# Hudson River PCBs Site
# EPA's Phase I Evaluation

Closing Presentation

Peer Review Meeting
May 4-6, 2010

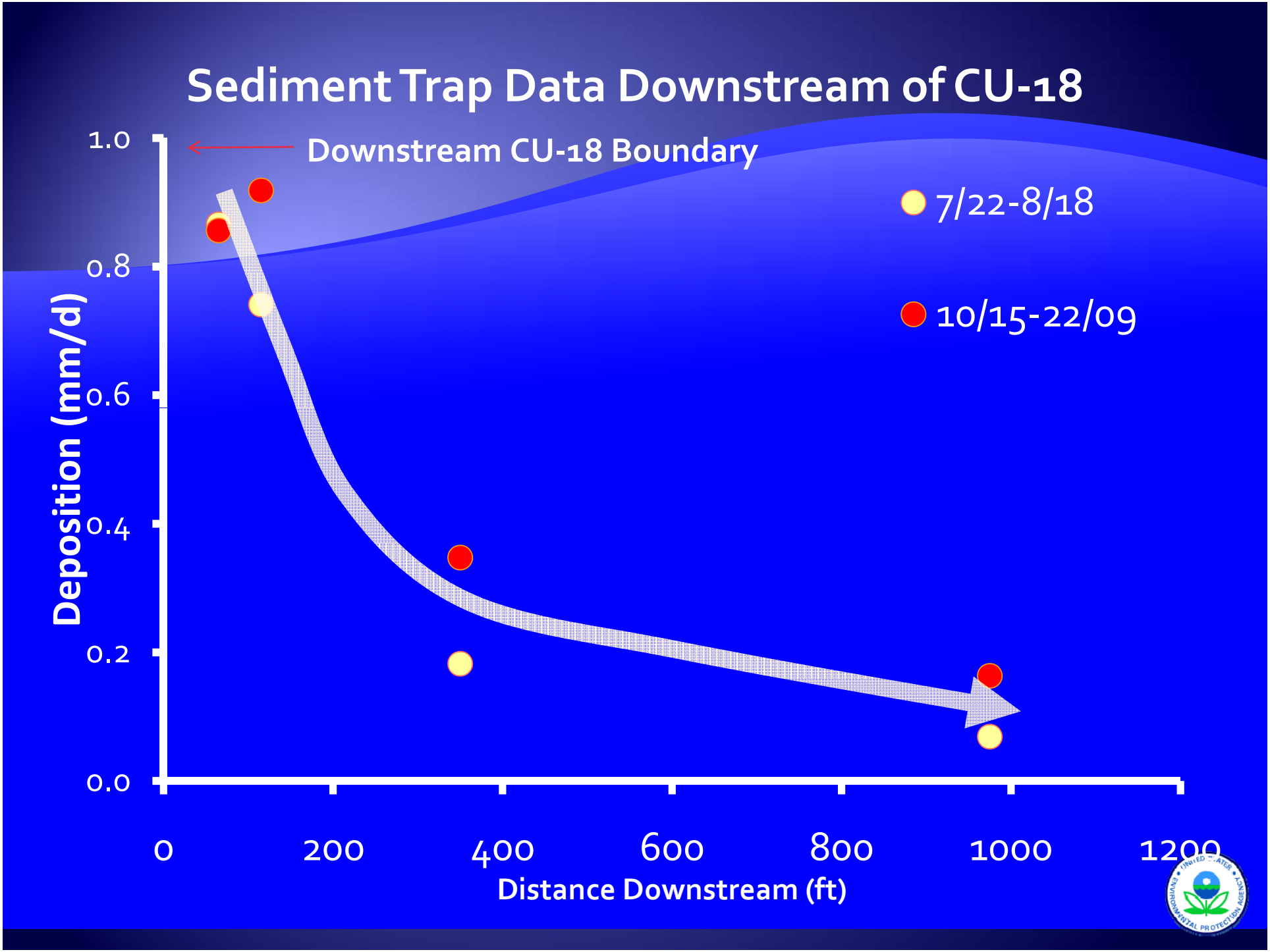
# Overview

1. Redistribution of suspended sediments during dredging
2. Post-remediation risks – Upper & Lower River
3. Remedy targets high value dredging areas
4. Improvements

