

# FKNMS Water Quality Protection Program

Recommend priority corrective actions  
addressing point and nonpoint sources of  
pollution to restore and maintain the  
chemical, physical and biological integrity of  
the sanctuary

# Update on Wastewater Projects in Monroe County

- Monroe County is completing Cudjoe Regional. Big Pine making progress but may not be complete in 2015.
- Islamorada is on schedule to finish this year.
- Florida Keys Water Quality Improvements Program (FKWQIP) providing \$2m via USACOE for Key Largo, Monroe, Marathon (\$42m to date)

# Canal Restoration Advisory Subcommittee Update

- County pilot projects at Geiger Key and Big Pine to restore water quality
- Islamorada pilot project to restore water quality
- Monitoring baseline for projects led by FIU
- Homeowner Canal Education efforts by County
- Florida Keys Water Watch is a new volunteer water quality monitoring effort led by Florida Seagrant/Extension Service

# Sea Level Rise Adaption in Monroe County

- Anticipating 3 to 7 inches by 2030 and 9 to 24 inches by 2060
- Rhonda Haag outlined Monroe County Sustainability and Sea Level Rise Adaptation Planning Project approach and impacts on county infrastructure
- Chris Bergh outlined impacts on habitat and demonstrated The Nature Conservancy's new on-line tools including "Coastal Defense App" which models wave-breaking power of existing and restored reefs and mangroves.

# Sponge Project Update and Proposal

- Update on Dr. Mark Butler et al.'s successful sponge restoration pilot project and associated studies in Florida Bay
- Proposal to match \$200K in private funds from TNC, BTT, FKEF if EPA special study funds will contribute same amount for scaling sponge restoration efforts up
- Committee voted to make this a high priority project for upcoming funds if any are available

# **FDEP WQ Sampling and Potential Collaboration Efforts**

- For the 2015 Strategic Monitoring Plan for the Florida Keys, FDEP is sampling some water bodies in the Northern Keys (Pennekamp), on the southwest coast, and surrounding Key Colony Beach and Grassy Key.
- Looking for existing sampling programs in case they could share data and other resources.
- Seeking assistance with site locations, logistics for boats and hotels are also welcome.

# Coral Reef (CREMP) Monitoring

- The benthic cover results from 2012 to 2013 showed little change for all taxa.
- Spikes in macroalgae cover are partly due to nutrients released during certain events such as the cold water mortality event in 2010.
- Trend towards increasing octocoral densities continues.
- Density increases were observed in 2013 and 2014 in *Xestopongia muta*, Barrel Sponge
- Examining coral recruitment dynamics at subset of monitoring sites
- Working with Florida Reef Resilience Program to assess impacts of 2014 mass coral bleaching event

# Water Quality Monitoring

Compared to the baseline derived from 1995 data and compared to 2013, chlorophyll, dissolved nitrogen and total phosphorus have increased overall, indicating poorer water quality.

# Seagrass/Benthic Habitat Monitoring

- Over the past twenty years, they have seen species composition at many sites shift in a manner that is consistent with increased nutrient availability. These changes are consistent, but relatively subtle.

# Effects of Mosquito Control Pesticides on Non-Targeted Organisms

- In the 2012 to 2014 study, they found the highest concentrations of Naled in the canals 2 hours after the application. Within 5 hours because of the tidal distribution, concentrations went down sharply.
- For permethrin, the results were not so clear, but it was present in low concentrations.
- LC-50 trials were set up to test toxicity in lobster larvae and coral larvae, *P. asteroides*. For coral larvae, *P. asteroides* the Expected Environmental Concentration (EEC) was less than the toxic concentration, which meant that there was no acute toxicity (NOEL) to coral larvae for field applications of Naled, Permethrin or Malathion in the Atlantic or Florida Bay adjacent to the Snake Creek study area.
- For lobster larvae, *P. argus* the EEC was less than the toxic concentration, which meant that there was no acute toxicity to lobster larvae for field applications of Naled or Permethrin in the Atlantic adjacent to the Layton Key Canals.

# EPA Funding / Request for Proposals

- \$1.1m in President's budget is a decrease from \$2.0 to \$2.1m that was typical until cuts started in 2010.
- Funds for program administration and ongoing monitoring are priorities
- Special studies and outreach (e.g. Waterways) will be funded if possible
- Steering Committee suggested reconstituting the WQPP Technical Advisory Committee to identify and prioritize studies and weigh in on things like shallow vs. deep wells at Cudjoe Regional W.S.

# Public Comments

- Pro deep well at Cudjoe Regional
- Anti grinder pumps for Cudjoe Regional
- Pro sponge restoration