Watershed Analysis

This document provides an overview of the watershed analysis program, a status of current projects and a plan for projects for the period of the district implementation plans July 2001 – June 2011.

Watershed Analysis

The state forest watershed analysis program was implemented after the Board of Forestry adopted the *Northwest Oregon and Southwest Oregon State Forests Management Plans (FMPs)* in January 2001. The FMPs' aquatic and riparian strategy 1 states, "Implement watershed assessment and analysis" (p. 4-60 NWFMP, p. 4-57 SWFMP).

The FMPs specifically state that watershed assessment and analysis will be used during plan implementation to collect needed information at both watershed and site-specific levels. The information will be synthesized into appropriate recommendations for appropriate changes to goals and strategies. Information from watershed assessments and other inventory and assessment projects will be used in an adaptive management framework to accomplish plan objectives.

Overview of Progress to Date

Since the adoption of the FMPs the state forest program has been developing a watershed analysis program. Progress has been made in various ways that includes the following items:

- Hired personnel.
- Established a watershed analysis subcommittee within the State Forest Advisory Committee (SFAC).
- Drafted a watershed analysis manual.
- Awarded contracts for two watershed analysis pilot projects.
- Developed a method for prioritizing and scheduling watershed analysis projects.

Program Staff

There are two state forest staff personnel specifically assigned to work on watershed analysis. A watershed coordinator was hired in 2001 and a watershed specialist was hired in 2002. Additionally, there is a vacant watershed specialist position that will be filled in the future as the program grows. The state forest staff work collaboratively with the districts on all projects related to watershed analysis.

SFAC Watershed Analysis Subcommittee

In order to ensure broad-based solutions to watershed issues, ODF is working with the State Forest Advisory Committee for the Northwest and Southwest Oregon State Forests Management Plans. The SFAC has formed a subcommittee to work collaboratively with ODF on both the watershed analysis manual and on process development. The full committee and the subcommittee will bring a diversity of viewpoints to the watershed analysis program. The subcommittee has agreed to provide input on the watershed

manual, the technical review process, the public involvement process, the prioritization of watersheds and the core questions.

Watershed Analysis Manual

The purpose of the ODF watershed analysis manual is to help guide ODF personnel through the process of identifying, compiling or collecting data; analyzing that data and constructing action plans with detailed analysis results.

The foundational elements for the manual are:

1. The strategies and concepts in the various forest management plans, the Board of Forestry intent statements, and comments from Governor John Kitzhaber at the time of plan adoption.
2. The various watershed manuals in use where experts and other landowners in the Pacific Northwest have identified issues of importance and protocols to measure them.
3. The information provided through watershed analysis will help the ODF meet forest management plan goals.

A draft manual was completed in early 2002. During the summer of 2002, Biosystems, a consulting firm, reviewed the manual. The review sets the stage for developing the next iteration of the manual. The manual review identified the following items for improvement: 1) Several areas need more information to provide further clarification and expansion. 2) Some areas need additional discussion with both internal and external stakeholders to better clarify desired direction. 3) Some areas can be clarified during pilot project work and further manual development.

ODF staff and the SFAC watershed analysis subcommittee are working collaboratively to expand and improve the watershed analysis manual. ODF staff will also incorporate information gained from the two watershed analysis pilot projects. Both the subcommittee work and the pilot projects should be completed in August 2003. The final manual should be completed by October 2003.

Watershed Analysis Pilot Projects

Contracts have been awarded and are underway on both the Trask River and Elliott State Forests Watershed Analysis Pilot Projects. These projects will help refine the watershed manual and help staff gain experience in the analysis process.

The Trask watershed is in the Tillamook State Forest. Most of the 65,000 acres of ODF land is in the Department of Forestry's Tillamook District, with approximately 8,500 acres in the Forest Grove District. This project is being done in partnership with the Bureau of Land Management. During past contracts, core topics and key questions were identified, riparian conditions were assessed, and a framework document was prepared.

Another contract has been awarded in which the contractor will complete the Trask River watershed analysis. Contract completion is expected in the summer of 2003.

The Elliott State Forest project is located near Coos Bay. It is a larger project than the Trask, with land in three main watersheds, the Umpqua River, Ten-mile Lake frontal and the Coos River. Information gained in this project will also help support forest management plan and habitat conservation plan development. An analysis contract is underway. Contract completion is expected in late summer 2003.

Watersheds with ODF-Managed State Forests

As the pilot projects go forward, a process to describe all watersheds containing ODF land and to group them into logical units for conducting watershed analysis is proceeding. The Oregon Department of Forestry has nine districts with state forest land. Geographic Information System (GIS) work indicates ODF land is contained in 132 separate fifth-field watersheds. (Fifth-field watersheds average 60,000 acres, with some over 100,000 acres; examples are: Middle North Santiam, North Fork Nehalem, Rock Creek of Siletz.) Twenty of those fifth-field watersheds have 15% or greater ODF ownership. Seventy-six of those watersheds have less than 1% ODF ownership. Staff organized the fifth-field watersheds into logical groupings based on their arrangement on the landscape. This first approximation identified that 37 analyses are needed to cover all state forest lands. After consultation with the districts and further organizational work those numbers will probably change slightly.

As part of the identification of watersheds a list of published documents and known information about these watersheds has been collected. This information is cataloged and its first use is to provide the data needed for the screening process during prioritization. The information will also be used during the analysis project itself.

Prioritizing Watershed Analyses

After the watersheds are identified and grouped, there will be a process for prioritizing, scheduling and completing of the remaining projects. Logistics and budgets prevent ODF from doing 37 analyses at the same time, so a priority system is being developed. The priority-setting approach currently being considered is based on existing conditions, degree of potential influence by ODF management activity, and identified contractual and resource concerns.

Three hierarchical screens are used to assess these criteria for each watershed. The first screen quantifies overall watershed conditions in terms of the amount or density of habitat for threatened and endangered fish and terrestrial species, road density, debris flow hazards, and 303(d) stream quality listing. The second screen modifies the order by considering the potential influence of ODF operations on the watershed. Watershed acreage in ODF ownership and projected level of management activity on those lands are the main parameters used in the second screening level. The third screen qualitatively impacts the prioritization order by considering identified areas of concern such as salmon

anchor habitat watersheds and Oregon Department of Fish and Wildlife streamflow restoration basins.

State Forest Watershed Analysis Approach

ODF intends to conduct watershed analysis on at least two levels. At the primary (assessment) level, Oregon Watershed Enhancement Board (OWEB) protocols and watershed council products will be used to examine the broad range of issues in the watershed. This information will be helpful in identifying issues that can be affected by ODF management. These assessment level products will also help to define issues for further analysis and to identify other data needs.

ODF will use a second, more detailed, level (analysis) on key subjects. These subjects will be identified during the project planning step based on ODF management objectives. Generally, subjects receiving this level of examination will be subjects that ODF management affects or is affected by.

ODF's methods will be compatible with protocols described in the OWEB manual. In most cases, ODF will supplement these protocols by providing additional detail and depth of information. Thus, ODF will be able to integrate watershed council products, including OWEB-based assessments, into its own analysis process. The watershed manual will lay out the process for carrying out the watershed analysis program.

Timeline

2003

- Finish pilot projects and manual.
- Finish organizing known data and work out priority for projects.
- Start planning for next watershed analysis projects and implement.

2004 - 2011

- Anticipate accomplishing 2 projects per year. It will take approximately twelve projects to complete watershed analysis on all the priority watersheds on state forests.
- Estimate completion of all priority watersheds in NWOA and SWOA and five non-priority watersheds. This would represent approximately 80-85% of the acreage in all state forests.