Florida Department of Environmental Protection

Florida Coastal Office
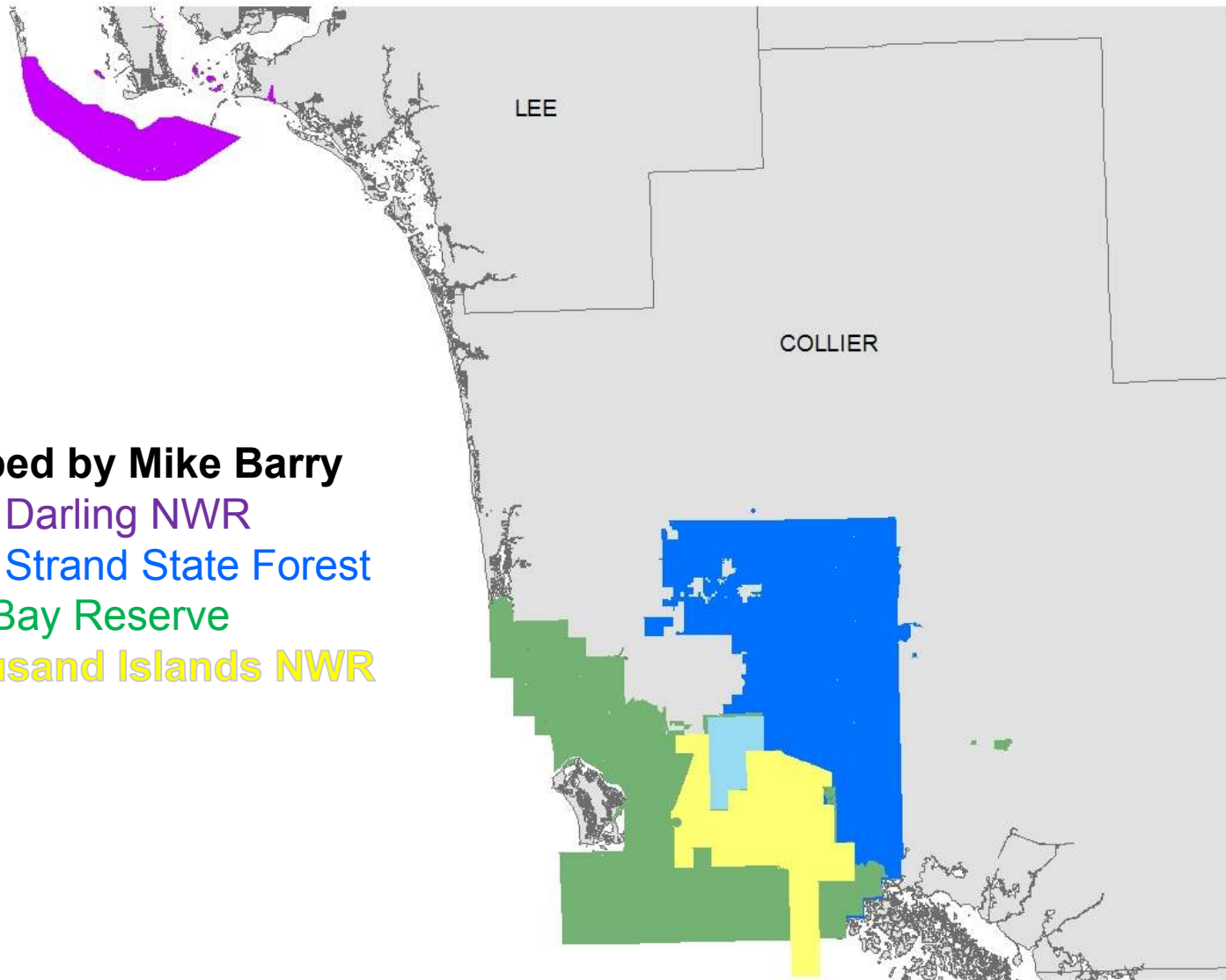## Rookery Bay National Estuarine Research Reserve

