

Peconic River Update

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Community Advisory Council
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Agenda

- Refresher on the Peconic River clean-up
- 2010 Monitoring update
 - Sediment
 - Water
 - Fish
- 5-Year Review update and recommendations for changes to the Peconic River monitoring program
 - Sediment
 - Water
 - Fish

Refresher - The Clean-up

- ROD Goals – Mercury in Sediment
 - Onsite – Average Mercury (Hg) level of < 1 mg/kg, no single sample ≥ 2 mg/kg
 - Offsite – Average Hg level of < 0.75 mg/kg, no single sample ≥ 2 mg/kg
- River clean-up 2004 – 2005
 - 2,380 sediment samples taken to confirm clean-up goals
- River restored in 2005
- Post-clean-up monitoring began in 2006



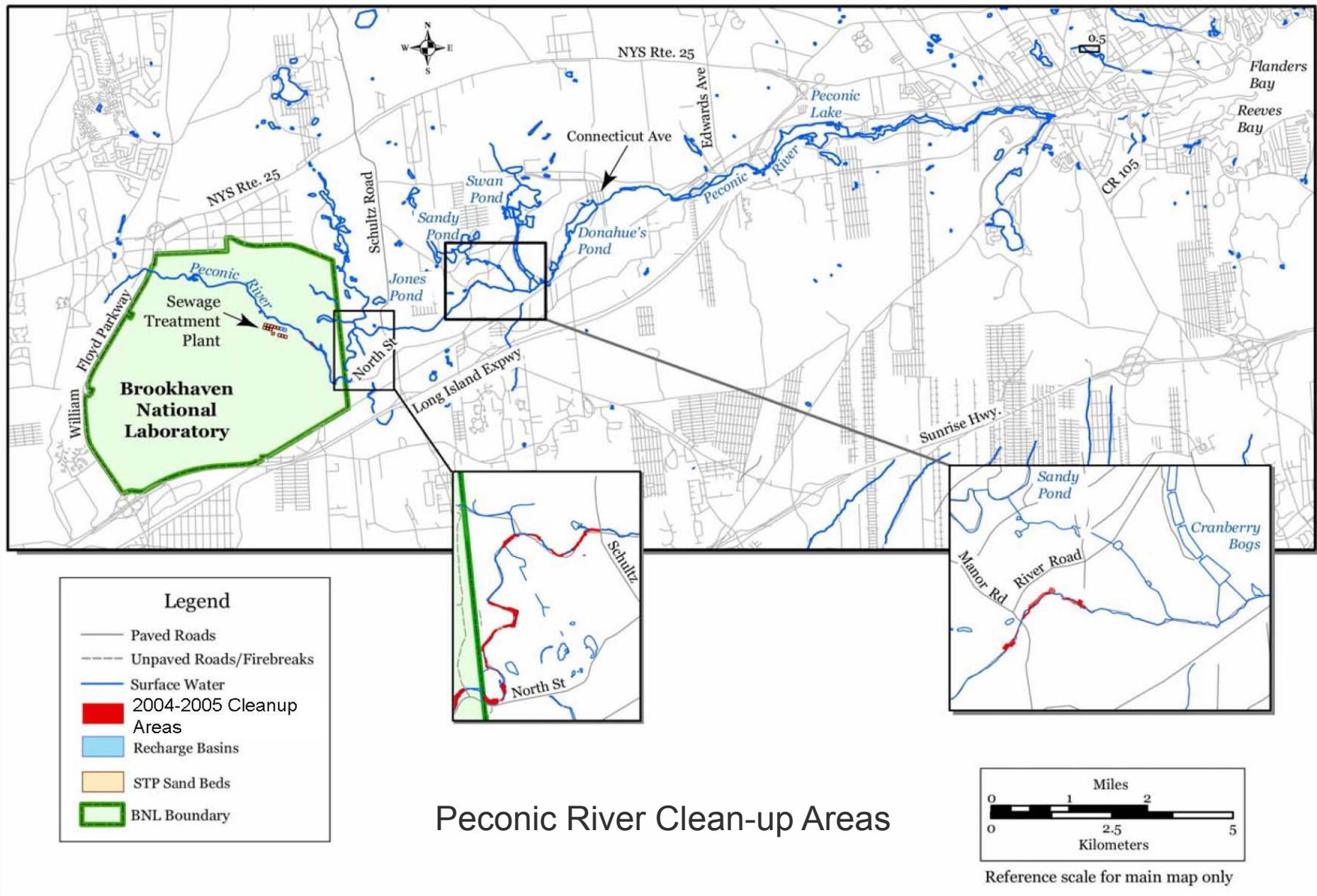


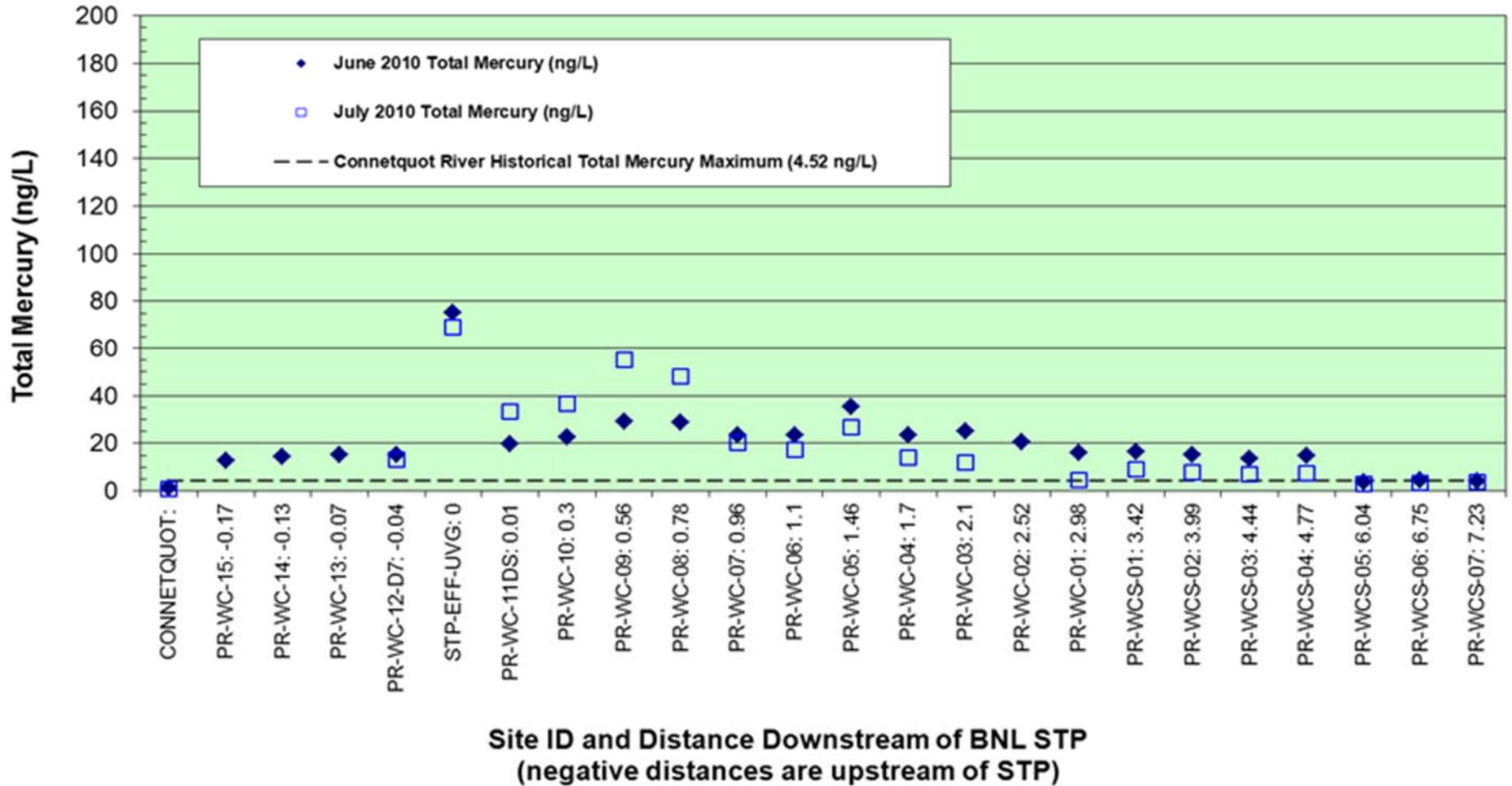
Figure 1-1. The Peconic River. The sections of the river that were remediated are indicated in the two call-out boxes, These two sections are shown in detail in Figures 1-2 and 1-3.

