

# Black Lake

Subbasin Assessment and TMDL  
Watershed Advisory Group Meeting  
July 30, 2009



# Background

- The Clean Water Act (CWA): “ restore and maintain the chemical, physical, and biological integrity of the nation’s waters”.
- The EPA oversees Idaho and the Tribe in fulfillment of the CWA requirements
- Coeur d’Alene Tribe and DEQ collaborate on Black Lake to ensure consistency in water quality management programs.

# Idaho Water Quality Standards

- Under the CWA, States and Tribes must adopt water quality standards:
  - designates the use or uses for the water, sets criteria necessary to protect those uses, and prevents degradation of water quality
- EPA has not yet approved Coeur d'Alene Tribal nutrient water quality standards covering Black lake.
- The Tribe's narrative standard for nutrients are similar to Idaho's. We therefore came to an agreement in the draft TMDL.

# Idaho Water Quality Standards

## Beneficial Use

- Designated Beneficial Uses for Black Lake:
  - The Idaho legislature designates uses for water bodies. Black Lake is unclassified in Idaho water quality standards (IDAPA 58.01.02, Sections 110 through 160). However:
  - If a water body is unclassified, then cold water aquatic life and primary/secondary contact recreation are default beneficial uses.
  - Industrial water supply, wildlife habitats, and aesthetics are also beneficial uses for all water bodies in the state.

# Primary and Secondary Contact Recreation (IDAPA 58.01.02)

**Primary Contact Recreation:** water quality appropriate for prolonged and intimate contact by humans or for recreational activities when ingestion of small quantities of water is likely to occur. Such activities include, but are not restricted to, those uses for swimming, water skiing, or skin diving.

**Secondary Contact Recreation:** water quality appropriate for recreational uses on or about the water and which are not included in the primary contact category. These activities may include fishing, boating, wading, infrequent swimming and other activities where ingestion of raw water is not likely to occur. **This is not a beneficial use for Black Lake**

# Aquatic Life Uses

**Cold Water Aquatic Life:** water quality appropriate for the protection and maintenance of a viable aquatic life community for cold water species.

**Salmonid Spawning:** Waters which provide or could provide a habitat for active self-propagating populations of salmonid fisheries

**This is not a beneficial use for Black Lake**

# Idaho Water Quality Standards Criteria

- Criteria
  - Numeric – for example bacteria, DO, pH, temperature
  - Narrative – nutrients and sediment
- “Surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses.” IDAPA 58.01.02.250
- “Surface waters of the state shall be free from floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses. This matter does not include suspended sediment produced as a result of nonpoint source activities.” IDAPA 58.01.02.200.05

# Idaho Water Quality Standards

## Water Quality Assessment/Status

- DEQ and the tribe collect information on water bodies to determine if they meet water quality standards and support their beneficial uses
  - Ambient monitoring, special projects, complaints
  - Other water quality monitoring
- Water Quality Assessment – Water Body Assessment Guidance IDAPA 58.01.02.053
- The state and tribe report on the status of assessed water bodies every two years (“303(d) list and integrated report”) **Since 1998 Black Lake has been listed for nutrient impairment**
- TMDLs are required for all water bodies not meeting water quality standards

# Black Lake Listing

(summary provided in draft TMDL)

- Toxic algal blooms were recorded in 1972, 1981, 1982, 1983, 1985
- Historical records provide water quality data from 1983 through 2001.
- Special studies on Black Lake in 1984, 1985, and 1986
- Water chemistry data and algal bioassays indicated Black Lake is a eutrophic lake
  - This resulted in placement of Black Lake on 1998 Idaho/Tribe 303(d) list of impaired waters

# TMDL/Subbasin Assessment Process

- A subbasin Assessment is an evaluation and summary of current water quality status, pollutant sources, and control actions a Watershed.
  - While this is not a requirement of the TMDL, the assessment ensures impairment listings are up to date and accurate.
- A TMDL is an estimation of the maximum pollutant amount that can be present in a water body and still allow that water body to meet water quality standards.
  - TMDL is water body, and pollutant specific
  - It allocates allowable discharges of individual pollutants among the various sources.

# TMDL

- TMDL:  $LC = LA + WLA + NB + MOS$

LC = Load Capacity of the waterbody

The load capacity must be based on critical conditions

LA = Load allocation (nonpoint sources)

WLA = Waste Load Allocation (point sources)

NB = Natural Background

MOS = Margin of Safety

A load is fundamentally a quantity of a pollutant discharged over some period of time, and is the product of concentration and flow.

# Watershed Advisory Group Process

- See handout