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

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CAL FIRE
Humboldt-Del Norte Unit
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
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
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.
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

<table>
<thead>
<tr>
<th>Classification</th>
<th>Width</th>
<th>Total Overstory Canopy Retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>100-150</td>
<td>30' no cut, 80% remaining zone</td>
</tr>
<tr>
<td>Class II Large</td>
<td>100</td>
<td>30' no cut, 80% remaining zone</td>
</tr>
<tr>
<td>Class II Standard</td>
<td>50-100</td>
<td>50%</td>
</tr>
<tr>
<td>Class III</td>
<td>30-50</td>
<td>ELZ plus tree retention</td>
</tr>
</tbody>
</table>

## Green Diamond AHCP & S. Fk. Elk River Management Plan

<table>
<thead>
<tr>
<th>Classification</th>
<th>Width</th>
<th>Total Overstory Canopy Retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>150</td>
<td>85% inner zone, 70% outer zone plus 25-50 foot additional SOZ</td>
</tr>
<tr>
<td>Class II 2nd Order</td>
<td>100</td>
<td>85% inner zone, 70% outer zone</td>
</tr>
<tr>
<td>Class II 1st Order</td>
<td>75</td>
<td>85% inner zone, 70% outer zone</td>
</tr>
<tr>
<td>Class III</td>
<td>30-50</td>
<td>EEZ plus retain channel zone trees and trees, depending on slope</td>
</tr>
</tbody>
</table>

## Humboldt Redwood Company Watershed Analysis Prescriptions

<table>
<thead>
<tr>
<th>Classification</th>
<th>Width</th>
<th>Overstory Conifer Canopy Retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>150</td>
<td>30-50' no cut, 50% conifer</td>
</tr>
<tr>
<td><strong>Lower N. Fk Class I</strong></td>
<td>150</td>
<td>No harvest, develop conifer enhancement plan with wildlife agencies</td>
</tr>
<tr>
<td>Class II</td>
<td>75-100</td>
<td>30' no cut, 60% conifer retention</td>
</tr>
<tr>
<td>Class III</td>
<td>50-100</td>
<td>EEZ plus retain channel zone trees and trees &lt;8&quot; within 15'</td>
</tr>
</tbody>
</table>
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
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
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