



## Source Controls in Basins Tributary to the Everglades Protection Area

**Carlos Adoriso, PE**  
**Everglades Regulation Division**

**8<sup>th</sup> Annual Public Meeting on the Long-Term Plan for Achieving Water Quality  
Goals for Everglades Protection Area Tributary Basins**

February 24, 2011

## EPA Tributary Basins

- EAA
- C-139
- C-139 Annex
- C-51 West
- L-8
- C-11 West
- Feeder Canal
- L-28
- North Springs Improvement District (NSID)
- North New River Canal (NNRC)
- Boynton Farms
- C-111



# SOUTH FLORIDA WATER MANAGEMENT DISTRICT



<sup>1</sup> C-139 Annex is anticipated to become an ECP basin in WY2010. In WY2009, C-139 Annex was still part of L-28 Basin, a non-ECP basin.

<sup>2</sup> Acme Improvement District Basins A and B are sub-basins of C-51 W Basin.

<sup>3</sup> Operation of Acme's Pump Station 1 (ACME1) and Pump Station 2 (ACME2) ceased on December 31, 2006.

## Long Term Plan Project Objectives

The Process Development and Engineering (PDE) component of the Long-Term Plan recommends activities designed to:

*“Maintain and improve upon the contribution of source controls to overall water quality improvement goals.”*

Specifically:

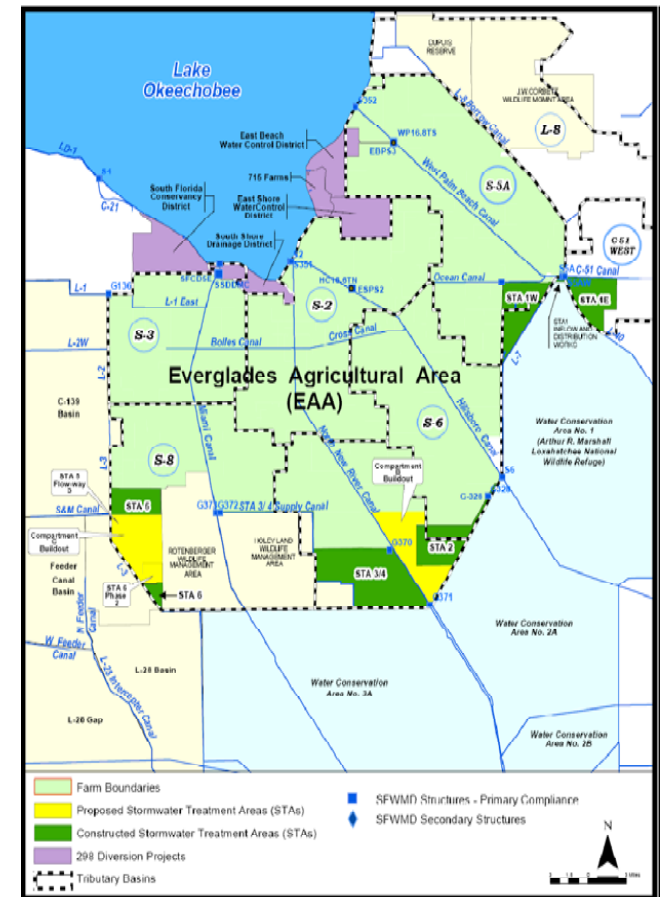
- Identify discharges that are candidates for implementation of cost effective source controls
- Characterize management practices on lands or processes tributary to those discharges
- Implement these source controls in concert with landowners or municipalities





# EAA Source Control Projects

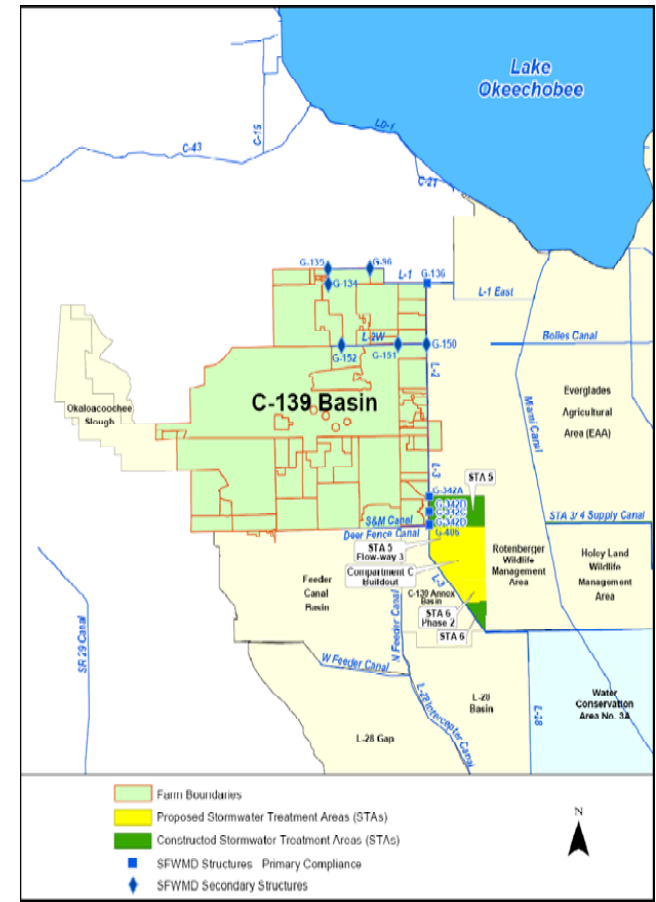
- BMP Program Implementation: Conducted BMP Site Verifications for 35 Farms
- Continued Performance Measure Development for LOK Diversion Areas



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# C-139 Source Control Projects

- December 2010 LTP update meeting
- Rule Amendments became effective November 2010
- Permit renewals on-going
- BMP Demonstration projects ongoing

