



CTA-195-FKNMS Condition Table-FL

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Florida Keys National Marine Sanctuary Condition Summary Table

The following table summarizes the "State of Sanctuary Resources" section of this report. The first two columns list 17 questions used to rate the condition and trends for qualities of water, habitat, living resources, and maritime archaeological resources. The Rating column consists of a color, indicating resource condition, and a symbol, indicating trend (see key for definitions). The Basis for Judgment column provides a short statement or list of criteria used to justify the rating. The Description of Findings column presents the statement that best characterizes resource status, and corresponds to the assigned color rating. The Description of Findings statements are customized for all possible ratings for each question. Please see Appendix A for further clarification of the questions and the Description of Findings statements. The Response column describes current or proposed management responses to pressures impacting sanctuary resources.

Status: Good Good/Fair Fair Fair/Poor Poor Undet.

Trends:

- ▲ Conditions appear to be improving.
- Conditions do not appear to be changing.
- ▼ Conditions appear to be declining.
- ? Undetermined trend.
- N/A Question not applicable.

Questions/ Resources	Rating	Basis For Judgement	Description Findings	Sanctuary Response
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WATER

1.	Are specific or multiple stressors, including changing oceanographic and atmospheric conditions, affecting water quality and how are they changing?		Large-scale changes in flushing dynamics over many decades have altered many aspects of water quality; nearshore problems related to runoff and other watershed stressors; localized problems related to infrastructure.	Selected conditions may inhibit the development of assemblages and may cause measurable but not severe declines in living resources and habitats.	In conjunction with the Environmental Protection Agency and Florida Department of Environmental Protection, the sanctuary will continue implementation of its Water Quality Protection Program and conduct long-term water quality monitoring and research to understand the effects of water transported from near-field and far-field sources, including Florida Bay on water quality in the sanctuary.
2.	What is the eutrophic condition of sanctuary waters and how is it changing?		Long-term increase in inputs from land; large, persistent phytoplankton bloom events, many of which originate outside the sanctuary but enter and injure sanctuary resources.	Selected conditions have caused or are likely to cause severe declines in some but not all living resources and habitats.	New regulations prohibit discharge or deposit of sewage from marine sanitation devices (MSD) within the boundaries of the sanctuary and require MSDs be locked to prevent sewage discharge or deposit while inside sanctuary boundaries.
3.	Do sanctuary waters pose risks to human health and how are they changing?		Rating is a general assessment of "all waters" of the sanctuary, knowing that in very specific locations, the rating could be as low as "poor." Increased frequency of HABs and periodic swim advisories.	Selected conditions have resulted in isolated human impacts, but evidence does not justify widespread or persistent concern.	The marine area surrounding the Florida Keys has been designated as a Particularly Sensitive Sea Area by the International Maritime Organization.
4.	What are the levels of human activities that may influence water quality and how are they changing?		Historically, destructive activities have been widespread throughout the Florida Keys, but many recent management actions are intended to reduce threats to water quality.	Selected activities have caused or are likely to cause severe impacts, and cases to date suggest a pervasive problem.	Florida Department of Health Florida Healthy Beaches Program tests for the presence of fecal coliform and enterococci bacteria in beach water on a weekly basis, at 17 locations throughout the Keys. The MEERA Project, which is designed to provide early detection and assessment of biological events occurring in the Florida Keys and surrounding waters, continues to be supported by the sanctuary. A well-established law enforcement program is in place, including NOAA Fisheries Service, Florida Fish and Wildlife Conservation Commission, and U.S. Coast Guard.

