



**Bridgeport**



**Cedar Creek**

# Eagle Mountain WASP Reservoir Model



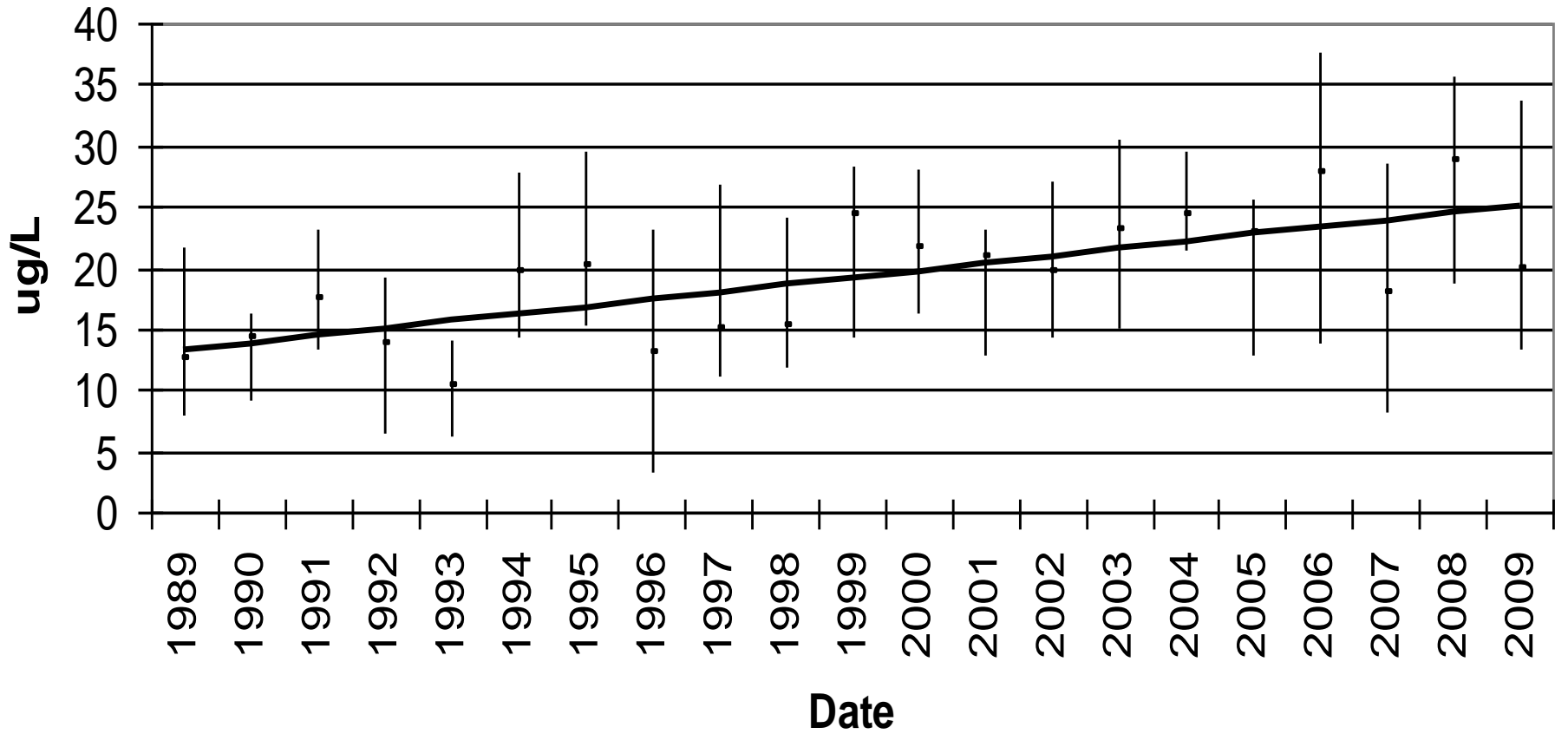
**Richland-Chambers**



**Eagle Mountain**

