

REQUEST TO DISCONTINUE WET ATMOSPHERIC DEPOSITION MONITORING

Presented to the Everglades
Technical Oversight Committee

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May 23, 2006

Project Purpose

To evaluate nutrient concentration in wet atmospheric deposition and determine its contribution to nutrient loads to the system.

Concerns

- The quality and usefulness of this data continues to be questionable due to gross contamination
- Improved sample collection procedures to minimize sample contamination during sample collection have not increased data reliability significantly

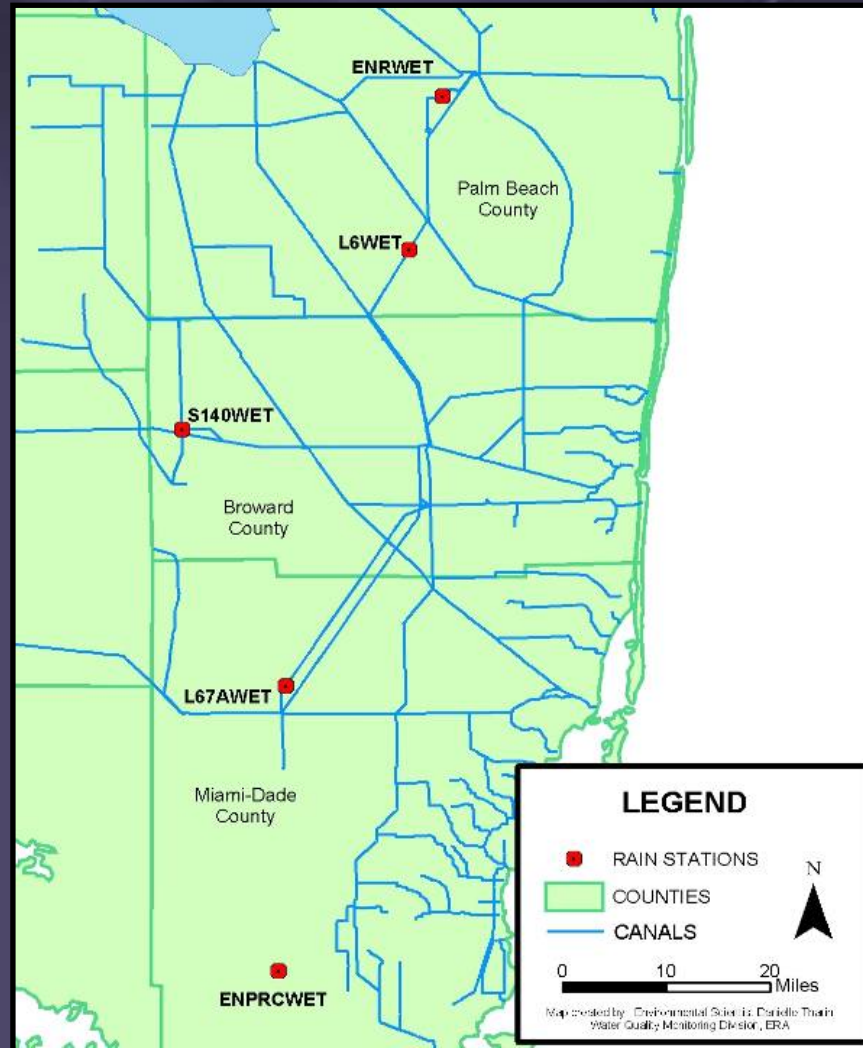
History

- Bulk rain collectors were used to collect atmospheric fallout water quality samples from 1974 to 1987.
- Aerochem Model 301 Wet/Dry precipitation collectors were implemented in 1987.
- Based on recommendations from the USGS, the District changed its protocol from the Wet/Dry precipitation collectors to that used by the National Atmospheric Deposition Program (NADP) in 1992.

History (continued)

- Splashguards were installed at each monitoring site in 1999.
- Dry atmospheric deposition was discontinued in 1999.
- Four Lake Okeechobee sites were discontinued in 2003.
- Samples are collected weekly at remaining 5 sites by SFWMD and contractors at annual cost of \$104K.

