Florida Department of Environmental Protection

Division of Water Resource Management

Beach Nourishment & Nearshore Hardbottom

Danielle H. Irwin, Deputy Director

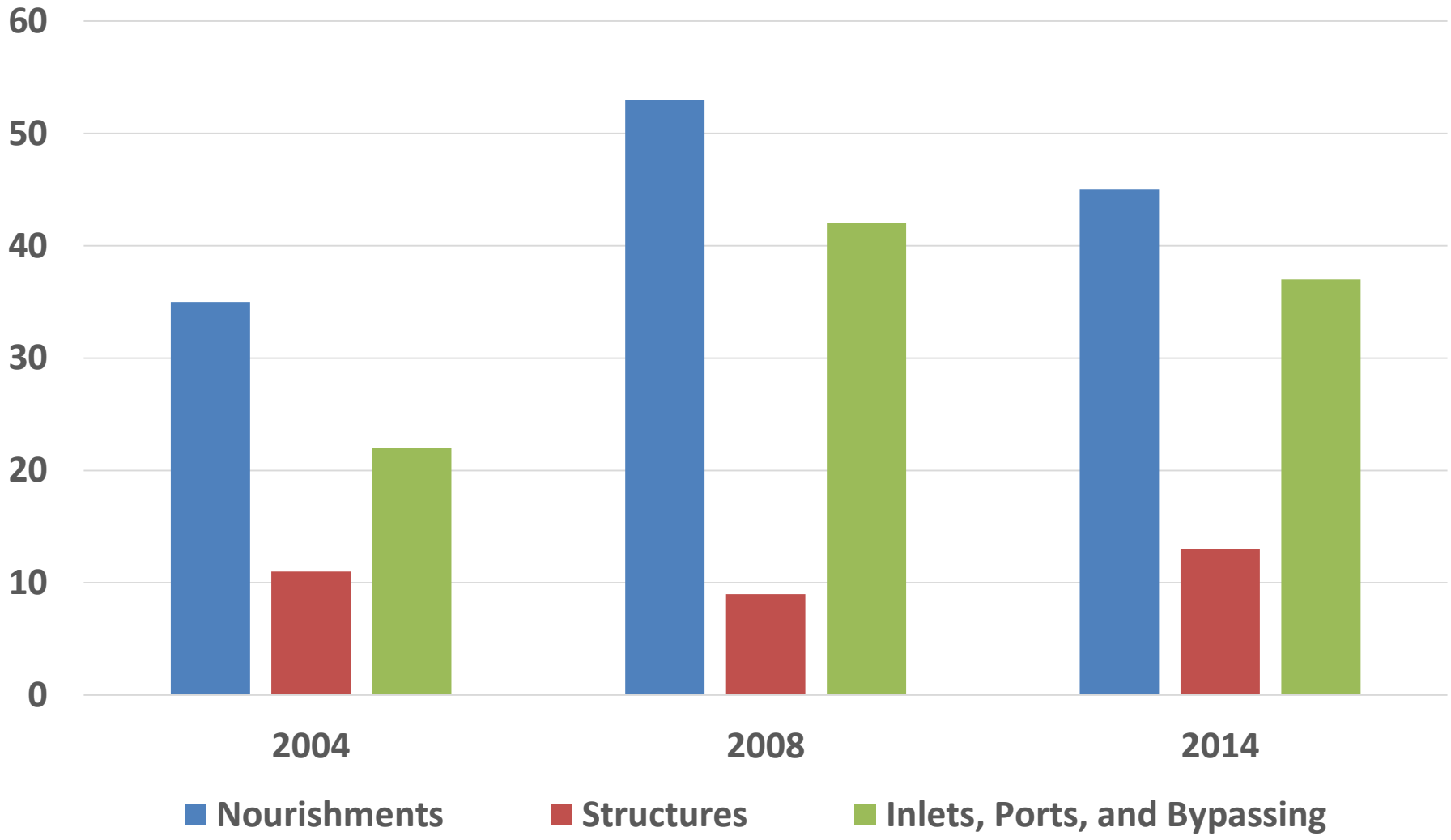
58th Annual FSBPA Conference

September 26, 2014

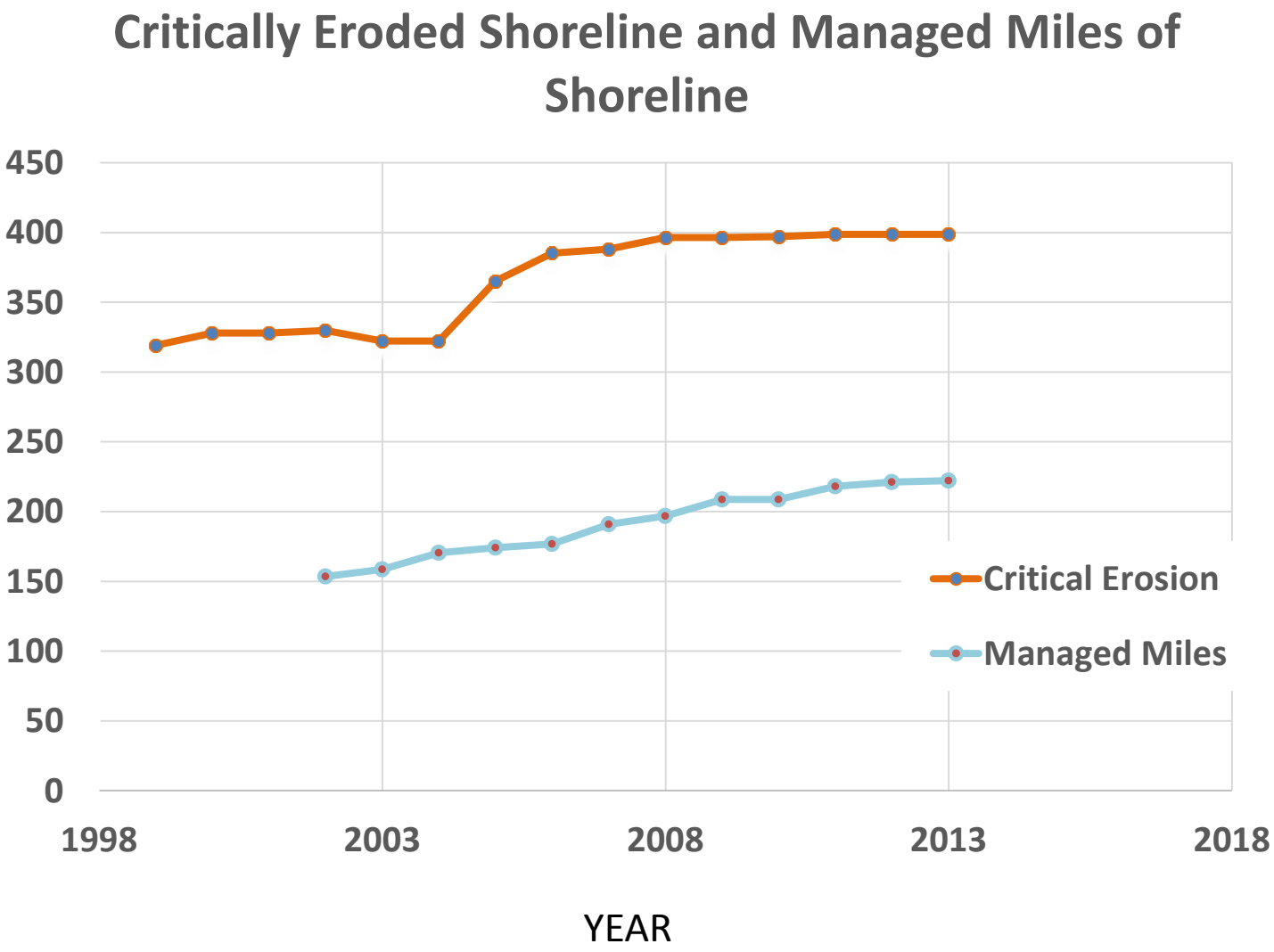


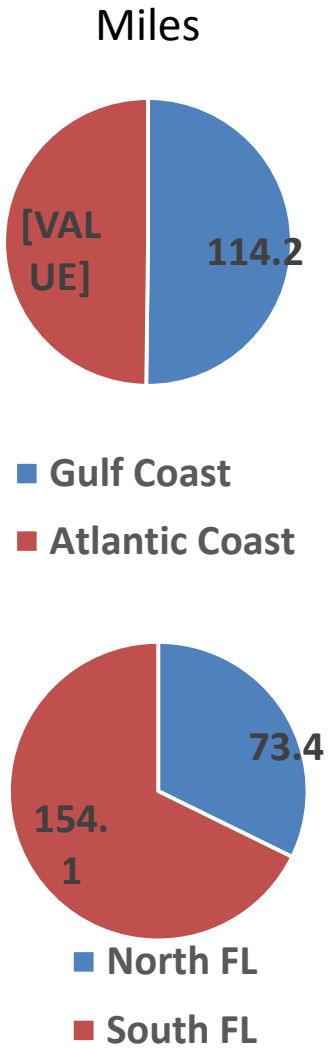


Active Permits by Type

