

Making Fisheries Management Work for You A Fact Sheet Series for Connecticut Fishermen

Adaptive Management

What is adaptive management?

All fisheries management systems learn from their successes and failures. Adaptive management goes one step further and relies on systematic feedback learning and the progressive accumulation of knowledge for improved fisheries management. Adaptive management relies on deliberate experimentation followed by systematic monitoring of the results, from which fisheries managers and fishermen can learn. Adaptive management is participatory, involving fishermen as partners with fisheries managers in the management process.

Adaptive management takes the view that fisheries management policies can be treated as “experiments” from which managers and fishermen can learn. Adaptive management differs from the conventional practice of resource management by emphasizing the importance of feedback from the fishery in shaping policy, followed by further systematic experimentation to shape subsequent policy, and so on. In other words, it is iterative, repeating a process of steps to bring you closer to a desired result. Each iteration should involve making progress in reaching established goals and objectives. The important point is that effective learning occurs not only on the basis of management successes but also failures. However, learning from failures presupposes that what is learned can also be remembered. Organizations and institutions can learn as individuals do, and adaptive management is based on social and institutional learning. The mechanism for institutional learning involves documenting decisions, evaluating results, and responding to evaluation. Institutional learning must be imbedded in both the fisheries managers and the fishermen, and the knowledge held by each must be respected and shared.

For example, of particular importance are environmental fluctuations. Many areas are seeing decadal-scale regime shifts in marine ecosystems, as well as large, infrequent disturbances. How can we best respond to such perturbations? Some government agencies keep records or maintain disaster-response plans. But fishermen themselves maintain institutional memory of such fluctuations, along with response mechanisms. Perhaps a combination of agency institutional memory and fishermen’s knowledge can help provide adaptive responses for ecosystem perturbations.

The success of adaptive management will depend on fisheries managers and fishermen keeping an open mind to work together and share knowledge. There is a tendency to discount non-scientific forms of knowledge, institutional cultures within research and management agencies that work against genuinely

participatory approaches, and a process to promote shared understandings and information.

A Framework for Learning

Adaptive management provides a framework for testing assumptions, adaptation, and learning. Available information on the fishery is collected, there is consultation among fishermen and managers, an action strategy is agreed upon, and some action is taken. This action is monitored, information is analyzed, and lessons are learned. The action, depending upon its level of success, is adjusted as necessary. The logic behind adaptive management is that when fisheries are at risk, it is better to try something and learn from it than to do nothing at all.

More specifically, the adaptive management framework involves first thinking about the situation in the fishery, collecting information about the fishery, and developing a specific assumption about how a given project intervention(s) will achieve a desired outcome. The project intervention is implemented and the actual results are monitored to determine how they compare to the ones predicted by the assumptions. The key is to develop an understanding of not only which interventions work and which do not, but also why.

Adaptation is about systematically using the results of the monitoring to improve the project intervention. If the project intervention did not achieve the expected results, it is because either the assumptions were wrong, the interventions were poorly executed, the conditions at the project site had changed, the monitoring was faulty, or some combination of these problems. Adaptation involves changing the assumptions and the interventions to respond to new information obtained through the monitoring efforts.

Finally, learning is about systematically documenting the process that was followed and the results that were achieved. This documentation will help to avoid making mistakes in the future.

More Reading on Adaptive Management

L. Gunderson, C. S. Hollings and S. Light (eds.) 1995. *Barriers and Bridges to the Renewal of Ecosystems and Institutions*. Columbia University Press, New York, NY.

Richard Margoluis and Nick Salafsky. 1998. *Measures of Success: Designing, Managing and Monitoring Conservation and Development Projects*. Island Press, Washington DC.

C. J. Walters. 1986. *Adaptive Management of Renewable Resources*. McGraw-Hill, New York, NY.