

MANY PRODUCTS OF COOPERATIVE REGIONAL MONITORING

- **Regional assessment of condition**
- **Methods standardization**
- **Method development**
- **Regional data analysis tools**
- **Information management**
- **Dialogue**
 - Agreement on how to interpret data

METHOD STANDARDIZATION

- **The Bight Regional Program is collaborative and requires known comparability**
- **Expend tremendous effort on training and developing standard operating procedures**
 - These SOPs are the likely basis for how the State will define SWAMP comparable methods for marine waters
- **We also conduct intercomparability exercises to ensure data consistency among labs**
 - Chemistry
 - Toxicity
 - Microbiology
 - Benthic invertebrate identification
 - Fish identification

LABORATORY INTERCALIBRATION FOR PCBs

Year	Concentration Range (ng/dry g)	Coefficient of Variation
Bight '98 – Before	529 – 1,950	46%
Bight '98 – After	901 – 1,500	20%
Bight '03 – Before	920 – 1,442	19%
Bight '08 - Before	727 – 1,058	16%

QA FOR INFAUNA

LAB ID	Number of Samples Re-Identified (10% of all samples)	Number of Individuals Identified	Correct Identification Rate
A	16	17,724	94.1%
B	8	1,529	94.2%
C	5	2,231	94.0%
D	5	1,975	91.7%
E	4	4,968	96.1%
All	38	28,427	94.1% (100% after resolution)

ADOPTION BEYOND THE BIGHT PROGRAM

- **Participants have adopted Bight Methods and QA for their routine monitoring**
 - Ensures comparability beyond regional monitoring
- **Even non-participants are adopting our protocols**
 - Allows comparability with regional perspective
- **Exporting the concept to other programs**
 - SMC chemistry contractors
 - Wetlands
 - Freshwater invertebrates

MANY PRODUCTS OF COOPERATIVE REGIONAL MONITORING

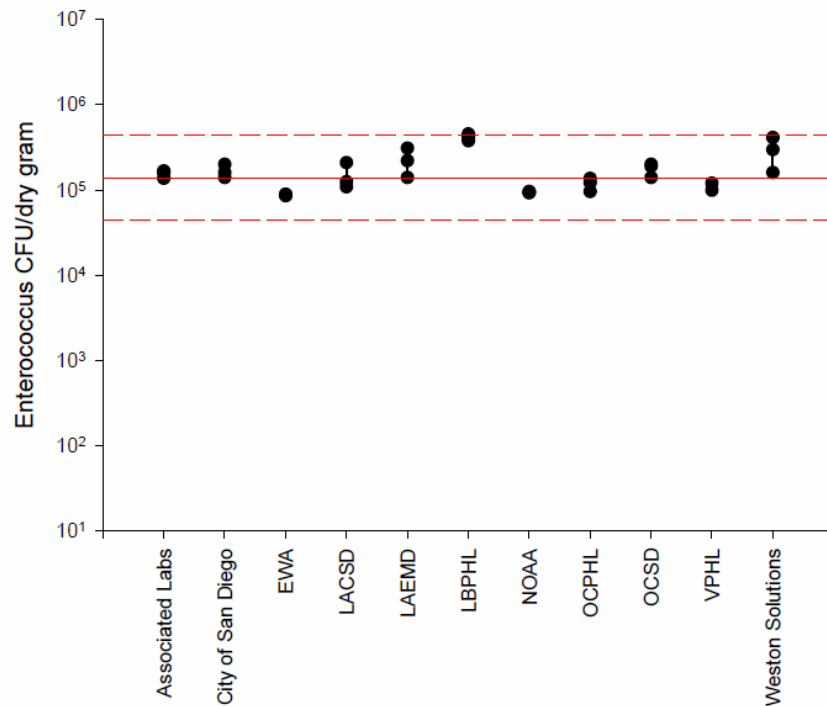
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METHODS FOR MEASURING BACTERIA IN SAND