2010 Monitoring Results - Sediment

- All values (30 locations), except one, ≤ 2 mg/kg Hg
- One area, PR-SS-33 with a sediment value of 4.7 mg/kg
 - Supplemental sampling conducted – highest value was 1.5 mg/kg
 - Average of supplemental sampling was 0.61 mg/kg
 - Average of all 2006-2010 samples taken was 0.91 mg/kg
 - No further action taken

2010 Monitoring Results - Water

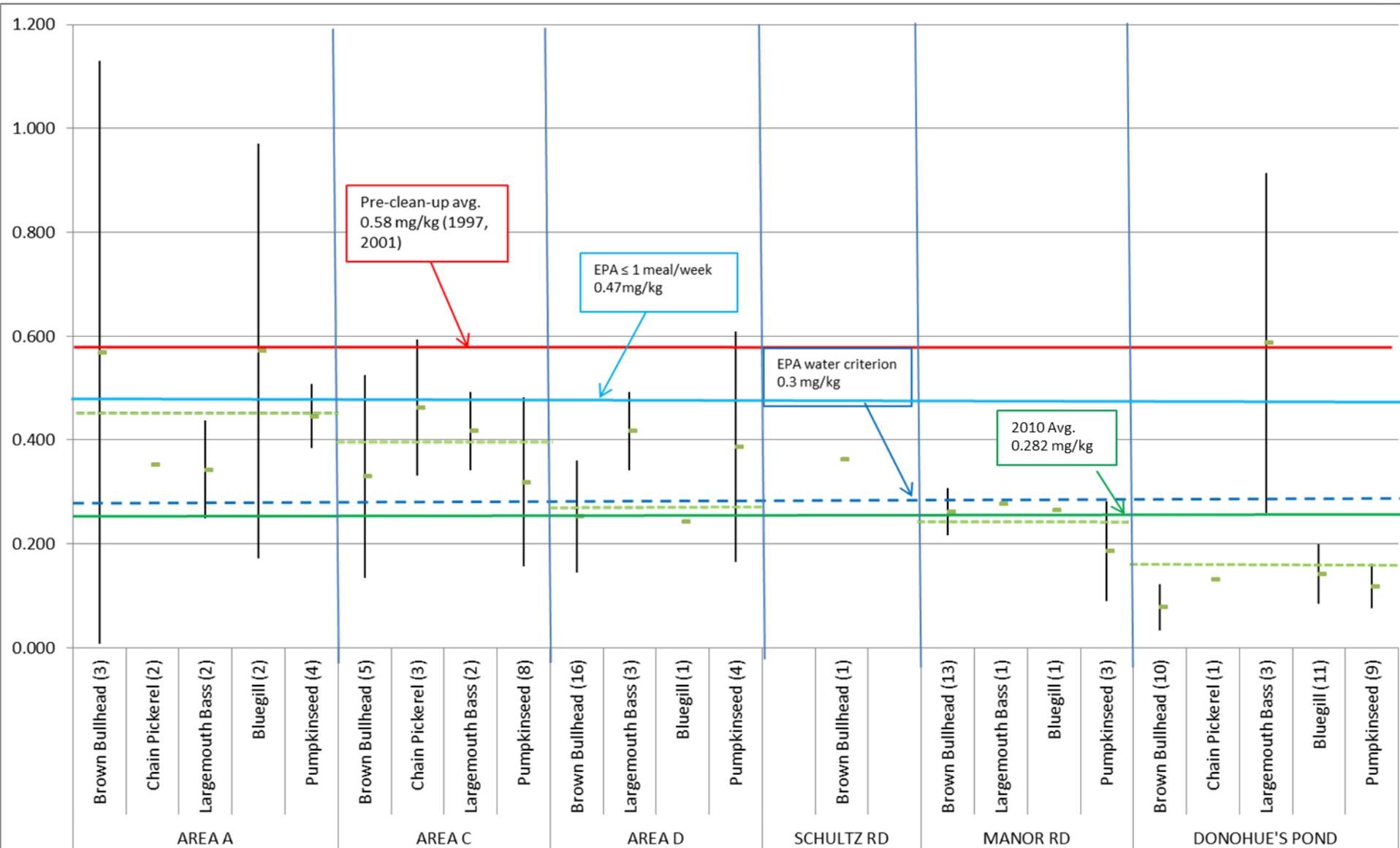
Figure 3-1 2010 Total Mercury in Peconic River Surface Water