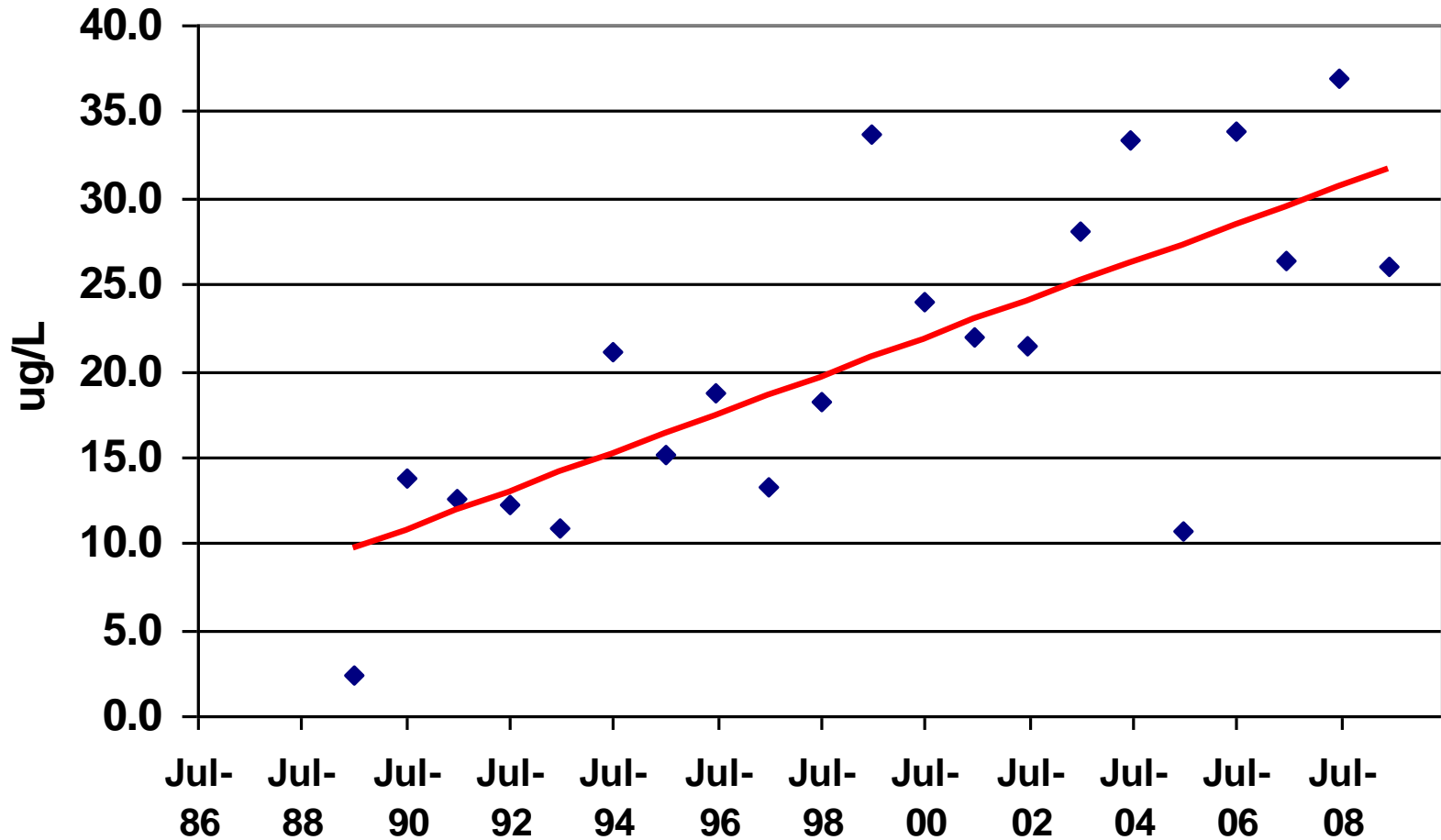
# EM Chl'a' 1989-2009

n = 637, Median = 19.3, APR = 3.53%

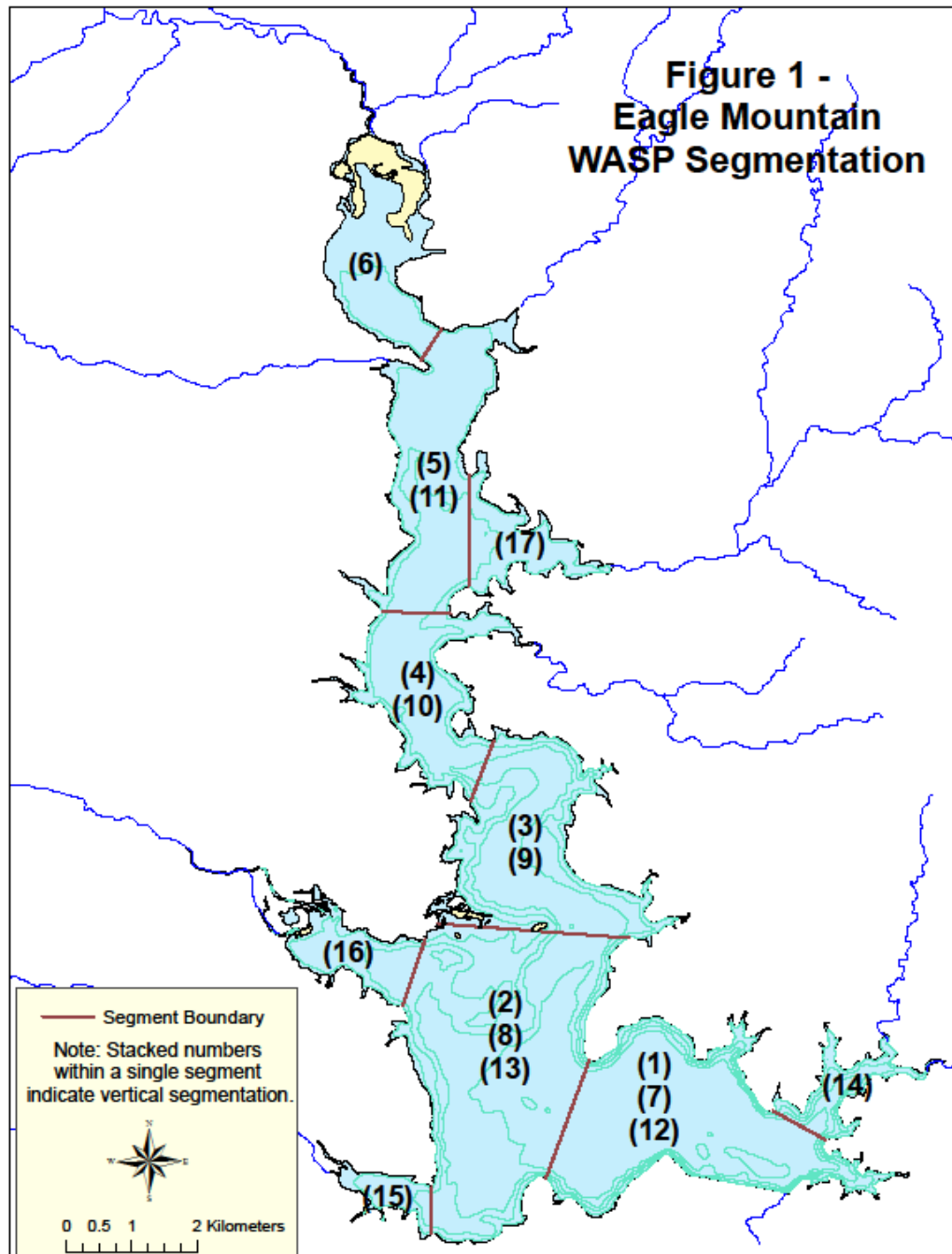


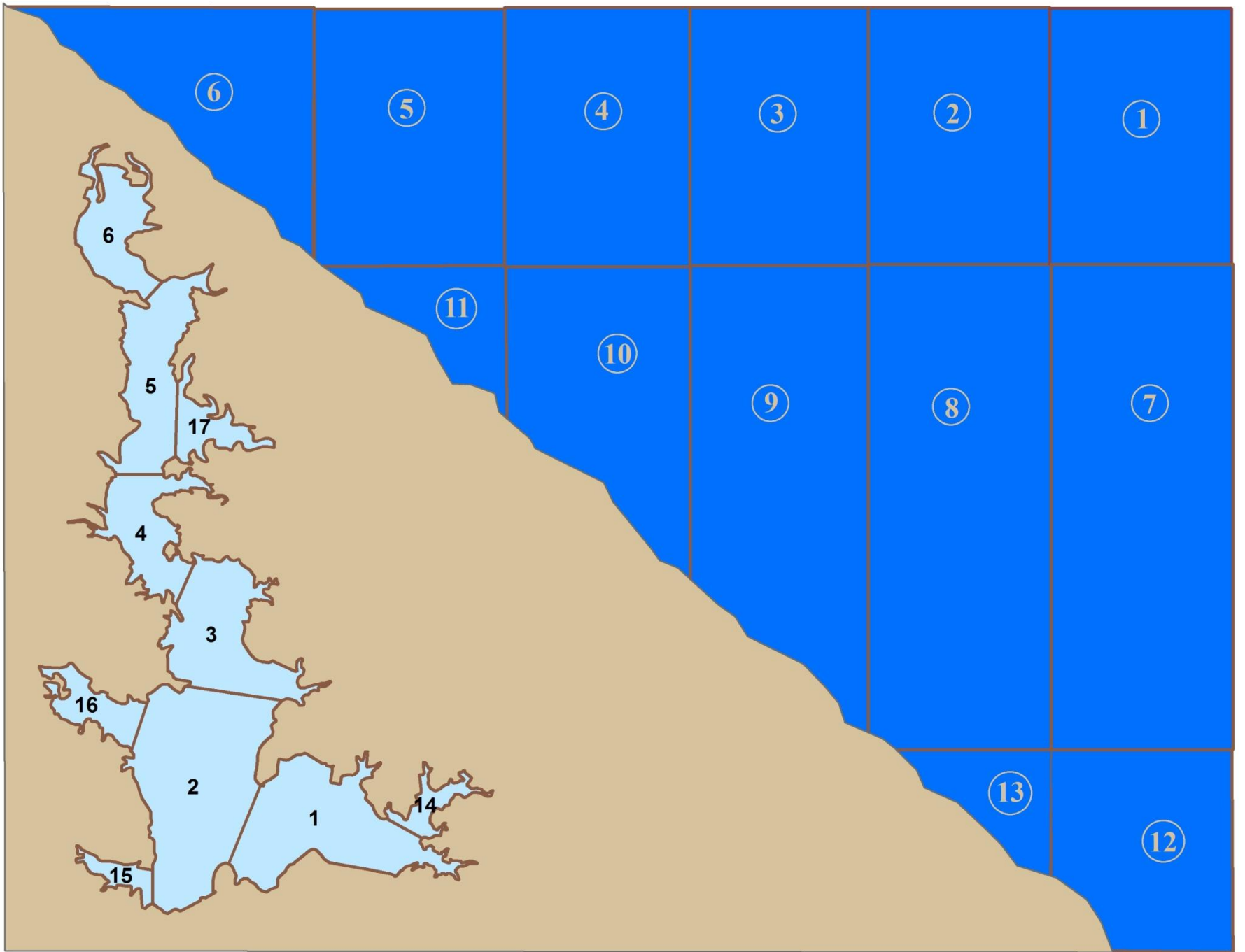