Current RAIN Collection Stations



Current Scope of Monitoring

Station	Mandate Type	ALKA	CA	CL	K	MG	NA	TKN	NH4	NOX	TPO4	OPO4	SCOND (lab)	SIO2	SO4
ENPRCWET	3	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ENRWET	2	W	W	W	W	W	W	W	W	W	W	W	W	W	W
L67AWET	2	W	W	W	W	W	W	W	W	W	W	W	W	W	W
L6WET	3	W	W	W	W	W	W	W	W	W	W	W	W	W	W
S140WET	2	W	W	W	W	W	W	W	W	W	W	W	W	W	W

W = Weekly

Current Scope of Monitoring

- Monitoring Station

- ENPRCWET
- ENRWET
- L67AWET
- L6WET
- S140WET

- Sampling frequency

- Weekly

- Analyte List

Alkalinity, calcium, chloride, potassium, magnesium, sodium, ammonia, nitrite + nitrate, total Kjeldahl nitrogen, total phosphorus, Nitrate, Orthophosphate, silica, sulfate, and specific conductance

Wet Atmospheric Deposition Collector



Requested Changes

Discontinue the Wet
Atmospheric Deposition
Monitoring Program from all
remaining five (5) stations

Reasons for Change

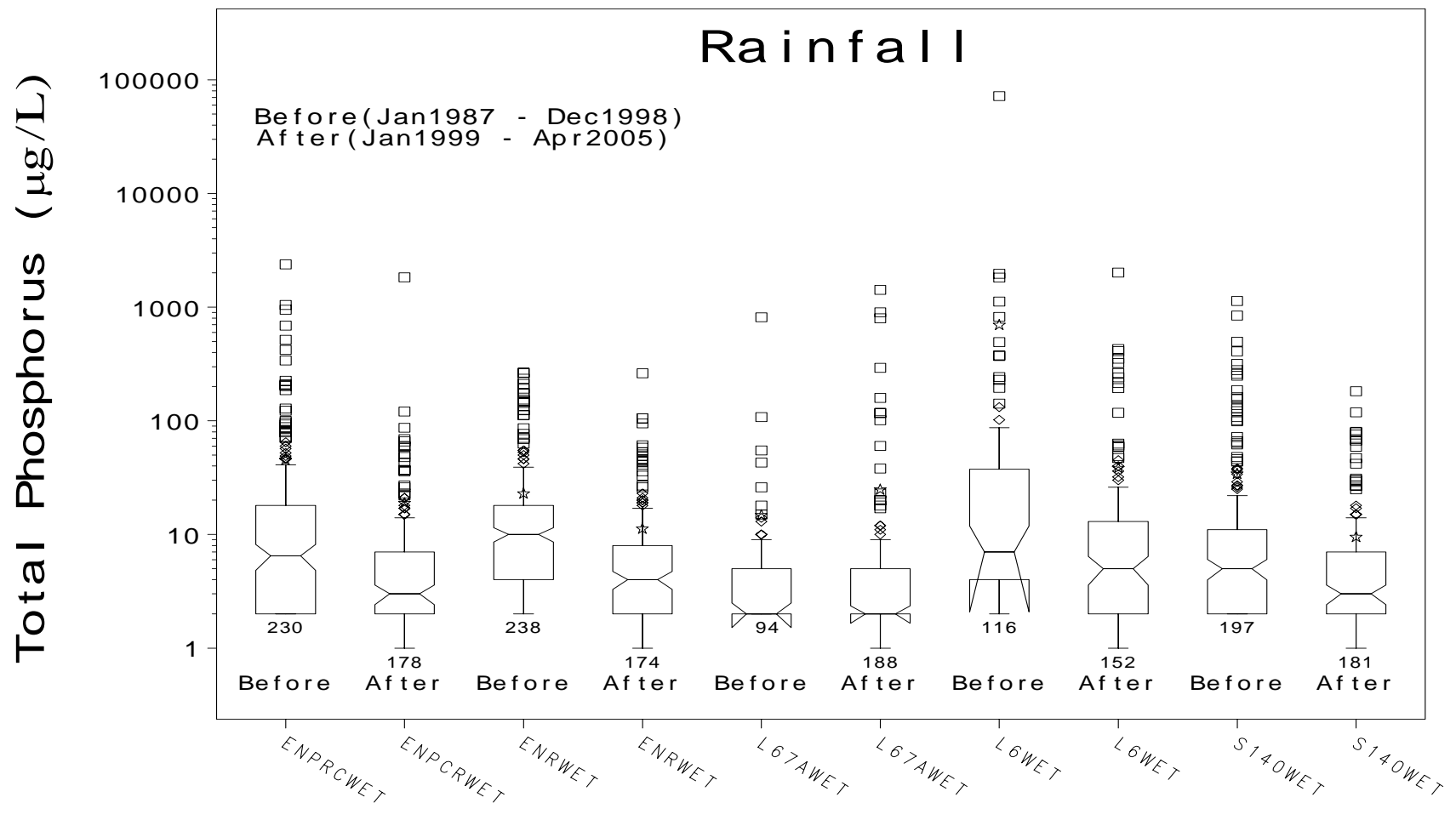
- 24 Percent (%) of data flagged or discarded due to contamination (versus < 2% total all projects are flagged).
- Collection equipment requires significant regular maintenance as a result of exposure to the elements, bird droppings, and faulty wiring.
- Scientific value of the wet atmospheric deposition data in S. Florida environment has not been established.