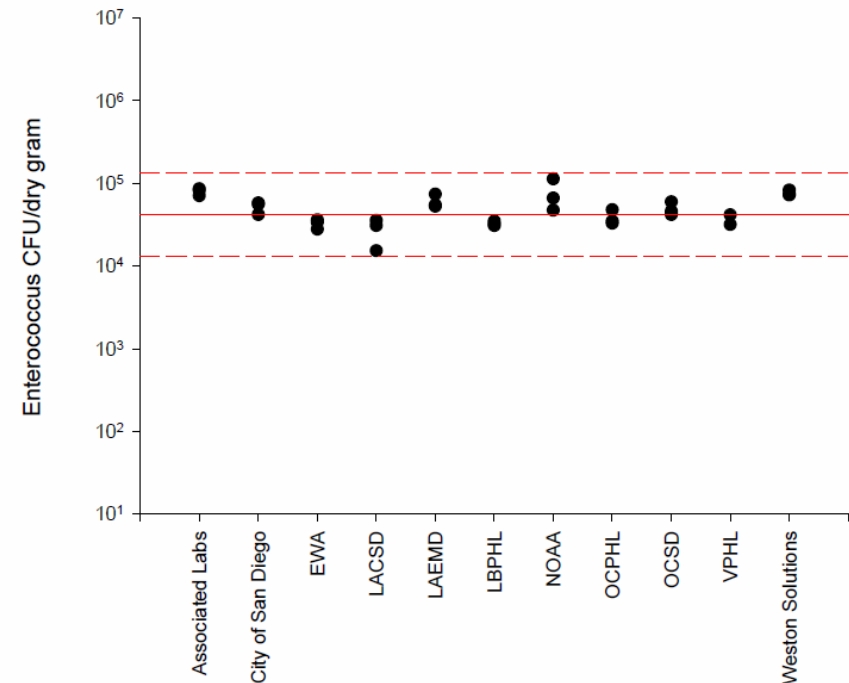
- **There was no standardized method for measuring bacteria in beach sand**
 - We identified 22 extraction combinations that have been previously used
- **Conducted a method comparison exercise among these methods**
 - Processed 24 samples using all 22 methods
 - Brought in the six leading experts to perform those methods
 - Got them all to agree on a standard method
 - This method has now been adopted internationally as the standard
- **Trained the local laboratories in use of this method**
 - Ran intercalibration exercises to assess their proficiency

LOCAL LABORATORIES ARE ABLE TO PRODUCE COMPARABLE DATA

Doheny Sand



Poche Sand



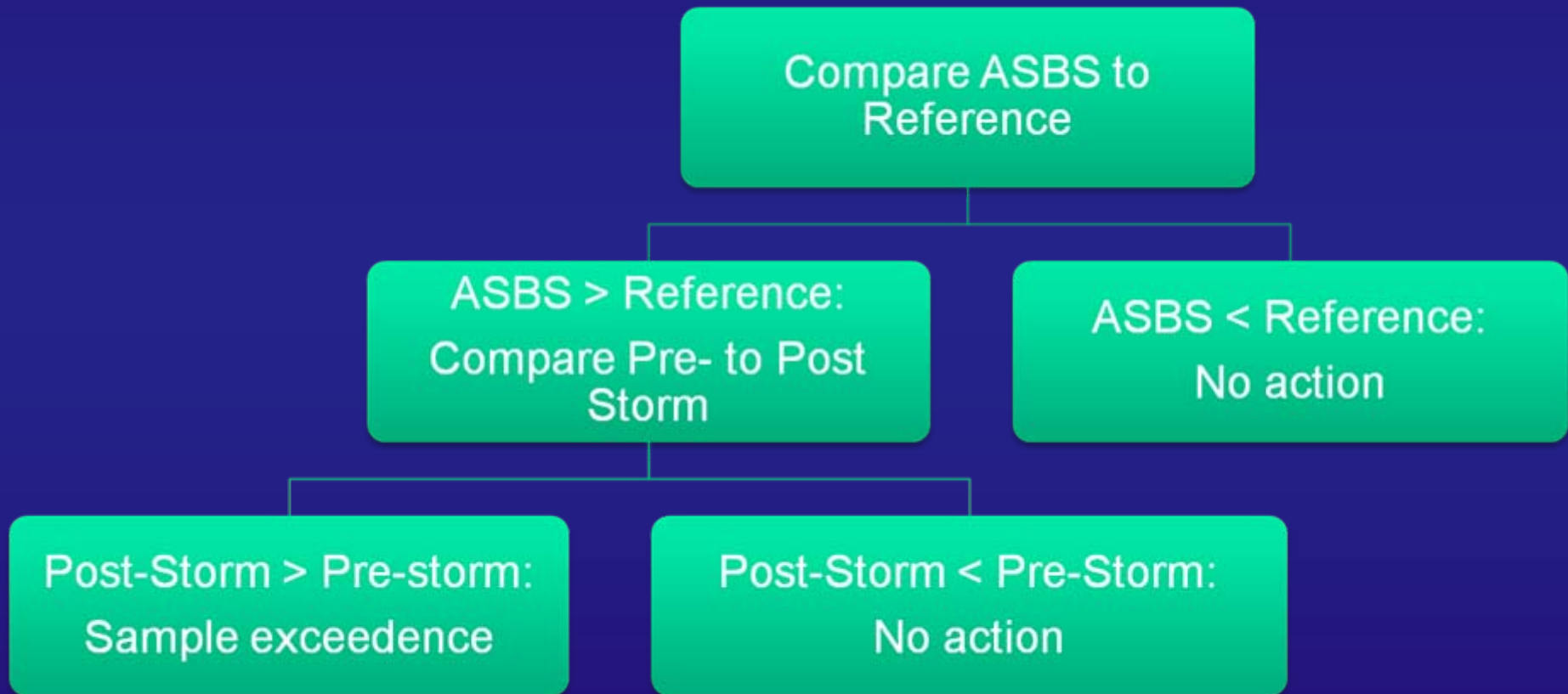
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EXPANDING THE DATA MODEL

