Southwest Florida Regional Ambient Monitoring Program (SWF RAMP)

Presented by:
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Lee County Natural Resources
Laboratory Director

LEE COUNTY
SOUTHWEST FLORIDA

Tampa Bay NEP Data Requirements

- Establish baseline conditions
- Monitoring chemical and biological parameters
- Data to establish and verify models
- Measure effectiveness of management actions
- Estimate long-term trends

Available Data

- Regulatory compliance data
- Local program ambient or site specific
- Short term special studies
- Pre-development baseline

Genesis of RAMP
1992

- TBNEP Workshop to develop specific monitoring objectives
- Compendium of Tampa Bay monitoring activities

TBNEP Monitoring Goals

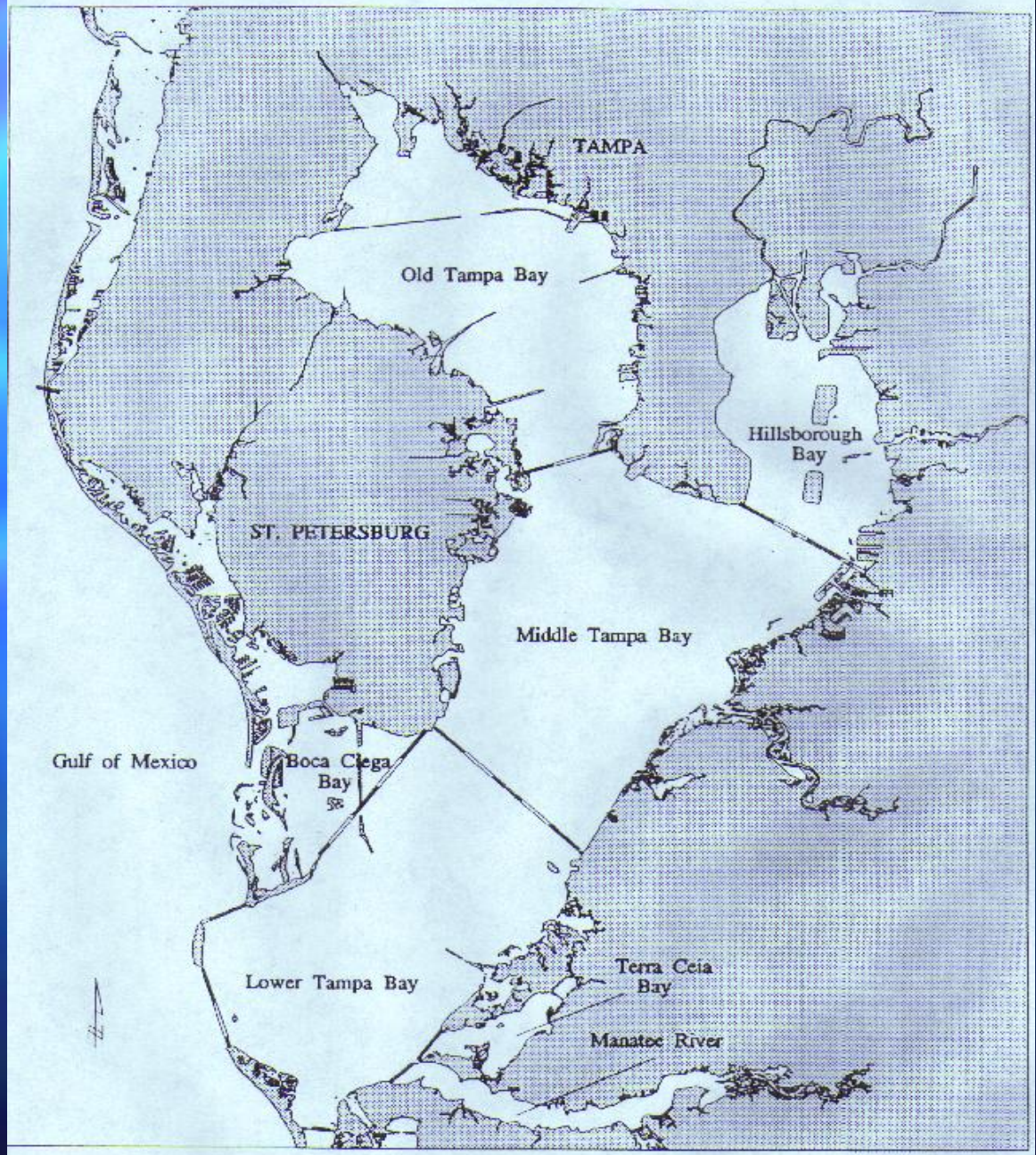
- to Measure the Effectiveness of Management Actions and Programs Implemented Under the CCMP *and*
- to Provide Information that can be used to Redirect and Refocus the Management Plan over time.