Reasons for Change

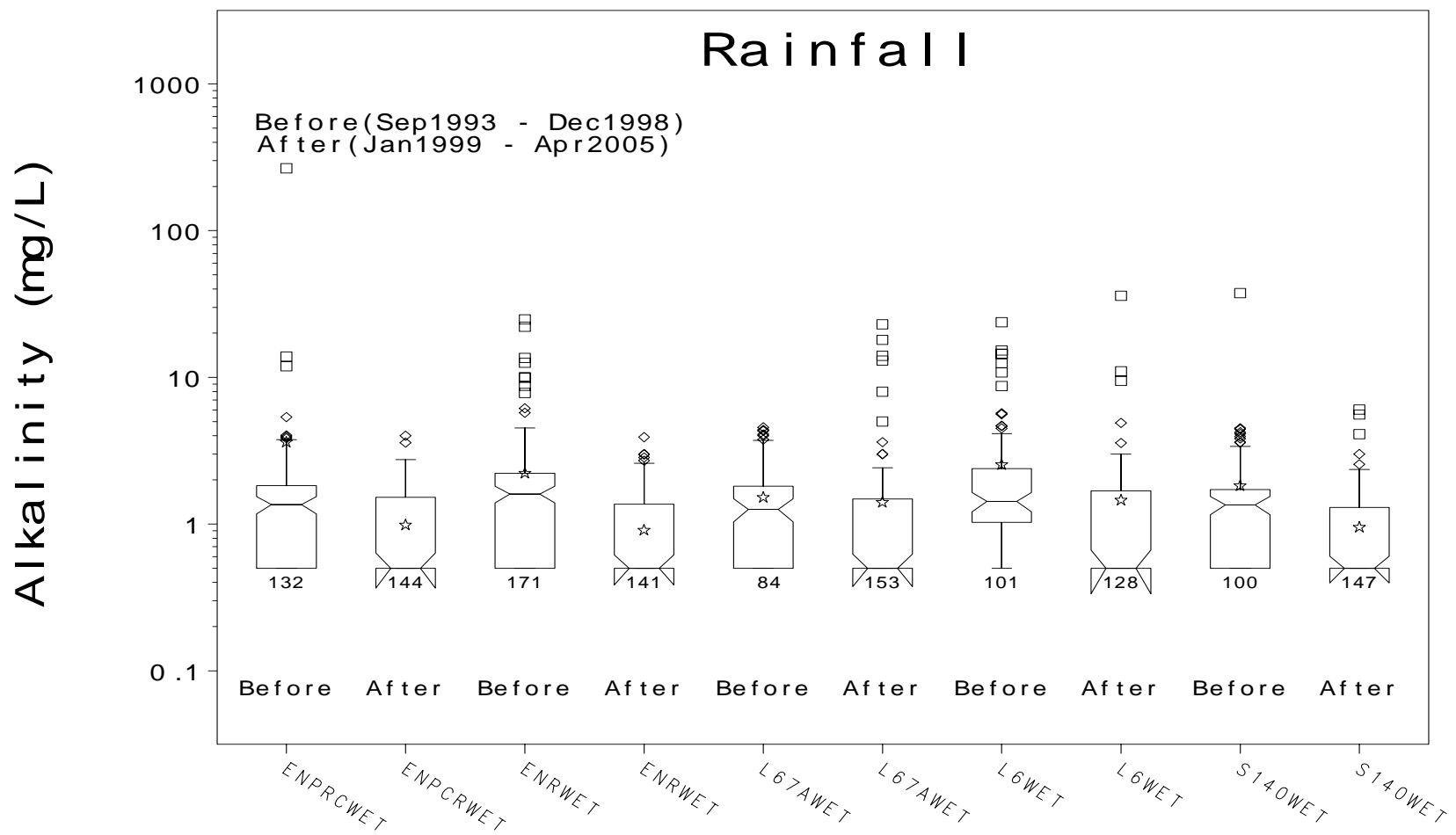
(continued)

- No identified user of, or demonstrated need for, this information.
- Overall value and / or utility of the information obtained is questionable.
- Cost considerably outweighs benefits of continuing data collection.

