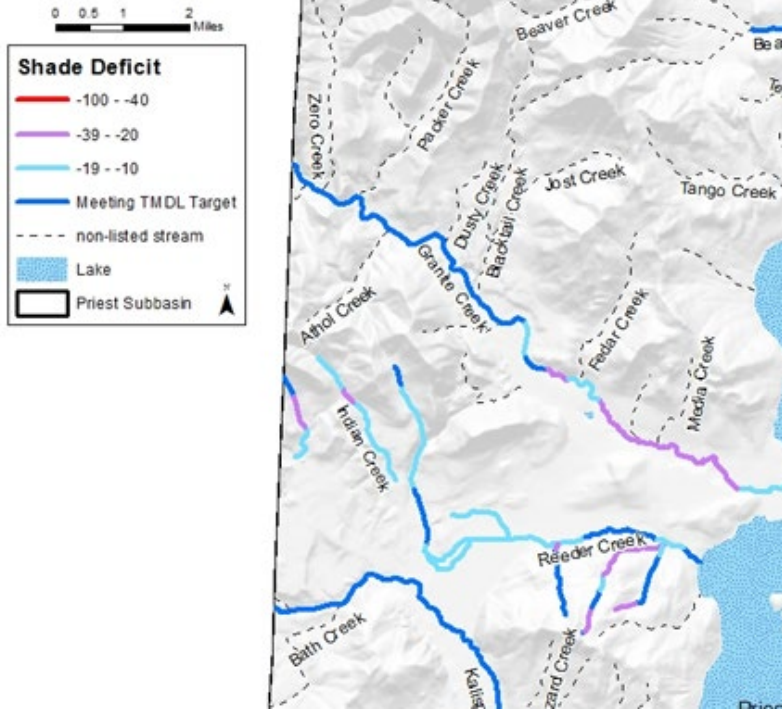


Final



State of Idaho  
Department of Environmental Quality  
January 2016

# Shade deficit maps



# Bob's Priest water quality concerns

- Priest River Temperature and Habitat
- Priest River Flow – Minimum Instream Flow
- Priest River *Didymosphenia geminata*
- Priest Lake spring *Ochromonas* bloom
- Shoreline conversion
- Septic



# Questions?



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

Your name  
Your title

# Water quantity

- 97-7380 – minimum instream flow nexus with state statute for lake level (Title 70 Chapter 5 70-507)
- 24 (2015) Junior water rights for Lake and River (Domestic, Irrigation, Fire Protection, Stock)

<u>Source</u>	<u>Tributary</u>
PRIEST RIVER	PEND OREILLE RIVER

<u>Beneficial Use</u>	<u>From</u>	<u>To</u>	<u>Diversion Rate</u>	<u>Volume</u>
MINIMUM STREAM FLOW	4/01	6/30	1500 CFS	
MINIMUM STREAM FLOW	7/01	7/31	700 CFS	
MINIMUM STREAM FLOW	8/01	10/31	300 CFS	
MINIMUM STREAM FLOW	11/01	3/31	700 CFS	
Total Diversion			1500 CFS	

# Links

- Integrated Report Mapper:  
<https://mapcase.deq.idaho.gov/wq2022/>
- Idaho Water Quality Standards:  
<https://www.deq.idaho.gov/water-quality/surface-water/water-quality-standards/>
- Priest River Subbasin TMDL:  
<https://www.deq.idaho.gov/water-quality/surface-water/total-maximum-daily-loads/priest-river-subbasin/>