Genesis of RAMP
1993

- FDEP SWAMP - need for regional coordination
- TBNEP Partners adopt monitoring design for Tampa Bay
- Implement Tampa Bay Benthic Monitoring Program

TAMPA BAY SEGMENTS

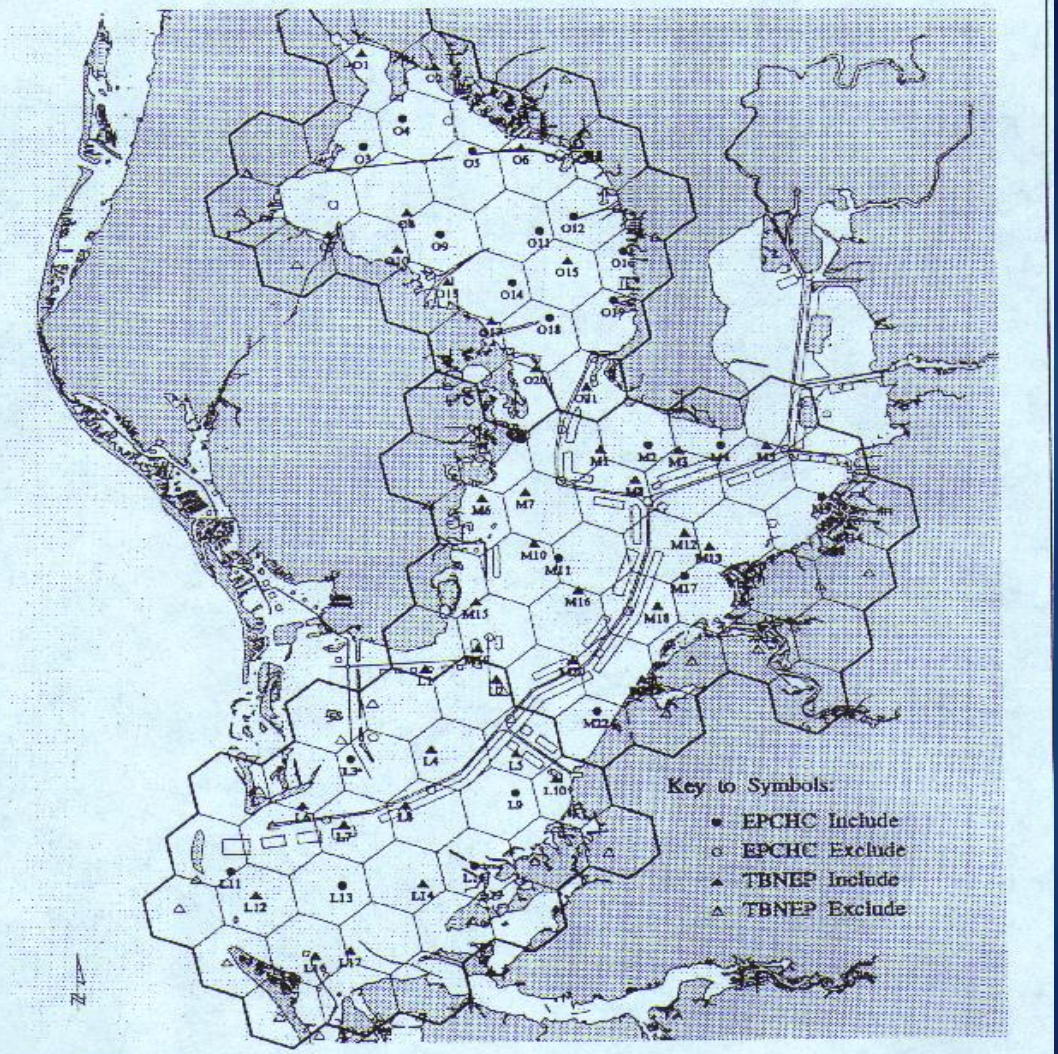
Based on Lewis and Whitman, 1985



Map Prepared by Coastal Environmental, Inc.

WATER QUALITY AND BENTHIC SAMPLING DESIGN

Mainstem Tampa Bay, EMAP 7x7 Grid



Scale 1:350,000
Projection UTM
Datum NAD 27

Map Prepared by Coastal Environmental, Inc.

EMAP 7x7 hexagonal grid overlay and station locations in Old Tampa Bay, Middle Tampa Bay, and Lower Tampa Bay for the water quality and benthic sampling design.

Genesis of RAMP
1994

- First Southwest Florida RAMP meeting
  - Overview of state/local programs
  - Who, what, when, why

- Initiation of RAMP Intercalibration
  - core parameters
  - evaluate field/lab methods

