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Rogue National Wild and Scenic River
Hellgate Recreation Section

Hazardous Fuel Reduction Project

Environmental Assessment
(EA # OR-110-03-14)

1.0 Introduction

1.1 Project Area

The project area (8,657 acres) for this fuel hazard reduction project coincides with the congressionally designated boundary of the Hellgate Recreational River Area of the Rogue National Wild and Scenic River in southwestern Oregon (Map 1 in Appendix A). Almost half (3,853 acres) of the project area is within a National Fire Plan designated Community-at-Risk (CAR) (*www.fireplan.gov/index.cfm*). Three areas (57 acres) are wildland urban interface (WUI) areas outside of a CAR (see Maps 17A&B). Within the project area, land ownership is mixed: BLM (5,090 acres), State of Oregon, Josephine County and more than 180 private parcels (3,567 acres) (Maps 2A&B). The BLM also holds 166 scenic easements (1,914 acres) on privately owned parcels within the project area. Through these easements the BLM owns or controls the trees and other vegetation on the private property.

The project area is divided into two river reaches: the Applegate reach (12.8 miles) upstream of Hog Creek and the Dunn reach (14.5 miles) below Hog Creek. Rural residential sites are most common in the Applegate Reach where the terrain is flat to rolling and the river channel averages approximately 400 feet wide. In this reach, the surrounding landscape consists of even-textured agricultural fields on the floodplains with a backdrop of mixed conifer forests on rolling hills creating a partial enclosure of the view. The Dunn reach is much more confined first by the near vertical bluffs of Hellgate Canyon then opening to long vistas of dense forest on steep, rugged mountain slopes.

1.2 Project Planning Process

The BLM is proposing to make fuels treatment decisions for the project area by using a two-step planning process. First, is the preparation of a Hellgate section fuels treatment plan, which is addressed in this Environmental Assessment (EA) and supporting documents. The decisions made as a result of this analysis will provide the sideboards and framework for the second step in this process, which is the development and implementation of site-specific fuels treatments agreed to in neighborhood plans. Neighborhood plans would be developed in partnership with residents and property owners for small portions of the river corridor where there is a common neighborhood focus and interest in addressing the fuel reduction issues specific to that neighborhood. Delineated neighborhoods would be kept small to expedite collaborative planning and implementation. Twenty to 30 neighborhood plans are anticipated. All proposed neighborhood treatments would comply with the decisions made in step one of the planning process. All neighborhood actions would tier to this analysis and would comply with the National Environmental Policy Act (NEPA) and other regulatory compliance requirements.

The decisions to be made as a result of this EA and the current project area wide proposals and analysis include: the overall extent and intensity of fuel hazard reduction in the project area (3 action alternatives are analyzed); the vegetation / fuel reduction prescriptions that will be the basis for neighborhood plans; and the project design features (PDFs) that will be used as appropriate in each neighborhood plan. The analysis provides the basis for cumulative effects across the full project area. Future fuel reduction proposals outside of the project area but within the watershed are anticipated but specifics are not currently known. The NEPA analysis for these future projects will include a consideration of watershed level cumulative effects as appropriate. Foreseeable actions in currently existing plans have been addressed in the present analysis.

1.3 Related Plans and NEPA Documentation

This EA is consistent with the plans / decisions and is tiered to the NEPA documents listed below:

1. The *Medford District Record of Decision and Resource Management Plan* (June 1995) (RMP), which provides management direction and resource allocations for all aspects of management in the district including: land use allocations (p. 24), Wild and Scenic Rivers (p. 68-68), riparian reserves, special status and survey and management species (p. 53-55, 135-147), smoke management (p. 40),

aquatic conservation strategy (p. 22, 154), cultural resource management (p. 71), rural interface areas (p. 88), fire management (p. 89), and visual resource management (p. 70). Also the *Medford District Proposed Resource Management Plan and Final Environmental Impact Statement* (September 1994).

2. The *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl, and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* (April 1994), (*aka* the Northwest Forest Plan) (NFP) and its subsequent *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (January 2001), which provides management direction and resource allocations for, in part: land allocations (p. A-4), aquatic conservation strategy objectives (p. B-11), survey and manage species management, and management in riparian reserves (p. B-12, C-30). Also the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-successional and Old-growth Forest Related Species Within the Range of the Northern Spotted Owl* (February 1994) and the *Final Supplemental Environmental Impact Statement for Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (November 2000).

3. The *Rogue National Wild and Scenic River: Hellgate Recreation Area Proposed Recreation Area Management Plan and Final Environmental Impact Statement* (March 2003) (RAMP), which identifies (p. 3-10) the need for a fuels hazard reduction plan in the Hellgate Recreation Section.

2.0 Purpose of and Need for the Proposal

2.1 Existing Condition and Need for Action

This project is needed because the fire hazard within the Hellgate Recreation Section of the Rogue National Wild and Scenic River has been increasing for many years due to fire exclusion and natural vegetation growth (USDI 2003). Fire risk is high due to extensive residential and recreation use. Property and Wild and Scenic river values are high and would be significantly and adversely impacted if a high intensity, high severity wildfire occurred.

Current conditions driving the need for action include: a) a mix of private and government ownership including 180+ residential sites, b) a highly diverse mosaic of vegetation and fuel conditions, c) more than 50% of the land is in a fire condition class 3 and more than 25% in class 2 which indicates that the vegetation and fire regimes are significantly or moderately altered from their historic ranges (see Glossary in Appendix H), d) more than 95% of the project area is in a high or moderate fuel hazard condition, and e) there are high values at risk in terms of residential property as well as the recreational and scenic Wild and Scenic River values.

2.2 Purpose of and Need for the Project / Desired Future Condition

The desired future condition (DFC) along the Hellgate Section of the Rogue Wild and Scenic River corridor is a mosaic of vegetation and fuel conditions that reduces the potential for a severe wildfire, increases potential fire suppression safety and effectiveness, and maintains the river's Outstandingly Remarkable Values (ORVs). ORVs are those values which caused the river to be designated as a component of the national wild and scenic river system (see Glossary). For the Rogue River they are the fisheries, the diverse recreation opportunities and the natural scenic qualities.

This corridor-wide plan is needed to set a framework for site-specific projects that would proactively reduce and manage the wildfire fuel hazard within the Hellgate Recreation Section. The project area includes 8,657 acres of public and private land along this section of river (Maps 2A&B). The proactive reduction and management of wildfire fuels would meet the desired fuel hazard condition while staying within Visual Resource Management (VRM) Class I guidelines, which are to preserve the existing character of the landscape and to limit changes to very low levels which do not to attract the attention of the causal observer

(see Glossary). Broadly speaking, this corridor-wide plan will set the framework for site-specific, neighborhood fuels treatment plans and projects that will: a) identify the site specific DFC in the neighborhood based on existing resource conditions, neighborhood preferences and pertinent management considerations; b) carefully and selectively thin forest stands and forest vegetation to reduce potential wildfire intensity and severity; c) reduce the number of high risk fire days; d) thin forest stands to promote tree and stand vigor into the future; e) dispose of the thinned materials to reduce fuel hazard; f) create more effective wildfire defensible spaces around residential, business and developed recreation sites; and g) reduce vegetation along points of residential ingress and egress to improve access safety should a wildfire occur.

3.0 Description of Proposed Action and Alternatives

The corridor-wide proposed action and the two action alternatives apply only to BLM managed lands (see Maps 2A&B) and, with landowner concurrence, to the private parcels where the BLM holds a scenic easement right. Treatments on private, county and state property would be considered during the site-specific, neighborhood plans only if the landowner chooses to participate. Private landowner participation will be encouraged, but not required.

The BLM is proposing to reduce the wildfire fuel hazard in the project area by altering key determinants of wildfire intensity: surface fuel loading, ladder fuel presence and profiles, and crown bulk density (Evers 2001). Reducing fuel loading, ladder fuels and crown bulk density will create vegetation and fuel conditions that lower potential wildfire severity, increase fire suppression effectiveness, and, in turn, provide for better protection of property and resource values in the project area (See section 2.2). Design of the action alternatives primarily focuses on how best to move toward meeting the desired river corridor vegetation/fuels condition while meeting the VRM Class I guidelines. Potential fuel treatment impact on visual quality and the outstandingly remarkable scenic value was identified through public involvement and by agency staff as the primary planning issue to be resolved. As such, the proposed action and two action alternatives reflect three different levels of fuel hazard reduction.

The design of the proposed and two action alternatives is based on four strategic fire management zones described below (USDA 2001). Attention is centered on residential and business structures or developed recreation sites for the first three zones. The fourth zone makes up the remainder of the project area. All three action alternatives place a primary emphasis on the creation of defensible space immediately around homes, businesses and developed recreation sites. Outside the home ignition zone, each alternative treats surface fuels, ladder fuels and tree canopy fuels to different degrees.

The **home ignition zone** (defensible space) is centered on residences, businesses, and important structures and extends outward for 50 – 200' depending on topography and adjacent vegetation type. Fuel treatments are most intense in this zone with the objective of creating fuel conditions that allow firefighters to safely and effectively defend the structure from a wildfire, to increase the chance that the structure can survive a wildfire on its own, or to keep a structure fire from igniting the adjacent forest vegetation. Many firefighting agencies have publications describing treatments to accomplish this goal (see Appendix C2). Providing safe ingress and egress to structures is also a key element in meeting this goal. Creating a defensible space is largely dependent on a home owner's willingness to address fuel hazard around their property. These areas cannot currently be mapped but involve an estimated 500 acres plus 57 acres of mapped WUI areas outside of a CAR.

The **defense zone** extends outward from structures for approximately 0.25 mile or until it reaches the project area boundary. The fuel treatment objective is to protect loss of life and property by creating defensible space. Due to the home density within the communities at risk (Maps 17A&B), all land in the project area within a mapped community at risk will be considered to be within the defense zone. This zone totals approximately 4,876 acres.

The **threat zone** extends beyond the defense zone approximately 1.25 miles for a total of 1.5 miles (approximately 2,567 acres). Fuel treatments in this zone would be strategically located to interrupt fire spread and reduce fire intensity. Treatments would be designed to modify wildfire behavior as it approaches the defense zone, thereby allowing firefighters to take advantage of reduced spotting, lower spread rates and intensity, and to more effectively contain the fire in the defense zone.

The **general forest zone** encompasses the remainder of the project area (approximately 657 acres). Vegetation and fuel treatments in this zone would be primarily to provide some protection to the adjacent forest lands from fires initiated in the corridor.

The proposed action and the two action alternatives are described in Table 3-1 (p. 6). Each of these alternatives is designed to reduce surface fuels in a substantive way, although to different degrees. All action alternatives treat most intensively in the home ignition zone (the areas of highest property values), and with lower intensities in the other zones. Alternative 2 does not treat the General Forest Zone while Alternatives 3 and 4 treat up to 50% of it. Alternative 3 and 4 differ in the tree diameter ranges within which thinning would occur. Alternative 4's thinning of larger diameter trees will provide for a greater reduction of crown bulk density and thus crown fire potential and intensity. All alternatives would retain large fire resistant trees.

The proposed vegetation/fuel treatment prescriptions and forest and stand health prescriptions common to the three action alternatives are described in Appendices C-1 and C-2. These prescriptions are specific to each of the primary vegetation series in the project area (Maps 5A&B) and would be refined and applied at the site-specific level during neighborhood planning and treatment implementation. If during the preparation of individual neighborhood plans it becomes clear that protection of a structure or special value requires minor extension of the home ignition or defense zone project work outside of the congressionally designated river boundary, the project area may be expanded to include it. Where this occurs, all vegetation / fuel treatment activities would be consistent with those described in this EA.

The proposed action and two action alternatives also include specific project design features (PDFs) to ensure consistency with the management direction of the NFP and the RMP for the following resources: fisheries and recreation ORVs, riparian reserves, endangered and sensitive species, wildlife, vegetation, soils, water, and cultural resources. PDFs are described in Appendix B and are, by reference, incorporated in their entirety into the proposed action and the two action alternatives. They will be incorporated into neighborhood plans as appropriate on a site-specific basis. It should be noted that multiple fuel treatment entries with smaller incremental changes in the scenic landscape may be needed in all action alternatives to meet VRM standards. The degree of acceptable change depends upon whether the treatment area is within a seen area (see Maps 4A&B) or a seldom seen area (from the perspective of casual observers on the river, at recreation sites or on main roads) and the degree to which a particular location is a focal point.

The purpose of each action alternative is described below. They reflect different levels of fuel reduction treatments while meeting VRM guidelines. Alternatives 2, 3 and 4 reflect progressively more fuel hazard reduction treatment.

Alternative 1 (No Action): This alternative is the continuation of the current relatively small scale fuel hazard / fire hazard work that some individual private property owners conduct. Under current management, the BLM would not implement any fuel hazard reduction work. The emphasis on prompt fire suppression would continue. Other ongoing management activities (e.g., noxious weed control, recreation site maintenance, river bank cleanup, scenic easement administration) would continue and would be common to all alternatives.

Alternative 2: Fuel hazard reduction to alter surface fire intensity and behavior. Dead and down fuels on the ground surface and some smaller diameter ladder fuels would be treated. All work could be done, although would not have to be done, manually.

Alternative 3 (Proposed Action): Fuel hazard reduction to alter: a) surface fire intensity and behavior, b) crown fire initiation potential, and c) stand characteristics to improve residual stand vigor and forest health. Dead and down fuels and more of the ladder fuels would be treated than under Alternative 2. Most of the work could be done manually, but heavy equipment (e.g., tractors, skidders, loaders) would be needed to handle the larger size material, which may have commercial product value.

Alternative 4: Fuel hazard reduction to alter: a) surface fire intensity and behavior, b) crown fire initiation potential, c) crown bulk density and thus crown fire sustainability, and d) stand characteristics to improve residual stand vigor and forest health. Some of the work could be done manually, but heavy equipment would be required to handle the larger size material, which will have commercial product value.

The methods that are proposed for cutting and vegetation / fuel disposal are the same under Alternatives 2 through 4. They include: chainsaw cutting, thinning, and pruning; handpiling and burning; chipping; chopping / grinding (*e.g.*, slashbuster), yarding of material for off site disposal (e.g., cable, horse, tractor, ATV, helicopter), and underburning or broadcast burning. The specific methods to be used on any given site would be selected during neighborhood planning based on forest conditions, VRM considerations, the preferences of the neighborhood plan collaborators, and the neighborhood's desired future condition (DFC). Multiple treatment entries may be necessary due to current fuel loads and VRM Class I considerations. Neighborhood plans will identify where this is necessary. The cutting and disposal methods used may also vary with each entry depending on the vegetation / fuel conditions at the time of treatment (specific methods will be identified in neighborhood plans). A slashbuster, for example, may be the recommended method in the first treatment entry only, while future treatments could preclude the slashbuster and rely heavily on underburning. The specifics of each treatment would be determined following development of each neighborhood plan. The methods employed would be selected and implemented in accordance with the PDFs (Appendix B).

4.0 Environmental Impacts of the Proposed Action and Alternatives

This section summarizes the potential environmental impacts resource specialists expect from implementing the proposed action and alternatives with all of the PDFs. Table 4-1 (p. 7) provides a comparative summary of the alternatives' impacts. Tables A-1 and A-2 (Appendix A) provide a summary of acres for different project area parameters to describe the scale and intensity contexts appropriate to evaluating potential effects. A supporting analysis and documentation of environmental consequences report (Appendix I available on the Medford District's web site (*www.or.blm.gov/medford/rr_fuel_project*), is incorporated by reference. The background and basis for the findings summarized in this section can be found in this report.

The no action alternative analysis considers two scenarios: with a wildfire and without a wildfire. The existing vegetation and fuels conditions strongly suggest that a wildfire will occur within the project area. Because of the great importance of the scenic ORV, a Visual Resources Background Report is also included (Appendix D).

The primary issues for planning and analysis were: a) insure that the Rogue River's identified Outstandingly Remarkable Values (ORVs) are protected and enhanced, particularly the scenic quality, and b) reducing the fuel hazard to a level that reduces the potential for a high severity wildfire in the project area. The analysis found that none of the action alternatives would impact the fisheries or the recreation ORVs. The analysis found that Alternatives 2 and 3 (Proposed Action) would protect and enhance the scenic ORV. It was found that Alternative 4 could exceed permissible levels of scenic change at some localized sites but that this could be precluded with careful site specific adjustments during neighborhood plan preparation. The analysis found that all action alternatives would reduce the fuel hazard although each to a different degree.

Analysis has not identified any impacts to the following BLM critical elements: areas of critical environmental concern (there are no ACECs in the project area); Native American religious concerns; prime or unique farmlands; floodplains; wilderness or wilderness study areas; issues of environmental justice; and energy development, production, supply or distribution. The project is not located within the Oregon State

Coastal Management Zone (CMZ) nor has it been identified by the State of Oregon's Land Conservation Development Commission (LCDC) as a project outside of the CMZ but still needing a consistency review.

TABLE 3-1: Rogue River Fuel Hazard Reduction Project: Description of Alternatives

Alternative	Treatment Zone	Vegetation Treatment Diameter Range (DBH) [4]	Seen Areas Maximum Treatment Level per entry [1]		Seldom Seen Areas Total Potential Treatment Level [1]	
			Overstory Canopy Treatment[2] (% Disturbance)	Understory Treatment[3] (% Disturbance)	Overstory Canopy Treatment[2] (% Disturbance)	Understory Treatment[3] (% Disturbance)
Alternative 1 (No Action)	N/A	No Treatment [5]	0%	0%	0%	0%
Alternative 2	Home Ignition	See Appendix B – 2				
	Defense	0 – 8”	= 15%	=50%	=40%	=80%
	Threat	0 – 8”	=10%	=40%	=30%	=60%
	General Forest	No Treatment	0%	0%	0%	0%
Alternative 3 (Proposed Action)	Home Ignition	See Appendix B – 2				
	Defense	0 – 12”	=20%	=60%	=50%	=90%
	Threat	0 – 8”	=20%	=50%	=40%	=80%
	General Forest	0 – 8”	=15%	=40%	=30%	=50%
Alternative 4	Home Ignition	See Appendix B – 2				
	Defense	0 – 21”	=20%	=60%	=50%	=90%
	Threat	0 – 12”	=20%	=50%	=50%	=80%
	General Forest	0 – 8”	=20%	=40%	=40%	=50%

1. ***Treatment levels*** –The final target silvicultural / fuel hazard stand conditions (and the resultant potential wildfire behavior characteristics, fire suppression opportunities and potential structure survivability) are the same for similar vegetation types in both the seen and the seldom seen areas. The target canopy closure, regardless of the number of entries needed, would be 30+% for ponderosa pine stands and 40+% for Douglas-fir dominated stands to meet fuel hazard reduction and silvicultural / forest health conditions. Other management objectives (*e.g.,* Aquatic Conservation Strategy, wildlife considerations, special status species, etc.) may, in some situations, mandate that the target total minimum crown canopy closure be greater than the 30 - 40% minimum levels. This could be the case with regard to understory treatments as well. An "entry" is an individual treatment action on a particular piece of ground.

Multiple entries may be needed to reach the target conditions because the level of change that the VRM I management “character of the landscape” standard would permit at each entry varies depending on whether a site is within the seen or the seldom seen area.

Seen areas – Incremental entries would be necessary to meet the visual resource management objectives (VRM Class 1). The maximum treatment level per entry indicates the percent of change to the condition that exists at the time of entry that would be permissible for that entry. Multiple (2-3+) entries may be necessary to incrementally move current fuel hazard conditions to a desired site-specific silvicultural / fuel hazard stand condition.

Seldom seen areas - The degree of per entry change to the current condition is much greater within seldom seen areas than within the seen area. A single entry that moves the current condition to the desired site-specific silvicultural / fire hazard stand conditions may be acceptable.

Individual stand treatment silvicultural / fuel treatment prescriptions would be prepared for each entry based on the stand conditions at the time of entry and the silvicultural / fuel treatment prescriptions in Appendix B - 1. Entries would occur at intervals based on considerations of vegetation type, vegetation / fuel conditions, vegetation response characteristics, and the permissible level of disturbance for the site.

Measuring or quantifying the level of change / percent disturbance would be indexed by, for example, canopy density, canopy cover, number of stems, or visual transparency of the stand being treated.

Multiple or staged entries will also provide opportunities for adaptive changes of the silvicultural / fuel treatment prescriptions. Adjustment of prescriptions would come from BLM’s Visual Contrast Rating methods to insure that VRM Class 1 standards are met.

2. Overstory Canopy Treatment – Upper limit of the percent decrease in the overstory canopy (i.e., % disturbance) that exists at the time of treatment. The overstory is the upper level in a 2-storied stand or upper 2 levels in 3 and 4-storied stands.

3. Understory Treatment – Upper limit of the percent of surface area treated on the ground per entry.

4. Vegetation Treatment Diameter range - Vegetation cut would be restricted to within the specified DBH range. (Surface fuels would be reduced as needed in all cases.)

5. The current relatively small scale fuel hazard reduction work that some private property owners currently conduct would continue.

Table 4.1: Environmental Impacts: Comparative Summary of Alternatives

Resource Element		Alternative 1 (No Action)	Alternative 2	Alternative 3 (Proposed Action)	Alternative 4
Potential Treatment Acres	**General Fuels Treatment**	0	3,320	4,189	4,189
	Broadcast / Underburn	0	1,326	1,702	1,702
	Slashbuster Use	0	1,257	1,257	1,257
FIRE AND FUELS (See Supporting Analysis Document (pp. 2-12))	**% High Hazard Acres**	69% (currently)	45% (post treatment)	37% (post treatment)	37% (post treatment)
	% Mod. Hazard Acres	29% (currently)	28% (post treatment)	30% (post treatment)	30% (post treatment)
	% Low Hazard Acres	2% (currently)	27% (post treatment)	33% (post treatment)	33% (post treatment)
	Surface Fuels	Will continue to increase over time.	Reduced on all treated areas.	Reduced on all treated.	Reduced on all treated.
	Ladder Fuels	Will continue to increase over time.	Reduced on all treated areas.	Reduced on all treated areas.	Reduced on all treated areas.
	Canopy Bulk Density	Will continue to increase over time.	Approximately 20% canopy reduction, except in the General Forest Zone.	Approximately 30% canopy reduction. All zones treated.	Approximately 40% canopy reduction; crown fire may stop spreading but not necessarily torching. All zones are treated.
	Estimated # of days/year with Potential Crown Fire Activity	87 days	55 days	44 days	33 days
	Fire Condition Class & Fire Behavior	*w/o wildfire* - Acres of fire condition class 3 would continue to increase; high fuel hazard would continue to increase. *w/ wildfire* - It would be progressively more difficult to meet initial attack suppression goals of ≤10 acre fire size. The potential for a fire to develop into a large fire would continue to increase. Large fires (>100 acres) typically result in a mix of burn severities: 60-70% unburned to low severity and 30 - 40% moderate to high severity. Upwards of 50% of the burned area might have 75 - 100% canopy mortality.	Limited increase in fire condition class 1 acreage where the high fuel hazard would be reduced. In treated forest stands, surface flame length objectives would be met. High fuel hazard acreage would be reduced from 69% to approximately 45%, with a corresponding increase in low hazard acres from approximately 2% to 27% of the project area. This alternative would not change the number of days of passive crown fire activity, but would reduce the number of days of potential active crown fire activity by an estimated 35-40%.	Some potential for increasing fire condition class 1 acreage due to some treatment of canopy bulk density. Treats up to 50% of the General Forest Zone. In treated forest stands, surface flame length objectives would be met. Canopy base height would be increased. Would reduce high hazard acres from 69% to approximately 37% with a corresponding increase of low hazard acres to 33% of the project area.	Greatest potential for increasing acreage of fire condition class 1 due to high levels of canopy density reduction. This alternative treats up to 50% of the General Forest Zone. In treated forest stands, surface flame length objectives would be met. Canopy base height be increased and there would be a consequent reduction in the potential for crown fire initiation. This alternative would reduce canopy bulk density to the greatest extent. Reduces high hazard acres from 69% to approximately 37%, with a corresponding increase of low hazard acres to 33% of the project area. Potential passive and active crown fire days would be reduced by an estimated 60–65%. This alternative would result in the greatest reduction in potential fire intensity and severity and the greatest increase in public and firefighter safety.
			- All action alternatives would retain large fire resistant trees. - The progressively greater levels of fuel hazard reduction of Alternatives 2 through 4 would result in progressively more fire-resilient forests. - All alternatives would result in safer and more effective fire suppression actions, increased public ingress/egress safety, and increased property protection. The degree of improvement would be in proportion to the extent of fuel hazard reduction each alternative presents. The strategic reduction of crown and surface fuels could greatly reduce wildfire intensity and spread rates. Treating areas that are strategically important for fire suppression actions (e.g., roadways, higher areas) increases the options for safe and effective firefighting.		