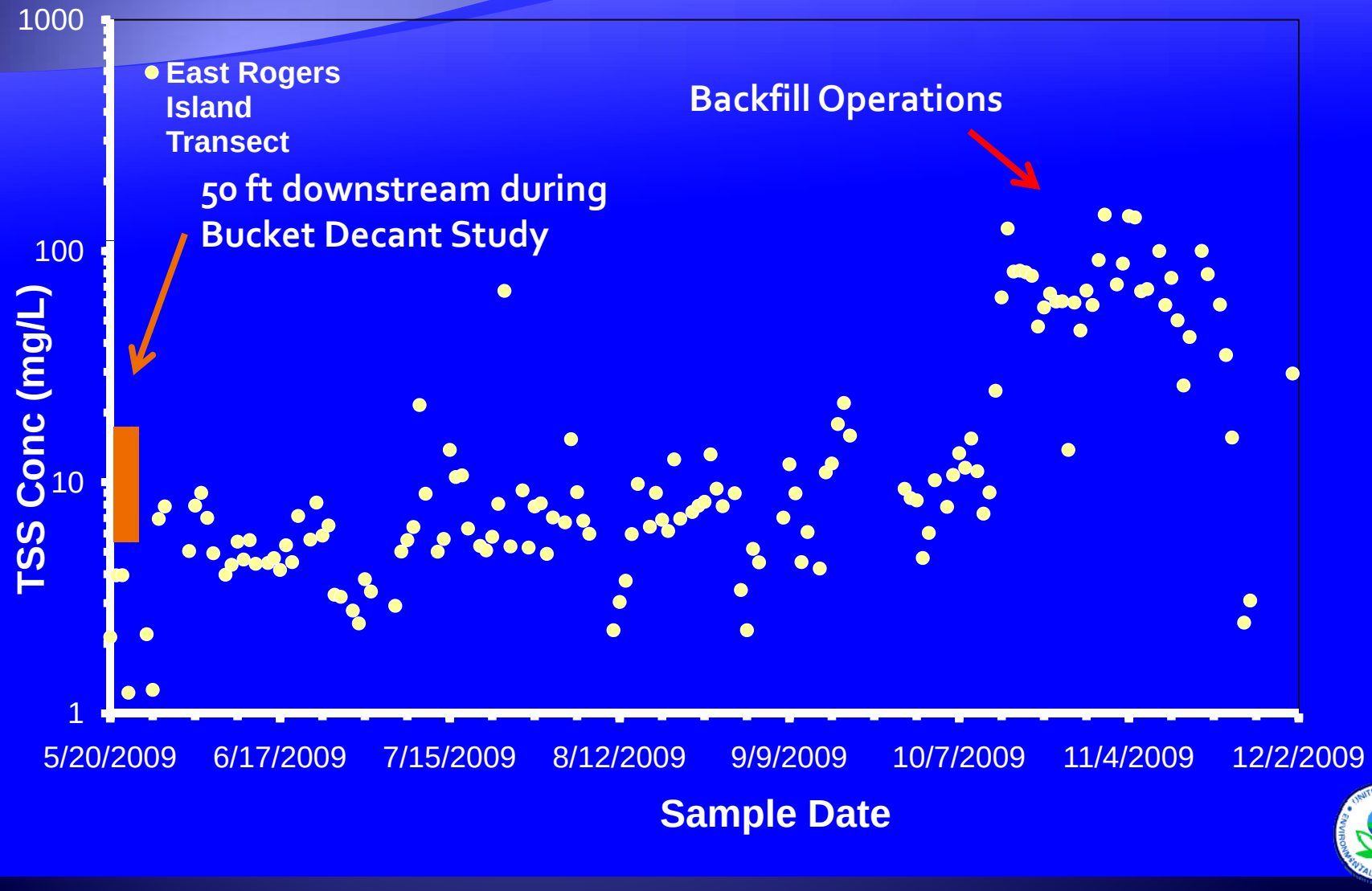
# 1. Redistribution of suspended sediment during dredging

While it is important to consider suspended sediment redeposition, only limited redeposition is expected outside of the dredging footprint

