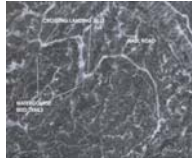


  
**HRC Road Upgrade and Abandonment**  
 About the program, and Does it help water quality?  
 November 2010

**The Problem**


- HRC has an extensive road system
- Built over 60 year period to various standards
- Must bring them all up to modern "Storm proof" standard

**200,000 Acres—  
More than 1500 miles of road**

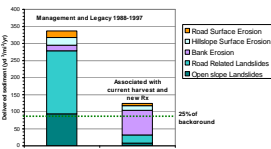


**Geology**



**Ecologic Goal**

Management-Related Sediment  
EIK River



Prevent	<ul style="list-style-type: none"> <li>LS Avoidance on unstable terrain</li> <li>Repair roads</li> </ul>
Minimize	<ul style="list-style-type: none"> <li>Best management practices</li> <li>Site specific Rx</li> </ul>
Restore	<ul style="list-style-type: none"> <li>Road restoration and decommissioning</li> <li>Legacy site cleanup</li> </ul>

**Elements of the Roads Program**

- Inventory
- Construction standards
- Schedule
- Do the work
- Audit to standards
- Wet weather inspections
- Annual road maintenance inspections



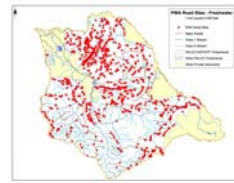


**All weather, dry weather, and abandoned roads are the major focus**



Humboldt Crossing

**Over 1000 sites per watershed**



**Design standards**

- Hydrologically disconnect
- “Harden” roads at stream crossings
- Restore natural gradient
- Ensure passage of flow and fish



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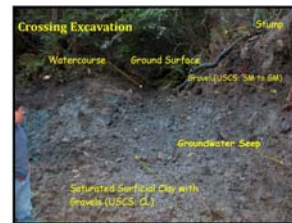
**Construction from the bottom up**



**Minimize delivery of sediment to streams**



**Have to react to conditions at each site**



### Decommissioning and Abandoning

