

**Preliminary Analysis of Factors Contributing  
to Exceedances of Interim P Levels in  
A.R.M. Loxahatchee National Wildlife Refuge**

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**Everglades TOC Meeting**

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# Consent Decree Interim P Levels for LNWR Marsh

## Objective:

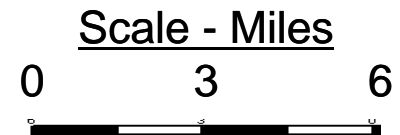
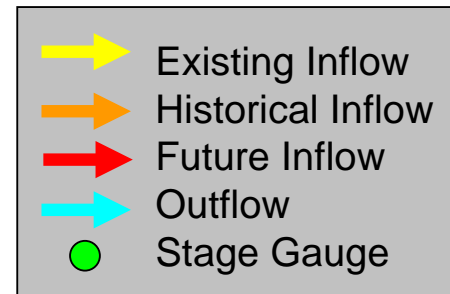
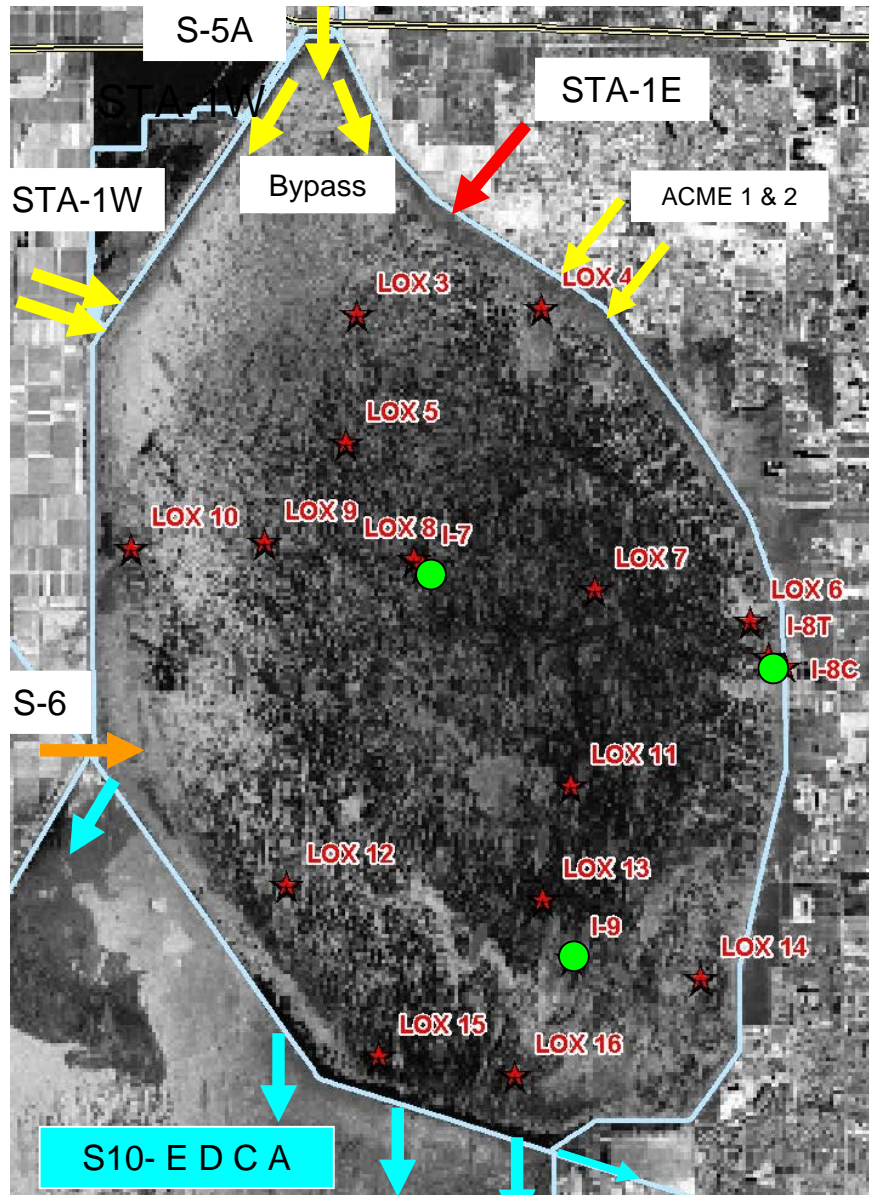
Provide Water Quality Equivalent to 1978-1979  
Base Period for Outstanding Florida Waters  
Effective February 1999

