Eagle Mountain WASP Reservoir Model
EM Chl'a' 1989-2009

n = 637, Median = 19.3, APR = 3.53%
Eagle Mountain Chl'a' Main Pool 3Q Top

n=42, Median 19.7, APR 6.96%
Figure 1 - Eagle Mountain WASP Segmentation

Segment Boundary
Note: Stacked numbers within a single segment indicate vertical segmentation.
Nutrient Loading to WASP

- SWAT Watershed Loads
  - NPS Loads
  - Watershed WWTP Loads
- 2 WWTP Directly to Lake
- Atmospheric Deposition
- Flux Releases
8 State Variables

- Ammonia (NH3)
- Nitrate+Nitrite (NOx)
- Organic Nitrogen (ON)
- Ortho-Phosphorus (OPO4)
- Organic Phosphorus (OP)
- Chlorophyll-a (Chl-a)
- Biological Oxygen Demand (BOD)
- Dissolved Oxygen (DO)
Nutrient Contributions by Watershed Location

TP Contribution by Tributary

- West Fork: 77%
- Dosier: 11%
- Ash: 3%
- Walnut: 7%
- Indian: 2%

TN Contribution by Tributary

- West Fork: 81%
- Dosier: 8%
- Ash: 4%
- Walnut: 3%
- Indian: 4%
WASP TP Loading Budget

Eagle Mountain 10 Yr Average TP Budget
Average Annual Load 167,459 kg/yr

- NPS
- WWTP
- Atmosphere
- Flux

95% 1% 2% 2%
Annual TP Loads Partitioned by Source

Eagle Mountain Total Phosphorus Budget

- NPS
- WWTP
- ATM
- Benthic Flux
- % Retention
- Retained
EM Phosphorus Calibration

Eagle Mountain Lake 1994-2003
Total P  Median + 25th Percentiles

Eagle Mountain Lake 1994-2003
Org P  Median + 25th Percentiles

Eagle Mountain Lake 1994-2003
Avail OPO4  Median + 25th Percentiles
EM Nitrogen Calibration

Eagle Mountain Lake 1991-2001
Total N Median + 25th Percentiles

Eagle Mountain Lake 1994-2003
NH3 Median + 25th Percentiles

Eagle Mountain Lake 1994-2003
NOX Median + 25th Percentiles

Eagle Mountain Lake 1994-2003
Org N Median + 25th Percentiles
EM Chl-a Calibration

Eagle Mountain Lake 1994-2003
Chl'a' Median + 25th Percentiles
Source Load Sensitivity

**SWAT Loading Reductions**

**Chl’a Seg 1**

- Calibration
- No WWTP
- No ATM
- No NPS
- No Flux

**TP Seg 1**

- Calibration
- No WWTP
- No ATM
- No NPS
- No Flux
NPS Incremental Load Reductions
Questions?

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