ADAPTIVE MANAGEMENT AND COLLABORATIVE ADAPTIVE MANAGEMENT

Digest:

Adaptive management is an ongoing natural resources management process of planning, doing, assessing, learning, and adapting by applying what was learned to the next iteration of the natural resources management process. Adaptive management facilitates developing and refining a conservation strategy, making efficient management decisions, and using research and monitoring to assess accomplishments and inform future iterations of the conservation strategy. The goal of adaptive management is to make natural resource management more efficient and transparent, thereby making resource management agencies and organizations more credible and wide-reaching. In some instances, these goals cannot be reached by one entity implementing adaptive management alone. In those instances, collaborative adaptive management is needed.

WHAT IS ADAPTIVE MANAGEMENT?

Strategic conservation seeks to get the right conservation practices to the right place in the right amount at the right time, as efficiently as possible, to achieve a desired set of habitat and biological conditions. Over the past century the complexity of addressing the conservation challenges in the Great Lakes Basin has increased. Resource managers must simultaneously consider multiple species, habitats, ecosystem processes, socioeconomic values, political and geographic boundaries, and the other stakeholders involved when making decisions to strategically conserve the Great Lakes ecosystem. To deal with this complexity, conservationists have developed and adopted guiding complementary management principles like ecosystem management, landscape conservation, and adaptive management to facilitate strategic conservation.

Adaptive management is an ongoing process of planning, doing, assessing, learning, and adapting by applying what was learned to the next iteration of a management process. It is a flexible decision-making process that allows a conservation plan or project to be adjusted as the results of various actions become better understood. Put another way, adaptive management offers a way for managers to "learn while doing" and apply what they learn from each action to subsequent actions and projects. By facilitating the testing, assessing, and adapting of conservation actions, adaptive management encourages innovation and experimentation, links science to decision-making, and improves long-run management outcomes.

Adaptive management is most likely to succeed when used to design projects that must be planned and developed despite uncertainty and complexity, and when managers are willing to adapt, engage stakeholders, and implement all of the adaptive management steps. (Page iv of the Department of Interior’s Adaptive Management Technical Guide offers a good list of questions to consider when deciding if adaptive management is appropriate.)

WHO USES ADAPTIVE MANAGEMENT?

Across the conservation sector, and specifically in the Great Lakes, numerous federal and state agencies, regional bodies, and non-profits rely on adaptive management to guide their actions. The entities that implement adaptive management, however, often refer to it by different names or terms than described here. Regardless of what name and what terms are used, each entity’s process can still be labelled as adaptive management as long as it is focused on learning while doing (i.e., assessing and adapting), and also involves completing in some way the steps outlined in the next section.
For example, the Upper Midwest Great Lakes LCC relies on a “LCC Conservation Framework” to implement the U.S. Fish and Wildlife’s “Strategic Habitat Conservation.” Both the LCC Conservation Framework and Strategic Habitat Conservation are adaptive management processes that have been crafted and titled to meet the specific needs of the U.S. Fish and Wildlife Service and its LCC’s. In other instances, organizations, such as the U.S. Department of Interior, call their process “adaptive management,” but use a different definition than the one listed in the previous section. These terminology differences are generally insignificant, as long as the basic concepts remain consistent.

HOW IS ADAPTIVE MANAGEMENT IMPLEMENTED?

Adaptive management consists of six basic steps: Plan, Do, Assess, Learn & Share, Adapt, and Repeat. This framework allows natural resources managers to identify shared goals and priorities, set strategies, assess their efforts, share and learn from each other, and adapt as needed to achieve conservation outcomes. It also encourages stakeholder engagement and should be defined as a continuous ongoing process that changes and evolves as more information is gathered and understood.

The following outlines the key steps of the process, but, as noted in the previous section, the titles of these specific steps are not intended to be restrictive. Any process that involves the actions taken within each of these general steps could be considered an adaptive management process. Conservation practitioners interested in implementing adaptive management may also want to explore the numerous training materials available elsewhere, such as for the Open Standards[link is external], as this article is not intended as a comprehensive instructional document.

STEP 1: PLAN
The first step in the adaptive management process is to create a plan. This plan should include goals, strategies, and a plan for assessing progress (i.e., indicators of success). During this phase, the project leaders should also be identified and stakeholder engagement strategies set. This step involves the following sub-steps:

**Develop Shared Goals**

**Identify and Develop Complementary or Linked Conservation Strategies**

**Develop Education and Outreach, and Training Strategies**

Many projects overlook the need for education, outreach, or training, but these strategies are important as they can help generate support and encourage further action in the future. A training strategy explains how to successfully implement relevant aspects of the project (e.g., trainings for field restoration workers on how to implement the shared strategies). Education and outreach strategies describe how to successfully raise awareness and convince stakeholders to support or adopt the shared goals and strategies. Stakeholder engagement is a particularly important strategy as some projects may need to engage a variety of other stakeholders if the project has any chance of success.

**Develop Assessment Plan and Strategies**

**Establish a Regular Cycle of Assessment and Reporting**

**Establish a Regular Cycle of Planning, Goal, and Strategy Revision**

**STEP 2: DO**

This step involves developing and implementing the specific work plans for the conservation, education & outreach, and training strategies formed in step one. This is the step where action actually begins to happen on the ground.

**STEP 3: ASSESS**

Adaptive management requires determining how investments and actions lead to desired goals, at many steps and scales throughout the process. Doing this requires developing a monitoring plan in step one and the implementing that assessment plan here in step three. This implementation requires the following:

**ASSESS AND EVALUATE**

The results found while assessing/monitoring the project should be critically evaluated to determine what lessons have been learned and what changes may need to be made to the project. This step is often informally referred to as “tracking progress.”

**Report Progress**

**STEP 4. LEARN & SHARE**

Sharing lessons and formal products with key internal and external audiences helps other practitioners benefit from similar projects’ successes and avoid other projects’ pitfalls or problems.

**STEP 5: ADAPT**
One of the core values of Adaptive Management is that it allows a current project, and future projects, to adapt and evolve as information is gathered and analyzed. This step involves the following specific sub-steps:

**Adapt Goals, Strategies, and Assessment Plan**

**Report/Share Changes**

**STEP 6. REPEAT**

Steps one through five should be repeated continually through the life of the project.

**WHAT IS COLLABORATIVE ADAPTIVE MANAGEMENT?**

In some instances, adaptive management cannot be successfully implemented by one entity and requires a variety of stakeholders to jointly address a problem. This generally occurs when the problem is complex, meaning that it involves a wide array of stakeholders, spans geospatial boundaries, is beyond the ability of one organization, and for which the solutions are unclear.

Collaborative adaptive management is the flexible decision-making process of adaptive management combined with the concept of collaboration. Collaborative adaptive management involves two or more stakeholders committed to jointly implementing the adaptive management process through a collaborative process. A collaborative effort requires stakeholders to dedicate time and resources to develop collaborative processes and relationships, and to specifically put in place the necessary programs, policies, and procedures that help clearly articulate their respective roles, enable effective communication and coordination of their actions, and hold each other accountable to ensure they achieve their shared goals.

Within adaptive management, collaboration can help overcome key challenges such as overlapping authority, conflicting decision-making processes, and tensions between stakeholders with different issues. It is a challenging endeavour and is only appropriate in certain circumstances. In general, attempts to collaborate are most successful when the problem is timely and relevant parties are willing and ready to come to the table.

**Type**

**Article**