Habitat Mapping in Southwest Florida

Jill Schmid, Rookery Bay National Estuarine Research Reserve
Mike Barry, Institute for Regional Conservation
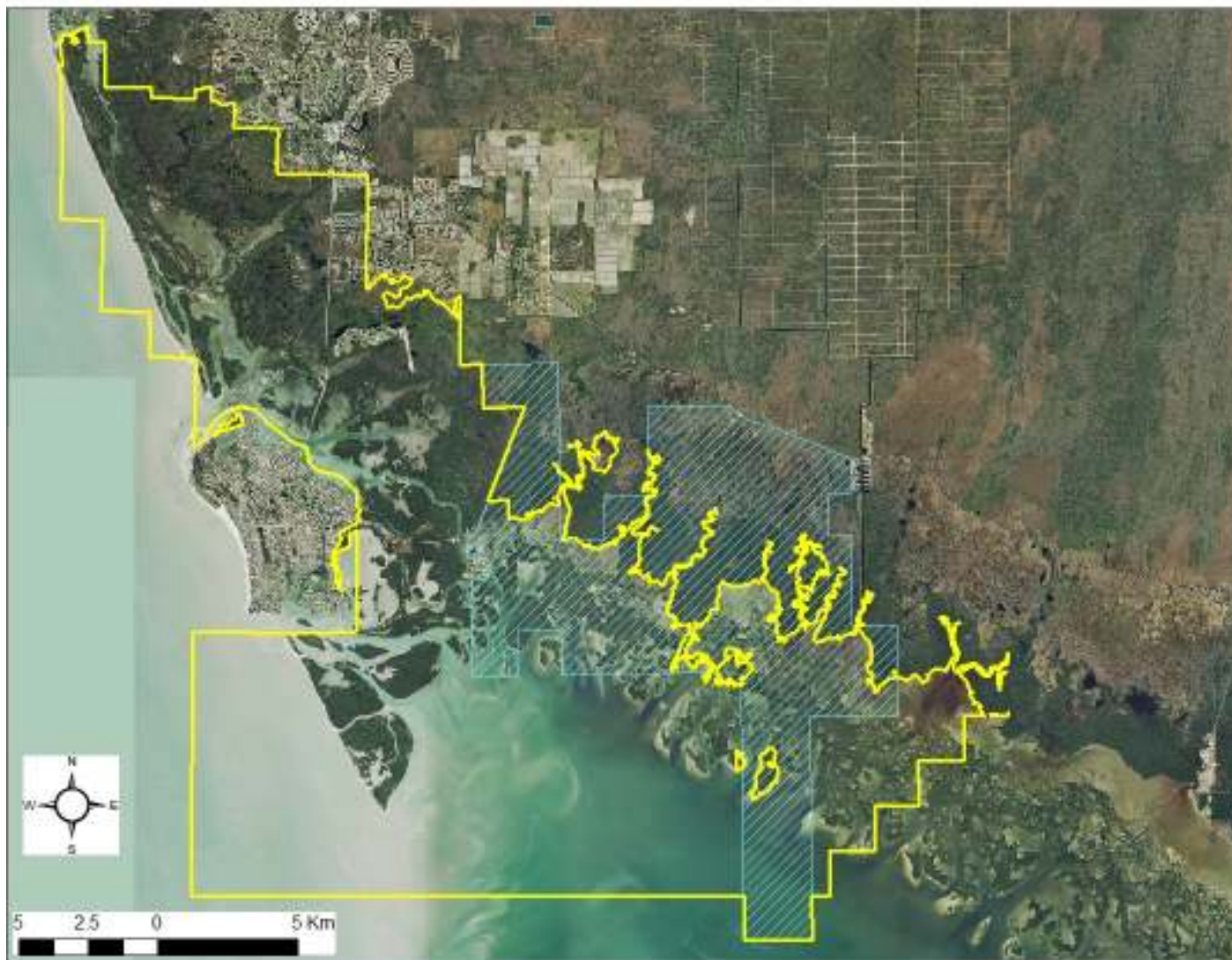
Habitat Mapping Coverage

Areas Mapped by Mike Barry
- J.N. Ding Darling NWR
- Picayune Strand State Forest
- Rookery Bay Reserve
- **Ten Thousand Islands NWR**

Rookery Bay Reserve &
Ten Thousand Islands NWR

Habitat Classification

Hierarchical system created for CERP (Comprehensive Everglades Restoration Plan)