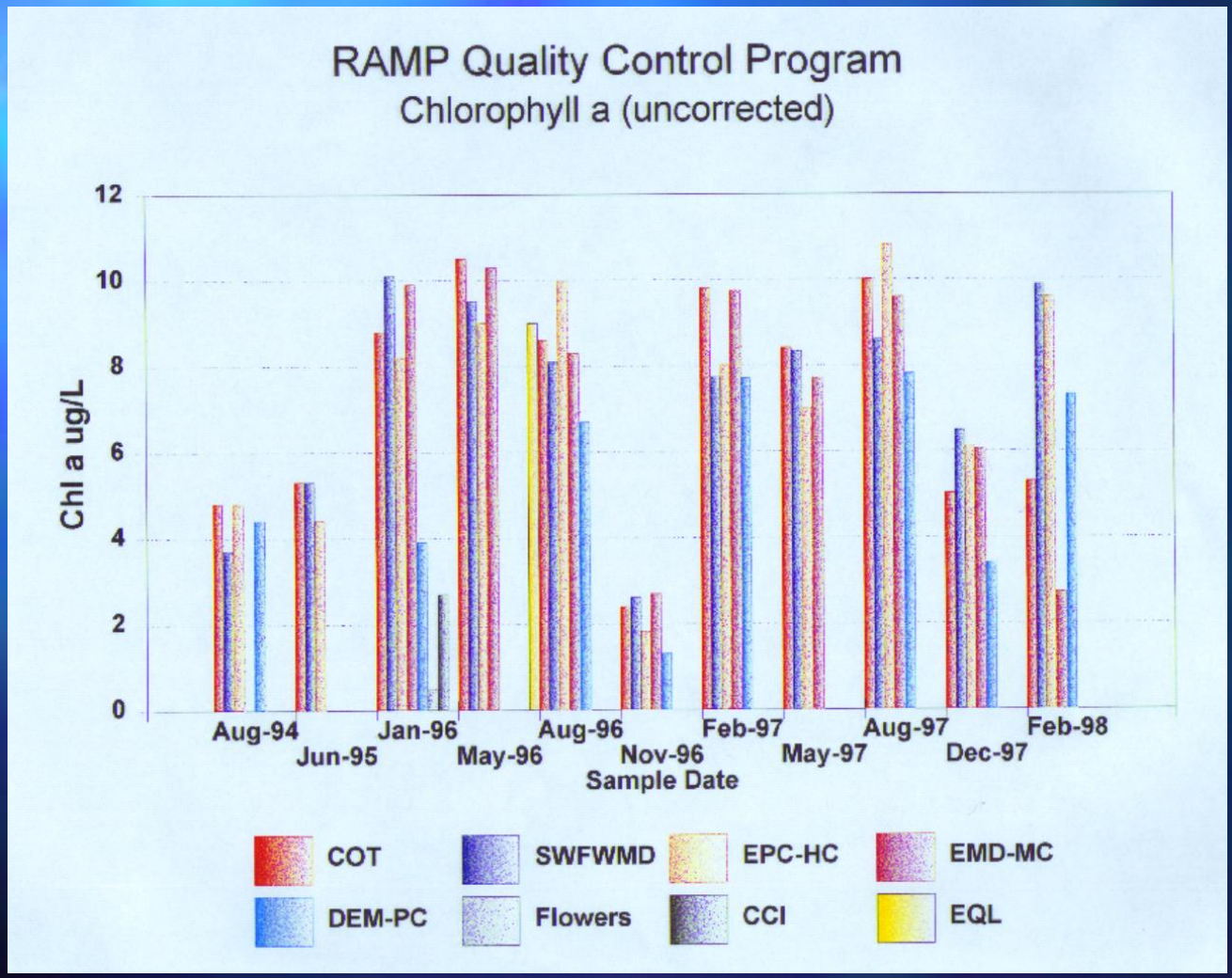
RAMP Objectives (1994)

- Establish Core Parameters (Analytes)
- Standardize Monitoring Activities
- Evaluate/Standardize Methodologies
- Minimize Duplication and Economize

