Fish Creek

Presented to Fish Creek Watershed Advisory Group

by Tyson Clyne
Idaho DEQ

Agenda

- Introductions
- Review of Study Area
- Review of Temperature TMDL
- TMDL document outline
- DEQ sediment model approach
- WAG schedule

Introductions

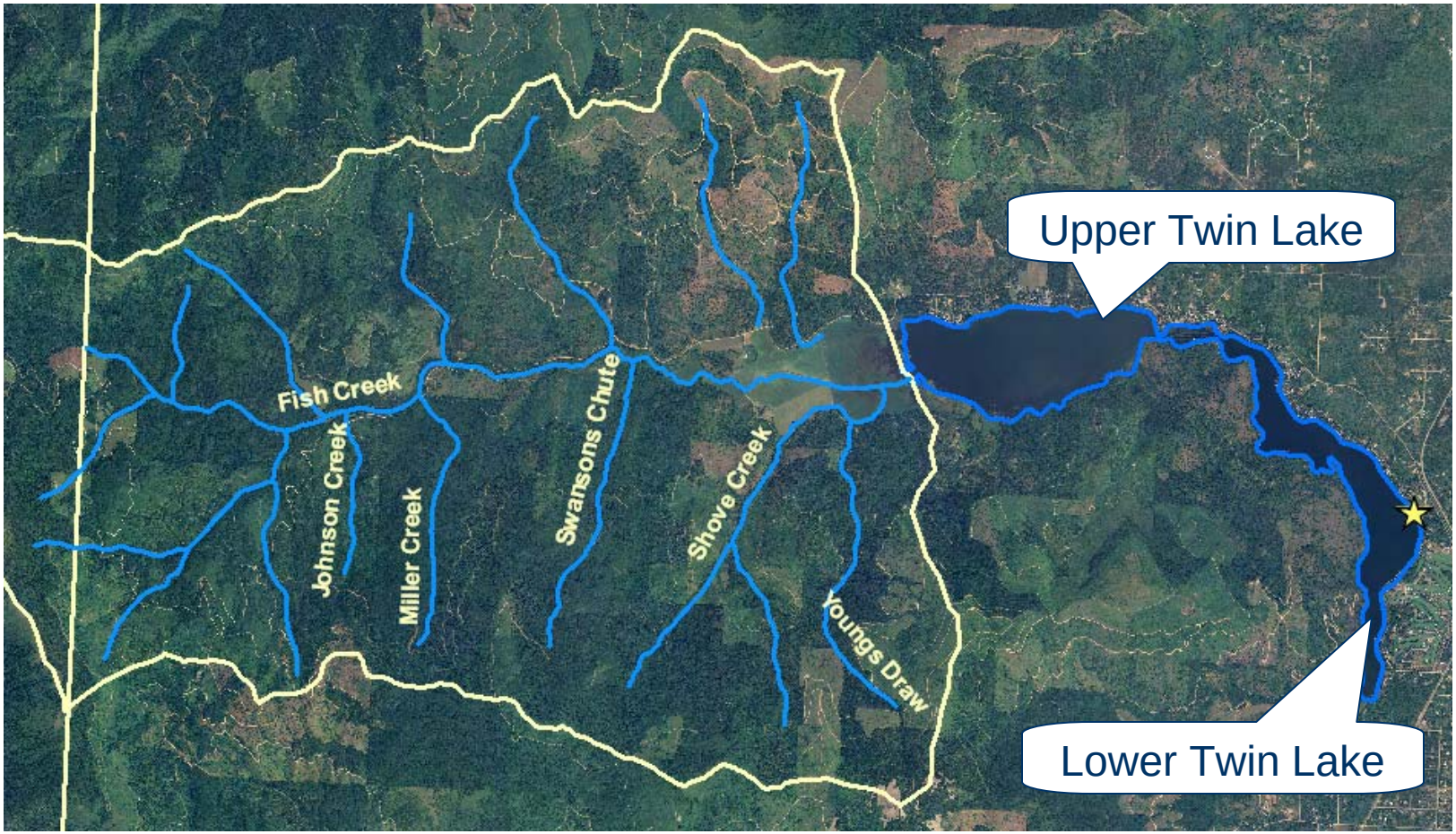
- Tyson Clyne
  - Idaho DEQ, 208-769-1422 or tyson.clyne@deq.idaho.gov
- Formation and approval of “formal” WAG members