# Sediment Trap Data Downstream of CU-18



# Near-field TSS transects



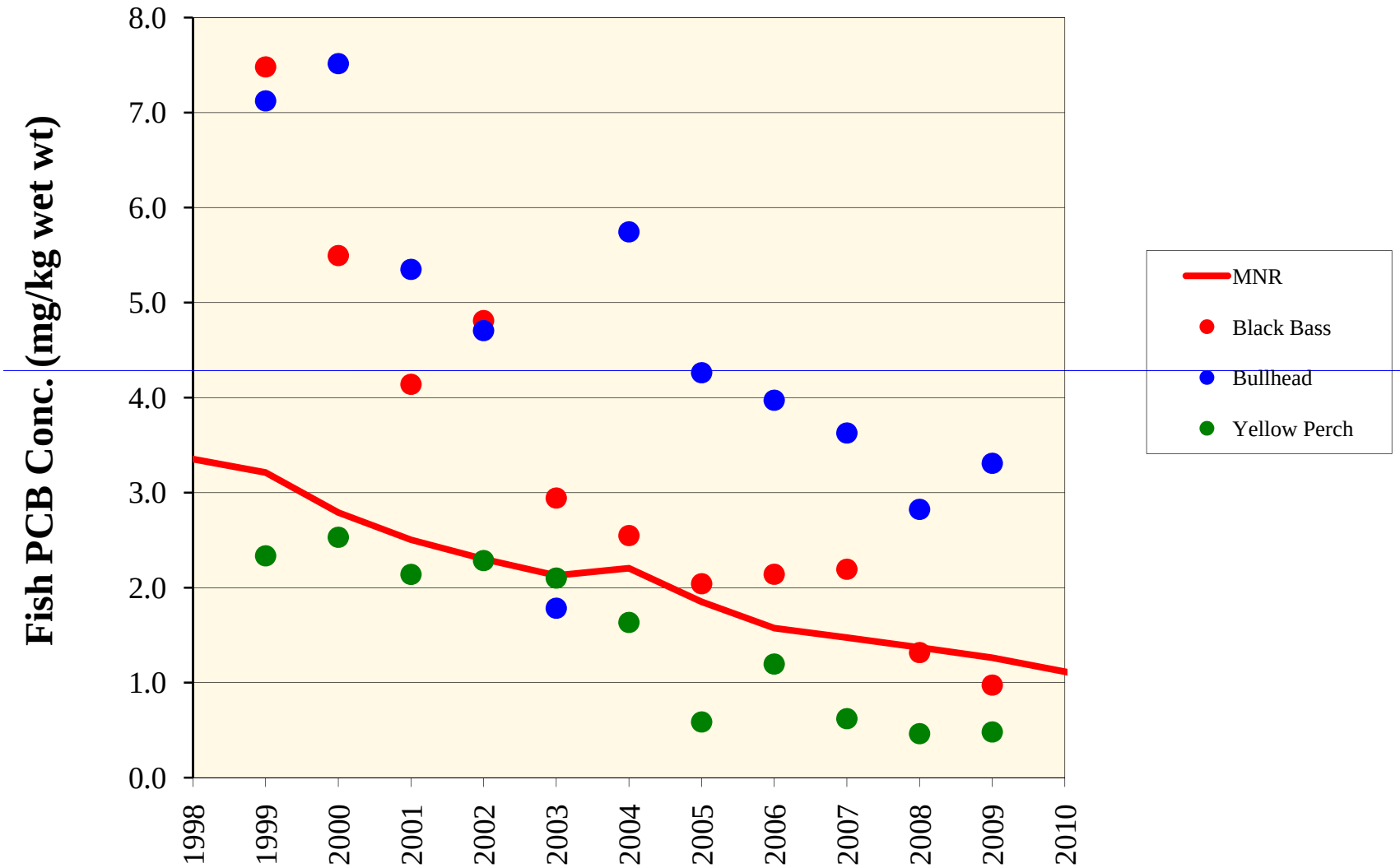
# Majority of dredging-induced TSS redeposits a short distance downstream