Table 4.1: Environmental Impacts: Comparative Summary of Alternatives

<table>
<tr><th colspan="2">Resource Element</th><th>Alternative 1
(No Action)</th><th>Alternative 2</th><th>Alternative 3
(Proposed Action)</th><th>Alternative 4</th></tr>
<tr><td rowspan="3">Wild & Scenic River-Outstandingly Remarkable Values

(See Supporting Analysis Document (pp. 13 – 21) and VRM Background Report in Appendix D)</td><td>Fisheries</td><td colspan="4">Analysis did not identify any impacts to the river's fisheries ORV. The ORV was based upon a robust salmon and steelhead fishery. (See Fisheries / Aquatic element below.)</td></tr>
<tr><td>Recreation</td><td>w/o wildfire – There would be no change to the recreational diversity.
w/ wildfire – Diversity could be diminished if facilities were damaged. The desirability or quality of some recreation opportunities would be diminished by a large or severe wildfire.</td><td colspan="3">Analysis did not identify any impacts to the river's recreation ORV. The ORV was based on the diversity and quality of certain types of recreation that caused the river to be designated as a National Wild and Scenic River. This diversity includes whitewater float trips, salmon and steelhead fishing, hunting, swimming, hiking, boating, picnicking, camping and sightseeing. The action alternatives would not affect the opportunities for any of these activities.</td></tr>
<tr><td>Scenic</td><td>w/o wildfire- Vegetation would not be change, altered or managed and the existing character of the landscape and the over-stocked vegetation density of the forest would remain. Visibility through the forest would continue to be limited by the dense vegetation, and opacity of the forest would continue to be dark and dense. There would be no change to the characteristic landscape.

w/ wildfire- Visual resource characteristics (form, line, color, and texture) of existing vegetative character could change dramatically, depending on fire location, intensity, timing and suppression/containment response. The level of change to the characteristic landscape could be very low and not attract attention, or it could be very high and attract much attention, depending on fire characteristics.</td><td>w/o wildfire - The level of change to the characteristic landscape and landscape character that would result from this alternative would be very low and would not attract attention of the casual observer.

w/ wildfire - Existing vegetative character could change dramatically. The level of change to the characteristic landscape and landscape character could be low or high depending on fire location, intensity and extent. (A lower severe wildfire probability than in Alt. 1.)</td><td>w/o wildfire – The level of change to the characteristic landscape and landscape character that would result from this alternative would be low and would not attract attention of the casual observer.

w/ wildfire - Existing vegetative character could change dramatically with a wildfire. The level of change to the characteristic landscape and landscape character could be low or high depending on fire location, intensity and extent. (A lower severe wildfire probability than in Alt. 1 or 2.)</td><td>w/o wildfire: Level of change to the characteristic landscape / landscape character in the Threat and General Forest Zones would be low and would not attract attention of the casual observer. In the Defense Zone, the level of change could be moderate and could attract attention of the casual observer. Vegetative change meets VRM 1 standards in most situations, although it could in the short term exceed standards in some situations. Adjustments through neighborhood planning could preclude this.

w/ wildfire - Existing vegetative character could change dramatically. The level of change to the characteristic landscape / landscape character could be low or high depending on fire location, intensity and extent. (A lower severe wildfire probability than Alt. 1, 2 or 3.)</td></tr>
<tr><td colspan="3"></td><td colspan="3">- There would be no change to the landform, rockform or waterform. The vegetation would be changed to different degrees. The proposed action and alternatives, with the PDFs, insure consistency with VRM Class I management objectives.
- Vegetative screening of structures, per BLM scenic easements and State Scenic Waterways Act requirements and objectives (see references section), would be safeguarded to protect or enhance the scenic view of the landscape as seen from upon or directly adjacent to the river or the backcountry byway.
- In seen areas, percentage limitations on crown canopy changes would limit effects on natural scenic quality (ORV) so that the level of change to the characteristic landscape would be very low and would not attract attention.
Phased treatments and multiple entries with minimal crown canopy changes during each entry, spaced approximately two to three years apart in seen areas, would gradually create open, park-like stands of trees. This would gradually decrease forest opacity and increase forest transparency. Color contrasts created in one phase would be greened-up before another phase, so minimal visual contrast would be created during any phase.
- Re-creation of open, park-like stands of trees would increase forest transparency, reduce forest opacity, move toward a similarity to historic landscape conditions (pre-wildfire suppression era).
- The 50' strip of vegetation left untreated next to the Rogue River and along certain recreation roads (the Merlin-Galice Road, Robertson Bridge Road and Lower River Road) would help visually screen ground disturbance activities (See Map 18).
- Directional falling of trees would lessen damage to residual trees and shrubs, and thereby, reduce visual impacts.
- In seldom seen areas, fuel treatments would not be visible, and therefore, would have no short term or long term visual effect.
- PDFs for other resources also aid visual resources, e.g., scattered un-entered patches of 1/10th to 3 acres throughout the project area to maintain diversity and for wildlife habitat; dense thickets of trees would be thinned to density levels that would improve stand growth and individual tree vigor; larger hardwoods and scattered large conifer trees would be reserved for the future large stand growth component; and stream buffers and sensitive plant zones would remain untouched. These PDFs would maintain a natural mosaic of visual diversity and the natural scenic quality (ORV).</td></tr>
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Table 4.1: Environmental Impacts: Comparative Summary of Alternatives

Resource Element		Alternative 1 (No Action)	Alternative 2	Alternative 3 (Proposed Action)	Alternative 4
			Crown canopy vegetation would not be altered noticeably. Overall visual effects of ground-cover disturbance would be slightly noticeable in the short term (1 to 2 yrs.), and negligible in the long term. Overall landscape character would not change dramatically. Existing vegetation would remain with medium-coarse textures. The level of change to the characteristic landscape would be very low and would not attract attention.	Crown canopy vegetation would be altered slightly, creating coarser textures and more open canopies in the Defense and Threat Zones. Overall visual effects of ground cover disturbance would be similar to Alt. 2. Re-creation of open, park-like stands of trees would increase forest transparency, similar to historic landscapes. The level of change to the characteristic landscape would be low and would not attract attention.	- Crown canopy vegetation would be most altered of any alternative, creating coarser visual textures with more spacing between tree crowns. Removal of some large trees in the areas closest to human occupancy (CARs, WUI and Defense Zones), as compared to Alternatives 2 or 3 (Proposed Action), would have the greatest potential impact to visual resources. Overall visual effects of ground cover disturbance would be similar to Alternatives 2 and 3 (Proposed Action). Re-creation of open, park-like stands of trees would increase forest transparency, similar to historic landscapes. The level of change to the characteristic landscape in the Defense Zone could be moderate and could potentially attract attention. The level of change to the characteristic landscape in the Threat and General Forest Zones would be low and would not attract attention.
	VRM Summary / Conclusions		Because of the effectiveness of PDFs and considering the existing diversity of landscapes within the Hellgate corridor, impacts to visual resources would be minimal. Areas treated would meet VRM Class I objectives, and added to untreated areas that are left for biological and watershed buffers, would add to scenic diversity and natural scenic quality (ORV). Phased implementation in seen areas would further lessen psychological impacts to changes in natural scenic quality (ORV).		Removal of some large trees in the areas closest to human occupancy (CARs, WUI and Defense Zones) would have the greatest potential impacts to visual resources. The level of change to the characteristic landscape in the Defense Zone could be moderate and could potentially attract attention. The level of change to the characteristic landscape in the Threat and General Forest Zones would be low and would not attract attention.
SOIL / WATER (See Supporting Analysis Document (pp. 26 – 29))	**Soils**	*w/o fire* - No Change. *w/ wildfire* - Higher potential for increase soil erosion; soil productivity decline if fire severity is high. In a wildfire, 1/3 of the burned area typically experiences a high intensity / high severity burn. In these areas, surface litter, duff and soil organic matter would be lost and surface roots killed. Susceptibility to erosion would increase and soil stability would decrease, especially on steeper slopes. Ash would provide a quick flush of available plant nutrients following a fire.	There would be no substantive impacts to the soils resource. Any increases in erosion would be localized with little, if any, transfer of sediment to stream channels due to filtering in the untreated areas of riparian reserves and the PDFs that serve to minimize the extent of soil surface disturbance. Some minimal increase in compaction due to heavy equipment could occur but it would be localized and negligible due to the PDFs that constrain the use of heavy equipment. Compared to the no action alternative, the action alternatives would result in lower fire intensities and potential fire severity and with a consequent decline in potential for soil damage due to fire. A minimal increase in overall soil productivity would occur.		
	Water Quality	*w/o fire* - No Change. *w/ wildfire* - Higher potential for sedimentation.	Water quality and quantity would remain the same for all 303(d) listing parameters.		Water quality and quantity would remain the same for all 303(d) listing parameters. Potentially a small amount of water yield increase due to reduced overstory density.

Table 4.1: Environmental Impacts: Comparative Summary of Alternatives

Resource Element		Alternative 1 (No Action)	Alternative 2	Alternative 3 (Proposed Action)	Alternative 4
FISHERIES / AQUATIC (See Supporting Analysis Document (pp. 29 – 31))	**Fisheries Habitat Conditions** **ESA Listed Species** (See Biological Assessment and Letter of Concurrence – Appendix F)	*w/o wildfire* - Wildfire risk would remain at high levels in the riparian reserves. High stand densities in riparian reserves would continue to limit tree growth and development of a future large woody debris (>24?DBH) recruitment pool. Stream shade would continue at current levels and rates of recovery from past disturbance. Salmonid production and survival would continue to be limited by limited large woody debris, the associated low stream complexity, and high summer water temperatures. *w/ wildfire* – High severity wildfire in riparian reserves could reduce stream shading, reduce the future coarse wood recruitment pool, with a decline in fisheries habitat quality. Increased runoff could increase the potential for erosion and sedimentation adversely impacting salmonid survival in the egg to fry stage. Increased sediment and the resultant turbidity would indirectly decrease juvenile salmonids survival due to gill scour and associated mortality from disease. At-risk slopes / stream banks would be more likely to fail resulting in debris flows into streams filling pools and burying riffles and degrading spawning gravels and pool rearing habitat, with a consequent decrease of salmonids survival in the egg, fry, and juvenile stages. Shade would be reduced, potentially increasing stream temperature. Even short term temperature increases would be likely to adversely effect currently depressed local salmon populations. Elevated summer temperatures in tributaries and the mainstem adversely affect juvenile salmonids, which depend on cool water for rearing. A stand destroying riparian reserve wildfire would retard the development of late-successional forest conditions decreasing in-stream large woody debris recruitment in the long term. Large wood debris is key to creating habitat complexity for juvenile salmonids and for cover for migrating adults and thus stream productivity.	Any effects to fish and aquatic resources from work within the riparian reserve would be highly localized, negligible and short term at the project level and 7th, 6th and 5th field watershed levels. Long term impacts are anticipated to be beneficial due to the reduction in potential for high intensity wildfire. Coho salmon are an effective indicator species for the health of the aquatic ecosystems in the project area. They require complex pools and off-channel habitat as well as the habitat requirements of the other salmonids present. The potential impacts on coho / coho habitat are addressed in the project's fisheries biological assessment (Appendix E). Any potential effects to fish and aquatic resources from fuel hazard reduction within the riparian reserves are anticipated to be highly localized, negligible, and short term at both the project level (6th and 7th field scales) and at the 5th field scale. The effects to coho or coho critical habitat are not likely to be adverse due to PDFs that retain shade, provide for future large woody debris (LWD) recruitment and eliminate sediment delivery mechanisms. Indirect effects from the proposed vegetative / fuels treatments would be beneficial in the long term by reducing the potential for high intensity wildfire in the riparian and upland areas. These long term beneficial effects would maintain tributary stream habitat and salmonid productivity throughout the system. ***ESA listed species*** – The Biological Assessment (BA) and Letter of Concurrence (Appendix F) concluded that the project's road maintenance, upland prescribed burning and skid trail restoration may affect, but would not likely adversely affect (NLAA) coho / coho critical habitat. NOAA – Fisheries has concurred with this determination for these types of actions (Programmatic BA/BO). The BA also concluded that the mechanical fuel treatments would not have a direct effect on coho. The BA determined that the use of prescribed fire in the riparian reserves and the potential need for new skid trails may affect, but is not likely to adversely affect (NLAA) the Southern Oregon/Northern California (SONC) coho. NOAA - Fisheries indicated its agreement with this determination in its July 30, 2003 letter of concurrence. ***Essential Fish Habitat*** - The Magnuson-Stevens Act designates Essential Fish Habitat (EFH) for coho and chinook salmon. The Rogue mainstem and the tributaries used by coho are designated as EFH. Actions that have the most potential to produce adverse effects are associated with underburning. The PDFs and best management practices (RMP p. 149) would mitigate or eliminate the potential adverse effects to EFH. NOAA – Fisheries has concurred with the determination that the project will not adversely affect EFH.	

Table 4.1: Environmental Impacts: Comparative Summary of Alternatives

Resource Element		Alternative 1 (No Action)	Alternative 2	Alternative 3 (Proposed Action)	Alternative 4
		Diminished future large wood recruitment streams would remove the possibility for recovery of properly functioning aquatic systems.			
AQUATIC CONSERVATION STRATEGY			The Aquatic Conservation Strategy consistency review (Appendix F) concluded that all of the alternatives would be consistent with the ACS objectives.		
VEGETATION / SILVICULTURE (See Supporting Analysis Document (pp. 22 – 25))		Stand density would continue to increase per the trend of the past 80 – 100 years due to fire suppression. Density levels would continue at levels not sustainable over time. The ecological consequence of this, in concert with extended drought, will be reduced stand vigor, increased stand mortality and increased potential for severe wildfire.	Least impact on declining stand vigor because it reduces only a portion of the lower stand layers.	Due to the increased treatment diameter range, it will result in greater stand density reduction in the lower stand layers. It will result in canopy gaps and individual large trees will benefit from increase growing space and reduced competition. It will have an intermediate impact on reversing declining stand vigor / health.	Greatest degree of stand vigor / health improvement due to density reduction in all canopy layers. Will create a pattern of forest canopy layers where individual trees and total stand growth is increased. More growing space for large diameter tree classes will accelerate moving the forest landscape to one dominated by large trees. It provides the greatest potential for site specific treatment prescriptions / plans.
			All action alternatives would improve stand and forest health and resiliency by removing density induced stress factors but to different degrees. Each alternative would result in distribution, abundance, and species composition more closely approximating the dynamic forest ecosystems existing prior to fire exclusion. The untreated areas intermixed with treated areas would maintain landscape diversity and habitats. The alternatives would all produce poles or fuelwood products. Alternatives 3 and 4 would produce commercially-valued trees (trees cut in order to meet hazardous fuel reduction objectives). All three alternatives would reduce wildfire hazard at the stand and at broader scales. They would reduce the potential for extensive loss due to fire and insects. The amount of reduction would directly translate to the level of forest health improvement that each of the alternatives would provide. All action alternatives would re-introduce prescribed fire into the ecosystem to some degree.		
BOTANY (See Supporting Analysis Document (pp. 31 – 36))		*w/o wildfire* – Successional / habitat changes would favor some species and lead to a decline of others. *w/ wildfire*: Damage to above and below ground plant structures could lead to mortality due to high intensity fire with potentially adverse impact on population viability. General habitat and vegetation successional changes cause some special status and survey and manage species to flourish while others decline. In the event of a high severity wildfire, underground and above ground plant structures would be damaged and plants killed. Viability of individual populations may be jeopardized. High intensity fire could threaten dormant *Cypripedium* (USDA / USDI 1998) and Gentner's Fritillary. Special status or Survey and Manage lichen species growing in the shrub or forest canopy could be threatened by the high flame lengths and canopy fire that can occur in fire condition class 2 and 3 areas.	*ESA listed species* - None of the action alternatives are likely to adversely affect local populations of the federally listed Gentner's Fritillary due to the protective buffers that will be implemented if the species is located in treatment areas and specific attention to maintaining appropriate habitat in the treatment areas. Thus, the species as a whole would not be adversely impacted (see Biological Assessment and Letter of Concurrence, App. E). *Special status and S&M species* - The botanical protection PDFs should preclude short term, direct effects to special status species in all three alternatives. They would maintain species diversity across the landscape as treatments would retain a mosaic of habitats across the landscape. Long term effects would be similar for all alternatives as they are primarily related to the use of heavy equipment.		
	ESA listed Species (See Biological Assessment and Letter of Concurrence in Appendix E) **Special Status Species**		This alternative would produce the least amount of direct, short term effects on an acreage basis. Temporally, however, long term effects of treatments in the seen areas could be compounded by the staging of entries (estimated to be at least three). Long term effects related to heavy equipment could alter habitat and introduce species competing with natives. Because this alternative has the least amount of treatment prescribed per entry, botanical resources could be affected the most by the high wildfire potential that would continue.	This alternative would result in more direct short term effects than Alt 2 because the acreage disturbed is greater due to treatment in the general forest zone. The potential for disturbing special status species and habitats would be greater. The short term direct effects at the local site level would not be appreciably different from Alt. 2. Long term effects slightly higher than Alt. 2 due to increased acreage for potential non-native species invasion.	Of the three action alternatives, this alternative has the greatest potential to impact botanical resources. It treats the same acreage as Alt 3 but it will change the canopy to a greater extent with consequent reduction in shade and moist micro sites. It has the potential to reduce local non-vascular species diversity due to large tree removal. With the greatest fuel hazard reduction it would reduce the potential for high severity wildfire and the consequent impact on botanical species.

Table 4.1: Environmental Impacts: Comparative Summary of Alternatives

<table>
<tr><th colspan="2">Resource Element</th><th>Alternative 1
(No Action)</th><th>Alternative 2</th><th>Alternative 3
(Proposed Action)</th><th>Alternative 4</th></tr>
<tr><td></td><td>Noxious Weeds</td><td>w/o wildfire – No impact.
w/ wildfire – Noxious weeds could increase depending upon wildfire severity and disturbance.</td><td colspan="3">Noxious weeds - The entire project area has a moderate to high probability of noxious weed invasion. Linear weed dispersal corridors (e.g., roads) are common in the project area. The river is a dispersal corridor due to flooding or movement of weed seed by recreationists. Douglas-fir series and white oak series (40% of the area) have the highest potential for weeds and weed invasion. Other series have a moderate probability for weed invasion. Heavy equipment use and multiple entries on a site increase the potential for weed invasions as well as displace native species. Multiple entries would encourage noxious weed invasion making restoration with native grasses difficult. The more ground disturbance the higher the potential for noxious weed invasion. PDFs (e.g., equipment cleaning, native grass seeding, eradication) will reduce the potential for this noxious weed spread.</td></tr>
<tr><td colspan="6"></td></tr>
<tr><td>WILDLIFE

(See Supporting Analysis Document (pp. 36 – 43))</td><td>ESA Listed Species:
Northern Spotted Owl, Bald Eagles, Marbled Murrelet
(See Biological Assessment and Letter of Concurrence in Appendix E.)</td><td>w/o wildfire - Habitat extent and quality would remain essentially unchanged.

w/ wildfire - Habitats could be degraded or lost if a wildfire were to degrade the 136 acres of suitable spotted owl nesting habitat and the designated critical habitat unit (CHU), or eagle nest trees.</td><td colspan="3">Northern Spotted Owl (NSO) - "May affect, Not likely to adversely effect." (ESA). Project PDFs for all alternatives would retain a minimum of 60% canopy closure within the USFWS's designated NSO critical habitat in the General Forest Zone. Suitable nesting habitat quality would be retained. The table below summarizes potential NSO habitat changes in the project area. It differentiates between areas within the CHU and late-successional reserve (LSR), and areas outside. (The area west of the river within CHU (#OR-65) is also within a Late-Successional Reserve (LSR).)

<table>
<tr><td colspan="7">Changes in Northern Spotted Owl Habitat - Alternatives 2, 3, and 4</td></tr>
<tr><td></td><td colspan="3">Current Habitat Acres</td><td colspan="3">Post-Project Habitat Acres</td></tr>
<tr><td>Land Designation</td><td>Suitable Nesting</td><td>Foraging</td><td>Dispersal</td><td>Suitable Nesting</td><td>Foraging</td><td>Dispersal</td></tr>
<tr><td>Within CHU Only</td><td>0</td><td>415</td><td>0</td><td>0</td><td>0</td><td>415</td></tr>
<tr><td>Within CHU & LSR</td><td>136</td><td>0</td><td>0</td><td>136</td><td>0</td><td></td></tr>
<tr><td>Within CHU or LSR</td><td>0</td><td>0</td><td>1,215</td><td>0</td><td>0</td><td>1,215</td></tr>
<tr><td>Outside CHU & LSR</td><td>0</td><td>639</td><td>0</td><td>0</td><td>0</td><td>639</td></tr>
</table>

The current 136 acres of suitable nesting habitat would remain of suitable nesting quality, although it would be degraded slightly by the action alternatives. The Biological Assessment (BA) (Appendix E) has determined that the project may affect, but is not likely to adversely affect the NSO, a determination concurred with by the USFWS (Letter of concurrence in Appendix E).

Bald Eagles: "No effect" (ESA). PDFs include protection measures (e.g., canopy closure, seasonal operating restrictions, noise buffers) for the three active nest sites within the corridor. All alternatives would create a defensible space around nest and roost trees and potential nest trees within ½ mile of nests. All alternatives would result in minimal effects to the bald eagles, and there may be beneficial effects. The project's BA has concluded that the project is a "no effect" to bald eagles.

Marbled Murrelet: "No effect" (ESA). The project area is within 50 miles of the coast and may include murrelet nest trees. However, the probability of them being in the area and of their being impacted by the proposed actions is very low. No special measures are required per the Rogue River/South Coast Biological Assessment (USDA and USDI 1996). This species has been included in the ESA consultation with the USFWS.

Based on the June 2002 Northwest National Fire Plan Consultation Process (USDA / USDI 2003), activities that conform to accepted practices for T&E species (e.g., habitat retention, seasonal restrictions) and other specific project design criteria, effects to T&E species is expected to be non-substantive. This project conforms to these practices. The USFWS has been consulted on the potential effects to the bald eagle following the Northwest National Fire Plan Consultation Process. Guidelines have not been set up for the northern spotted owl or the marbled murrelet and the vernal pool fairy shrimp through this process, so the standard consultation process was followed for these species.</td></tr>
</table>

Table 4.1: Environmental Impacts: Comparative Summary of Alternatives

Resource Element		Alternative 1 (No Action)	Alternative 2	Alternative 3 (Proposed Action)	Alternative 4
	Sensitive Species Habitats	*w/o wildfire* - Habitat quality would remain essentially unchanged, except for a continual decline in meadow and oak woodland habitats as conifers encroach. *w/ wildfire* - Habitats would be degraded or lost if a severe wildfire occurs. Effects would depend on fire severity. A moderate surface fire may benefit late-successional forest habitat by creating canopy gaps, encouraging shade intolerant tree species and increasing forest complexity. A severe fire may result in loss of habitat diversity (type and extent) and the possible localized extirpation of species dependent upon mature forests. Species associated with snags and down wood (e.g., woodpeckers) would benefit from the increase in habitat.	PDFs, especially the many buffers and the highly variable pre- and post-treatment conditions, would mean minimal impact on sensitive species habitats across the landscape. Effective refugia and migration corridors would be retained. Early seral, as well as mature forest habitats, would remain after all treatments.		
CULTURAL / HISTORIC RESOURCES		*w/o wildfire* - No change. *w/ wildfire* - Cultural and historic features could be lost due to direct burning or due to loss of ground cover that presently shields the sites from potential removal. The National Historic Register Sites could be burned in the event of a wildfire.	The progressive reduction of the high intensity wildfire potential that the three action alternatives would result in a progressive reduction in the potential for direct damage and loss of cultural and historic features. All three action alternatives include the creation of home ignition zones around the Rand and Speeds Place National Historic Sites' structures. This would increase their defensibility during a wildfire. Cultural surveys will be conducted for neighborhood plans in accordance with the Protocol for Managing Cultural Resources on lands administered by the Bureau of Land Management in Oregon, BLM's agreement with Oregon's SHPO for managing cultural resources.		
Cumulative Effects Related to the Action Alternatives (See Supporting Analysis Document)	**Fire & Fuels** – Three other BLM fuel reduction projects (Maple Syrup, Stratton Hog, and Pickett Snake) are in progress in the 5th field watershed. They involve approximately 2,660 acres within 1.5 miles of the Rogue River. The present project would compliment these three projects because it is located at the lower positions on the slope. The canyon bottom position would help protect the upper elevations because fire typically travels upslope at greater rates than down slope. Thus, the current project area, which is the area with the highest risk, would have a reduced fuel hazard. The potential for a large fire to occur would thus be reduced. **Visual and Scenic Quality -** Within the Rogue River's viewshed, yet outside the designated Wild and Scenic River boundary, there are several recent BLM timber sale areas. These timber sales were designed and planned by the BLM to meet VRM Class II standards, wherein visual changes can be evident, but should not attract the attention of the casual observer. Where thinning has been completed, there has been no impact to the visual resources / scenic quality. Harvest units are not noticeable. Thus, all of the projects meet the VRM guidelines / objectives and there would be no cumulative adverse impact arising from the present project in conjunction with others. **Vegetation / Silviculture -** At the project area scale, the vegetative diversity, both plant series and stand conditions, would continue to be high. Overall forest health and resiliency would be greater across the project area with a decreased potential for the stand density induced mortality. The potential for forest loss due to severe wildfire would be diminished. Species representation across the project area would be better maintained into the future by increasing forest resiliency throughout the corridor. When considered with other BLM landscape management projects in the 5th field watershed, they would collectively promote a greater degree of vegetation and forest structure / habitat diversity and forest stand resiliency across that scale. **Soils and Water -** This project would not increase road density or early seral stage vegetation. It would not reduce stream shading. It may result in a negligible increase in compacted area (estimated at 0.01% to the 5th field watershed), however, the 5th field watershed would remain at an overall moderate compaction level (USDI 1999). The proposed alternatives would not affect Rogue River pH values or summer fecal coliform counts and would, therefore, not contribute to water quality limits for 303(d) listed streams this watershed. **Fish -** The fisheries analysis determined that the project may affect, but is not likely to adversely affect coho salmon due to certain elements of the project. No potentially substantive cumulative impacts have been identified. Consultation with NOAA – Fisheries would include a review and consideration of potential cumulative effects. No substantive impacts are anticipated.			

Table 4.1: Environmental Impacts: Comparative Summary of Alternatives					
Resource Element	**Alternative 1 (No Action)**	**Alternative 2**	**Alternative 3 (Proposed Action)**	**Alternative 4**	
	Botany - This project and other activities in the watershed could contribute to the potential for individual populations of special status species to be extirpated from local sites. This is not expected to be substantive at the watershed scale due to the diversity of landscape conditions that would be maintained into the future. Fuel reduction treatments should reduce the risk of extirpation due to severe wildfire. **Wildlife -** This project would not result in any additional adverse impact to late-successional forests within the watershed. Changes in habitats would occur from all projects in the watershed. None of the present project's alternatives would have an additional impact on overall species persistence or dispersal patterns in the watershed. A high level of vegetation and habitat diversity would continue. This project, with others in the watershed, would not adversely impact any listed species or cause any species to become listed.				

5.0 Agencies and Persons Consulted

Project scoping involved the public via a February 6, 2003 mailing to 479 landowners within or contiguous to the Hellgate Recreation Section and individuals or organizations who have requested to be informed of the proposed project or have a standing request for all scoping notifications. These individuals or organizations include local, state and congressional elected officials and local Tribal entities. Two scoping open houses were held in February 2003, providing opportunities for information exchange and discussion between the BLM and the public. One open house was held in Galice (approximately 40 attendees) and the other in Grants Pass (20 attendees). Project scoping discussions were also held with Congressional delegations and with Josephine County commissioners. Written responses were received from the individuals and organizations listed below. The letters are on file at the Medford District Office.

State Representative Floyd Prozanski
Lianne Siart (Oregon Natural Resources Council)
Joe Serres (Friends of Living Oregon Water)
George Sexton (Klamath Siskiyou Wildlands Center)
Martin Desmond (Northwest Forestry Contractors Association)

Wellington Ewen	Warren Troy	Joe Salisbury
Helen Scott	Ron Thomas	Joan Kostelnik
Lloyd Stiewig	Cliff McKeen	Jacque and Harry Harvey

Two respondents not listed requested name / address confidentiality.

In addition, citizens consulted during the scoping meetings, the following agencies, government officials and organizations have, to date, been contacted regarding the corridor-wide planning process:

Federal:	Congressmen Peter DeFazio and Greg Wyden
	Senator Gordon Smith
	Department of the Interior Fish and Wildlife Service
	Department of Commerce, National Marine Fisheries Service
State:	Oregon Department of Forestry
	State of Oregon Scenic Waterways
County:	Josephine County Commissioners
Organizations:	Riverhawks
	Siskiyou Project
	Klamath Siskiyou Wildlands Center
	Headwaters

The key planning issues and concerns identified through the scoping process and by the BLM=s interdisciplinary project planning team are identified below. These issues and concerns were addressed through the PDFs and through the range of alternatives proposed and analyzed.

- Protection of the Outstandingly Remarkable Values (natural scenic quality, fisheries and recreational opportunities) of the Hellgate Recreational Section of the Rogue National Wild & Scenic River.
- Consistency with BLM's Visual Resource Management (VRM) Class 1 guidelines and standards.
- Impact on Endangered Species Act listed species and BLM special status species.
- Current forest vegetation conditions are generally outside of historic density ranges resulting in increased wildfire fuel hazard. Stand compositions are changing and tree and stand vigor is declining.
- The rapid resprouting characteristic of many native tree and shrub species in most of the project area vegetation types and the potential for this to create, if vegetation treatments are not done carefully, substantial long term maintenance needs and diminished fuel hazard reduction effectiveness.

References Cited

Evers, L. 2001. *Effects of fuels treatments on habitat elements important to survey and manage species.* Bureau of Land Management. Portland, OR. p. 18.

USDA. 2001. *Record of Decision: Sierra Nevada Forest Plan Amendment Environmental Impact Statement*. (http://www.fs.fed.us/r5/snfpa/library/archives/rod/rod.pdf)

USDA / USDI. 1994a. *Final supplemental environmental impact statement on management of habitat for late-successional and old-growth forest related species within the range of the northern spotted owl.* US Department of Agriculture, US Forest Service and US Department of Interior, Bureau of Land Management, Portland, OR.

USDA / USDI. 1994b. *Record of decision for amendments to Forest Service and Bureau of Land Management planning documents within the range of the northern spotted owl. Standards and guidelines for management of habitat for late-successional and old-growth forest related species within the range of the northern spotted owl.* US Department of Agriculture, US Forest Service and US Department of Interior, Bureau of Land Management, Portland, OR.. October 1994.

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USDA / USDI. 2003. *Northwest National Fire Plan Consultation Process. US* Department of Agriculture and US Department of Interior. (*http://www.or.blm.gov/fcp/docs/NWNFP_intro_v2.pdf*)

USDI. 1994. *Medford District Proposed Resource Management Plan and Final Environmental Impact Statement.* . US Department of Interior, Bureau of Land Management, Medford, OR. October 1994.

USDI. 1995. *Medford District Record of Decision and Resource Management Plan*. US Department of the Interior, Bureau of Land Management, Medford, OR. June 1995.

USDI. 2003. R*ogue National Wild and Scenic River: Hellgate Recreation Area Proposed Recreation Area Management Plan and Final Environmental Impact Statement*. US Department of Interior, Bureau of Land Management, Medford, OR.

WGA. 2001. *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-year Comprehensive Strategy Implementation Plan*. Western Governor's Association. 27 pp.

