



New Topic Proposals
2019-20

NOAA Science Advisory Board
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Ecosystem Sciences Management Working Group

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New Topics Proposed by ESMWG

- Three new topic proposals were developed by the ESMWG during May 2019 meeting.
- Developed in coordination with NOAA Line Office and SAB Liaisons.
- The goal for each is a concise, 10-15 page report with accompanying presentations to the SAB and Line Office representatives as requested.
- Proposals are structured to meet new SAB proposal guidelines.
- ESMWG topic reports typically require 1 – 1.5 years from approval to completion.
- Designed to meet specific information needs related to ESMWG and SAB missions.

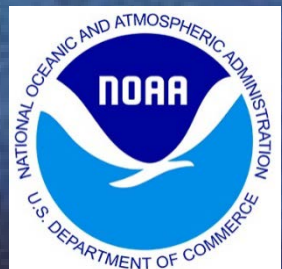


Three Topic Proposals

- Socio-Economic Dimensions of Integrated Ecosystem Assessments
- Practical Methods for Adaptive Risk Management and Decision Making under Uncertainty
- Aquaculture and Ecosystems in the 21st Century

Capacity and Relevance

- The ESMWG has the bandwidth to start on 1-2 of these topics as of our next meeting.
- All proposals were reviewed by primary Line Offices working with ESMWG (NMFS, NOS, AOR)—all are of direct interest.



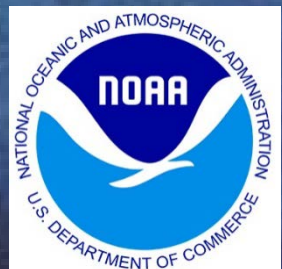
Socio-Economic Dimensions of Integrated Ecosystem Assessments

- IEAs: Evaluations and decision-making processes that consider all components of an ecosystem, including humans, to enable managers to balance tradeoffs and determine which actions are most likely to achieve desired goals.
- Recent symposium on 10 years of IEAs at NOAA emphasized need for improved considerations of socioeconomic dimensions, including non-fisheries dimensions.
- Among the data needs is information on human uses of marine and coastal resources (e.g., National Marine Sanctuaries).
- Human dimensions of emerging, sometimes conflicting uses.



Socio-Economic Dimensions of Integrated Ecosystem Assessments

- Goal: Review IEAs and make recommendations considering how the assessment of socio-economic dimensions might be improved.
- Consider how improved coverage of these dimensions can improve the capacity of IEAs to support ecosystem-based management, the blue economy, and sustainable uses of marine and coastal resources.
- Address socioeconomic information needs and capacity constraints.
- Consider applications of big data to address these questions.
- Coordinate with IEA Human Dimensions Working Group.
- Effort would be led by ESMWG Co-Chair Robert Johnston.



Practical Methods for Adaptive Risk Management and Decision Making under Uncertainty

- Coastal and marine ecosystem changes are occurring more quickly than predicted and are subject to *deep uncertainty*.
- Requires managers to re-assess management plans and strategies.
- Emerging methods expand upon traditional risk assessment to develop management options able to achieve goals under diverse and unpredictable scenarios.
- Goal: Explore recent advances in incorporating uncertainty into adaptive ecosystem management and decision support.
- How can NOAA apply these methods to improve decisions?



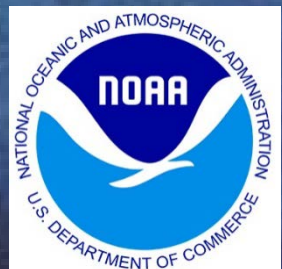
Practical Methods for Adaptive Risk Management and Decision Making under Uncertainty

- Synthesize approaches for decision support under deep uncertainty to evaluate and suggest practical tools that NOAA may wish to use or transfer to local decision makers.
- Assess the usefulness of existing tools (including ones used by the private sector, academia, and other federal agencies).
- Relevant to NOAA's mission to reduce uncertain harms from the impacts of extreme weather and water events.
- Relevant to topics including fisheries management, coastal resilience planning and support for the blue economy.
- Effort would be led by ESMWG member Lisa Wainger.



Aquaculture and Ecosystems in the 21st Century

- NOAA efforts to promote US aquaculture will have consequences for marine and coastal ecosystems.
- These interactions affect the sustainability of aquaculture expansion, as well as the extent to which aquaculture can successfully co-exist with other uses of marine and coastal resources.
- The extent to which the public supports aquaculture development in the US depends on perceptions (and sometimes misperceptions) of ecosystem interactions.
- Goal: Advise NOAA on how an ecosystem perspective can help the agency promote more sustainable, productive and beneficial aquaculture.



Aquaculture and Ecosystems in the 21st Century

- How to manage and promote aquaculture in ways that address ecosystem concerns, particularly in areas such as the US Northwest?
- Review the scope of selected projects and their potential impacts on coastal ecosystems, planned mitigation of those impacts, and “lessons learned” from similar projects in the United States and elsewhere.
- Review management oversight and environmental impact review.
- Consider changing coastal ecosystems and the impacts of aquaculture practices, along with potential impact mitigation.
- Relevant to NOAAs Ecosystem Approach to Aquaculture (EAA).
- Effort would be led by ESMWG member Selina Heppell.



Comments and questions are welcome...

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