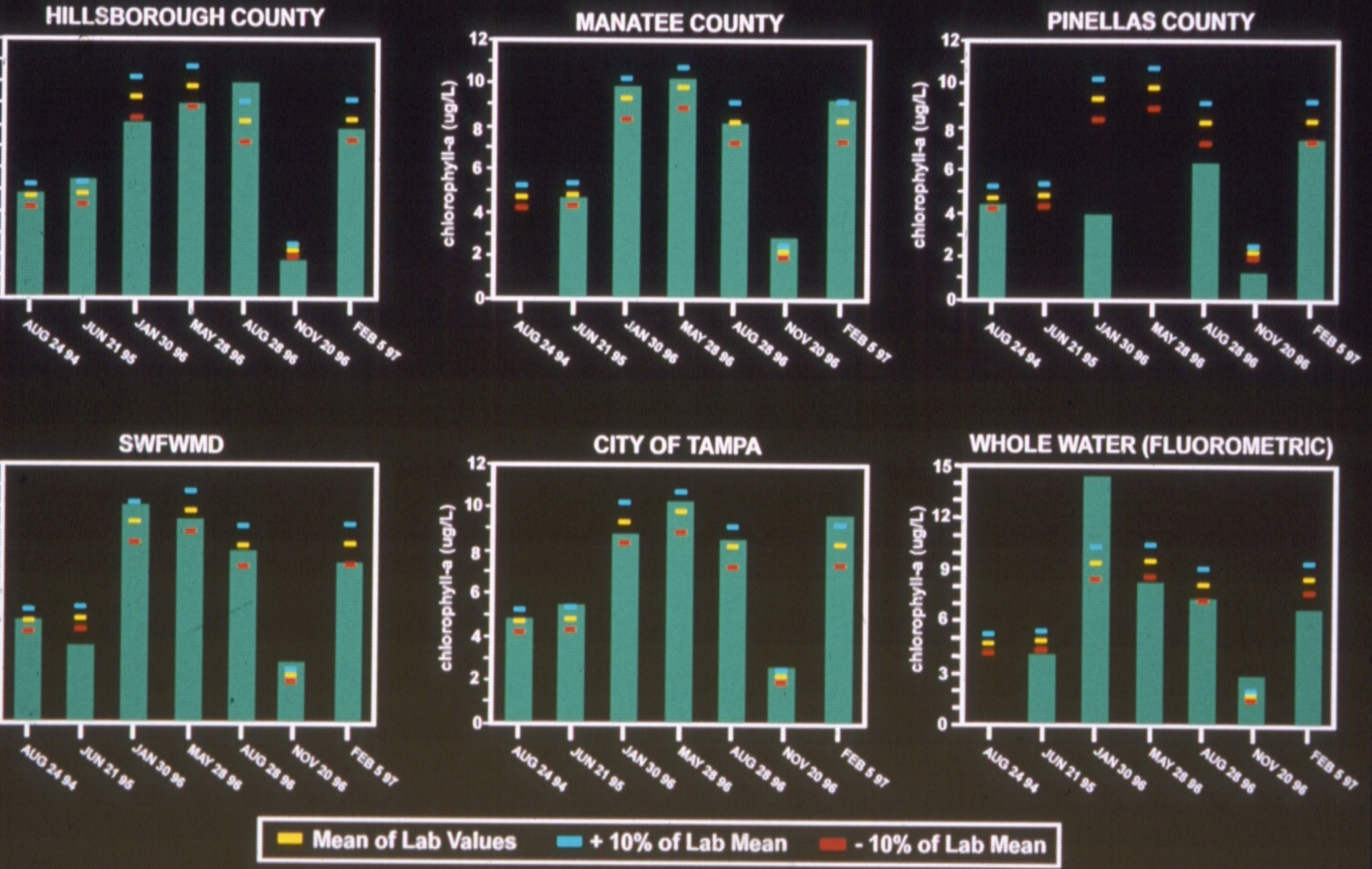
Core Parameters

- Field Determinations
  - -temperature
  - -dissolve oxygen
  - -cond/salinity
  - -pH
  - -transparency
- Laboratory Determinations
  - -turbidity
  - -true color
  - -ortho, total P
  - -nitrate, nitrite
  - -ammonia
  - -TKN
  - -TSS
  - -Chlorophyll *a*