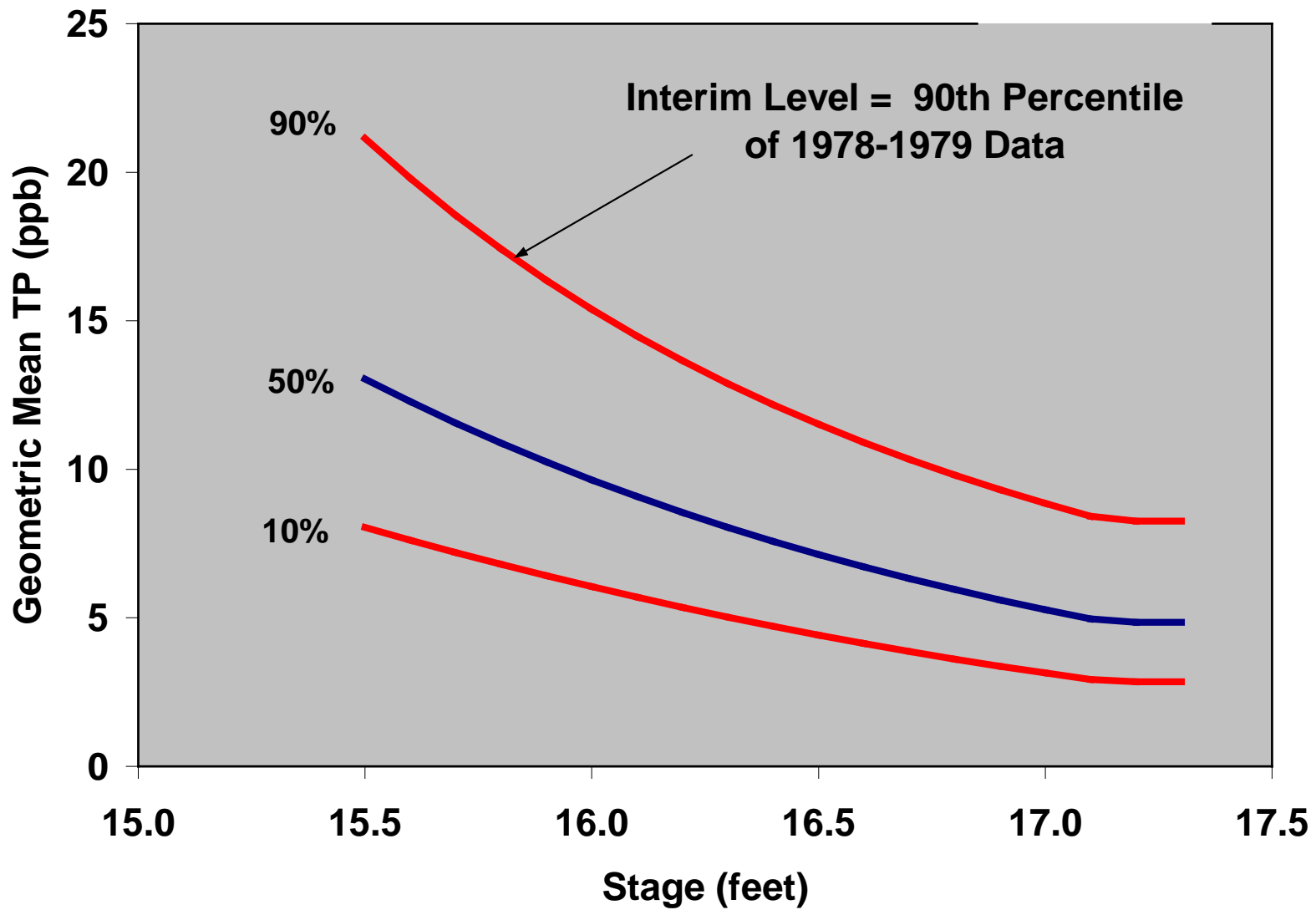
Based upon Geometric Mean of Data from 14 Sites Monitored in 1978-1983

Statistical Model Accounts for Variations Present in the 1978-1983 Data:

Water Level (Stage)  
Increasing Trend  
Other Random Variations (Natural, Man-Induced, Sampling, etc.)

Interim Levels Set at 90th Percentile of 1978-1979 Data





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Monthly "Exceedance" if Marsh P > Interim Level & Stage > 15.1 ft

If More Than One Exceedance Occurs in a 12-Sample Interval:

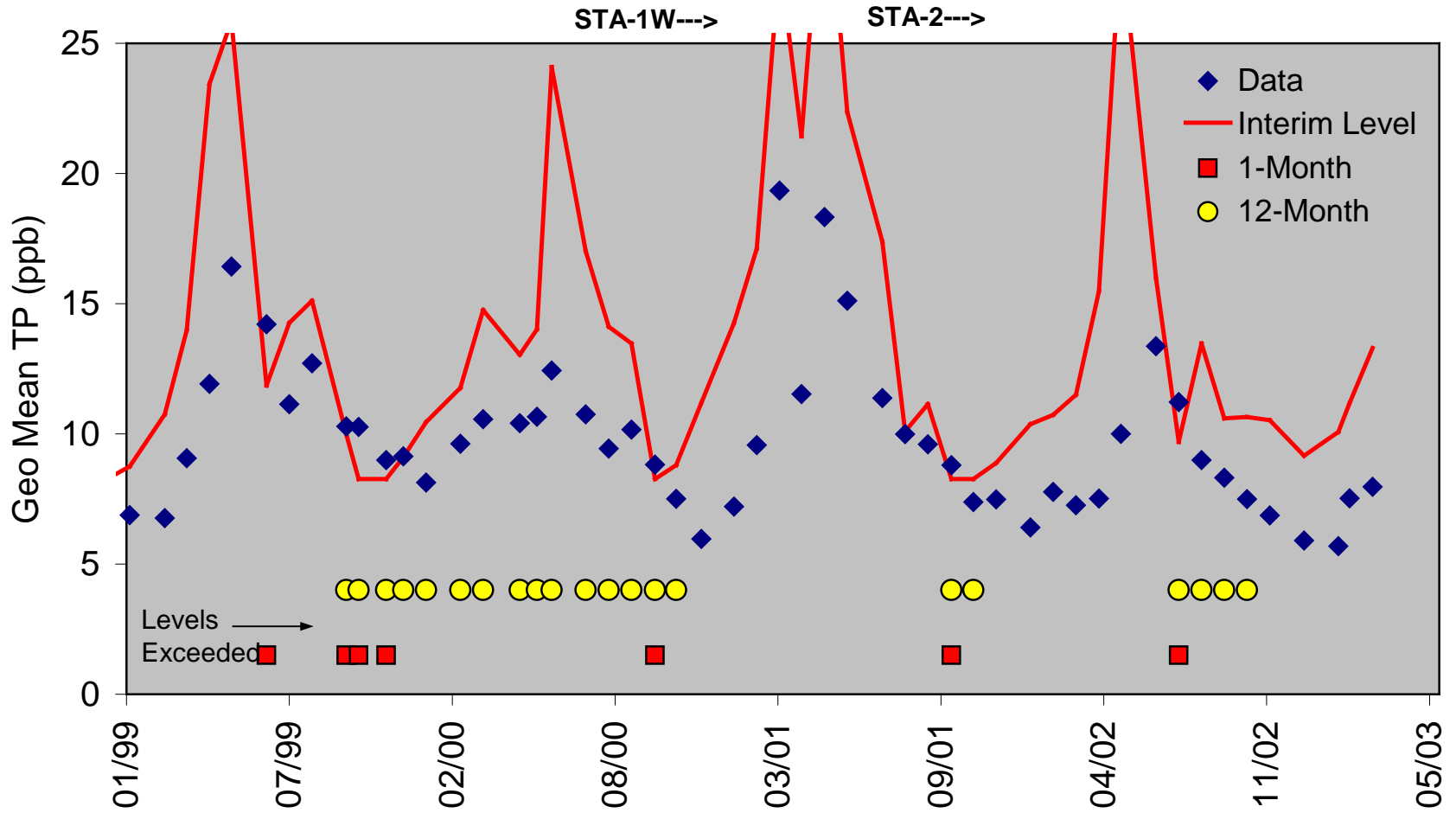
TOC members determine whether there is:

*"substantial evidence of error or extraordinary natural phenomena"*

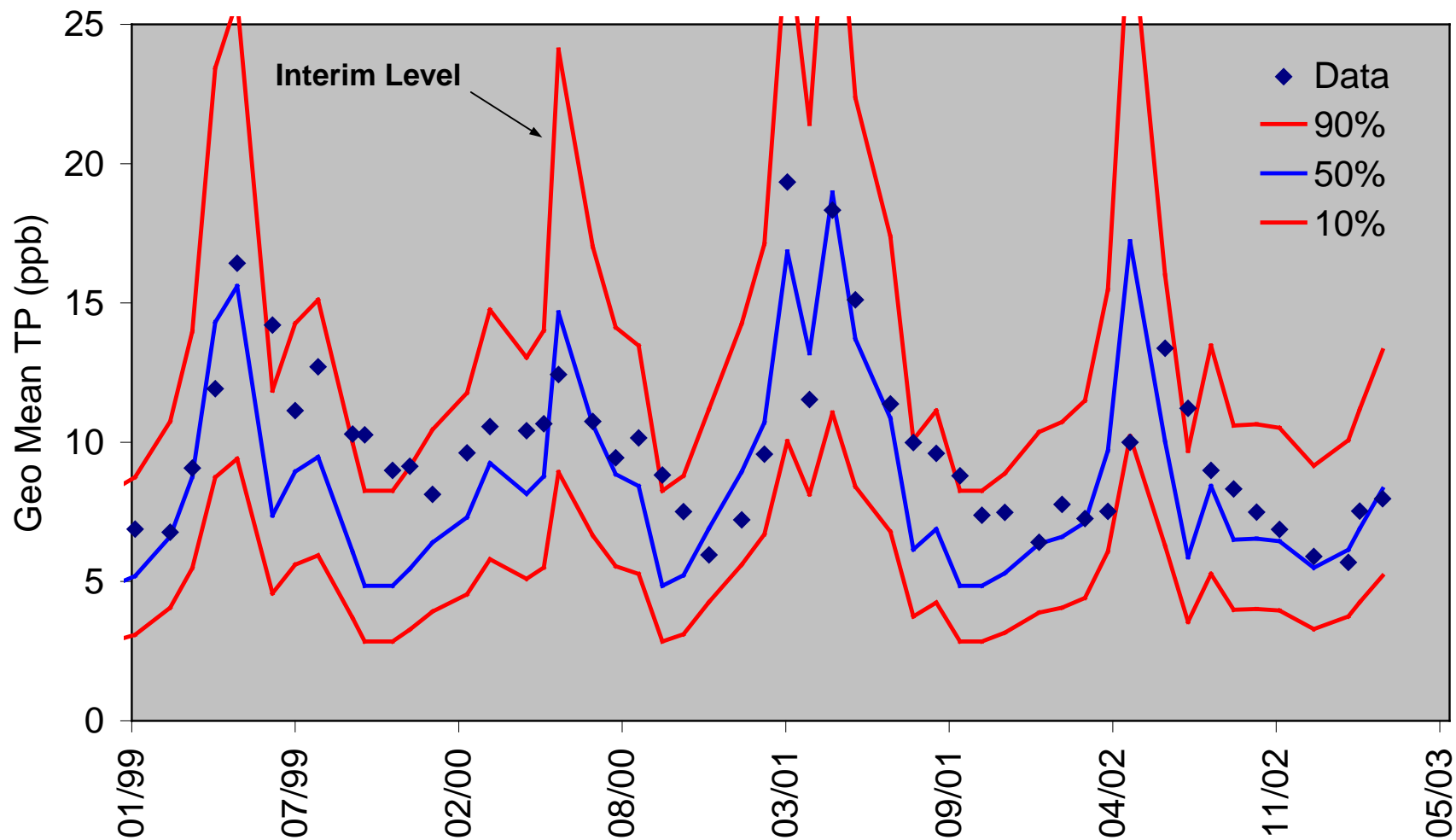
Then Make Appropriate Recommendations to Their CD Principals:

*potential actions: none, diagnostic, remedial, etc.*

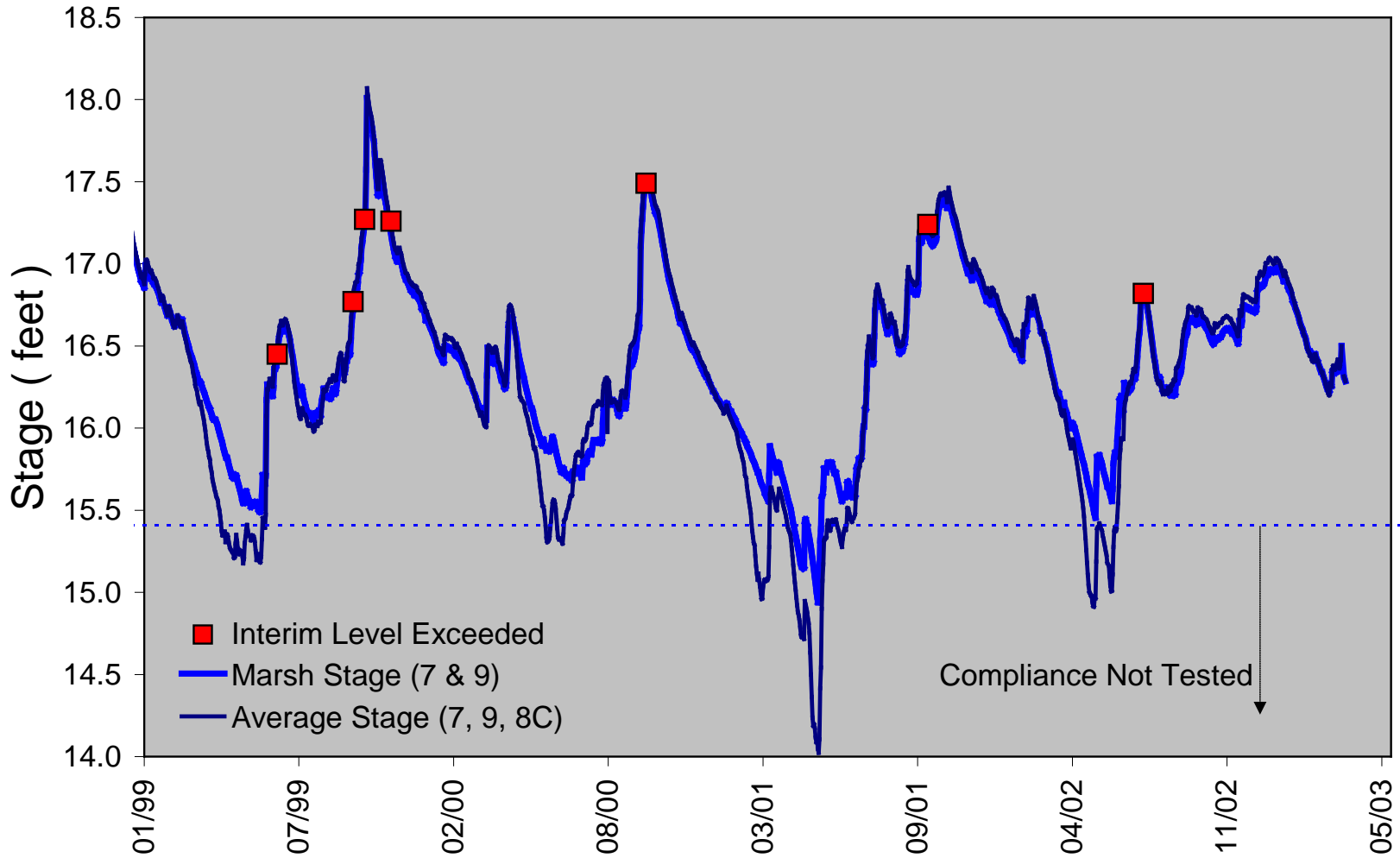
# Compliance with Interim Marsh P Levels



