

CHAPTER 3

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

I. Introduction

This chapter presents both the existing environment of the Red Whale Project area and potential consequences to that environment by implementing any of the four alternatives described in Chapter 2. Discussions of the current conditions describe the physical, biological and social environment for each potentially affected resource. Discussions of environmental consequences form the scientific and analytic basis for comparing the alternatives. All direct, indirect and cumulative effects are disclosed. The means by which potential adverse effects would be reduced or mitigated are also described (also see Chapter 2). Some resource conditions consider a larger area than the project area boundary if potential effects extend beyond the project area. Within each resource area section, information on analysis area boundaries used is disclosed.

The discussions of resources and potential effects take advantage of existing information included in the Forest Plan, other project documents, project-specific resource reports and related information, and other sources as indicated. Where applicable, such information is briefly summarized and references to minimize duplication. The project record includes all additional project-specific information, including resource reports and results of field investigations.

Affected Environment/Existing Condition

The resource information provided in the Affected Environment narratives includes the effects of past actions in that they are now assessed as part of the existing condition of the landscape. For instance, consider a hypothetical example of a timber sale in 1979 harvesting 150 acres of forest and constructing 2 miles of new road within the Red Whale Project area. The effects of the harvest and road construction, as well as the vegetation re-growth and roadbed stabilization occurring over the past 28 years, would be accounted for in several assessments of the affected environment based on the specific resource being analyzed. Following are a few illustrations of the consideration of past actions in the affected environment with a scenario of this type:

- The change in forest structure from this past regeneration harvest would be displayed in the existing successional stage distribution disclosure in the vegetation section. Field examinations indicate this 150-acre harvest area supports a fully stocked stand of 20-foot trees and has progressed into a mid-seral successional stage over the past 25 years. This information would be included in the acreage of mid-seral successional classification and used in disclosure of existing vegetation and wildlife habitat conditions.

- The existing level of past regeneration harvest in the project area would include the 150 acres from this activity.
- Stream channel surveys assessing stream conditions in the project area would reflect any remaining physical and biological effects of the past timber sale and road construction. These field classifications of existing conditions of specific streams would be disclosed in the Affected Environment portion of the fisheries and hydrology sections of this chapter.
- The present contribution of sediment and increased stream flow from the 2 miles of road construction would also be accounted for in the calculation of existing watershed conditions as specific road segments and their construction dates are entered into the WEPP and WATSED models. Likewise, any residual effects of the 150-acre harvest unit would be reflected in the existing condition model outputs based on vegetative recovery validated through field and aerial photo analysis.
- Field examinations of road conditions would provide additional data on residual contributions of sediment from the 2 miles of road. These effects would be incorporated into existing road condition disclosures and provide a basis for proposed BMP projects for improved drainage, if needed.
- The 2 miles of open road would also be included in the open and total motorized route densities and reflected in the level of core security habitat presently provided for grizzly bears.

Specific past actions considered in the Affected Environment analysis are summarized in Table 3-1 below. The Project File provides detailed information for these actions. The list of past actions is not necessarily exhaustive, as records may not exist for all past activities (by project). This is particularly true for those actions that predate the passage of NEPA in 1970. Nevertheless the effects of such past actions are fully accounted for in the assessment of existing condition as the current condition assessment necessarily reflects the impact of such actions (to the extent they are still affecting the particular resource considered).

Environmental Consequences

The Environmental Consequences sections discuss in detail the environmental effects that would occur for each alternative. It forms the scientific and analytical basis for the alternative comparisons presented at the end of Chapter 2 and in the summary (40 CFR 1502.16). Information used to assess effects is based on the consideration of the best available science. The effects of the No Action Alternative (Alternative 1) form a baseline against which action alternatives are evaluated. Each narrative begins with a brief explanation of how effects were analyzed and the models used for each resource. When the effects or impacts are associated with an issue, as described in Chapter 2, its relevance and tie with the issue is discussed and plays an important role in the evaluation of alternatives.

