## 1. Perfection is the enemy

This entire process is meant to be iterated. Indeed it must be iterated to be effective. Therefore getting everything just right on the first pass is not essential. In a sense it is best to leave folks with a sense that improvements are very possible – this promotes the commitment to iteration. Most importantly, too much time spent on developing detailed information almost always turns people off to the entire process. It is much, much better to push through the process focusing on the relationship between the steps, so that an initial construct is developed.

## 2. Understanding the underlying logic is the primary goal of the first iteration

The value of the decision framework lies in the establishment of very clear links between goals, strategies, monitoring, assessment, and adaptation. Once people understand the essential rationale, it becomes a general construct that is easily applied to a wide variety of issues, and it becomes a characteristic of program management. What we seek is a programmatic ethos that ensures no actions are taken that are not clearly linked to articulated goals, fully evaluated at appropriate and frequent intervals, and planned to evolve based on improved understanding. The structure of the Decision Framework is nothing more than a simple way to enable and reinforce the application of that logic.

## 3. Identifying benefits derived from process is important to sustaining interest and use of the framework.

There are several benefits that routinely emerge in the first pass through the framework, even when that pass is relatively unsophisticated.

- First, the value of clearly articulated or precisely defined goals is usually self-evident if the step is undertaken by a group. The diversity of opinions about what is meant or intended suffices to underscore the value of clarity. Simply asking questions about the goal to highlight uncertainties in the terminology is usually sufficient facilitation.
- Evaluation of goal practicality based on honest assessments of the program's capacity to
  manage critical factors influencing outcomes is usually another valuable insight. Again
  this is relatively simple to facilitate since groups tend to be reasonably objective about
  assessing manageability. The trick is to ensure there is a reasonable effort to identify
  critical factors from both the human and natural parts of the system. Typically, there
  are factors in the natural system that cannot be managed (e.g. tides, temperature,
  storms, population levels), and there are factors in the human system that are difficult
  to manage (e.g. preferences, political will, economic conditions).
- Identifying gaps or duplications in existing management programs focused on specific goals is a major benefit for partnership-based programs. The opportunity to make existing efforts more effective and/or more efficient through coordination and collaboration is one of the potential benefits of this process.
- Clear identification of critical monitoring needs is a major benefit of the framework. Prioritization of information needs is much easier when there is a strong connection

- between a program goal, the relevant management strategy, and the evaluation plan for the strategy.
- Program accountability is easy to demonstrate when decision thresholds are identified
  at the outset of a management strategy. If everyone knows what response is expected
  from a management intervention, what uncertainty surrounds that expectation, and
  what the plans are if the response does not meet those expectations adaptive
  management is clearly in place and program evaluation is transparent.

## 4. Identification of factors influencing goal attainment is the poor man's ecosystem model.

The goal of adaptive management is to reduce the uncertainties affecting the design of management strategies. Strategies are developed based on current understandings of how managed systems operate. Therefore it is necessary to start by specifying what is known about system behavior. This can be accomplished in a wide variety of ways including:

- full blown ecosystem models that incorporate human and natural components (the Atlantis model is an example);
- best available ecosystem models (examples might include EocPath-EcoSim or the current Chesapeake Bay model);
- logic models (results chain modeling, Miradi modeling, etc.)

While all of these have utility and value, they represent a level of sophistication that does not typically generate program management benefits commensurate with the effort required. For the initial iteration of the Decision Framework, the resolution of system understanding necessary is not particularly great. In fact it will be much easier to engage and sustain general understanding of the essential program logic and framework benefits if groups can be kept "out of the weeds."

What is important in the effort to identify factors affecting attainment of program goals is conscientious consideration of both natural and human components of the system. The Decision Framework provides a generic checklist as one strategy for facilitating this. There is nothing that makes this approach particularly superior to any other. It is purposefully general, promoting a coarse level of thinking about the system. Typically, even groups using this checklist will veer into detailed thinking about particular influences. Successful facilitation requires a commitment to generalization and achieving this outcome may require some manipulation of group inputs by the facilitator.

5. Identification of strategy performance expectations typically must overcome initial resistance.

Experienced environmental managers, and particularly scientists, are generally quite familiar with the natural variability of complex ecosystems. As a result, they can and will provide a multitude of well-reasoned arguments against specification of ecosystem responses to management interventions. Despite their reservations, it is essential that they be convinced to do so. Adaptive management requires that the program learn from its actions, and it can only learn if it can evaluate the accuracy of what it currently "knows." Specification of expected

responses defines what is currently known. This may, and typically will, come with much attendant uncertainty. The uncertainty should be accepted, but should be explicitly identified. This is accomplished by forecasting observable responses (appropriate monitoring parameters must be specified and levels must be predicted over some reasonable time period), and by identifying the range of reasonably anticipated variance around the forecast. Anyone who proposes a management strategy automatically has some basic expectation for a response. It is the role of the facilitator to use this fact to drag from the group some consensus vision of what this response may be.

The group engaged in this exercise should be brought to an understanding that they are articulating their collective understanding of the system, and thereby establishing the basis for evaluation of their proposed strategy. Failure to do this, denies the need for program accountability, since this is the essence of accountability.

Specifying system response expectations also establishes the basis for adaptive management. It enables identification of decision thresholds at future intervals – times when monitoring data can tell whether the system is responding within the bounds or even relatively uncertain expectations. If the system response lies outside those bounds, there are only two possible explanations:

- 1. The management intervention is not being implemented as planned; or
- 2. The understanding of the system is flawed.

It will be important for the group to consider what would be done as a consequence of either of these findings. But, in the initial iteration of the Decision Framework, that level of planning may not be essential. Effective prospective planning for the adaptive management step requires more advanced understanding of what can be accomplished in the monitoring and assessment steps. Much like sophisticated system modeling, too much detail in these steps can detract from the goal of imparting a strong appreciation of the essential logic in the framework. It is often best to leave consideration of these additional issues for subsequent iterations of the process.