# Eagle Mountain Chl'a' Main Pool 3Q Top

n=42, Median 19.7, APR 6.96%



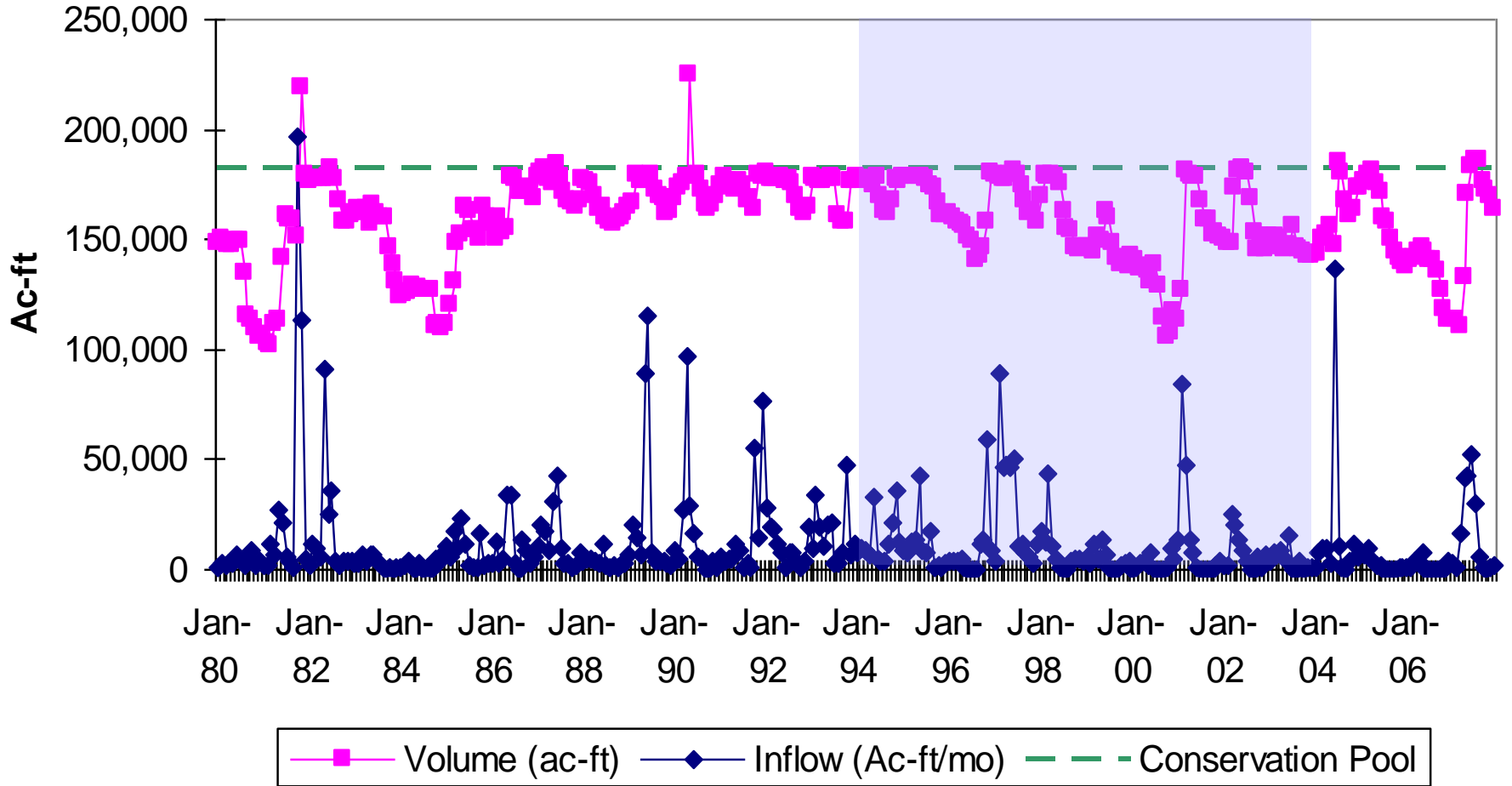
**Figure 1 -  
Eagle Mountain  
WASP Segmentation**





