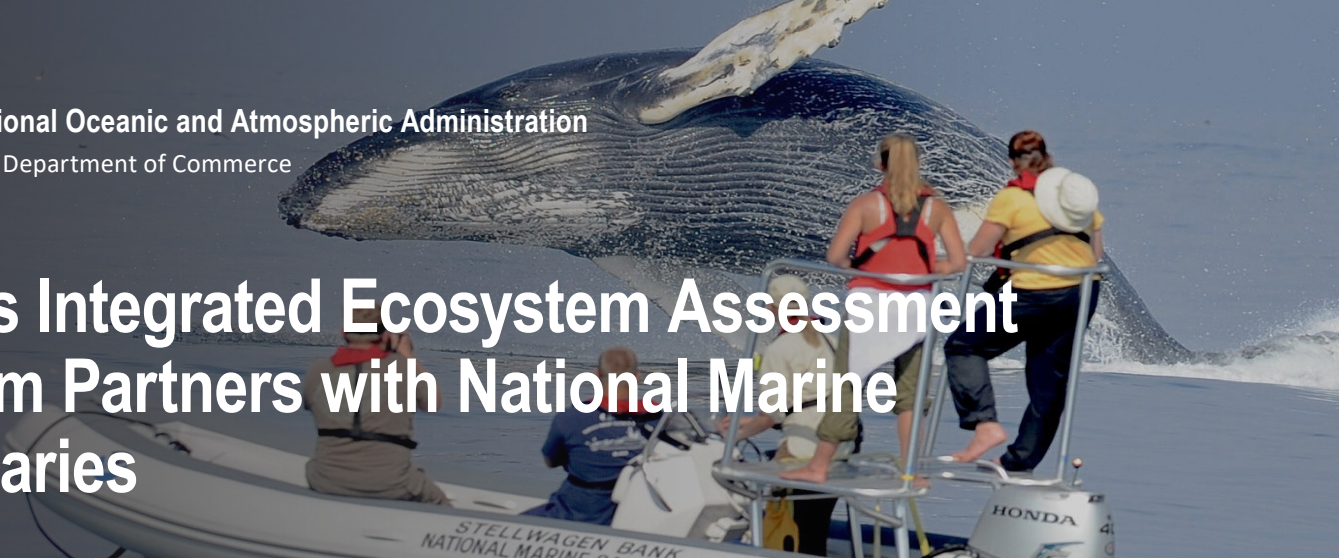




National Oceanic and Atmospheric Administration
U.S. Department of Commerce

NOAA's Integrated Ecosystem Assessment Program Partners with National Marine Sanctuaries



