Laboratory Intercalibrations

Setting Performance-Based Data Quality Objectives

Why Conduct Intercalibrations?

- Bight utilizes multiple chemistry laboratories
- Environmental Laboratory Accreditation Program (ELAP) does not provide sufficient assessments of comparability
  - Almost always in the simplest of matrices
- We need a comparability evaluation in native matrix

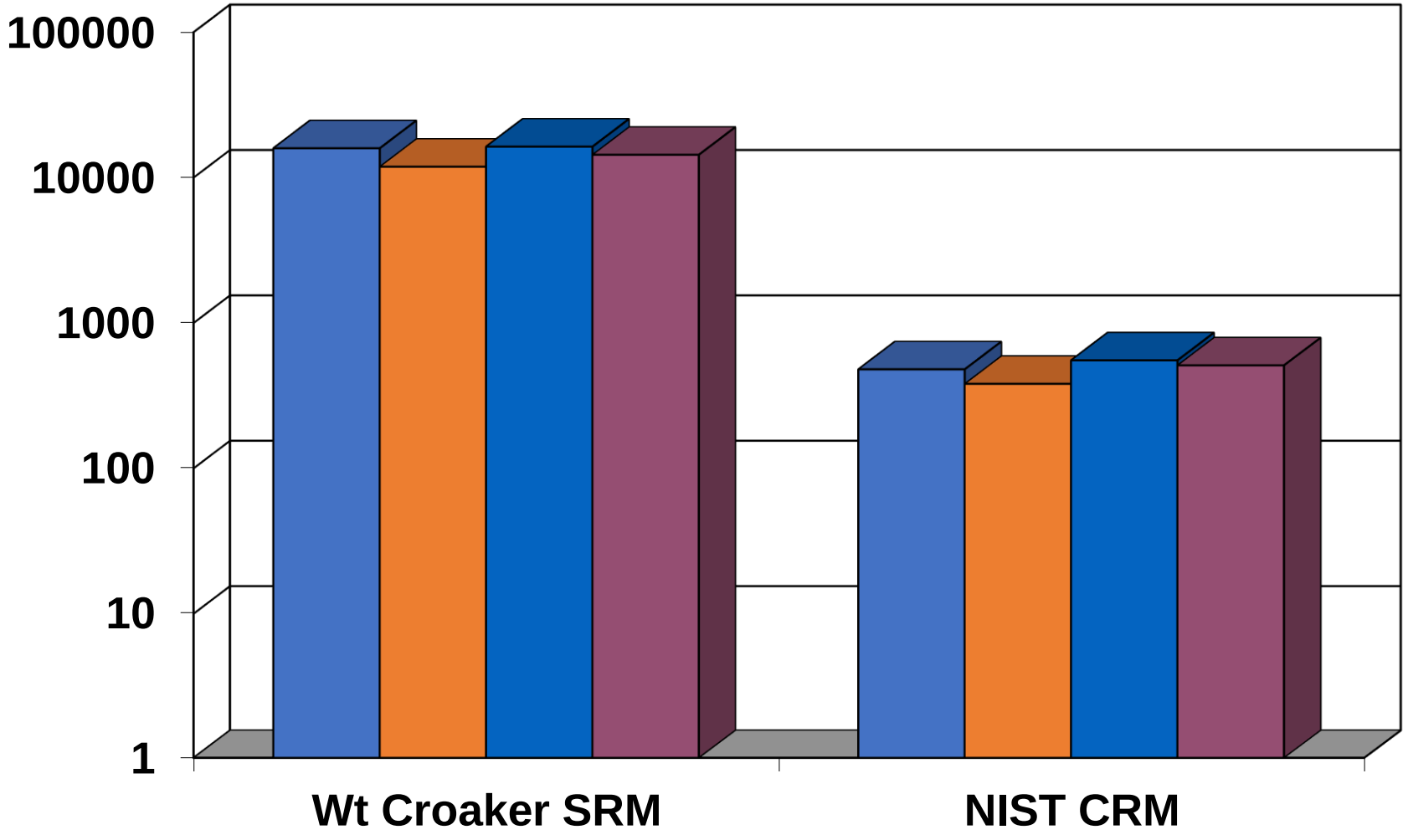
SCCWRP has Run Many Lab Intercalibrations

