



The Role of Timber Harvesting Regulation in Elk River's Recovery

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Humboldt-Del Norte Unit Forest Practice

- Currently have 9 CAL FIRE Forest Practice Inspectors
- Located at 6 offices (Del Norte to S. Humboldt)
- 1 Associate State Archaeologist
- Review over 200 harvest documents per year
- Monitor over 1,000 approved projects

Agency Limitations for Harvesting in the Elk River Watershed

CALFIRE

- In 2002, CAL FIRE imposed 600 clearcut equivalent acres/yr. limit to address peak flows and flooding.
- Used Caspar Creek equation for peak flows (Lewis et al. 2001).
- Called an interim solution prior to watershed analysis work.

NCRWQCB

- 2006 - adopted interim limit on harvesting in Elk River prior to completion of TMDL work.
- HRC limited to 114 acres/yr. for S. Fk. Elk and up to 266 hazard adjusted acres/yr. N. Fk. Elk River. (2006 WWDR).
- Green Diamond limited to 75 acres/yr. S. Fk. Elk (2012 WDR)
- Board instructed staff to expedite work on the TMDL.
- **Elk River Peer Review Draft Staff Report to Support the Technical TMDL**

Multidisciplinary Review Team in Elk River

Every timber harvesting plan is reviewed by multiple agencies including:

- CAL FIRE (lead)
- North Coast Regional Water Quality Control Board
- California Geological Survey
- California Department of Fish and Wildlife
- Directly or indirectly through watershed analysis and HCP authority:
 - NOAA Fisheries
 - U.S. Fish and Wildlife Service

Multidisciplinary Review Team

Every timber harvesting plan is reviewed for:

- Compliance with Habitat Conservation Plans (HCP), Forest Practice Rules, and water quality discharge permits.
- Appropriate watercourse classification and protection
- Avoidance of unstable areas
- Appropriate logging systems and silviculture
- Upgrading of all proposed and existing roads, watercourse crossings, and drainage structures
- Opportunities for additional restoration such as:
 - Fish barriers
 - Hydrologic restoration of diverted watercourses
 - Restoration of off-road skid trails and other sediment sources

California Forest Practice Rules

Intent of Watercourse and Lake Protection

- 14 CCR 916(b)

Maintenance, protection, and contribution towards restoration of the quality and beneficial uses of water during the planning, review, and conduct of timber operations shall comply with all applicable legal requirements including those set forth in any applicable water quality control plan adopted or approved by the State Water Resources Control Board. At a minimum, the LTO shall not remove water, trees or large woody debris from a watercourse or lake, the adjacent riparian area, or the adjacent flood prone areas in quantities deleterious to fish, wildlife, beneficial functions of riparian zones, or the quality and beneficial uses of water.

Current Forest Practice Rules and Restoration

14 CCR 916.9 Protection and Restoration of the Beneficial Functions of the Riparian Zone in Watersheds with Listed Anadromous Salmonids

Goal - Every timber operation shall be planned and conducted to protect, maintain, and contribute to **restoration** of properly functioning salmonid habitat and listed salmonid species. To achieve this goal, every timber operation shall be planned and conducted to:

- **(1) Comply with the terms of a Total Maximum Daily Load (TMDL).**
- **(2)** Prevent significant sediment load increase to a watercourse system or lake.
- **(3)** Prevent significant instability of a watercourse channel or of a watercourse or lake bank.
- **(4)** Prevent significant blockage of any aquatic migratory routes for any life stage of anadromous salmonids or listed species.
- **(5)** Prevent significant adverse effects to streamflow.
- **(6)** Consistent with the requirements of 14 CCR § 916.9 [936.9, 956.9], subsections (f), (g), (h) and (v), protect, maintain, and restore trees (especially conifers), snags, or downed large woody debris that currently, or may in the foreseeable future, provide large woody debris recruitment needed for instream habitat structure and fluvial geomorphic functions.
- **(7)** Consistent with the requirements of 14 CCR § 916.9 [936.9, 956.9], subsections (f), (g), (h) and (v), protect, maintain, and restore the quality and quantity of vegetative canopy needed to:
 - **(A)** provide shade to the watercourse or lake to maintain daily and seasonal water temperatures within the preferred range for anadromous salmonids or listed species where they are present or could be restored; and
 - **(B)** provide a deciduous vegetation component to the riparian zone for aquatic nutrient inputs.
- **(8) Prevent significant increases in peak flows or large flood frequency.**