# Data vs. Confidence Interval for 1978-1979 Conditions

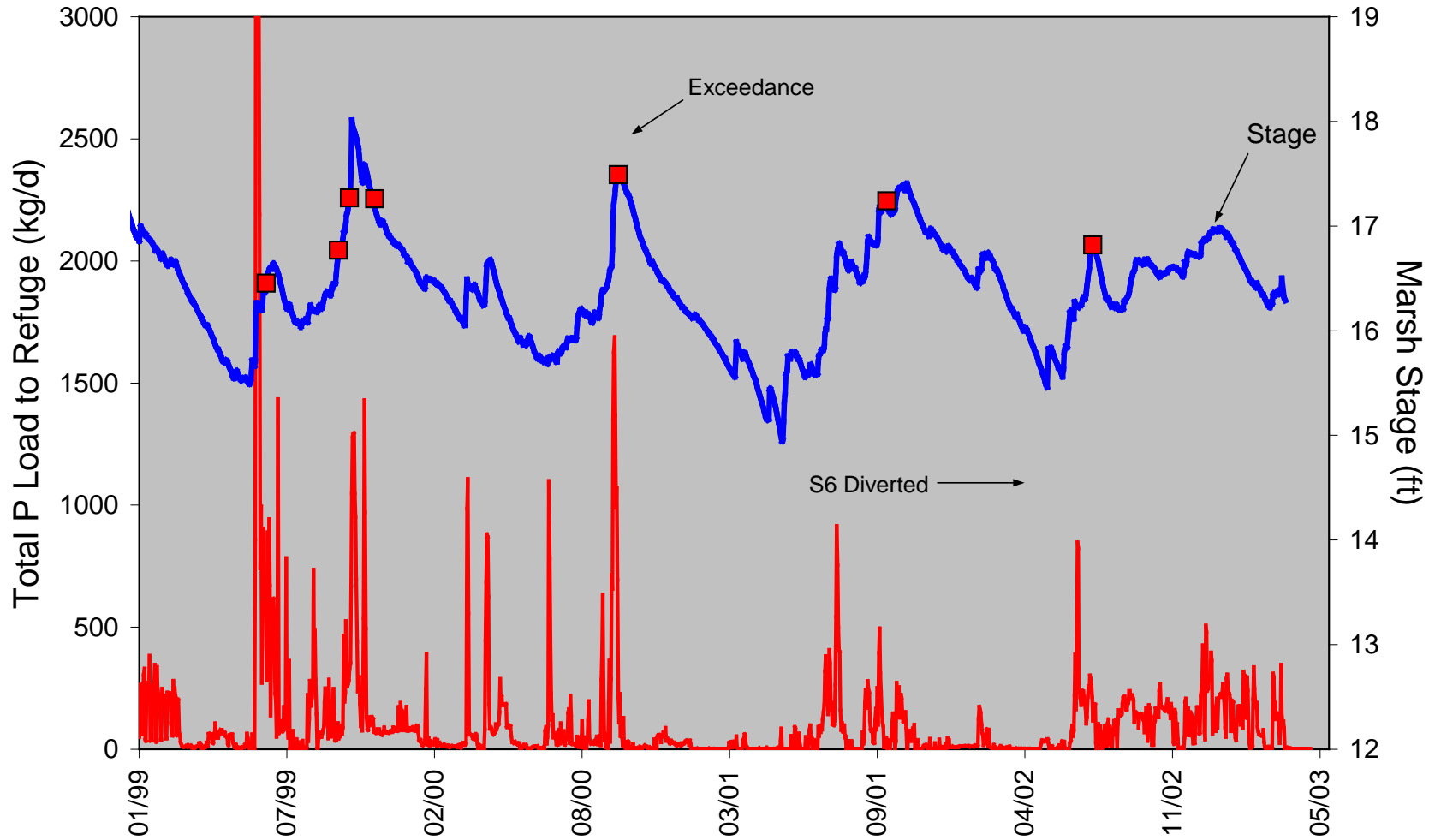


# Exceedances vs. Marsh Stage

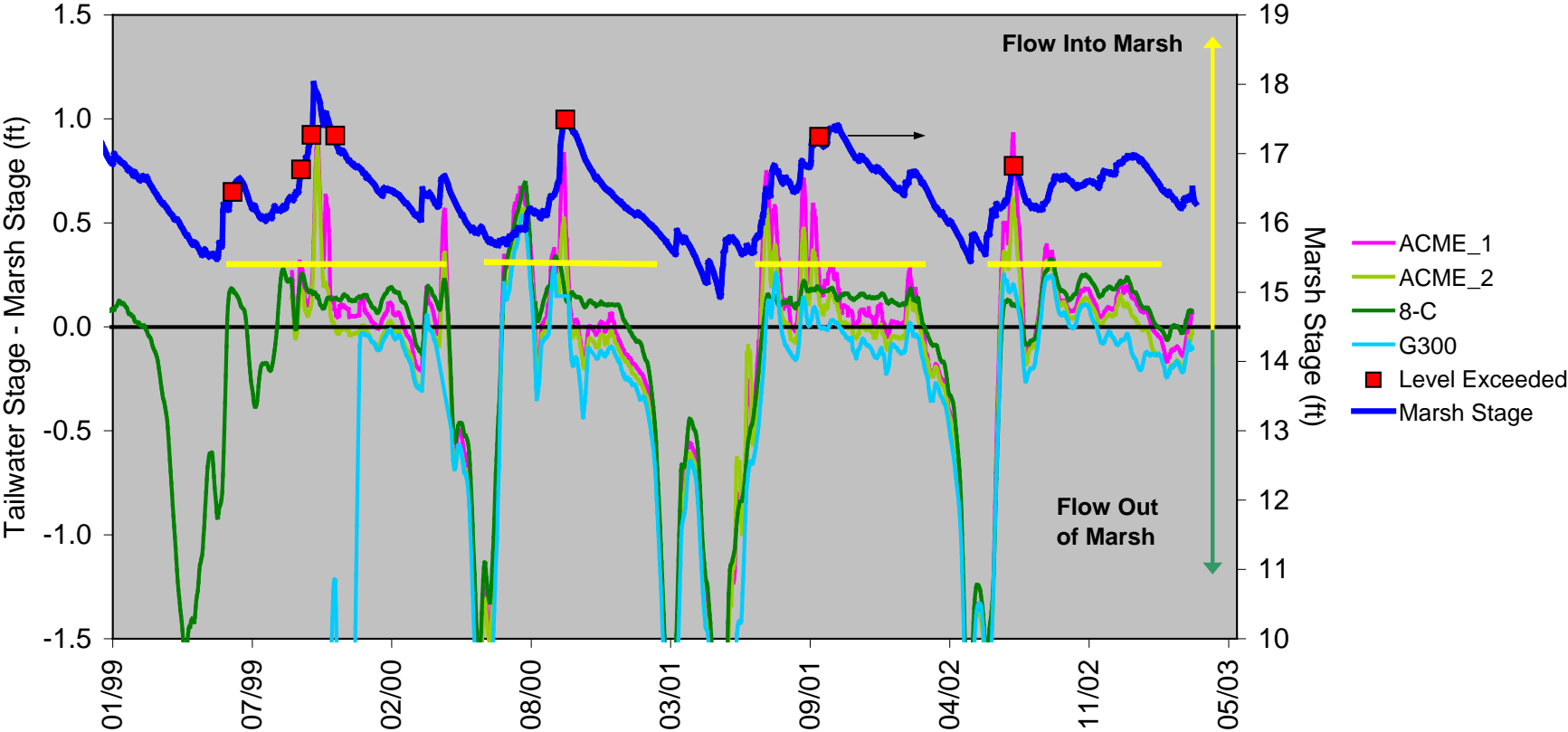




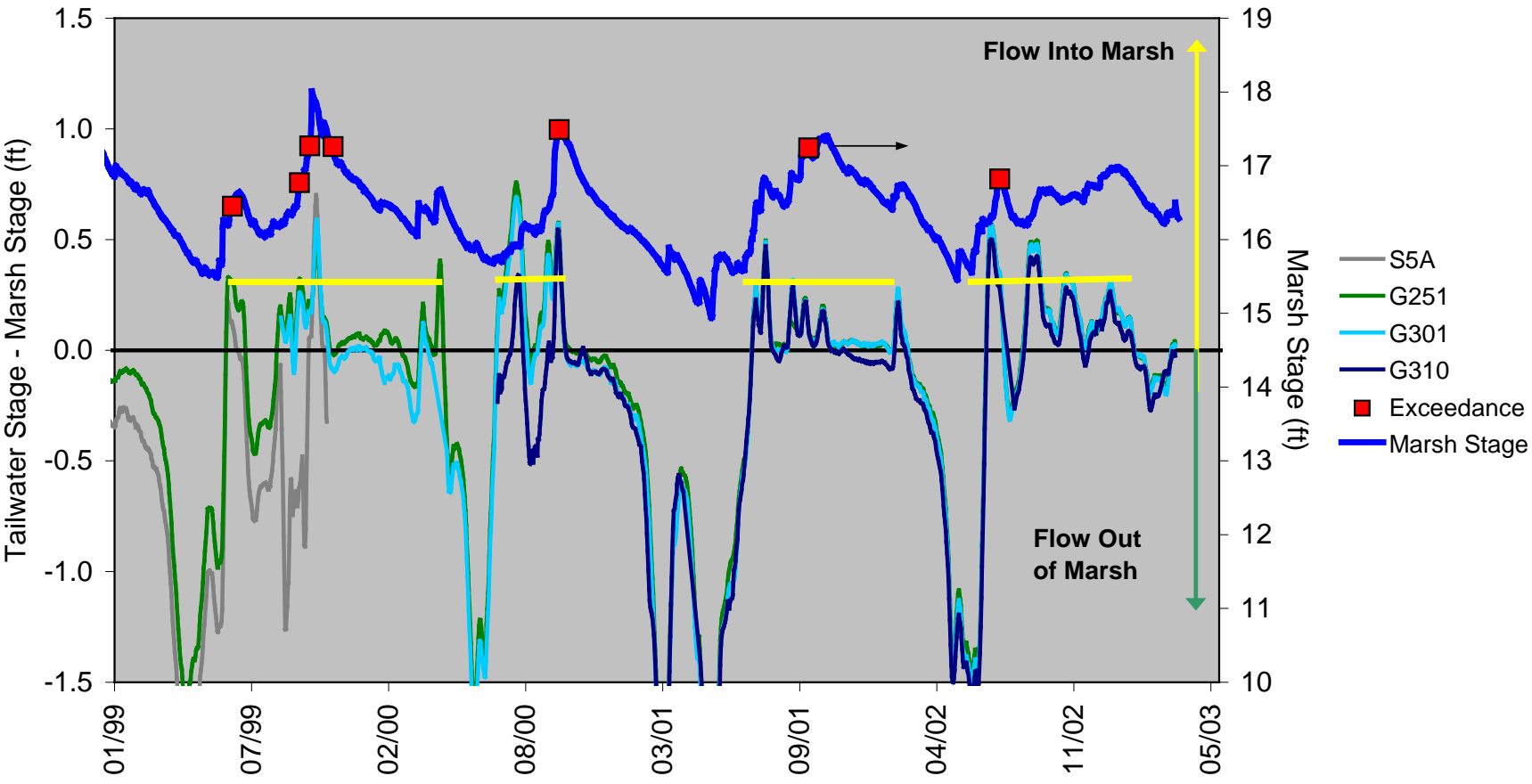
# Exceedances vs. Stage & Phosphorus Load