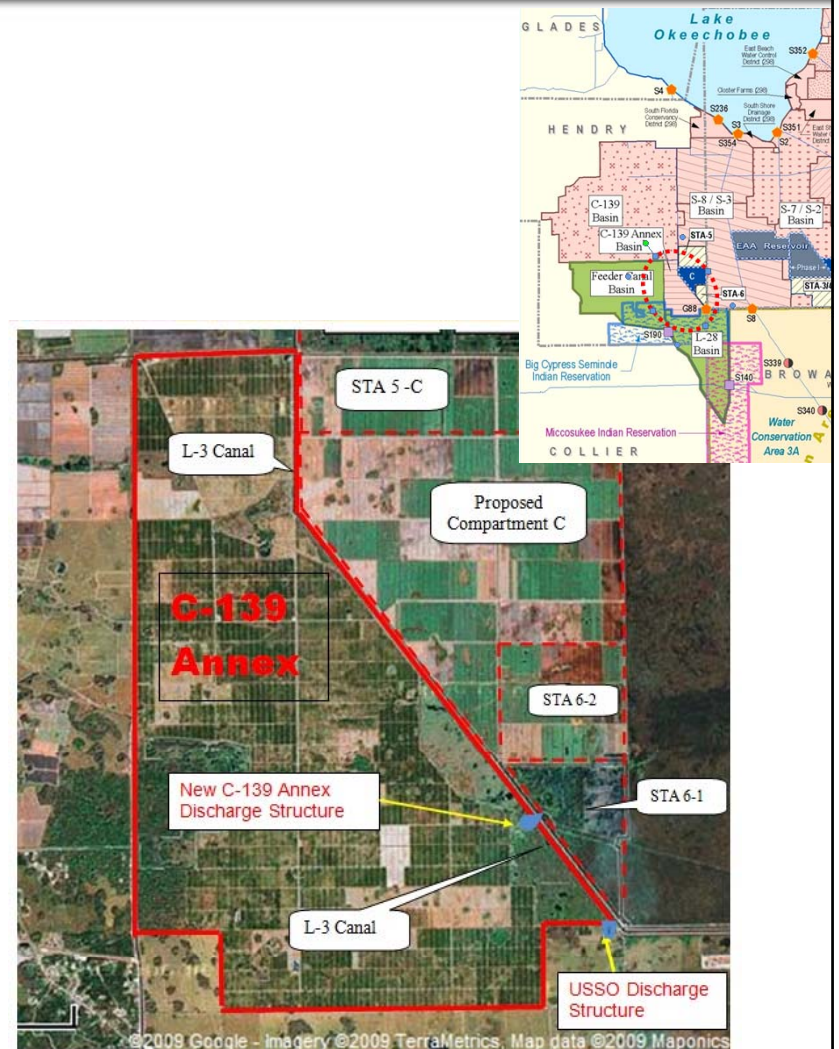


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# C-139 Annex Source Control Projects



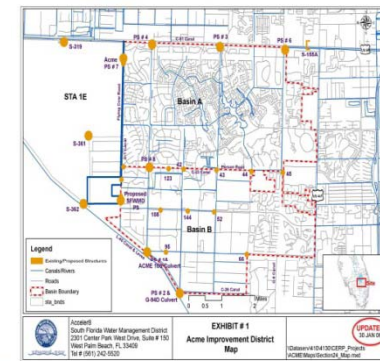
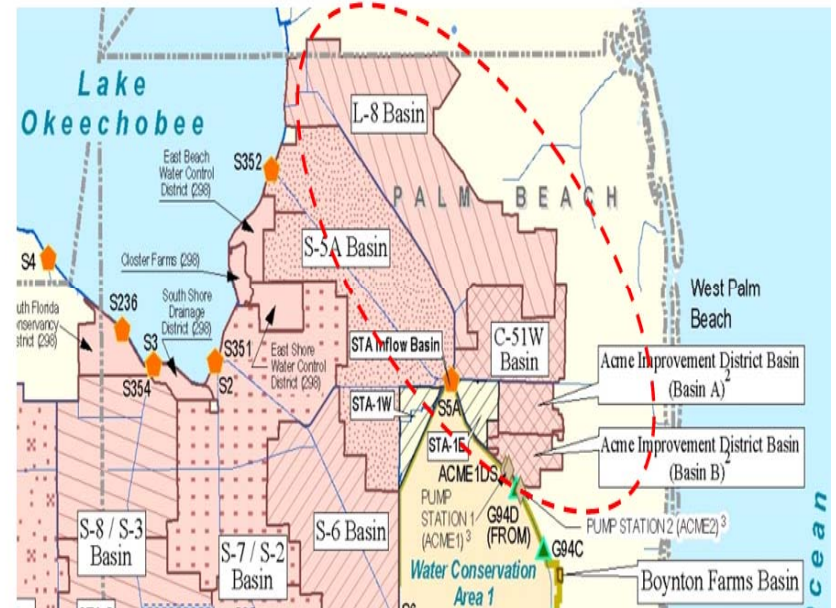
- May 2010 - Issued Environmental Resource Permit (ERP) modification for operation of new structure
  - BMP implementation
  - Water quality monitoring
  - TP discharge limit requirements
- October 2010 - Acquired by SFWMD
- Lessee must implement BMPs (citrus grove)
- C-139 Regional Feasibility Study