Other References

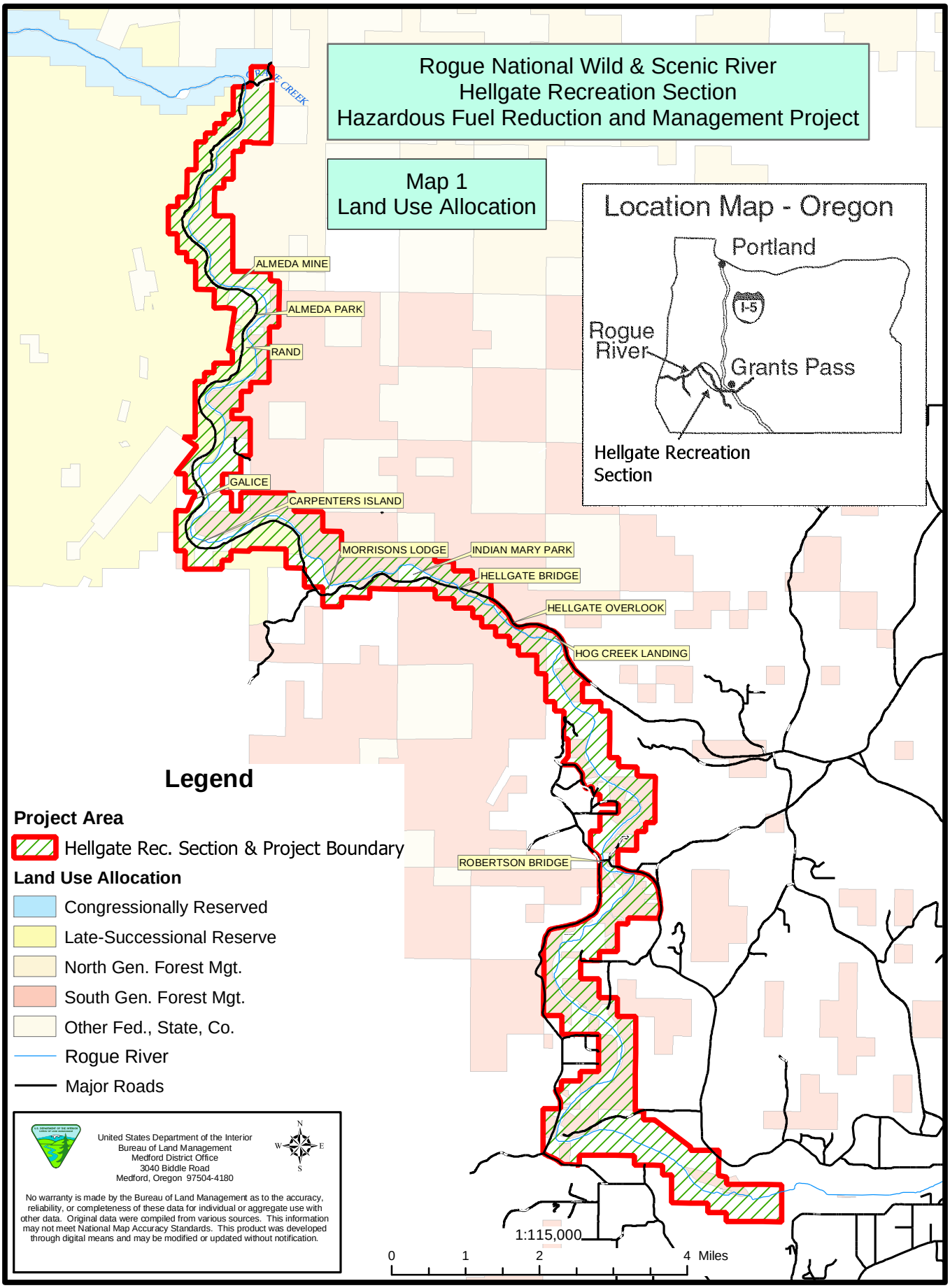
Healthy Forests Initiative: *www.whitehouse.gov/infocus/healthyforests*

Living with Fire: *www.or.blm.gov/nwfire/docs/Livingwithfire.pdf*

Oregon State Scenic Waterways Homeowners Guide: *www.prd.state.or.us/images/pdf/sww_log.pdf*

Table A-1: Project Area Parameters (Acreage) (GIS determined unless otherwise noted)		
Project Area Feature	Total Acres	Terrestrial acres
Rogue-Recreation 5th field watershed *	93,316	
Project Area Boundary (*includes the river*)	8,657	
Rogue River	925	
Home Ignition Zone (*Not able to map, acres estimated*)	500	500
Defense Zone *(includes embedded home ignition zones)*		
Communities-at-Risk (CAR)	3,853	2982
Outside of CARs / WUI	1,523	1,238
Wildland Urban Interface (WUI) outside of CAR	57	55
Threat Zone	2,567	2,088
General Forest zone (non-interface)	657	536
Recreation Sites		620
Rogue River – the river itself	925	
Riparian Reserves: 50' No treatment buffers		1,040
Riparian Reserves: 150 – 300' Riparian Reserve		4,270
Approximate potential treatment area		
Potential slashbuster		1,257
Non-slashbuster treatment acres		6,475
Seen Areas (Visual Resource Mgt.)		7,170
Seldom Seen Areas (Visual Resource Mgt.)		1,487

Table A-2: Potential Treatment Acre Summary			
Proposed Treatment	Alt 2	Alt 3	Alt 4
General Fuels Treatments	3,320	4,189	4,189
Broadcast or Underburning	1,326	1,702	1,702
Slashbuster	1,257	1,257	1,257



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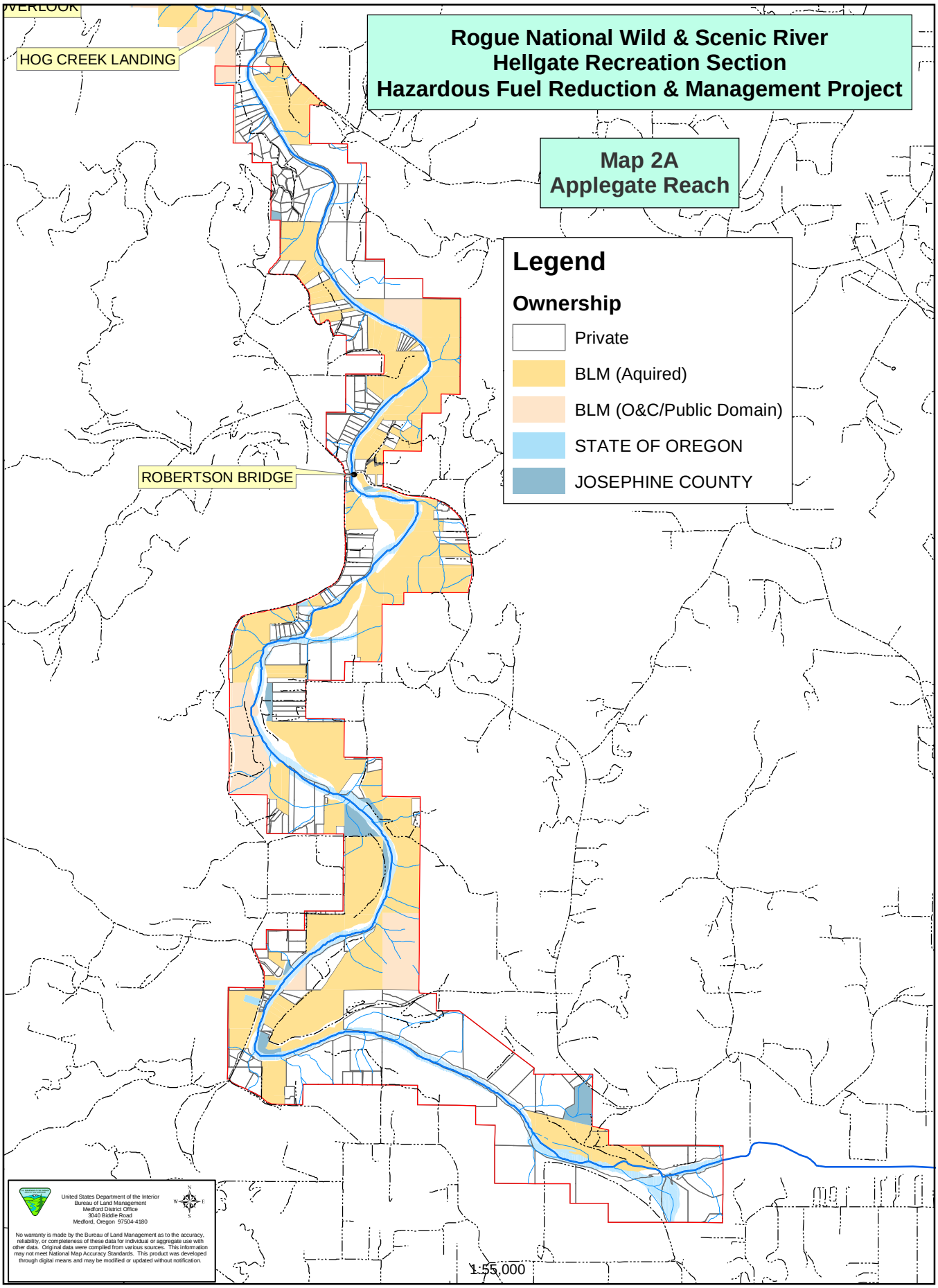
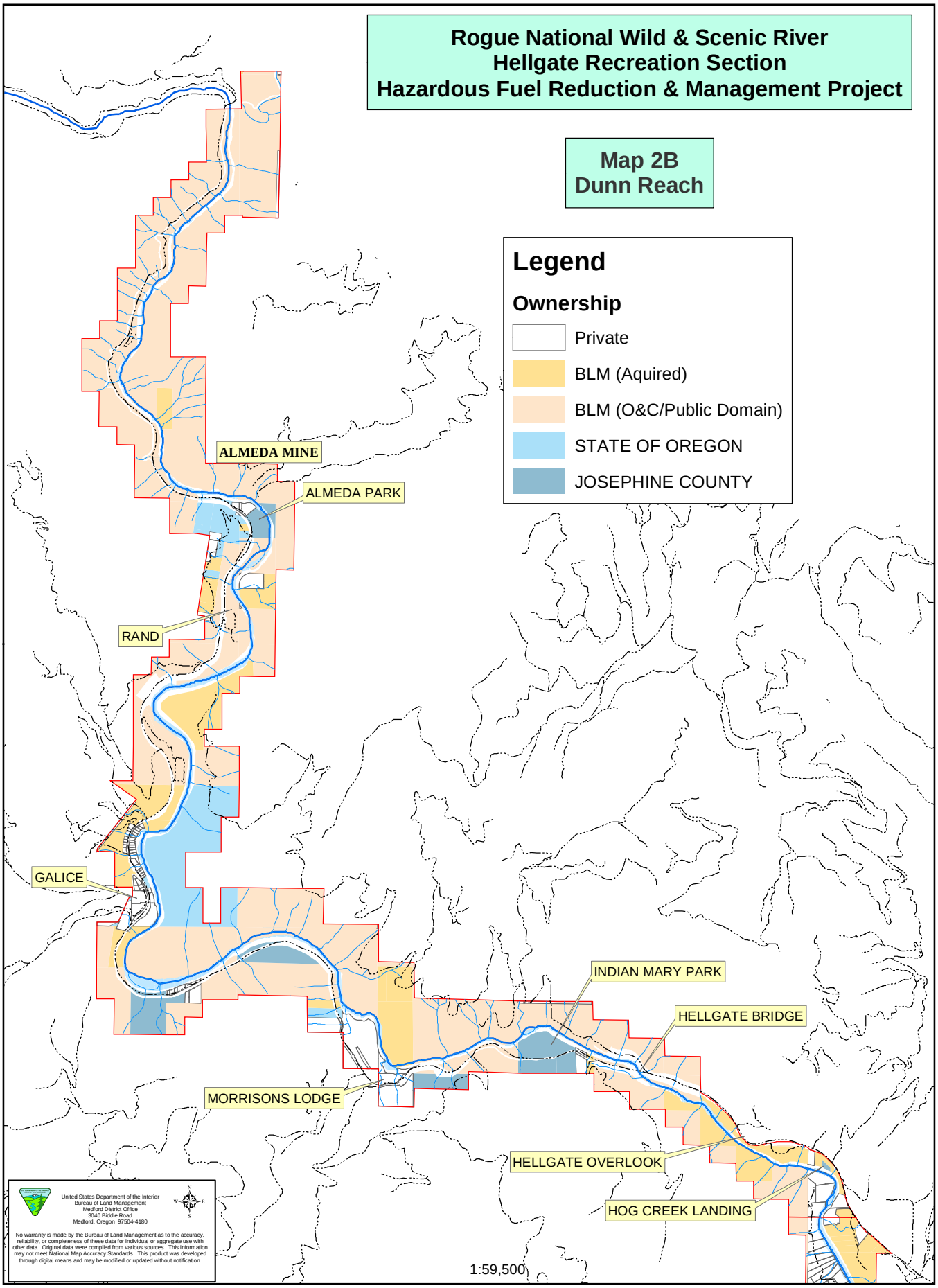


Janet Kelly
May 2003

DRAFT

Rogue National Wild & Scenic River
Hellgate Recreation Section
Hazardous Fuel Reduction & Management Project

Map 2B
Dunn Reach



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May 2003

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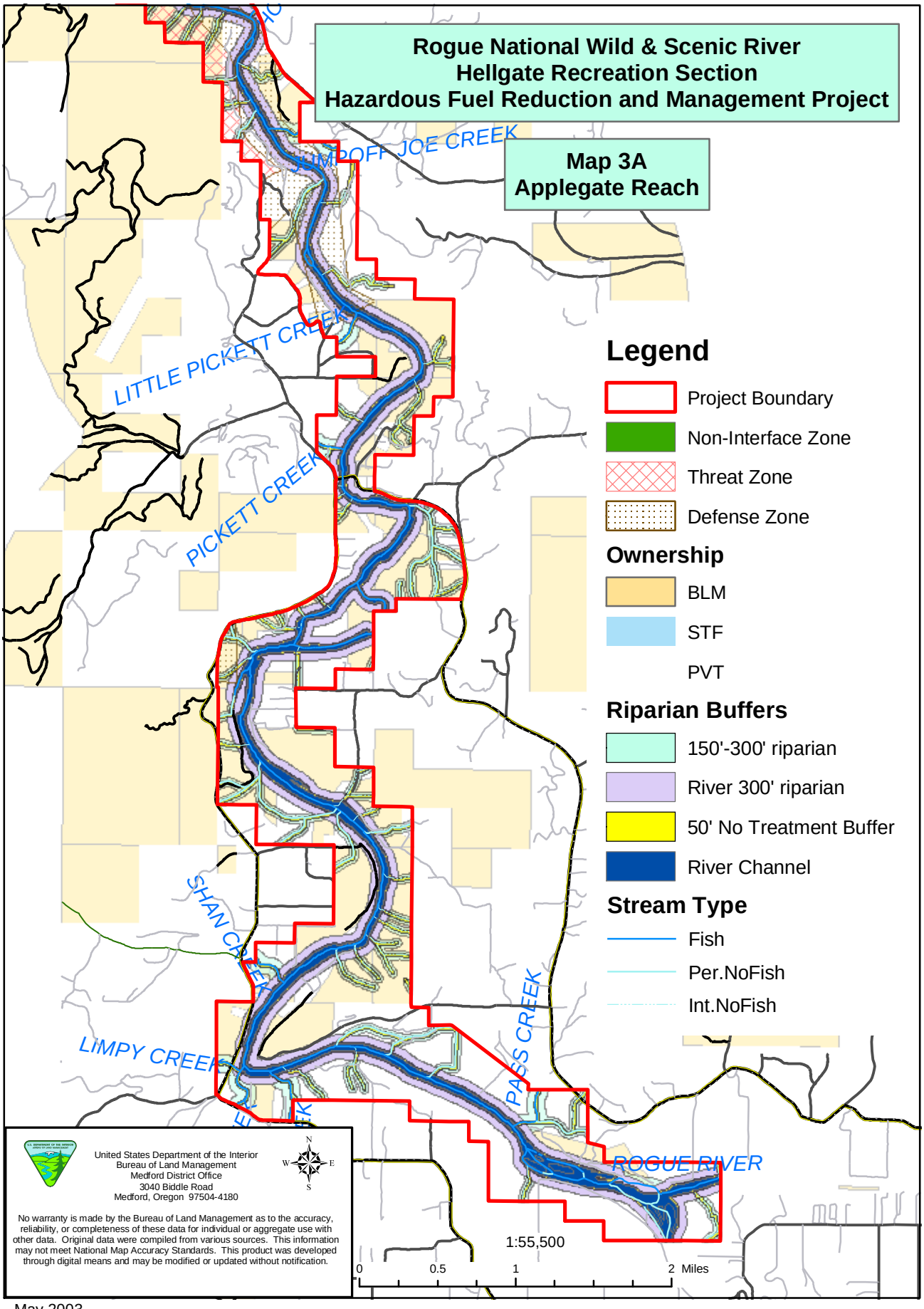

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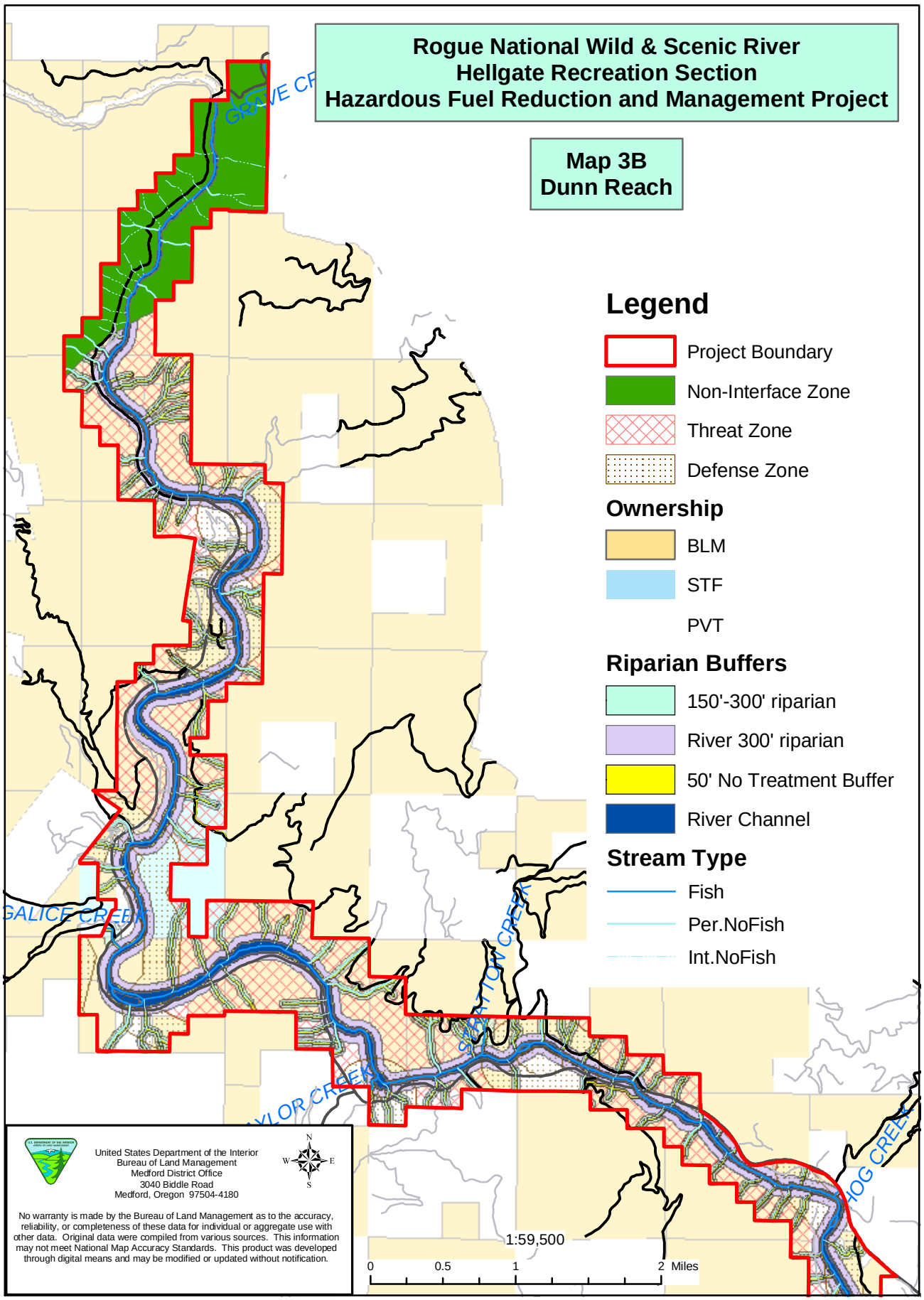
Rogue National Wild & Scenic River
Hellgate Recreation Section
Hazardous Fuel Reduction and Management Project

Map 3B
Dunn Reach



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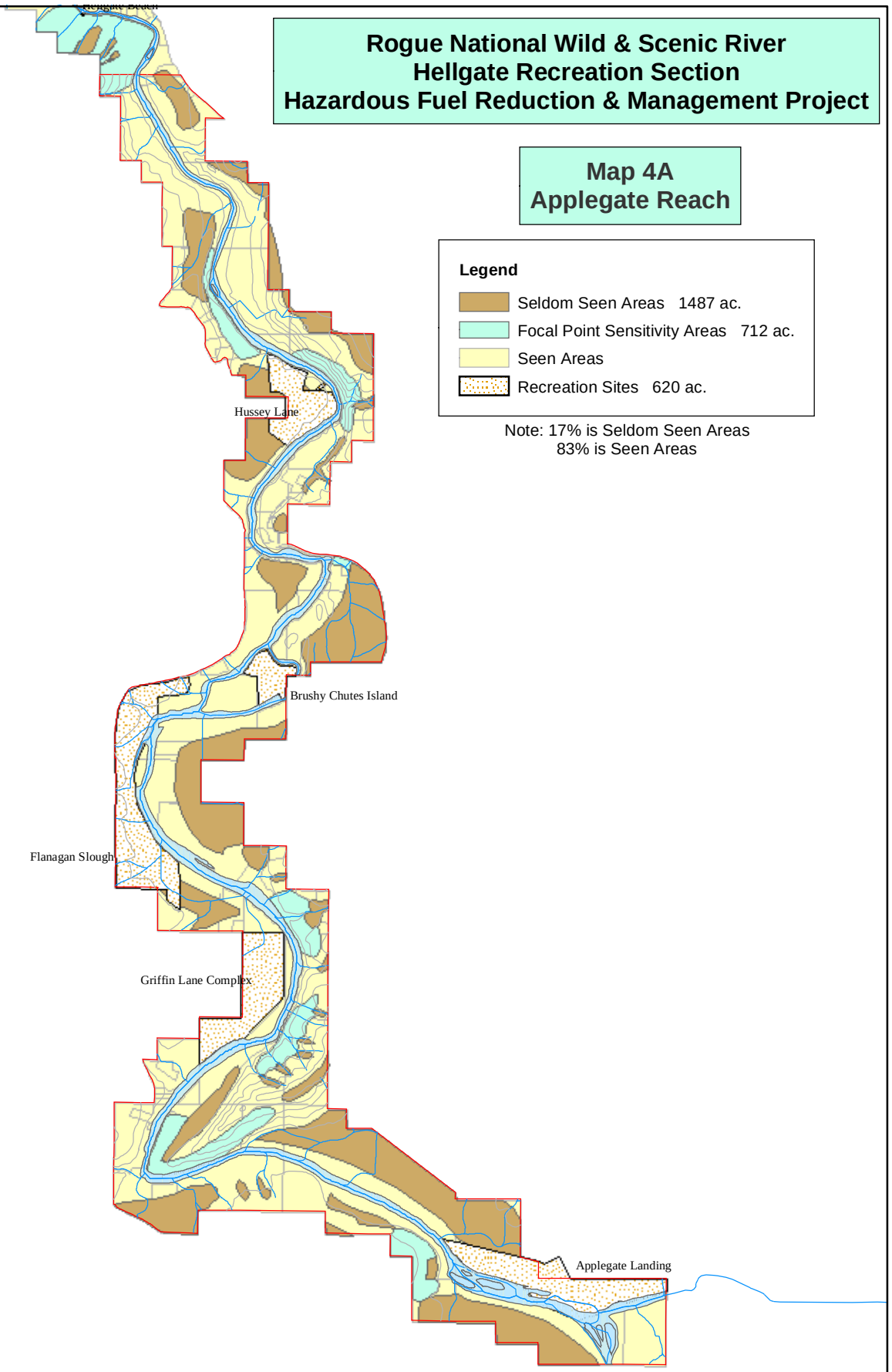
Map 4A
Applegate Reach



Note: 17% is Seldom Seen Areas
83% is Seen Areas

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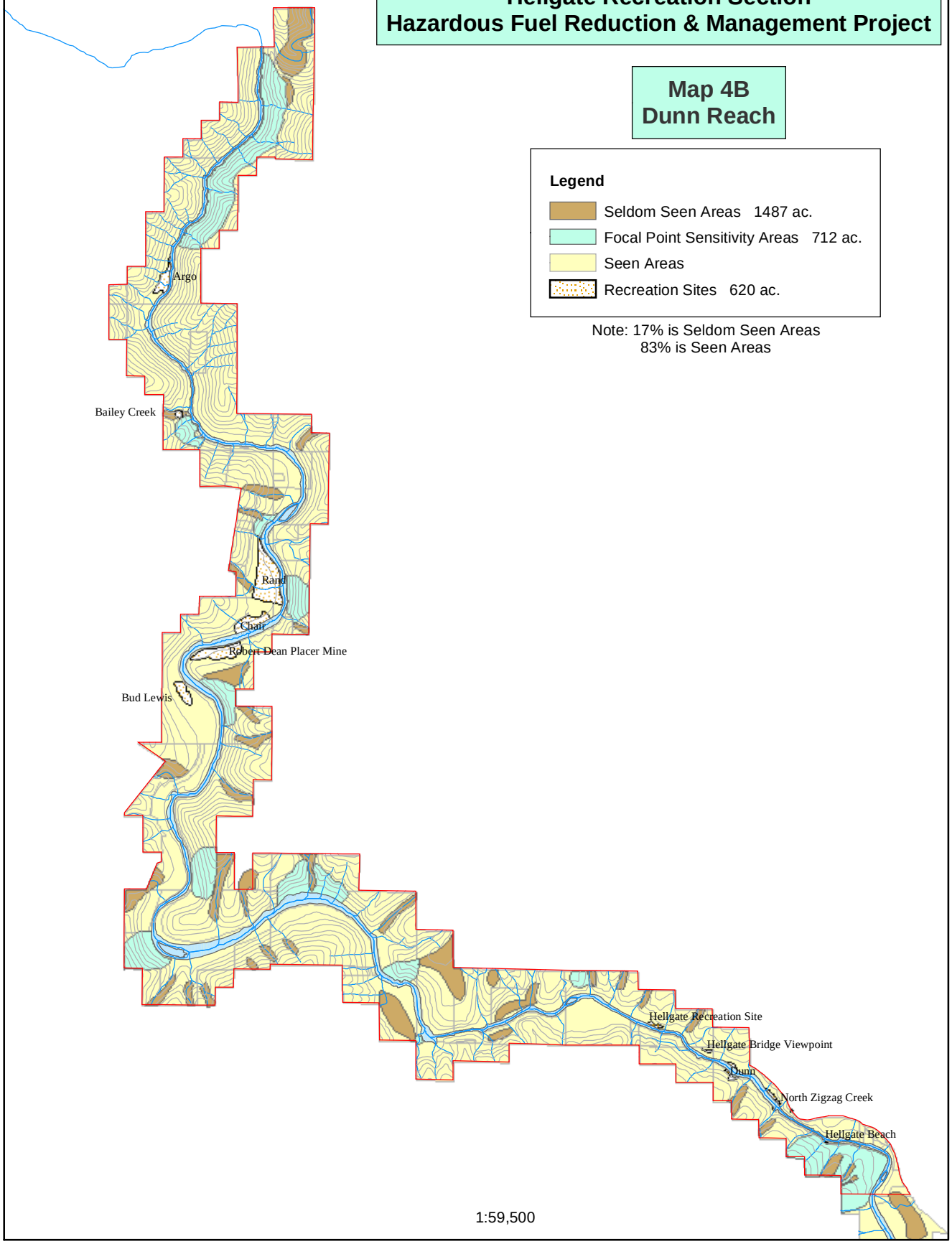
Rogue National Wild & Scenic River
Hellgate Recreation Section
Hazardous Fuel Reduction & Management Project