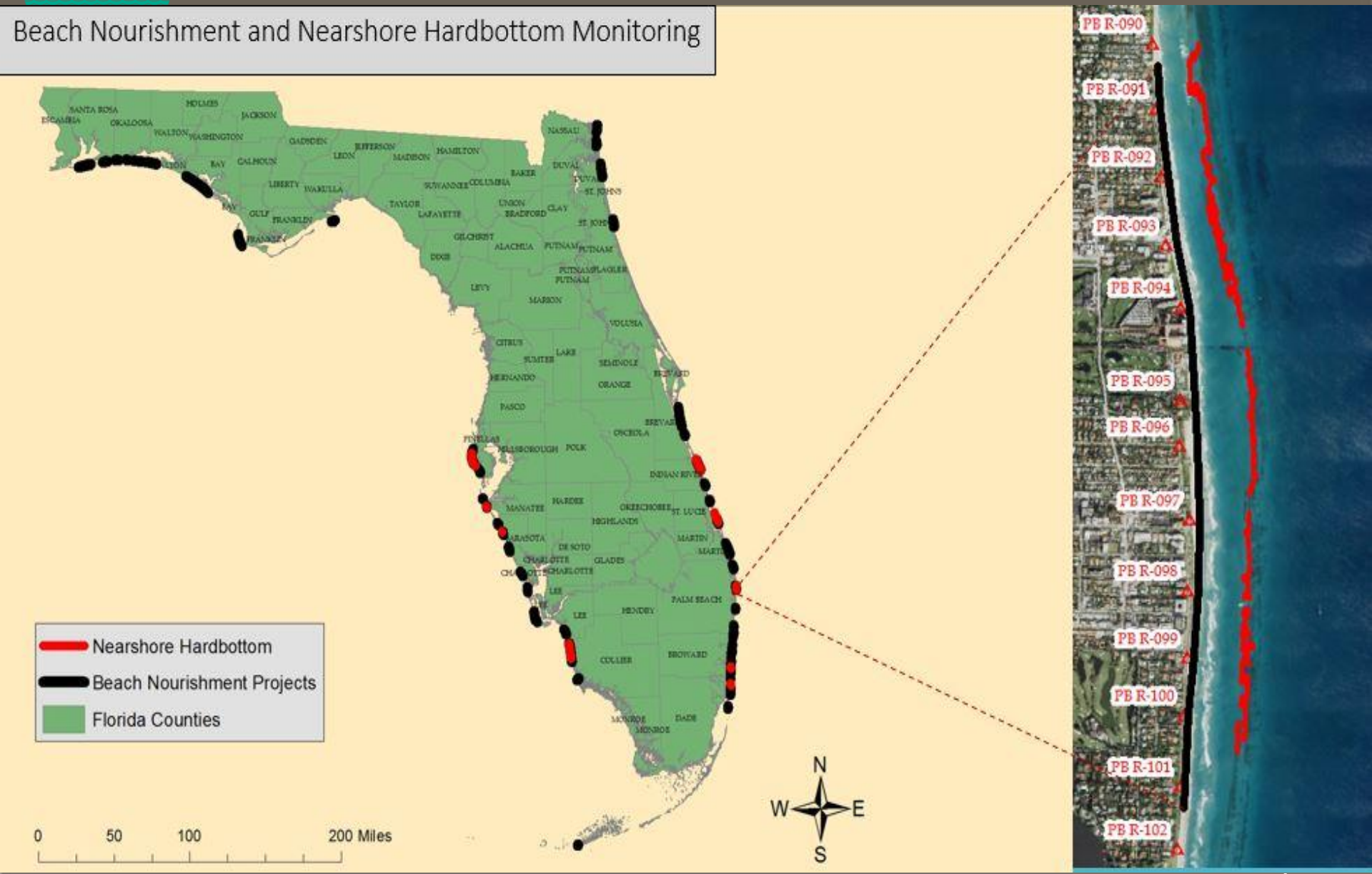


Beach Nourishments





Projects Near Hardbottom



Managing Hardbottom

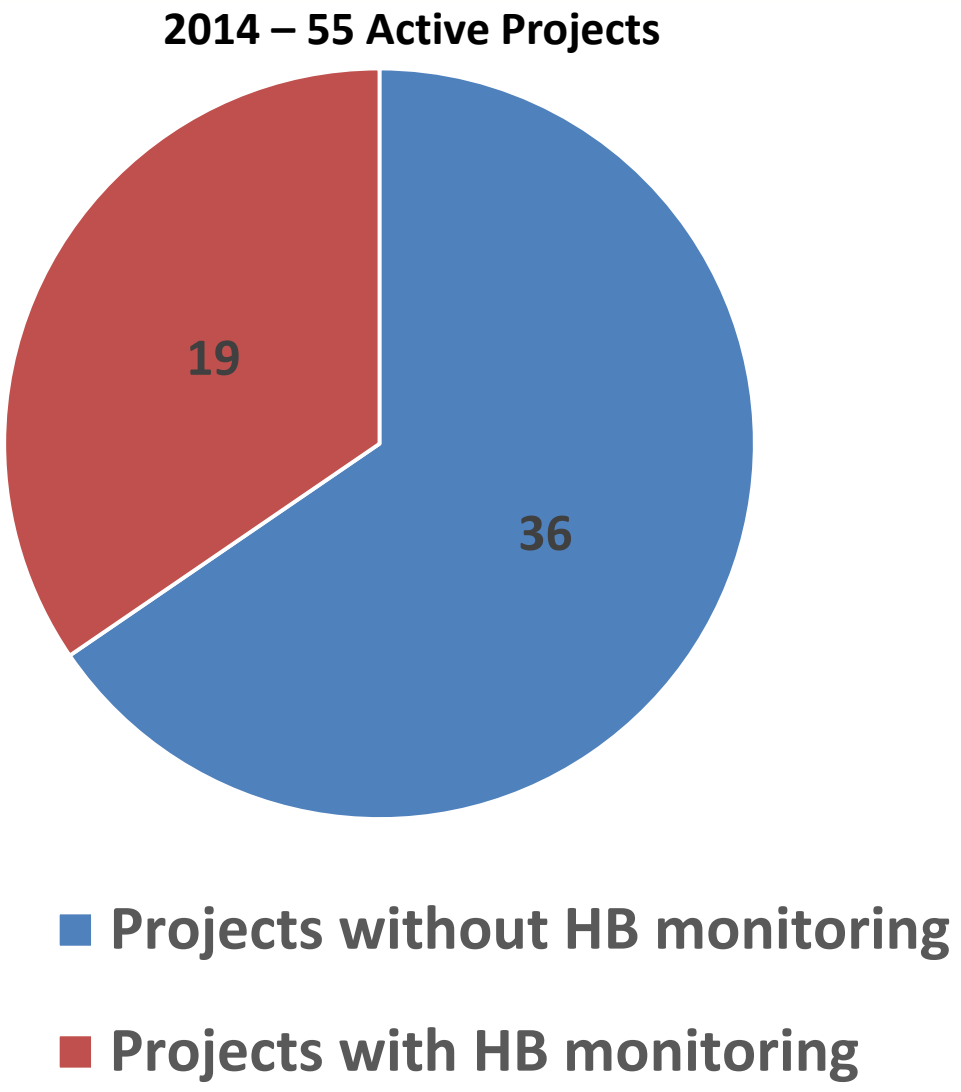
- Pre-project Assessment
- Estimate Resource Impact
  - Direct
  - Secondary
- Mitigation to offset predicted impacts
- Monitor adjacent resources
- Mitigate if necessary for unanticipated impacts



