



Development of Guidelines for NOAA's Integrated Ecosystem Assessment Program

**A Presentation to the
NOAA Science Advisory Board**

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March 9, 2011



Outline



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 - The IEA Framework Aligned with SAB-ESMWG Vision
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Purpose

To respond to the SAB-ESMWG's recommendations for development of guidance for scientists, managers, and their partners to develop timely and effective Integrated Ecosystem Assessments (IEAs)

- Through this response we hope to also:
 - Convey the clear methodology and framework for IEAs
 - Request the SAB establish a sub-group of the ESMWG to work with IEA staff on the development of approaches and materials for communication, outreach, and guidance.



Issue

- NOAA will, over the next year, work to develop guidance per the SAB recommendation
- NOAA's Integrated Ecosystem Assessment (IEA) framework: A systematic, multi-step process
- The IEA process/ framework is aligned with SAB recommendations
- Regional consistency through a national framework
- Next steps: Scoping, outreach, stakeholder engagement
- Request support of SAB-ESMWG sub-group to aid in development of guidance.



Development of IEA Guidance

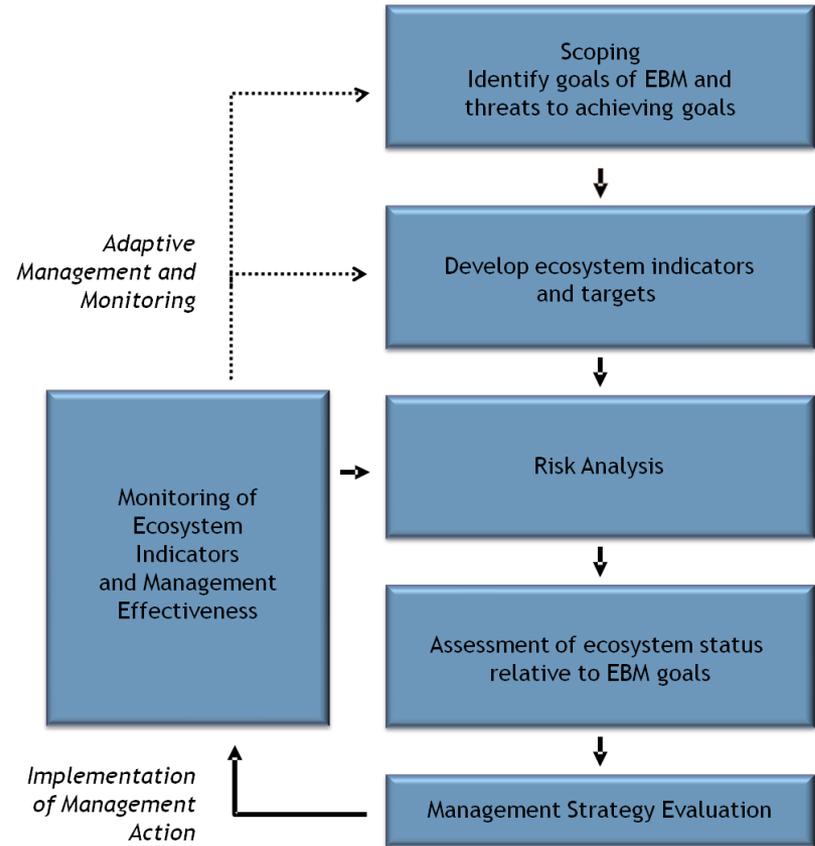


- The principle recommendation of the SAB is that “NOAA develop guidance for scientists, managers, and their partners to develop timely and effective IEAs
- NOAA will, over the next year, work to develop outreach approaches and a guidance document that lays out the general methodology for IEAs, based on experience to date.
- NOAA sees this as a positive challenge



The IEA Framework

- NOAA's IEA program has a defined, discrete, systematic, and iterative multi-step process and approach (framework).
- The framework is to be adopted by all eight IEA regions as the program expands.
- It is flexible to be adaptable to specific regional needs, though all steps should be included.





IEA Framework Aligned with SAB Vision



SAB Vision

A Decision Support System that uses data and models to make tradeoffs, future conditions, and/or alternative scenarios transparent and accessible.

IEA Framework

Inherently and by design, NOAA's IEA process and approach is a "Decision-Support System" that:

- uses modeling and diverse data to forecast future conditions,
- evaluates alternative management scenarios,
- assesses economic and ecological tradeoffs through those evaluations to help guide decision,
- monitors and evaluates performance of the implemented management action relative to pre-determined management targets,
- and enables revision of the IEA and action taken based on that evaluation (i.e. adaptive management).