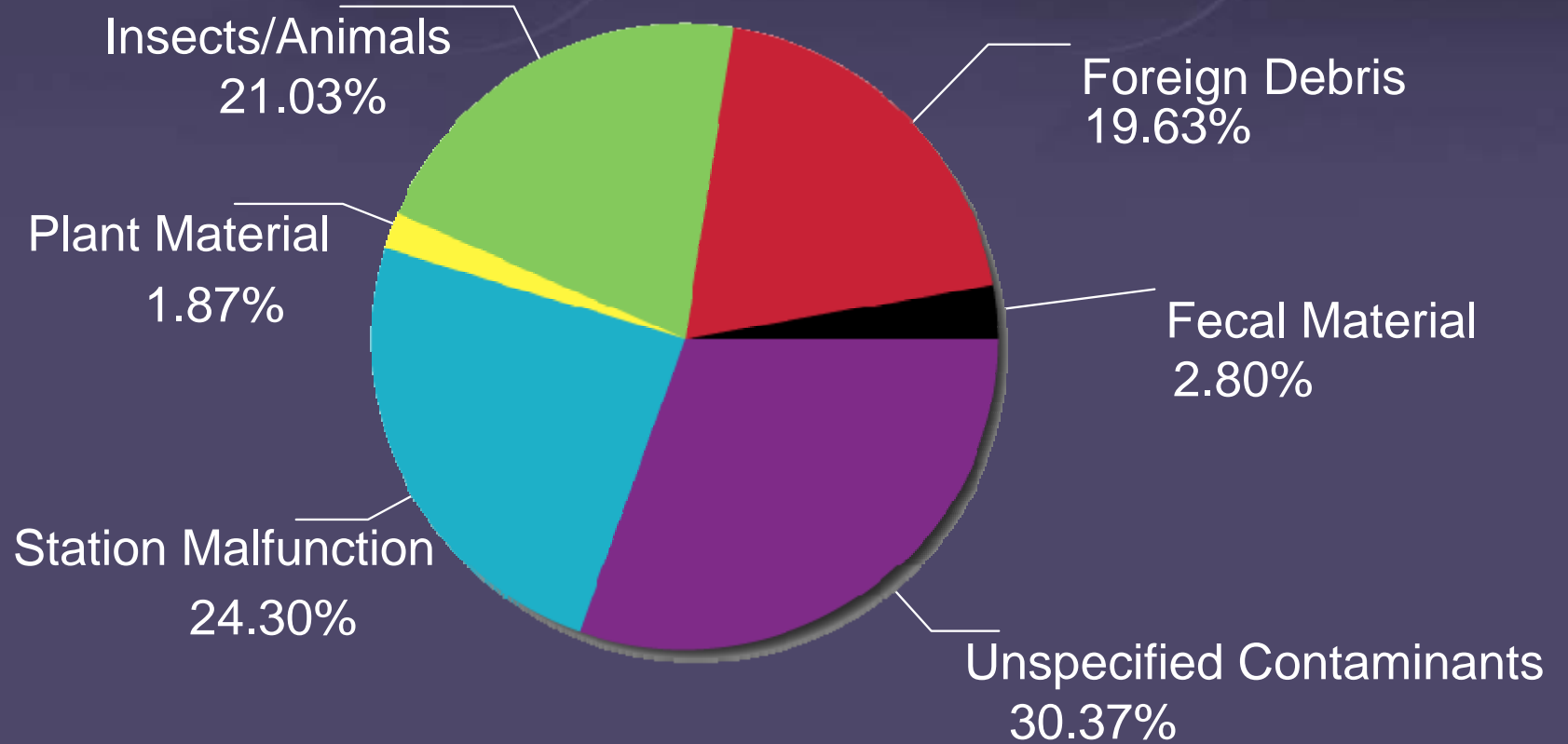
TP Concentration Before and After Installation of Splashguard



Alkalinity Concentration Before and After Installation of Splashguard



Categories of RAIN Contamination / Issues



Recommendation

Discontinue atmospheric deposition monitoring and allow the District to redirect present funding (estimated at \$104K/yr) for monitoring that will provide greater utility and benefit for the Everglades Restoration effort.