- Level 1 **M   Marsh**
- Level 2   MS   Salt marsh
- Level 2   MF   Freshwater marsh
- Level 3   MFB   Broadleaf emergent marsh
- Level 3   MFG   Graminoid emergent marsh
- Level 4   MFGc Sawgrass
- Level 5   MFGcS Sawgrass-Short
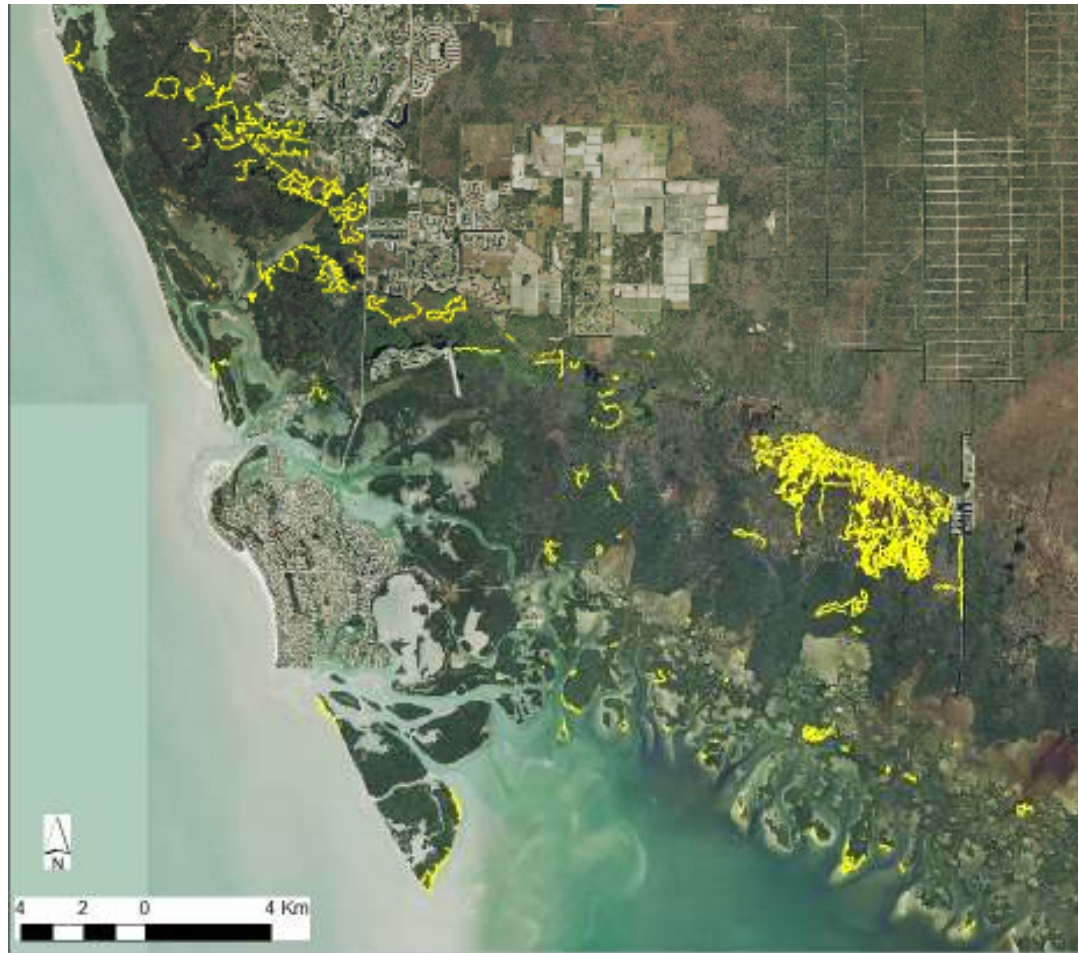- Level 5   MFGcT Sawgrass-Tall

Rutchey, K., T.N. Schall, R.F. Doren, A. Atkinson, M.S. Ross, D.T. Jones, M. Madden, L. Vilchek, K.A. Bradley, J.R. Snyder, J.N. Burch, T. Pernas, B. Witcher, M. Pyne, R. White, T.J. Smith III, J. Sadle, C.S. Smith, M.E. Patterson, and G.D. Gann, 2006, Vegetation Classification for South Florida Natural Areas: Saint Petersburg, Fl, United States Geological Survey, Open-File Report 2006-1240. 142 p.

