

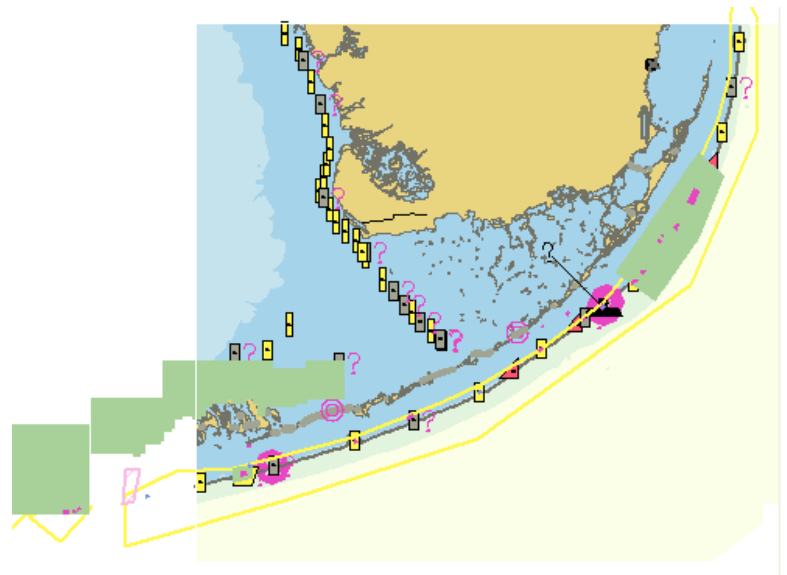
Steering Clear: Enhancing Mariners' Access to Marine Environmental Information

Information and education are essential tools in protecting sensitive marine resources from impacts by commercial and recreational ship traffic. In order to provide mariners with the tools they need to be more effective stewards of these resources, as well as avoiding the dangers and penalties associated with collisions and other impacts, the U.S. National Oceanic and Atmospheric Administration (NOAA) is working through a two-fold approach. First, NOAA is working through the International Hydrographic Organization (IHO), the global organization responsible for formulating standards for navigational information, to facilitate access to environmental information by mariners. Second, NOAA is engaged in a demonstration project to develop electronic data layers compatible with Electronic Navigational Charts (ENC) for the Florida Keys National Marine Sanctuary.

Background

ENCs are increasingly used by mariners to provide information needed for navigation in an easily accessible format. Freed from the space constraints of traditional paper nautical charts, ENCs offer a potentially powerful tool to bring supplemental information to the mariner as an additional data layer.

When a NOAA ENC and marine environmental information are displayed together on an electronic chart system, a vessel will be able to detect protected marine habitats in advance and plan travel routes accordingly to avoid crossing these sensitive areas. Shipboard electronic chart systems could be made to display warnings and regulations that pertain to protected areas, and could be made to sound alarms if a vessel's projected course swerves too close to a sensitive area such as a coral reef.



A sample display showing areas of the FKNMS coral reefs depicted by Coral Reef MIOs layered over an ENC.

Working toward an International Standard for Marine Environmental Information

NOAA is working through the IHO to gain adoption of a marine environmental data transfer and display standard to enable the use of such information on ships in conjunction with ENC's. The IHO has established minimal information standards for what should be contained in an ENC, such as shoreline, aids to navigation, depths, and hazards to navigation, but no standards have been developed to exchange or depict marine environmental information such as Marine Protected Areas (MPAs) or coral reefs in conjunction with ENC's.

NOAA plans to work closely with leaders in the world hydrographic and environmental communities to support the development of such a standard. Once adopted, it will facilitate the distribution of information on MPAs, sensitive marine resources, and associated regulations to mariners worldwide. A major milestone will be the meeting of the IHO's Committee on Hydrographic Requirements for Information Systems (CHRIS) in November 2007, where the proposed Marine Environmental Protection Product Specification will be presented. This Product Specification is the initial step for the development of a standard. The USA, NOAA will propose that CHRIS/IHO take appropriate action and agree to further elaborate on the proposed Product Specification and work toward adoption of this Product Specification on behalf of its Member States.

Florida Keys National Marine Sanctuary Pilot Project

NOAA is also demonstrating the concept of Marine Environmental Protection Information Overlays for ENC's in the Florida Keys National Marine Sanctuary area, by developing data layers of MPAs and coral reefs in an ENC-compatible format. The Florida Keys contains one of the world's largest coral reef ecosystems that has been designated by the International Maritime Organization as a Particularly Sensitive Sea Area (PSSA). The project illustrates and helps address the challenges of navigating through a highly sensitive coral reef area with heavy commercial and recreational traffic and spatially complex environmental regulations. The new electronic data layers are being developed and anticipated to be field tested on vessels in early 2008.

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