Wilderness Awareness Workshop

# Case Study Discussion – Lynx Survey

**1. Problem:** It is not known if lynx are present in this wilderness.

**2. Situation**: The agency managing the wilderness needs to assess whether lynxs are present. The lynx is being considered for listing under the Endangered Species Act and if they are present, visitor-managment changes will likely need to be made to help preserve a unique wilderness attribute, a wildlife species that appears to be dependent on remote undeveloped habitat. Conducting an adequate ground survey for a rare wildlife species (in this case, lynx) in wilderness could adversely affect the species and other wilderness values. Information on survey methods is as follows:

* Aerial surveys conducted immediately after snowstorms indicated that wilderness areas had the highest potential for yielding confirmed lynx sightings.
* While aerial surveys were efficient, they were unable to determine if tracks seen near potential lynx-denning areas were actually lynx without observing the tracks on the ground (taking measurements, and documenting with photographs and casts). It is important to examine the tracks on the ground as quickly as possible after potential tracks are observed aerially because tracks can quickly disappear or become unrecognizable.
* If surveys are done, they need to be conducted in the winter and they need to minimize the time near lynx activity centers since lynx appear to be particularly sensitive to the close proximity of humans. (Note: field research indicates that ground approach (for example, by x-c skis), with its prolonged presence of human scent, is much more likely to result in lynx den abandonment than is touch-down by a helicopter and brief visit for the purpose of track measurment, etc.)
* Habitat for lynx is almost entirely within wilderness in this ecoregion. If the survey area was to be restricted to lands outside wilderness biologists estimate that only about 15-20% of suitable habitat would be surveyed.

**3. Management Question:**

a) Is management action necessary ***in wilderness*** to determine if lynx are present?

b) **IF** management action is necessary, what is the minimum necessary method and tool?

What survey method should be used to that would yield the most information on lynx presence with the least effect on the species and other wilderness values?

**4. Direction/ Guidance**:

1. What does the Wilderness Act say?

Section 2(a) . Wilderness shall be administered :

* + in such manner as will leave them unimpaired for future use and enjoyment as wilderness to provide for the protection of these areas
	+ for preservation of their wilderness character
	+ for the gathering and dissemination of information regarding their use and enjoyment as wilderness;

Section 2(c) Definition of wilderness:

* an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain.
* land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable
* has outstanding opportunities for solitude or a primitive and unconfined type of recreation
* is to be preserved in an unimpaired condition
* may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Section 4(b) Purpose of wilderness

“wilderness shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.”

Section 4 (c) (Prohibition of certain uses)

 “except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act ….there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.”

b) What is your agency policy?

2323.3 - Management of Wildlife and Fish

2323.31 - Objectives

 1. Provide an environment where the forces of natural selection and survival rather than human actions determine which and what numbers of wildlife species will exist.

 2. Consistent with objective 1, protect wildlife and fish indigenous to the area from human caused conditions that could lead to Federal listing as threatened or endangered.

 3. Provide protection for known populations and aid recovery in areas of previous habitation, of federally listed threatened or endangered species and their habitats.

2323.32 - Policy

2. Wildlife and fish management programs shall be consistent with wilderness values.

4. Manage wilderness to protect known populations of federally listed threatened or endangered species where necessary for their perpetuation and aid in their recovery in areas of previous habitation. When alternative areas outside of wilderness offer equal or better protection, take actions to recover threatened or endangered species outside of wilderness areas first.

5. Apply the "Policies and Guidelines for Fish and Wildlife Management in Wilderness and Primitive Areas," developed jointly by the Forest Service, Bureau of Land Management, and the International Association of Fish and Wildlife Agencies (FSH 2309.19) in a practical, reasonable, and uniform manner in all National Forest wilderness units. Use the guidelines as a foundation for or as addendums to State or individual wilderness cooperative agreements.

“Policy and Guidelines for Fish and Wildlife Management in National Forest and Bureau of Land Management Wilderness:”

“Research on fish and wildlife, their habitats, and the recreation users of these resources is a legitimate activity in wilderness when conducted in a manner compatible with the preservation of the wilderness environment. Methods that temporarily impinge on the wilderness environment may be approved if alternative methods or other locations are not available. Research or management activities must be approved in writing, on a case-by-case basis by the administering agency.”