# Eagle Mountain Hydrology 1980 - 2007

Calibration Period  
1994-2003



# Nutrient Loading to WASP

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

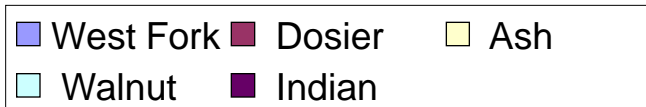
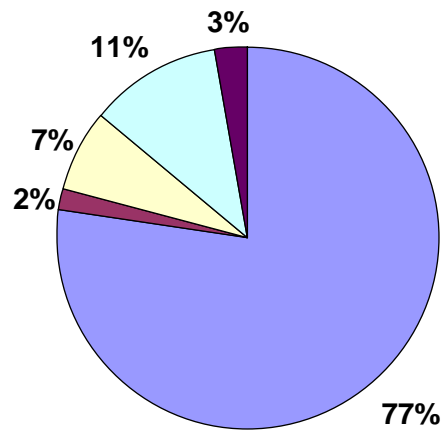
# 8 State Variables

- Ammonia ( $\text{NH}_3$ )
- Nitrate+Nitrite ( $\text{NO}_x$ )
- Organic Nitrogen (ON)
- Ortho-Phosphorus ( $\text{OPO}_4$ )
- Organic Phosphorus (OP)
- Chlorophyll-a (Chl-a)
- Biological Oxygen Demand (BOD)
- Dissolved Oxygen (DO)

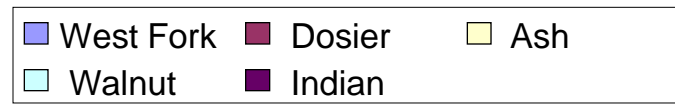
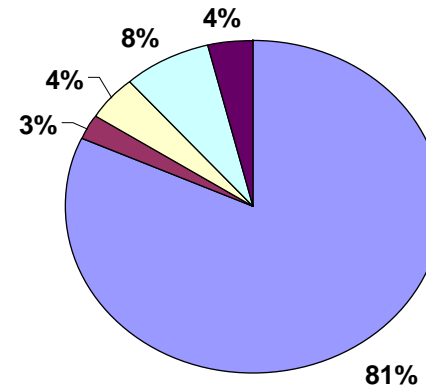