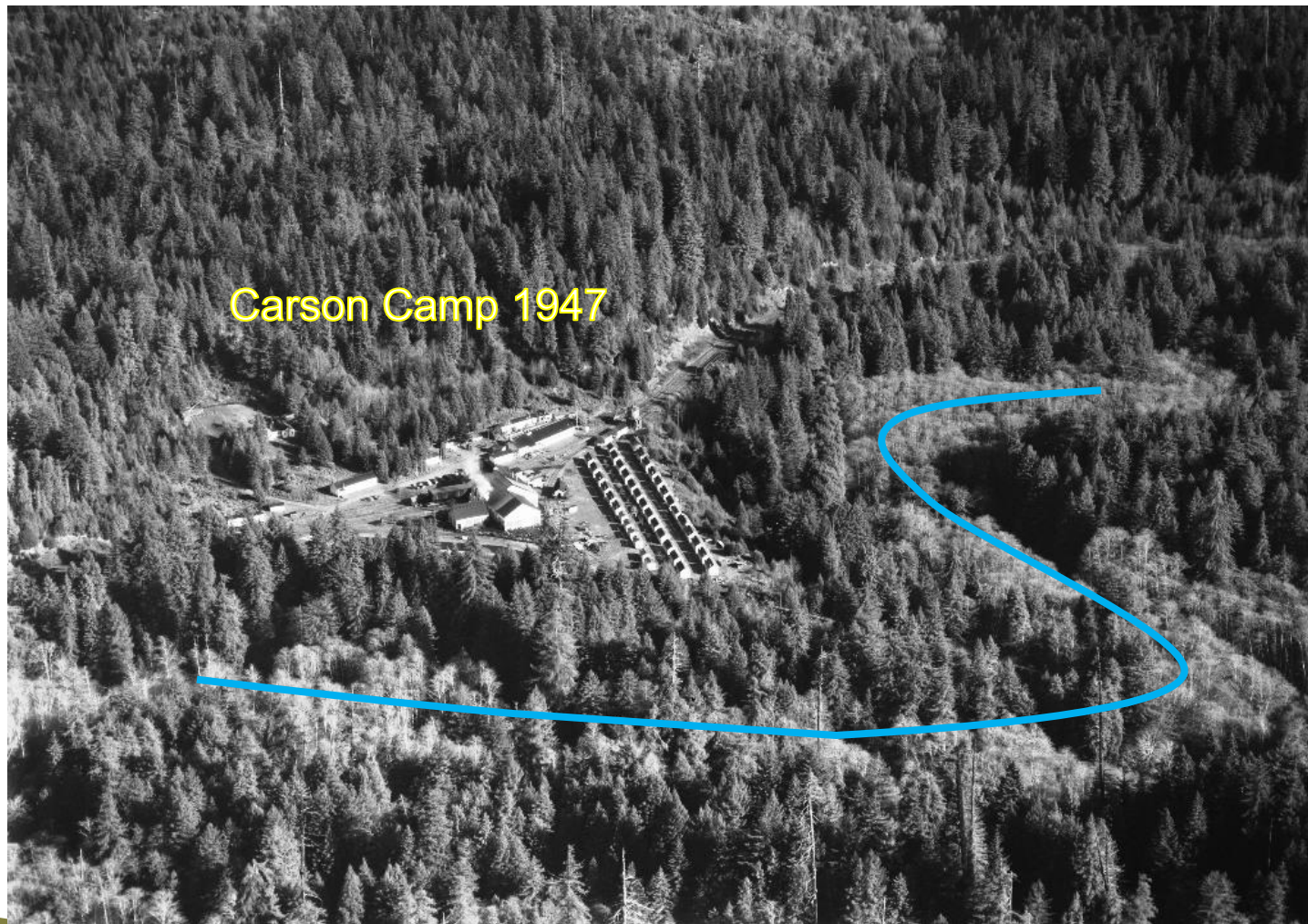
Comparison of Watercourse Protection, ASP VS. HCP Prescriptions