2010 Monitoring Results – Fish

- 108 samples taken
- 2010 average all fish, all locations – 0.282 mg/kg
- Fish with high levels of Hg
 - 1.2 mg/kg in a composite sample of brown bullhead from Area A – average age 1.5 years
 - 0.96 mg/kg in a 8-year old largemouth bass from Donahue's Pond
- Fish age and Hg content
 - 5-year old brown bullhead from Area C had 0.163 mg/kg
 - 2-year old brown bullhead from Area C had 0.648 mg/kg
 - 12-year old brown bullhead from Donahue's Pond had 0.146 mg/kg

2010 Monitoring Results - Mercury in Fish (mg/kg)



Peconic River Update 5-Year Review

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Post-Clean-up Monitoring 2006-2010

- Sediment
- Water
- Fish

5-Year Review recommendations for Peconic River monitoring provided with each of the above topics.

Post Clean-up Monitoring 2006-2010 – Sediment Sampling

- 30 routine sampling locations annually – samples tested for Mercury (Hg)
 - 16 onsite
 - 14 off site
- Samples with Hg levels ≥ 2 ppm resulted in supplemental sampling
- 5-year total - 394 routine and supplemental samples



Results of Post Clean-up Monitoring 2006-2010 Sediment Sampling

- Three areas identified with Hg levels > 2 ppm requiring supplemental clean-up
 - PR-WC-06
 - PR-SS-15
 - Sediment Trap – removal required under ROD