Each of the steps in the IEA loop contributes to this system and can be mapped to the described components of the SAB vision:



IEA Framework Aligned with ESMWG Vision



IEA Framework

Scoping - Work with stakeholders, managers

Indicator Development - identified, tested, and prioritized to measure ecosystem status; evaluate management scenarios, trade-offs, and management performance

Risk Analysis - Identifies relationship between each indicator and potential threats

Assessment of Ecosystem Status - Integration of indicators and risk analysis to establish overall status

Management Strategy Evaluation - evaluation of management actions to identify trade-offs; provide stakeholders with informed options

Monitoring and Evaluation – updates and adaptive management

ESMWG Vision

Unambiguous goals; early identification of policy and management objectives.

ID of ongoing methods for stakeholder engagement.

Broad consideration of key interactions among ecosystem components.

Consideration of ecological, social and economic processes driving the current system; how they are may change in the future

Quantification of trade-offs among ecosystem services potentially resulting from current, future management decisions

ID of data gaps; key risks and uncertainties

Process for external peer review and routine updates of the assessments



Regional Consistency Through a National Framework



- The IEA framework provides regional IEA practitioners with a consistent architecture while allowing flexibility to devise region specific needs.
- National HQ staff provide a unifying and coordinating function.
- Transfer of IEA architecture, methods, and info is occurring between regions.
 - e.g. Planning workshops; modeling workshops; expansion and implementation of data services framework; phone and e-mail
- Establishing an annual meeting of regional IEA teams to share best practices and lessons learned.
- Engaging with relevant councils, regional bodies, academic institutes to both educate and to leverage expertise and capacity regionally.



Next Steps for Implementing the IEA Process

- One critical step in the process that has been lagging is scoping that involves stakeholder engagement and outreach
- Each region has plans to work with local Sea Grant extension offices; NERRs staff, staff that work with fishery management and sanctuary councils to leverage their processes and experience
- Additionally, and importantly, NOAA's IEA and CMSP programs are working closely together: to define how our complementary efforts towards implementation of an ecosystem approach intersect, align, and in particular how IEAs can contribute to the needs of CMSP:
 - Fill critical information gaps in regional plans
 - Inform sectoral management by agencies implementing aspects of regional plans (e.g. fisheries, energy)



Next Steps for Implementing the IEA Process

- By putting better focus on stakeholder engagement, outreach and regional planning, it is hoped that:
 - the IEA process will be clarified,
 - IEA development and implementation will be improved
 - Progress will result in recognition and execution of a clear framework and approach for IEAs in each of NOAA's regional ecosystems.
- Leveraging existing products, outreach, and engagement, NOAA will develop communication materials and an implementation guidance document for scientists, managers, and their partners.



NOAA Coordination & Views



- Coordination with:
 - NOAA: NMFS, OAR, NOS, NCDDC
 - Regionally specific:
 - Management councils (e.g. fisheries management councils)
 - Regional bodies (e.g. West Coast Governor's Agreement, Gulf of Mexico Alliance, CMSP Regional Planning Bodies)
 - Academic institutes (e.g. Northern Gulf Institute; CINAR)
 - With development of the IEA program, coordination and outreach will continue to expand



NOAA Coordination & Views



- What has NOAA done to address this issue?
 - Technical documentation under development on elements of the IEA process and existing peer review literature will be/ are available and can contribute to the development of IEA guidance documentation.
 - Information found on the forthcoming IEA webpage will advance the articulation of the IEA process
 - In each region, program staff have been reaching out and participating with groups and individuals as noted.
 - More formal and comprehensive stakeholder engagement plans are being discussed and researched



NOAA Coordination & Views



- What are NOAA's views on the subject?
 - Better communication and guidance on the IEA methodology is essential.
 - NOAA has begun to improve our focus on this aspect of the program and will continue to do so with increased emphasis.
 - NOAA will cooperate with IEA partners across NOAA, as well as relevant IEA partners external to the agency.
 - NOAA agrees with the SAB that a guidance document on the IEA approach would be a useful and evolving resource.
 - This will be an ongoing effort.



Desired Outcome

- Provide guidance: NOAA would welcome and appreciate further dialog from the SAB on how NOAA might, over the next year, develop approaches for both outreach and guidance materials, including a generalized work plan, for IEA practitioners and end users.
- NOAA proposes the SAB establish an ESMWG subgroup to work directly with IEA staff to help define materials and methods that will contribute to better communication while the IEA program continues to develop.



Backup Slides





NOAA's IEA Regions = NOAA's Regional Ecosystems = US LMEs