WAG Membership to be sent to DEQ Directors office

Affiliation as outlined in Idaho Code	Name	Organization
Agriculture	Robert Flagor	Kootenai/Shoshone Soil and Water Conservation District
Forest Products	Dennis Parent	Inland Empire Paper Company
Local Government	Dan Park Susan Park	Twin Lakes water district
Livestock	Gordon Sylte Alternates: John Sylte Chris Lucas	Local Resident
Water-based Recreation	Gregg Durkee	Twin Lakes Homeowners Association President
Environmental Interests	Mike Mihelich	Kootenai Environmental Alliance
Land Management - Regulatory Agencies	Ron Fryzowski	Idaho Department of Lands
Concerned Citizen	Michael Nelson	Twin Lakes Citizen Volunteer Monitoring Program chairperson

Mining, point source dischargers, and Indian tribes are not anticipated to be represented.

Study Area

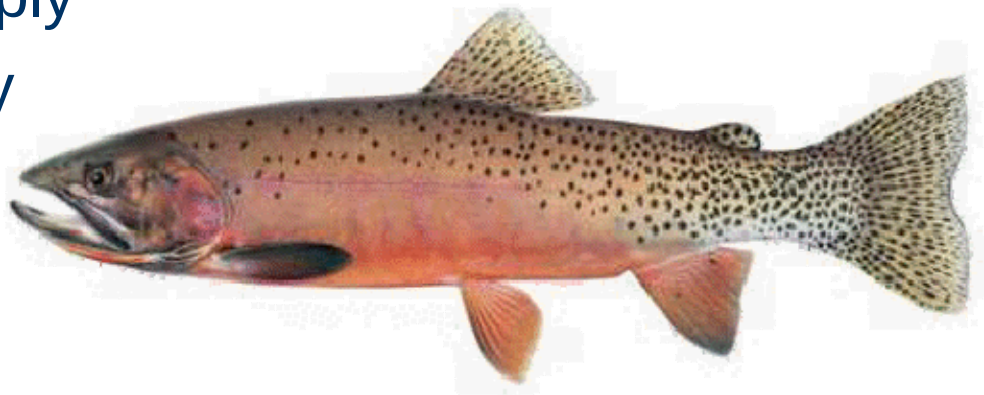

Upper Twin Lake
Fish Creek
Johnson Creek
Miller Creek
Swansons Chute
Shove Creek
Youngs Draw
Lower Twin Lake

Why are we here?

- Fish Creek is listed on Idaho's Impaired Waters List
  - Sediment
  - Temperature
  - Causes Unknown
- Our goal is to restore full support of all beneficial uses

Fish Creek Beneficial Uses

- Salmonid Spawning
- Cold water aquatic life
- Primary Contact Recreation
- Domestic water supply
- Agricultural water supply
- Industrial water supply
- Wildlife habitat
- Aesthetics