Data Collection

Habitat data were collected along tracks

SITE	Method	Distance (m)
Rookery Bay NERR		
	Bicycle	4390
	Boat and Foot	2090
	On Foot	101847
	Vehicle	1518
	TOTAL (meters)	109845
Ten Thousand Islands		
	Airboat	111225
	Boat and Foot	2289
	On Foot	274590
	Kayak/Canoe	155
	TOTAL (meters)	388259

Habitat data were c

Identify

Identify from: <Top-most layer>

- RBNERR_TTINWR_tracklogs
  - Ten Thousand Islands National Wildlife Refuge

Location: 445,573.671 2,868,014.015 Meters

Field	Value
FID	19
Shape	Polyline
OBJECTID	10374
DATE_	5/3/2008
TIME_	
SURVEYOR	Michael J. Barry, Dennis J. Giardina
method	FOOT
SITENAME	Ten Thousand Islands National Wildlife Refuge
SITEUNIT	2; Pumpkin River Coastal Berm, across from 8CR25
PROJECT	Vegetation Mapping
PURPOSE	
TARGET_SPE	
CERP_Class	WUh
FNAI_NC	Coastal berm
NRCS_SGGE_	Cu
PD_CERP_Cl	
PD_FNAI_Ha	Coastal berm
PD_NRCS_SG	Cu
HABITAT_ME	
COMMENTS	not treated
ABUND_MEAS	
Schitere_C	15
Schitere_D	Scattered dense patches
Schitere_A	2.1
Schitere_R	10-25
Melaquin_C	0
Melaquin_D	
Melaquin_A	0
Melaquin_R	

Identified 1 feature

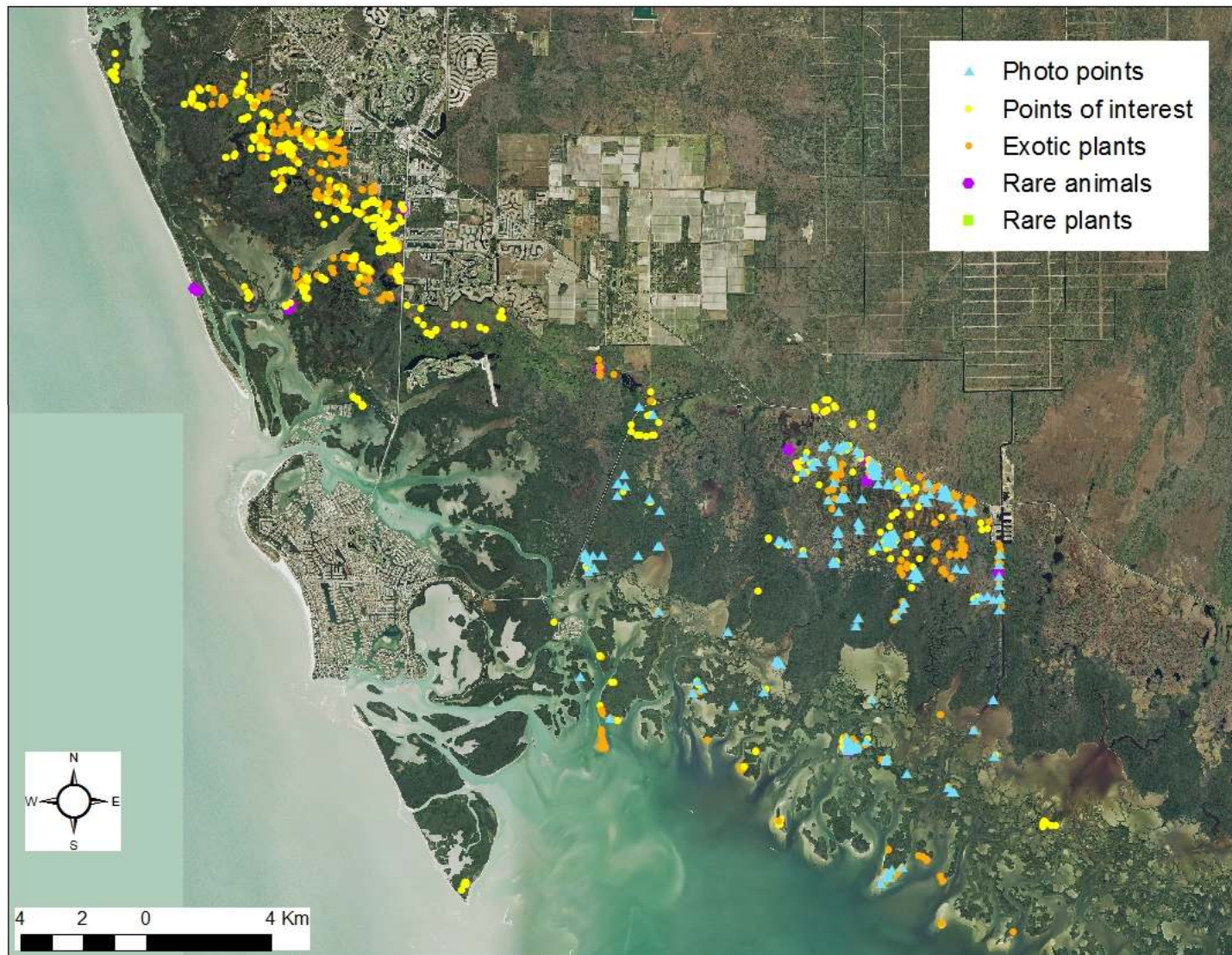|	Method	Distance (m)
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d Islands		
	Airboat	111225
	Boat and Foot	2289
	On Foot	274590
	Kayak/Canoe	155
	TOTAL (meters)	388259

