Pend Oreille River TMDL
Watershed Advisory Group: Temperature Modeling Update

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Introduction

- *In our last episode...*
  - We discussed calibration of the 3 models
  - Idaho presented their compliance approach

- *In this episode...*
  - Rob Annear of PSU and the Idaho model scenarios
  - Update on progress with WA modeling
  - WA compliance approach

- *An important point...*
  - We have to work upstream to downstream
Overview of the Pend Oreille River Temperature and TDG TMDL Studies

Idaho!
Overview of the Pend Oreille River Temperature and TDG TMDL Studies

Washington!

- PSU activities for Box Canyon reservoir
  - 2004-2005 model of “existing” conditions
  - Included flow and temperature for 15 tributaries
  - 2004-2005 unimpounded scenario
  - Mainstem vegetation will be included when complete
  - Other TMDL scenarios
PNL activities for Boundary reservoir

- Included flow and temperature for 15 tributaries
- Mainstem vegetation will be included
- Rechecking calibration
- Developing “existing w/ no Boundary” scenario
- Ecology will develop TMDL scenarios
TMDL Modeling Scenarios

- “Existing” conditions (2004-05 observed)
- Existing with no impoundment
- Existing no NPDES point sources (PNP, Mine, Cities)
- Existing with tribs at Potential Natural Vegetation (PNV) or TMDL temperatures
- Existing with mainstem PNV
- “Natural background” (natural upstream, unimpounded, no NPDES, tribs and mainstem PNV)
- Natural background with impoundment
TMDL Scenarios Comparisons

- Existing vs natural - total change due to people
- Existing vs existing with no impoundment; and
  Natural vs natural with downstream impoundment
  • Impact of downstream dam
- Existing vs existing with no NPDES point sources
- Existing vs existing with with tribs at PNV/TMDL
- Existing vs existing with mainstem PNV
Analysis of TMDL Comparisons

- Temperature over time at critical locations
  - Nine calibration locations for Box Canyon reach
  - Four calibration locations for Boundary reach
  - Hottest location, and location with largest impairment
  - Daily maximum and daily average

- Temperature vs river mile at critical times
  - Daily maximum
  - Hottest day, and day with largest impairment