916.9 ASP Forest Practice Rules		
Classification	Width	Total Overstory Canopy Retention
Class I	100-150	30' no cut, 80% remaining zone
Class II Large	100	30' no cut, 80% remaining zone
Class II Standard	50-100	50%
Class III	30-50	ELZ plus tree retention

Green Diamond AHCP & S. Fk. Elk River Management Plan		
Classification	Width	Total Overstory Canopy Retention
Class I	150	85% inner zone, 70% outer zone plus 25-50 foot additional SOZ
Class II 2nd Order	100	85% inner zone, 70% outer zone
Class II 1st Order	75	85% inner zone, 70% outer zone
Class III	30-50	EEZ plus retain channel zone trees and trees, depending on slope

Humboldt Redwood Company Watershed Analysis Prescriptions		
Classification	Width	Overstory Conifer Canopy Retention
Class I	150	30-50' no cut, 50% conifer
Lower N. Fk Class I	150	No harvest, develop conifer enhancement plan with wildlife agencies
Class II	75-100	30' no cut, 60% conifer retention
Class III	50-100	EEZ plus retain channel zone trees and trees <8" within 15'

Lower 8 Miles N. Fk. Elk River Riparian Enhancement Identified Through HCP Watershed Analysis



THP Road Upgrading, Stormproofing, and Decommissioning

- The Green Diamond and Humboldt Redwood Company HCPs require all THP-related road roads to be upgraded above and beyond Forest Practice Rules minimum requirements
- 74% of HRC roads have been stormproofed, upgraded, or decommissioned in Elk River
- HRC and GDRCO have decommissioned a total of 46 miles of roads in Elk River