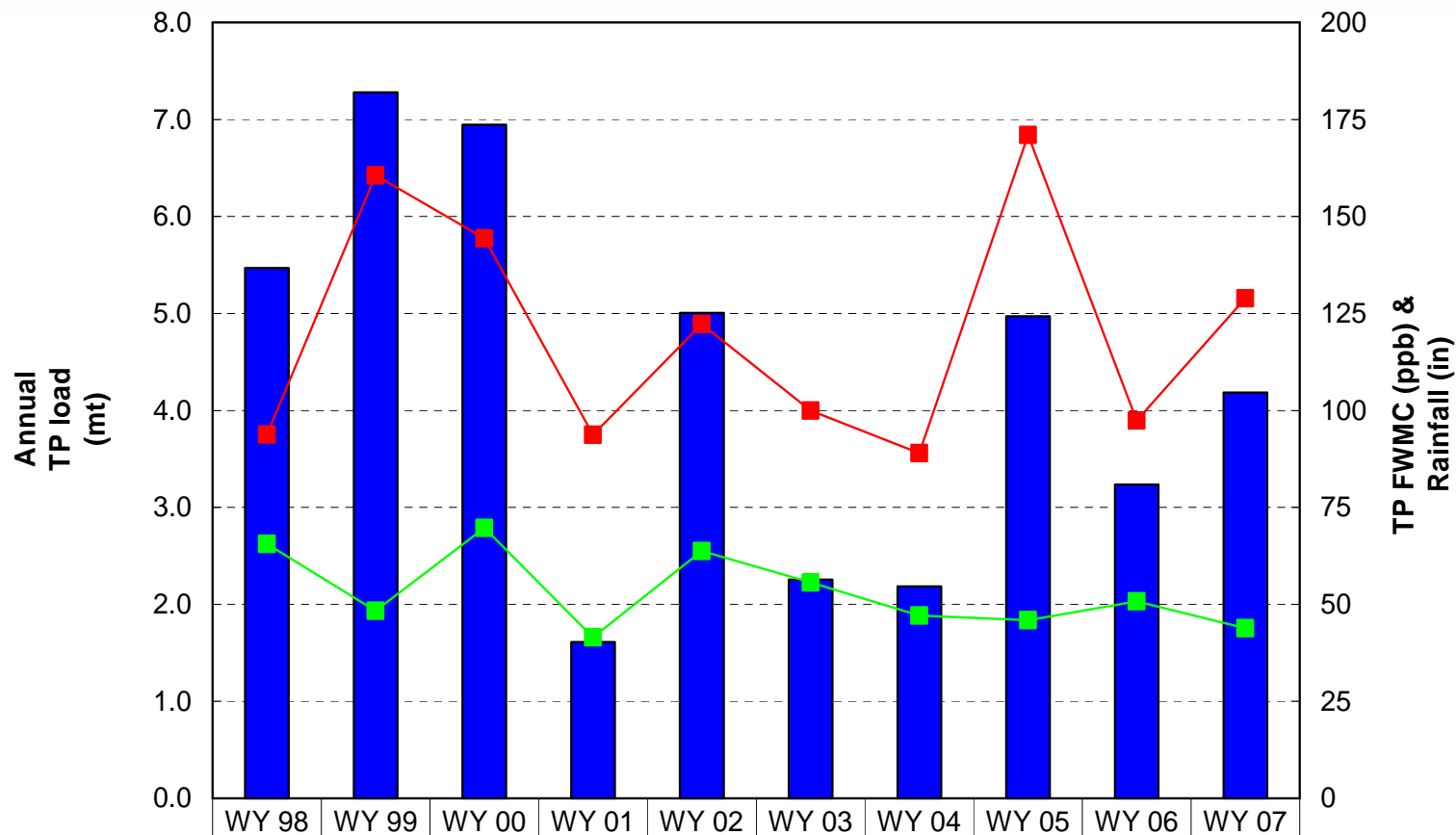
# C-51 West and L-8 Source Control Projects

- Completed a Study of C-51 West and L-8 Basins
- Completed DinoSoil Demonstration Project in Acme Basin B



