

## **Alternative 2a - Environmental Consequences for Hydrology and Fish**

*(Note: the following discussion of effects is based on the discussion of the direct and indirect effects of Alternatives 2 and 3 on hydrology and fish, which is found on pages 93 through 99 and 110-114 of the DEIS. Updates to the effects discussion reflect the proposed activities under Alternative 2a as described in FEIS Chapter 5).*

### *Direct and Indirect Effects*

Alternative 2a is similar in watershed and fisheries effects to Alternative 2 and 3. These analyses in the DEIS for Alternative 2 and 3 apply to Alternative 2a except where differences are noted in the following discussion.

### **Harvest Units and Prescribed Burning**

The effects of harvest and prescribed burning activities on stream channel conditions, riparian areas and water quality of Alternative 2a is similar to Alternatives 2 and 3. Alternative 2a would harvest 31% fewer acres than Alternative 2, and 25% fewer acres than Alternative 3. Because there is less harvest there would be less overall impact from harvest activities.

The effect of harvest on peak flows in individual watersheds would be the same or slightly less than Alternative 2. There were two watersheds with a projected ECA of greater than 25%.

Under Alternative 2 Lang Creek's projected ECA is 29%. Fewer acres would be harvested in Lang Creek under Alternative 2a, and the projected ECA for Lang Creek would be 28%.

In Yaak Tributary 15 the projected ECA under Alternative 2 is 32%. Under Alternative 2a there would be slightly fewer acres harvested overall, but an increase in proportion of regeneration harvest to intermediate harvest. On balance the projected ECA for Yaak Tributary 15 would remain at 32%.

### **Temporary Road Locations and Lengths**

Since Alternative 2a would use more existing old road to access Units 1-4 this would permit rehabilitating more road miles under the timber sale contract since temporary road would overlap the existing prism. This would be a benefit to water resources and fisheries. Short segments of new temporary road is planned into Units 34 (0.10 mile) and 50 (0.40 mile), but in both cases there are no stream crossings. As in Alternatives 2 and 3, all the temporary roads would be ripped and/or recontoured after use which would largely restore hydrologic function.

### **Watershed Rehabilitation Work**

**BMP Work:** The effects of the BMP work on water resources is similar to that described in the DEIS pgs. 93-95 for Alternatives 2 and 3 (see FEIS Appendix 1 for BMP work). Under Alternative 2a fewer miles of road would be treated by BMPs which would be commensurate with reduced harvest activity. One additional stream crossing would be improved under Alternative 2a. Road 435Y would be used by the timber sale purchaser to access Unit 4, and an undersized culvert on a small tributary to the Yaak River would be replaced which would decrease the risk of a failure at this crossing.

**Effects of Road Decommissioning and Intermittent Stored Service Work:** Since the watershed rehabilitation work in the Vivian Creek and Little Creek drainages would be dropped under Alternative 2a, the effects described for No Action on DEIS pgs. 91 and 109-110 would apply. Under Alternative 2a, 3.2 miles of Road 902 would be put into storage. Field information indicates little work is required on this segment of road, and there is minimal watershed risk.

### **Cumulative Effects of Action Alternatives on Infiltration**

As discussed in the hydrology analysis in the DEIS (p. 82) compaction and displacement from timber sale harvest can reduce infiltration. An estimated 1,573 acres or 3.5% of the Grizzly project area has been detrimentally disturbed from past harvest and road construction. These acres are not completely impervious, but would have reduced infiltration rates and capacity to retain water. The proposed project would increase the detrimental disturbance by 49 acres which is 0.1 percent of the project area. The cumulative area with impaired infiltration is estimated to be 3.6% of the Grizzly project area after the proposed project is implemented. The reduction in infiltration as a result of the timber harvest would be partially offset by ongoing recovery of previously compacted areas in old harvest units, and road decommissioning activities. Overall the additive effects of the project on infiltration appear to be almost negligible.

### **Regulatory Consistency**

Alternative 2a would not result in a level of effects exceeding those discussed in the DEIS. Alternative 2a would also be in compliance with the Forest Plan as amended by INFS, and federal and state laws and regulations, including the Clean Water Act.