

Monitoring BMPs for Fitzgerald Marine Reserve

Preliminary Data, Do Not Quote!

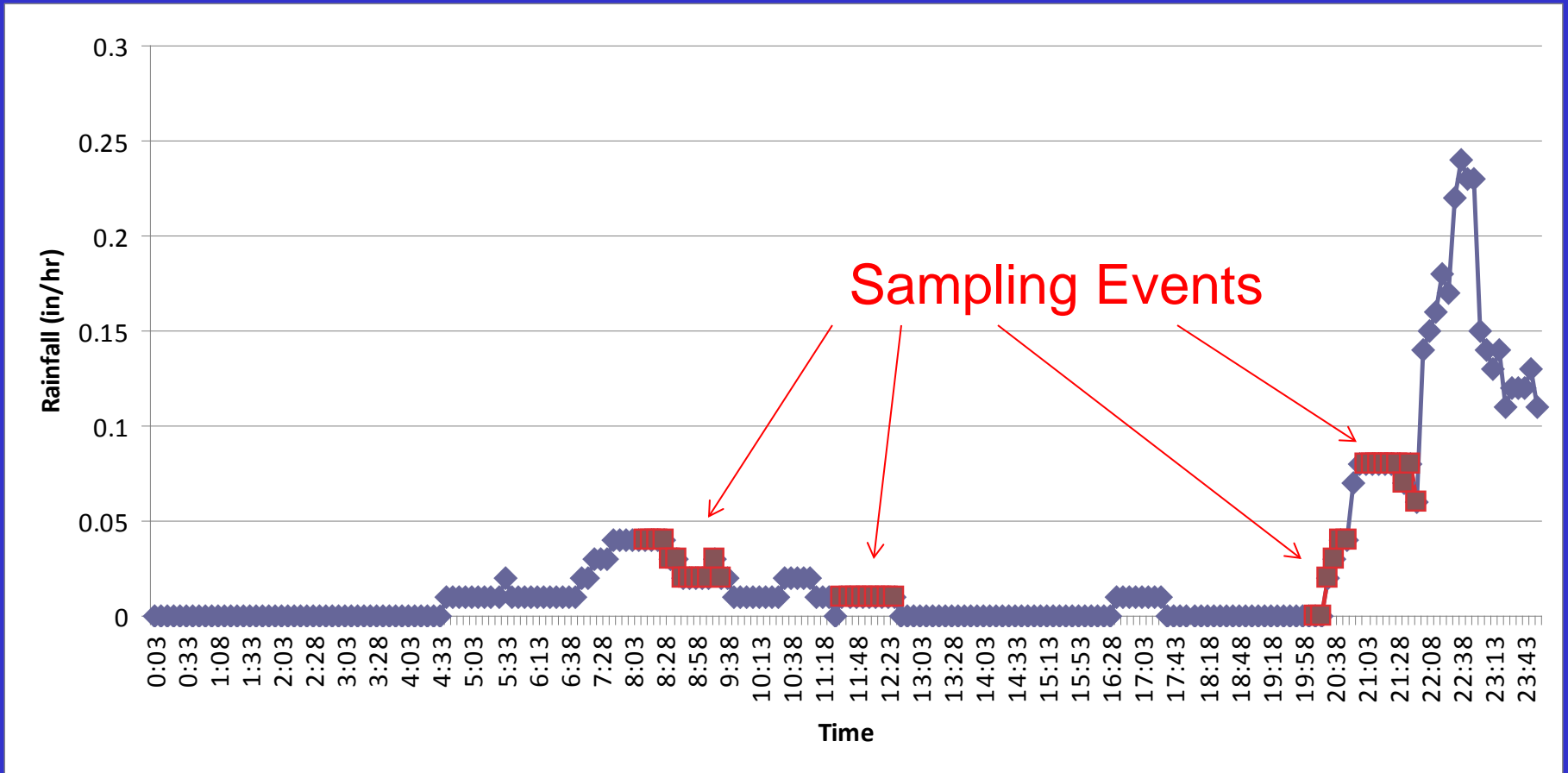
Questions to Evaluate Effectiveness

- How does sediment concentration change?
- How does contaminant concentration change?
- How does flow volume change?



A Day In The Field

April 10, 2012



List of Contaminants

- Metals
- Petroleum Related Contaminants
- Pesticides





Pollutant Sources

- Leaks in car engines and supply lines
- Breakdown of auto bodies
- Brake pads
- Breakdown of pavement
- Combustion
- Aerial deposition
- Trash, Spillage, etc.



Swale Treatment

	Metals ($\mu\text{g/L}$)		% Reduction
	In	Out	
Arsenic	1.88	0.77	59
Cadmium	0.16	0.04	75
Chromium	3.01	1.50	50
Copper	11.9	5.17	56
Manganese	193	30.0	84
Nickel	8.32	3.46	58
Lead	3.83	0.92	76
Selenium	0.42	0.39	-
Zinc	48.8	13.9	71



On The Shelves At Ace



Commonly used pyrethroid pesticides
are highly toxic to cats and fish.

Swale Treatment

Sample #	Permethrin (ng/L)		% Reduction
	In	Out	
3	33	1.9	94
4	46	2.9	94
9	22	14	38
10	4.5	4.6	-





Thank You