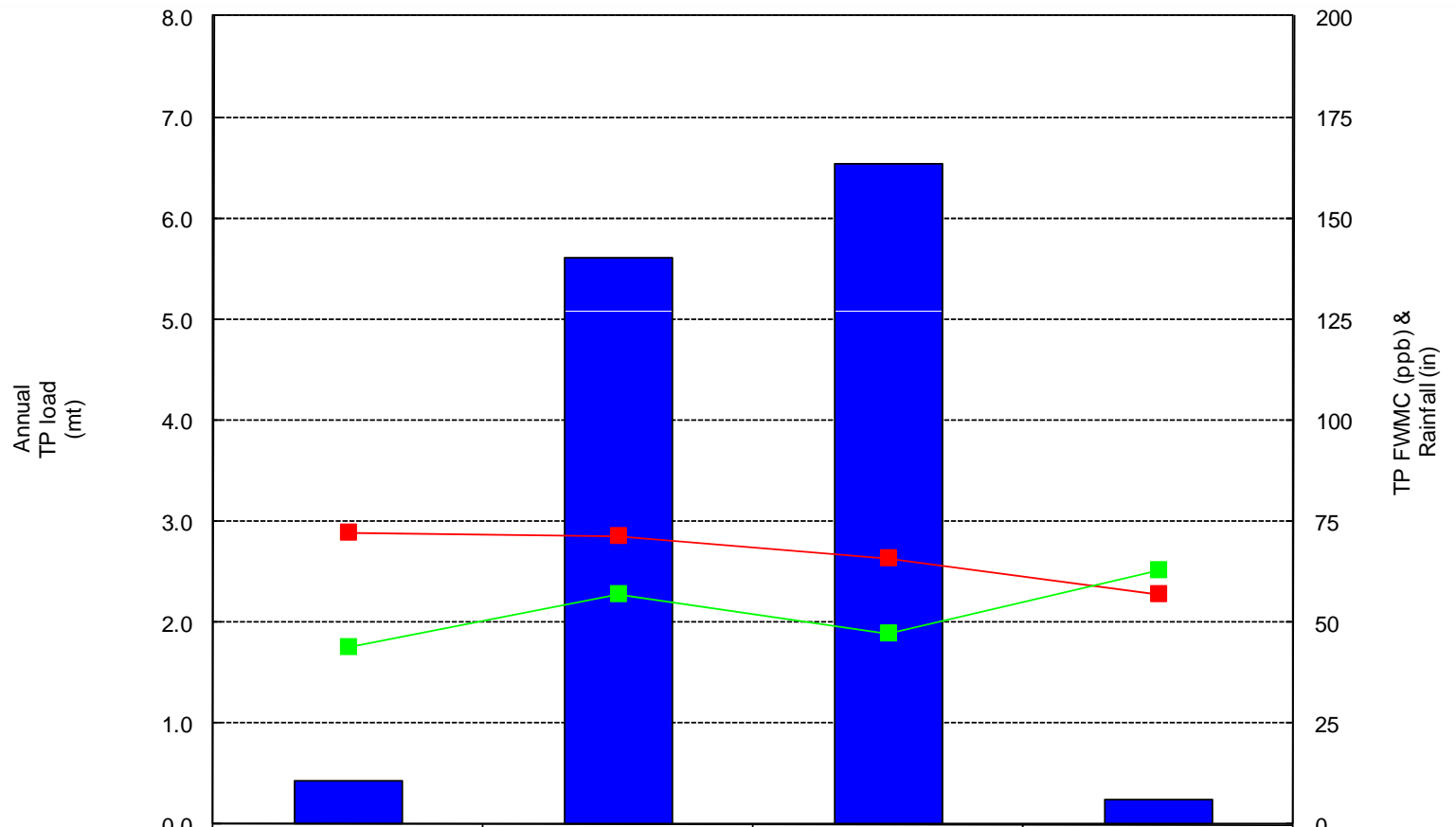


# VOW Basin to WCA-1-Water Quality Results



TP Load (mt)	5.469	7.278	6.947	1.612	5.006	2.254	2.184	4.969	3.235	4.185
TP FWMC (ppb)	94	161	144	94	122	100	89	171	97	129
Rainfall (in)	65.6	48.3	69.7	41.6	63.7	55.6	47.1	45.9	50.8	43.9
Flow Vol. (kac-ft)	47.292	36.734	39.010	13.948	33.194	18.282	19.889	23.563	26.928	26.322

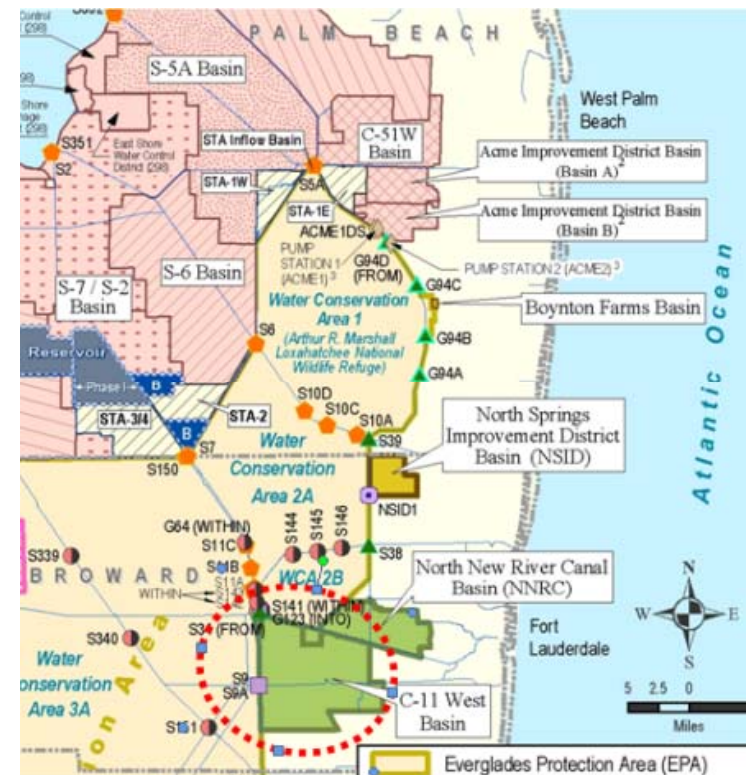
# VOW Basin to C-51W Canal-Water Quality Results