PR-WC-06 Area



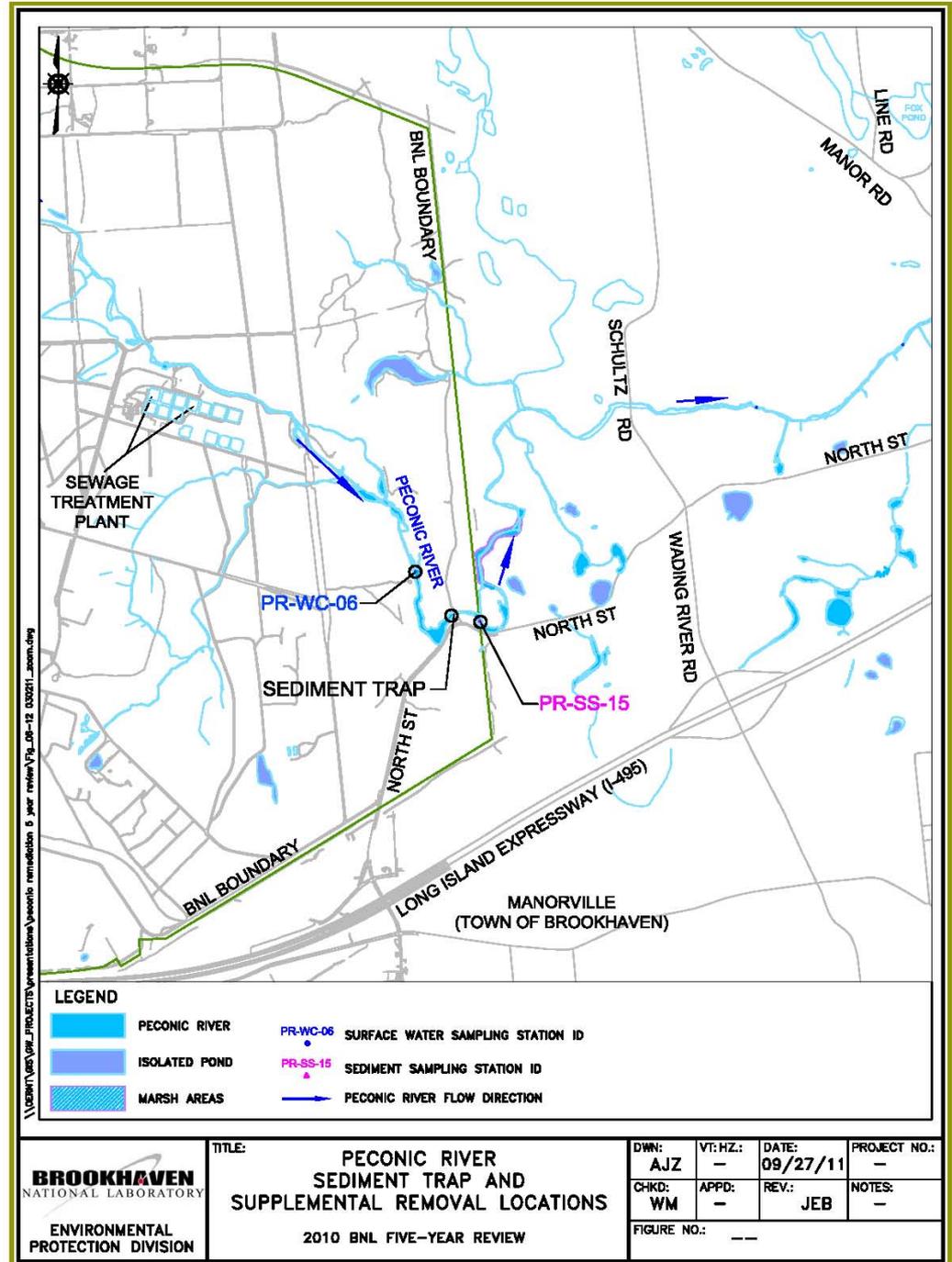
PR-SS-15 Area

- Supplemental clean-up completed Spring 2011
 - 0.39 acres (11 railcars)
 - Verified with 37 confirmatory samples
- Revegetation of areas completed Summer 2011



Sediment Trap Area

Note: Sediment trap removal required by Peconic River ROD
 Brookhaven Science Associates



