

INTRODUCTION

Watershed Analysis for Mendocino Redwood Company's Ownership in the Southcoast Streams Watershed

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This report presents the results of a watershed analysis performed by Mendocino Redwood Company (MRC) on their ownership in the Alder Creek, Mallo Pass Creek and Point Arena Streams planning watersheds*. The MRC ownership in these planning watersheds is considered the Southcoast Streams watershed analysis unit (WAU). This section presents a brief overview of the watershed and the watershed analysis process followed by MRC. More specific information is found in the individual modules of this report.

MENDOCINO REDWOOD COMPANY'S WATERSHED ANALYSIS APPROACH

Southcoast Streams and their tributaries support populations of steelhead trout. For this reason MRC conducted a watershed analysis to assist in their efforts to reduce non-point source pollution, evaluate current and past land management practices and establish a baseline for monitoring of watershed conditions over time. The watershed analysis will also be used to identify needs for site-specific management planning in the watershed to reduce impacts to aquatic resources and potentially to improve fish, amphibian and aquatic habitat conditions.

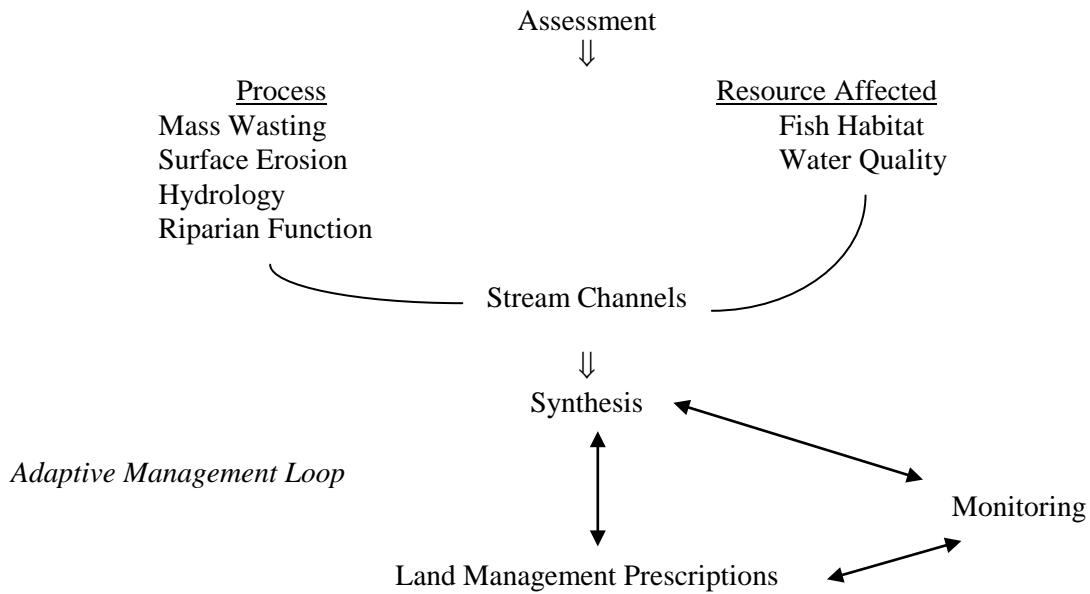
The watershed analysis of the Southcoast Streams WAU was conducted following modified guidelines from the Standard Methodology for Conducting Watershed Analysis (Version 4.0, Washington Forest Practices Board). Some variations of the methods in this manual were performed when it was determined that the methodology better served the purpose of this assessment. The watershed analysis process is not a regulatory requirement in the state of California. However, MRC is using this process to address cumulative effects from forest practices and provide baseline information of watershed conditions for aquatic habitat and water quality for their ownership.