Data Collection

- Additional point data collected
    - Rare species (flora and fauna)
    - Photo points
    - Exotic species
    - Evidence of past vegetation
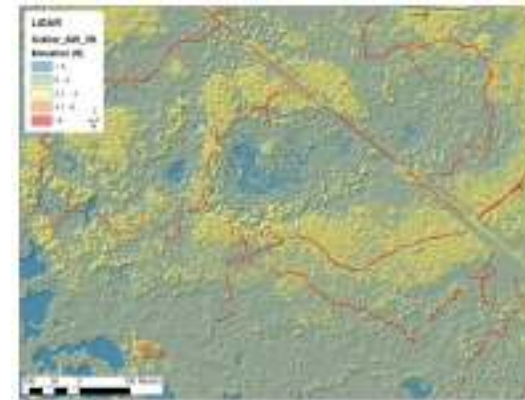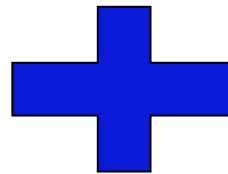
Data Collection

Habitat Mapping

SW FL Habitat Types

Level 3

Mangrove Forest
- FMX=Mixed Mangrove Forest
- FMr=Red Mangrove Forest

Mangrove Shrubland
- SMX=Mixed Mangrove Shrubland
- SMr

Mangrove Woodland
- WMX=Mixed Mangrove Woodland
- WMc=Buttonwood Woodland
- WMa

Mangrove Scrub
- CMl=White Mangrove Scrub
- CMX=Mixed Mangrove Scrub
- CMc=Buttonwood Scrub
- CMr=Red Mangrove Scrub

Marsh
- MFGe=Spikerush Marsh
- MSGj=Black Rush
- MSG=Graminoid Salt Marsh
- MFG=Graminoid Freshwater Marsh

Hammocks/Swamp Forests
- FHX=Xeric Hammock

Pine and Cabbage Palm Woodlands
- WUCp=Scrubby Flatwoods
- WUp=Pine Upland
- WUq=Live Oak Woodland
- WSp=Pine Lowland
- WSs=Cabbage Palm Lowland