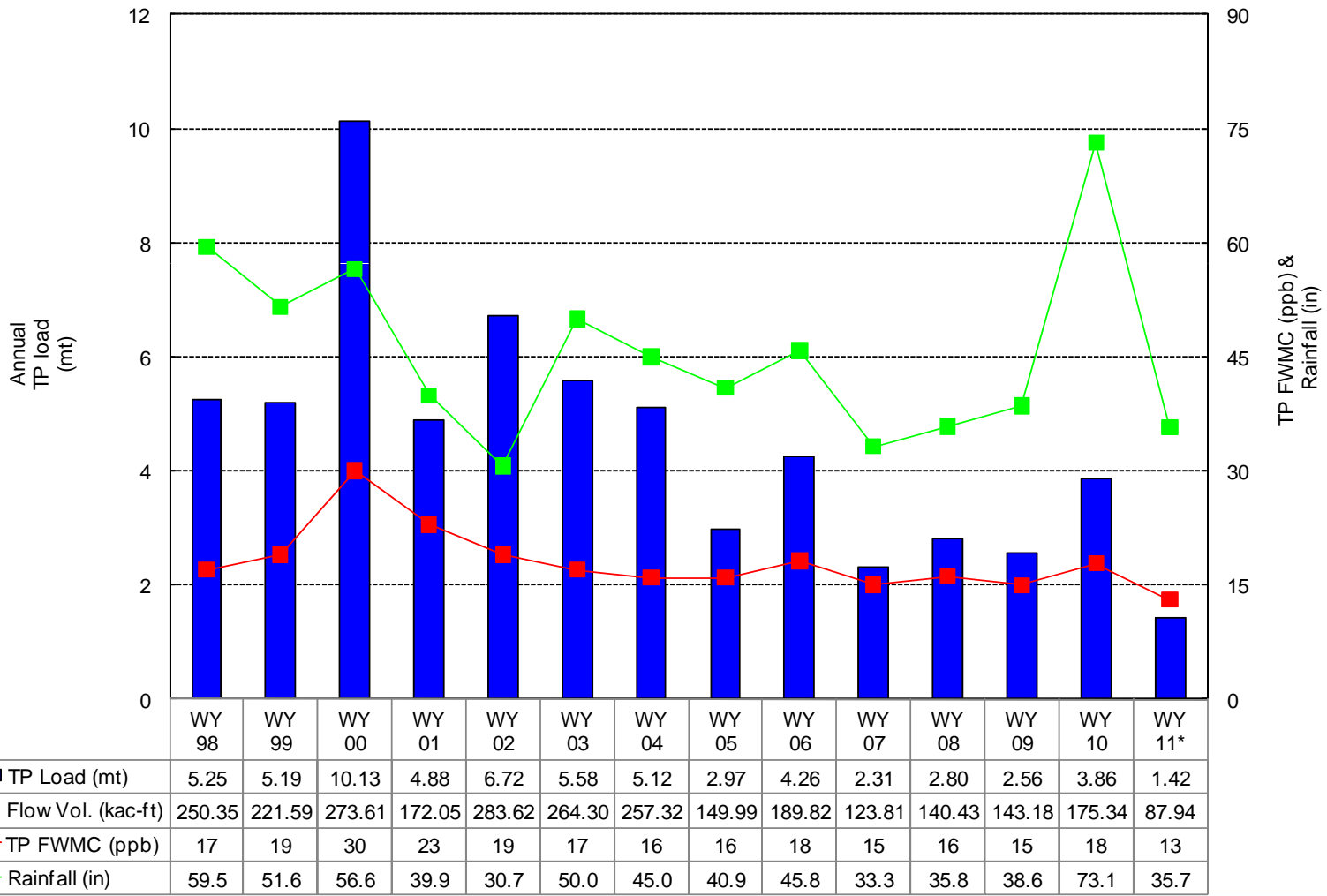
TP Load (mt)	0.43	5.61	6.54	0.25
Flow Vol. (kac-ft)	4.80	63.78	80.59	3.56
TP FWMC (ppb)	72	71	66	57
Rainfall (in)	43.9	57.0	47.3	62.9

## C-11 West Source Control Projects

- Continued participation in Broward Everglades Working Group
- Public Education and Outreach Agreement with Broward County
  - Completed 3-year contract in October 2010
  - Initiating a scaled back FY2011 contract