# Nutrient Contributions by Watershed Location

## TP Contribution by Tributary



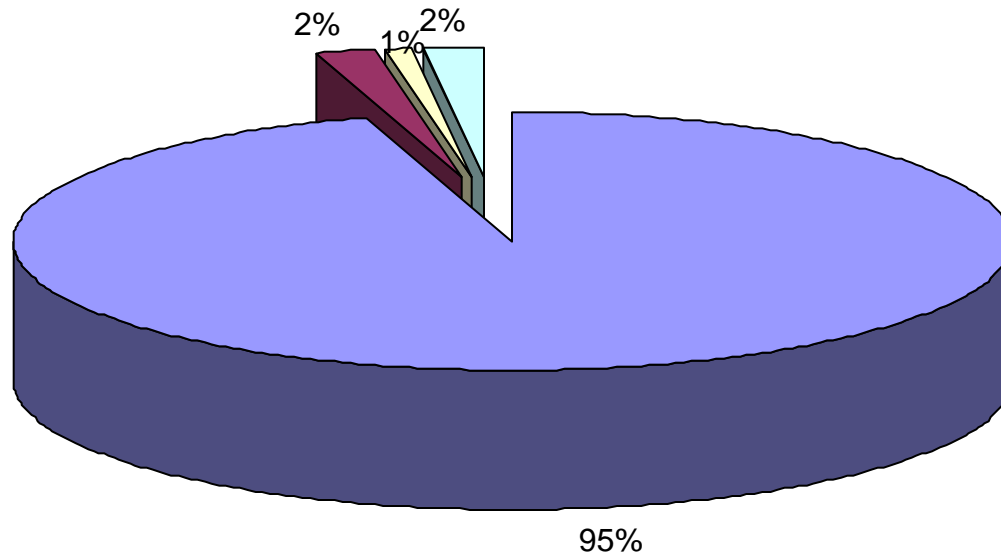
## TN Contribution by Tributary



# WASP TP Loading Budget

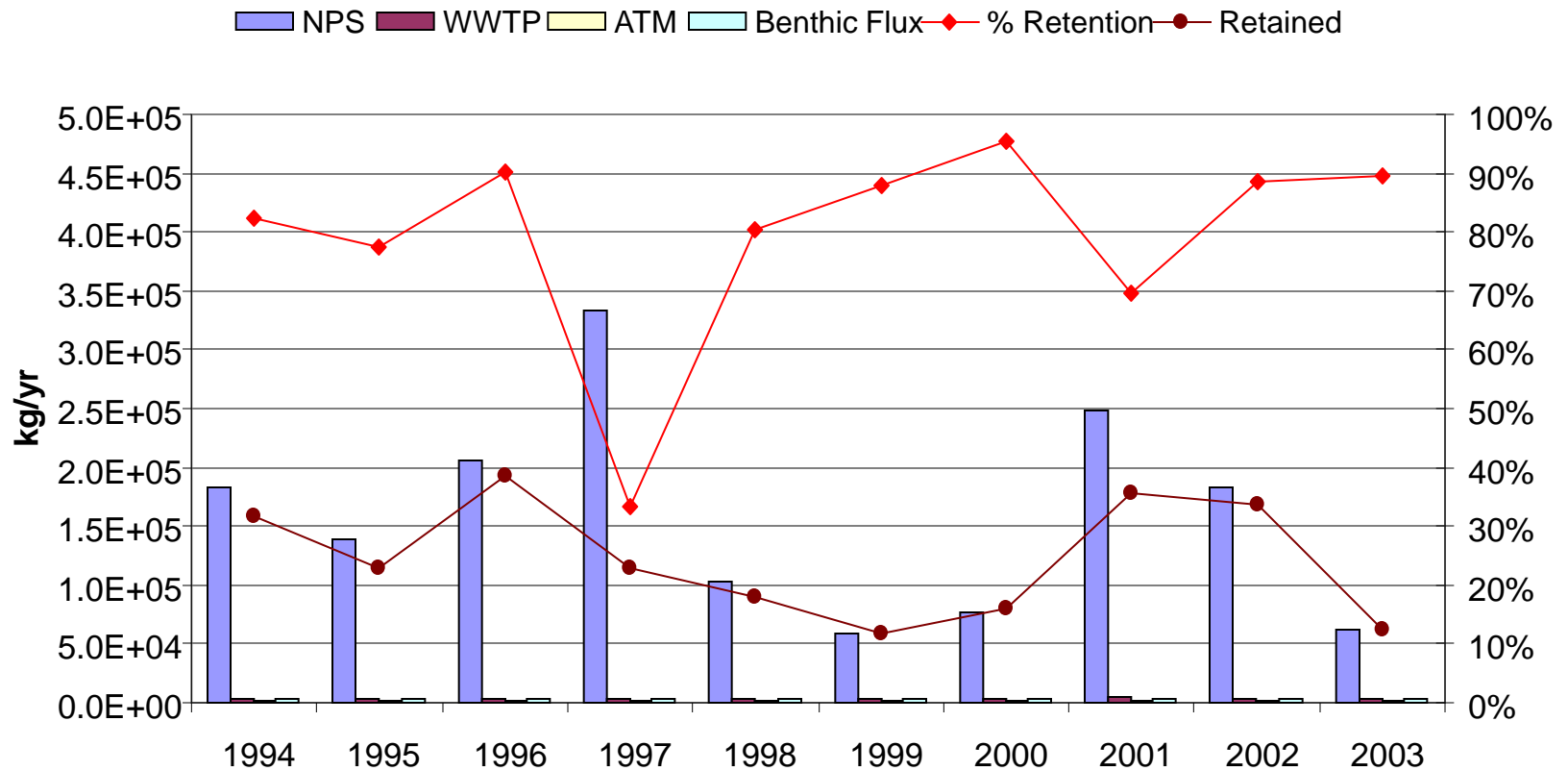
**Eagle Mountain 10 Yr Average TP Budget**  
**Average Annual Load 167,459 kg/yr**