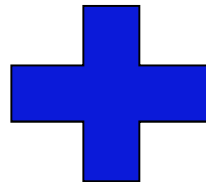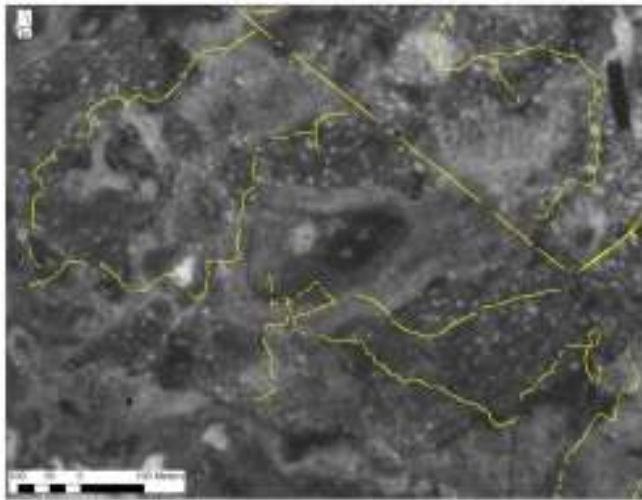**Water**
- OW

Disturbed Land
- SP=Spoil
- HI=Human Impacted

Mapping the Past

SW FL Habitat Types 1940

Mangrove Shrubland
- SMc

Mangrove Woodland
- WM=Mangrove Woodland
- WMX=Mixed Mangrove Woodland
- WMc=Buttonwood Woodland

Mangrove Scrub
- CMG=Mangrove Scrub, graminoid
- CM=Mangrove Scrub
- CMc=Buttonwood Scrub

Marsh
- MFGe=Spikerush Marsh
- MSGj=Black Rush
- MSG=Graminoid Salt Marsh
- MFG=Graminoid Freshwater Marsh

Pine and Cabbage Palm Woodlands
- WUCp=Scrubby Flatwoods
- WUp=Pine Upland
- WSp=Pine Lowland
- WSs=Cabbage Palm Lowland