Review of Temperature TMDL

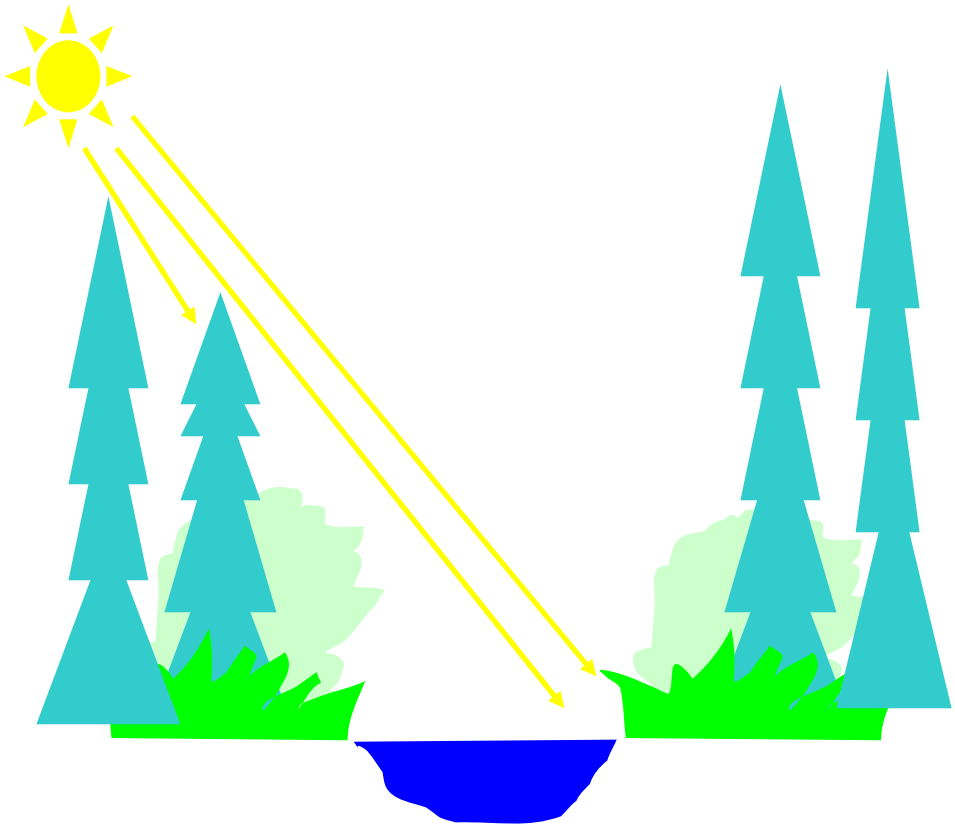
- Idaho Water Quality Standard
  - Numeric Standard

    Salmonid Spawning
    - 13°C (55.4°F) or less
    - Maximum daily average no greater that 9°C (48.2°F)

  - Natural condition provision
    - *IDAPA 58.01.02.200.09*, When natural conditions exist numeric water quality criteria do not apply.

Review of Temperature TMDL

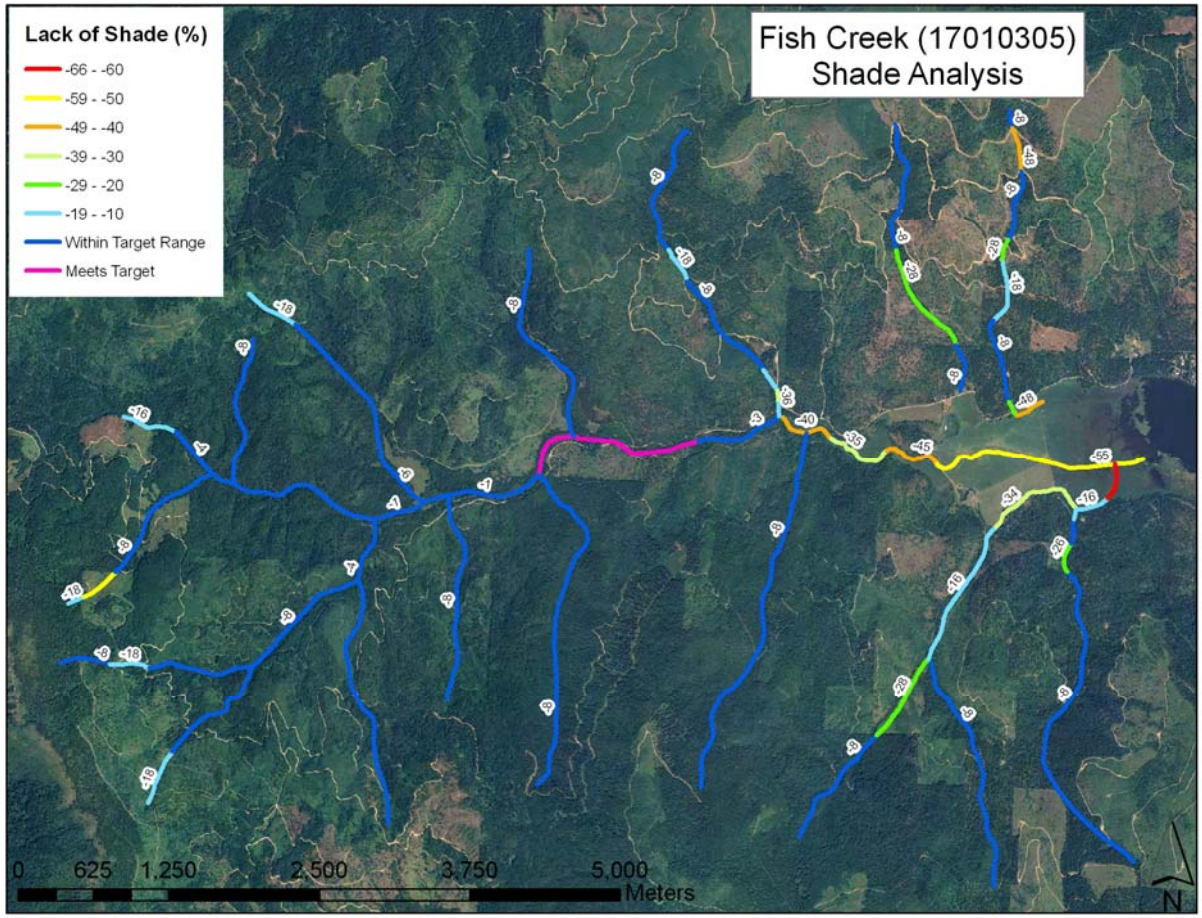
- Natural condition is TMDL objective
- Achieved by establishing shade provided to a natural condition



