

# STEP 2

## ISSUES AND KEY QUESTIONS

### INTRODUCTION

This analysis focuses on key ecosystem elements most relevant to the management questions, human values, or resource conditions within the landscape.

This step highlights issues and key analysis questions based on indicators commonly used to measure or interpret key ecosystem elements. The following seven issues were identified by the Analysis Team and District Ranger. A background statement for each issue was developed to provide the context of the issue and focus for the analysis.

**Roads:** The watershed is highly roaded providing easy access for human uses (logging, hunting, firewood cutting, etc.) and for fire suppression. There are concerns about negative impacts this road network may have on streams, riparian areas, and wildlife, and for the costs associated with maintenance. These concerns will be evaluated within this analysis to facilitate a balance between resource and social needs.

**Terrestrial Wildlife and Sensitive Plant Habitat:** One Threatened listed species is found in the watershed; the northern spotted owl. Several other mammal, bird, amphibian, and plant species occur that are managed as sensitive. The north half of the watershed is part of a Late-Seral Reserve (LSR) land allocation, designated to provide habitat for late-seral wildlife species, specifically the northern spotted owl. An assessment of this LSR has been completed and is currently under review. Several other areas are designated Special Interest Areas (SIAs) and provide habitat for sensitive plants. This analysis will evaluate ways to maintain and protect the SIAs for long-term habitat. It will analyze the existing condition of late-successional connectivity and recommend ways to provide connectivity of habitat across the watershed.

**Fire Management:** Previous to fire suppression activities, wildfires frequently burned through the Beaver Creek area reducing fuel loadings. In the recent past, fire suppression has been effective with no wildfires larger than 100 acres since 1960. Fire suppression, along with insufficient treatment of timber harvest generated slash, has allowed for increased fuel loadings and fire risk across the watershed. The effects of interspersed land ownership patterns on fuels management and fire suppression will be evaluated. Recommendations for fuels management strategies will be provided.

**Commodity Outputs:** Timber harvest has traditionally been an important practice on both the private and public lands in Beaver Creek. In recent years, timber harvest on public lands has been restricted by wildlife and watershed concerns to the extent that little timber harvest has occurred. A refinement of the land allocations available for scheduled timber harvest and resource concerns that affect commodity outputs is important for planning purposes. Future expected yields influence social and economic decisions. Other forest products traditionally harvested from the area (firewood, etc.) are impacted by changes in forest management practices. This analysis will make recommendations and identify opportunities for short-term and long-term commodity outputs.

**Forest Health:** Many stands of trees in the watershed are overstocked resulting in some mortality from inter-tree competition. Overall, mortality is not high compared to other areas of the Klamath National Forest, but the current conditions are not sustainable over time. This analysis will examine the extent of forest health concerns in the watershed and recommend treatments for maintaining forest health over the long-term.

**Human Uses of the Landscape:** The watershed is used for a variety of human activities such as recreation, commodities, cultural, grazing, and private residences. The analysis will examine the balance between various human uses, needs, values, and ecosystem functions. The interaction between private land uses and management of public lands will be addressed.

**Riparian and Aquatic Habitat:** Three fish stocks found in Beaver Creek are proposed (steelhead and coho salmon) or petitioned (chinook salmon) for listing under the *Endangered Species Act*. Past human activities, e.g., roads, timber harvest, and mining, have negatively impacted the stream system by decreasing habitat quality for these anadromous fish and other riparian dependent species. Much of Beaver Creek has been labeled an Area with Watershed Concerns (AWWCs) in the *Klamath National Forest Land and Resource Management Plan (Forest Plan)* because of high disturbance levels and impacts to fisheries. The needs for restoration and protection of the riparian and aquatic systems, including designating and managing Riparian Reserves, will be evaluated in this analysis.

**KEY QUESTIONS** - Key questions were developed which address the identified issues and also serve to focus the analysis. They are organized by analysis step (Step 3 -Current Conditions, Step 4 - Reference Conditions, and Step 5 - Interpretation) and each step is divided into three categories, Aquatic, Terrestrial, and Human Resources. This format provides an organization to the document while responding to the issues.

### **STEP 3 - CURRENT CONDITIONS**

#### **AQUATIC RESOURCES**

##### **Watershed Health**

- 1-What are the long-term erosional processes in the watershed?
- 2-What are the accelerated erosional processes and rates as influenced by disturbance?
- 3-What areas in Beaver Creek are considered Areas with Watershed Concerns (AWWCs) in the *Forest Plan* and what additional areas should be evaluated in this process?