5-Year Review Recommendations – Sediment Sampling

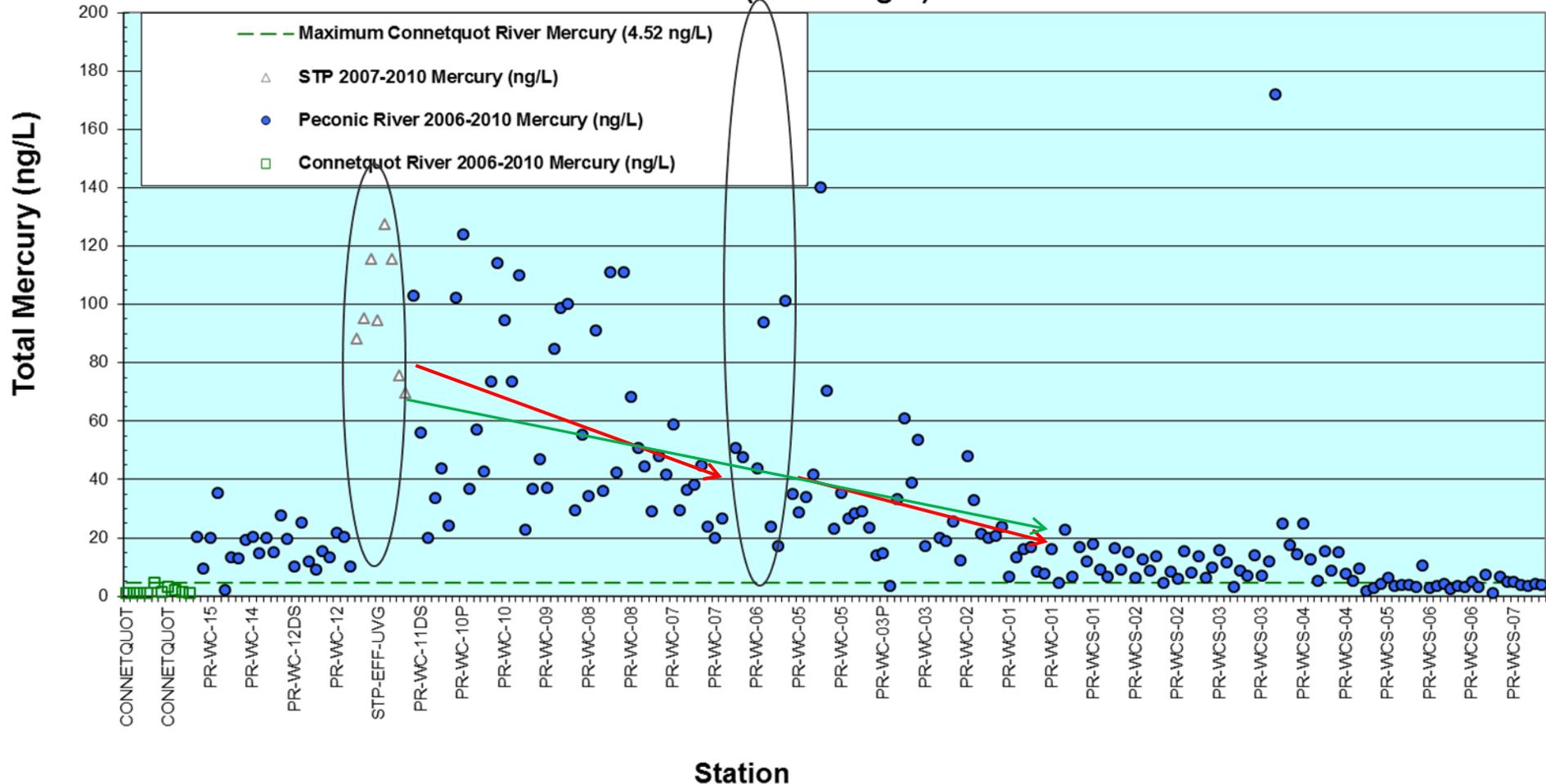
- Based on 2006- 2010 sediment monitoring (394 samples) and supplemental clean-up (37 confirmatory samples)
 - Reduce annual sampling from 30 locations to 3 locations to be taken in supplemental clean-up areas
 - PR-WC-06
 - PR-SS-15
 - Former sediment trap area

Post Clean-up Monitoring 2006-2010 - Water Column Sampling

- 22 Peconic River locations – sampled 2x annually
 - 11 onsite
 - 11 offsite
- Sample analysis – Hg, methylmercury (MeHg), total suspended solids (TSS)
- Total water samples taken ~430 samples

Figure 6-13 2006 - 2010 Peconic River and Connetquot River and 2007 - 2010 STP Mercury Water Column Concentrations

(0 - 200 ng/L)



Two values at PR-WC-06 and one value at PR-WC-03 are beyond the scale of this figure, 876 ng/L, 1,360 ng/L and 374 ng/L, respectively.

Results of Water Column Sampling

- Water data identified an area as a potential source of Hg in sediment
 - Additional sediment sampling performed
 - PR-WC-06 identified for supplemental clean-up