- Different measurements
  - Nutrients, metals, organics, CECs, grain size, general parameters, probes toxicity, infauna, algae, vertebrates, microbiology, barcoding
- Different matrices
  - sediment, fresh water, marine water, stormwater, effluent, tissue
- Different labs
  - academic, municipal, private

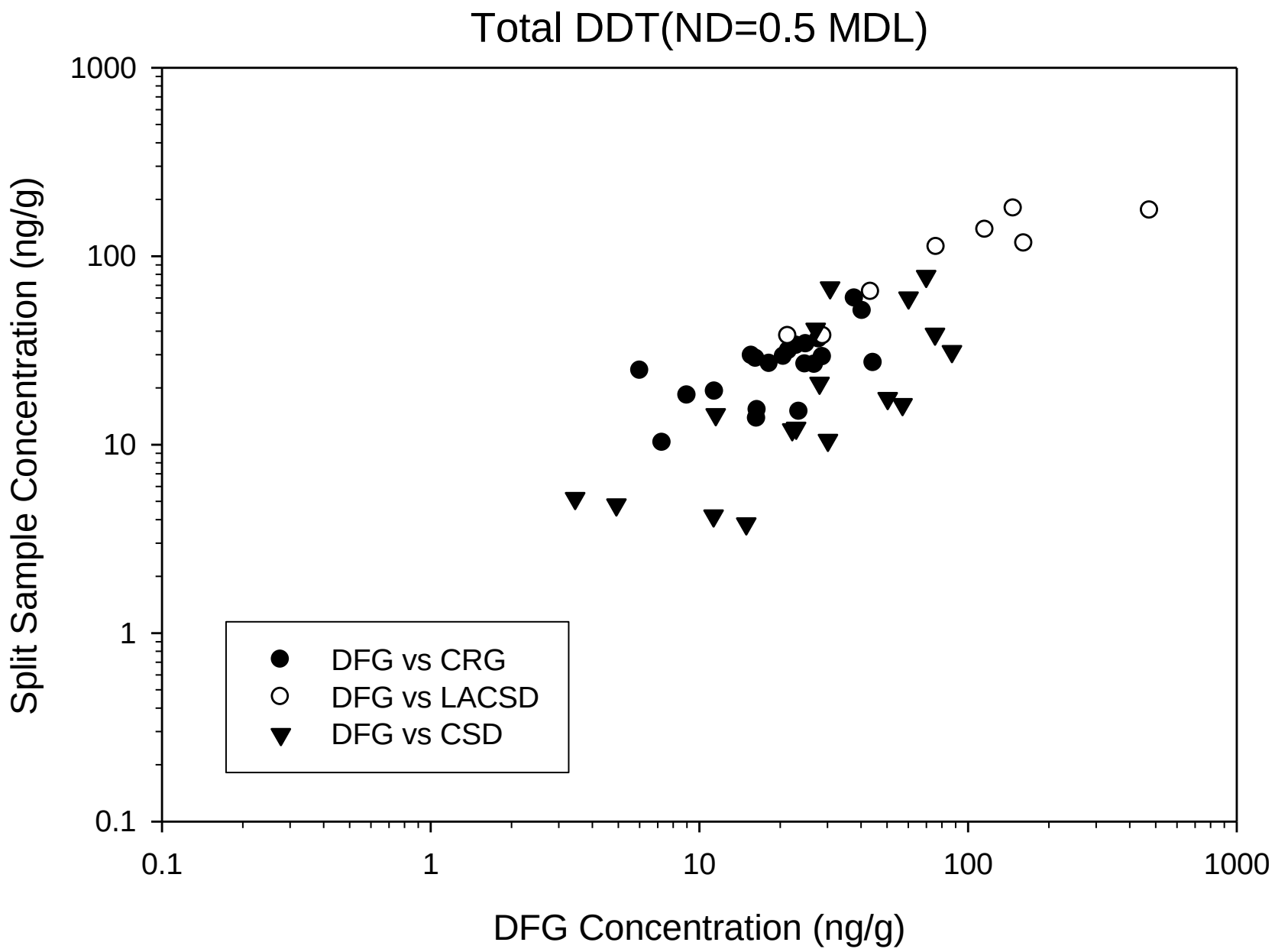
Intercalibration Approach

- Recruit participating laboratories
- Create study design
  - Scoring algorithm for assessing comparability
- Collect, homogenize, and distribute blinded samples
- Compile and analyze results
  - Identify successes and failures
- Repeat intercalibration after resolving issues