Environmental effects can be direct, indirect, or cumulative. They can be long or short in duration. Effects can be quantitative or qualitative, adverse or beneficial, actual or potential. It is

important to consider timing and location of effects. Direct effects are those that are caused by the action and occur at the same time and place. Indirect effects are those caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable (40 CFR 1508.8). In most cases direct and indirect effects are discussed together. Cumulative effects are those that result from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions (40 CFR 1508.7). Therefore, the discussion of effects first considers the direct and indirect effects of each alternative and does not consider cumulative effects unless direct and indirect effects exist.

As the effects on a resource for each alternative are read, the supplemental maps should be referred to for the location of activities and area of analysis.

Discussions under each resource include a description of the regulatory framework associated with each resource. Environmental laws such as the National Forest Management Act (NFMA), Endangered Species Act (ESA), Clean Water Act, and Clean Air Act provide the direction to the Forest Service for management of forest resources. These laws are interpreted and defined through the Code of Federal Regulations (CFRs), Administrative Rules of Montana (ARMs), Land and Resource Management Plan (LRMP) direction, Forest Service Manual (FSM) direction, and Forest Service policy. The regulatory framework associated with each resource is helpful in relating national and Forest direction to resource analysis procedures. The regulatory framework and consistency sections are found at the end of the effects analysis for each resource.

The cumulative effects analysis includes the additive effect of the action being considered when added to the effects of past, present, and reasonably foreseeable future actions. As past actions are already included in the affected environment, cumulative effects analysis builds upon this existing condition assessment by considering the incremental addition of direct and indirect effects of proposed as well as present and reasonably foreseeable actions. While impacts can be differentiated by direct, indirect, and cumulative, the concept of cumulative impacts takes into account all disturbances since cumulative impacts result in the compounding of the effects of all actions over time.

Detailed descriptions of foreseeable actions and cumulative effects worksheets by natural resource are filed in the project file. The cumulative effects analysis for each resource area considered only those actions that would have relevant effects. Reasons as to why other actions had no effects are documented in the project file and are not elaborated on further in this chapter. The following table provides a summary of the actions considered in the cumulative effects analysis for the Red Whale Project. Additional information such as maps and specific details such as the timing, type, location, and scale of these past, present, and future actions is also included in the project file. The effects of these activities are discussed by resource in the Chapter 3 - Affected Environment and Environmental Consequences.

Table 3-1. Activities on National Forest System Lands

	Past	Present (Spring - Summer 2007)	Reasonably Foreseeable
Fire			
Wedge Canyon Fire (54,404 total acres – within and beyond project area) and Related Suppression Activities	In the summer of 2003, 21,526 acres (40% of total) burned on NFS lands. <ul style="list-style-type: none"> • Hand line construction & rehab: 19 miles (rehab. included water-barring, moving vegetation materials back on line, and seeding) • Mechanical fire line construction & rehab: 34 miles (rehab. included re-contouring, water-barring, moving vegetation materials back on line, and seeding) • Aerial fire retardant drops July-August: ~85,362 gallons • Hazard tree felling 		
Burned Area Emergency Response (BAER) Projects Related to Wedge Canyon Fire (within and beyond project area)	In the fall of 2003/spring 2004 after the Wedge Canyon Fire burned, the following took place: aerial seeding of grasses; cleaning culverts; herbicide treatments on known noxious weed sites; monitor bull trout habitat use, noxious weed control treatments, whitebark pine surveys, seedling /re-vegetation effectiveness; trail waterbars; hazard tree assessment.		
Wedge Canyon Fire Suppression Hazard Tree Removal (within and beyond project area)	In the fall of 2003 after the Wedge Canyon Fire burned, removal of trees were felled as hazard trees during fire suppression actions: <ul style="list-style-type: none"> • Wedge Hazard Tree Salvage: ~385 ac. on parts of Roads 9805, 318, 114, 362215C, 10848, 9849, 486 • Road 10844 Hazard Tree Salvage: ~13 ac. on Road 19844 		
Red Bench Fire (within and beyond project area)	In the late summer of 1988, fire was ignited by lightning on the FNF and then spread to GNP. Fire perimeter covered over 38,000 acres with 28,000 acres in GNP and 10,000 acres on FNF (with a little of that being on private lands).		
Other Past Fires	Reference fire history map in the fire/fuels section in Chapter 3.		
Vegetation			
Noxious Weed Spraying	All river access sites since 1995.	All river access sites and areas monitored above (BAER noxious weeds).	
Timber Harvest	Most recent timber harvest/salvage in the project area were sales from the 2004 Robert-Wedge Post-Fire Project. The sales authorized in this project within the Wedge Canyon Fire area included (all salvage or intermediate harvests): <ul style="list-style-type: none"> • Tepee – 476 acres • Hornet - 964 • Wedge -161 The second most recent timber harvest in the project area were sales from		