Review of Temperature TMDL

- Potential Natural Vegetation Steps
  - Step 1. Estimate existing shade
  - Step 2. Verify existing shade estimates
  - Step 3. Select representative shade curve
  - Step 4. Calculate existing and potential solar load
  - Step 5. Difference between existing and potential solar load becomes TMDL target
- Increase in shade needed to achieve target becomes the most practical target

Increases in Shade needed to Meet TMDL Targets



Outcomes of Temperature TMDL

- Forested areas are in relatively good shape, some shade increases needed
- Agricultural low lands require the largest increase in shade to reach TMDL target

Break

DEQ summer crew electro-fishing Miller Creek, tributary to Fish Creek.

TMDL Document Outline

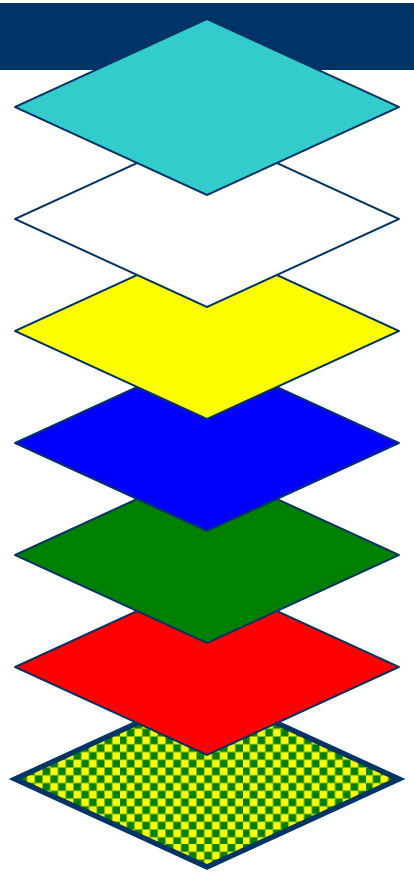
- 5 Sections
- Subbasin Assessment
  - Executive Summary
  - Section 1 – Watershed Characteristics
  - Section 2 – Water Quality Concerns and Status
  - Section 3 – Pollutant Source Inventory
  - Section 4 – Summary of Past and Present Pollution Control Efforts
- Section 5 – Total Maximum Daily Loads

DEQ Sediment Model Approach

- DEQ sediment water quality criteria is narrative
  - *Streams shall be free from sediment in qualities that impair beneficial uses…*
- TMDL target set at a % above natural background using a reference watershed

