

6. Monitoring

This section discusses monitoring needed to gauge the effectiveness of management activities and the types of plans and reports needed to guide effective management and

ensure adequate recordkeeping. A system for monitoring plan implementation and management practices is described.

Plans

The Corvallis Forest Stewardship Plan shall be reviewed about every 10 years, and revised as needed. Operational Plans shall be prepared for timber harvests and major projects. Operational plans include the harvest prescription or project specifications, including maps, stand delineations, reserve areas, intended outcomes and implementation details.

Baseline Data

Baseline information is needed to document the condition of important property resources, and provides the basis for monitoring to assess the effects of management over time. Since 2006 extensive baseline information has been collected for fish and aquatic resources (Appendix B), wildlife surveys (Appendix C), a systematic forest resources inventory (Appendix D), and stream temperature surveys (Appendix F). Cooperative surveys by Oregon State University or volunteers may provide additional baseline information over time.

Monitoring

Monitoring provides information to help determine if the forest management activities are meeting the City's Vision and Guiding Principles, and are adhering to the Plan's Policies and Guidelines. Through the monitoring process determinations may be made as to whether the Plan needs to be amended or management activities need to be redesigned.

Specific reasons for monitoring:

- To keep current information on the forest and all management activities
- To document existing and new occurrences of legally protected species (Endangered Species Act), and assess the effects of management
- To document existing occurrences of forest pests (insects, disease, invasive plants), record new occurrences, and assess the effects of management
- To determine whether activities prescribed in CFSP were carried out, whether they produced the desired results, and their impacts on other resources
- To provide a basis for Adaptive Management over time

Methods

To make monitoring cost-efficient and useful, this plan focuses on integrating monitoring with on-going forest management, rather than creating a separate process. This philosophy emphasizes an integrated approach where, as possible, information is

collected before, during and after operational work, as part of a specific project and multiple projects over time.

Types of Monitoring

There are several kinds of monitoring that can be undertaken depending upon the project objective, standards required, and resources available. These include:

- ***Compliance and Implementation monitoring:*** Implementation monitoring (IM) assesses management actions (e.g., timber sale, resource survey) to determine if they were implemented properly. IM documents the type of action, location, and outcome. It does not require extensive data and is usually a low-cost monitoring activity. Compliance monitoring (also known as post-implementation monitoring) tracks compliance with established laws, rules or benchmarks including standards and guidelines. Compliance monitoring is also used in reference to monitoring of projects to see if they are functioning as they were designed or intended (e.g., did the new stream culvert allow fish passage).
- ***Status and trend monitoring:*** Status and trend monitoring characterizes existing conditions that can be used as a baseline for future comparisons. Trend monitoring measures specific parameters at predetermined time or space intervals to order to assess change in status over time (e.g., water quality, water temperature, size and number of snags per acre). Status and trend monitoring will provide a means to estimate the status of wildlife populations and their habitats via vegetative cover type and to track, over time, indicators of quantity of habitat, functional diversity, connectivity, threats, and other factors affecting habitat suitability for plants and animals.
- ***Effectiveness monitoring:*** Effectiveness monitoring at the project scale measures environmental parameters to ascertain whether the actions implemented achieved a desired change in habitat condition. In addition effectiveness monitoring attempts to establish “cause and effect” or inferential relationships between management actions, habitat conditions and wildlife. It pertains to evaluation of projects and programs meant to enhance habitat conditions with the intent to increase wildlife and plant populations. Normally this requires longer term detailed and technically rigorous studies outside the funding capability of the City. However, opportunities may exist in cooperation with Oregon State University, other agencies and partners.
- ***Resource Project Reports:*** These are project reports, including pre-operational plans and post-operational reports. For example, a timber harvest plan will describe existing conditions, the harvest prescription and how it meets goals for stand development and structure such as tree density, snags, wildlife and legacy trees, down wood, etc.
- ***Special Monitoring Projects:*** There may be cases where special monitoring projects are developed to answer specific questions. These can provide educational opportunities for students or interested citizens who want to be involved in data collection, with coordination and evaluation support from a resource professional. For example, additional wildlife species surveys.

Structure and Management

Monitoring will be a joint effort of city staff and contracted consultants. Staff will provide oversight, overall management direction, serve as the information conduit between consultants, the city, and the public, and be the central data repository.

Consultants will provide monitoring system guidance, collect data, provide data analysis, and develop reports, maps, and other data product. In cases where highly technical data collection is required (e.g., fish and wildlife surveys) monitoring may be conducted by private contractors.

The Watershed Management Advisory Commission shall evaluate the progress in plan implementation and discuss what is working well, what problems there are, and suggest possible adjustments to be made. As appropriate, technical review committees may be established to provide input to staff, the Watershed Management Advisory Commission or City Council.