	Past	Present (Spring - Summer 2007)	Reasonably Foreseeable
	<p>the 1996 Hornet Wedge decision (all regeneration harvests):</p> <ul style="list-style-type: none"> • Help Me Rhonda (1999-2002): (T36N, R22 W, Sec. 13, 14, 23, 24) – 59 ac. • Snap Crackle Pop (2000): (T36N, R22W, Sec. 2) – 9 ac. • Doogan Dog 1998-99: (T36N, R23W, Sec. 13, 14; T36N, R22W, Sec. 11-14, 23-26) – 374 ac. • Happy Trails (1999): (T36N, R22W, Sec. 17, 18; T36N, R23W, Sec. 14-16, 21-22) – 99 ac. <p>The following is a summary by approximate decade of all the past harvests since 1952 in the project area:</p> <ul style="list-style-type: none"> • 1952-60 – partial cuts: 443 ac.; regeneration: 1942 ac. • 1961-70 – partial cuts: 1935 ac; regeneration: 5461 ac. • 1971-1988 – partial cuts: 5196 ac.; regeneration: 4772 ac. • 1989-2005: partial cuts: 1588* ac.; regeneration: 1119 ac. (* Fire salvage in the Wedge Canyon Fire area is all included in this number) 		
Tree Planting	Tree planting has occurred since the first harvests were conducted in the project area (1950s).	Approximately 500-1000 acres may be planted within the Wedge Canyon Fire area over the next 2-4 years. Actual acres will be confirmed by ongoing field reviews. No planting in other areas is scheduled at this time.	
Forest Products Gathering	Personal use firewood cutting (except currently within Wedge Canyon Fire area due to active timber sales – Tepee and Wedge TS); Christmas tree harvesting; post and pole cutting; bough and cone collections; huckleberry picking.		
Precommercial (sapling) Thinning	Approximately 15,000 acres have been thinned in the project area. Most of the thinning was related to past harvesting areas from the 1950s and beyond. Some of the area affected by the Red Bench Fire (1988) was thinned in the late 1990s until lynx became an issue.	Precommercial thinning has not occurred since the late 1990s and is not reasonably foreseeable.	
Commercial and Personal Mushroom Harvesting	In Wedge Canyon Fire area, May-August 2004 (approximately 3400 personal permits issued in FNF fire areas; approximately 700 commercial permits issued in Robert/Wedge and West Side Reservoir Fire areas).		
Road Management			
2003 Burned Area Road Maintenance Project (Decision Memo signed in July 2004); Authorizing Road Maintenance Work on Approximately 330 Miles of Flathead National Forest System Roads Located in or Near Areas Burned During the 2003-Wildfire Events.	<p>In 2004, activities included improving cross drains, surface restoration and recondition, ditch relief, culvert replacement, cleaning sediment basins, culvert removal with no replacement, cleaning culvert inlets and outlets, bridge maintenance installation of new rolling dips, road side brushing. Specifically,</p> <ul style="list-style-type: none"> • Hornet Rd 9805; 7 re-install culverts, 4 new culverts, dips, seeding • Whale Creek Rd 318 (Jct. w/ 9805 to 10335; 5 re-install culverts, 1 new culvert, flair outlets • Rd 10335; 1 new culvert, dips 		

