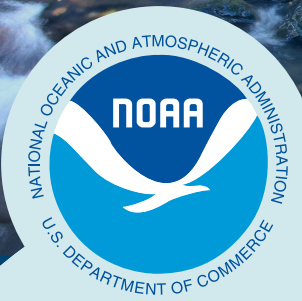




NOAA



Landscape-Scale Conservation and its Relationship to Ecosystem-Based Management

Many of the greatest threats to species and ecosystems, such as climate change and habitat fragmentation, occur on large scales. Recognizing that conservation and management actions also need to be on broad scales, federal agencies adopted the concept of **landscape-scale conservation** as a best practice. It has grown in prominence over the last several years, and been promoted through numerous initiatives in which NOAA is engaged. These include Landscape Conservation Cooperatives, the President's Climate Action Plan, and America's Great Outdoors Initiative.

There has been, however, some confusion about what exactly a "landscape" consists of, and how landscape-scale conservation relates to ecosystem-based management. **Ecosystem-based management (EBM)** approaches have a long and evolving history at NOAA, and are currently being applied throughout the agency. In fact, the two approaches share the same key elements and some previous distinctions between them (such as a primary focus on terrestrial vs. marine environments) have dissolved. In one sense, EBM can be viewed as a set of principles that are applied through approaches such as landscape-scale conservation. While terminology continues to evolve, there are many examples of how NOAA is implementing these approaches for the benefit of our trust resources.

Landscape-Scale Conservation (LSC)

Landscape-scale conservation initiatives are those efforts which are focused on large areas of recognized conservation value, sensitivity and/or threat and require a broad-based approach with specific, measurable conservation objectives.

Ecosystem-Based Management (EBM)

EBM is an integrated approach to management that drives decisions at the ecosystem level to protect the resilience and ensure the health of the ocean, our coasts and the Great Lakes.

Common Elements of Landscape-Scale Conservation and Ecosystem-Based Management

- **Holistic**—considers ecological, social, economic, cultural, and institutional perspectives
- **Place-based**—focused on a specific geography; addresses a range of scales, activities, and cumulative impacts
- **Interconnected**—recognizes the importance of interactions within and among different systems
- **Multi-stakeholder**—depends on collaboration of diverse stakeholders for success
- **Adaptive**—approach that evolves in response to needs and conditions
- **Multiple Applications**—can be applied to terrestrial, coastal, and marine environments

NOAA's Landscape and Ecosystem-Based Management Tools

- Integrated Ecosystem Assessments
- Habitat Blueprint Focus Areas
- National Estuarine Research Reserve and National Marine Sanctuary management plans
- Fishery Management and Endangered Species Act Recovery Plans
- Regional conservation initiatives (e.g., Gulf Coast Ecosystem Restoration Initiative, Great Lakes Restoration Initiative, Chesapeake Bay Program, California Bay-Delta Plan)
- Habitat Priority Planner, Essential Fish Habitat Mapper
- And more...



NOAA's Ecosystem-Based Management and Landscape-Scale Conservation Approaches in Action

Puget Sound

NOAA is engaged in a suite of landscape-scale initiatives and strategic partnerships in Puget Sound that balance the needs of humans and the environment. These efforts include:



- NOAA is collaborating with 14 federal agencies under the Puget Sound Federal Action Plan to protect and restore habitat for salmon, shellfish, and aquatic ecosystems.
- In several watersheds, NOAA is taking a multiple-benefit approach to landscape analysis that considers both economic and ecological results. Promising new efforts include the Farms, Fish, and Flood Initiative in the Skagit watershed—the largest in the region.
- NOAA is working with the State of Washington to implement the state's coastal management program. We've partnered with The Nature Conservancy and others on the Floodplains by Design and Coordinated Investment Strategy to integrate flood management, salmon habitat protection, and community development objectives.

Florida Keys National Marine Sanctuary

The Florida Keys National Marine Sanctuary represents a comprehensive approach to seascape and landscape management to successfully protect one of America's most diverse biological communities, while also serving as a vibrant hub for tourism, diving, recreational fishing, and other uses. Its bountiful resources are more intensely used than any other coastal area in the nation. Key attributes include:



- The Sanctuary operates scientific, educational, and enforcement programs that monitor and protect the Florida Keys' natural resources and maintain diverse uses.
- Sanctuary resources and uses are managed by broad landscape-scale collaborations together with targeted site-specific management programs (e.g. community-based advisory council, other Federal and state agencies).
- This multi-agency, stakeholder-based approach is a model for planning the restoration, future use, and protection of complex ocean-watershed environments throughout the United States.



West Maui Coral Reef Conservation

In West Maui—one of the U.S. Coral Reef Task Force’s three Watershed Partnership Initiatives—NOAA worked with federal, state, academic, foundation, and NGO partners to address multiple threats to the coral reef ecosystems. Specific activities include:

- Developing a watershed management plan for the Wahikuli and Honokōwai watersheds.
- Encouraging hotels and businesses to acquire and use reclaimed water to reduce runoff.
- Designating the Kahekili Herbivore Fisheries Management Area to address impacts of fishing herbivorous fish on coral reefs.
- Conducting annual fish and benthic monitoring to assess the effectiveness of protecting herbivorous fish species from fishing, to reduce invasive algae and enhance coral recruitment and growth.
- Developing an ecosystem service trade-off tool for Maui’s coral reefs and coastal ecosystems to enable decision-makers to compare outcomes from alternative management scenarios related to land-based sources of pollution, fishing impacts, and climate change.



Looking Ahead

As evidenced by the examples above, NOAA is already using a diverse array of ecosystem-based management and landscape-scale conservation approaches. There are opportunities for us to build upon and expand the use of EBM and landscape-scale conservation. In this era of limited resources and large-scale stressors, NOAA must look for ways to collaborate with partners to achieve common objectives and goals. EBM and landscape-scale approaches can help us better address the increasingly complex conservation challenges facing our nation and the world.