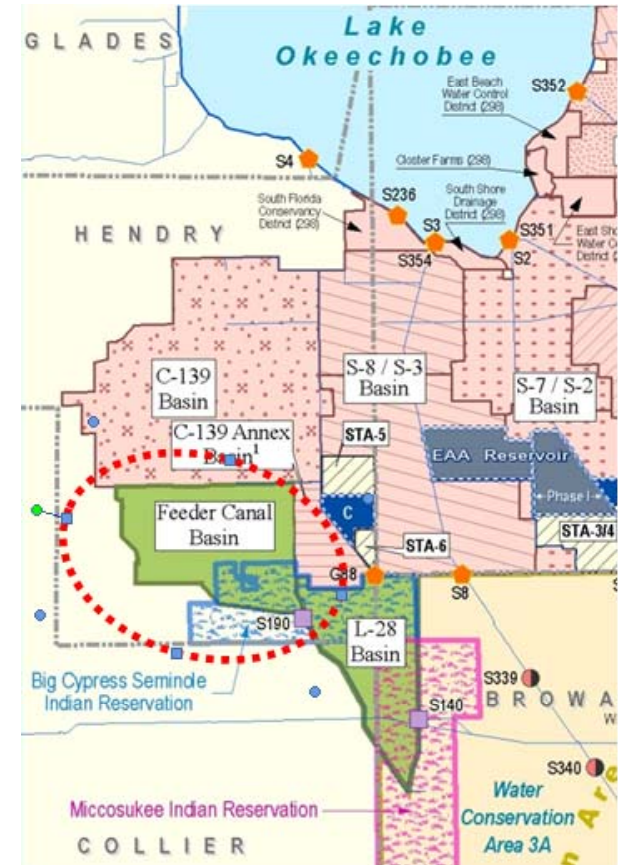
# C-11 W Basin - Water Quality Results



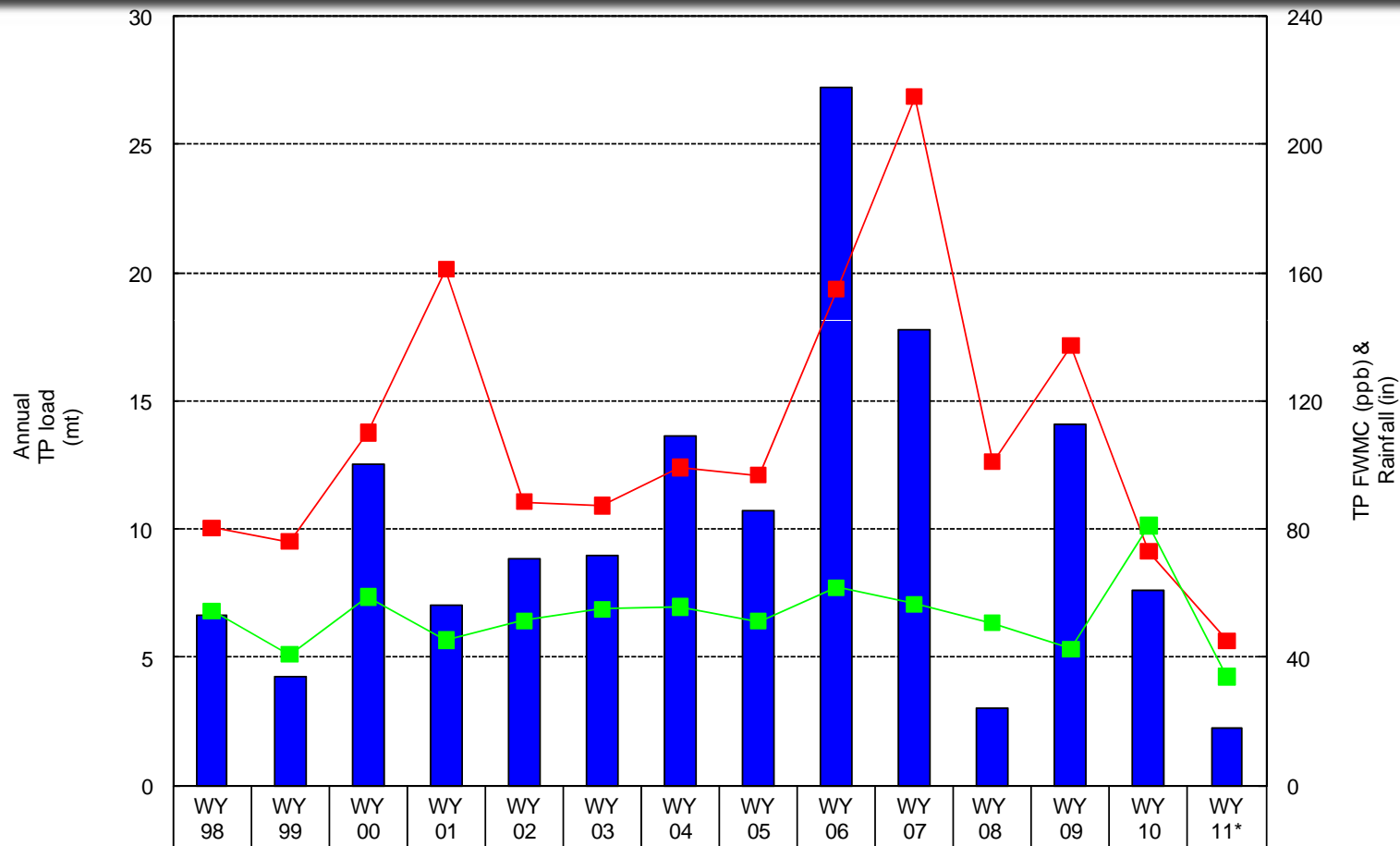


## Feeder Canal Source Control Projects

- Executed BMP Implementation Agreement for Everglades Plantation property (July 2010)
- Continued:
  - Implementation of BMPs at McDaniel Ranch
  - Integrated Permit Compliance Initiative
  - Preliminary activities in support of future regulatory source control program
  - Supplementary Water Quality Collection and Analysis

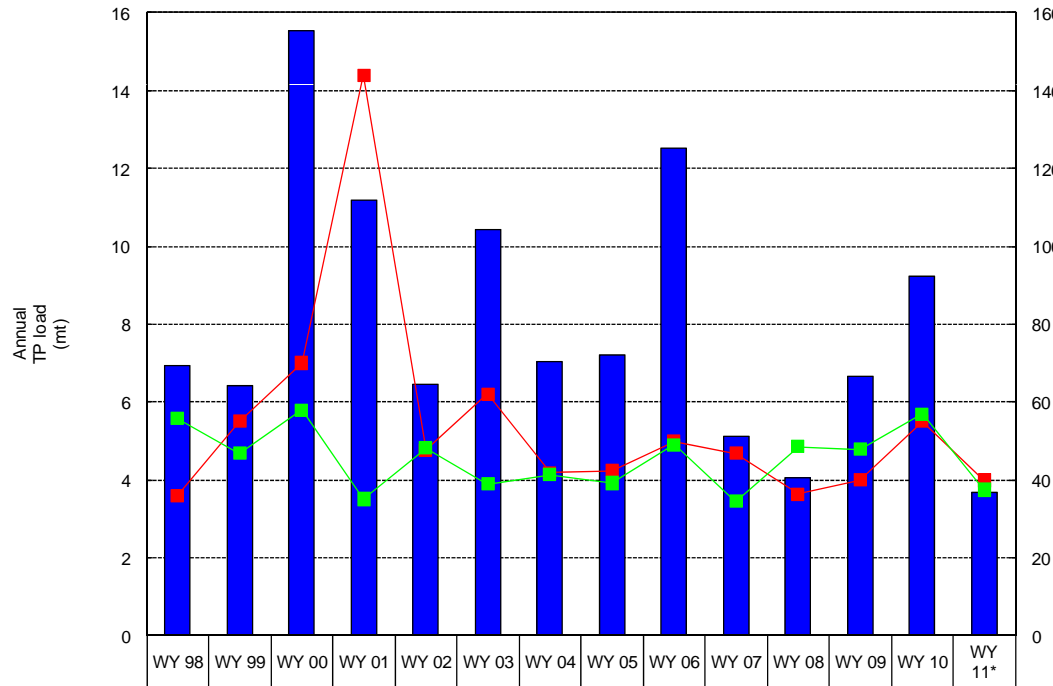


# Feeder Canal Basin - Water Quality Results

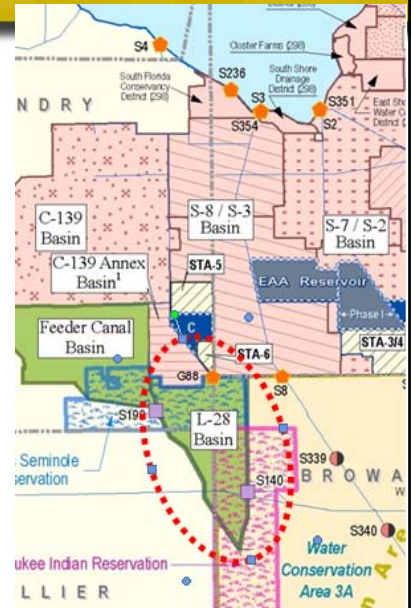


■ TP Load (mt)	6.64	4.22	12.55	7.01	8.86	8.99	13.65	10.69	27.20	17.77	2.99	14.06	7.62	2.24
□ Flow Vol. (kac-ft)	66.89	44.99	92.47	35.32	81.22	83.47	111.50	89.58	142.47	67.03	24.02	83.09	84.76	40.22
■ TP FWMC (ppb)	80	76	110	161	88	87	99	97	155	215	101	137	73	45
■ Rainfall (in)	54.4	40.8	58.9	45.4	51.4	55.0	55.7	51.3	61.8	56.5	50.7	42.6	81.1	33.9