Upgraded road by outsloping, rocking, and hydrologic disconnection



Upgraded Watercourse Crossing



Upgraded Watercourse Armoring



Upgraded Watercourse Crossing Stabilization



Decommissioned Road



Decommissioned Watercourse Crossing

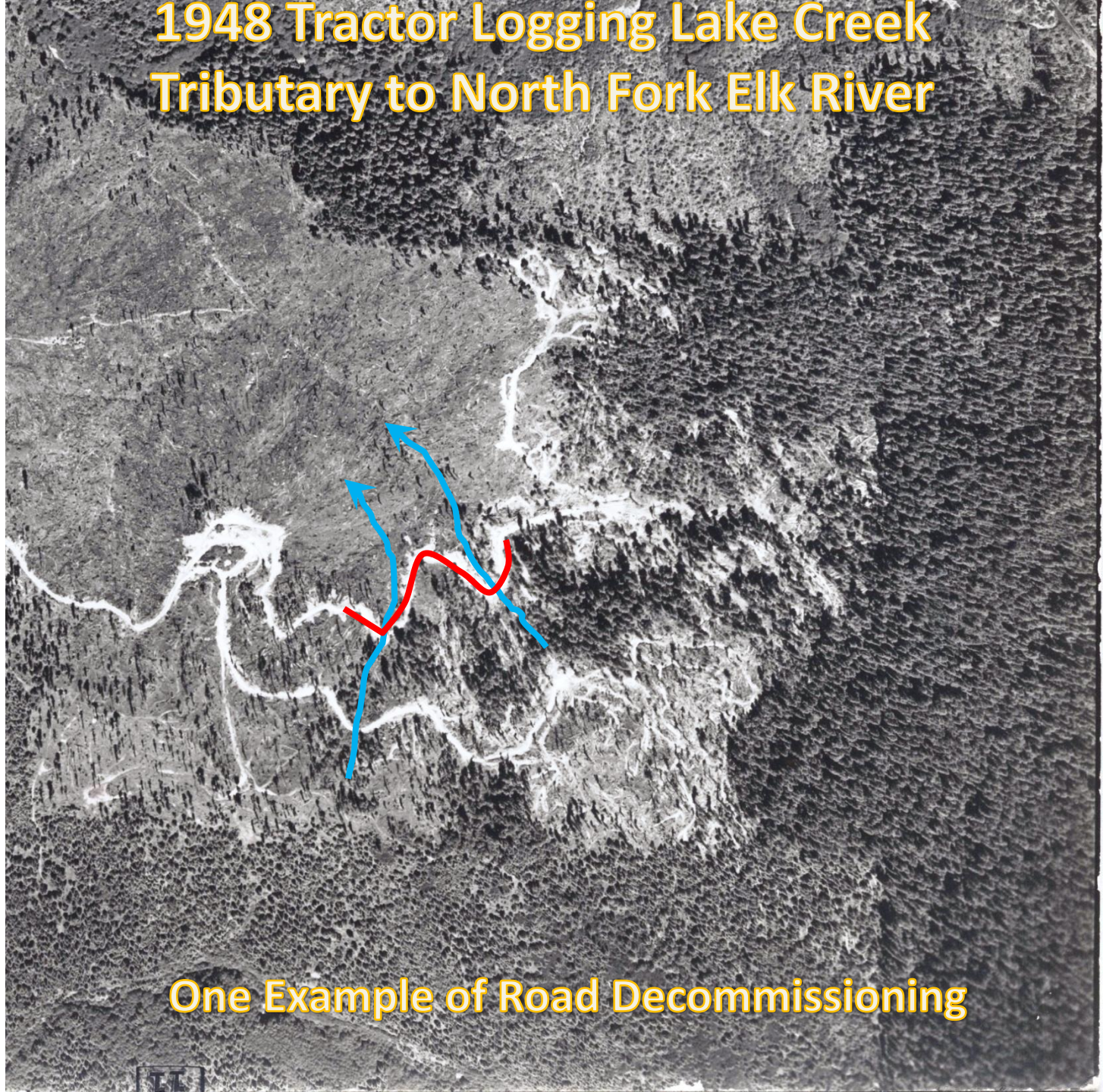


Timber Harvest Related Sediment Savings

Long term sediment savings sites have been inventoried and prioritized for treatment

- Green Diamond plans to treat all road-related sediment sources by 2015 and all non-road related sites by 2018
 - To date, Green Diamond has treated 90% of identified road sites, resulting in 26,602 yd³ of sediment savings
- Humboldt Redwood Company plans to treat all treatable road and off-road related sediment sources by 2018
 - North Fork Elk River watershed, 89% of the treatable volume has been completed, resulting in 250,451 yd³ of sediment savings
 - South Fork Elk River watershed, 77% of the treatable volume has been completed, resulting in 80,217 yd³ of sediment savings

