INTRODUCTION

Watershed Analysis for Mendocino Redwood Company's Ownership in the Elk Creek 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 Elk Creek watershed. The MRC ownership in the Upper and Lower Elk Creek planning watersheds* is considered the Elk 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

Elk Creek and its tributaries support populations of steelhead trout and coho salmon. 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.

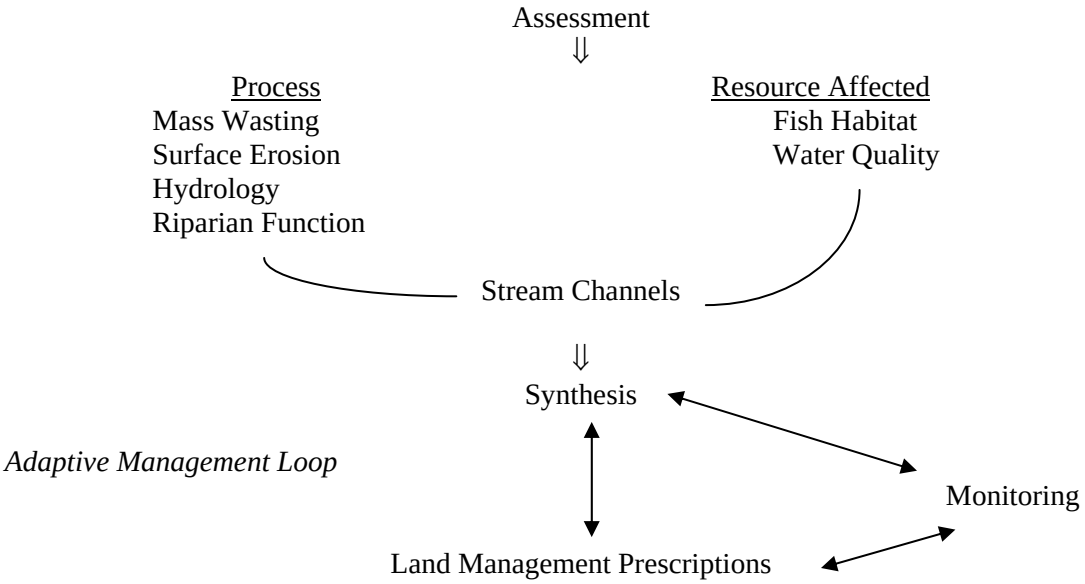
The watershed analysis of the Elk Creek WAU was conducted following modified guidelines from the Standard Methodology for Conducting Watershed Analysis (Version 4.0, Washington Forest Practices Board). Some variations of the methods in this manual were performed when it was determined that the methodology 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 Elk Creek 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 company management policies does not specifically address. A prescription is developed to address the

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

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 2004, aerial photograph interpretation, and use of existing analysis on the Elk WAU.

Existing data or analysis used in this watershed analysis included: Louisiana-Pacific's (L-P) Coastal Mendocino Sustained Yield Plan and monitoring data collected by L-P and 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.

Aerial Photo Year	Scale	Photo Source
1947	1:20000	Mendocino County
1964	1:20000	Mendocino County
1967	1:15840	Mendocino Redwood Company
1978	1:15840	Mendocino Redwood Company
1987	1:12000	Mendocino Redwood Company
2000	1:12000	Mendocino Redwood Company
2004	1:12000	Mendocino Redwood Company

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

ELK CREEK WATERSHED OVERVIEW

Physical Characteristics

General Location

The Elk WAU is located in the California Coast Range and drains into the Pacific Ocean in western Mendocino County, California. The outlet of the Elk Creek is approximately 30 miles south of the city of Fort Bragg.

The Elk Creek watershed encompasses approximately a 28.2 square mile area. MRC owns approximately 78 percent of the land in the Elk Creek watershed (see Base Map, Elk Creek Watershed Map and Table 1). The basin's elevations range from sea level to 2,700 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 Elk WAU.

Calwater Planning Watershed	Calwater Planning Watershed Number	Calwater Planning Watershed Acres	MRC Land Acres	Percent MRC Lands
Lower Elk Creek	113.62011	8,181	4,885	60%
Upper Elk Creek	113.62010	9,898	9,207	90%

Aquatic Species Present

The anadromous fish species inhabiting the Elk WAU are steelhead trout (*Oncorhynchus mykiss)* and coho salmon (*O. kisutch*). Other species include three-spine stickleback *(Gasterosteus aculeatus),* prickly sculpin *(Cottus asper),* coastrange sculpin *(C. aleuticus),* Pacific giant salamander *(Dicamptodon tenebrosus),* tailed frog *(Ascaphus truei),* southern torrent salamander *(Rhyacotriton variegatus),* and tarichid newts *(Taricha spp).*

LITERATURE CITED

Louisiana-Pacific Corporation. 1997. Sustained Yield Plan for Coastal Mendocino.

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