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5.	What are the abundance and distribution of major habitat types and how are they changing?		In general, mangrove and benthic habitats are still present and their distribution is unchanged, with the exception of the mangrove community, which is about half of what it was historically. The addition of causeways has changed the distribution of nearshore benthic habitats in their vicinity.	Selected habitat loss or alteration has taken place, precluding full development of living resource assemblages, but it is unlikely to cause substantial or persistent degradation in living resources or water quality.	Marine zoning is used in the sanctuary to protect sensitive habitats like shallow coral reefs. Mooring buoys have been installed as a threat-reduction measure. Sanctuary staff and volunteers educate and inform boaters about the unique nature of the coral reef habitat, and organize shoreline clean-up and marine debris removal efforts.
6.	What is the condition of biologically structured habitats and how is it changing?		Loss of shallow (<10 meters) <i>Acropora</i> and <i>Montastraea</i> corals has dramatically changed shallow habitats; regional declines in coral cover since the 1970s have led to changes in coral-algal abundance patterns in most habitats; destruction of seagrass by propeller scarring; vessel grounding impacts on benthic environment; alteration of hard-bottom habitat by illegal casitas.	Selected habitat loss or alteration has caused or is likely to cause severe declines in some but not all living resources or water quality.	Sanctuary staff assess and restore vessel grounding injuries to seagrass and coral habitats, as well as perform coral rescue activities associated with coastal construction. Large vessel avoidance and Racon beacons in lighthouses have resulted in declines in large vessel groundings.
7.	What are the contaminant concentrations in sanctuary habitats and how are they changing?	?	Few studies, but no synthesis of information.	N/A	An Area To Be Avoided was established to prevent ships larger than 50 meters in overall length from transiting through sensitive areas in the sanctuary. A well established permitting program is in place to issue a variety of permits for activities that are otherwise prohibited by sanctuary regulations.
8.	What are the levels of human activities that may influence habitat quality and how are they changing?		Coastal development, highway construction, vessel groundings, over-fishing, shoreline hardening, marine debris (including derelict fishing gear), treasure salvaging, increasing number of private boats, and consequences of long-term changes in land cover on nearshore habitats.	Selected activities have caused or are likely to cause severe impacts, and causes to date suggest a pervasive problem.	There is also a well-established law enforcement program in place, including NOAA Fisheries Service, the Florida Fish and Wildlife Conservation Commission, and the U.S. Coast Guard. State of Florida's Mangrove Trimming and Preservation Act of 1996 (§403.9321-403.9333) regulates how mangroves can be trimmed and altered, and by whom.
LIVING RESOURCES					
9.	What is the status of biodiversity and how is it changing?		Relative abundance across a spectrum of species has been substantially altered, with the most significant being large reef-building corals, large-bodied fish, sea turtles, and many invertebrates, including, the long-spined sea urchin. Recovery is	Selected biodiversity loss has caused or is likely to cause severe declines in some but not all ecosystem components and reduce ecosystem integrity.	Marine zoning assists in the protection of the biological diversity of the marine environment in the Keys. Mooring buoys have been installed in these zones to reduce anchor damage to coral reef biota. The sanctuary's