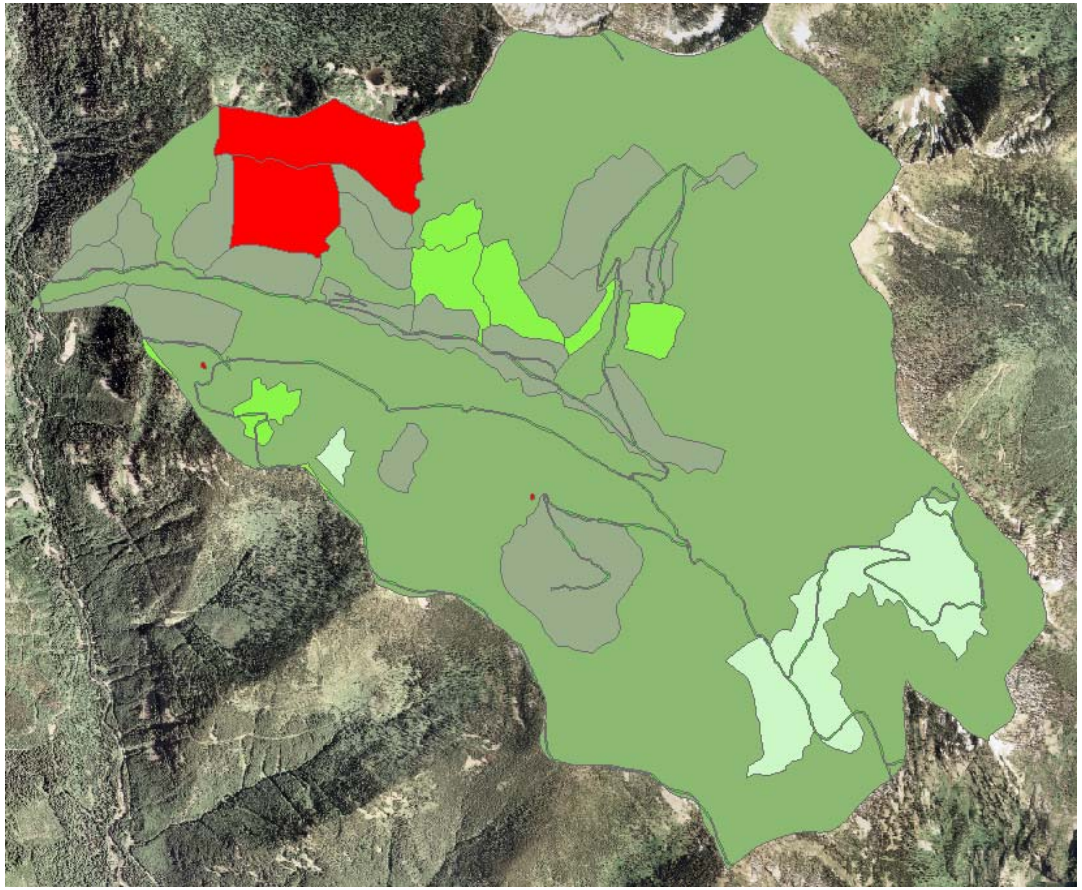
DEQ Sediment Model Approach

- Land use based
- Sediment yield coefficients applied to specific land use types
- Multiple watersheds modeled and existing conditions compared to determine target