■ NPS ■ WWTP ■ Atmosphere ■ Flux

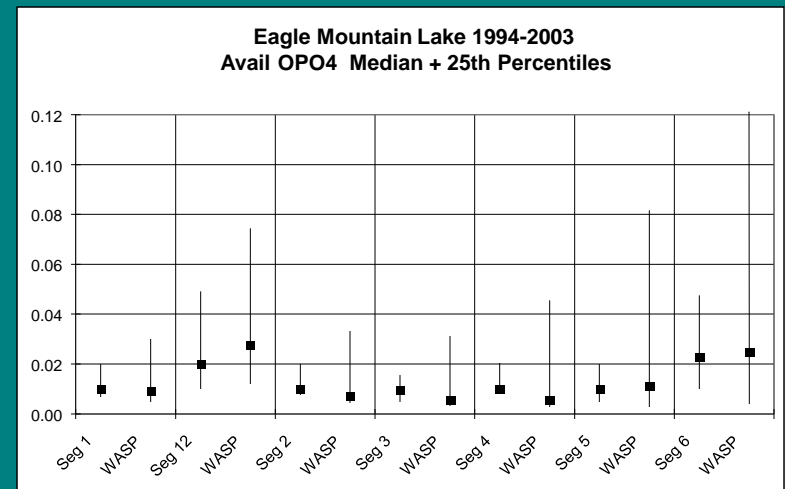
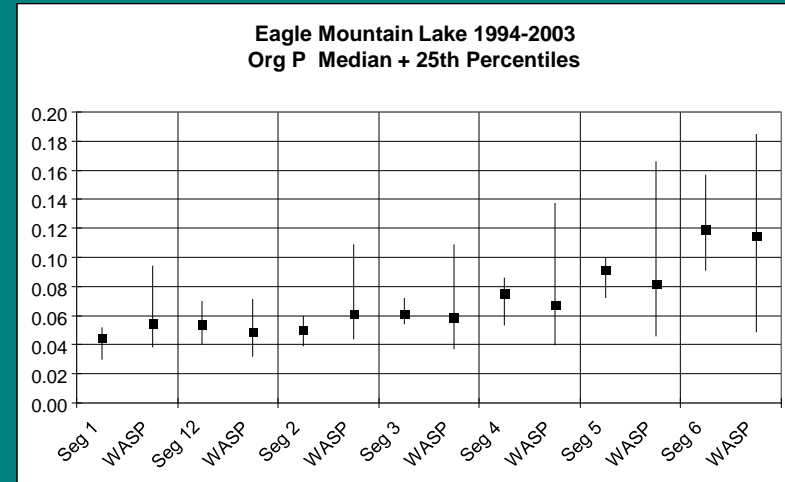
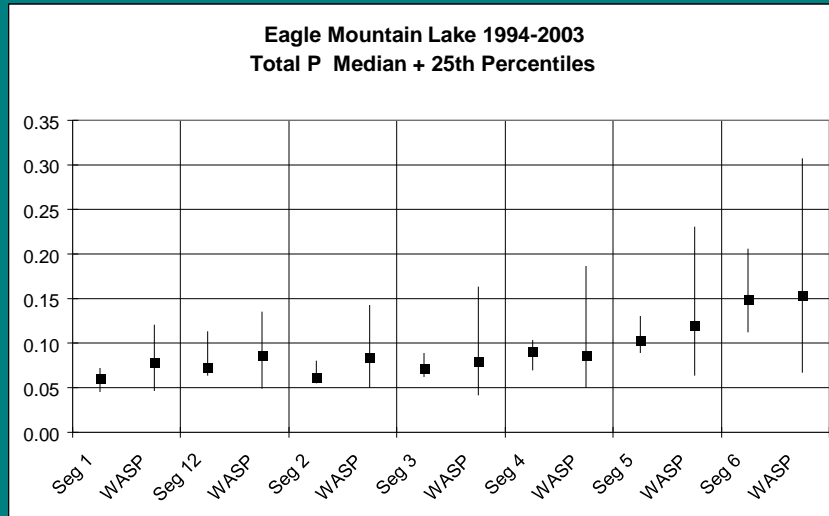


# Annual TP Loads Partitioned by Source

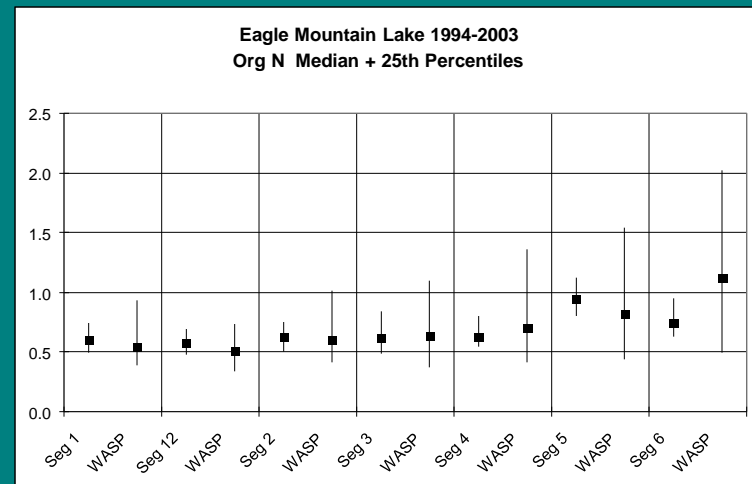
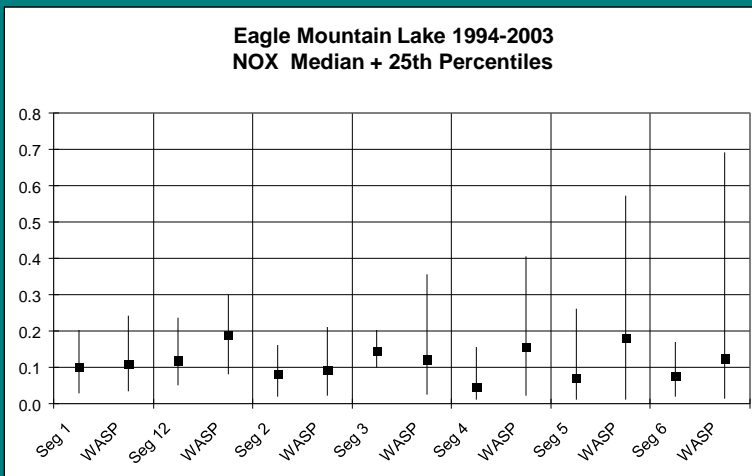
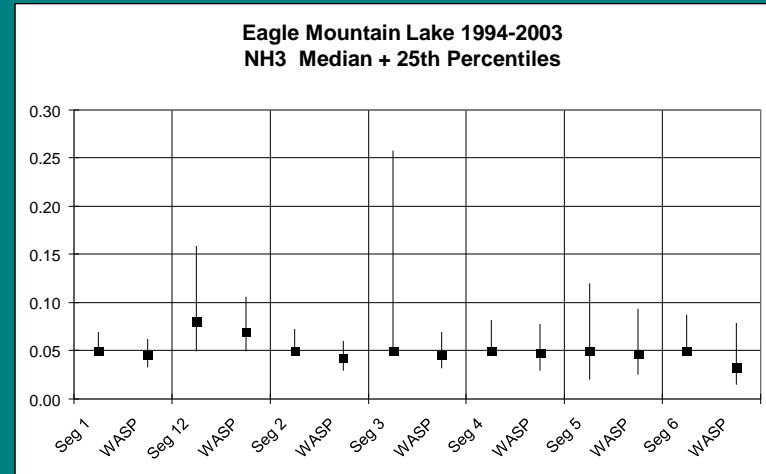
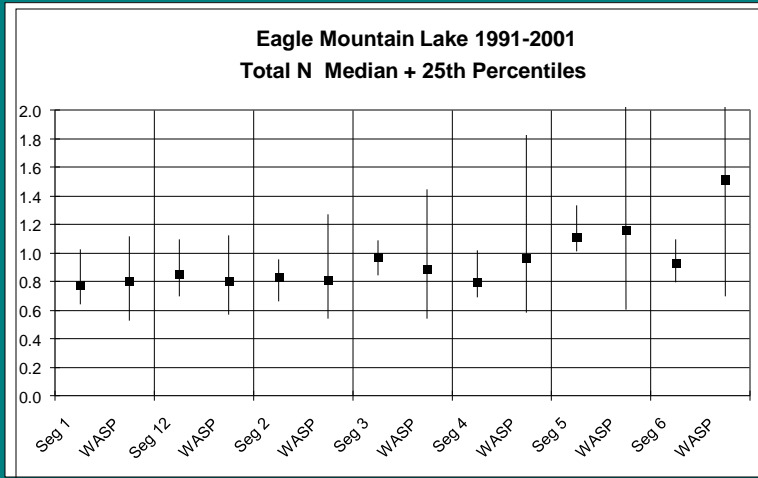
## Eagle Mountain Total Phosphorus Budget



