

BUILDING EFFECTIVE PLANS FOR ECOSYSTEM-BASED FISHERIES MANAGEMENT

Brief Summary

In 2014, the Lenfest Fishery Ecosystem Task Force was convened by the University of Washington (Seattle, U.S.) to provide guidance to managers on implementing ecosystem-based fisheries management (EBFM). On November 15th, this 14-member panel of leading natural and social scientists will release its report, "Building Effective Fishery Ecosystem Plans." It finds that a structured process is needed to fully implement EBFM, and proposes such a process to help managers to do the following:

- Establish goals, priorities, and measures of performance for the whole fishery system.
- Analyze system-level alternatives to directly address trade-offs.
- Focus jointly on ecological, cultural, social, and economic goals

What is EBFM?

EBFM seeks to account for the interconnections of many species with each other, with the environment, and with humans. Fishery management bodies around the world have taken helpful steps toward EBFM, usually by extending conventional management to include consideration of ecosystem factors such as bycatch, habitat, or climate. But they have generally not adopted a whole-system, EBFM approach.

A Blueprint for Fishery Ecosystem Plans: The "FEP Loop"

The main recommendation of the report is that managers develop a system-wide approach to fisheries management based on a structured process rooted in adaptive management. This process involves setting goals, taking action based on those priorities, measuring the results, and then revising the strategy based on the results.

The Task Force's version of this process aims to create an overarching plan for each marine ecosystem and its associated fisheries. These plans are known in the United States as Fishery Ecosystem Plans (FEPs). The "FEP Loop" process consists of the following five steps:

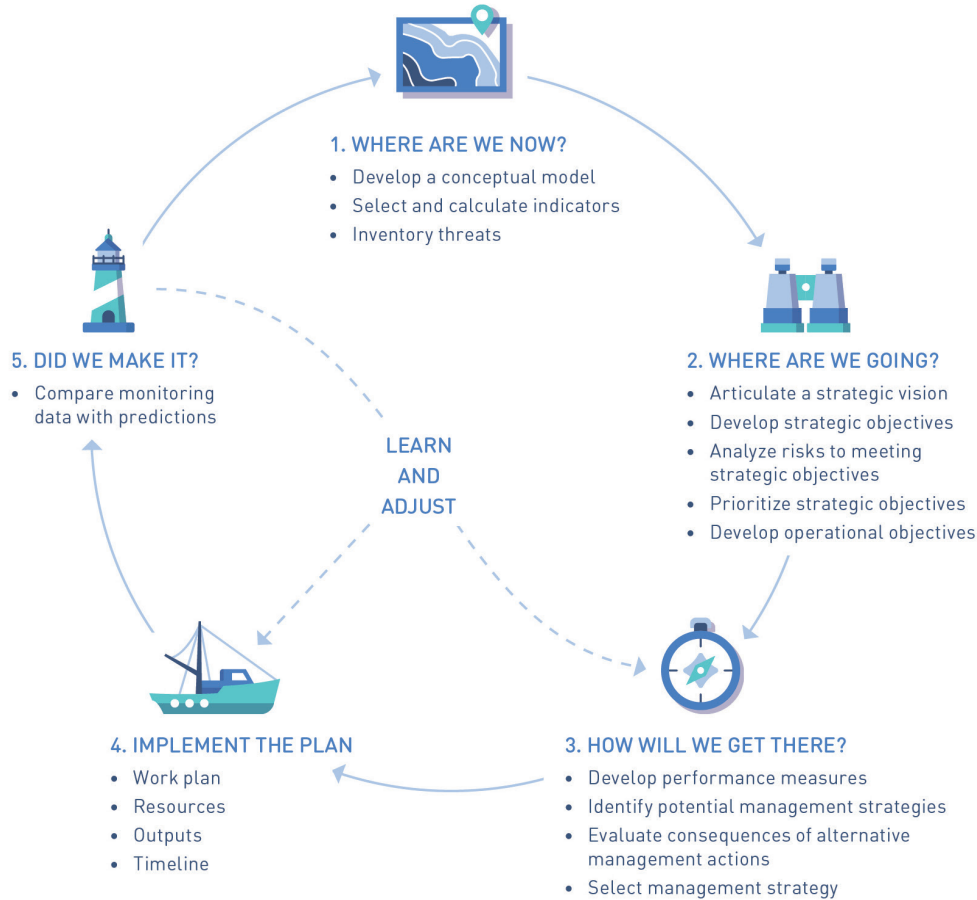
- **Step 1: "Where are we?"** Managers, scientists, and stakeholders should begin the process by looking broadly at the system. This involves creating a conceptual model, which describes each species and fishery and the direct interactions among them. This step also creates a set of "vital sign" indicators and a list of threats and pressures.
- **Step 2: "Where are we going?"** Next, managers, scientists, and stakeholders collaborate to develop and prioritize explicit, transparent goals for the fishery system. To complete this step, it is important to break the high-level objectives down into tangible desired outcomes, which should include clear statements of what is to be achieved and how success will be measured.
- **Step 3: "How will we get there?"** Managers and stakeholders develop specific performance measures that address ecological, socio-cultural, and economic objectives, and develop a host of alternative management alternatives to achieve the objectives. This leads to a clear view of the costs and benefits of each strategy.



Forage fish are important both for fisherman and as food for other fish. Ecosystem-based fisheries management seeks to account for such trade-offs. Credit: Jeremy Woodhouse, Getty Images.

Figure 1

THE STRUCTURE AND PROCESS OF FISHERY ECOSYSTEM PLANS



The figure depicts a process for developing and implementing a system-wide strategy for EBFM, known in the U.S. as a fishery ecosystem plan (FEP). The process is adaptive, meaning it leads to action based on existing information and then allows managers to learn and adjust based on the results of their actions.

- **Step 4: “Implement the plan”** Here, the managers initiate the alternative selected in step 3. This can be done entirely using existing processes for assessing scientific information and for amending regulatory documents.
- **Step 5: “Did we make it?”** The management alternatives formulated in step 3 should include a plan for monitoring that tracks progress toward objectives and produces data that can answer key questions about the system.

“ MANAGERS ALREADY HAVE THE SCIENCE AND TOOLS NECESSARY TO OPERATIONALIZE EBFM. ”

Feasibility of the FEP Loop

The Task Force report examined the feasibility of the FEP Loop by conducting 10 case studies of management bodies from the U.S., Europe, Canada, and Australia that have made progress toward EBFM. It found that most steps of the FEP Loop process are already being conducted, although incompletely in many cases, and concludes that managers already have the tools necessary to carry out the process.

The full report will be released on November 15, 2016, along with an Implementation Volume providing extensive guidance. Upon release it will be available at www.lenfestocean.org/EBFM.

CITATION

Essington, T.E., P.S. Levin, L.G. Anderson, A. Bundy, C. Carothers, F.C. Coleman, J.H. Grabowski, L.R. Gerber, E.D. Houde, O.P. Jensen, C. Möllmann, K. Rose, J.N. Sanchirico, and A.D.M. Smith. (2016) “Building Effective Fishery Ecosystem Plans: A Report from the Lenfest Fishery Ecosystem Task Force.” Lenfest Ocean Program. Washington, DC. In press.

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