DEQ Sediment Model Approach

- End Result
- Example
  - Rattle Creek

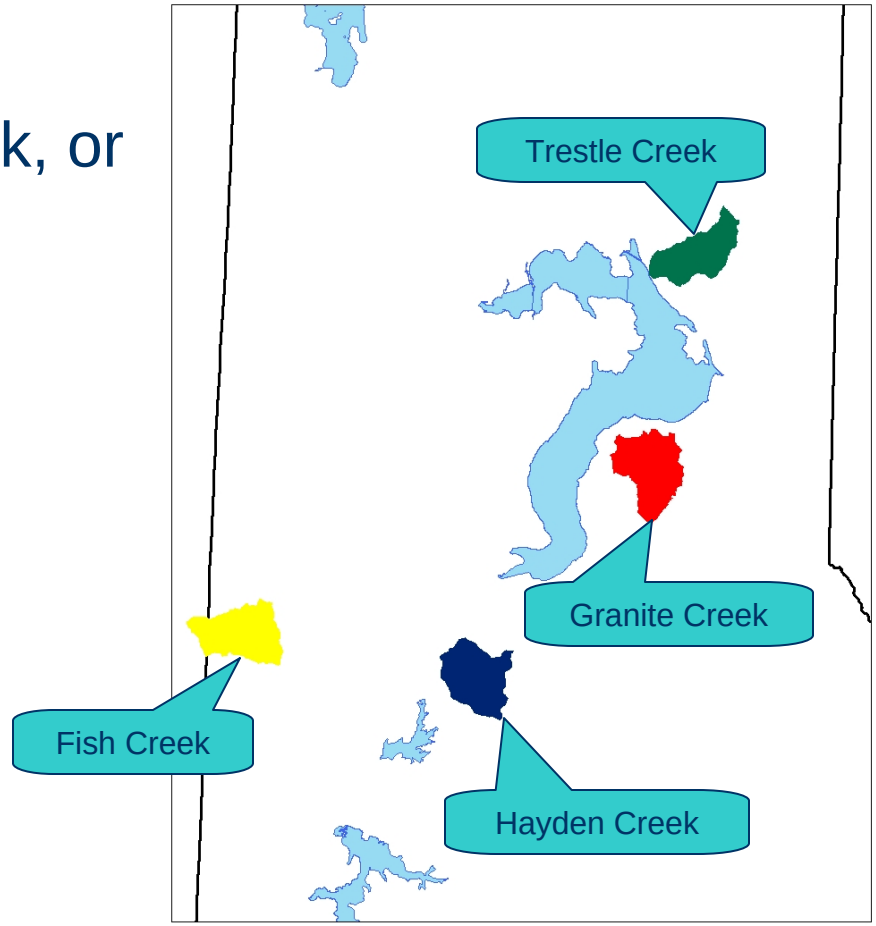


DEQ Sediment Model Approach

- Land use types classified using GIS software
- Sediment yield coefficients applied to land use types
- Current condition determined
- Background sediment yield coefficient applied to all land to determine background sediment load
- % above background then set as Sediment TMDL target

Possible Reference Watersheds

- Hayden Creek
  - North Fork, East Fork, or Both
- Trestle Creek
- Granite Creek

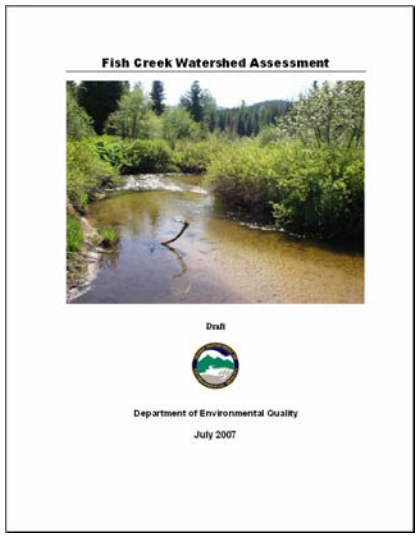


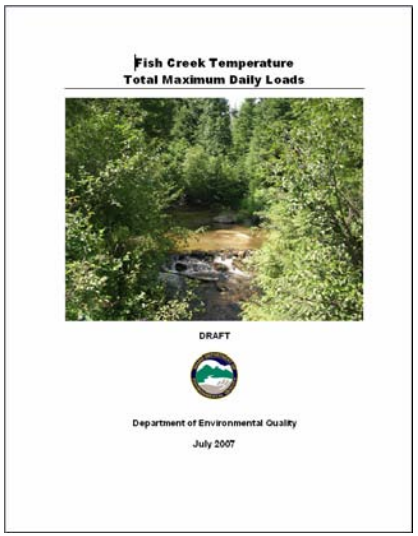
Example of Targets Used in Past TMDLs

- Clark Fork – 54%
- Kootenai/Moyie – 50%
- St. Joe – 50%
- Pend Oreille Tributaries – 43%

WAG To Dos

- Review Subbasin Assessment Draft
  - Sections 1-3
- Help develop section 4
- Review Temperature TMDL Draft





WAG To Dos

- Copies of Draft document will be posted to the following web page:

http://www.deq.idaho.gov/about/regions/fish_creek_wag/index.cfm

Future WAG Meetings