HIGHLIGHTS FROM OUR FIRST TWO DAYS
Workshop Objectives

• Share information about past, current and future research, monitoring and management efforts focused on SLR in the Florida Keys

• Lay the foundation for a prioritized Florida Keys SLR research agenda and long-term monitoring network

• Begin to identify best management practices for adapting to SLR in the Florida Keys and similar ecosystems

• Compile existing information and begin prioritizing research, monitoring and management needs for a synthesis report
Day 1: Intro, Management Perspectives

• Overview of the topic

• Updates from local, state, and federal entities working to address climate change and sea level rise
  – Monroe County (Stock Island Firehouse)
  – South Florida Water Management District
  – Florida Fish & Wildlife Conservation Commission
  – National Park Service
  – US Fish & Wildlife Service
  – Department of Defense (Naval Air Station)
  – National Oceanic & Atmospheric Administration

• EVERYONE is working on climate change / sea level rise
Day 1: Field Visit

Trip to multiple field sites to learn about species and habitats at risk, and to discuss current and/or needed research and monitoring (Curry Hammock, Long Beach, Watson Boulevard, Refuge Nature Trail, Big Pine Slough)
Day 2: SLR Impacts and Management Interventions

HABITATS / COMMUNITIES

- Mangroves
- Lagoonal ponds
- Coastal wetlands
- Pine rocklands
- Rare plants
- Freshwater lenses
- Plant community boundary dynamics
How will different habitats/communities do?

- Species adapted to flooding have a better chance
- Coastal fringing red mangroves may do better than black and white mangroves
- But uncertainty exists...
- Rare plant species will be heavily impacted
Most promising management strategies?

- Identify core areas with higher elevations, protect these areas, and manage them well

- Keep ecosystems as healthy as possible:
  - Fire management (prescribed burns)
  - Exotic plant control

- Don’t put up barriers that prevent wetland plants from migrating inland/upslope (e.g. seawalls, roads)
Most promising management strategies?

• Enhance freshwater lens recharge
  – Maybe block some mosquito ditches (so freshwater does not drain out)
  – Explore ways to manage boat canals so less freshwater flows out
  – Explore potential for using (well-treated) wastewater for recharge

• Direct limited restoration dollars towards projects that can help with SLR adaptation

• Think about good management of expanding marine area!
Day 2: SLR Impacts and Management Interventions

SPECIES

- Birds
- Lower Keys Marsh Rabbit
- Key Deer
- Key Largo Woodrat
- Cottonmouse
- Key Tree Cactus
- Butterflies
- Insects
How will different species do?

- Cottonmouse will do better than the woodrat because it can use more diverse habitat

- Some Key tree cactus may be more tolerant of salt than others (focus on these genotypes)

- Survival depends on how fast SLR happens

- Exotic species seem to do well under disturbance...

- Butterflies not doing well – imperiled will be first to go
How will different species do?

• Bird species survival will depend on how their populations are doing now... And whether their habitat needs are met

• Some insects will be wiped out by SLR

• Lower Keys Marsh Rabbit prospects are not good... But what we learn by studying this species can help us protect similar species to the north

• Plan for groups of species rather than one individual species – want to save as many as we can...
Most promising management strategies?

• Fire management

• Integrated predator management (e.g. raccoons, feral cats)

• Clean out water holes and open hardwoods for Key Deer

• Think now about areas to target for conservation easements and acquisition (plan ahead before development pressures develop on inland areas)

• Look for approaches that help multiples species – get the most “bang for the buck” possible
Most promising management strategies?

• Ultimately there are some species that will have to be moved to zoos or perhaps relocated to other areas (e.g. Caribbean islands) if they are going to persist

• Research!
  – Why is the woodrat population declining?
  – Why are butterflies doing well in an urban area (Key West)?
  – Looking at SLR and fire impacts together
  – Try out herbivore exclusions for tree cactus
What Are We Discussing Tomorrow?

• Identify and prioritize best management practices for resilience and adaptation

• Identify and prioritize research and monitoring needs

• Identify and prioritize communication and education needs and methods
Up Next: Q&A with Our Speakers