# EM Phosphorus Calibration

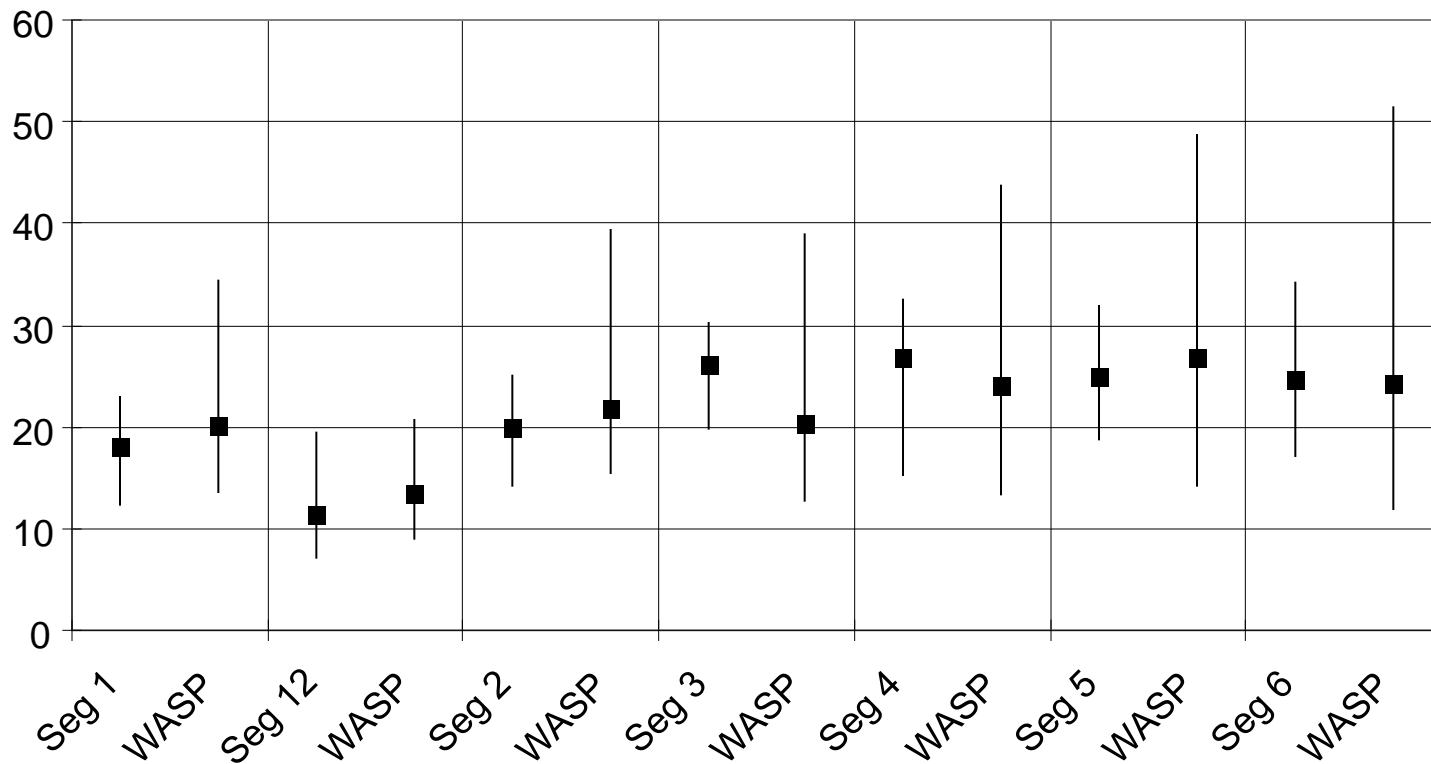


# EM Nitrogen Calibration

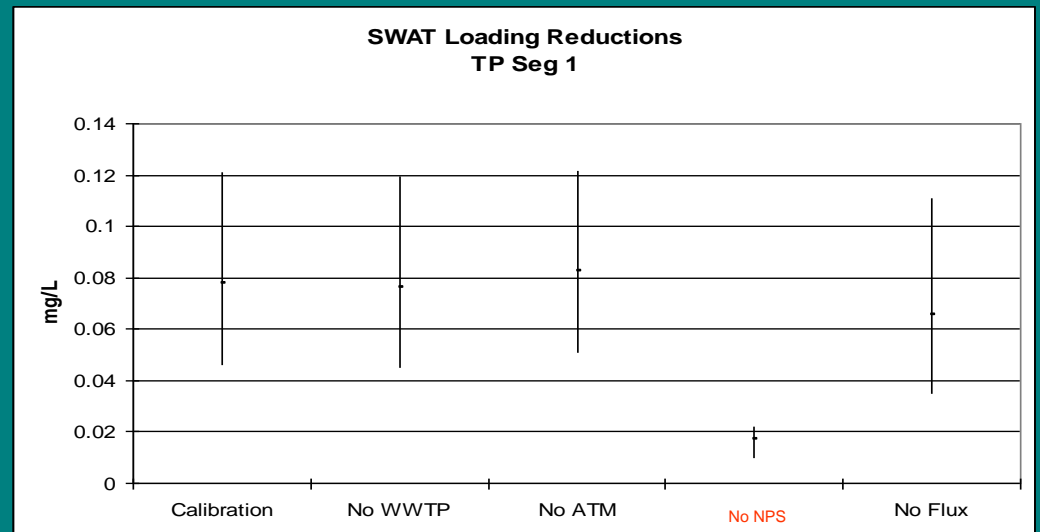
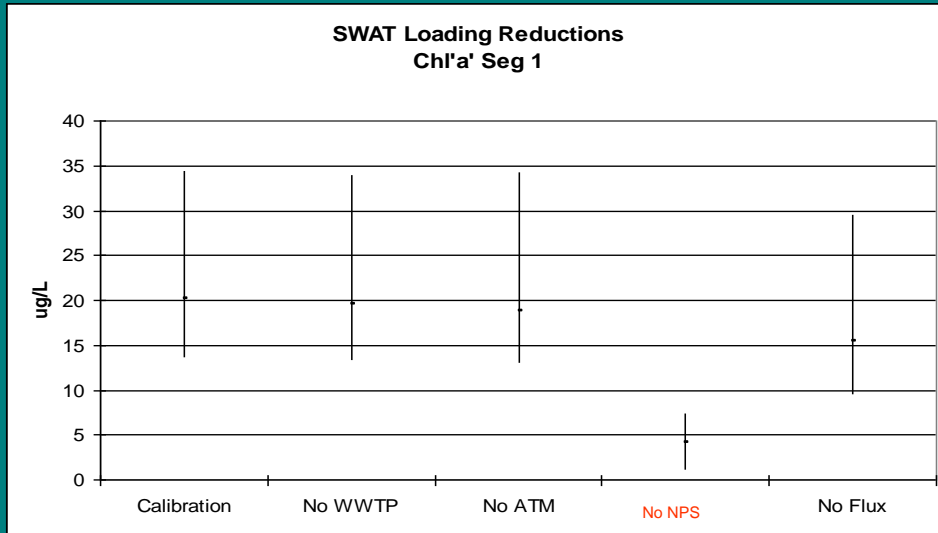


# EM Chl-a Calibration

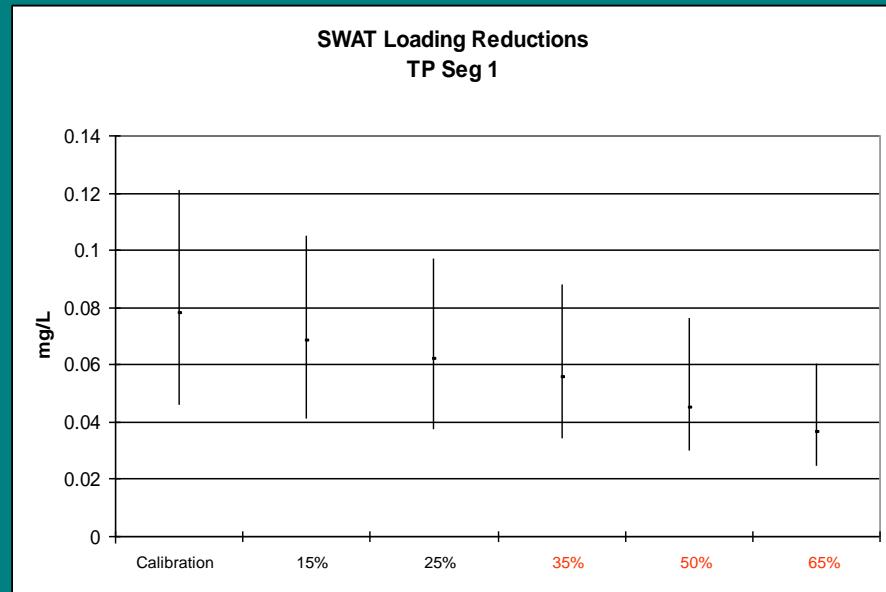