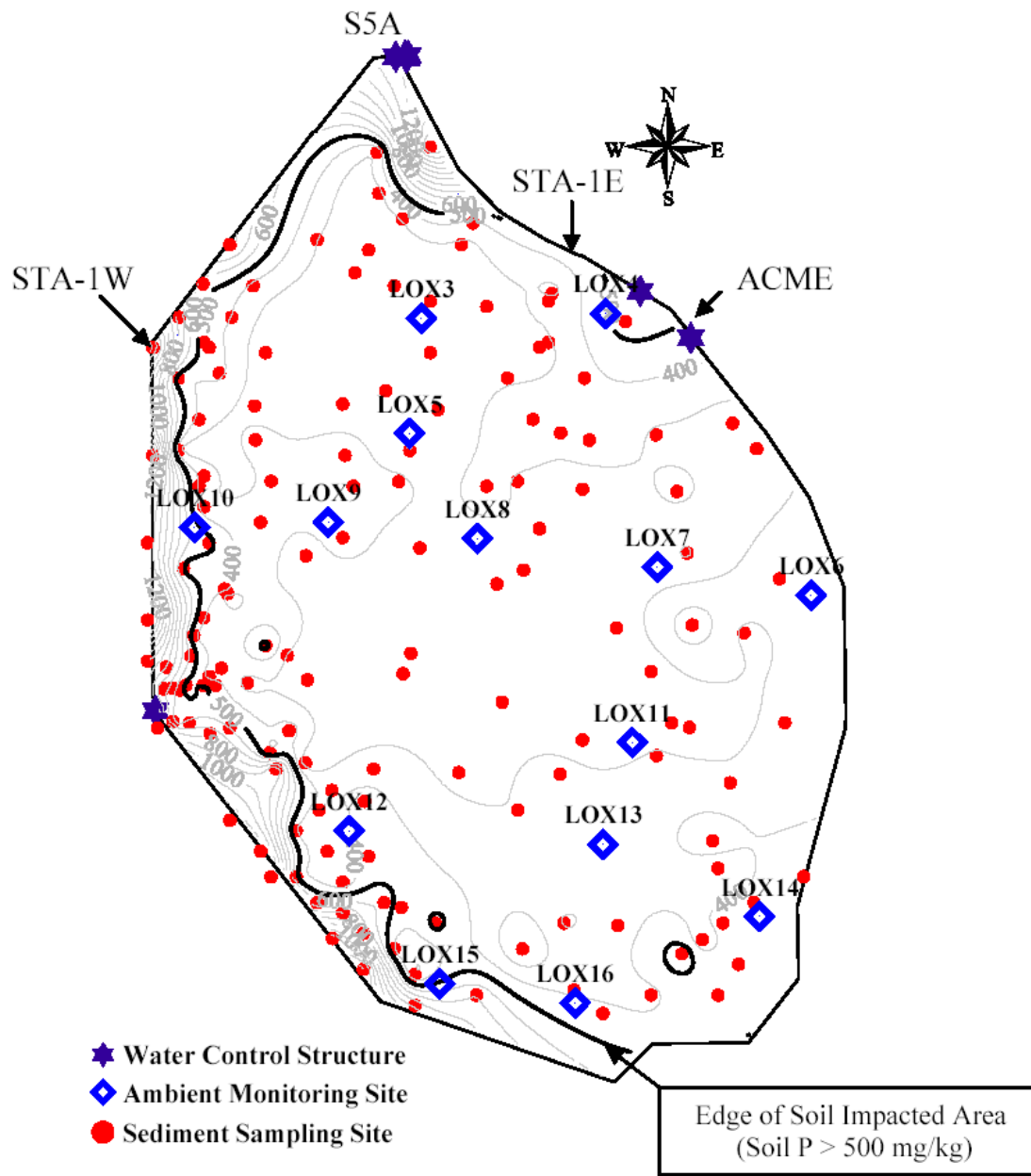


# Exceedances vs. Stage Differential – East Side

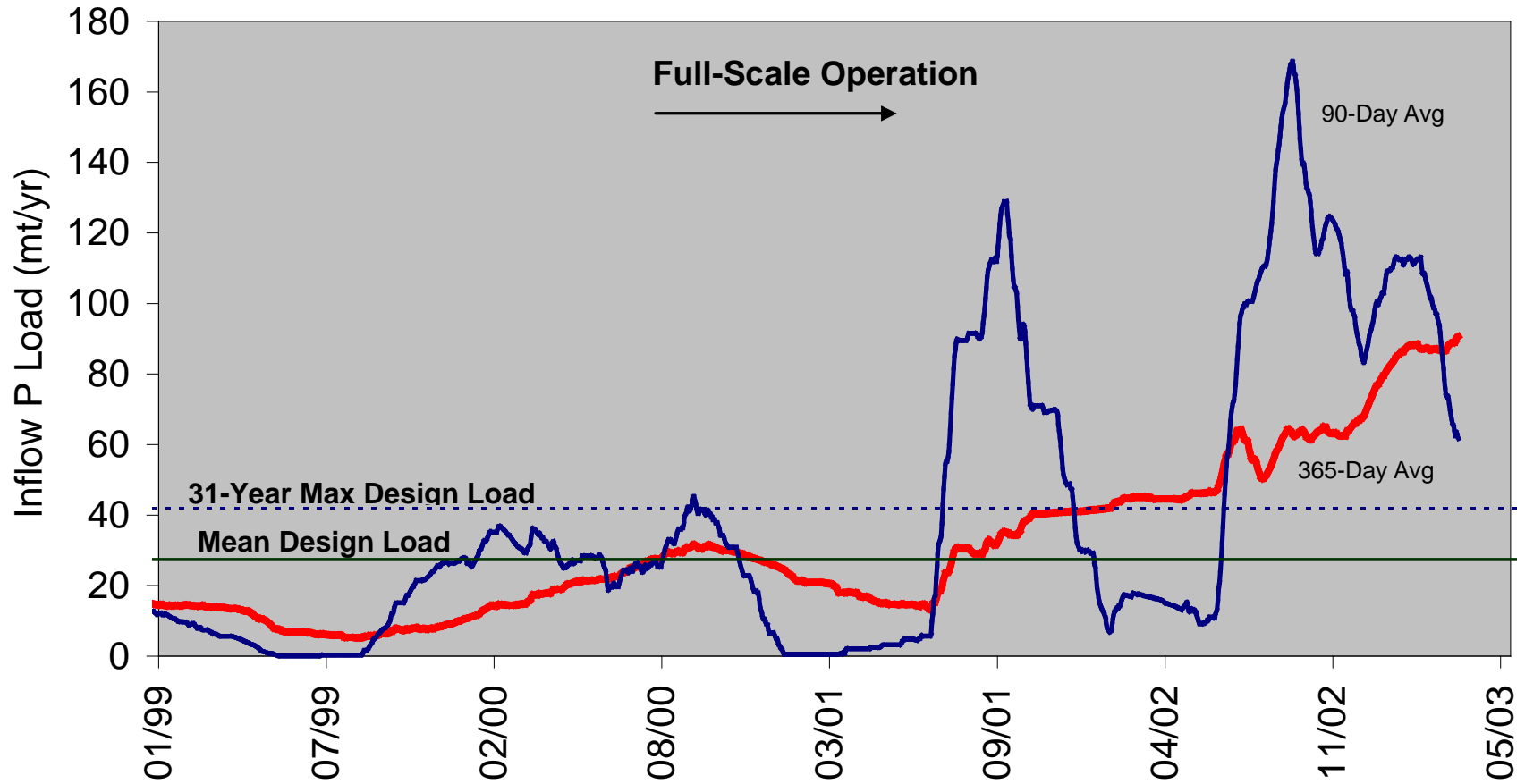


