

**NOAA
FISHERIES**

Ecosystem Service Valuation: U.S. Policy and Management Context

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What are Ecosystem Services and Ecosystem Service Values?

- The outcomes of ecosystem functions that yield value to people
 - biomass production, climate regulation, coastal protection from storms, tourism & recreation
- Quantified/monetized value of the service





- Some values more difficult to quantify/monetize than others
 - replacement cost, damage avoidance, stated & revealed preference
- Increasing interest in incorporating ecosystem service values into resource management
 - Public awareness of linkages between human well-being and ecosystem health
 - Advances in natural and social sciences
 - Policies

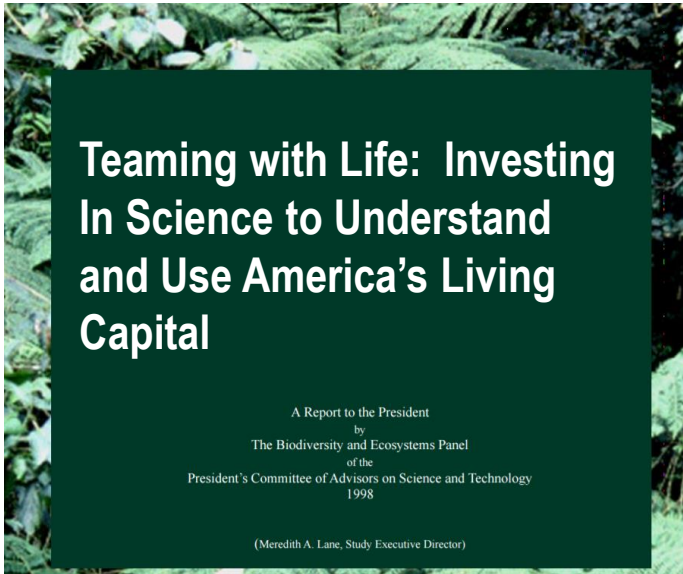
U.S. Policies/Directives and Ecosystem Services

Presidents Council of Advisors on Science and Technology (1998)

Presidents Council of Advisors on Science and Technology (2011)

National Ocean Policy Implementation Plan (2013)

Executive Memorandum on Incorporating Ecosystem Services into Federal Decision Making (2015)



- *“We should establish the economic value of, restore, and maintain ecosystems to ensure that biodiversity is preserved and that life-supporting services continue.”*

PCAST 1998

REPORT TO THE PRESIDENT SUSTAINING ENVIRONMENTAL CAPITAL: PROTECTING SOCIETY AND THE ECONOMY

- *“...increased agency use of advances in the valuation of environmental capital and ecosystem services in planning and management decisions.”*

PCAST 2011

National Ocean Policy Implementation Plan

- ...agencies will utilize public input, local and traditional knowledge, and scientific information to help **identify and communicate the economic value of ecosystem services...**

Executive Memorandum

- Incorporating Ecosystem Services into Federal Decision Making
- Directs agencies to develop and institutionalize policies to promote consideration of ecosystem services, where appropriate and practicable, in planning, investments, and regulatory contexts

Policy & Management Context for Ecosystem Service Values at NOAA

- ESV Final Report to NOAA (2016)
 - ESV has utility in frameworks of existing legal mandates, none specifically mention ecosystem services
- Primary context for ESV
 - **Place-based Management**
 - **Ecosystem-based Management/EBFM**

Place-based Management

- A coordinated, area-based, multi-stakeholder approach to improve locations
- National Estuarine Research Reserve System, American Recovery and Reinvestment Act (habitat restoration), Coastal Zone Management Act, National Marine Sanctuaries Act, others
 - Valuing protected riparian buffer lands (Wells Reserve, ME)
 - Valuing salmon habitat & forest restoration actions (Elwha River, WA)
 - Blue Carbon markets
 - Habitat Economics Program - develop inventories of the values associated with different habitat types

Habitat Protection | Rivers & Fish Passage

Ecosystem-based Management/EBFM

- **Seeks to optimize societal benefits from marine environment, facilitate trade-offs between stakeholder priorities, balance social and ecological needs**
 - **Commercial fisheries values**
 - **Recreational fisheries values**
 - **Protected species values**
 - **MPA values**
 - **Habitat values**

ESV Challenges

- Frameworks for including ESV in decision-making exist, to date limited systematic use outside of commercial fishery values
- Best practices should be established for identifying, estimating, and including values in management
- NMFS ESV Working Group



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National Policy Forum

Advancing Ecosystem Services in Federal Resource Management Decisions

- Forum brought together representatives from federal agencies to share ideas and approaches for implementing ecosystem-services-based approaches to natural resource planning and management