

St. Joe/St. Maries Watershed Advisory Group Meeting

September 17, 2010
St. Maries Fire Station



Agenda

- Introductions
- Idaho Water Quality Temperature Standards
 - St. Joe River Watershed
 - St. Maries River Watershed
- Potential Natural Vegetation (PNV) TMDL
- Draft PNV TMDL
- IDAH2O – Ashley McFarland, U of I
- Future WAG meetings

Introductions

- Tyson Clyne
Watershed Coordinator
Idaho Department of Environmental Quality

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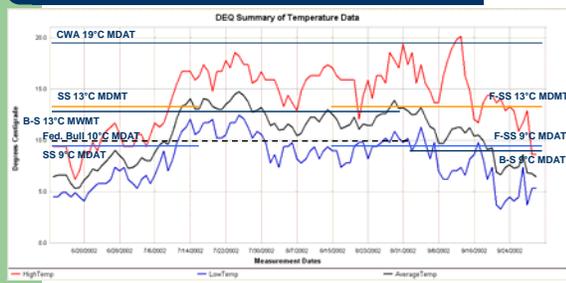
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Idaho Water Quality Temperature Standards

- Protect cold water aquatic life
 - Salmonid spawning
 - Bull trout



Temperature Monitoring



Integrated Report Temperature Listings

- 1998 303(d) list – 23 assessment units
- 2002 IR
 - 33 Section 5
- 2008 IR
 - 13 Section 5
 - 22 Section 4a
- **DRAFT** 2010 IR
 - 13 Section 5
 - 22 Section 4a

DEQ Integrated Report Webpage:
http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/integrated_report.cfm

Potential Natural Vegetation (PNV)

- Natural background provision of temperature standard:
 - *When natural background conditions exceed any applicable water quality criteria set forth in Sections 210, 250, 251, 252, or 253, the applicable water quality criteria shall not apply; instead, pollutant levels shall not exceed the natural background conditions, except that temperature levels may be increased above natural background conditions when allowed under Section 401.*

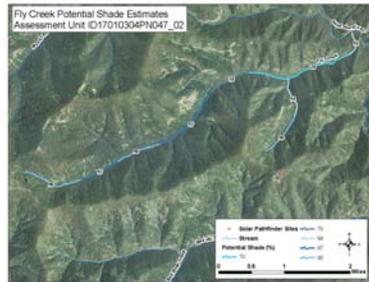
Natural Shade = Natural Conditions = Natural Stream Temperatures

PNV Steps

- Estimated existing shade
- Validate existing shade
 - Solar Pathfinder
- Determine vegetation group to apply
- Determine natural and existing stream width
 - Apply shade curve
- Calculate loads

Estimating Existing Shade

- GIS Aerial Photo Interpretation



Validating Existing Shade Estimates

- Solar Pathfinder

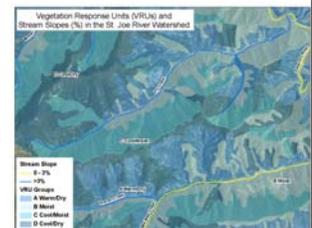


Validating Existing Shade Estimates

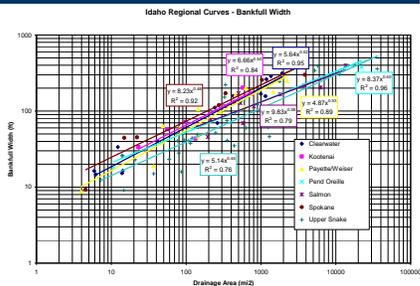
- Solar Pathfinder
 - 19 Sites in the St. Joe River Watershed
 - 26 Sites in the St. Maries River Watershed
- Good agreement between estimated and existing shade

Vegetation Groups

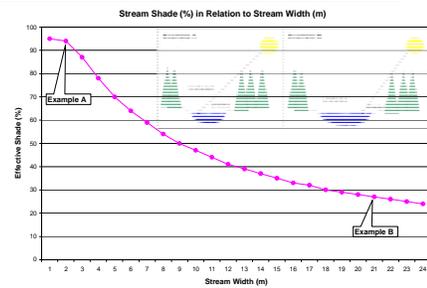
- Vegetation Response Units (VRUs)
 - 4 Forest groups
 - 2 Meadow deciduous groups
 - 1 Large deciduous
 - group (5th and 6th order streams)



Stream widths



Shade Curves



Calculating loads

- Current solar load = Stream area (width x length) x Open Stream % x Solar Radiation
- Potential solar load = Stream area (width x length) x Target Shade x Solar Radiation
- Current – Target = TMDL

End result is a solar load in Kilowatt Hours Per Day

Lack of Shade or Delta Shade

- Difference between current and potential shade
- Areas to target for implementation



PNV Take-Home

- Targeting 'background' shade not water temperatures
- Targets derived from current plant communities
- Takes into consideration current conditions
 - Fire, diversity in vegetation types and other natural factors
- Provides a road map for implementation

WAG Review Documents

- Draft PNV TMDL Document
 - Text for both St. Joe and St. Maries River Watersheds
- St. Maries River Watershed Solar Loading Tables
- St. Maries River Watershed Existing, Potential and Delta Shade Figures

IDAHO

- Ashley McFarland

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Future Meeting

- October 15th
 - St. Maries Fire Station, 9-11am
- WAG webpage:
 - http://www.deq.idaho.gov/about/regions/st_joe_st_maries_river_wag/index.cfm