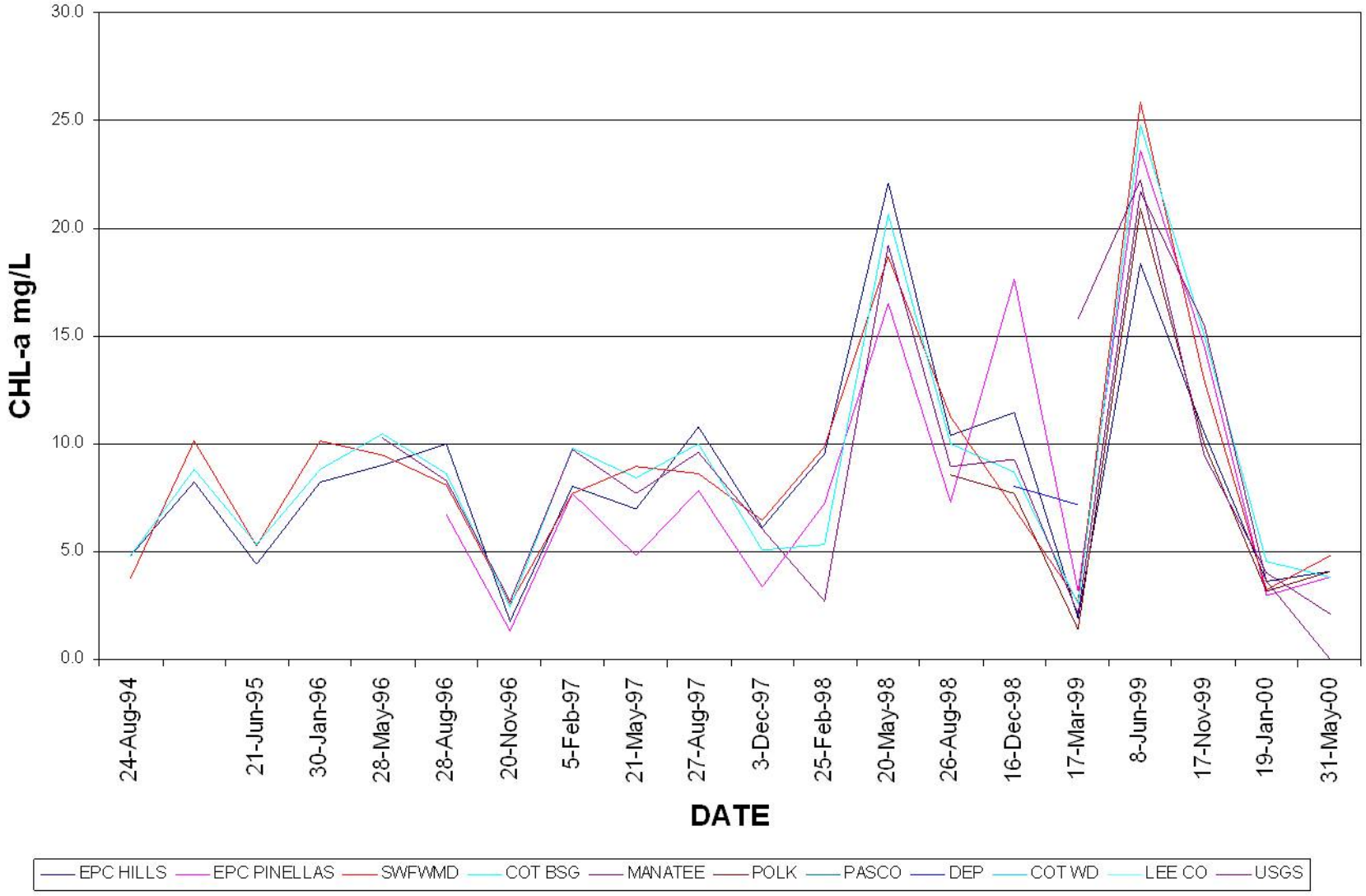
Interlaboratory Comparisons



RAMP CHLOROPHYLL-a COMPARISON



CHLOROPHYLL



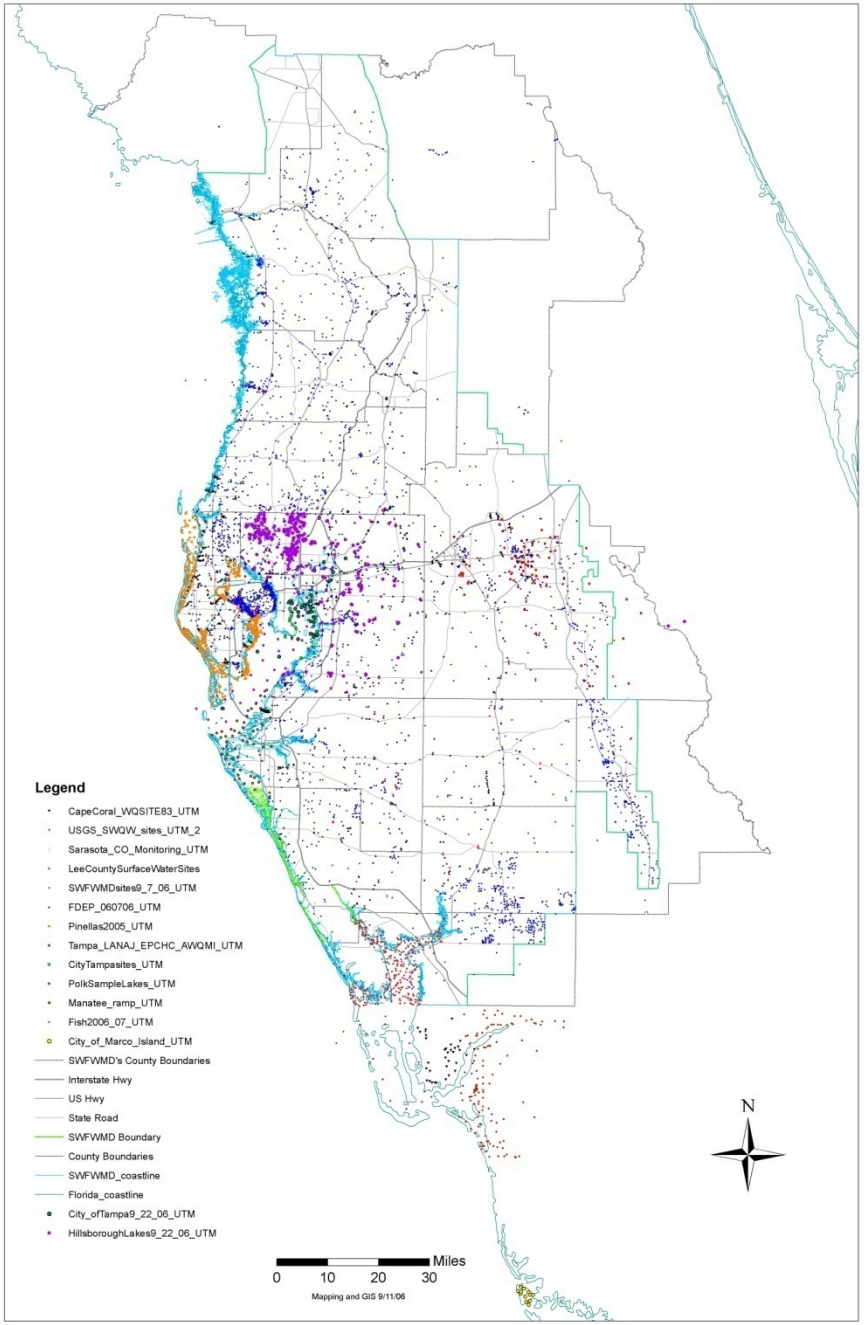
RAMP CHLOROPHYLL-a METHODS COMPARISON

LABORATORY	HC	MC	PC	WMD	COT
METHOD	10200H	10200H	10200H	10200H	S&P 1972
OPAQUE BOTTLES/ICED	YES/YES	YES/YES	YES/YES	YES/YES	YES/YES
TIME BEFORE FILTRATION	<24HRS	<24HRS	<24HRS	<24HRS	<8HRS
FILTRATION VOLUME	GEN. 1000ML	500ML	100-1000ML	300ML	100-2000ML
FILTER TYPE	GF/C, 1.2uM	WCN, 0.45uM	GF, 1.5uM	A/E, 1..0uM	GF/F, 0.7uM
FILTRATION VACUUM	NO GAUGE	GAUGE, NOT USED	NO GAUGE	NO GAUGE	<15 IN. Hg
USE OF MgCO3	IN ACETONE NOT AT FILTRATION	AT FILTRATION NOT IN ACETONE	IN ACETONE	AT FILTRATION & IN ACETONE	AT FILTRATION & IN ACETONE
BLANK PREPARED EACH RUN	YES	YES	YES	OCCASIONALLY	OCCASIONALLY
FILTER STORAGE	<3 WEEKS IN FREEZER	<3 WEEKS IN FREEZER	>5 DAYS IN FREEZER	<3 WEEKS IN FREEZER	<3 WEEKS IN FREEZER
GRINDING/CHILLED	YES/NO	N/A, FILTER DISSOLVED	YES/NO	YES/YES	YES/YES
DIMMED LIGHTS DURING ALL PROCEDURES	NOT AT GRINDING	YES	AT FILTRATION, NOT AT GRINDING	YES	YES
FINAL ACETONE (90%) VOLUME	10-15ML	10ML	7-10ML	5-10ML	15ML
ACETONE VOL. CORR. FOR FILTER VOL.	PLUG VOL. SUBTRACTED	NA	NO	PELLET VOL. SUBTRACTED	FILTER VOL. SUBTRACTED
STEEPING	>2HRS IN RFG.	24HRS IN RFG.	<24HRS IN RFG.	>24HRS IN RFG.	>24HRS IN RFG.
TUBES SHAKEN BEFORE CENTRIFUGE	YES	YES	NO	NO	YES
CENTRIFUGE SPEED (FORCE)/TIME	HIGH/30MIN	3500RPM/ 10-15MIN	20-30MIN	500G/20MIN	4500-5000RPM/30MIN
SPEC. BRAND/TYPE	BECKMAN DU64 SB	B&L SPEC 20 SB	P-E LAMDA 6 DB	P-E LAMDA 4C DB	P-E LAMDA 3B/ DB
CELL LENGTH	10MM	10MM	10MM	10MM	10MM
CELL-TO-CELL CORR.	YES	YES	YES	YES	YES
WAVE LENGTHS	750,664,647,630	750,664,647,630	750,664,647,630	750,664,647,630	750,665,645,630