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			questionable.		education and outreach team established the "Blue Star" program to help reduce the impact of divers and snorkelers on the coral reef ecosystem.
10.	What is the status of environmentally sustainable fishing and how is it changing?	?	Historical effects of recreational and commercial fishing and collection of both targeted and non-targeted species; it is too early to determine ecosystem effects of new fishery regulations and new ecosystem approaches to fishery management.	Extraction has caused or is likely to cause severe declines in some but not all ecosystem components and reduce ecosystem integrity.	NOAA has also established the Dolphin SMART program encouraging responsible viewing of wild dolphins. Sanctuary staff assesses and restores vessel grounding injuries to seagrass and coral habitats, as well as performs coral rescue activities associated with coastal construction. NOAA Fisheries Service (American Recovery and Reinvestment Act) awarded \$3.3 million to support Acropora coral recovery and restoration in Florida (including the Keys) and the U.S. Virgin Islands.
11.	What is the status of non-indigenous species and how is it changing?		Several species are known to exist; lionfish have already invaded and will likely cause ecosystem level impacts; impacts of other non-indigenous species have not been studied.	Non-indigenous species may inhibit full community development and function, and may cause measurable but not severe degradation of ecosystem integrity.	Other coral nursery efforts are also underway that contribute to coral restoration. Private efforts examining potential of long-spined sea urchin recovery via nursery propagation and rearing are also underway. A well-established permitting program is in place to issue a variety of permits for activities that are otherwise prohibited by sanctuary regulations, including removal of the invasive lionfish from the small no-take zones.
12.	What is the status of key species and how is it changing?		Reduced abundance of selected key species including corals (many species), queen conch, long-spined sea urchin, groupers and sea turtles.	The reduced abundance of selected keystone species has caused or is likely to cause severe declines in ecosystem integrity; or selected key species are at severely reduced levels, and recovery is unlikely.	The Florida Keys "Bleach Watch" Program utilizes volunteers to provide reports from the reef on the actual condition of corals throughout the bleaching season. The sanctuary also participates in oil spill drills sponsored by the U.S. Coast Guard and is a partner in the Florida Reef Resilience Program. There is a well-established law enforcement program in place.
13.	What is the condition or health of key species and how is it changing?		Hard coral and gorgonian diseases and bleaching frequency and severity have caused substantial declines over the last two decades; long-term changes in seagrass condition; disease in sea turtles; sponge die-offs; low reproduction in queen conch; cyanobacterial blooms; lost fishing gear and other marine debris impacts on marine life.	The comparatively poor condition of selected key resources makes prospects for recovery uncertain.	
14.	What are the levels of human activities that may influence living resource quality and how are they changing?		Despite the human population decrease and overall reduction in fishing in the Florida Keys since the 1990s, heavy recreational and commercial fishing pressure continues to suppress biodiversity. Vessel groundings occur regularly within the sanctuary. Annual mean number of reported petroleum and chemical spills were around 150 during that time period, with diesel fuel, motor oil, and gasoline representing 49% of	Selected activities have caused or are likely to cause severe impacts, and cases to date suggest a pervasive problem.	

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			these incidents collectively. Over the long term, localized direct impacts may be overwhelmed by the adverse and wide-ranging indirect effects of anthropogenic climate change resulting in sea level rise, abnormal air and water temperatures, and changing ocean chemistry.		
MARITIME ARCHAEOLOGICAL RESOURCES					
15.	What is the integrity of known maritime archaeological resources and how is it changing?		Resources are non-renewable and are subject to deterioration or loss resulting from looting, chemical processes, shifting sediments, marine life, fishing gear entanglement and vessel groundings (the last two are increasing in frequency).	The diminished condition of selected archaeological resources has substantially reduced their historical, scientific, or educational value and it likely to affect their eligibility for listing in the National Register of Historic Places.	Proactive management of submerged archaeological resources in sanctuary waters is occurring in conjunction with the state of Florida and the Advisory Council on Historic Preservation. This partnership is responsible for managing cultural resources in the sanctuary consistent with the Federal Archaeology Program, the Abandoned Shipwreck Act of 1987 and the National Historic Preservation Act.
16.	Do known maritime archaeological resources pose an environmental hazard and is this threat changing?		Movement of sunken vessels during storm threatens nearby resources.	Selected maritime archaeological resources may pose isolated or limited environmental threats, but substantial or persistent impacts are not expected.	The sanctuary's education team has also developed a historic Shipwreck Trail, which highlights nine historic vessels that sank in sanctuary waters and represents three broad periods of keys maritime history. Sanctuary regulations prohibit alteration of the seafloor, thus commercial salvage in the sanctuary must go through a review process before a permit for salvage is issued. A well-established law enforcement program is in place, including NOAA Fisheries Service, the Florida Fish and Wildlife Conservation Commission, and the U.S. Coast Guard.
17.	What are the levels of human activities that may influence maritime archaeological resource quality and how are they changing?		Reports of looting and vessel grounding cases involving potential resources are increasing.	Selected activities have caused or are likely to cause severe impacts, and cases to date suggest a pervasive problem.	

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