Map 4B
Dunn Reach



Note: 17% is Seldom Seen Areas
83% is Seen Areas

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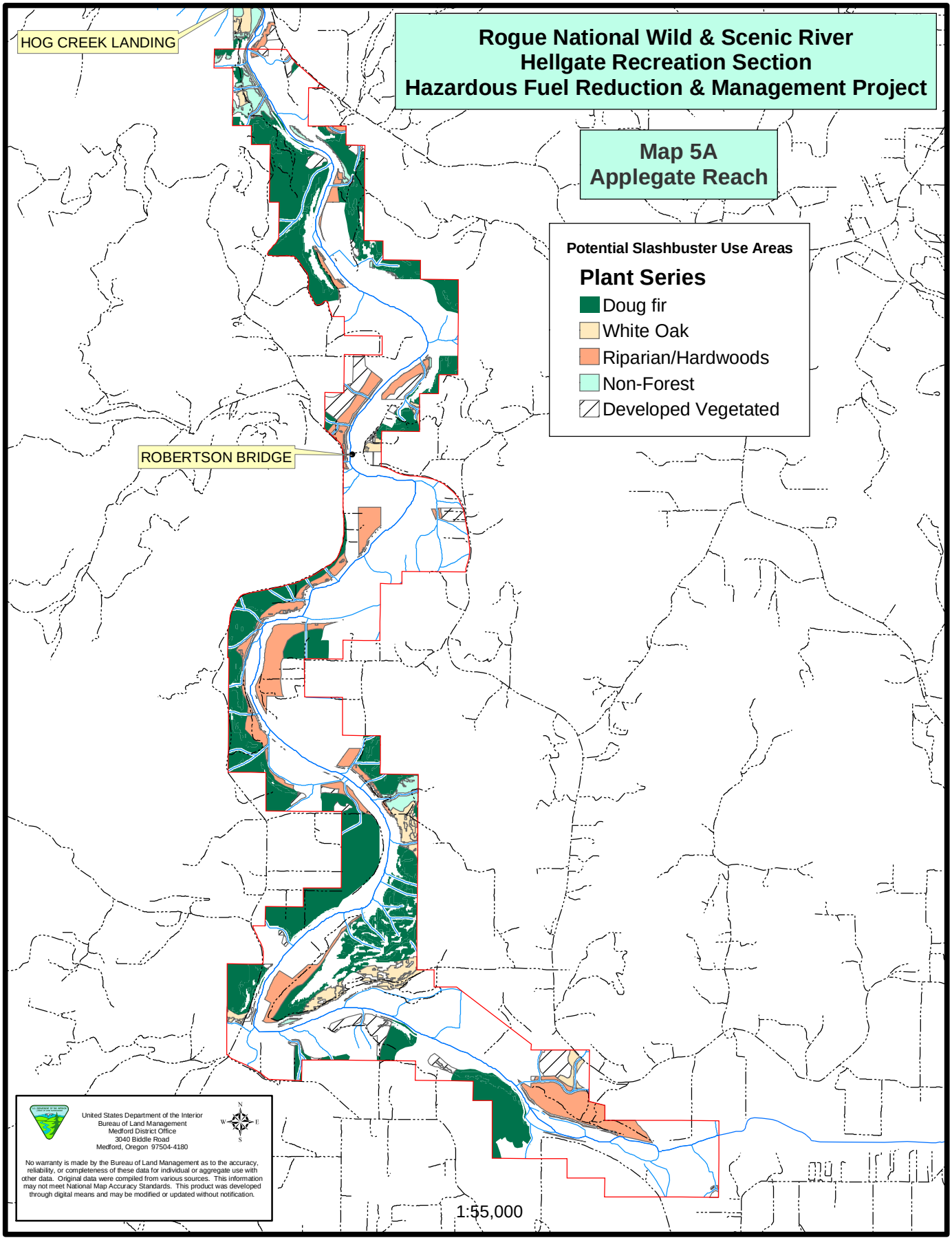

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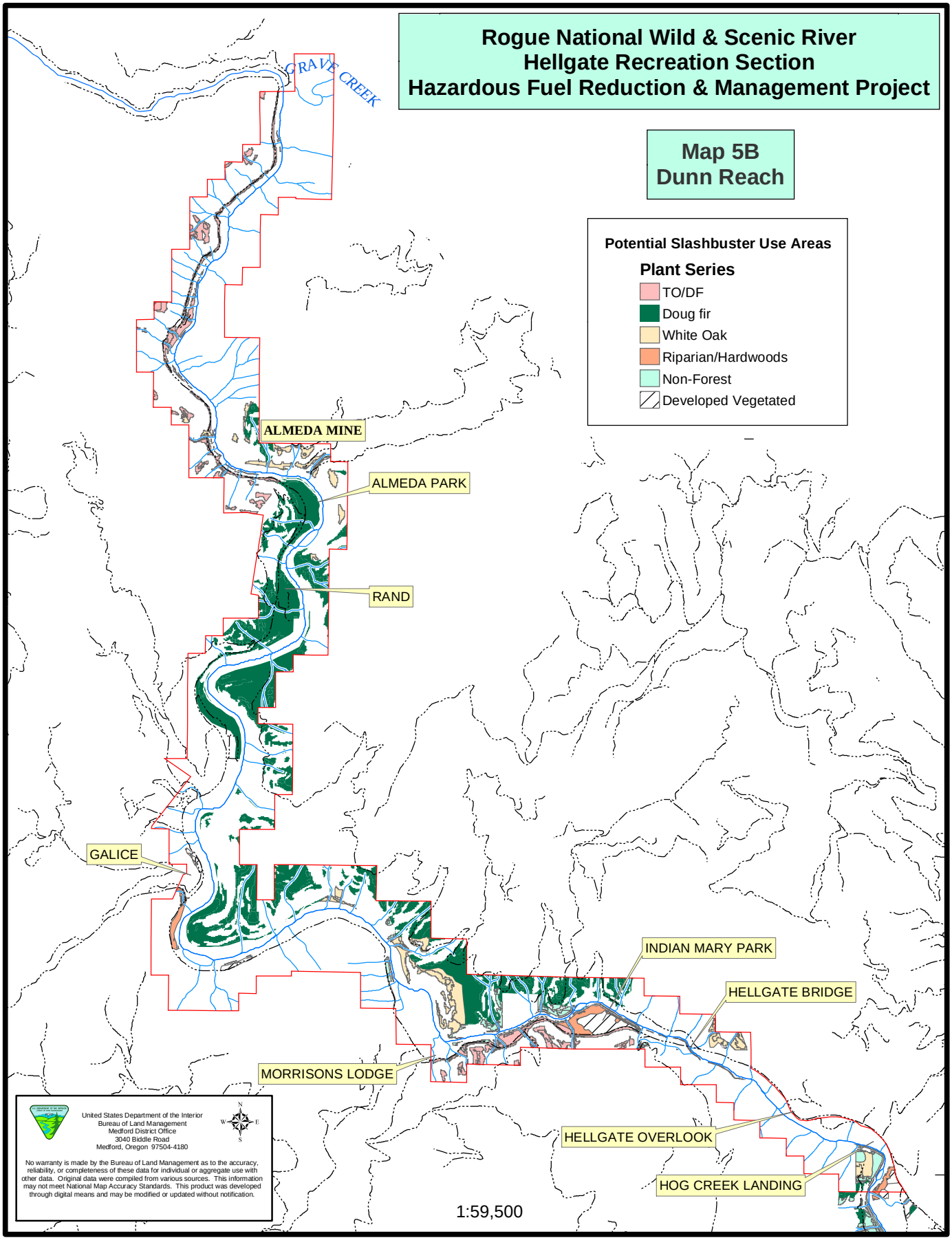
Hazardous Fuel Reduction & Management Project

Map 5B
Dunn Reach



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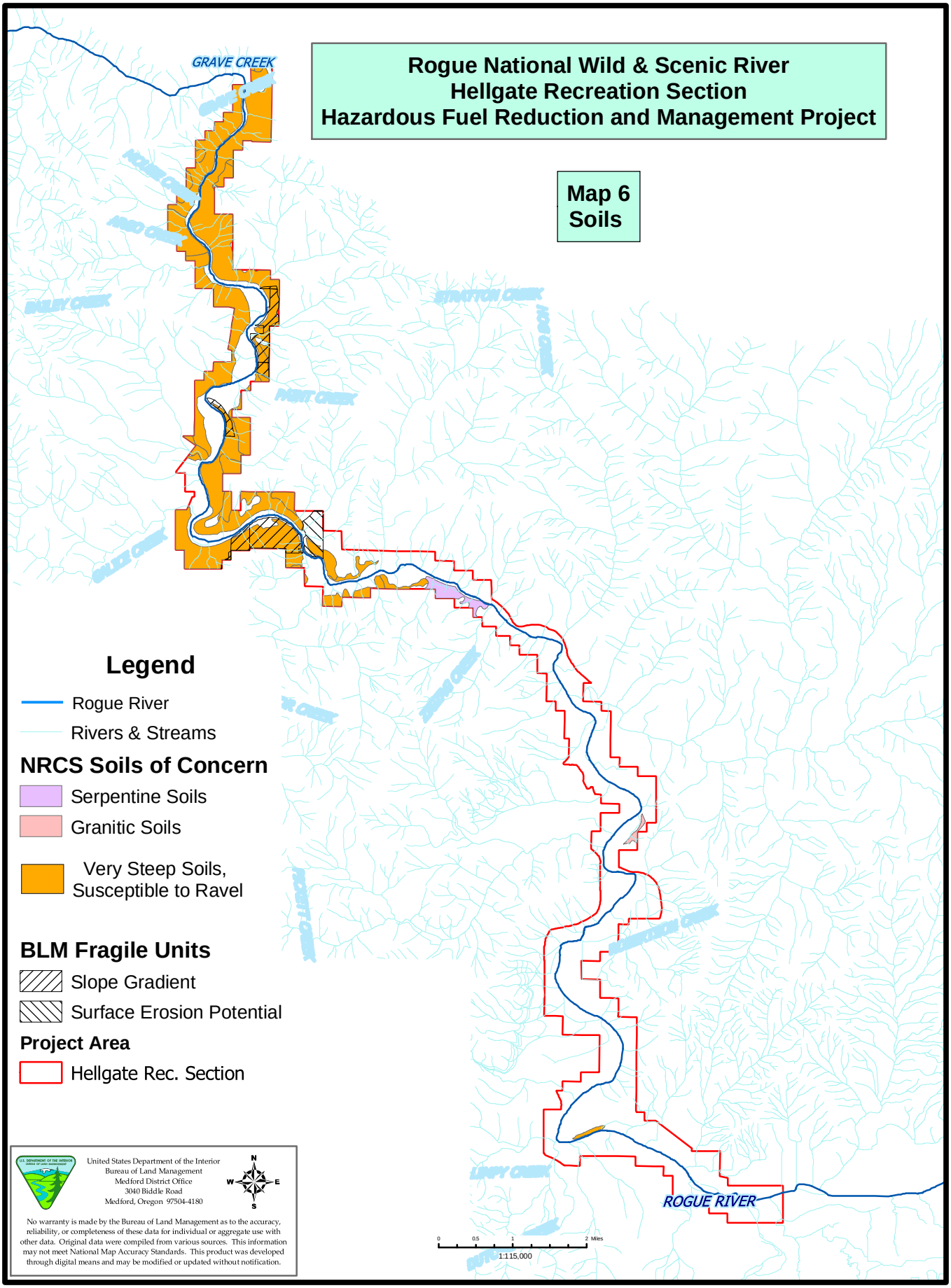
Hellgate Recreation Section
Hazardous Fuel Reduction and Management Project

Map 6
Soils



Legend

- Rogue River
- Rivers & Streams

NRCS Soils of Concern

- Serpentine Soils
- Granitic Soils
- Very Steep Soils, Susceptible to Ravel

BLM Fragile Units

- Slope Gradient
- Surface Erosion Potential

Project Area

- Hellgate Rec. Section

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rrffmp_soil.mxd
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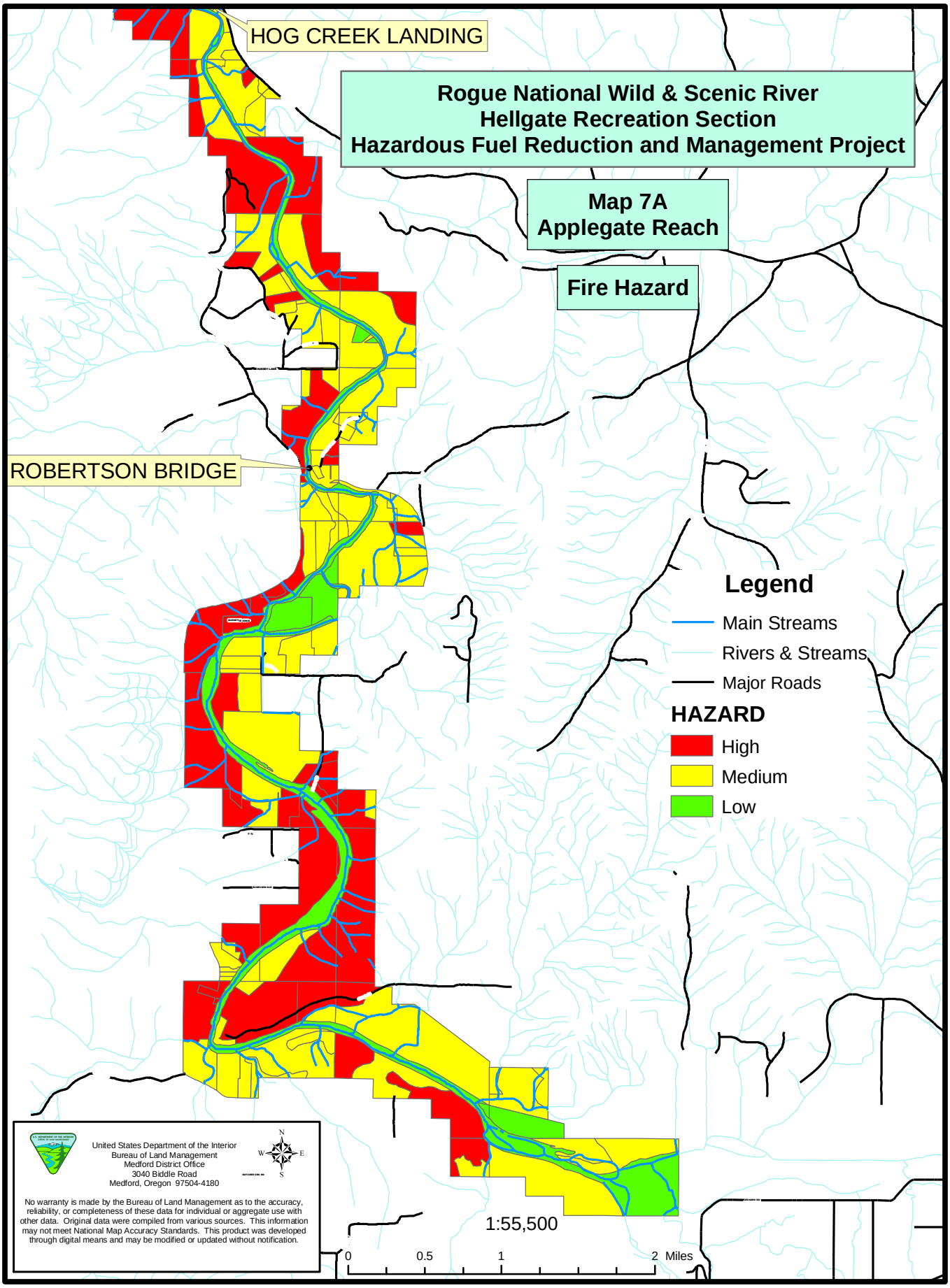


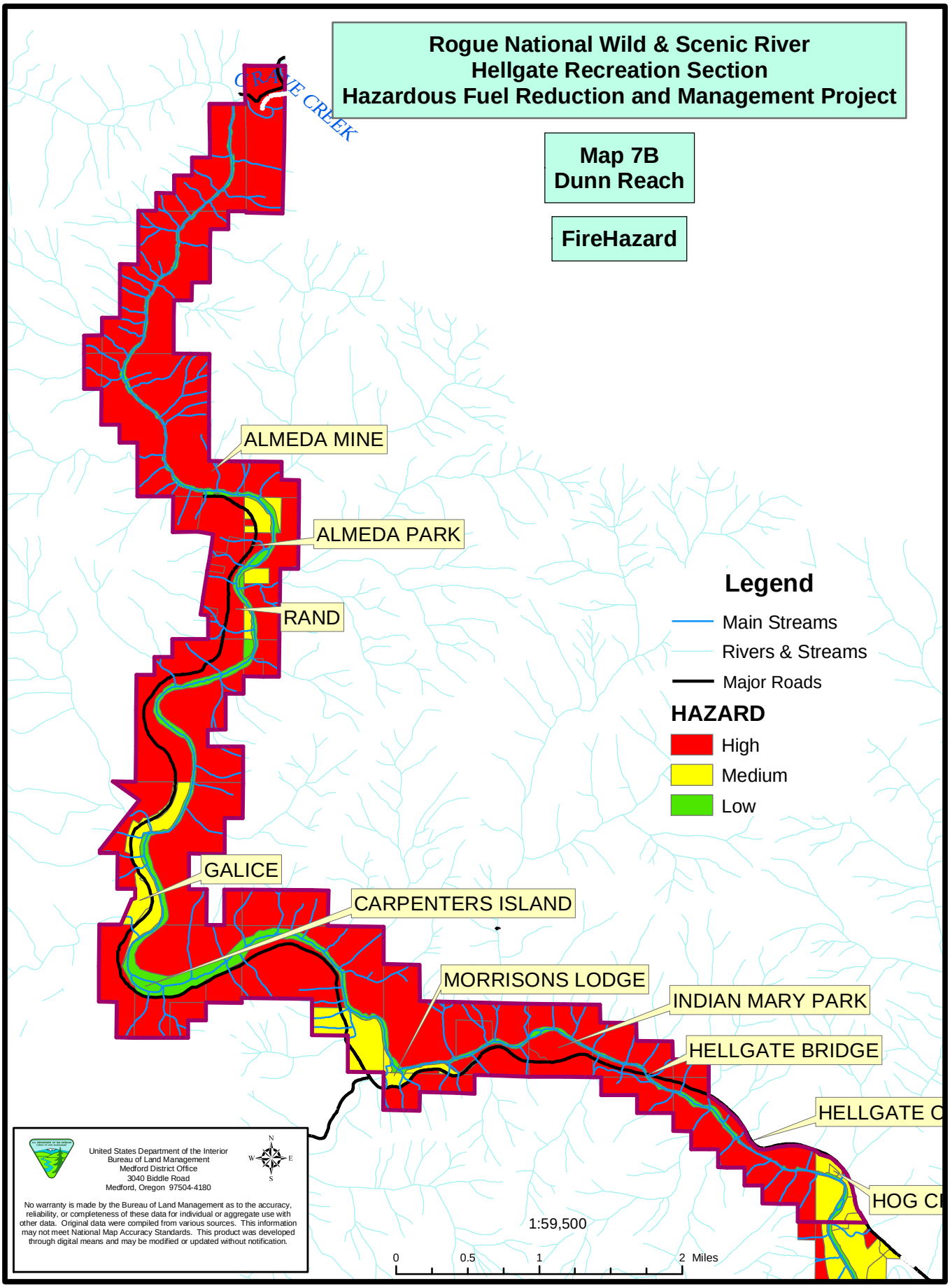
dglover May 2003
FireHazard_S.mxd

Draft

Rogue National Wild & Scenic River
Hellgate Recreation Section
Hazardous Fuel Reduction and Management Project

Map 7B
Dunn Reach

FireHazard



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FireHazard_N.mxd

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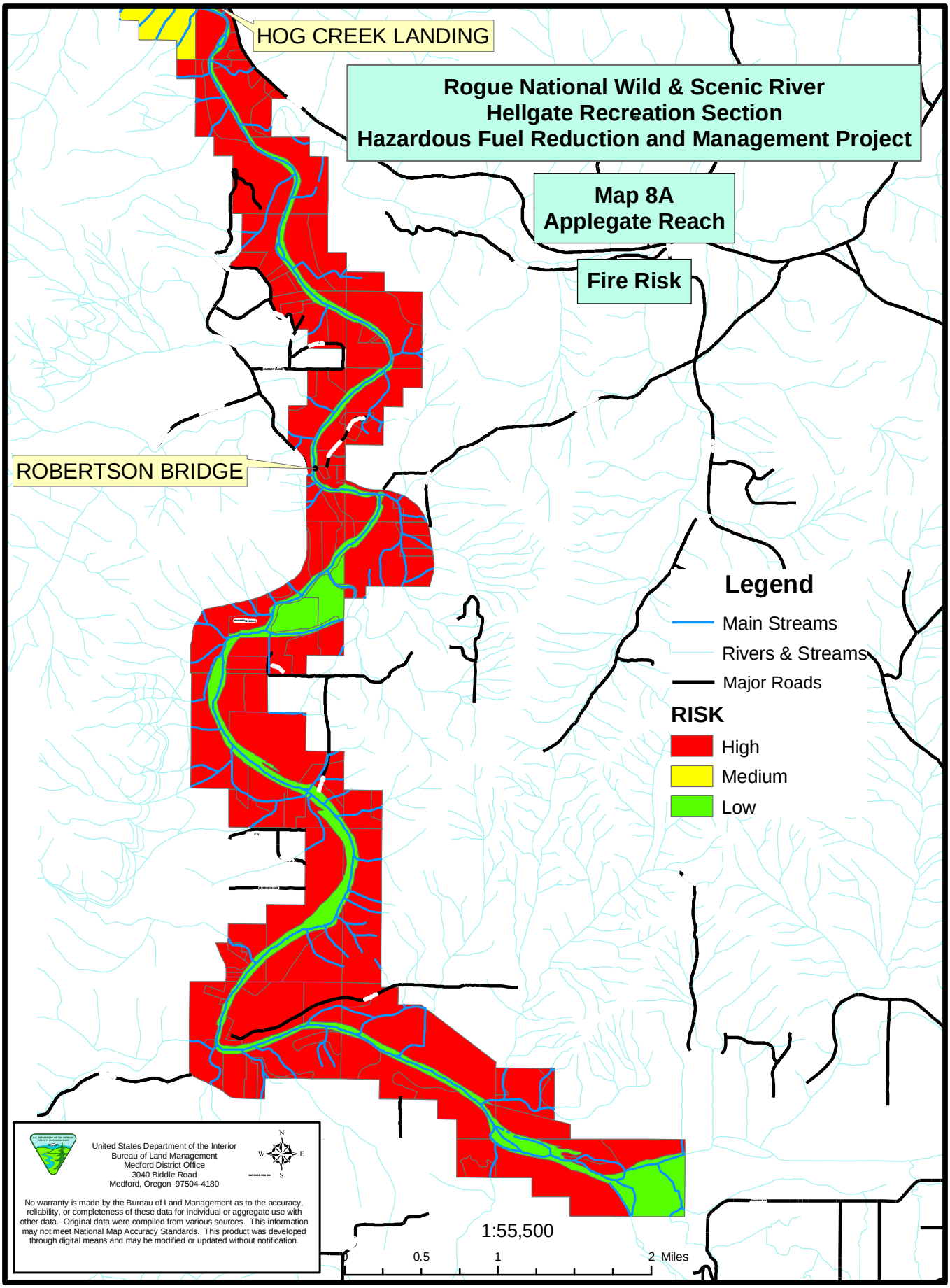

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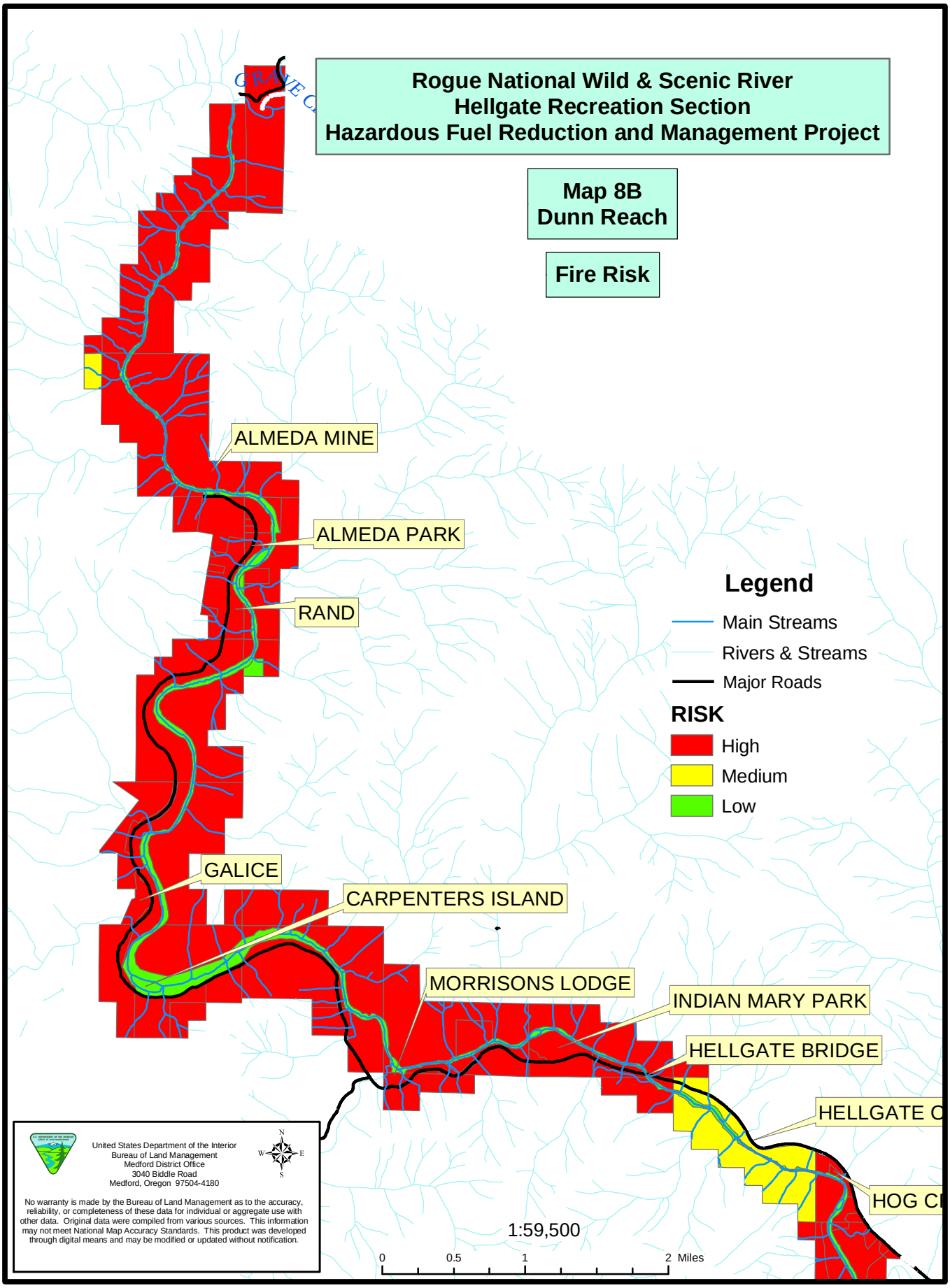
Draft