# Exceedences vs. Stage Differential – West Side

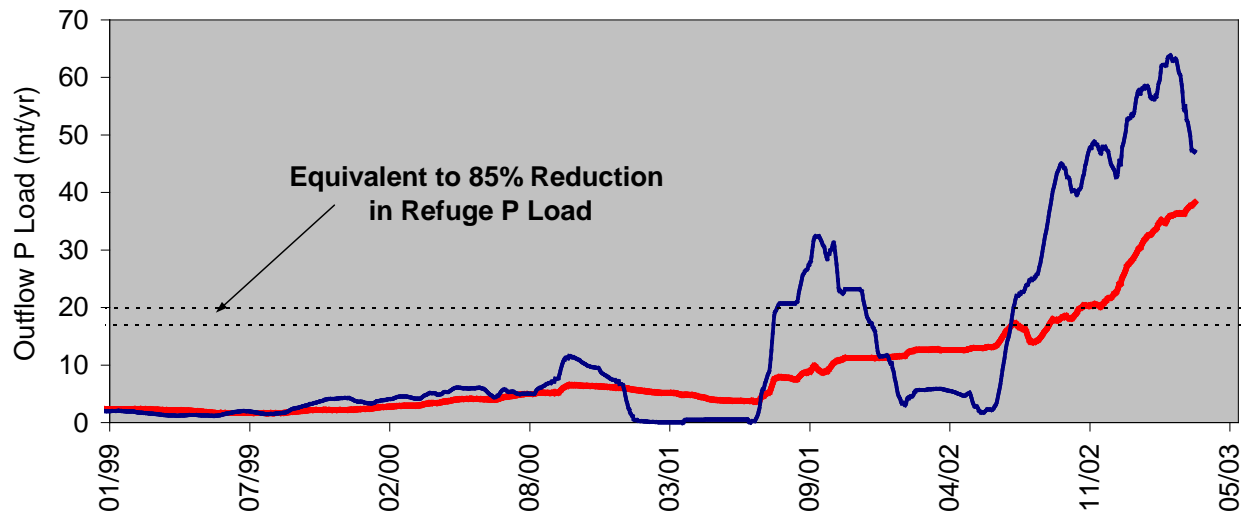
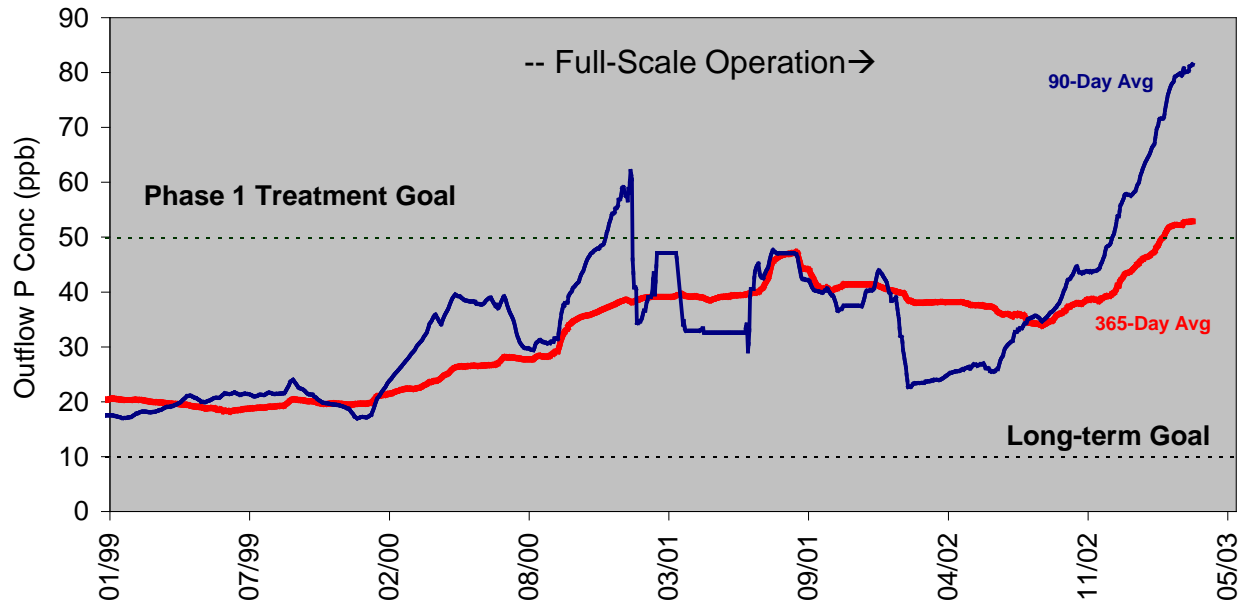