The emphasis is on the management of the area as wilderness as opposed to the management of a particular resource. This language is viewed as direction that all management activities within wilderness be done without motor vehicles, motorized equipment, or mechanical transport, unless truly necessary to administer the area or specifically permitted by other provisions in the Act. It means that any such use should be rare and temporary; that no roads can be built; and that wilderness managers must determine such use is the minimum necessary to accomplish the task. Any use of motorized equipment or mechanical transport requires advance approval by the administering agency.

1. THREATENED AND ENDANGERED SPECIES

Many wilderness areas provide important habitat for Federally listed threatened and endangered species of wildlife. Actions necessary to protect or recover threatened or endangered species, including habitat manipulation and special protection measures, may be implemented in wilderness. But such actions must be necessary for the perpetuation or recovery of the species and it must be demonstrated that the actions cannot be done more effectively outside wilderness. Use only the minimum actions necessary and the methods most appropriate in wilderness.

2. FISH AND WILDLIFE RESEARCH AND MANAGEMENT SURVEYS

Research on fish and wildlife, their habitats, and the recreational users of these resources is a legitimate activity in wilderness when conducted 'in a manner compatible with the preservation of the wilderness environment' (Sec. 4(d)(1) of the Wilderness Act). Methods that temporarily infringe on the wilderness environment may be approved if alternative methods or other locations are not available. Research or management surveys must be approved in writing, on a case‑by‑case basis, by the administering agency.

Helicopters and fixed‑wing aircraft overflights may be used to conduct approved fish and wildlife research activities. Aircraft must be used in a manner that minimizes disturbance of other users, including humans and wildlife.

2323.33b - Habitat Surveys and Population Inventories. Conduct wildlife habitat surveys and population assessments in a manner compatible with the wilderness environment (FSM 2600, FSH 2309.19).

2323.37 - Wildlife and Fish Research. Wildlife and fish research is an appropriate activity in wilderness. In all cases, research shall be conducted in such a way as to minimize any adverse impacts on the wilderness resource or its users. See FSH 2309.19 for specific direction and guidelines for approving these activities.

 1. Research methods that temporarily infringe on the wilderness character may be used, provided the information sought is essential for wilderness management and alternative methods or locations are not available.

 2. Scientific sampling of wildlife and fish populations is essential to the management of natural populations in wilderness.

 3. Capturing and inconspicuous marking of animals, including radio telemetry, is permitted.

 4. Installations, such as temporary shelters for cameras and scientific apparatus, and enclosures or exclosures, essential for wildlife research and management studies may be approved on a case-by-case basis.

2323.38 - Visitor Management To Protect Wildlife or Fish Resources. The Wilderness Act requires managers to search for a balance between preserving the wilderness resource, by protecting natural ecological processes that can cause plant and animal populations or ranges to change, while at the same time making the resource available for visitor use and enjoyment. To do both, it may be necessary at times to limit visitor use to ensure that human influence does not impair natural wildlife or fish populations or their habitat. Specify the management of public use necessary to minimize conflicts with wildlife or fish (FSH 2309.19) in the forest plan.

 c) What does your unit or wilderness plan say?

 Insert or furnish a handout of any relevant forest or wilderness plan standards and guidelines

 here.**5. Is Management Action Necessary?**

Remember to split this minimum requirements decision making process into two parts:

 Step 1 – Is any administrative action necessary?

 Step 2 – If action is necessary, what is the minimum tool/method that will cause the least

 degradation of the wilderness resource and character?

 **Step 1: Is administrative action necessary? \_\_\_\_ YES \_\_\_\_\_ NO Why?**

Based on an analysis of law, agency policy, other valid rights, and possible other non-wilderness mitigations of the problem, is it necessary to take **any** management action in wilderness to address the issue and resolve the problem?

***Use the Minimum Requirements Decision Guide (MRDG) handout and the questions listed for Step 1in the MRDG to assess the issue presented in this case study.***

If the answer is YES, proceed to Step 2 of the MRDG.

If the answer is NO, explain why and stop the minimum requirements analysis here.