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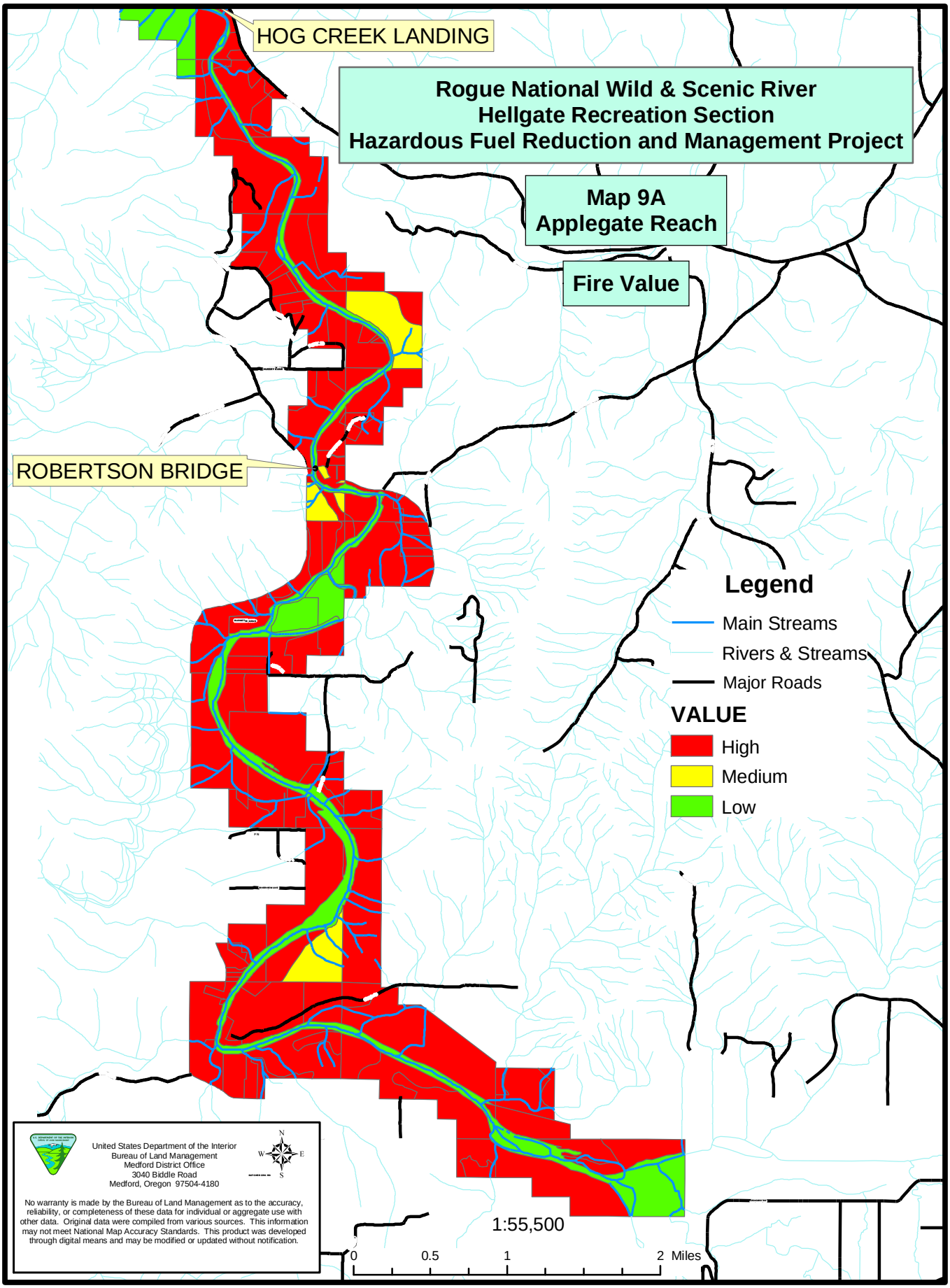

dglover May 2003
FireValue_S.mxd

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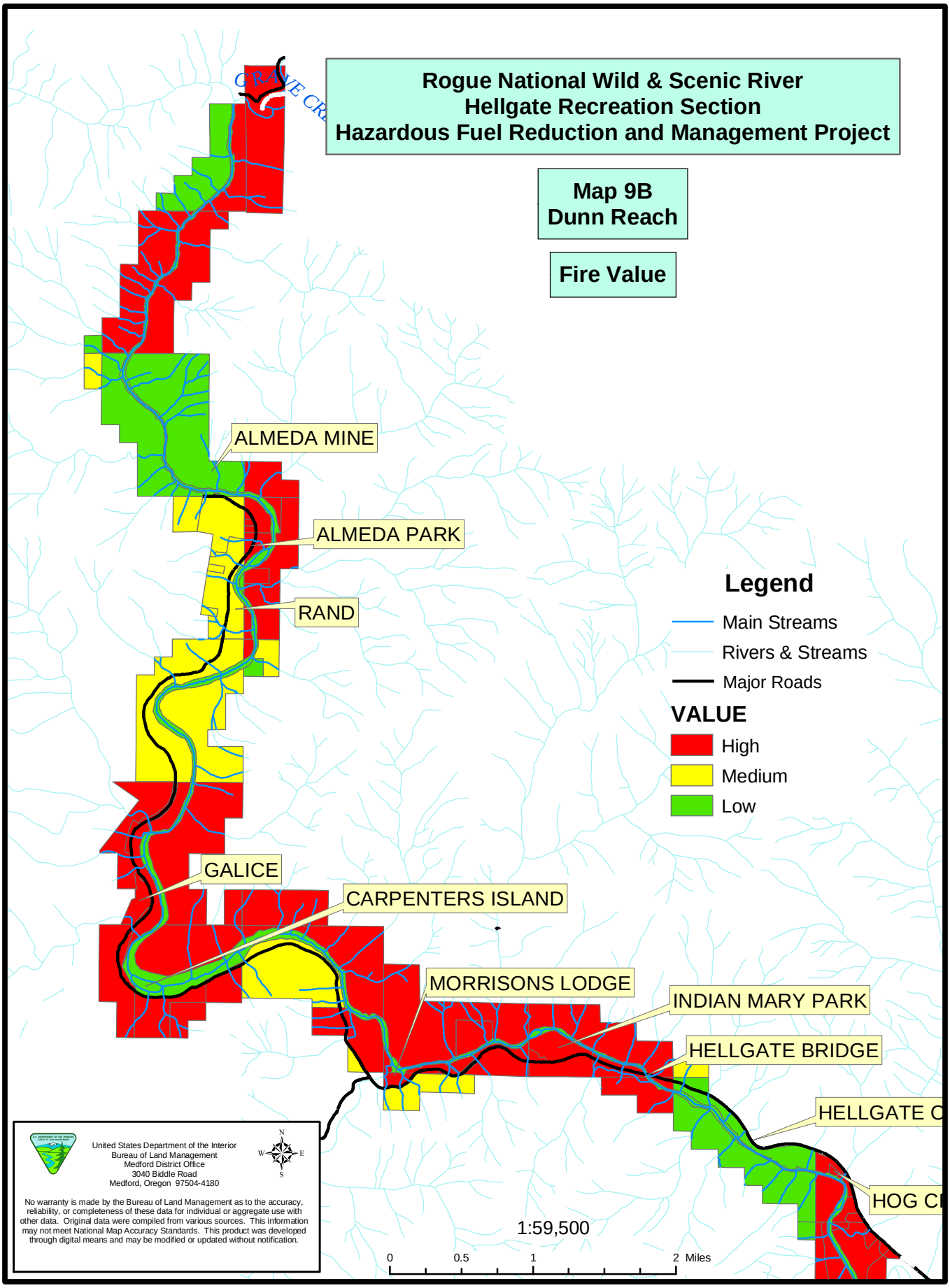

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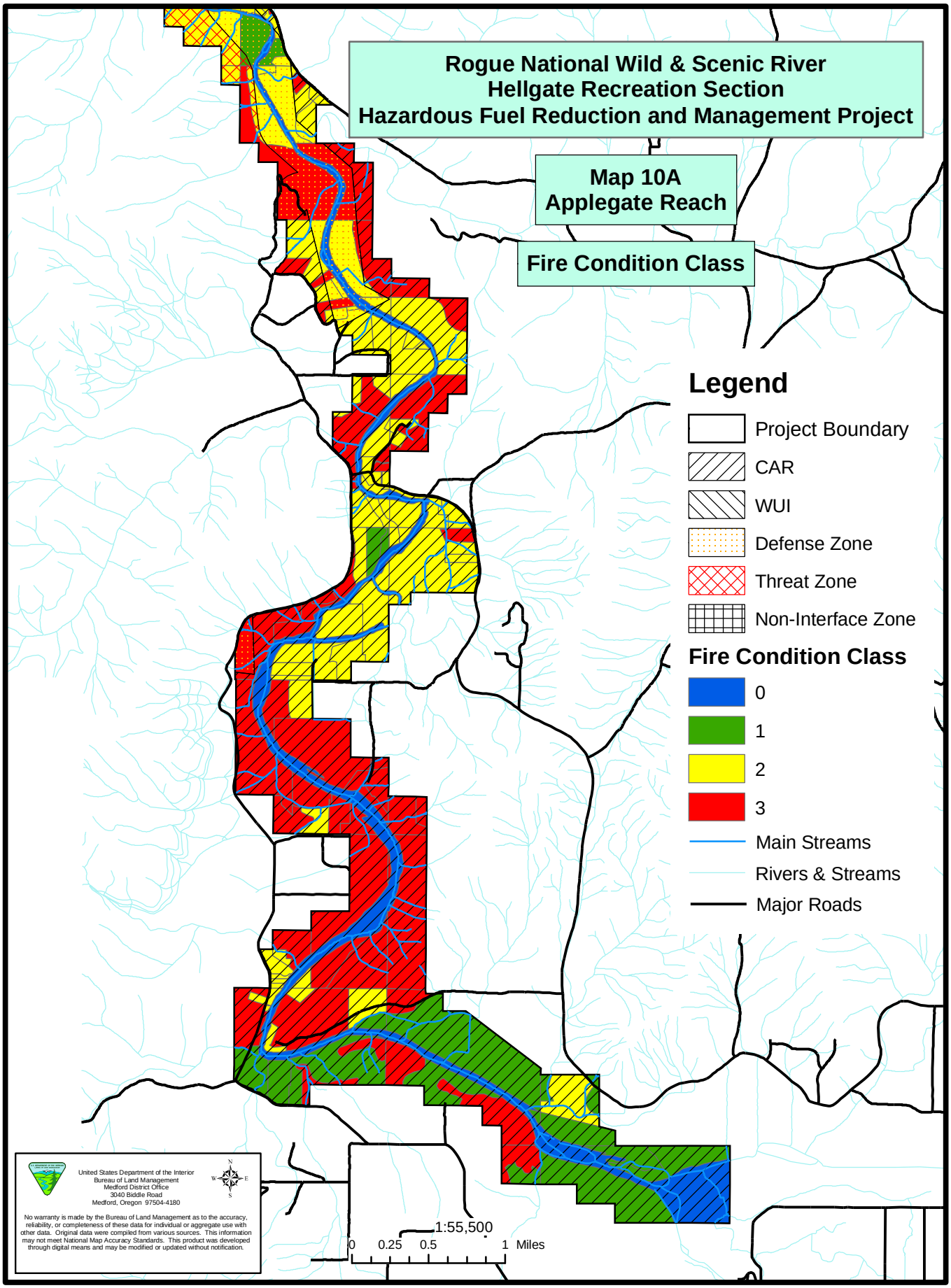

dglover August 2003
FireCndCl_S.mxd

Draft

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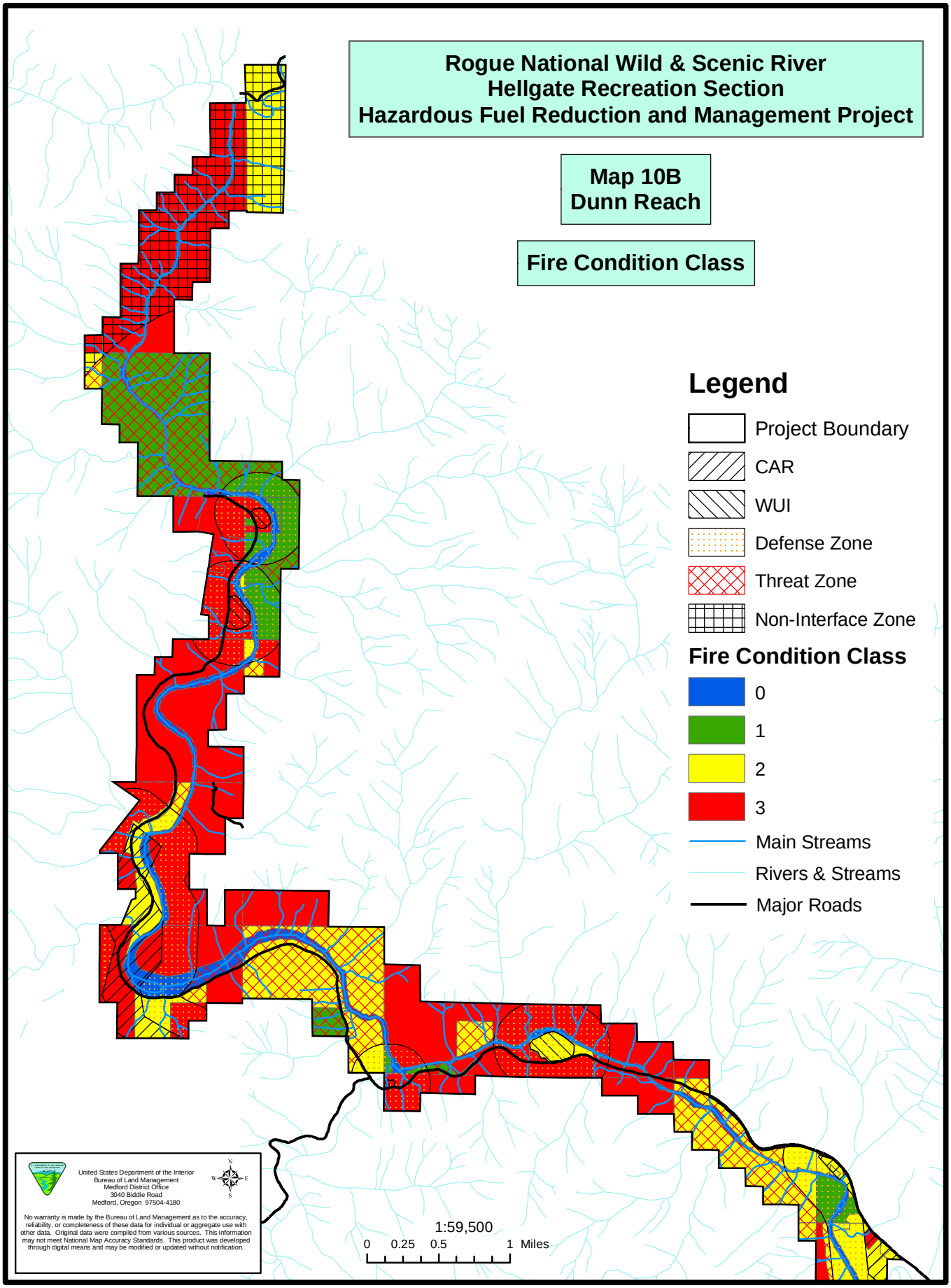
Hellgate Recreation Section
Hazardous Fuel Reduction and Management Project

Map 10B
Dunn Reach

Fire Condition Class



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FireCndCl_N.mxd

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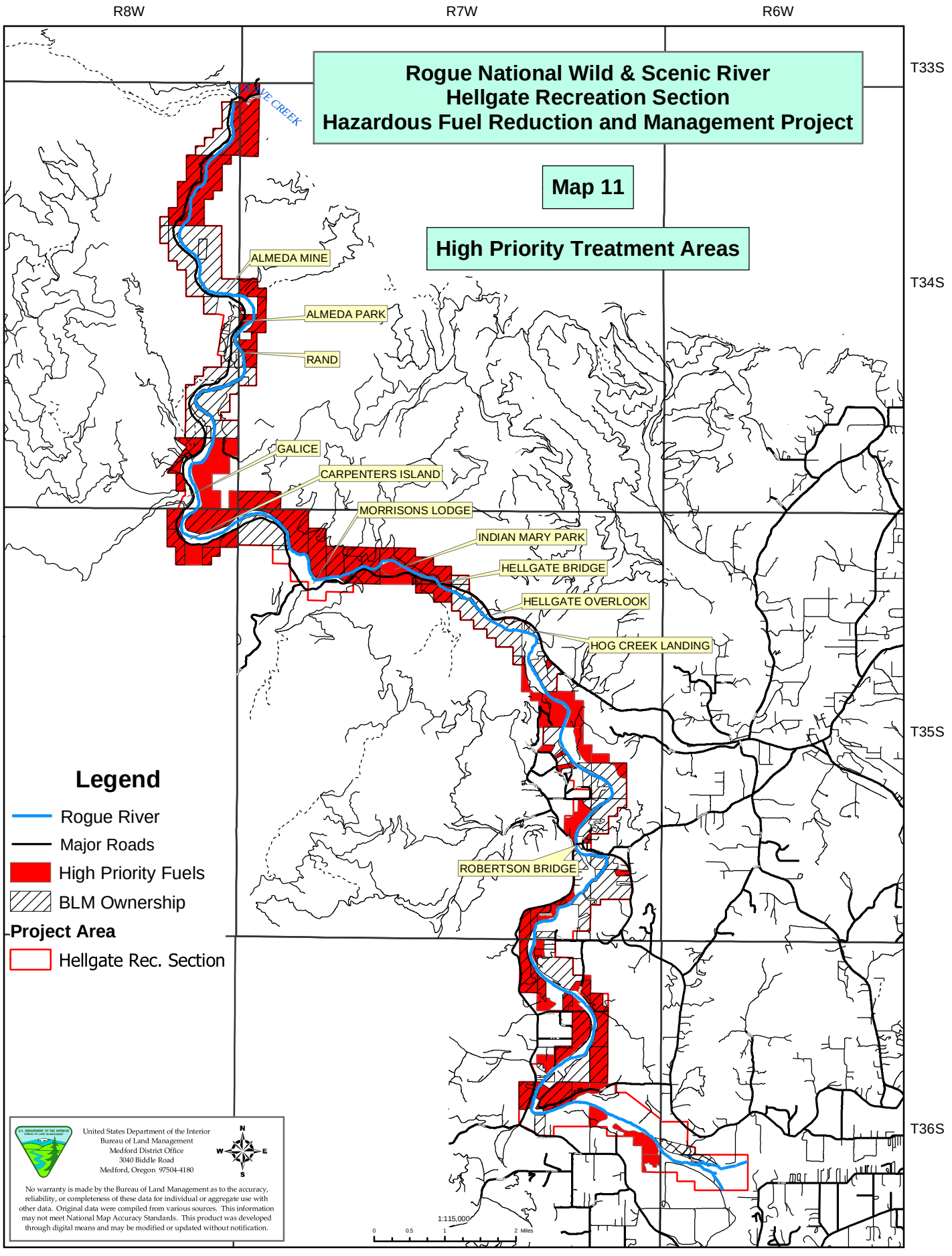
R8W
R7W
R6W
T33S
T34S
T35S
T36S
Rogue National Wild & Scenic River
Hellgate Recreation Section
Hazardous Fuel Reduction and Management Project
Map 11
High Priority Treatment Areas
ALMEDA MINE
ALMEDA PARK
RAND
GALICE
CARPENTERS ISLAND
MORRISONS LODGE
INDIAN MARY PARK
HELLGATE BRIDGE
HELLGATE OVERLOOK
HOG CREEK LANDING
ROBERTSON BRIDGE
Legend
Rogue River
Major Roads
High Priority Fuels
BLM Ownership
Project Area
Hellgate Rec. Section
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0 0.5 1 2 Miles
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Fuels_High_Fire.mxd
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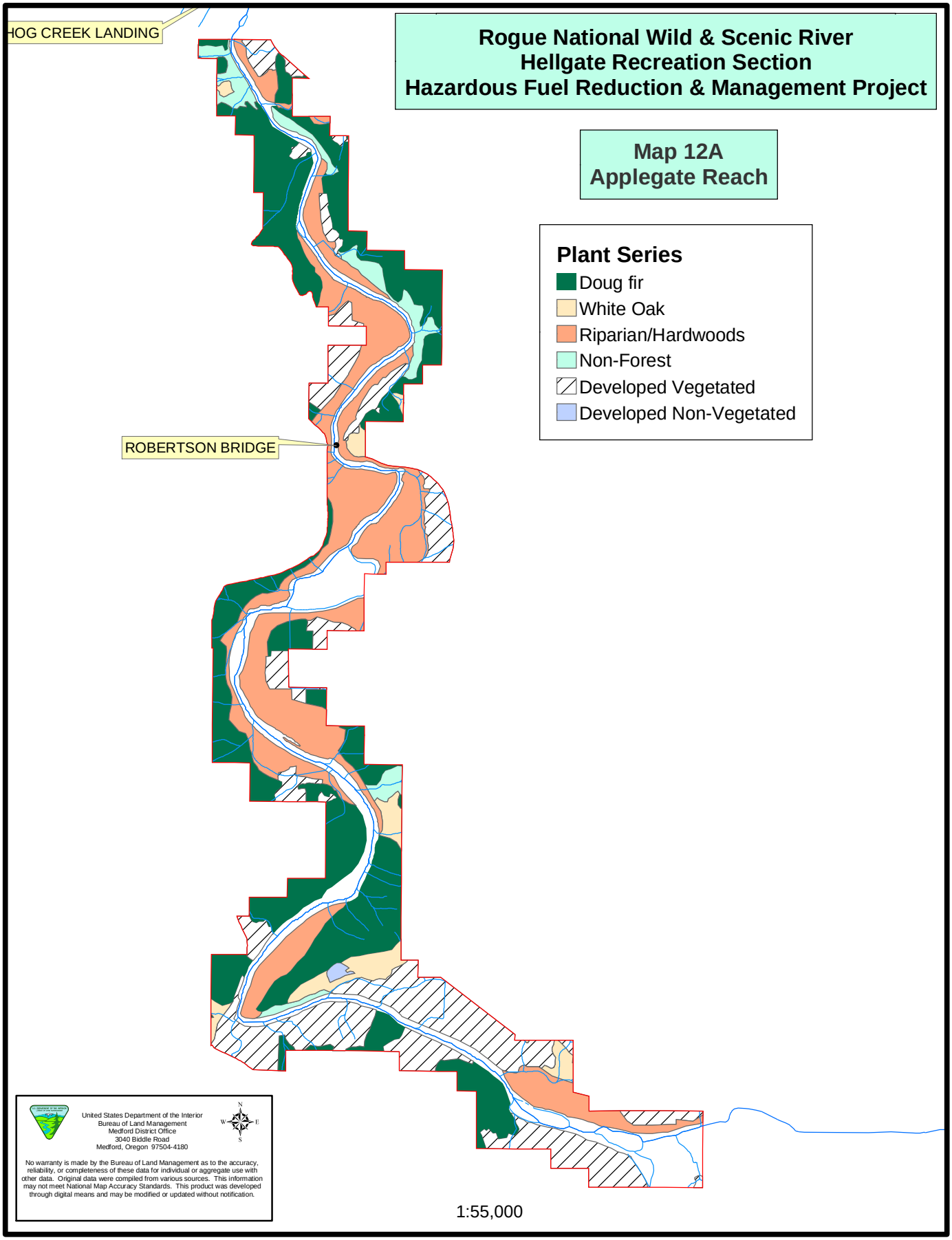

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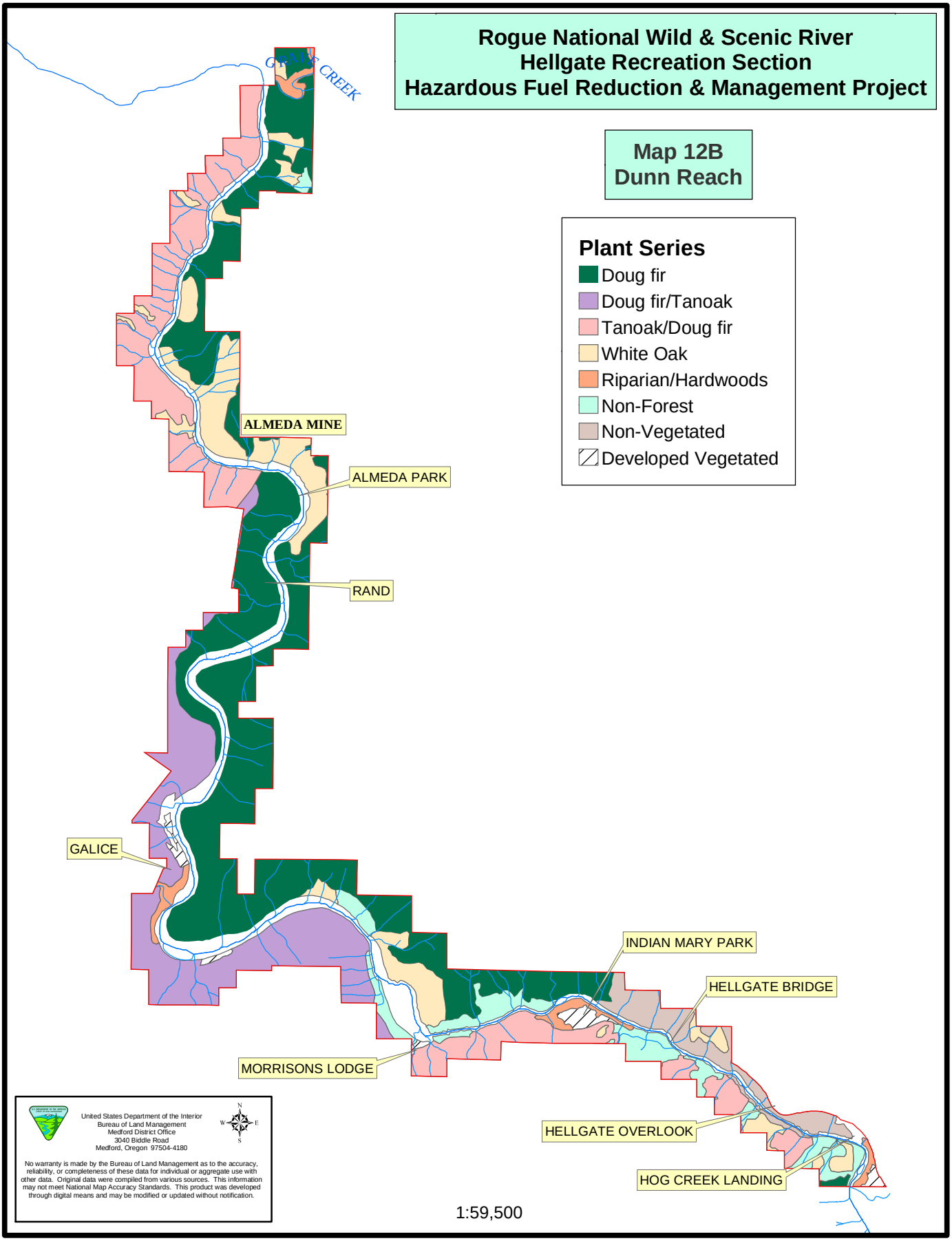
Rogue National Wild & Scenic River
Hellgate Recreation Section
Hazardous Fuel Reduction & Management Project

Map 12B
Dunn Reach



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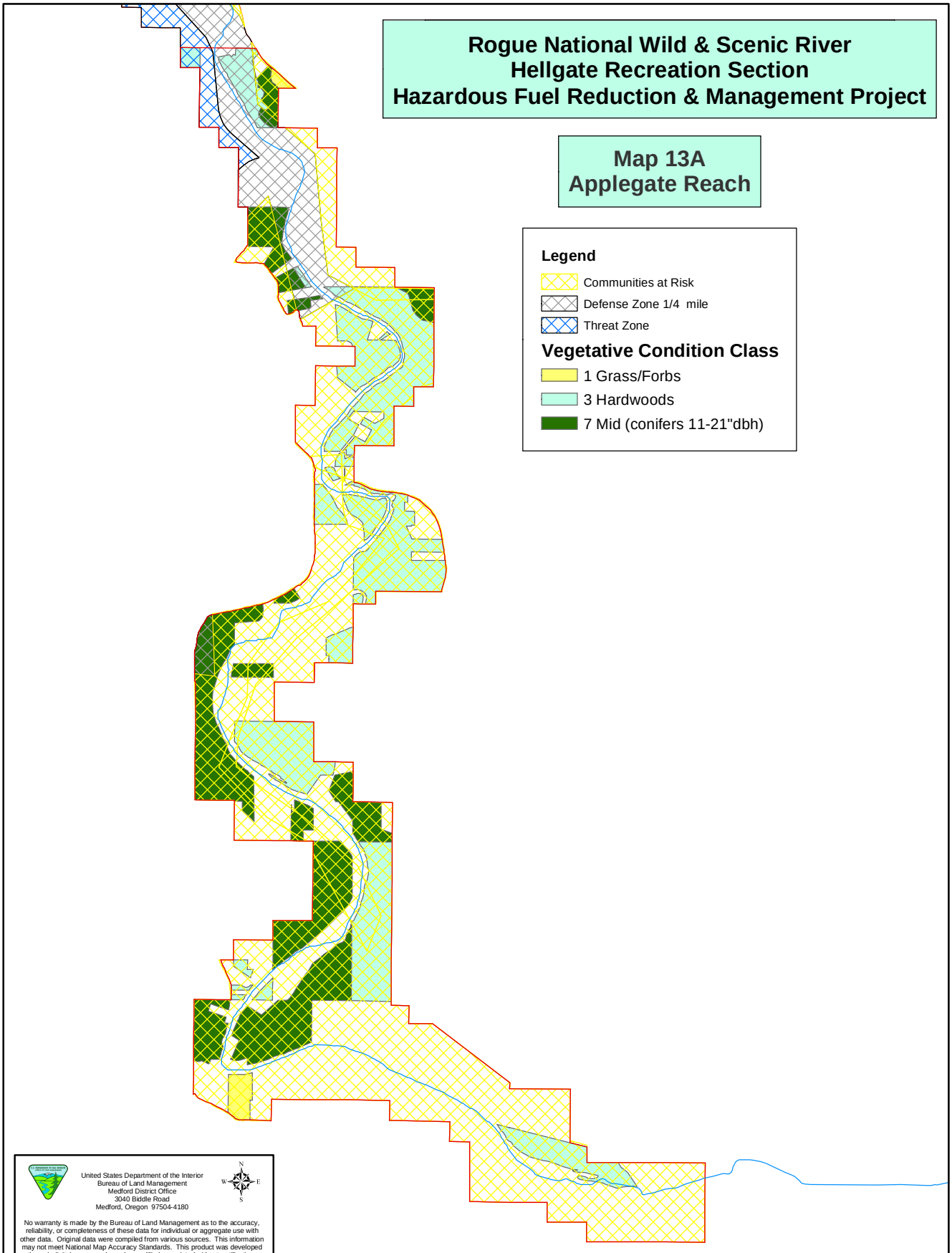
Rogue National Wild & Scenic River
Hellgate Recreation Section
Hazardous Fuel Reduction & Management Project