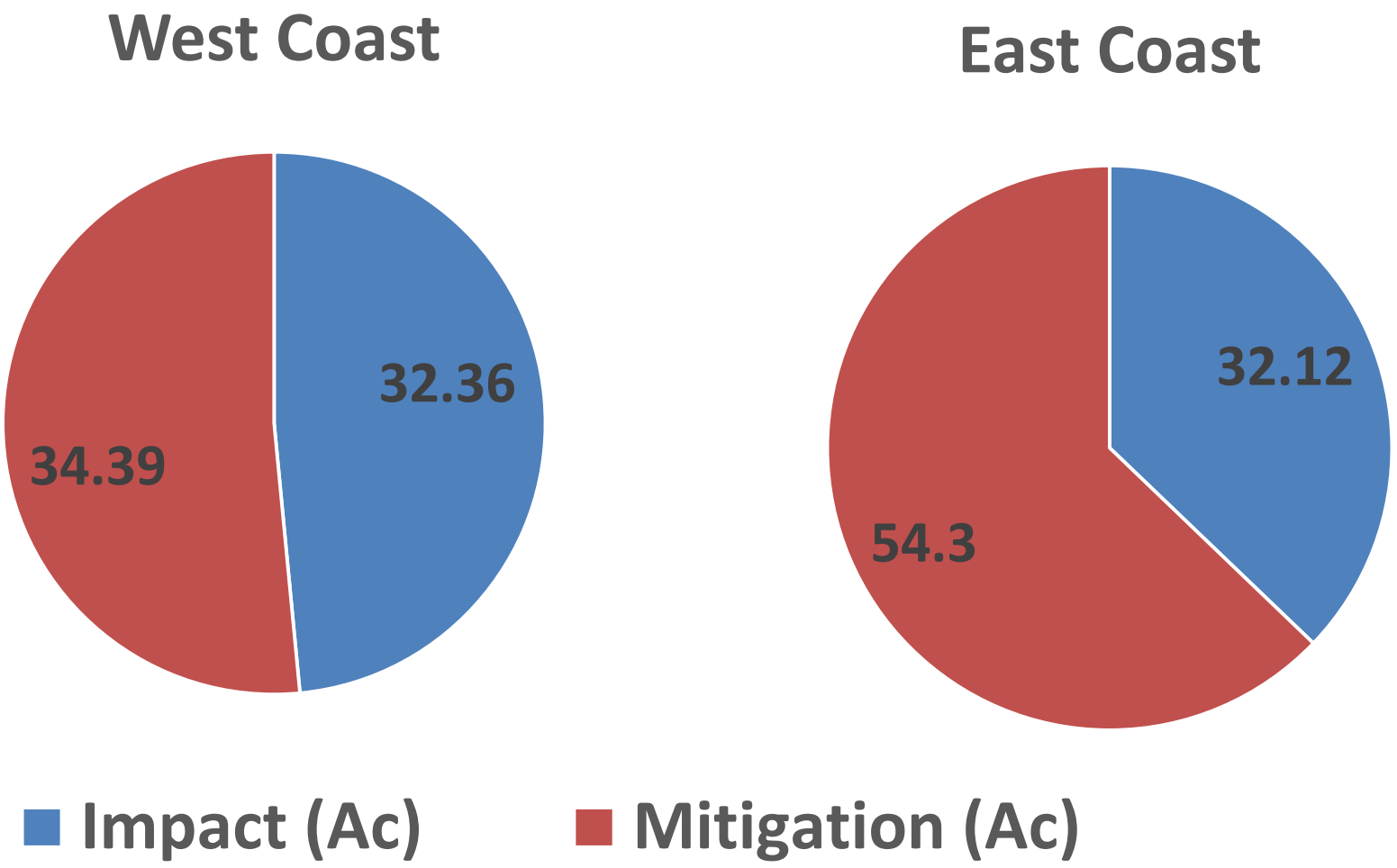
Nourishment Projects with HB

Historically…

- 68 nourishment projects
- 41 projects had HB monitoring requirements (excl. ports)