- **Our data management structures have become the foundation for many other programs**
 - SMC
 - San Gabriel Watershed Monitoring Program
 - MARINE
- **Data sharing protocols have become the basis for several statewide data bases**
 - SWAMP
 - CEDEN
 - Statewide Microbiological Database
- **Data QA procedures**
 - Data screening tool

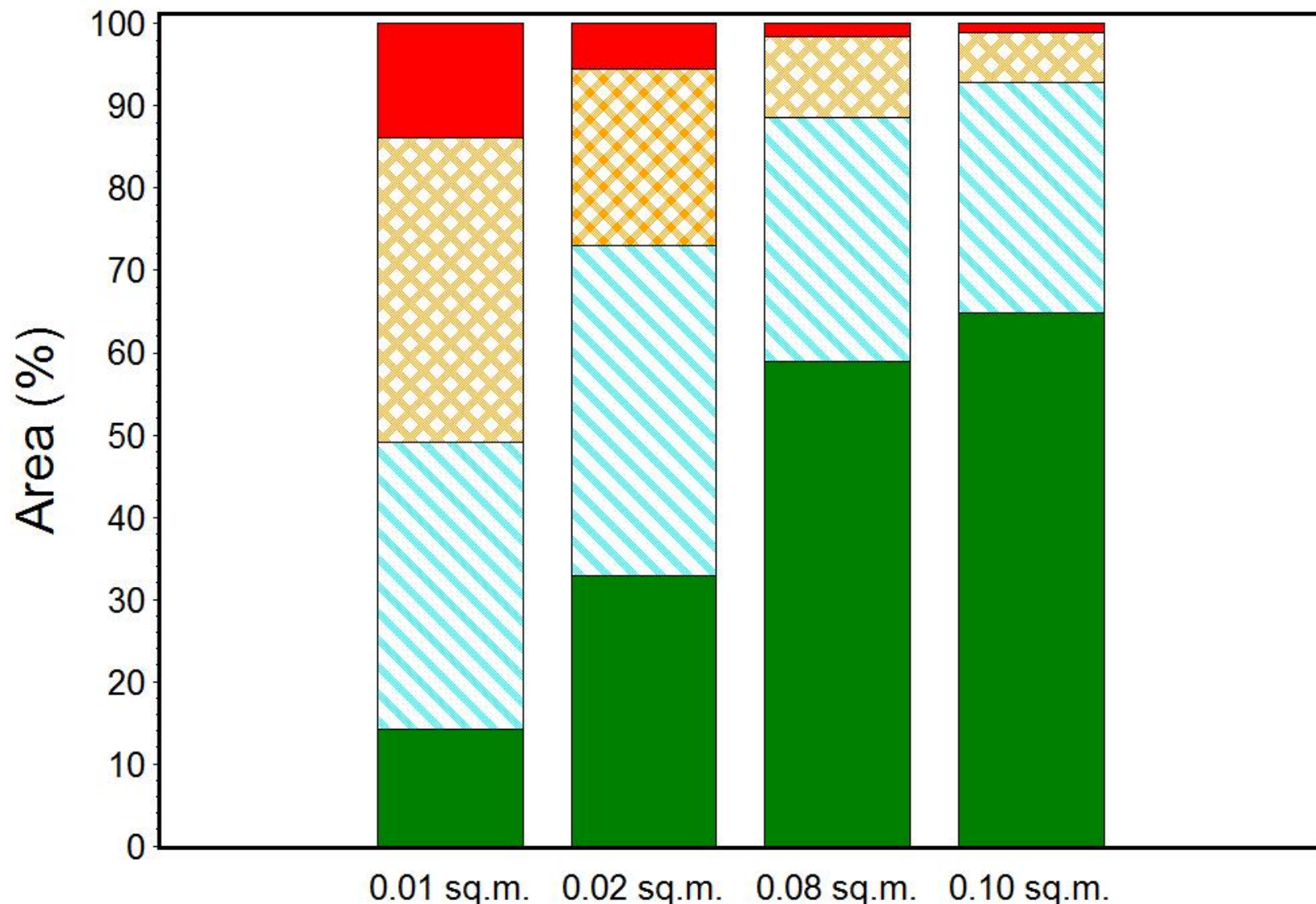
Discharge Sample Evaluation Scheme



BENTHIC GEAR SIZE EVALUATION

- **One of the most expensive parts of routine monitoring is benthic infaunal monitoring**
 - A typical sample takes a day of technician time to sort the animals from the sediment detritus
- **The size of the gear used for sampling tremendously affects this sorting time**
 - Presently use a 0.1 square meter grab, which is larger than that used in most other programs
- **Used the Bight program to evaluate sensitivity of results on a regional scale to size of collection gear**
 - Processed three subset areas of the sample
 - Compared results between the subareas and the whole

Bight'08 Bay Strata: Gear Area Effect



Benthic Condition

Reference

Moderate Disturbance

Low Disturbance

High Disturbance