# L-28 Source Control Projects



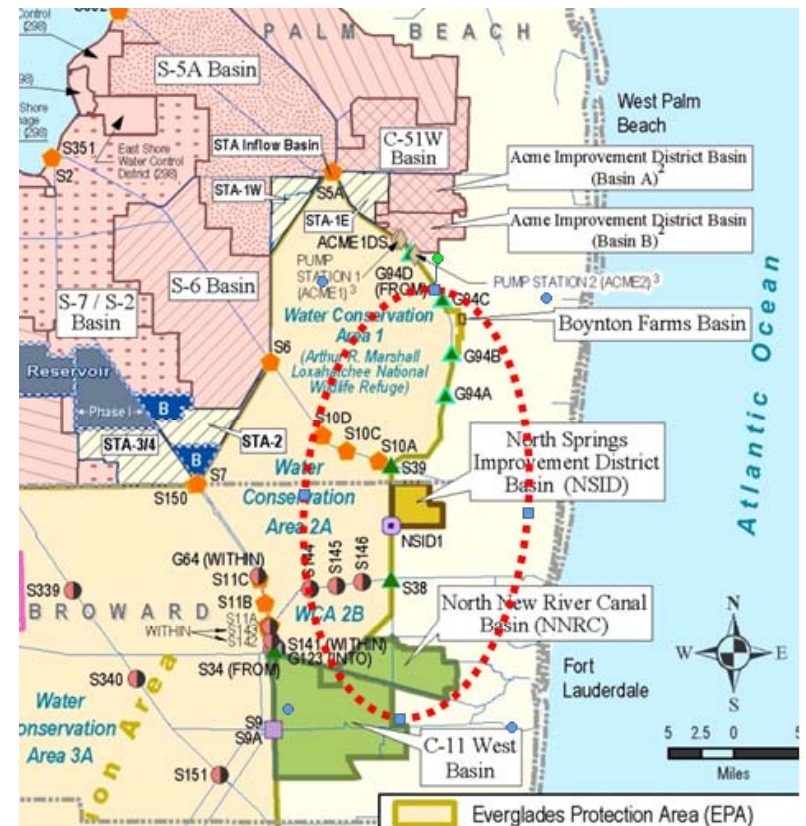
■ TP Load (mt)	6.92	6.41	15.54	11.19	6.46	10.44	7.02	7.22	12.51	5.12	4.05	6.65	9.21	3.67
■ Flow Vol. (kac-ft)	155.85	94.54	180.01	62.97	109.99	136.42	136.15	137.98	203.58	88.52	90.34	136.31	136.94	74.72
■ TP FWMC (ppb)	36	55	70	144	48	62	42	42	50	47	36	40	55	40
■ Rainfall (in)	55.7	46.8	58.0	35.0	48.2	39.0	41.3	39.2	49.0	34.5	48.5	47.8	56.8	37.4



TP FWMC (ppb) & Rainfall (in)

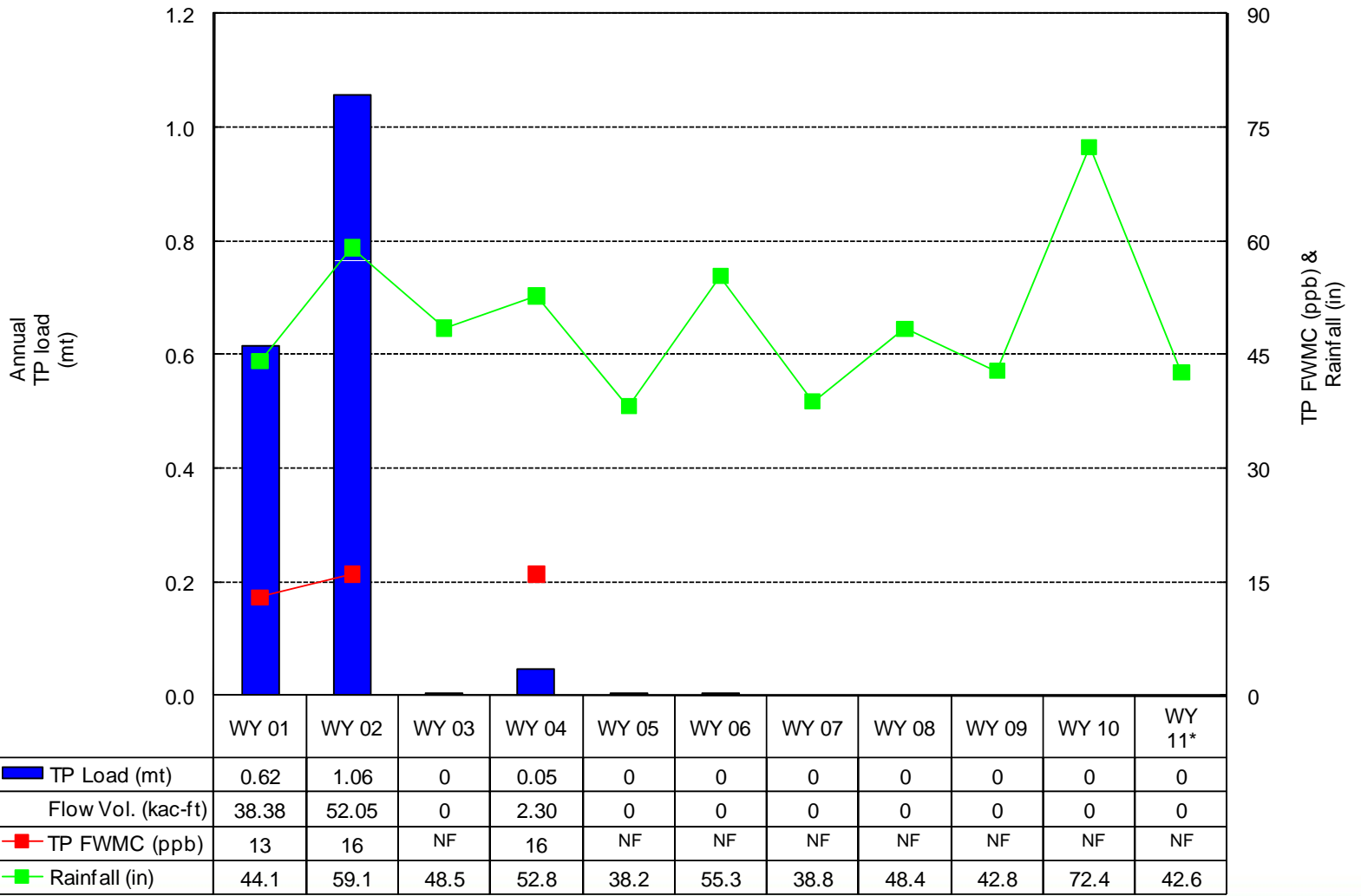
# North New River Canal (NNRC), North Springs Improvement District (NSID), and Boynton Farms (BF) Source Control Projects