HB Impact / Mitigation Summary

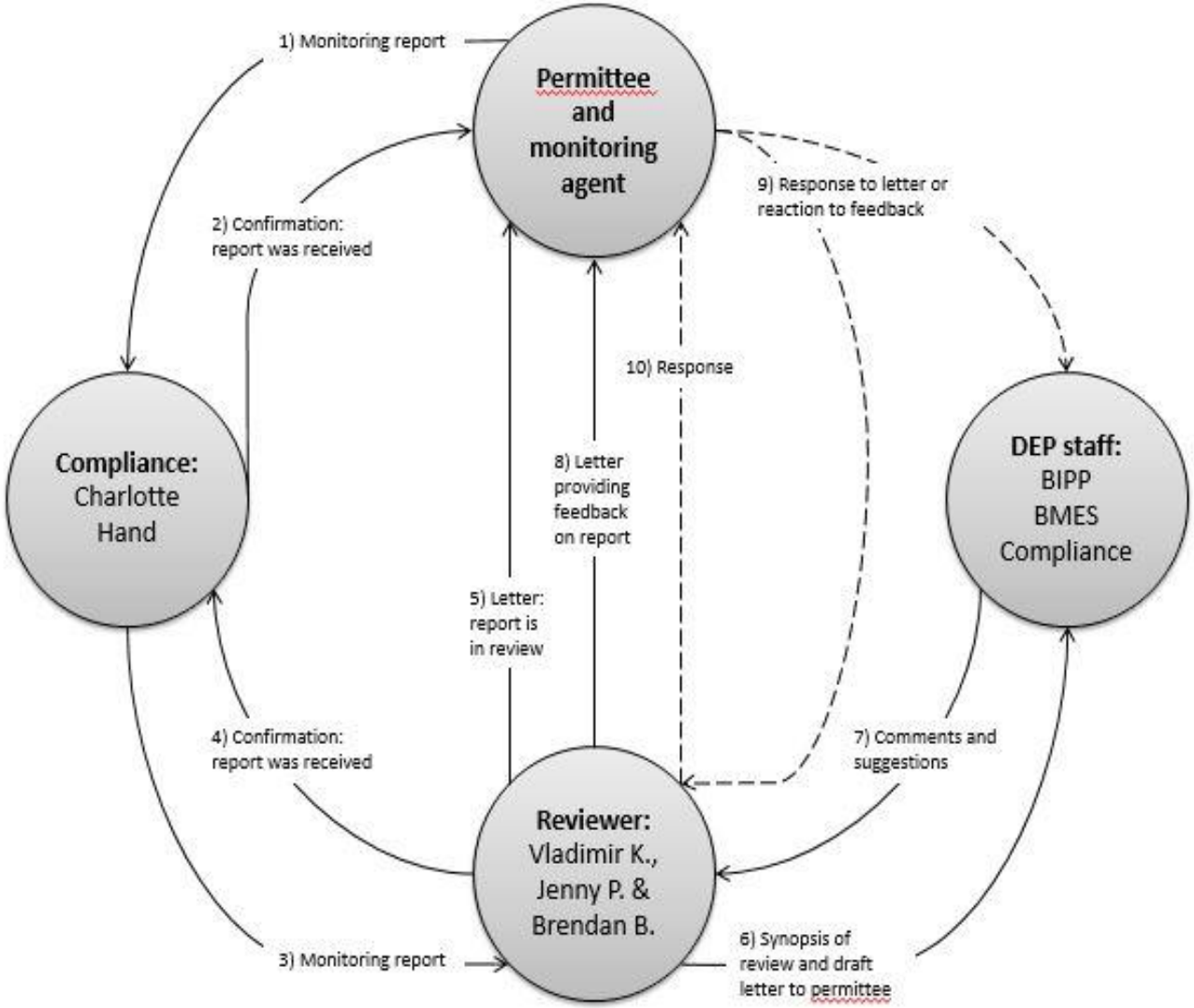


Hardbottom Mitigation = Various Types of Artificial Reefs

What is our review team doing?

- New Review Team
  - 3 Ph.D.s
  - Expertise – coral, sponge, seagrass
- Training permit reviewers
- Reviewing monitoring reports
- Consistent analysis procedure
  - GIS Analysis tools, SOPs

Resource Review – Feedback Loop



Target Timeframe

Receive report

30 Days

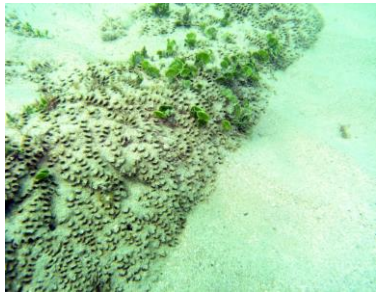
Letter to Permittee / Monitoring Agent

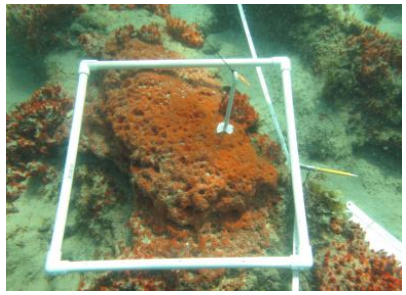
90 Days

Report Review & Feedback to Permittee / Monitoring Agent

Hardbottom Monitoring SOP

- Details of field protocol methodology
- Standardized monitoring techniques
  - Map and classify hardbottom
  - Conduct HB edge surveys
  - Establish and sample transects
  - Conduct video surveys
  - Conduct sediment monitoring
  - Sample quadrats
- More consistent data from all firms