	Past	Present (Spring - Summer 2007)	Reasonably Foreseeable
Approximately 57 Miles of Road were Maintained in or Adjacent to the Wedge Canyon Fire.	<ul style="list-style-type: none"> Rd 10336; dips Rd 10844; 1 new pipe, dips, flappers Rd 114; 4 reinstall culverts, dips Rd 1671 (Jct. 318 to 1671D); dips <p>(total 22 miles)</p>		
Road Construction, Reconstruction, Maintenance	<ul style="list-style-type: none"> 1921: northern stretches of North Fork Road built Post-1952: remainder of NFS system roads in fire area built and maintained Haul routes for the Robert-Wedge salvage sale units were brought up to BMPs in 2005-2006. 	Routine road maintenance: Road blading and culvert cleaning as needed.	
Road Decommissioning	<p>1996: Center Mountain, 13.6 total miles</p> <p>1996: Hornet Wedge T.S., 31.7 total miles</p>		
Road Closures	Robert Wedge ROD authorized 4 roads to be gated or bermed (Road 70701, 9805, 5399, and 907) which have been done unless being used during ongoing salvage sale activities (Robert-Wedge Post-Fire Project). Road 1671 authorized for closure by berm (Hornet Wedge) will be done summer of 2007.		
NEPA Decision Authorizing Easements to DNRC on Open FDR Roads to Access Portions of their Jurisdictional Lands in the North Fork			Whale Creek Road 318, Hornet Creek Road 9805, State Loop Road 70701, Moose Creek Road 210C, Moran South Road 70725
Recreation			
Recreational Activities	E.g. Sightseeing, hiking, camping, cabin rentals, snowmobiling, hunting, floating and fishing. Most of these activities have occurred in the project area since the North Fork Road was built. These activities are expected to increase over time as the population within the project area and neighboring areas increases.		
Trail Maintenance	Heavy maintenance on eroded section of the Hornet Lookout Trail below the lookout after the Wedge Canyon Fire (2004).	Continue maintenance as needed on other system trails found with the project area.	
ROD for the Flathead Forest Plan Amendment 24 (Winter Motorized Recreation Plan) - The Decision Determines When, Where and Under What Conditions Over-Snow Vehicles (snowmobiles) are Allowed on the Forest.		Decision for this plan was signed in November 2006.	

	Past	Present (Spring - Summer 2007)	Reasonably Foreseeable
Glacier View Travel Management			The Forest Service is implementing a national rule which requires each National Forest to formally designate roads, trails, and areas where motorized travel is permitted and to display these areas on a motor vehicle use map. Glacier View Ranger District is scheduled to complete this map by September 2008.

Table 3-2. Activities on Private and State Lands

	Past	Present (Spring - Summer 2007)	Reasonably Foreseeable
Private Land Development	Clearing/logging of land, especially in Tepee Lake area during and right after the Wedge Canyon Fire.		Further development is anticipated
MT DNRC Fire Suppression	Hazard tree removal during the Wedge Canyon Fire.		
MT DNRC Timber Harvest	After the Wedge Canyon Fire, DNRC salvaged 227 acres in T36N, R22W, Sec. 16 (Hornet section). Precommercial thinning also took place in NE corner: 122 acres of larch.		DNRC proposing in February 2007 to harvest (and related post-harvest activities) on about 400 to 450 acres in their Moose Creek section (T36N, R22W, Sect 36). Implementation is expected in September 2007.
Road Activities	County, State, and private road construction and maintenance activities. In 2004, a portion (.75 mile) of the North Fork Road was relocated on NFS lands north of Whale Creek, to avoid slumping into the river.	County, State, and private road construction and maintenance activities are expected to be ongoing and foreseeable.	

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