RE-CENTRIFUGE IF 750 HIGH	YES	YES	NO	YES	YES (IF 750> 0.010OD

Growing SWF RAMP Participation

- February 1998
  - Lee County began participation
  - Charlotte Harbor NEP
  - City of Cape Coral
  - Charlotte County
  - Collier County
  - City of Marco Island

RAMP2006


Legend
CapeCoral_WQSITE83_UTM
USGS_SWQW_sites_UTM_2
Sarasota_CO_Monitoring_UTM
LeeCountySurfaceWaterSites
SWFWMDsites9_7_06_UTM
FDEP_060706_UTM
Pinellas2005_UTM
Tampa_LANAJ_EPCHC_AWQMI_UTM
CityTampasites_UTM
PolkSampleLakes_UTM
Manatee_ramp_UTM
Fish2006_07_UTM
City_of_Marco_Island_UTM
SWFWMD's County Boundaries
Interstate Hwy
US Hwy
State Road
SWFWMD Boundary
County Boundaries
SWFWMD_coastline
Florida_coastline
City_ofTampa9_22_06_UTM
HillsboroughLakes9_22_06_UTM
N
Miles
0 10 20 30
Mapping and GIS 9/11/06

Accomplishments and Future Activities

- Continuation of Tampa Bay Synoptic Benthic Monitoring Program
  - annually since 1992
  - >1,300 benthic samples
  - grain size, metals and toxics
- Implementation of Regional EMAP
- Quarterly Interlaboratory Comparisons since 1996

Accomplishments and Future Activities

- Evaluation of Analytical Methodologies
- Promote RAMP Concepts within SWFWMD Comprehensive Watershed Management Plans (CWM)
- Provide RAMP Concepts to TMDL Legislative Technical Advisory Committee
- Developed Seagrass Transect Monitoring Program

RAMP Mission (2005)

- To foster cooperative participation of regional monitoring program staffs to improve comparability of surface water sample collection, in situ field measurements, and laboratory methods used by surface water quality monitoring programs in southwest Florida marine and freshwater systems.