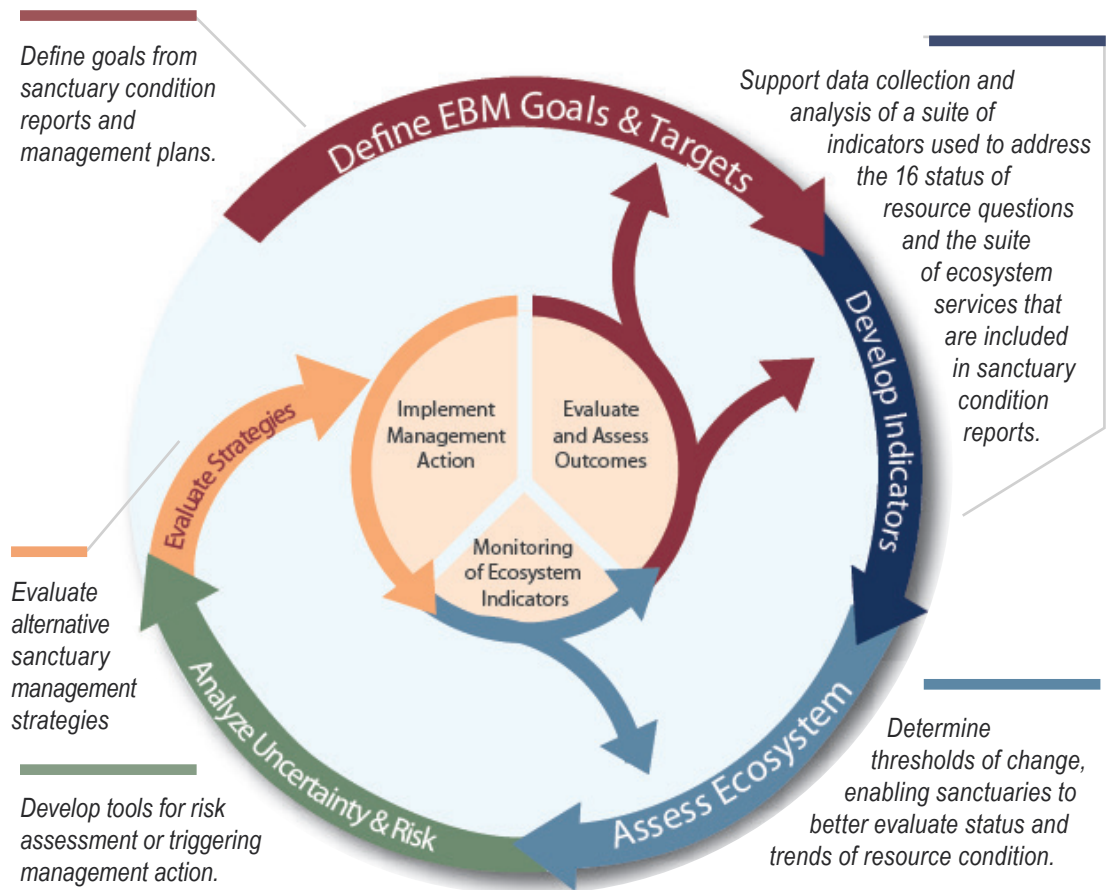
NOAA's IEA Program

NOAA's Integrated Ecosystem Assessment (IEA) is an approach that engages scientists, stakeholders, and managers to integrate all components of an ecosystem, including humans, into the decision-making process so that managers can balance trade-offs and determine what is more likely to achieve their desired goals. This approach provides the science necessary to carry out ecosystem-based management and is a key part of NOAA's ecosystem science enterprise.

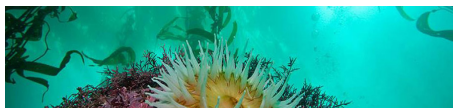
<https://www.noaa.gov/iea>

Tracking the Health of Marine Ecosystems

NOAA's Integrated Ecosystem Assessment (IEA) program partners with NOAA's National Ocean Service's Office of National Marine Sanctuaries (ONMS) to provide actionable scientific information to inform resource management decisions. The IEA approach supports data development, processing, and management, model development, and effective products that are critical for both the IEA Program and ONMS. ONMS "serves as the trustee for a network of underwater parks encompassing more than 600,000 square miles of marine and Great Lakes waters." Each step of the IEA approach can support many of sanctuaries' science and products needs, such as updates to sanctuary condition reports, selection and analysis of indicators of sanctuary condition, risk assessments, evaluating management scenarios, and quantifying thresholds. In addition, the IEA approach can help to broaden management objectives across the entire ecosystem. Through this work, sanctuary managers will be better informed and able to compare management strategies. Enhanced coordination and collaboration can further the success and impact of both programs and the greater NOAA mission.



IEA/Sanctuaries Existing Partnerships



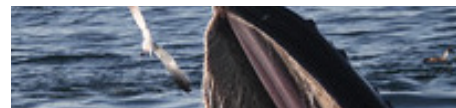
WEST COAST SANCTUARIES

NOAA's IEA approach provided a more objective way for west coast sanctuaries to track the health of their marine ecosystems. The updated Monterey Bay National Marine Sanctuary condition report used NOAA's IEA approach to identify indicators for key components of an ecosystem. Status and trend assessments of the indicators were based on interpretation of quantitative assessments together with the observations of scientists, managers, and sanctuary users, which provided a more objective decision model. Use of NOAA's IEA approach has also been embraced by the Channel Islands and Olympic Coast National Marine Sanctuaries. The collaboration is now developing web-based tools that will provide easy access to the information for a wide variety of users. According to a sanctuary Research Coordinator, Chris Caldwell, "The application of IEA products, processes, and expertise resulted in a substantial improvement from the 2009 report."



FLORIDA KEYS

Scientists are using the IEA approach to assist the Florida Keys National Marine Sanctuary set management targets. In May of 2018, the Gulf of Mexico IEA team met with sanctuary staff to understand their science and management priorities and initiate the IEA approach. Sanctuary scientists and managers expressed a need to set management targets that better address issues in the sanctuary. Physical, ecological, social, heritage, and economic indicators were selected by regional experts to analyze status and trends and quantify thresholds of ecosystem change to the system. These indicator analyzed trends are being used to advance ecosystem-based management and advise management review.



STELLWAGEN BANK

The IEA approach provided an objective and quantifiable way for the Stellwagen Bank National Marine Sanctuary to track the health of the sanctuary and support ecosystem-based management of marine resources in the sanctuary. In April 2017, as part of the Northeast IEA process, NOAA released a synthesis of indicator data in the "State of the Ecosystem - Gulf of Maine and Georges Bank." NOAA scientists met with Sanctuary staff to discuss relevant indicator data to be used in the development of quantitative metrics for the Sanctuary Condition Report. This information is included in the latest condition report and will be used to inform the next management plan review.

Opportunity for Collaboration

SANCTUARY CONDITION REPORTS

The IEA approach can play a significant role in identifying, defining and supporting data collection and analysis for a suite of indicators to be used in addressing the 16 status of resource questions and the suite of ecosystem services that are included in sanctuary condition reports. This collaboration is also building out web-based interactive infographics and data serving products to help visualize condition assessments.

BOUNDARY EXPANSIONS

The IEA approach can provide support for the assessment of boundary alternatives for expansion of existing national marine sanctuaries, including developing habitat maps, resource distribution maps and data summaries, and defining boundary alternatives based on resource distribution and public interests. Moreover, evaluating alternative boundary expansion options via the IEA's evaluation of management strategies step is directly aligned with this effort and would provide comprehensive information on the pros, cons, and socioecological trade-offs associated with different boundary expansion options.

MANAGEMENT REVIEW AND EVALUATION

Either from a new regulatory framework under a new designation, or an updated management plan, or one-off regulatory or policy decisions, the IEA approach can be used to determine effectiveness, impacts and change over time stemming from a specific management action. This can include evaluating proposed management actions using the IEA's evaluation of alternative management strategies.



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