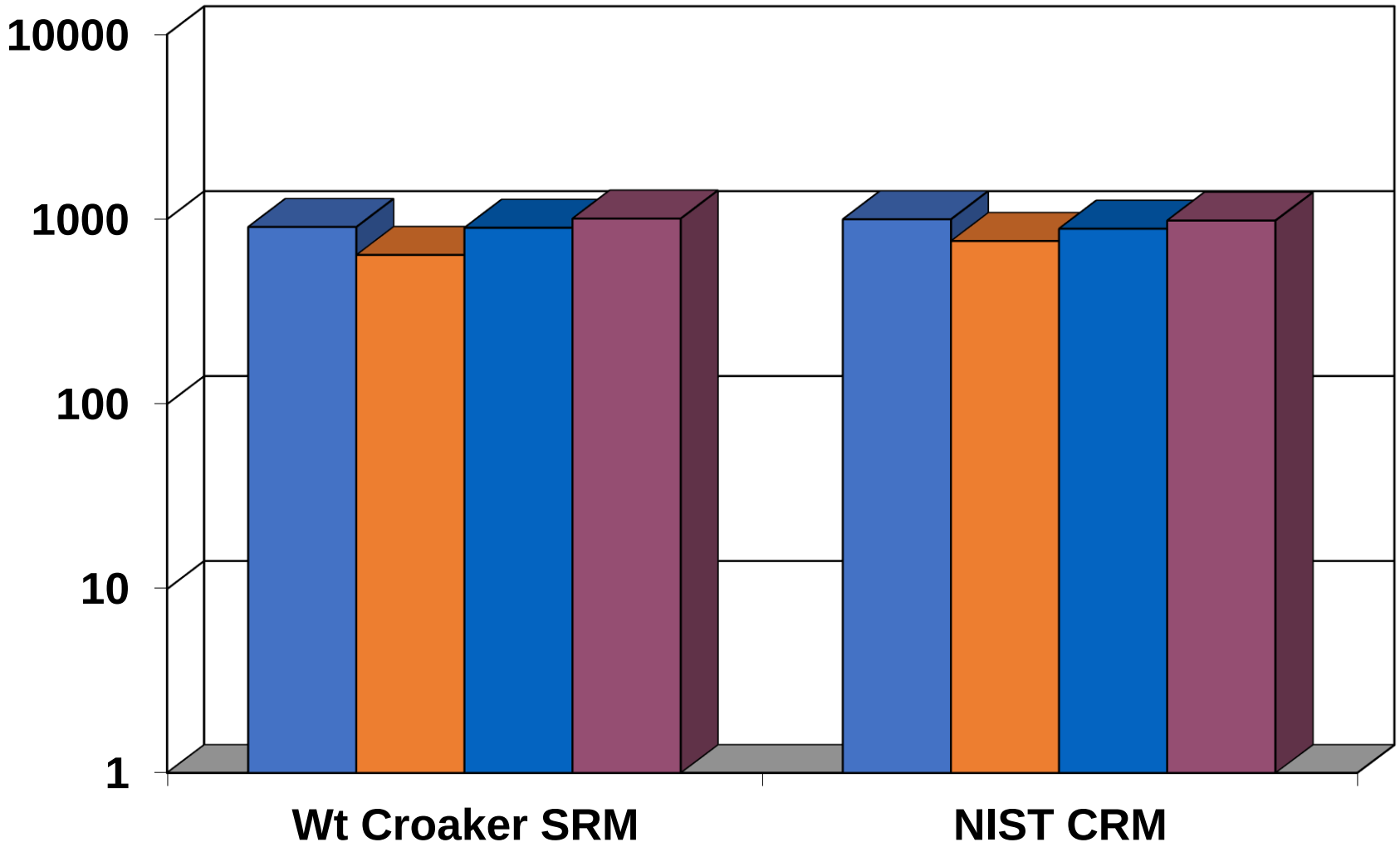
Presurvey Tissue Intercalibration
Total DDT (ug/kg)