Water
- OW
- MUD
- ★ Points of interest
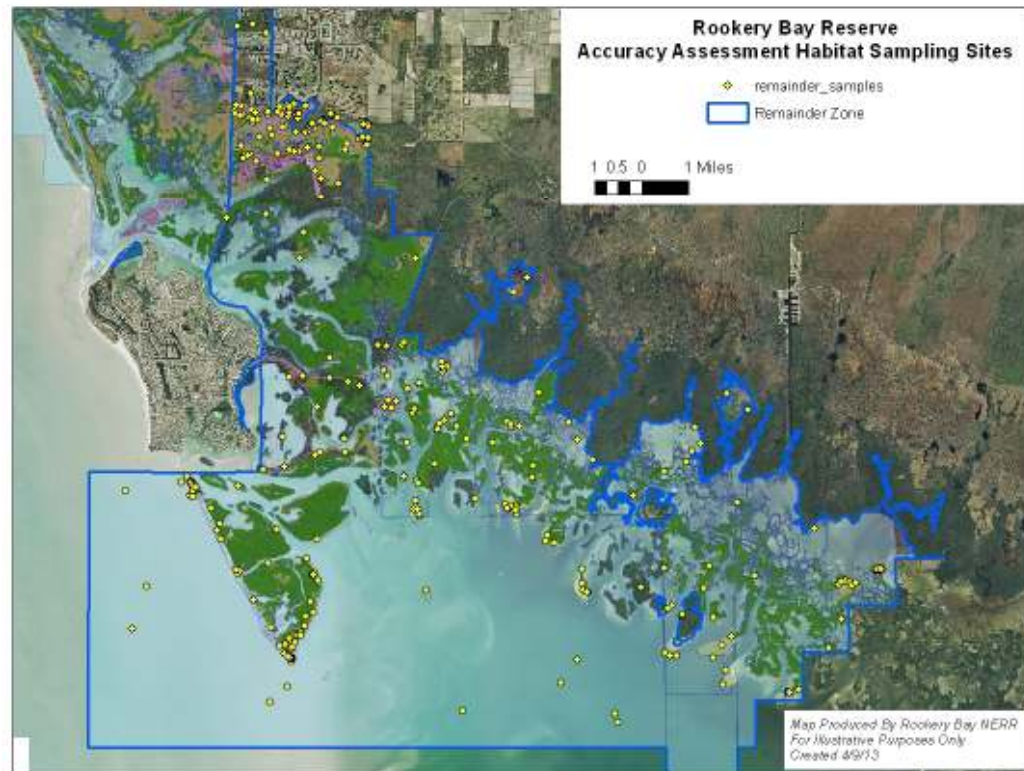
Black Mangrove Die-offs
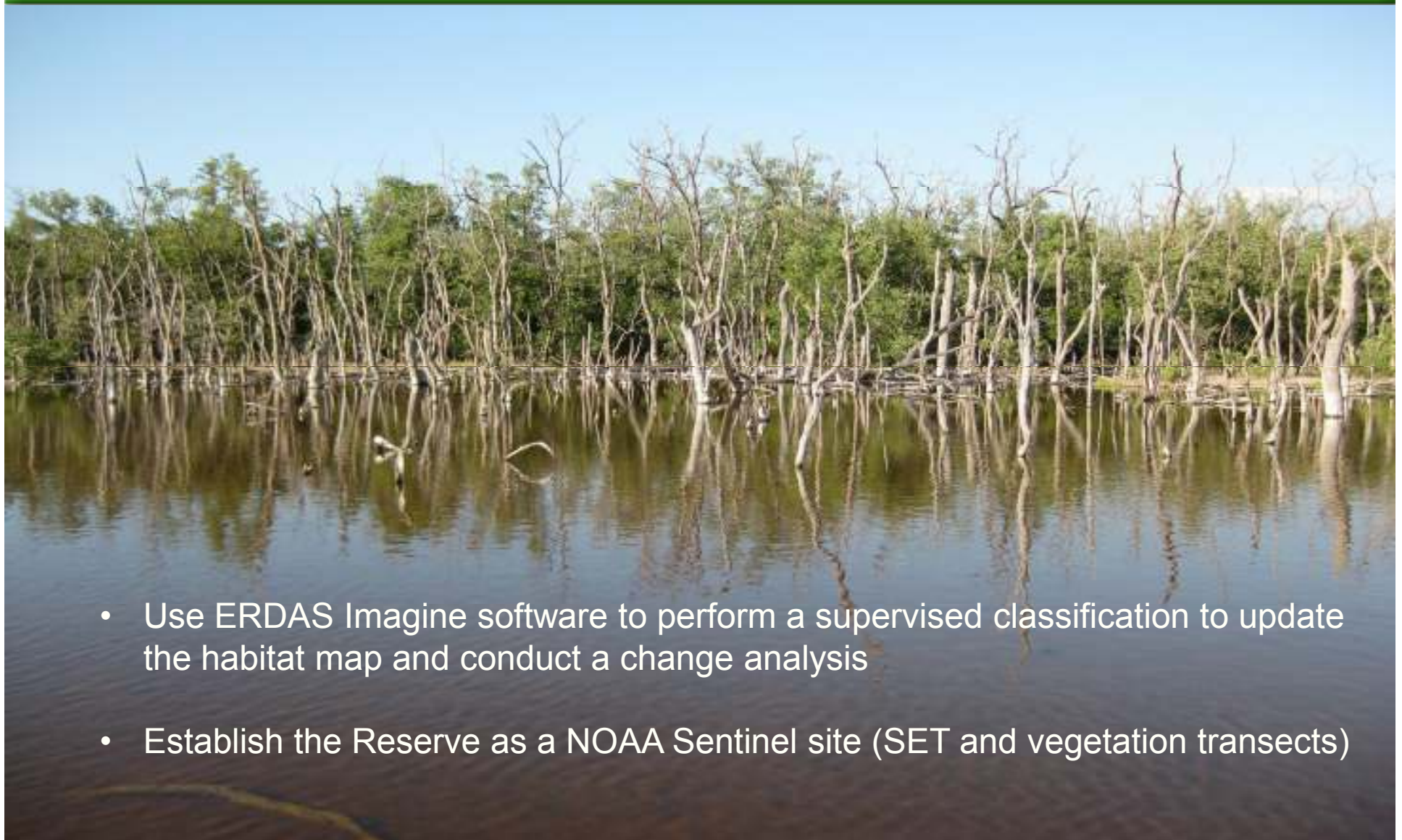
Accuracy Assessment

Ground-truth 20 random sites per habitat class = approximately 500 sites

Future Efforts

- Use ERDAS Imagine software to perform a supervised classification to update the habitat map and conduct a change analysis

- Establish the Reserve as a NOAA Sentinel site (SET and vegetation transects)