

Wilderness Resource Stewardship Model

Step 1: Identify management issues and threats

- a. What is the current condition of the resource? *Identify the abundance, distribution, or number of indigenous species of concern (i.e., T&E, keystone, sensitive)*
- b. Is there a problem with or threat to the resource?
 - i. Identify changes or trends in the conditions. Are the resources declining or being degraded?
- c. Is the problem spreading? How rapidly? Are problems cascading? *It is important to know if the problem is isolated to a particular area or if it is spreading to other areas and, if so, how rapidly. Is the problem for one fish and wildlife species/population/community resulting in cascading problems for other plants or animals?*
- d. Is the problem caused by modern human actions? *It is particularly important to consider this question as it relates to wilderness because some impacts or declines in conditions may be the result of natural ecological processes.*
- e. Is there sufficient historic and current information to evaluate the problem, the threat, and the risks? *It is important to document data that supports conclusions for the conditions and trend of resources.*

Step 2: Inventory

- a. What data are needed to manage this resource?
- b. What *types* of information may be needed? (E.g., overview of general conditions? Baseline inventory? Re-inventory to assess changes and trends from previous inventory? Identify and quantify site-specific biophysical impacts?)
- c. How will I use this information? (E.g., To aid in setting or monitoring thresholds or standards as part of a wilderness plan? To assist in determining the causes of deteriorating conditions? To evaluate the effectiveness of resource protection measures? To identify and assign priorities for additional management action?)
- d. What is the scope and frequency of inventory? (E.g., Is a census or a survey needed, and how often will a re-inventory be needed? Will a quick assessment provide the needed information, or is a detailed method necessary?)
- e. What are other data needs that might take priority over inventorying this resource?

Step 3: Determine if action should be taken

- a. Can management action be taken outside wilderness that will adequately achieve stewardship goals? *If action can be taken to mitigate a threat or address an issue outside wilderness, there is no reason to consider taking action inside wilderness. This will allow for maximizing both the natural and untrammelled qualities of wilderness.*
- b. Does law and policy allow action on this problem in wilderness? *There may be laws that allow taking action in wilderness to manage fish and wildlife, including the Wilderness Act, the Endangered Species Act, and agency organic acts. What we are trying to get at with this step is, **should** action be taken. In the case of threatened and endangered species (TES), the Endangered Species Act may emphasize the natural quality of wilderness over the untrammelled quality. That is, a short term manipulation of the ecosystem is viewed as appropriate to restore the natural populations of a TES. As you saw in the previous question, it is important to consider if action outside wilderness is sufficient to address the problem.*
- c. Is it necessary to take management action in wilderness to completely achieve stewardship goals? *It is imperative that managers carefully consider this question. If the untrammelled quality of wilderness is sacrificed to maximize the natural*

quality of wilderness yet does not meet stewardship goals, both qualities of wilderness have been negatively affected.

Step 4: Identify possible management action alternatives

- a. Do you have an adequate range of alternatives? *Management actions are identified in response to identified issues, threats, or information needs. As you develop alternatives to deal with the issues concerning the management of the resource in wilderness, you need to make sure:*
 1. *The range of alternatives includes ones that maximize preservation of each of the affected qualities of wilderness character; and*
 2. *The location, timing, and frequency of actions in each alternative minimize impacts to wilderness character.*

These points should be familiar to you as components of making a Minimum Requirements Analysis (MRA). But they are useful sideboards even when making a formal MRA is not required. Specific management actions for fish and wildlife in wilderness are dependent on necessity/purpose/threat, species involved, environmental or resource setting, management goals/objectives, and agency guidance. Methods and techniques are many, vary widely, and will depend on these specific and local circumstances

Step 5: Evaluate, select and implement management action alternatives. *Once you have decided that action is necessary to meet goals and objectives and identified possible actions, you need to evaluate those actions based on their effects to wilderness character. A process that is similarly used in a minimum requirement analysis would be very useful here. To determine which management alternative or combination of alternatives to select, you need to evaluate the benefits and impacts of each.*

- a. *What is the probability of each of the alternative actions to accomplish the desired future – i.e., will the benefit be achieved?*
- b. *What are the adverse effects of each of the alternative actions on the qualities of wilderness character?*
- c. *Will the outcome be affected if the location, timing, or frequency of action is altered to reduce adverse effects?*
- d. *Which actions are the minimum necessary?*

Step 6: Monitor and adapt. *Once you implement actions, it is very important to monitor to determine if the actions are making a difference and if that difference is resulting in the intended effect. If not, adapt your actions accordingly. Consider the following checklist to ensure that you get the most from your monitoring program.*

- a. *Have you integrated checking the results of these actions (or, conversely, decision to take no action) into the overall monitoring of this resource?*
- b. *Are your monitoring indicators significant, responsive, credible, and feasible?*
- c. *Are your monitoring methods accurate, precise, sensitive; do they pose minimal visitor burden; do they answer the questions you need answered; and do you have the resources to follow them?*
- d. *Are your monitoring data analyzed, reported, and stored?*
- e. *Is your monitoring repeated according to plan and used to inform future decisions?*