MRC's approach to the Southcoast Streams watershed analysis was to perform resource assessments of mass wasting, surface and point source erosion (roads/skid trails), hydrology, fish habitat, riparian condition and stream channel condition. Mass wasting, riparian condition and surface and point source erosion modules address the hillslope hazards. The physical processes and potential triggering mechanisms for each hillslope hazard are described in the module reports. The fish habitat and stream channel condition modules address the vulnerability of aquatic resources. The results of the resource assessments are synthesized and reported in a causal mechanism report (Figure 1). A causal mechanism report is produced for hillslope hazards that has affected or has the potential to adversely affect aquatic resources that current

* See following website for details: <http://cain.ice.ucdavis.edu/calwater/index.html>

company management policies does not specifically address. A prescription is developed to address the issues and processes identified in each causal mechanism report. Finally, monitoring is suggested to determine the efficacy of the prescriptions to protect sensitive aquatic resources. The monitoring will provide the feedback for MRC's adaptive management approach to resource conservation.

Figure 1. Watershed Analysis Overview



ASSESSMENT OVERVIEW

This watershed analysis was produced from a combination of field observations performed during the summer of 2007, aerial photograph interpretation, and use of existing analysis on the Southcoast Streams WAU.

Existing data or analysis used in this watershed analysis included data collected by MRC. These information sources are cited in each module as they are used.

Aerial photograph interpretation was performed using available aerial photographs for the recent time period. The delineation of time periods for analysis was based on the available aerial photographs. The aerial photographs used are described below.

<u>Aerial Photo Year</u>	<u>Scale</u>	<u>Photo Source</u>
1952	1:20,000	Mendocino County
1963	1:20,000	Mendocino County
1978	1:15,840	Mendocino Redwood Company
1987	1:15,840	Mendocino Redwood Company
2000	1:12,000	Mendocino Redwood Company
2004	1:12,000	Mendocino Redwood Company

The synthesis of the field observations, aerial photo interpretation and existing analysis on the Southcoast Streams WAU constitutes the resource assessment modules in this report.

SOUTHCOAST STREAMS WATERSHED OVERVIEW

Physical Characteristics

General Location

The Southcoast Streams WAU is located in the California Coast Range and drains into the Pacific Ocean in western Mendocino County, California. The Southcoast Streams WAU is approximately 45 miles south of the city of Fort Bragg.

The Southcoast Streams watershed encompasses approximately an 87.6 square mile area. MRC owns approximately 24% of the land in the Southcoast Streams watershed (see Base Map, Southcoast Streams Watershed Map and Table 1). The basin's elevations range from sea level to 3,400 feet. Rainfall is seasonal in this region, with most of the rain (approximately 50-70 inches/year) occurring between October and May.

Table 1. Mendocino Redwood Company Lands by Planning Watershed for Southcoast WAU.

Calwater Planning Watershed	Calwater Planning Watershed Number	Calwater Planning Watershed Acres	MRC Land Acres	Percent MRC Lands
Lower Alder Creek	113.63011	10,664	5,899	55%
Lower Brush Creek	113.64011	8,191	378	6%
Mallo Pass Creek	113.63012	8,740	2,501	29%
North Fork Alder Creek	113.6301	8,506	2,072	24%
Point Arena Creek	113.7003	12,917	2,161	17%
Upper Brush Creek	113.6401	4,952	282	6%
Cuffeys Point	113.610002	3,856	243	6%

Aquatic Species Present

The anadromous fish species inhabiting the Southcoast Streams WAU are steelhead trout (*Oncorhynchus mykiss*). Steelhead trout are present in Lower Alder Creek, Mallo Pass Creek, North Fork Alder Creek and Point Arena Creek. Other fish and amphibian species include prickly sculpin (*Cottus asper*), coastrange sculpin (*C. aleuticus*), three-spine stickleback (*Gasterosteus aculeatus*), Coastal giant salamander (*Dicamptodon tenebrosus*), tailed frog (*Ascaphus truei*), red-legged frogs (*Rana aurora*), yellow-legged frogs (*Rana boylei*), southern torrent salamander (*Rhyacotriton variegatus*), Pacific newts (*Taricha spp*), and crayfish (*Pacifastacus spp.*).

LITERATURE CITED

Washington Forest Practice Board. 1995. Standard methodology for conducting watershed analysis. Version 4.0. WA-DNR Seattle, WA.