Current Goals (2005)

- Goal 1: To provide enhanced communication and dissemination of information about surface water quality monitoring and associated analytical analyses of samples.

Current Goals (2005)

- Goal 2: To promote partnerships with federal, state, regional, local, and private agencies to improve the effectiveness, cost efficiency, and technical quality of surface water quality monitoring programs in Southwest Florida.

Current Goals (2005)

- Goal 3: To improve comparability of laboratory analytical methods.

Current Goals (2005)

- Goal 4: To provide a forum for the exchange of surface water monitoring program related information and issues among SWF RAMP participants.

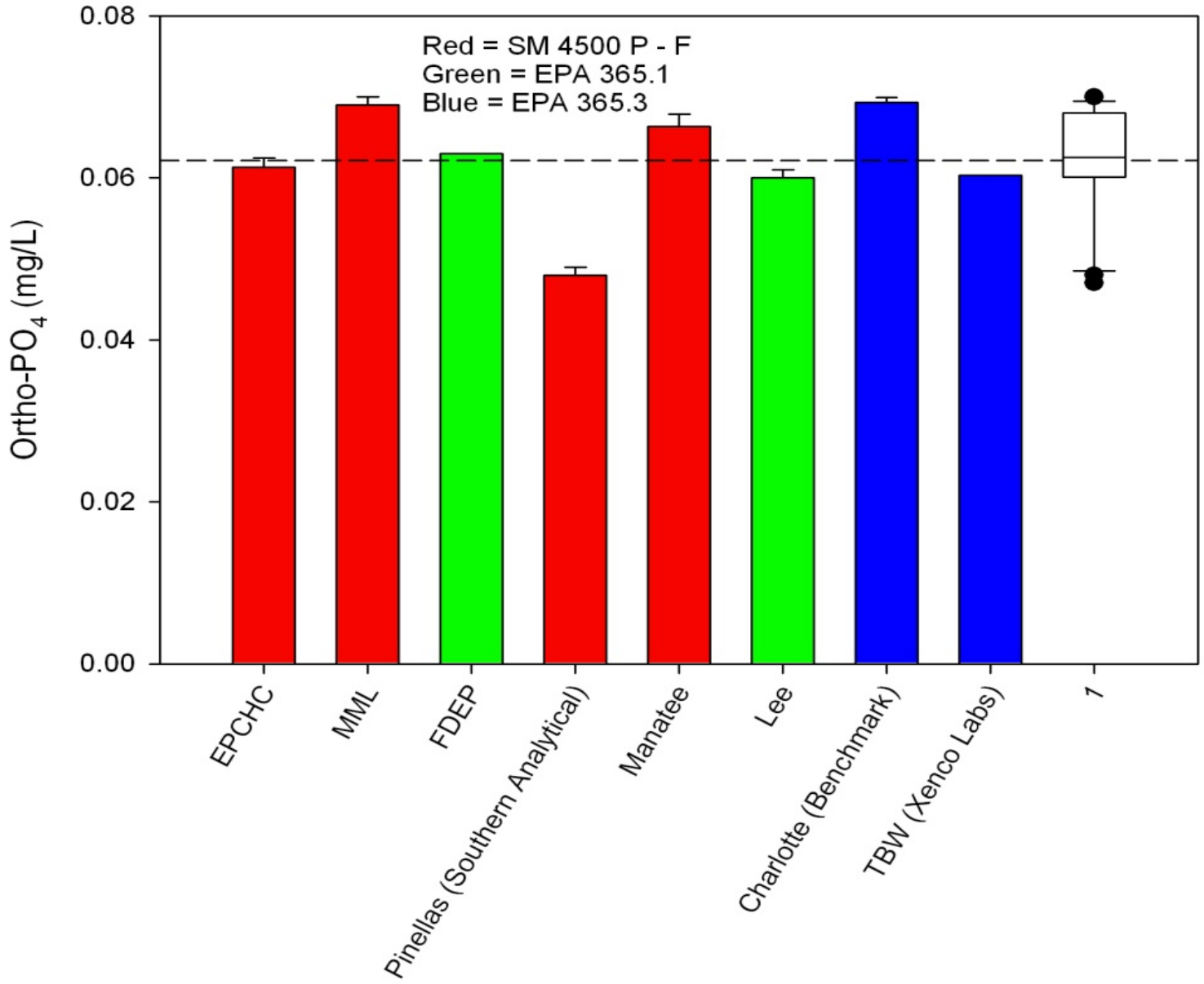
Current Goals (2005)

- Goal 5: To provide and share information to SWF RAMP participants about new sampling and analytical methods to improve water quality assessment capabilities.