Map 13A
Applegate Reach



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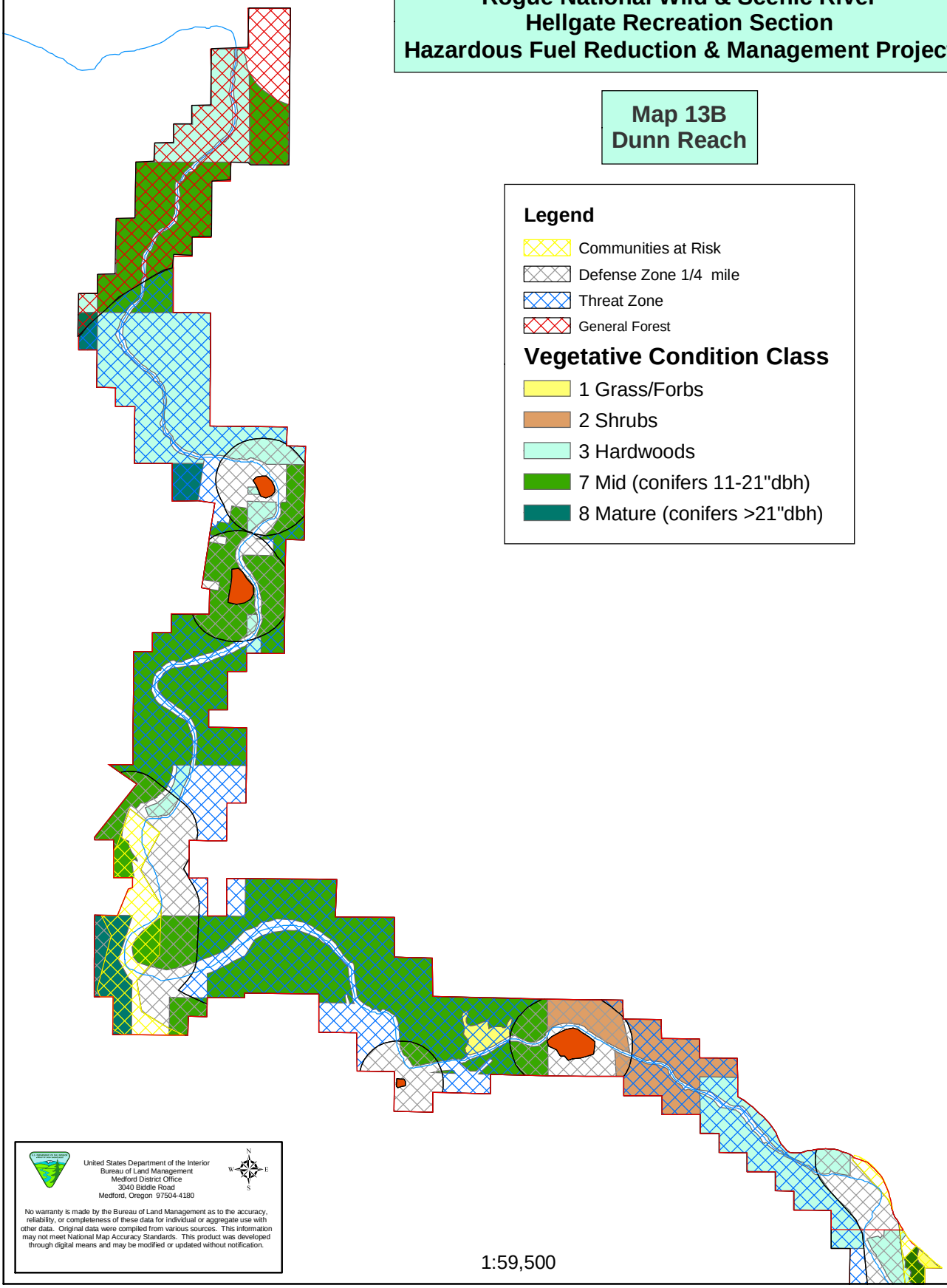
Hellgate Recreation Section
Hazardous Fuel Reduction & Management Project

Map 13B
Dunn Reach



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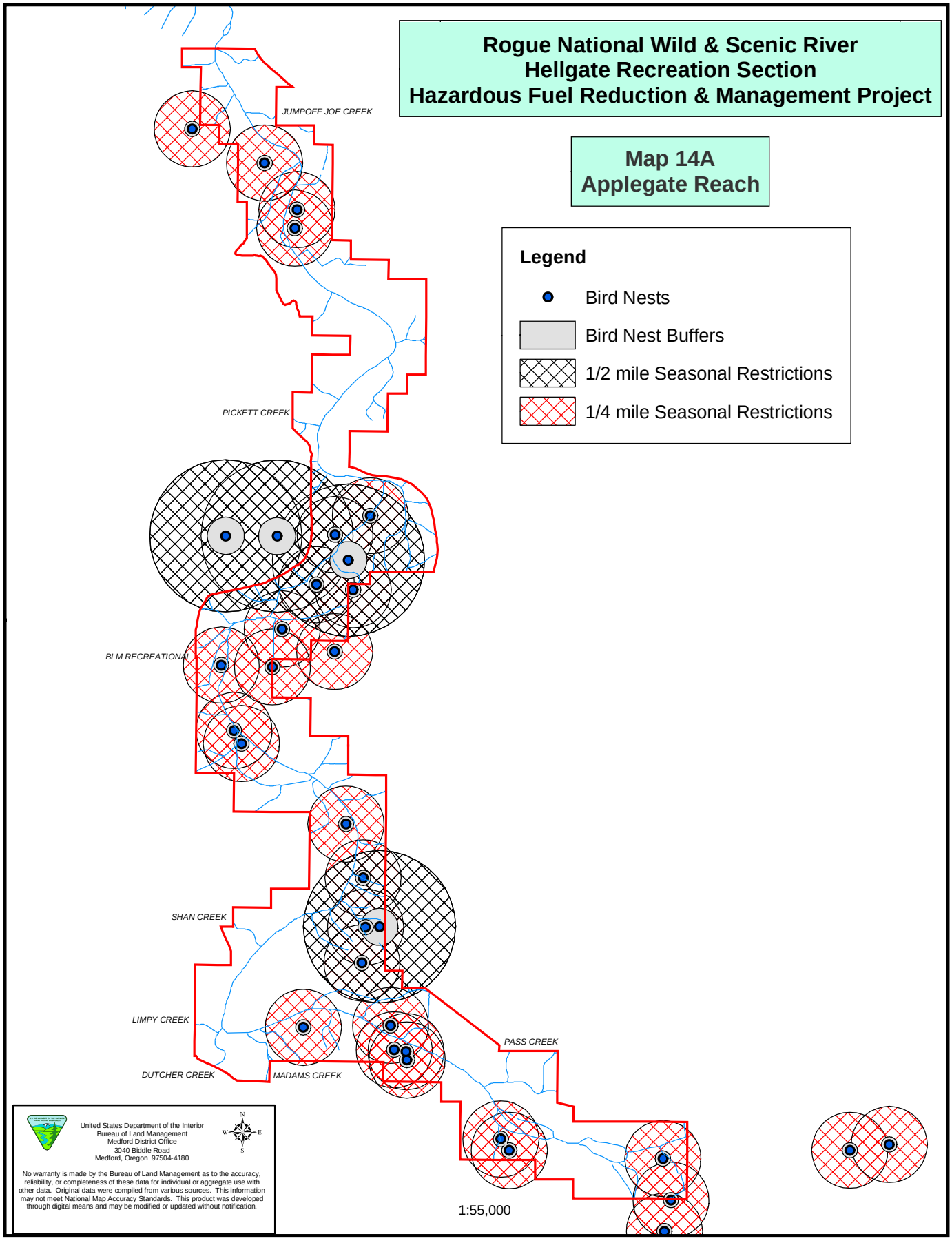
R7W

R6W

Rogue National Wild & Scenic River
Hellgate Recreation Section
Hazardous Fuel Reduction & Management Project

Map 14A
Applegate Reach



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R7W

R6W

Rogue National Wild & Scenic River
Hellgate Recreation Section
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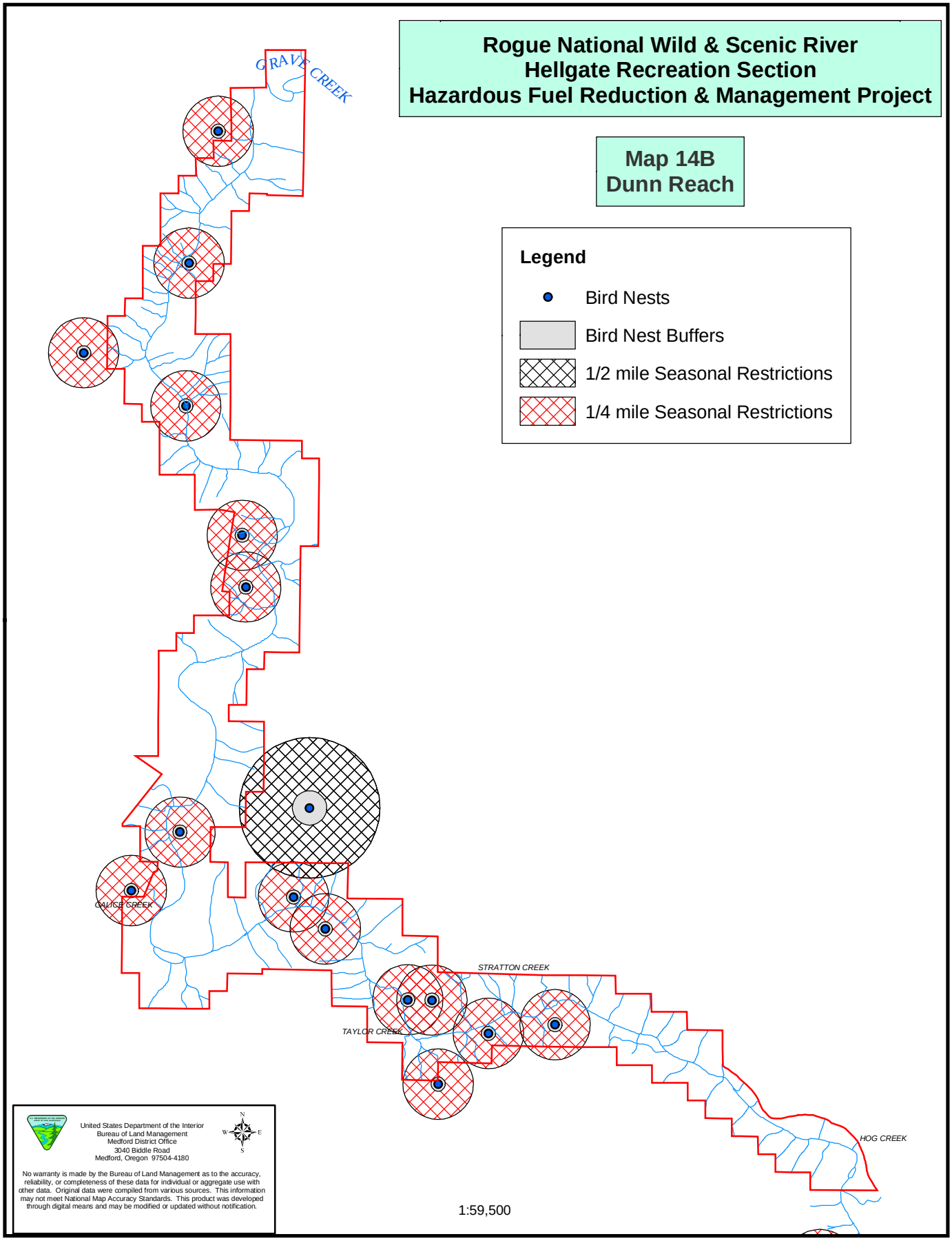
Map 14B
Dunn Reach



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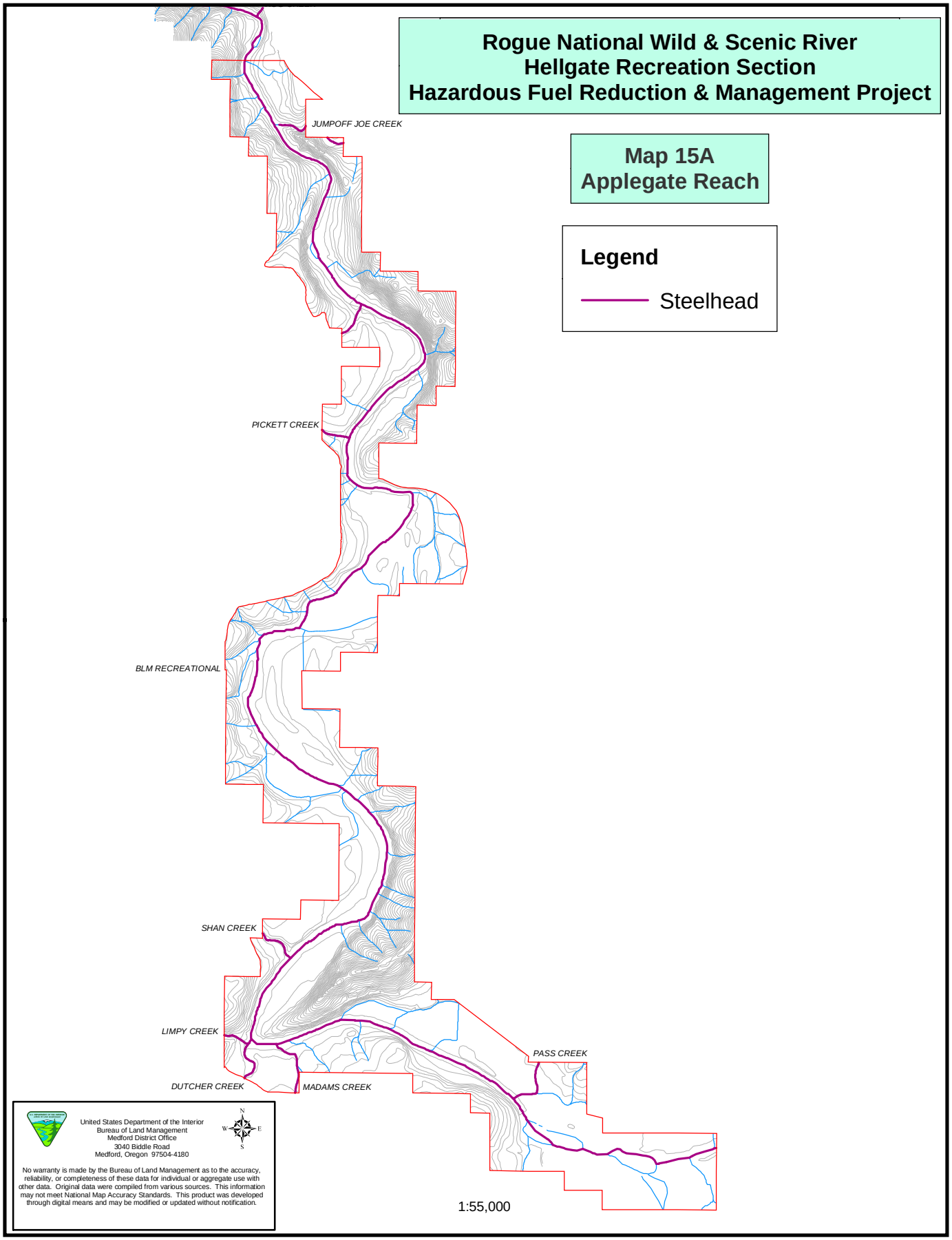
Rogue National Wild & Scenic River
Hellgate Recreation Section
Hazardous Fuel Reduction & Management Project

Map 15A
Applegate Reach



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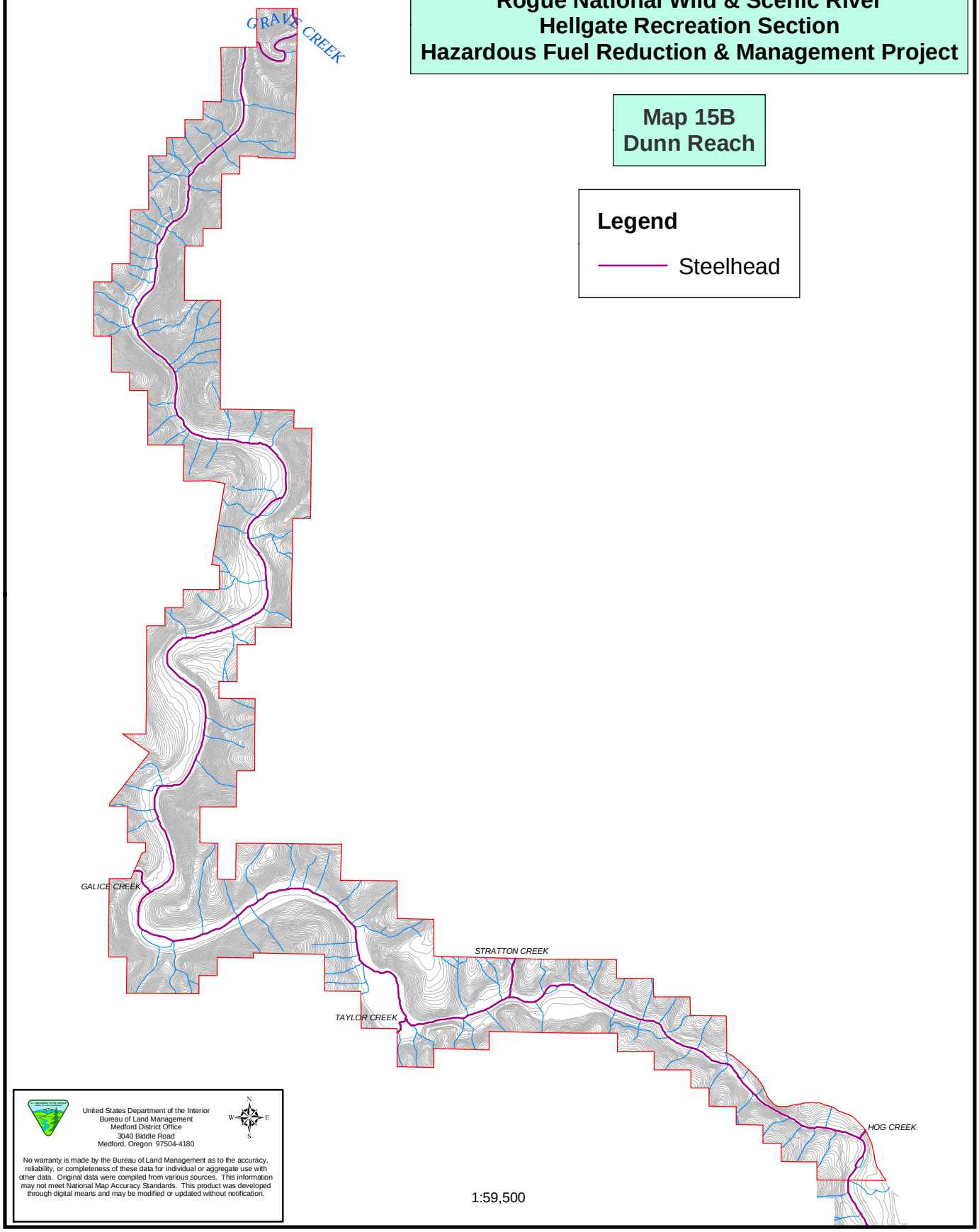
R7W

R6W

Rogue National Wild & Scenic River
Hellgate Recreation Section
Hazardous Fuel Reduction & Management Project

Map 15B
Dunn Reach



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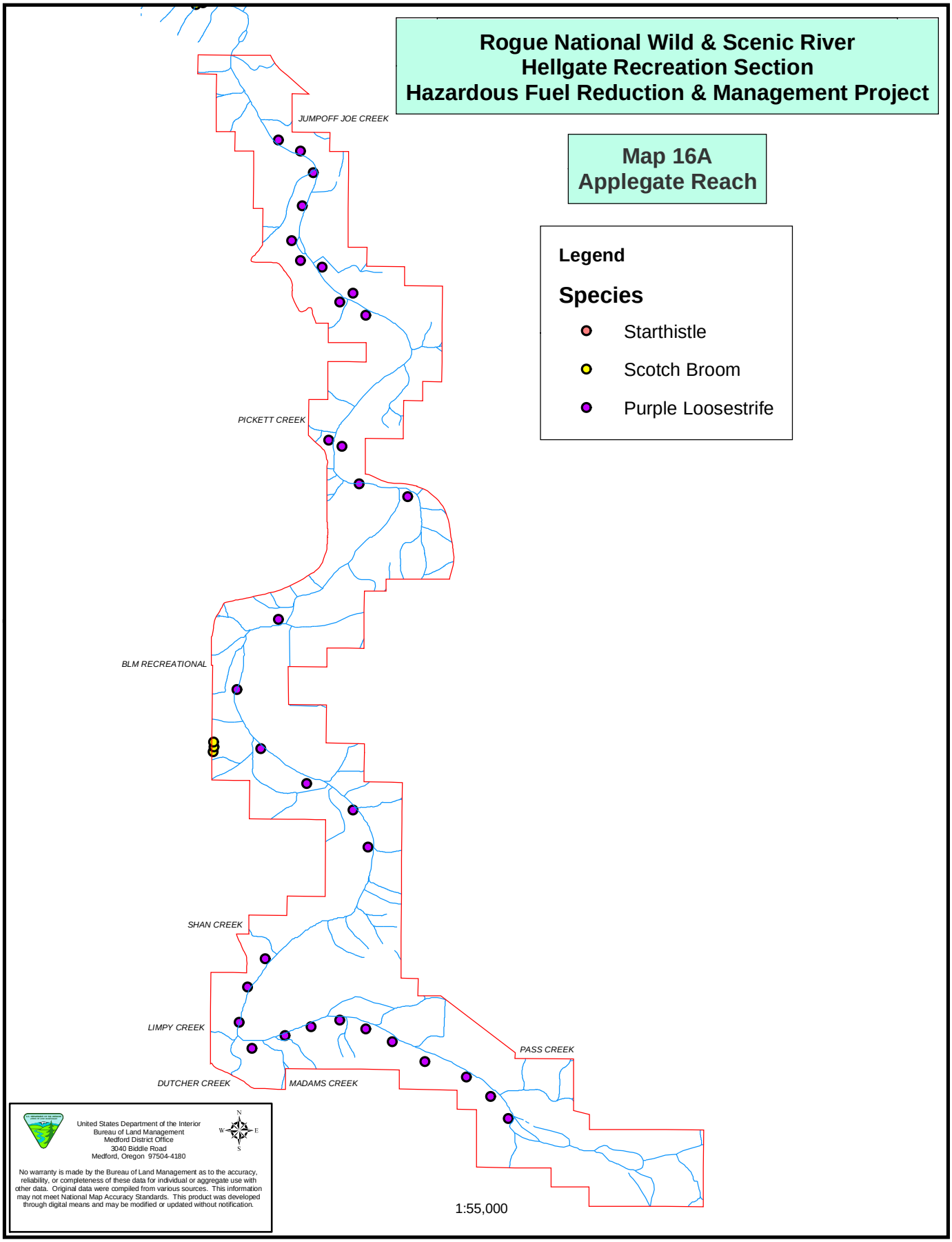
R7W

R6W

Rogue National Wild & Scenic River
Hellgate Recreation Section
Hazardous Fuel Reduction & Management Project

Map 16A
Applegate Reach



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R7W

R6W

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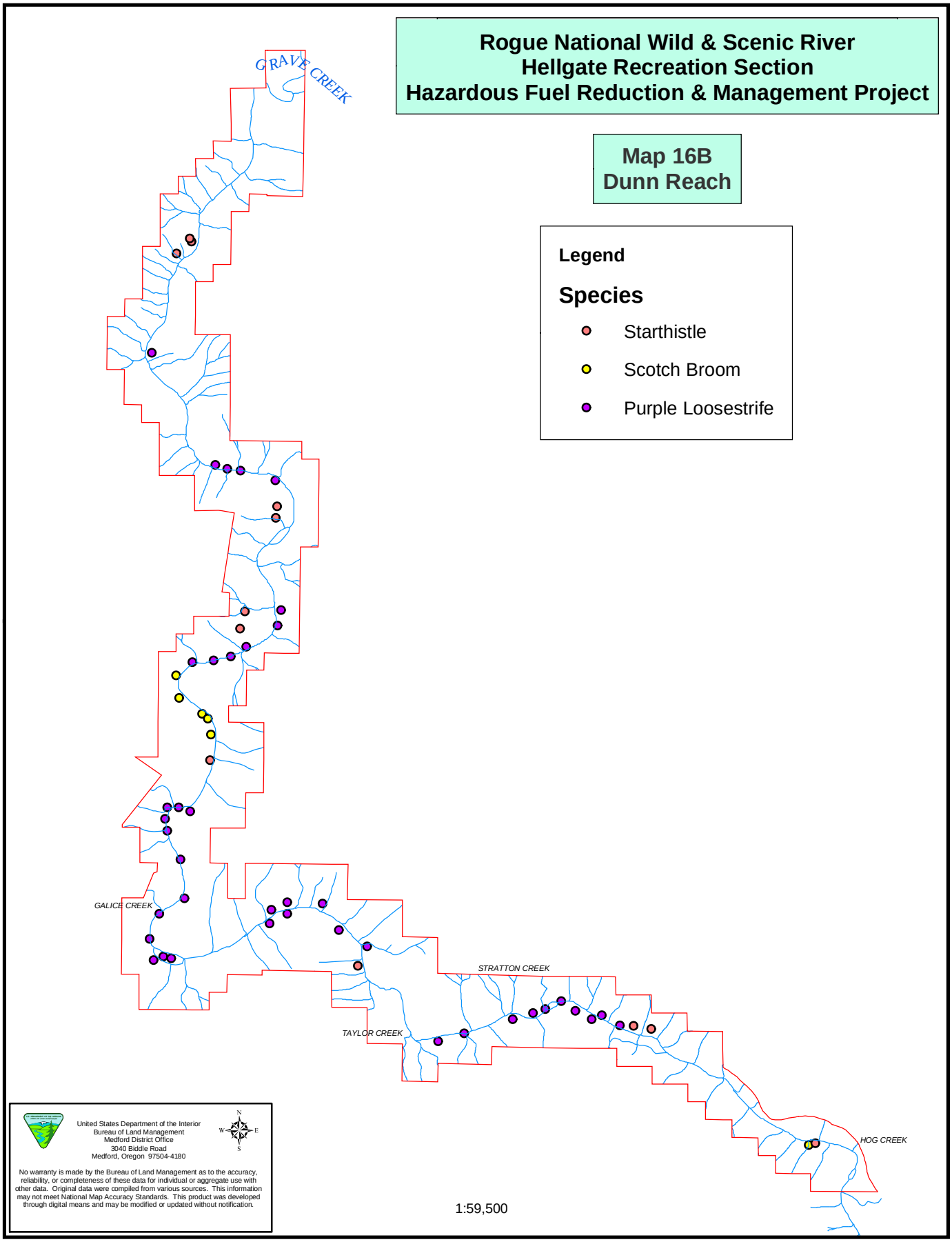
Hellgate Recreation Section
Hazardous Fuel Reduction & Management Project