IN-STUDY SPLIT SAMPLES

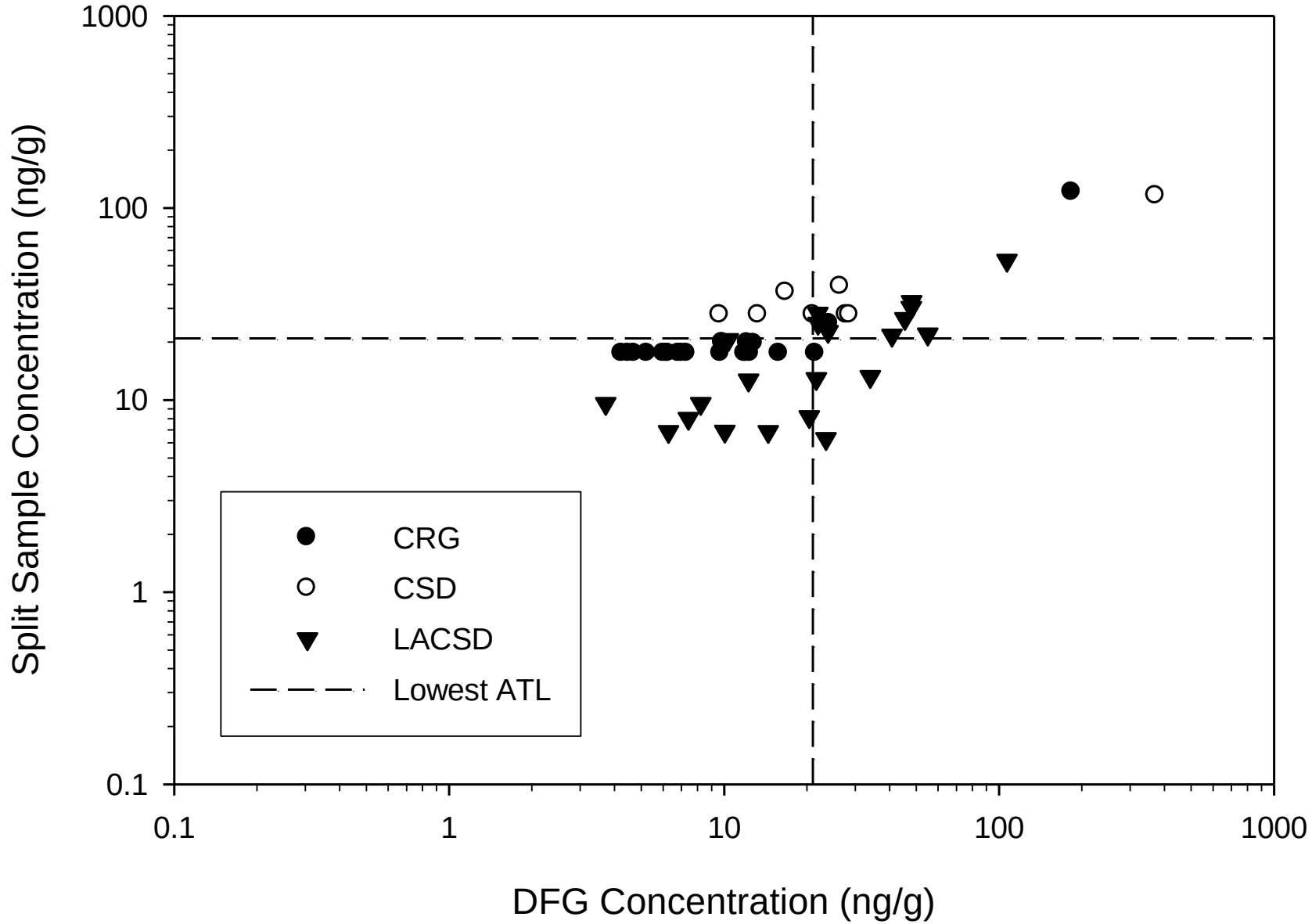


Presurvey Tissue Intercalibration
Total PCB (ug/kg)



IN-STUDY SPLIT SAMPLES

Total PCB Common Congeners (ND=0.5 MDL)



Split Sample Scoring Similarity
(PCB Advisory Tissue Level = 21 ng/ wet g)

		Statewide Lab	
		> ATL	< ATL
Other Labs	> ATL	31%	6%
	< ATL	8%	55%

The Bight Schedule

- Workplan - Jan 2018
- Intercalibration design - Feb 2018
- Intercalibration evaluation - April 2018
- Second iteration (if necessary) – June 2018
- Sample distribution – July 2018