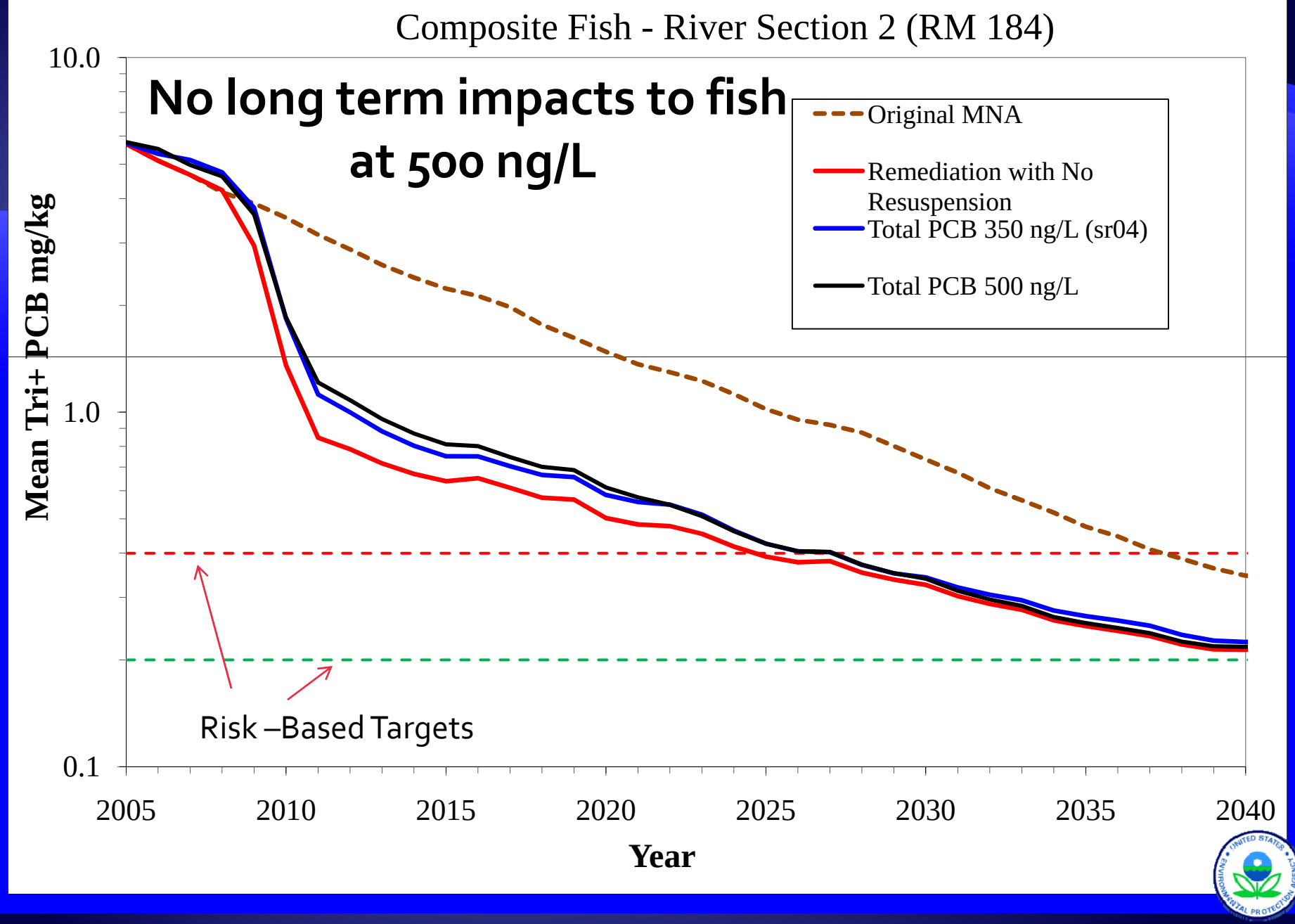
- All available data support conclusion
  - Sediment trap data below CU-18
  - Near-field TSS data
  - Bucket decant study
- Consistent with field team observations
- Result: Limited TSS redistribution beyond dredging footprint