Map 16B
Dunn Reach



Legend

Species

- Starthistle
- Scotch Broom
- Purple Loosestrife

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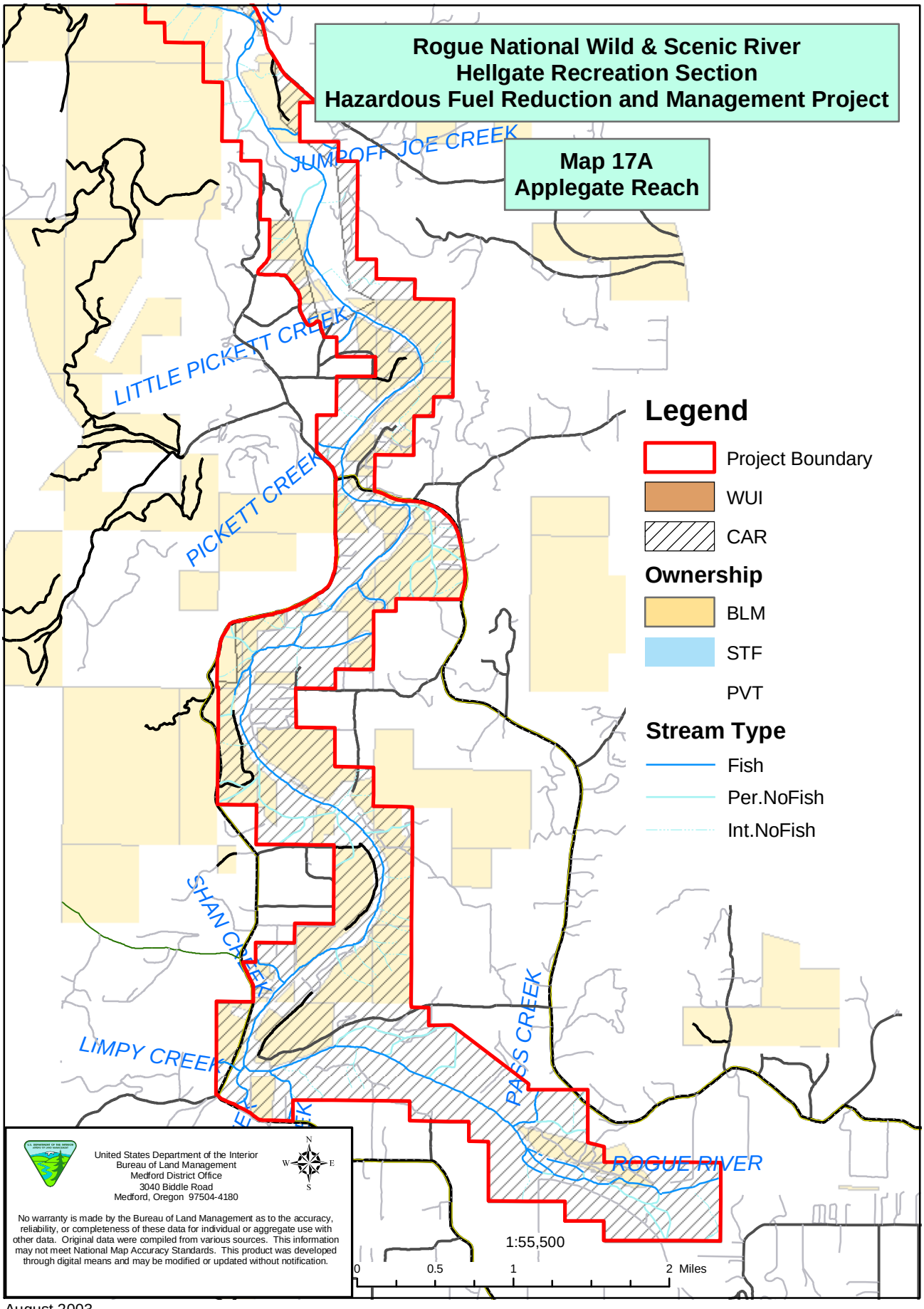

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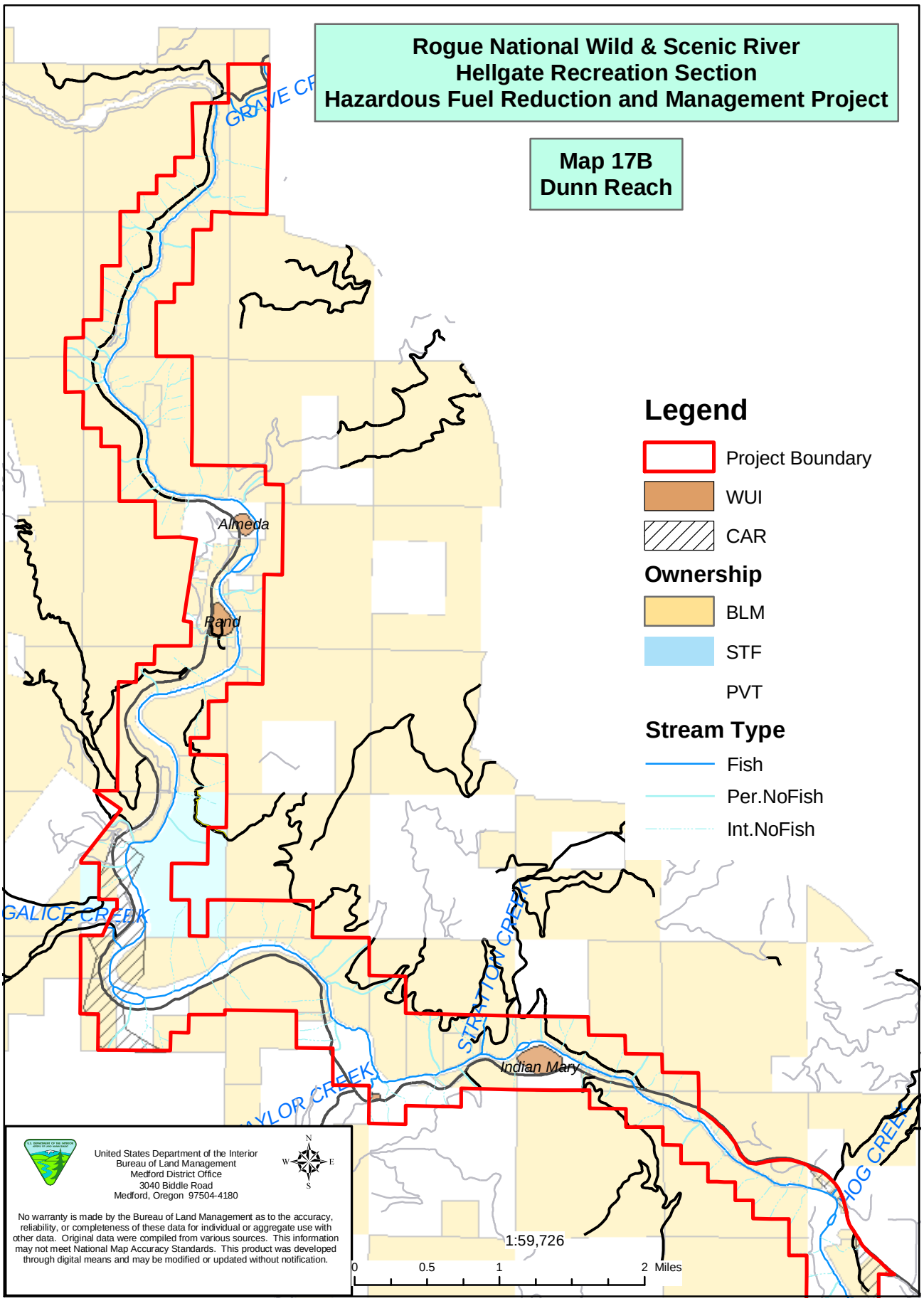
Map 17B
Dunn Reach



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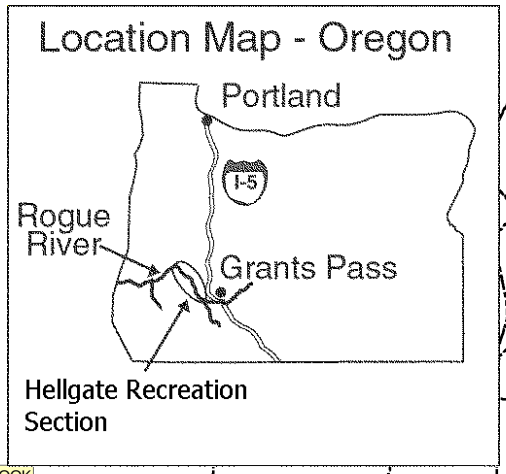
Hazardous Fuel Reduction and Management Project

Map 18
Recreation Roads with 50 ft.
No Treatment Strip



CRAIGE CREEK

ALMEDA MINE

ALMEDA PARK

RAND

GALICE

CARPENTERS ISLAND

MORRISONS LODGE

INDIAN MARY PARK

HELLGATE BRIDGE

HELLGATE OVERLOOK

HOG CREEK LANDING

ROBERTSON BRIDGE

Legend

Project Area

- Hellgate Rec. Section & Project Boundary
- Rogue River
- Major Roads
- Recreation Roads

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APPENDIX B
- Project Design Features Common to the Proposed Action and Alternatives -

Project Design Features (PDFs) common to the proposed action (Alternative 3) and the alternatives are described below. These PDFs are integral and critical elements of the proposed action and alternatives described in Section 3.0 of the environmental assessment (EA). Their purpose is to reduce potential impacts and ensure that the proposed vegetation and fuel reduction treatments are consistent with the management objectives for a variety of resources (e.g., fisheries, wildlife, and botanical) in the river corridor. Their basis includes the management decisions / direction of the Northwest Forest Plan (NFP) and the Medford District Resource Management Plan (RMP) to which the EA is tiered (see page 1 of the EA), pertinent best management practices of the RMP, and the professional expertise of the BLM's interdisciplinary planning team. These PDFs will be key elements in designing neighborhood level plans.

B.1 Scenic Easements

- All vegetation / fuel hazard reduction work on lands where the BLM holds a scenic easement right would be designed and implemented to be consistent with these rights, with the objectives of the scenic easement, and with the historical management of the scenic easement.

B.2 Visual Resource Management / Scenery in Seen Areas (Map 4)

- Use multiple treatment entries over time to maintain the desired character of the landscape and to limit the level of change at each entry so that it does not attract the attention of the casual observer. In general, 2-3 years would elapse between treatments to provide for a reduction in contrasts of colors and textures.

- Use the BLM's Visual Contrast Rating Worksheet approach to evaluate the degree of contrast between the proposed activity and the existing landscape to ensure VRM Class 1 consistency (USDI 1986).

- Maintain vegetative screening of structures that are visible from the river and / or the backcountry byway.

- Incorporate "focal point sensitivity" into the site specific treatment prescriptions. Vegetation / fuel treatments in focal point areas (e.g., sites with a long approaching view) (see Map 4, Appendix A) would be modified or staged to appropriately limit the potential visual impact on river area users.

- To minimize potential adverse visual impacts within seen areas (Map 4), trees =14?DBH would be directionally felled to avoid hardwood crowns and to minimize breakage or damage of residual trees or screening vegetation. Atypically large crowned limby trees would not be cut. Large trees would be topped or limbed prior to felling if needed to preclude residual tree damage.

- In seen areas, vegetation / fuel treatments would be designed to have feathered unit edges and naturally appearing shapes, forms and textures on the landscape (i.e., no straight lines or sharp angles that would result from simply following property lines or the designated corridor boundary line).

B.3 Vegetation / Fuel Treatment Prescriptions

- All vegetation treatment / fuel reduction treatment prescriptions would be based on vegetation series specific prescriptions (Appendix C-1).

- Careful attention will be paid to areas where the ecological and vegetation conditions are such that, if treated with great intensity, the vegetative response may create problems (e.g., sprouting with resultant high fire conditions in the short, near and long terms). In these areas, treatments would be implemented that are less intensive than those suggested as "permissible" under the alternative descriptions noted above. Prescriptions requiring a series of incremental steps or treatments would be initiated in these conditions. This is to preclude the creation of ecological or fire hazard conditions that are similar to or worse than those currently existing or that would create intensive long term maintenance work.

- Neighborhood plans will include the refinement of treatment prescriptions to reflect the scale and mosaic of conditions in the neighborhood area.

- Vegetation treatment / fuel reduction prescriptions will be designed to minimize the need to re-treat a site beyond a 10-year period. The treatment prescriptions and the analysis will assume that maintenance treatments are unlikely to occur into the future. The prescriptions will, however, outline maintenance treatments that would be anticipated in the short-term. If during neighborhood planning there appears to be substantial commitment to a long-term maintenance program, prescriptions may be modified to reflect this.

- Neighborhood prescriptions and actions would be very attentive to post treatment fuel loading concerns, particularly as they relate to how the material can be disposed of without creating high levels of risk or of damaging the residual stands.

B.4 Home Ignition Zone Treatment / Driveways / Ingress and Egress

Vegetation and fuel reduction treatments proposed in this zone would follow those recommended by the Oregon Department of Forestry (Appendix C-2) or the federal Northwest Wildfire Coordinating Group (*www.or.blm.gov/nwfire/docs/Livingwithfire.pdf*). These defensible space recommendations would be implemented around all structures on BLM lands. On lands where the BLM has a scenic easement, the BLM would work collaboratively with the landowner to implement the recommendations if the landowner is supportive. Working within the flexibility of the recommendations, treatments would be adjusted as needed to ensure that structure screening standards are met in accordance with BLM's scenic easement and the Oregon State Scenic Waterways Act requirements and objectives.

B.5 Riparian Reserves

- Within riparian reserves, trees to be removed from the site would be directionally felled to pre-approved skid trails.

- To maintain stream shade: a) a no treatment area of 50' would be maintained along all streams (possible exceptions include home ignition zones), b) all trees >12?DBH within 150' of any stream would be retained, c) all trees >8?DBH within 75' of a perennial stream would be retained, and d) canopy closure within a riparian reserve would be maintained at 60+%. Where the existing closure is <60%, vegetation / fuel treatments would be limited to the understory.

- Fuel reduction prescribed burning could occur in riparian reserves with the following caveats: a) hand piles within 50' of a stream would not be burned, b) no direct ignition would be done within the 50' no treatment zone, and c) underburns initiated outside of the 50' buffer would be allowed to back into this buffer as long as the underburn is of low intensity and the mid-level and upper canopies are not at risk. These limitations are directed particularly at protecting the aquatic ecosystems from runoff and shade reduction.

B.6 Wildlife and Botanical

- In treatment areas adjacent to major roads, a 50' buffer of untreated vegetation would be retained to provide screening for wildlife, protect the cut and fill slopes and to discourage off-highway vehicle use.

- Approximately 15 to 20% of each treatment unit would be left untreated to retain dense stands in each unit to benefit terrestrial bird nesting and foraging. Areas left untreated due to VRM, slope stability, riparian reserves or other concerns would contribute to the 15 – 20%.

- Hardwoods, especially California black oak, would be retained and encouraged where appropriate.

- Trees that have indications of nest sites or cavities >6? diameter would have a priority for retention and a 50' buffer would be implemented around them to reduce impacts to wildlife.

- Unless they pose a safety hazard, snags would be retained at, or greater than, the RMP (p. 45) prescribed level for non-matrix land. Patches of snags would be retained if doing so would not increase fire hazard. To prevent snag loss during prescribed fires, fuels would be pulled back =6' from the base of the snag.

- Survey and Manage (S&M) and special status species wildlife sites on BLM land would be buffered according to the management recommendations for that species in effect at the time of the final neighborhood plan decision. Buffer size and strategy will be dependent on site-specific conditions, proposed treatments, and species involved. Fuels treatment could take place within these buffers if the species or specific habitat characteristics are not adversely impacted. No handpiling burning would occur within these buffers.

- Ground disturbing heavy equipment would not be permitted around areas of western pond turtle nesting habitat. Buffer size would be determined by biologists based on microsite conditions. Manual fuel treatment methods could be employed within these buffers, although no slash piling would be permitted.

- Natural meadows and grasslands greater than one acre would have a no treatment buffer around the perimeter equal to one site potential tree height (see Glossary). This is primarily to maintain thermal and hiding cover for big game species. (Note: meadows may be treated to reduce encroachment of conifers and other vegetation.)

- No fuel treatment activities would be permitted within 250' of mine adits occupied by bats.

- Within northern spotted owl designated critical habitat: a) no actions would be implemented that would result in adverse modification of this critical habitat, and b) all suitable habitat characteristics within 0.7 miles of known spotted owl nest sites would be retained.

- To conserve existing northern spotted owl suitable nesting habitat, retain 60% canopy closure in T34S, R8W, Sec14 (Unit 001); T34S, R8W, Sec. 24 (Unit 001); and T35S, R8W, Sec. 1 (Unit 001).

- Maintain habitat integrity and the historical continuity of the data collected at the Monitoring Avian Productivity and Survivorship (MAPS) site by scheduling vegetation / fuel treatments in the 40-acre core area toward the end of the neighborhood project schedule. Treat =10% of the core area per year.

- Seasonal operating restrictions and wildlife species specific PDFs would be implemented per Table B-1.

Table B-1: Seasonal Operating Restrictions for Occupied Sites			
Species	No Operations Period		Additional Restrictions and Considerations
	Start	End	
Peregrine Falcon	February 1	August 15	- 1 mile noise restriction, ½ mile for all activities.
Bald Eagle	February 1	August 15	- ½ mile noise restriction and large snag retention; 1/3 mile for all activities. - 50% canopy retention within ½ mile.
	Nov. 1	March 1	Winter roosting season – No operations in vicinity of eagle activities centers.
Spotted Owl	March 1	July 31	- ¼ mile out from core, all activities including chainsaws, heavy equipment and burning.
Osprey	March 1	August 15	- ¼ mile seasonal for all activities. - Retain snags and large broken-top trees.
Great Blue Heron	March 1	August 1	- ¼ mile seasonal restriction; retain potential nest trees within ¼ mile.
Other Raptors	March 1	August 1	- ¼ mile seasonal restriction.
Western Pond Turtle	June 1	July 31	- No activity in designated nesting habitat.

- Where heavy equipment is used, known populations of Gentner's Fritillary (*Fritillaria gentneri)* would be buffered with a no-ground disturbance buffer. Buffer size would be dependent on microsite conditions and habitat requirements, but will be a minimum of 25' from the occurrence boundary. Fuels treatments (mechanical or prescribed fire) could take place within these buffers as long as heavy equipment stays outside the buffer boundaries and a backing fire started outside of the buffer boundaries is used. Within these buffers, a canopy cover of at least 40% should be retained. If the canopy is less than 40%, no treatment in the buffers is needed.

- Within Gentner's Fritillary habitat, maintain openings in oak woodlands and along ecotones.

- Where Gentner's Fritillary populations may be found or in high quality habitat, conduct prescribed burns in late fall or winter when the species is dormant (roughly October through February).

- In areas where heavy equipment is used, "no ground-disturbance" buffers would be implemented around special status vascular plant species (also around S&M sites on BLM land). Buffer size and locations would be determined by botanists based on microsite conditions and species habitat requirements and applicable management recommendations in effect at the time of the decision. Manual fuel reduction treatment would be permitted within these buffers, but there would be no handpiling within them. Depending upon the plant species and what is known about potential fire effects on it, a prescribed cool backing fire may be permitted within the buffer.

- Special status (and S&M on BLM land) non-vascular species found in the tree or shrub canopy would be protected by appropriate buffering or individual source tree identification. No piling or slash burning would occur within these buffers or within the drip line.

- In areas containing special status plant species, prescribed burns would be done under "cool burn" prescriptions to minimize potential soil damage around plant populations. Burns would be conducted in the fall only. If fall burning is not feasible, special status species sites would be buffered and avoided during spring burning in order to preclude damage to germinating plants.

- Prescribed fire operations would be conducted to preclude or reduce the potential for intense smoldering in plant sites.

- Noxious weed sites would be treated in conjunction with fuels and in accordance with the Medford District Integrated Weed Management Plan (USDI 1985).

- To prevent the spread of noxious weeds, all heavy equipment would be cleaned prior to moving onto BLM lands in the project area and when moving from known noxious weed areas into weed-free areas. Native grass seed (when available) would be distributed after weed treatment in oak woodlands or primarily grassy areas to keep weed species from re-occurring. All noxious weed treatments would be monitored annually for at least five years.

B.7 Cultural Resources

Site-specific protection measures (e.g., buffering, modified treatment methods) would be implemented to preserve the integrity of all cultural sites and National Historic sites and would be done in consultation with State of Oregon Historic Preservation Officer and BLM cultural specialists.

B.8 Soil Productivity

- On very steep sites susceptible to ravel (See Map 6, Appendix A), fuel reduction treatments would be done manually to ensure duff retention. No more than 30 burn piles per acre would be created.

- When a >16? DBH tree is thinned from a stand, the top (>8? diameter) and limbs would be removed and disposed of. The bole would be left on site for coarse wood debris (CWD) if: a) it is in a relatively inaccessible location and its lasting into the future is highly likely, and b) 20 tons / acre would remain following treatment where 80% of the tonnage is within 1000+ hr fuel class.

B.9 Vegetation / Fuel Treatment: Methods / Systems

1) Slashbuster Use

- In all areas where a slashbuster is used, 15% to 20% of the area would be left untreated to provide habitat diversity for wildlife and plant species. No-treatment special status species buffers and untreated riparian reserves will contribute to meeting this goal.

- Untreated areas of at least 0.25 acre would be maintained and distributed across the landscape. Priority areas are moister micro-sites (e.g., northerly aspects or concavities) that have had a slightly different fire disturbance regime from the areas around them and would have the best potential for brush / shrub species to attain a larger size with normal fire disturbance.

- Slashbuster use would be restricted to slopes <40% (occasional short pitches >40% would be permissible).

- Only low ground pressure (<4 psi) machinery equipped with semi-grouser tracks would be permitted. The shredding head would be mounted on an articulated boom of no less than 30' in length. Operations would only be permitted when soil moisture is less than 20% at the 6" depth on non-serpentine soils, or less than 20% at the 8-12" depth on serpentine derived soils.

- Pre-existing coarse wood material greater than 10" diameter would be protected from shredding or damage. All snags would be protected. If a snag is felled for safety reasons, it would be retained on site.

- No slashbuster operations would be conducted within or through special status plant or cultural site buffers. Deposition of chipped / shredded material within these buffers would be precluded to the extent possible.

- Slashbusters would be directed to run over shredded vegetation. If shredded vegetation distribution is low, such that 80% of the tracked area is not on shredded vegetation, the machine would not be permitted.

- In order to reduce the potential for soil damage and soil seed bank loss due to high fire intensities, if slashing / chipping results in a chip depth 6+" over a one acre area, the chips will be raked and piled to reduce overall depth to less than 6".

- In areas restricted from slashbuster use (e.g., special status species buffers, areas of excessive slopes, no treatment zone of riparian reserves), manual fuel treatments would be used. Those portions of treatment areas where the slash buster is precluded from operating (e.g., special status species buffers, areas of excessive slopes, no treatment zone of riparian reserves, etc.), slash / fuel treatments would be accomplished by hand in the manner indicated in the EA.

- Slashbusters would stay at least 20' from historic mining ditches. Fuels could be treated along ditch edges. Ditch crossing would be limited to BLM specialist-designated sites and techniques that would avoid damaging or breaching the ditch.

- Slashbusters would not cross or operate on rock outcrops, cobble areas, mine tailings, or talus. The deposition of shredded material in these areas would be avoided to the extent possible.

- Slashbuster operations would be restricted to single access points from main roads. Following treatment, access points would be camouflaged with brush, logs, or boulders to discourage use of off-highway vehicles.

- There will be no slashbuster treatments within 50' of perennial or intermittent streams. The machine's tracks / treads would be kept at least 75' from of these streams. Post slashbuster treatment burning would comply with burning within riparian reserve design criteria described above.

- Slashbuster operations would be conducted in a manner that minimizes soil disturbance and compaction. Multiple passes over an area would be discouraged, including at refueling sites. Service / fuel vehicles would be restricted to existing roads or spurs.

- In *Ceanothus cuneatus* dominated areas, broadcast burning would be done at the earliest opportunity within five years of treatment to promote germination (seed scarification) of dormant seed in the soil. Broadcast burning would not be conducted during the height of the songbird spring reproductive period (approximately April 15 to July 15).

2) Forest Product Removal and Onsite Treatment of Thinning Residues

- Systems that require repeated passes over the same area or that create a radial or "spoke" pattern would not be permitted. "Drive-to-each tree" shearing equipment would not be permitted. Equipment that employs a skid/steer drive system that necessitates side-to-side movement to position the cutting head and creates excessive amounts of soil displacement would not be permitted.

a) Removal for Offsite Disposal - Yarding

- To reduce soil disturbance and damage to residual trees, trees =12?DBH would be limbed and cut into lengths =20' prior to yarding.

- To reduce disturbance, landing locations would be pre-approved and limited in size to <1 acre.

- All trees would be directionally felled to minimize residual crown damage and to keep them out of buffers and riparian reserves. (See also VRM PDFs.)

- Helicopter operations would be restricted to the hours of 7 AM to 5 PM, Monday through Saturday. Work on Sundays, federal holidays, Mother's Day, and Father's Day would be prohibited.

- Helispots and helicopter landings would be out of view of the river, designated trails, or recreation sites.

- Ground based yarding tractors would be restricted to slopes <35%. Yarding would be limited to all terrain vehicles, D4 size or smaller tractors, or horses.

- One end suspension would be required with all yarding systems except horse.

- Cable yarding equipment would be limited to the smallest size capable of doing the work safely. Yarding corridors would be predesignated and located to preclude their visibility from the river and to minimize corridor clearing. Yarding corridors would be water barred as needed based on slope and soil type.

- No new skid trails or stream crossings would be constructed in riparian reserves. Existing skid trails could be used if they are stable and unrecovered. These trails would be decompacted and planted according to prescription and covered with mulch or small diameter slash (less than 6? thick).

- Yarding tractors (D-4 size) used outside of riparian reserves would be confined to designated skid trails and would be restricted to soil moisture <25%. Main skid trails would be decommissioned (ripped and water barred) after use. Skid trails would be covered with slash, chipped material or debris to protect the mineral soil surface. Low ground pressure (<4 psi) equipment would be permitted without designated skid trails if soil moisture is <20% and it is able to operate on areas with at least 80% slash cover.

- When heavy equipment is used or refueled, an approved spill prevention control and countermeasure (SPCC) plan or comparable contingency plan will in place. Operators will have spill containment kits at all times. Refueling would be in compliance with DEQ-OAR 340-108-0002 and FPA-OAR 629-605-0130.

b) Onsite Disposal of Large Material

- Where removal of material from a site is not an option (e.g., poor accessibility), slash would be piled and tree boles would be limbed and could be stacked in small decks at approximately 40'x40' spacing. Decks would lay parallel to the contour. Boles and debris would be cut to =12' lengths. Each deck would contain at least 10 pieces. Decks would be located in a manner that prevents slippage or down hill movement (e.g., placed against a stump or root wad). Decks would not be located under the drip line of any leave trees.

c) Onsite Burning

- Prior to prescribed burning, a prescribed fire plan would be prepared outlining vegetation, resource and fire objectives; acceptable fuel moisture and weather parameters; required fire control resources; and prescribed burn tactics to meet these objectives and to minimize fire escape potential.

- To prevent fire escape and to control and minimize damage to residual vegetation / trees, burning would occur when weather and fuel conditions allow for lower fire intensities (typically fall through spring).

- Fire control lines, if needed, would be manually constructed (e.g., chainsaws, pulaskis, shovels). Lines would be located to take advantage of natural barriers whenever possible. Waterbars would be installed based on soil type and slope. Post-burn patrol and mop-up would occur to insure there is no reburning or fire escape.

- Prescribed burning would comply with Oregon Department of Forestry's Smoke Management Plan and the DEQ's Air Quality and Visibility Protection Program. Smoke emissions control could also include: a) mop-up as soon as practical after the fire, b) burning with lower fuel moisture in the lighter fuels to facilitate quick and complete combustion while burning larger fuels under higher moisture levels to minimize consumption, and c) covering hand piles to permit burning during the rainy season.

B.10 Roads and Infrastructure

- Waterlines, septic systems, and underground utilities would be identified and protected from project impacts.

- Existing roads and temporary spurs would be utilized whenever possible to minimize road construction. Temporary spur roads would be located, designed and constructed to meet VRM guidelines. They would be obliterated after use by restoring natural drainage patterns and placing a combination of brush, logs, boulders, and / or stumps across the disturbed area. BLM roads would be maintained to applicable BLM Transportation Management Objective determined standards. Maintenance needs would be identified as a part of neighborhood planning. Road maintenance and decommissioning work would comply with Best Management Practices (Medford District RMP, Appendix D-VII). If follow up vegetation treatment is scheduled a year or more after initial treatment, roads would be waterbarred, seeded, mulched, or blocked as needed to prevent wet season vehicle use.