STOP


ONE WAY

RAMP Study #61
October 12, 2011



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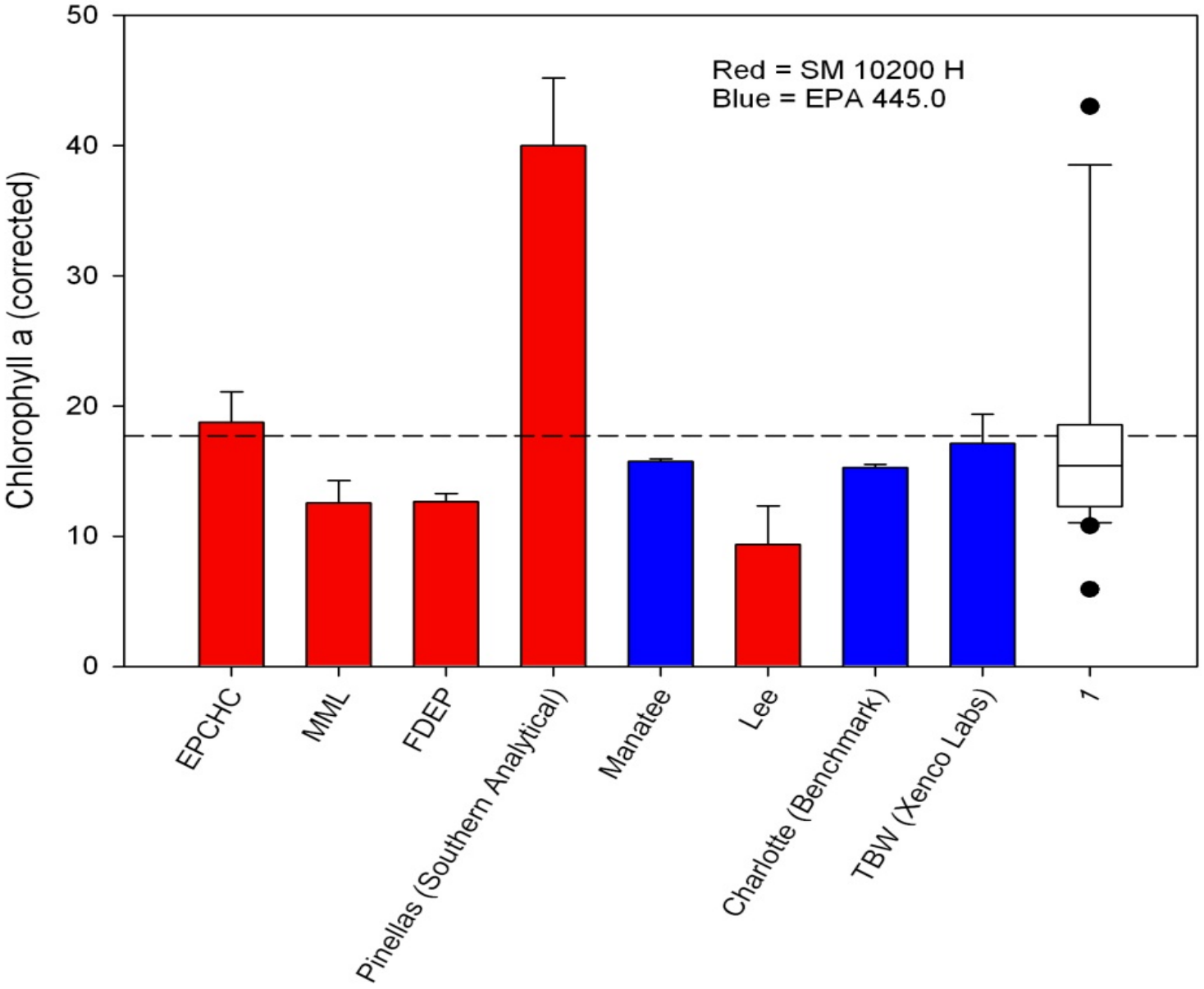

Florida Water Resources Monitoring Council

Charges to the Council 2 of 4:

- Coordinate Florida's ongoing fresh water monitoring with new coastal monitoring network.
- Coordinate Florida's state monitoring efforts with local and federal monitoring programs.

Florida Water Resources Monitoring Council

Data Challenges:

- Provide data/information that can be shared with others.
- Collect data that can be combined with that from other programs.
- Adopt means to distinguish data that is appropriate for the users purposes (metadata)

Conclusion

- Comparable Data among agencies
- 18 years of success and cost savings
- Unified position on policies and procedures
- Influential on environmental restoration efforts

Participating Agencies/Labs

- Lee County
- Collier County
- City of Cape Coral
- Charlotte Harbor NEP
- Tampa Estuary Program
- Charlotte County
- Polk County
- City of Marco Island
- Sanders Labs
- Southern Analytical
- City of Tampa
- Manatee County
- Pinellas County
- Mote Marine
- Hillsborough County
- SWFWMD
- Sarasota County
- PBS&J
- Sarasota County
- Xenco labs

Thanks to:

- Rob Brown, Manatee County
- Kerry Hennenfent, City of Tampa

- Who put together the presentation I borrowed for this.

Questions?

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