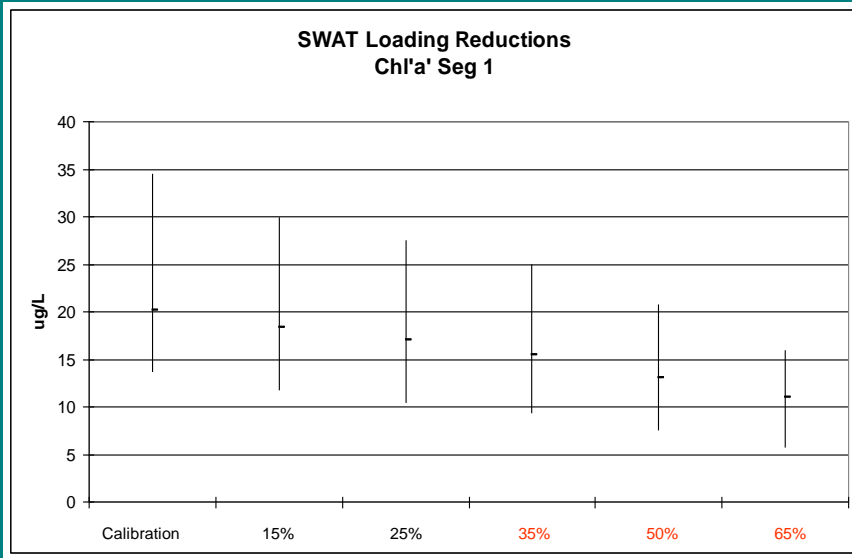
Eagle Mountain Lake 1994-2003  
Chl'a' Median + 25th Percentiles



# Source Load Sensitivity



# NPS Incremental Load Reductions





# Questions?

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