Florida Keys Nearshore Water Quality Monitoring

What We are Doing and Why it's Important

- Project of combined agencies to monitor and assess nearshore surface water quality throughout the Florida Keys. Monroe County has contracted the University of Miami Coastal Ecology Laboratory to carry out nearshore water quality monitoring throughout the Florida Keys in a partnership with the Florida Department of Environmental Protection (FDEP).
- Two-year study to monitor 65 water quality stations 500 meters from the shoreline to document changes in water quality after recent upgrades (improved storm-water management and county-wide conversion from residential septic to central wastewater treatment).
- Quarterly samples over two years and water quality data uploads into the Watershed Information Network (WIN) will demonstrate that the county-wide improvements in pollution control will meet water quality standards in the future.

What We are Measuring and Why

Many substances can pollute water. After processing the water samples, the results will indicate the amount of nitrogen, phosphorus, and chlorophyll-a present in the water at each site.

- Nitrogen and phosphorus are natural nutrients in aquatic ecosystems that support the growth of algae and aquatic plants. However, when too much nitrogen and phosphorus enter the environment (usually through human activities), algae grows faster than the ecosystem can handle. Significant increases in algae can harm water quality, food resources, and decrease the oxygen that aquatic life needs to survive.
- Chlorophyll-a is a measure of the amount of algae growing in a waterbody and is used to rank the quality of a waterbody. One of the symptoms of degraded water quality is the increase in chlorophyll-a concentrations. Waters with high levels of nutrients may have high levels of chlorophyll-a and excess amounts of algae.

What is the FKRAD?

The surface water bodies covered by the Florida Keys Reasonable Assurance Document (FKRAD) were identified as not meeting nutrient criteria sufficient to support a balanced aquatic ecosystem. The FKRAD was developed by the Florida Department of Environmental Protection (FDEP) as a plan in cooperation with local governments, state agencies, and federal agencies within the Florida Keys to set forth and accelerate the actions that had been taken/were planned to be taken to specifically reduce nutrient loadings to nearshore waters so that water quality standards are met and beneficial uses are restored.

FDEP assesses available water quality data for each surface waterbody in Florida at least once every five years using the Impaired Waters Rule (Chapter 62-303, Florida Administrative Code), which establishes a scientific methodology for identifying surface waters in Florida that are impaired for pollutants.

The implementation of the FKRAD demonstrates reasonable assurance to the U.S. Environmental Protection Agency (EPA) that pollution control mechanisms will result in attainment of water quality standards in the future, thereby eliminating the need to establish a total maximum daily load (TMDL) for the FKRAD waterbodies.

For more information, please visit:

Florida Department of Environmental Protection

Florida Keys National Marine Sanctuary Water Quality Protection Program

University of Miami Coastal Ecology Laboratory

Water Quality Monitoring Project Annual Reports