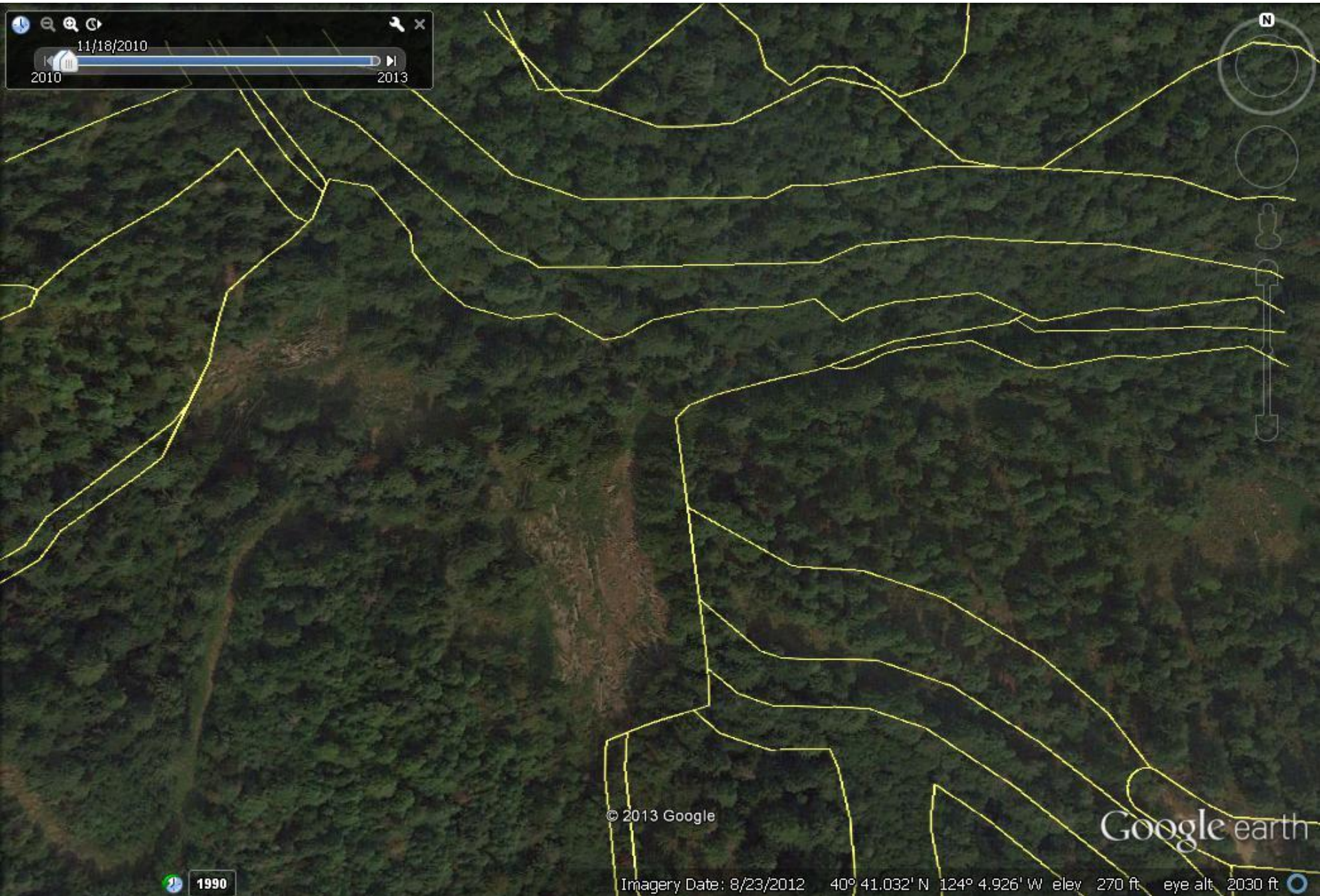
1948 Tractor Logging Lake Creek Tributary to North Fork Elk River



One Example of Road Decommissioning

11/18/2010
2010 2013

N



© 2013 Google

Google earth

1990

Imagery Date: 8/23/2012 40° 41.032' N 124° 4.926' W elev 270 ft eye alt 2030 ft

Sediment savings through decommissioning roads and crossings-North Ridge THP “Big Dig”



Sediment savings through crossing decommissioning



Additional THP-Related Sediment Prevention Measures in Elk River

- Slash packing skid trails to prevent surface erosion
- Treating seasonal roads prior to winter period
- Hydrologically disconnecting all road segments
- Cable or helicopter yarding steeper slopes
- Limited new road construction
- No broadcast burning
- Very limited winter operations

Surface erosion prevention by slash packing skid trails



Surface erosion prevention by treating seasonal roads prior to winter period



Results of treating seasonal roads



Restoration Through Timber Harvesting Plan Review and Implementation

- Multidisciplinary review important for thorough plan review
- Implementation of the Forest Practice Rules and HCPs lead to restoration of roads, crossings, skid trails, and riparian zones
- Continuous monitoring and maintenance of timberland prevents problems before they occur
- The Forest Practice Rules support CAL FIRE consulting with the appropriate Water Board to determine whether proposed timber operations are in compliance with an adopted or approved water quality control plan