# Backfill losses cover similar area

# 2. Post-remediation risks – Upper & Lower River

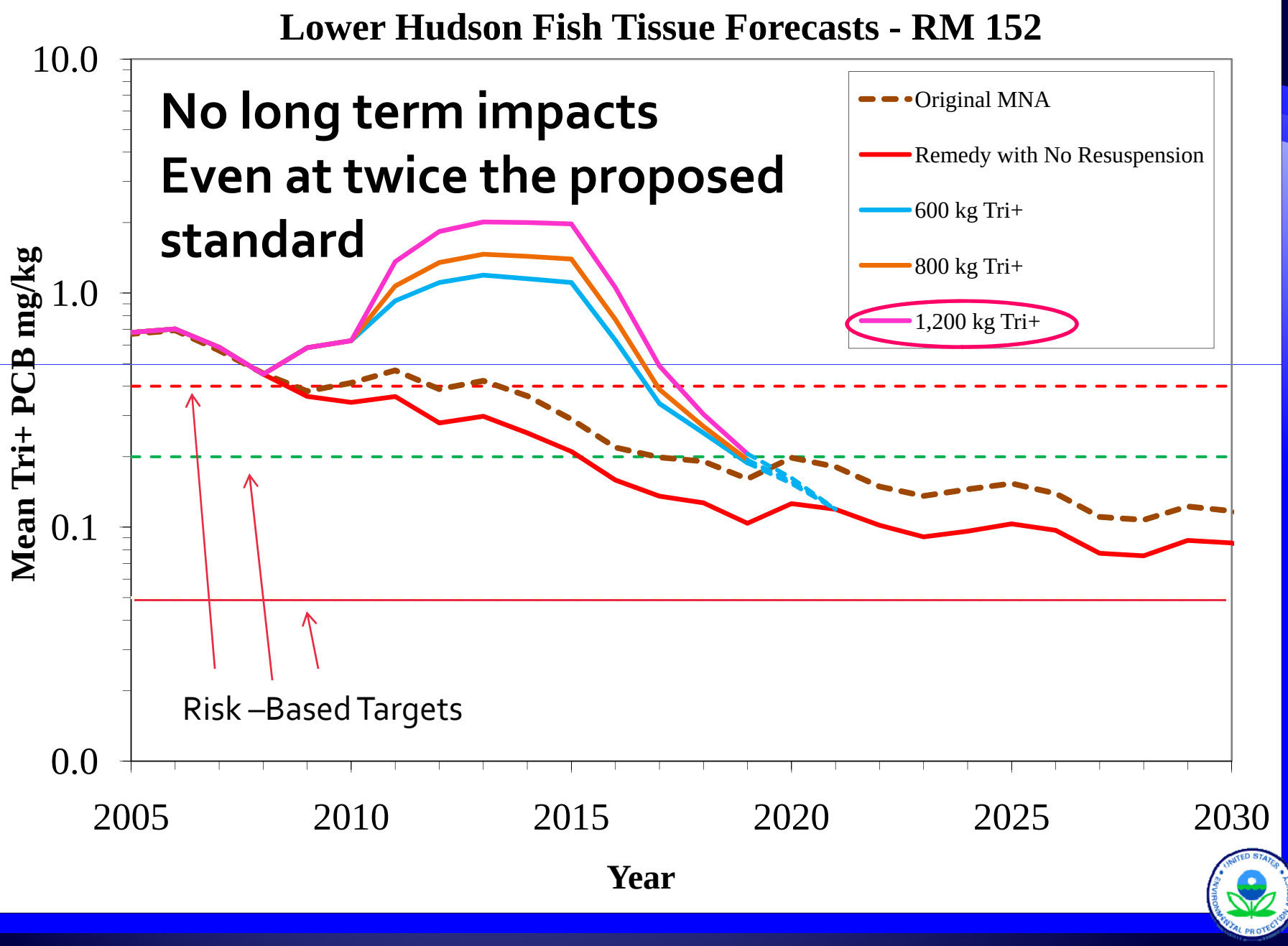
FishRand MNR and Dredging Predictions vs. Monitoring Data
1998-2009




Composite Fish - River Section 2 (RM 184)
No long term impacts to fish at 500 ng/L
Original MNA
Remediation with No Resuspension
Total PCB 350 ng/L (sr04)
Total PCB 500 ng/L
Mean Tri+ PCB mg/kg
10.0
1.0
0.1
Risk –Based Targets
2005
2010
2015
2020
2025
2030
2035
2040
Year

# Phase 1 Water Column Concentrations

- Thompson Island = 212 ng/L
- Lock 5 (Schuylerville) = 153 ng/L
- Waterford = 74 ng/L


Lower Hudson Fish Tissue Forecasts - RM 152
No long term impacts
Even at twice the proposed standard
Original MNA
Remedy with No Resuspension
600 kg Tri+
800 kg Tri+
1,200 kg Tri+
Risk –Based Targets
Mean Tri+ PCB mg/kg
10.0
1.0
0.1
0.0
2005
2010
2015
2020
2025
2030
Year

# Effects of PCB concentrations on fish are short term and expected

- Phase 1 data showed small increases in fish body burdens in downstream regions
- Modeling was completed to predict fish body burden increases during dredging for a range of concentrations
- Forecasts indicate negligible changes in time to risk-based targets

# 3. EPA has already chosen high value dredging targets

- ROD selected priority areas for dredging
- "REM 3-10-select" effectively uses 30-90-90 mg/kg criteria by river section
- Sequestered inventory will remain in RS 3

# 4. Improvements

- Use larger buckets where feasible (> 5 CY)
- Scow unloading
- Minimize time dredged areas left open
- Near-field monitoring – PCBs & TSS
- Monitoring diagnostics
- Address DoC uncertainty
- Re-examine dredging tolerances
- Practicable improvements found in Field Oversight Report

# It will be practicable to consistently and simultaneously meet EPA's proposed Performance Standards for Phase 2

- Resuspension shown to be associated with controllable operational factors
- Adjusted load standard more realistic for actual PCB inventory; acceptable risk
- Provision of alternate public water supply alleviates need for automatic shut-downs
- Fixing scow availability issue will increase productivity and reduce resuspension

# It will be practicable to consistently and simultaneously meet EPA's proposed Performance Standards for Phase 2

- Increasing scow loads will reduce vessel traffic and dredging time…and thus resuspension
- Residuals standard was effective at minimizing residuals and undredged inventory
- Address DoC uncertainty for more efficient dredging (fewer passes)
- Streamlined residuals standard will result in faster CU closure