##### **Riparian Reserves**

- 1-What are the current characteristics of the riparian areas in the watershed, including the *Forest Plan* Riparian Reserves?

##### **Aquatic Species**

- 1-What is the role of the watershed for aquatic species?
- 2-What are the current habitat conditions for aquatic species?

#### **TERRESTRIAL RESOURCES**

##### **Vegetation**

- 1-What are the current vegetative conditions within the watershed?

##### **Fire**

- 1-What is the present fire regime in the watershed?
  - a. What is the predicted fire behavior potential?
  - b. What is the current role of fire, as an ecological process?
  - c. What are the differences between fire suppression forces used in the *Forst Plan* and the forces currently available?
  - d. What are the affects of the interspersed lands on fire suppression activities?

### **Wildlife**

- 1-What are the key species (including T,E,&S species) or assemblages found in the watershed and what is the condition of their habitats?
  - a. Where and in what condition is the connectivity for late-seral species in the watershed?

## **HUMAN DIMENSION RESOURCES**

### **Heritage (Cultural) Resources**

- 1- What are the unique characteristics within the watershed in terms of heritage resources?

### **Access & Travel**

- 1- What are the characteristics within the watershed in terms of access?

### **Community Values & Private Land Uses**

- 1- What communities utilize the watershed and what are these uses?
- 2- What are the private land uses in the watershed?

### **Recreation**

- 1- What are the current recreation uses in the watershed?

### **Commodities**

- 1- What commodities are currently being used or produced from this area?

## **STEP 4 - REFERENCE CONDITIONS**

### **AQUATIC RESOURCES**

#### **Watershed Health**

- 1- What were the erosion processes and rates previous to Euro-American settlement?
- 2- What past human activities have contributed to current accelerated erosion?

#### **Riparian Reserves**

- 1- What were the riparian conditions prior to Euro- American settlement?
- 2- How have past disturbances/processes influenced riparian areas in this watershed?

#### **Aquatic Species**

- 1- What are the past and potential conditions of the aquatic habitat?

### **TERRESTRIAL RESOURCES**

#### **Vegetation**

1- What was the historic distribution and structure of plant communities in the watershed?

### **Fire**

1- What was the past fire regime for the watershed?

### **Wildlife**

1- What was the distribution of key species in the watershed?

## **HUMAN DIMENSION RESOURCES**

### **Heritage (Cultural) Resources**

1- What were the historical uses of the lands within the watershed?

### **Access & Travel**

1-Why and how was the road system developed?

### **Community Values & Private Land Uses**

1-What were the historical uses of the lands within the watershed?

### **Recreation**

1-What were the historic recreational uses in the watershed?

### **Commodities**

1-When and how were resources in the watershed used?

## **STEP 5 - INTERPRETATION**

## **AQUATIC RESOURCES**

### **Watershed Health**

1-How do current erosion rates compare with reference erosion rates?

2-What subwatersheds should be considered Areas with Watershed Concerns and why?

3-Are the accelerated erosional features recovering and how can recovery be promoted?

4-When will the AWWCs be considered recovered?

### **Riparian**

1-What are the limiting factors and trends of the riparian areas?

### **Aquatic Species**

1-What are the limiting factors in terms of aquatic species?

2-How do current habitat conditions compare to the reference conditions and what are the trends?

## **TERRESTRIAL RESOURCES**

### **Vegetation**

1-What is the desired stand structure and seral stage distribution for each plant community?

- 2- Under current management, what are the future trends in the condition of the plant communities?
- 3- What can be done to develop and maintain the desired structure and seral stages of the plant communities?

### **Fire**

- 1- What is the desired role of fire in the watershed?
- 2- Under current management, what are the future trends for fire in the watershed?
- 3- How can fire be incorporated as an ecological process?

### **Wildlife**

- 1- What are the desired species and habitat conditions?
- 2- What are the future trends for the key species and their habitats?
- 3- What can be done to develop and maintain the desired key species and their habitats?

## **HUMAN DIMENSION RESOURCES**

### **Heritage (Cultural) Resources**

None specifically identified for this step.

### **Access & Travel**

- 1- What resource and social concerns exist with the current road systems?
- 2- What are future trends in road uses, needs, and management?

### **Community Values & Private Land Uses**

- 1- How does the landownership use pattern affect management of the lands within the watershed?

### **Recreation**

- 1- What are the future trends for recreation uses in the watershed?

### **Commodities**

- 1- What are the future trends in the utilization of commodity resources in the watershed?