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III.D. Upland Harvest Management (Current FPA Measures)

Conservation measures in the IFP focus on forest management practices in riparian zones and on roads. No additional upslope (i.e., outside the riparian protection zone) harvest measures are proposed for the IFP; instead, the IFP depends on current IFPA rules for timber harvest in these upslope areas. Therefore, this section addresses the effects of Idaho's current forest practices rules to provide for management and control of watershed processes that are associated with upslope timber harvest.

III.D.1. Sediment**III.D.1.a. General Effects**

The IFP riparian management measures call for equipment exclusion within 75 feet of Class I streams and within 30 feet of Class II streams, the same as current FPA rules. This equipment exclusion effectively eliminates soil disturbance and generation of sediment within the buffer zone. Beyond the streamside protection zone, harvest and site preparation-related potential sources of erosion have repeatedly been demonstrated to be effectively controlled by Idaho's current forest practices rules (McIntyre and Colla, 2005; Hoelscher et al. 1993; and Zaroban et al. 1997), and new measures beyond the IFP streamside protection zones are not proposed.

III.D.1.b. Specific Localized Effects (FAA)

IDL supervisory areas were consulted regarding future harvest plans in each of the nine FAA watersheds to estimate extent and locations of potential impacts on streams due to harvest activities. This information was input to a GIS, which was then used to compile the results summarized in Table III.D-1.

Table III.D-1 Watershed area potentially affected by harvest activities (clearcut, commercial thin, selective cut, shelterwood, and seed tree harvests) in FAA watersheds by decade

Watershed	Total watershed area (ac)	Potentially Affected Area (%)			
		0-10 years	10-20 years	20-30 years	Total for 30 years
Big Creek	4,190	32	14	12	49
Breakfast Cr.	8,540	29	14	14	53
Brush Creek	3,950	33	33	29	60
Cranberry Cr.	9,100	39	28	37	74
Kamiah Gulch	2,930	7	11	5	20
Long Meadow	7,060	13	15	17	41
Moose Creek	4,970	19	17	28	43
Wilson Creek	3,930	22	8	11	36
Winter Creek	7,400	26	30	23	44

The percentage of watershed area potentially affected in any given FAA watershed in any given decade ranges from 5 percent to 39 percent, and averages 21 percent. Furthermore, previous discussion has

shown that impacts from sediment due to harvest beyond the RPZ are minimal. Finally, even though there is still a small potential for sediment delivery from localized areas due to these planned harvest activities, erosion and sediment delivery that may be associated with areas harvested to a different standard prior to implementation of the IFP can reasonably be expected to decrease through time as areas recover and become revegetated as forested areas regenerate. Overall, the net result for enrolled lands should be a general decrease in erosion and sediment delivery.

III.D.2. Unstable Slopes

III.D.2.a. General Effects

The report by McClelland et al. (1997) is the most recent and most detailed study of mass wasting in the IFP area. McClelland et al. (1997) reported that 12 percent of all landslides inventoried occurred within harvested areas but that only 4 percent of total delivered sediment volume originated from harvest areas (Table III.D-2). This suggests that Idaho's current forest practices rules are effective at minimizing or avoiding sediment delivery to streams due to mass wasting from harvested areas. While IFP measures are designed to reduce landslides associated with roads, the IFP includes no new measures that address landslides that may be associated with harvest.

Table III.D-2 Clearwater River basin landslides reported by McClelland et al. (1997)

	Natural slides	Road-related slides	Harvest-related Slides
% of Total Number	29	58	12
% of Total Volume	59	36	5
% of Delivered Volume	71	25	4

III.D.2.b. Specific Localized Effects (FAA)

Because relatively little sediment delivery due to landslides is associated with harvest (see discussion above), and because natural rates of landsliding cannot be determined specifically for the FAA watersheds due to their extensive harvest histories (i.e., all to nearly all acres within them have been harvested one or more times) no specific assessment of the potential effects of harvest on sediment delivery due to harvest-associated landslides is attempted.

III.D.3. Large Woody Debris (LWD)

III.D.3.a. General Effects

The literature demonstrates that the vast majority of LWD in streams comes from the immediate riparian area through either tree mortality/windthrow or bank erosion. The effect of the IFP on these LWD recruitment mechanisms is discussed at length in Section III, Effects of the Action; Subsection B, Riparian Management on effects of riparian measures on LWD.

III.D.3.b. Specific Localized Effects (FAA)

The percentage of watershed area potentially affected in any given FAA watershed in any given decade ranges from 5 percent to 39 percent, and averages 21 percent (Table III.D-1). Furthermore, previous discussion has shown that impacts on LWD recruitment due to harvest beyond the RPZ are minimal. Finally, even though there is still a small potential for impacts on LWD recruitment from localized areas due to these planned harvest activities, LWD recruitment that may be associated with areas harvested to a different standard prior to implementation of the IFP can reasonably be expected to improve through time as areas recover and become revegetated as forested areas regenerate. Overall, the net result for enrolled lands should be a general improvement in LWD.

III.D.4. Streamflow

III.D.4.a. General Effects

Channel responses to potential increases in peak flows are highly variable and difficult to isolate from the effects of other processes known to affect channel morphology. Confounding effects that complicate the interpretation of past study results include direct impact to channels from operation of equipment, addition of large volumes of sediment through surface or mass erosion processes, and riparian area disturbance including removal or addition of instream LWD. Few studies examine effects of harvest upon stream morphology, and nearly all of these are confounded with other watershed processes.

The IFP requires no new management measures that affect harvest beyond the riparian zone and in uplands. Moreover, future rates of harvest are unaffected by IFP measures, and future effects of harvest on water yield and peak flows are likely to be no different than currently occur at landscape scales. Therefore, management of uplands and associated effects on streamflow are no different in the future with the IFP than they are now. Extensive discussion of effects of forest management activities upon streamflow is provided within this document's Section II, Environmental Baseline.

III.D.4.b. Specific Localized Effects (FAA)

As discussed above, streamflow is potentially affected proportionately to harvested area. Harvested area in each of the FAA watersheds is displayed in Table III.D-1. However, because effects on instream habitat of fish-bearing streams have not been demonstrated in the action area, no additional assessment is warranted (i.e., no additional and meaningful information can be provided) for the FAA watersheds.