American Water Resources Association
2009 SUMMER SPECIALTY CONFERENCE
Adaptive Management of Water Resources II
June 29 – July 1, 2009
Snowbird, UT

Monday, June 29
10:30 AM – 12:00 Noon
Session 1: Panel - An Adaptive Management Overview: Defining, Using, and Recognizing Success

Panelist Participants:
Moderator - Olivia Ferriter,
U.S. Department of the Interior, Washington, DC
Art Coyendall, U.S. Bureau of Reclamation, Denver, CO
Byron K. Williams, U.S. Geological Survey, Reston, VA
Carl Shapiro, U.S. Geological Survey, Reston, VA

Session 1 is the first in a track of four sessions (Sessions 1, 5, 9 and 13) addressing adaptive management and its use, applications, and the institutional framework. These sessions will provide a practical framework and approach to learning-based management of natural resources, whereby learning occurs through the process of management itself and management strategy is adjusted through time based on what is learned. Sessions 1, 5, 9 and 13 described below include panel discussions, technical presentations, and place-based examples of the adaptive management of aquatic resources.

Adaptive management, a framework for learning about natural resources through management interventions, has been a part of natural resources thinking for several decades, under the generic rubric of learning-enabled management. By now many in natural resources conservation claim, often with only limited justification, that AM is the approach they commonly use in meeting their resource management responsibilities.

In general, adaptive management applies to natural resources that respond to changing environmental conditions and management strategies, under conditions of a limited understanding about resource impacts. Management effectiveness is constrained by this uncertainty, leading to disagreement about appropriate management strategy. A structured process of iterative management interventions affords the opportunity to reduce uncertainty and/or disagreement over time, while adapting management strategy as understanding accumulates. Because aquatic resources often involve iterative decision making in the face of uncertainties about its consequences, aquatic systems seem especially amenable to an adaptive approach to management.

AM is often characterized as “management by experiment” with management interventions seen as experimental treatments, with followup tracking and assessment used to improve understanding and inform future management. In this context AM is portrayed as “science-based” management, with science supporting management by providing information for decision making, and management supporting science with interventions that are designed for scientific investigation. In fact, AM is defined by this bi-directional support, with an overall goal of reducing uncertainty and improving management.

In this session AM is described in terms of deliberative and decision-making phases that are implemented through time. The deliberative phase includes framing the resource problem, identifying objectives and management options, predicting the consequences of decisions, designing monitoring protocols, and actively engaging stakeholders. The management phase consists of decision making, post-decision monitoring, and assessment of monitoring data, with feedback of what is learned into future decision making. Framing AM as an iterative two-phase process makes clear the opportunity for institutional as well as technical learning.

This session involves three presentations followed by a moderated discussion. The session highlights the focus, context, and features of adaptive management, the conditions in which adaptive decision

making is most likely to be appropriate and useful, and the operational process of actually implementing and evaluating adaptive management. The session presenters will discuss the initial commitment of time and effort needed to adequately frame an AM problem and its operational components. In addition, they will emphasize the benefits that can accrue to better understanding and increased flexibility in dealing with surprise.