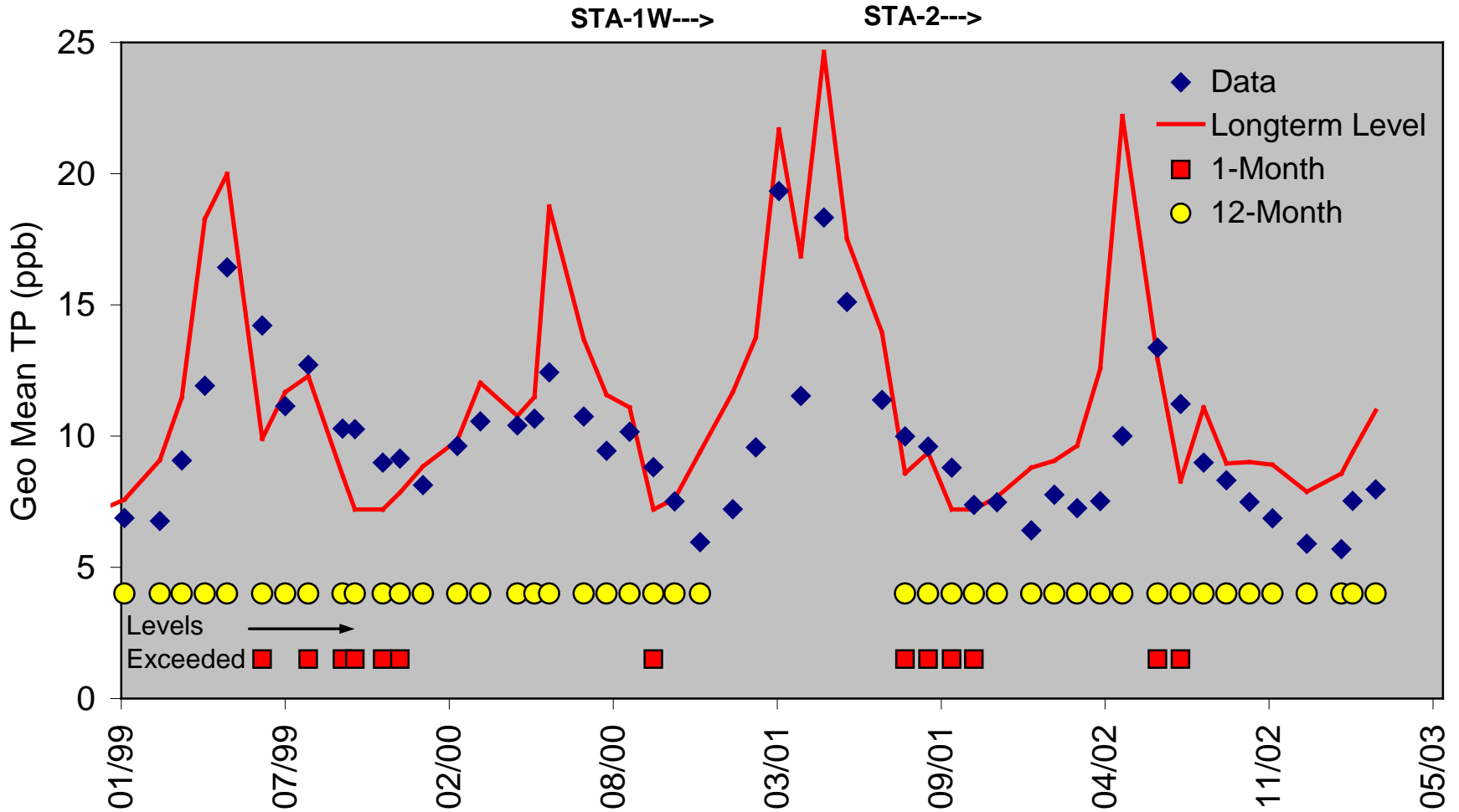
# Recent P Loading to STA 1 West



# Recent Performance of STA-1 West



# Comparison with Long-term Levels



# Consent Decree Interim P Levels LNWR for Marsh

Questions for TOC Consideration:

Is there ?

*"substantial evidence of error or extraordinary natural phenomena"*

Recommended Actions ?

none

diagnostic

remedial