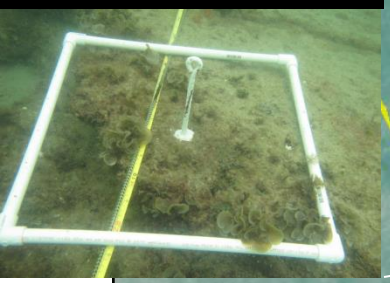




GIS Resource Database

Still Image Quadrat #2

Still Image Quadrat #7



Video Segment Hardbottom Edge Survey

Quadrat Location Attribute Table

Transect	Quadrat	Location_M	Bryopsis plumosa	Bryopsis sp.
109.70	1	0	8.0	0.0
109.70	2	4	1.0	0.0
109.70	3	6.5	0.0	0.0
109.70	4	35	0.0	0.0
109.70	5	37.6	0.0	0.0
109.70	6	40	0.0	0.0
110.00	1	0	0.0	0.0
110.00	2	1	2.0	0.0
110.00	3	3.8	0.0	0.0
110.00	4	8.8	0.0	0.0
110.00	5	10	0.0	0.0
110.00	6	17	0.0	0.0
110.00	7	28	0.0	0.0
110.00	8	30	0.0	0.0
110.00	9	34.5	0.0	0.0
110.00	10	42	0.0	0.0

Sediment Depth Attribute Table

Transect	Position (m)	Depth (cm)
109.70	0	0.10
109.70	1	0.50
109.70	2	0.10
109.70	3	0.50
109.70	4	0.50
109.70	5	0.50
110.00	0	0.00
110.00	1	0.00
110.00	2	0.00
110.00	3	1.00
110.00	4	1.00
110.00	5	1.00

Questions?

Danielle H. Irwin, PWS
Deputy Director, DWRM
Florida Department of Environmental Protection
(850) 488-7843
Danielle.Irwin@dep.state.fl.us