5-year Review Recommendations – Water Monitoring

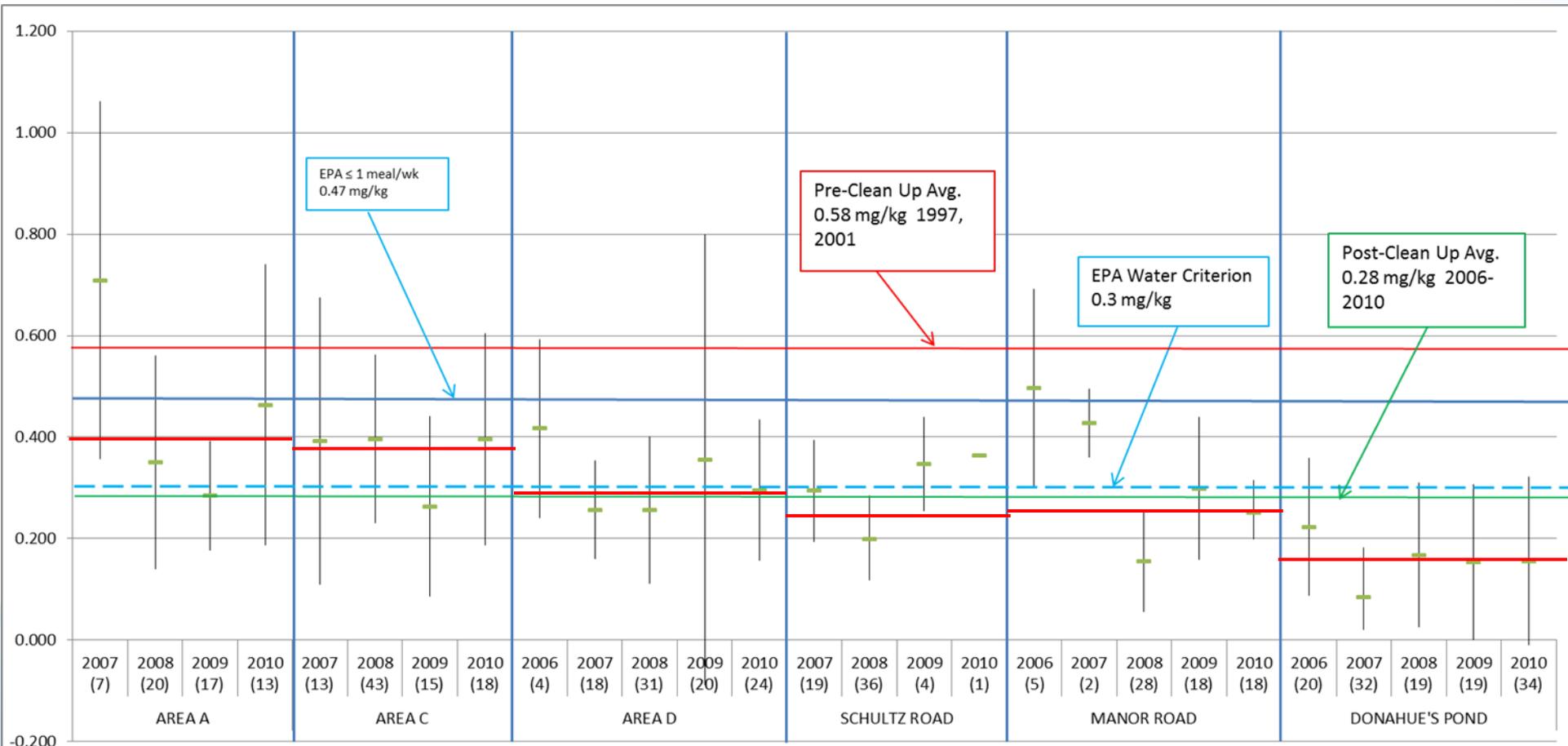
- Based on the 2006 -2010 monitoring results (~430 samples) reduce from 22 sample locations 2x/yr to 16 sample sample locations 2x/yr
 - Eliminating sampling at locations downstream of Schultz Rd.
 - 2006 – 2010 data indicated that Hg levels reached similar concentrations as is found upstream of the Sewage Treatment Plant outfall.
 - Retain PR-WCS-04 location just down stream of last clean-up area at Manor Road (re-evaluate after 2012 monitoring)

Post Clean-up Monitoring 2006-2010 - Fish

- Representative samples – multiple species
 - Onsite – Area A, C, D
 - Offsite – Schultz Rd, Manor Rd, Donahue's Pond
 - Fillets analyzed for Hg
 - Ages of individual fish were determined
- 482 fish sampled between 2006 and 2010



Mercury Content in Fish (mg/kg) 2006-2010



5-Year Review Recommendations - Fish

- Based on the 2006 – 2010 fish monitoring (482 samples) fish sampling locations will be reduced from six to four
 - Sampling conducted at Area A, Area D, Shultz Rd., Donahue's Pond
 - Sampling every other year – next sampling event 2013
 - Continue to determine the age of individual fish



Questions?