- No flows to Everglades Protection Area:
  - NNRC: Since WY04
  - NSID: Since WY06
  - BF: Since WY08

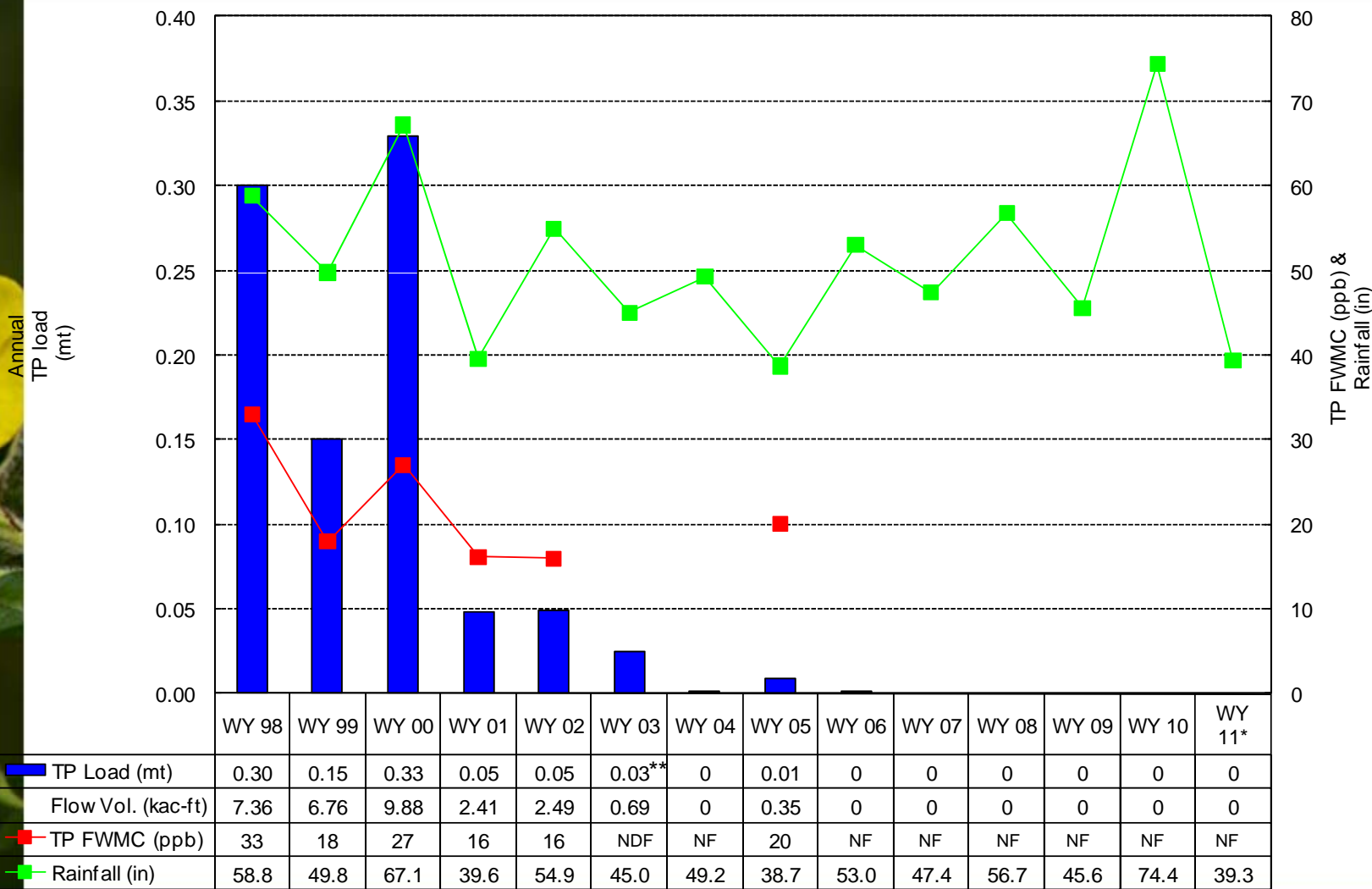




# NNRC Basin - Water Quality Results



# NSID Basin – Water Quality Results



# C-111 Basin

C-111 Basin discharges to EPA meet phosphorus criterion requirements of Settlement Agreement





# Questions