

## CHAPTER 2: ISSUES AND KEY QUESTIONS

Issues are developed to address uses, values and concerns raised in the Northwest Forest Plan and other higher level plans, interactions with watershed residents, landowners, and interested individuals, and discussions with state and federal agency personnel. The key questions focus the rest of the analysis on the most important ecological processes and how processes interact in the watershed.

### **Issue #1 - How can upland forests be managed to reduce forest fragmentation and support late successional species of concern?**

Key Question: What seral classes and patch sizes existed historically on this landscape? What natural disturbances led to those conditions?

Key Question: Do the changes in vegetation patterns, stand structure, and composition that have occurred on the landscape over the past century affect the long-term health and sustainability of forest conditions and its ability to function as suitable wildlife habitat?

Key Question: How much of the current forest is mature conifer and how is it spatially distributed? How does late-successional forest habitat in the watershed function in the larger landscape? How much suitable habitat is available for spotted owls and marbled murrelets in their provincial home range? How do current road densities affect these species?

Key Question: How much of the current mature conifer is considered "interior mature habitat" (habitat >500 feet from edges)? What is the spatial distribution of the interior habitat?

Key Question: Are there specific areas outside federal lands in the watershed which serve an important function for connectivity? Where are the key areas to target for land exchange potential?

Key Question: Where is the high quality bald eagle habitat?

Key Question: What vegetation management prescriptions are recommended for this Watershed?

**Issue #2 - How has wetland and riparian habitat been altered by past and current land use, and how can the wetland habitat and ecological functions be protected and enhanced?**

Key Question: What would we expect for the natural vegetation structure and composition along rivers, lakes, streams and in wetlands in the watershed? How has it been affected by Euroamerican human land use?

Key Question: What are the major natural disturbances prior to Euroamerican human settlement; what are the major disturbances today? What are the relationships between upland and riparian disturbances?

Key Question: How will restoration activities affect human uses of the watershed, *i.e.* grazing, access, recreation, navigation?

Key Question: What is the extent of marsh areas in the watershed? What role do they play in the function of aquatic and terrestrial habitats?

**Issue #3 - How can lakes and stream channel conditions be improved to protect existing habitat and provide better habitat for fish and other aquatic species?**

Key Question: How has function of lakes for coho changed in the last 100

Key Question: How are lake levels being managed at this time? Who is responsible for monitoring? How does current management of lake levels compare to historic levels and what is the biological effect on aquatic species? What effect do dams have on fish movement and productivity?

Key Question: What is the current and historic relative abundance and distribution of species of concern in the watershed?

Key Question: Where are our best opportunities for riparian restoration (riparian tree planting, commercial thinning)?

Key Question: Where are our best opportunities for instream restoration?

Key Question: Do any fish passage problems exist on federal land in the watershed?

Key Question: Where are the highest priorities for land acquisition in the watershed?

Key Question: Where are our best opportunities for private partners for restoration? What are the benefits and deterrents for partnering (from the perspective of landowners and Forest Service).

Key Question: What role do estuaries play for fisheries, especially coho?

Key Question: What is the best treatment of non-native plants and animals in the lakes?

**Issue #4 - What is the current condition of water quality in the watershed? What are the impacts to water quality? What opportunities exist to improve water quality?**

Key Question: What are the riparian conditions for shade, bank stability and long-term large woody debris supply for the watershed? What are critical areas to restore to aid aquatic habitat?

Key Question: What is the condition of the dunal aquifer? What needs to be done to protect this water resource?

Key Question: Are there any unique geologic or geomorphic conditions in this watershed that affect function of the terrestrial and aquatic systems (sediment and wood routing)? How were the dunes formed and what is unique about them in the region? How were the coastal lakes formed and what is unique about this formation in the region?

Key Question: What type of soils exist in the watershed and how do these soils affect the hydrologic character of the watershed? (i.e. flow regimes and water tables).

Key Question: What is the extent of grazing in the watershed? What are the direct effects on water quality from grazing practices in the watershed? Where diking and channelization have occurred in depositional areas, how are aquatic resources affected? Where does diking restrict floodplain connection within the watershed?

Key Question: What is the current status of water temperature in the watershed? Where should monitoring focus in the future?

Key Question: Where are the areas of high, moderate and low instability within the watershed? How do unstable areas affect both sediment and large wood routing in the watershed? Given these dynamics, where would structure placement be most effective in the watershed to enhance fish habitat?

Key Question: Where are there road problems that could be chronic fine sediment producers for the long term? Which roads are priorities to fix? maintain? Obliterate? Any opportunities to work with private industry to fix roads?

Key Question: How is water quality in the Coastal Lakes being affected by: development? logging? grazing? recreation? What, if anything, can be done by the Forest Service to improve water quality? What monitoring has occurred in these lakes and what is needed

for the future? What are the most important water quality parameters that need to be tracked for these lakes? What advice/public involvement can be given to the Dune City and Lane County planners to assist in protection of these lakes?

Key Question: Are there any relatively untouched areas that could serve as reference conditions in the watershed for terrestrial or aquatic ecosystems?

**Issue #5 -- What is the expected impact of continued population growth, urban development, and recreation use on the watershed? How can development and human use be managed to minimize impacts on the sensitive dunal, wetland, and riparian ecosystems?**

Key Question: What increased uses on Federal forested lands in the upper portions of the watershed are expected over the next 20 years (e.g. road use, special uses)? What added demands will those have on resources and wildlife?

Key Question: What increased development will occur on the lakes in the watershed over the next 20 years? How will that affect water quality, wildlife, fish and other natural resources?

Key Question: What increased recreation demands will occur in the Dunes National Recreation Area over the next 20 years? How will that affect wetlands, water quality, wildlife, fish and other natural resources?

Key Question: What will be the combined and cumulative effects on natural resources from the interaction and increased uses of resources by people on National Forest land, dunes, and lakes?

#### **Other Issues Considered But Not Analyzed in this Watershed Analysis:**

Spreading of European Beach Grass on the sand dunes. This issue was considered extensively in the Dunes National Recreation Area Plan. Measures are being taken to control the spread of beach grass to the extent possible.

All terrain vehicles (ATV). This issue was also considered in depth in the Dunes National Recreation Area Plan.