**6. Step 2 - What are the management options?**

If the answer to Step 1 of the Minimum Requirements Decision Guide (MRDG). is YES, complete Step 2, the Minimum Tool Analysis.

First, identify possible alternatives which include both the methods and the tools to be used. Possible alternatives for actions inside wilderness could include those listed below. Can you think of additional, less intrusive methods or tools that should be considered?

***Use the Minimum Requirements Decision Guide (MRDG) handout and the***

 ***questions listed for Step 2 to assess the issue presented in this case study.***

A. No action. Conduct no survey

 B. Helicopter Reconnaissance and Limited Landings in wilderness

 C. Helicopter Reconnaissance and Rappel with Over-snow Exit (No Landings)

 D. Are any other alternatives feasible?

**7. What is your management decision?**

 Which alternative or combination of alternatives is the minimum tool ?

 Include necessary mitigation measures here.

**8. What is the rationale for your decision?**

The rationale should link the decision made to wilderness management objectives, law, policy, forest plan standards and guidelines, etc. and exlain how this decision best protects the wilderness character while addressing the problem in a feasible manner.

**9. What additional constraints are necessary to minimize disturbance to the wilderness resource and character?**

 Timing, location, or frequency of activity?

 Maintenance requirements?

 Standards or design requirements?

 Monitoring?

**Actual Decision** - **Lynx Survey**

Example 1: Eagle Cap Wilderness, Oregon

**7. What is your management decision?**

**Alternative B:** A decision was made to conduct limited landings in the wilderness with follow up data collection of potential lynx tracks in the years 2000-05. Upon landing, surveyors disembark from the helicopter and take track casts and other track measures.

**Mitigation:** Landings would only occur in wilderness if tracks are highly probable, snow conditions allow positive identification and additional conditions and restrictions are met as outlined in an appendix to the project EA, Guidelines for Conducting Surveys with Helicopter Landings. Whenever possible, landings will occur nearby the observed tracks outside wilderness with over snow access to the tracks via cross-country skis.

**8. What is the rationale for your decision?**

1. **Was it necessary to take any action?** Lynx are described as one of the rarest and least known mammals in North America. Wilderness dependent species, such as the lynx are particularly sensitive to human disturbance. This is of particular concern in the Oregon Cascade Mountains due to the relatively small size and narrow stepping stone distribution of potential lynx denning habitat (i.e. wilderness) and increasing human activity. Because wildlife species such as lynx are an important reflection of wilderness values and qualities, it is essential that we have a better understanding of their presence and distribution so that appropriate management steps can be taken to prevent their complete demise.
2. **If so, was the action chosen the minimum necessary to meet stewardship goals?** Biologists have tried for several years to conduct surveys for lynx in wilderness using other methods (bait stations, ground based snow tracking, aerial flights with no landings, etc). All had serious shortcomings that affected our ability to conduct comprehensive and credible surveys. Low altitude helicopter flights with limited landings provided the best combination for gathering information with the least impact to the species and wilderness values. Surveying for lynx is, at best, a difficult undertaking
3. **If so, were the tools used the “minimum necessary to accomplish the chosen action?** Yes, a Minimum Tools Analysis” was conducted and a determination was made the selected alternative was the minimum action necessary to accomplish our goals.

 **9. What additional constraints are necessary to minimize disturbance to the wilderness resource and character?**

 Timing, location, or frequency of activity?

A total of 24 hours flight time over each wilderness per year.

 Landings are restricted to two each in two wilderness areas for the

duration of the project.

 Maintenance requirements?

 None

 Standards or design requirements?

 None

 Monitoring?

A national team of scientists is currently trying to develop a reliable methodology for lynx surveys. If a better and less intrusive methodology is developed we will re-evaluate our decision and modify our methods.

**Actual Decision** - **Lynx Survey**

Example 2: Sawtooth Wilderness, Idaho:

**7. What is your management decision?**

Approval to survey using a helicopter was denied. The Regional Forester directed the forest to work with the state biologists and the US Fish and Wildlife Service to design a survey that could be conducted on non-wilderness lands, using a helicopter, that would adequately represent the lynx habitat.

The survey was jointly developed and approved by the regulatory agency for listed species, the USFWS.