Vegetation / Fuels Treatment Prescription - Douglas-fir / Pine Series

Vegetation Condition Classes 7 & 8 General Px and Douglas-fir/Pine Plant Series Large Poles, 11 to 21" DBH and Mature, 21" DBH+		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Unit	Land Allocation/ Soil Type
Stand Description Objectives	These stands typically have west, southwest, southeast, and east aspects, and are found in the Douglas-fir plant associations. Pine sites (1ac or>areas where mature Ponderosa pine is a dominant overstory component) are intermixed as patches within the DF sites. Common vegetation in the understory includes black and white oak, canyon live oak, poison oak, hairy honeysuckle, Piper's Oregongrape and grass species. The Douglas-fir series tends to produce conditions that favor fire. This species is self-pruning, often sheds its needles and tends to increase the rate of fuel buildup and fuel drying. The Pine series occupies hot, dry aspects that burn frequently. Ponderosa Pine regeneration is restricted by reducing the number of fire events. Due to the success of fire suppression over the last 70 years, overall cover of this series has decreased (Atzet and Wheeler 1984). **Goals** Utilize the VRM 1 project guidelines for understory and overstory percent disturbance outlined in description of alternatives. Maintain plant series within its natural direction of succession by incorporating fuel treatment and silviculture strategies that aid in reducing stand density to more normal ranges. Reduce the overall stand basal area to increase tree growth, quality and vigor of the remaining trees. Release individual large Pine and DF trees. Create diversified stand structure (height, age and diameter classes) Maintain flexible parameters with adjacent land owners with a combination of approaches that can be applied to each situation. They may choose a moderate or more extensive approach. **Reduce surface fuel hazard within the Defense Zone, Threat Zone and General Forest using on and offsite disposal of slashed material. Minimize return intervals and cost to reduce fuel hazard build up within 5-10 year treatment spectrum.**			
Side Boards/ Unique Features	Adjustments to meet VRM 1 ??? *Screening, phased treatment intervals, irregular spacing pattern….* Botany Plants *plants that live in Pine crowns, in Oak Habitat, in the Upper Crust….* Osprey, Bald Eagle Nests, Migratory birds…….	Apply PDF found in E.A.	Apply PDF to known areas	60% canopy retention in Late Succesional Reserve land allocation

Vegetation Condition Classes 7 & 8 General Px and Douglas-fir/Pine Plant Series Large Poles, 11 to 21" DBH and Mature, 21" DBH+		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Unit	Land Allocation/ Soil Type
Insects/ Diseases	GIS Disease Flight Coverage			
Silv Aproach	Density Management by understory thinning & Individual Large Tree Release			
Understory Thinning **Fuels Reduction Treatments**	*Understory Thinning Seen Area and Seldom Seen Area*: Understory thinning is intended to improve growth, canopy width, and increase gap formation. An understory thinning will be applied to allow for increased growth by release from excessive competition. Also, thinning will reduce the amount of understory live fuel that contributes to ladder fuel conditions. Understory thinning will treat conifer, hardwood trees, and shrub species. **3/22/03 Size of material thinned will depend on alternative chosen.** For all treatments, all maple species, dogwood, pacific yew, black oak, white oak, and alder will be reserved, regardless of spacing (*i.e.* not included in spacing or considered leave trees). *Fuels Reduction Treatments* Conifer trees, hardwood trees, and shrubs that are considered for treatment include those between one inch DBH and 16 inches DBH (**depends on alternative chosen**). All trees greater than **depends on alternative chosen**) inches DBH in the seen area or (***Selected alternative??****/ inches DBH in the unseen area*) are considered reserved trees. Treatment is to space out conifer trees, hardwood trees, and shrubs to specifications as described under Understory Thinning. Slashing excess trees and shrubs 1 inch to **??8** inch DBH would occur. Trees greater than 8 inches and less than 12?? (Depends on alternative chosen) inches DBH would be girdled where they exist in excessive amounts, do not pose a safety hazard, and are outside the seen area. Where available, slash treatment would be mechanical chipping, slash buster or offsite disposal. UB - Underburn, mosaic underburn burn under reserved overstory. HP - Hand pile slash 1"-8" x 2', cover, and burn piles. **Seen Area:** **Individual Large Tree Release:** Release large (> 20 inch DBH) Pine and DF trees by thinning around them to create less than or equal to a 20-foot crown space between surrounding trees. All trees beneath the crown of the Pine or DF tree should also be reduced (including seedlings and saplings). Spacing should decrease as the distance from the tree bole is increased. **Density Management:** Thin hardwoods and conifers primarily from the understory. All trees greater than (**Depends on Alternative Selected**) inches DBH are considered reserved trees. Spacing will vary and is dependent on the type of tree present, but			

Vegetation Condition Classes 7 & 8 General Px and Douglas-fir/Pine Plant Series Large Poles, 11 to 21" DBH and Mature, 21" DBH+		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Unit	Land Allocation/ Soil Type
	should not exceed 15 ft between the boles of leave trees. Types of trees that can be thinned in order of preference include suppressed, intermediate and some codominant crown class trees with live crown ratios of less than 30%, trees lacking branches on one or more sides that are not conical in shape, dying trees (watch for pitch tubes or missing bark), trees with broken or forked tops subject to immediate breakage, and hazard trees. Focus on reducing the stocking levels of Douglas-fir and increasing that of pine species, and creating/retaining structural diversity. When possible leave trees of varying crown classes (height) to create diversity in stand structure. Leave trees with old-growth characteristics. Favor PP, SP, IC and DF and Madrone respectively to leave. **Madrone sprouts: Cut so that the two most dominate sprouts remain. All deer brush regardless of size should be severed at each entry.** **Seldom-seen Area:** **Individual Large Tree Release:** Release large (>20 inch DBH) Pine and DF trees by thinning around them to create less than or equal to a 20-foot crown space between surrounding trees. All trees beneath the crown of the Pine or DF tree should also be reduced (including seedlings and saplings). Spacing should decrease as the distance from the tree bole is increased. **Density Management:** Thin hardwoods and conifers primarily from the understory. All trees greater than **14** inches DBH (depends on alternative chosen) are considered reserved trees. Spacing will vary and is dependent on the type of tree present, but should not exceed 25 ft between the boles of leave trees. Types of trees that can be thinned, in order of preference, include suppressed, intermediate and some codominant crown class trees with live crown ratios of less than 30%, trees lacking branches on one or more sides that are not conical in shape, dying trees (watch for pitch tubes or missing bark), trees with broken or forked tops subject to immediate breakage, and hazard trees. Focus on reducing the stocking levels of Douglas-fir and increasing that of pine species, and creating/retaining structural diversity. When possible leave trees of varying crown classes (height) to create diversity in stand structure. Leave trees with old-growth characteristics. Favor PP, SP, IC and DF and Madrone respectively to leave. **Madrone sprouts: Cut so that the two most dominate sprouts remain. All deer brush regardless of size should be severed at each entry.**			
Leave/Retain				
Snags	Leave Stage 1 snags in the interior of homogeneous conifer stands where snags are not			

Vegetation Condition Classes 7 & 8 General Px and Douglas-fir/Pine Plant Series Large Poles, 11 to 21" DBH and Mature, 21" DBH+		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Unit	Land Allocation/ Soil Type
	prevalent. Buffer snags 17 inches DBH & greater from damage by leaving all green trees for a radius equal to the height of the snag. In areas where pockets of Stage 1 snags are found (adjacent to shrublands & woodlands), leave all snags that do not pose a safety hazard. Consider leaving trees with Fomes pini that have healthy crowns.			
CWD	**Add PDF from E.A.**			
Future Treatments	Maintenance brushing, thinning, burning would occur with a return interval of 3-5 years based on review using BLM Visual Contrast Rating and Vegetation/fuel decision matrix. Over all units leave scattered unthinned patches 1/10th to 1/4 acre in size to buffer sensitive plants, visual screening, sensitive soils, active nests, etc.			
Expected Outcomes	Immediately following all scheduled treatments, these stands will have density levels within the carrying capacity of the site. Species composition is well represented with Douglas-fir, ponderosa pine, sugar pine, and incense cedar. Hardwood species occur as an occasional stand component either singly (california black oak, bigleaf maple) or in clumps (madrone, white oak). Trees sizes include seedlings, saplings, and small and large conifer trees. The residual trees (greater than 8" dbh) are characterized by co-dominant or dominant attributes, such as, crown ratios greater than 35%, improved growth rates and larger diameters. The mosaic of size classes provides the structural diversity not found in adjacent meadows and shrublands. The reduced crown closure within these stands will range within 40-80 percent. Basal area ranges from 100 -280 square feet. The higher crown closure and basal area would occur in areas that are buffered or reserved from treatment. Unentered patches of 1/10th -3 acres will be scattered in most of the units to maintain diversity and for wildlife habitat. The larger hardwoods will be reserved. Scattered large conifer trees will be reserved for the future large-stand growth component. Pine sites (areas where mature Ponderosa pine is a dominant overstory component) will be thinned to density levels that will improve stand growth and individual tree vigor. In Pine site areas most of the competing second growth component will be removed, creating site conditions suitable to produce and maintain large ponderosa pine. Stage 1 and 2 snags will remain for wildlife. The large tree selection areas should create openings large enough to promote and establish Douglas-fir or pine regeneration. **5-10 years** Upon completion of the secondary treatment, conditions should be created so that a distinct canopy layer of reproduction can be formed. **10-50 years** Still operates as a DF/Pine ecosystem. Succession with regeneration and growth is not likely without the reintroduction of disturbance in all canopy layers.			

Vegetation / Fuels Treatment Prescription – Riparian Hardwoods

Vegetation Condition Class (1,3,7) Riparian/Hardwood		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Unit	Land Allocation/ Soil Type
Stand Description Objectives	The riparian corridor along the Rogue in this section is a mixture of river cobble, native riparian forest, small wetlands, sloughs, and highly disturbed areas, such as old agricultural fields. Willows are found immediately adjacent to the water while large cottonwoods and Oregon ash dominate the flood plains. Alders are also present, as well as bigleaf maples higher up on the banks. Large ponderosa pines sometimes occur on the larger flood plains of the river. Disturbed areas have been invaded by purple loosestrife, Himalayan blackberry, teasel, common tansy, poison hemlock, burdock, and agricultural plants. The drainages coming into the Rogue in this section, especially those downstream of Robertson Bridge, are lush with native riparian vegetation dominated by Douglas-fir, bigleaf maple, Oregon ash, and a diversity of ferns. **Goals** Utilize the VRM 1 project guidelines for understory and overstory percent disturbance outlined in description of alternatives. Work only on high fire risk areas. Consider contributions of cwd by large conifers and hardwoods to stream system. Noxious weeds should be managed to acceptable levels Maintain flexible parameters with adjacent land owners with a combination of approaches that can be applied to each situation. They may choose a moderate or more extensive approach. **Reduce surface fuel hazard within the Defense Zone, Threat Zone and General Forest using on and offsite disposal of slashed material. Minimize return intervals and cost to reduce fuel hazard build up within 5-10 year treatment spectrum.**			
Side Boards/ Unique Features	Adjustments to meet VRM 1 ??? *Screening, phased treatment intervals, irregular spacing pattern….* Botany Plants *plants that live in Pine crowns, in Oak Habitat, in the Upper Crust….* Osprey, Bald Eagle Nests, Migratory birds…….	Apply PDF found in E.A.	Apply PDF to known areas	
Insects/ Diseases	GIS Disease Flight Coverage – non found in this plant aggregation.			
Silv Aproach	Designated Leave Tree			

Vegetation Condition Class (1,3,7) Riparian/Hardwood		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Unit	Land Allocation/ Soil Type
Fuels Reduction Treatments	**Amount of Fuel Hazard Reduction Activity** **Little fuel reduction activity is anticipated in the Riparian/Hardwood plant category. River dynamics introduce incremental disturbances and when combined with the silvics of the riparian plant species leaves many of the areas of this category in a low hazard condition. Blackberries are possibly the most significant problem for a fuel hazard near homes and structures.** Designate leave trees (primarily large Pine, DF, Black Cottonwood) on a case by case basis at the Neighborhood level plan. Cut all vegetation from around designated leave trees for a radius of 15 to 40 feet. Control noxious weeds by creating the burn piles on top of the weeds. All large diameter conifer trees (wolf trees > 20" DBH) and hardwoods 12" DBH & > should be left. **3/22/03 Size of material thinned will depend on alternative chosen.** On the higher flood plains of the Rogue River the Riparian/Hardwood plant species mix transition to White Oak, DF/Pine, or DF/Tanoak. When this occurs follow the px for White Oak, DF/Pine, or DF/Tanoak. Within the visually designated s een areas utilize a blending of different spacings and species selection of adjacent areas and stand types to minimize the vis ual disturbnace. **Fuels Reduction Methods** Where available, slash treatment would be mechanical chipping, slash buster or offsite disposal. UB - Underburn, mosaic underburn under reserved overstory. HP - Hand pile slash 1"-8" x 2', cover, and burn piles.			
Snags	Leave all snags where they do not pose a safety hazard.			
CWD	**Add PDF from E.A.**			
Future Treatments	Maintenance brushing, thinning, burning would occur with a return interval of 3-5 years based on review using BLM Visual Contrast Rating and Vegetation/fuel decision matrix. Seen areas may require more entries than seldom seen areas due to the amount of visual disturbance allowed in any one entry to the understory and the overstory.			
Expected Outcomes	An abundance of incremental disturbance patterns and variety of plant species now occupy and will quickly reoccupy disturbed space.			

Vegetation / Fuels Treatment Prescription - Douglas-fir / Tanoak and Tanoak / Douglas-fir Series

Vegetation Condition Classes (3,7,8) **General Px for** DF/Tanoak and Tanoak/ DF Plant Series		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Unit	Land Allocation/ Soil Type
Stand Description Objectives	Douglas-fir and tanoak plant communities line both sides of the Hellgate Recreation Area, downstream of Robertson Bridge. The most common plant associations found are Douglas-fir/canyon live oak-poison oak and Douglas-fir/black oak-poison oak on southerly aspects, and Douglas-fir/tanoak/canyon live oak or tanoak/Douglas-fir/canyon live oak-dwarf Oregon grape on northerly aspects. In the last 50 years, lack of fire has enhanced tanoak's competitive status. Unlike many of Tanoak's associates, frost, drought, and fire limit the survival and ability to compete. The effects on species composition and stand structure are evident. Stands approaching 100% canopy cover are common. Tanoak or Canyon Live Oak has filled in canopy gaps with flattened shaped crowns. Coupled with high stand densities stand differentiation has slowed in lower canopy levels. **Goals** Utilize the VRM 1 project guidelines for understory and overstory percent disturbance outlined in description of alternatives. Maintain plant series within its natural direction of succession by incorporating fuel treatment and silviculture strategies that aid in reducing stand density to more normal ranges. Reduce the overall stand basal area to increase tree growth, quality and vigor of the remaining trees. Release individual large conifer and hardwood trees. Create diversified stand structure (height, age and diameter classes) Maintain flexible parameters with adjacent land owners with a comb ination of approaches that can be applied to each situation. They may choose a moderate or more extensive approach. **Reduce surface fuel hazard within the Defense Zone, Threat Zone and General Forest using on and offsite disposal of slashed material. Minimize return intervals and cost to reduce fuel hazard build up within 5-10 year treatment spectrum.**			
Side Boards/ Unique Features	Adjustments to meet VRM 1 ??? *Screening, phased treatment intervals, irregular spacing pattern….* Botany Plants *plants that live in Pine crowns, in Oak Habitat, in the Upper Crust….* Osprey, Bald Eagle Nests, Migratory birds…….	Apply PDF found in E.A.	Apply PDF to known areas	60% canopy retention in Late Succession Reserve land allocation
Insects/ Diseases	GIS Disease Flight Coverage			
Silv Aproach	Density Management by understory variable crown thinning	Ideal px is variable crown thinning. In situations where this is not possible due to crown development an understory thinning based on spacing by diameter would be used.		

Vegetation Condition Classes (3,7,8) **General Px for** DF/Tanoak and Tanoak/ DF Plant Series		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Unit	Land Allocation/ Soil Type
Understory Thinning **Fuels Reduction Treatments**	*Understory Thinning Seen Area and Seldom Seen Area*: Understory thinning is intended to improve growth, canopy width, and increase gap formation. An understory thinning will be applied to allow for increased growth by release from excessive competition. Also, thinning will reduce the amount of understory live fuel that contributes to ladder fuel conditions. Understory thinning will treat conifer, hardwood trees, and shrub species. For all treatments, all maple species, dogwood, pacific yew, black oak, white oak, Port-Orford cedar -*not identified in project area*), alder, vaccinium ssp (except evergreen), willows, and serviceberry will be reserved, regardless of spacing (*i.e.* not included in spacing or considered leave trees). **3/22/03 Size of material thinned will depend on alternative chosen.** *Fuels Reduction Treatments* Conifer trees, hardwood trees, and shrubs that are considered for treatment include those between one inch DBH and 12 inches DBH (depends on alternative chosen). All trees greater than **(? see selected alternative**) inches DBH in the seen area or (***Selectedlalternative??****/ inches DBH in the unseen area*) are considered reserved trees. Treatment is to space out conifer trees, hardwood trees, and shrubs to specifications as described under Understory Thinning. Slashing excess trees and shrubs 1 inch to **??8** inch DBH would occur. Trees greater than 8 inches and less than 12 inches DBH (***Depends on alternative selected***) would be girdled where they exist in excessive amounts, do not pose a safety hazard, and are outside the seen area. Where available, slash treatment would be mechanical chipping, slash buster or offsite disposal. UB – mosaic underburn under reserved overstory. HP - Hand pile slash 1"-8" x 2', cover, and burn piles. **Seen Area**: Thin conifers and hardwoods to a 1x crown radius spacing (=/-25%), with a leave tree species preference of SP, JP, PP, DF, IC, madrone, TF, liveoak, tanoak, chinkapin. Trees with the largest and best-formed crowns will generally be selected as leave trees, the largest crown being utilized to determine spacing. Brushing - cut	Methods to avoid excessive tanoak sprouting in Seen and Seldom Seen Areas: Cutting the hardwood low to the ground will increase the amount and vigor of tanoak sprouts. Therefore high stump tanoak selected for cutting that is >3 inch diameter. Avoid cutting tanoak where sprouting would add significantly to the future fuel ladders and follow up maintenance will be difficult. Decrease the percentage of T.O cut and increase the percentage of Madrone and Canyon Live Oak in these areas.		

Vegetation Condition Classes (3,7,8) General Px for DF/Tanoak and Tanoak/ DF Plant Series		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Unit	Land Allocation/ Soil Type
	shrubs away from leave trees for a radius of 15'-25', except for reserved species and berry producing whiteleaf and greenleaf manzanita with crowns greater than 6 feet diameter. All trees 12"+DBH (depends on alternative chosen) are reserved from cutting. Conifer leave tree species: SP - sugar pine, JP - Jeffrey pine, PP - ponderosa pine, DF - Douglas-fir, IC - incense-cedar, TF - true fir (*Abies*) of any species. **Seldom Seen Area:** Thin conifers and hardwoods to a 1 1/2x crown radius spacing (=/- 25%), with a leave tree species preference of SP, DF, JP, PP, IC, TF, liveoak, tanoak, chinkapin, madrone. Trees with the largest and best-formed crowns will generally be selected as leave trees, the largest crown being utilized to determine spacing. Brushing - cut shrubs away from leave trees for a radius of 15'-25', except for reserved species and berry producing whiteleaf and greenleaf manzanita with crowns greater than 6 feet diameter. All trees 12"+DBH (depends on alternative chosen) are reserved from cutting. Conifer leave tree species: SP - sugar pine, JP - Jeffrey pine, DF - Douglas-fir, IC - incense-cedar, TF - true fir (*Abies*) of any species, PP - ponderosa pine. **Tanoak sprouts: Cut so that the two most dominate sprouts remain.**			
Leave/Retain				
Snags	Leave Stage 1 snags in the interior of homogeneous conifer stands where snags are not prevalent. Buffer snags 17 inches DBH & greater from damage by leaving all green trees for a radius equal to the height of the snag. In areas where pockets of Stage 1 snags are found (adjacent to shrublands & woodlands), leave all snags that do not pose a safety hazard. Consider leaving trees with Fomes pini that have healthy crowns.			
CWD	**Add PDF from E.A.**			
Future Treatments	Maintenance brushing, thinning, burning would occur with a return interval of 3-5 years based on review using BLM Visual Contrast Rating and Vegetation/fuel decision matrix. Over all units leave scattered unthinned patches 1/10th to 1/4 acre in			

Vegetation Condition Classes (3,7,8) **General Px for** DF/Tanoak and Tanoak/ DF Plant Series		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Unit	Land Allocation/ Soil Type
	size to buffer sensitive plants, visual screening, sensitive soils, active nests, etc.			
Expected Outcomes	The understory and overstory canopy reduction treatments will cause the necessary disturbance to provide individual tree growing space and for stand differentiation to continue. Crown ratios throughout the stand will be increased over time. Stand density will be reduced to levels that reduce competition between trees. Consequently, growth rates will increase. Tree vigor and resiliency to insect and disease attack will be enhanced as competition is decreased.			

Vegetation / Fuels Treatment Prescription - White Oak Plant Series

Vegetation Condition Class (1,2,3) includes pine-oak, oak-savanna, and woodland habitat **White Oak Plant Series**		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Un it	Land Allocation/ Soil Type
Stand Description Objectives	Interspersed throughout the length of the Hellgate Recreation Area are areas characterized by an open canopy of deciduous oaks and grasses. These areas have shallower soils, and therefore, they are drier sites than the surrounding mixed evergreen forests. White oak dominates with black oak along transition zones between the woodlands and forest. Plant associations are either white oak/Douglas-fir-poison oak on wetter sites, where more tree species diversity exists, or white oak/hedgehog dogtail grass on drier sites where only white oak is in the overstory. Grasses found in these oak woodlands tend to be non-native due to heavy human influences in the vicinity. Woodlands contain a variety of plant species from grass to trees species. Because of fire suppression, conifer and shrub species have encroached upon the woodlands and have reduced the abundance of native grass species in the understory. Reproduction and vigor of the hardwoods (especially oak species) has also declined. Native grass species have also decreased in abundance. **Goals** Utilize the VRM 1 project guidelines for understory and overstory percent disturbance outlined in description of alternatives. The main objectives are to create hardwood/native grass plant communities, enhance the vigor and quality of the hardwood stands so that acorn crops can be produced, stimulate reproduction (via the coppice method), and introduce younger age classes into the stands. Douglas-fir and shrub species should be reduced in abundance. Natural grass species should increase in number and abundance. Noxious weeds should be managed to acceptable levels Maintain flexible parameters with adjacent land owners with a combination of approaches that can be applied to each situation. They may choose a moderate or more extensive approach. **Reduce surface fuel hazard within the Defense Zone, Threat Zone and General Forest using on and offsite disposal of slashed material. Minimize return intervals and cost to reduce fuel hazard build up within 5-10 year treatment spectrum.**			
Side Boards/ Unique Features	Adjustments to meet VRM 1 ??? *Screening, phased treatment intervals, irregular spacing pattern….* Botany Plants *plants that live in Pine crowns, in Oak Habitat, in the Upper Crust….* Osprey, Bald Eagle Nests, Migratory birds…….	Apply PDF found in E.A.	Apply PDF to known areas	

Vegetation Condition Class (1,2,3) includes pine-oak, oak-savanna, and woodland habitat **White Oak Plant Series**		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Un it	Land Allocation/ Soil Type
Insects/ Diseases	GIS Disease Flight Coverage			
Silv Aproach	Selective understory thinning.			
Fuels Reduction Treatments	**Description of vegetation to thin or treat.** **3/22/03 Size of material thinned will depend on alternative chosen.** Thin (7.5 inches DBH & >) Douglas-fir in the interior of the woodlands (except when there are no pine or cedar of this size class). Douglas-fir seedlings through pole timber, and shrub species (especially whiteleaf manzanita) should be cut or removed from the stand. Excess pole through sawtimber size pine trees should be thinned or girdled so stocking levels are 1 to 4 trees/acre. Thin hardwood trees that have been suppressed for long periods of time with crowns < or = 20%. Cut all vegetation from around only oak stumps for a radius of 25-feet to enable the stump sprouts to grow. Cut all vegetation from around designated leave trees for a radius of 15 to 40 feet. Control noxious weeds only by creating the burn piles on top of the weeds. All large diameter conifer trees (wolf trees > 20" DBH) and hardwoods 12" DBH & > should be left. 1 to 2 trees/acre of pole through sawtimber size pine, incense cedar, or DF trees may remain. **Description of vegetation to leave/retain.** Leave a total of 16 to 35 trees/acre with the best live crown ratios (30% or >; 1 to 2 of these trees being conifers if available). Leave all pine, cedar, and oak species seedlings and saplings. Leave the old remnant DF. Introduce oak stump sprouts by coppice methods (Mark suppressed and intermediate crown class trees to stimulate the sprouting of dormant or adventitious buds from the cut tree stumps). This method will be used to introduce another age class into the present stands. Retain oak trees greater than or equal to eight inches DBH. Leave tall, old manzanita shrubs (prune lower, ladder fuel branches if necessary) that produce large berry crops (No more than 6/acre). Wedgeleaf ceanothus and whiteleaf manzanita clumps 10 feet in diameter may also remain but the edges of the clumps should be spaced at 15 to 25 feet between clumps. Leave native grasses and forbs, and all shrubs < 1 foot in height. Leave a 1/2-acre untreated area in every unit.			

Vegetation Condition Class (1,2,3) includes pine-oak, oak-savanna, and woodland habitat **White Oak Plant Series**		Adjustments To Px Specific To		
		Plant Association	Neighborhood or O.I. Un it	Land Allocation/ Soil Type
	Fuels Reduction Methods Where available, slash treatment would be mechanical chipping, slash buster or offsite disposal. UB - Underburn, mosaic underburn under reserved overstory. HP - Hand pile slash 1"-8" x 2', cover, and burn piles.			
Snags	Leave Stage 1 snags in the interior of homogeneous conifer stands where snags are not prevalent. Buffer snags 17 inches DBH & greater from damage by leaving all green trees for a radius equal to the height of the snag. In areas where pockets of Stage 1 snags are found (adjacent to shrublands & woodlands), leave all snags that do not pose a safety hazard. Consider leaving trees with Fomes pini that have healthy crowns.			
CWD	**Add PDF from E.A.**			
Future Treatments	Maintenance brushing, thinning, burning would occur with a return interval of 3-5 years based on review using BLM Visual Contrast Rating and Vegetation/fuel decision matrix. Seen areas may require more entries than seldom seen areas due to the amount of visual disturbance allowed in any one entry to the understory and the overstory.			
Expected Outcomes	The woodland and pine-oak savanna areas are currently overly dense, competing for resources, resulting in a changed structure of the pine-oak, oak-savanna, and woodland habitat. The potential for catastrophic fires is increased due to fuel ladders. The proposed action should reduce competition from invading species and reverse the decline of pine and oak species, return them to proper structure, and protect them from catastrophic fire. Thinning of the oaks would promote growth and development of large, full-crowned oak trees producing greater amounts of acorns. Retaining all oaks greater than eight DBH will perpetuate the existing mo saic shading pattern that should benefit native grasses and discourage shrub release.			

VRM – BACKGROUND REPORT
Lee Anderson, Landscape Architect – April 17, 2003

3.3.1A.1 VISUAL RESOURCE MANAGEMENT (VRM) AFFECTED ENVIRONMENT

Map citation: VRM Map, showing Seen/Seldom Seen Areas, Focal Point Sensitivity and Recreation Sites. (see Maps 4 & 5)

The Fuels Pilot Project is situated in the congressionally designated Hellgate Recreational Section of the Rogue National Wild and Scenic River and is managed for VRM Class I. The BLM Manual indicates that the objective of VRM Class I management *"is to preserve the existing character of the landscape. This class provides for natural, ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and should not attract attention."* The existing character to be preserved may be rural, agricultural, recreational, or even urban. It does not necessarily mean preservation of a naturalistic or wilderness landscape character. The historic and present day character of the Rogue National Wild and Scenic River landscape is described below.

Currently, the Hellgate Recreational Section has numerous paved, two-lane roads, more than 180-private residences, farms and orchards, and numerous recreation facilities such as campgrounds, picnic areas and boat landings.

Andersons Mine - 1900s - Rogue River, Oregon
from Josephine County Historical Society

Historically, this section of the Rogue River was extensively modified by mining and logging. Forest vegetation was widely spaced, with very little brush. In addition to human activities, such as logging and mining that disturbed forest vegetation, wind storms, fires and insect infestations thinned the forest vegetation, creating an open, park-like appearance along the Rogue River.

Approximately 90-years of fire exclusion have altered the landscape, as compared to natural, ecological changes that would have occurred if wildfires and repetitive underburning would have continued. The existing characteristic landscape is not ecologically sustainable and additionally, it poses a severe fire threat. A comparison of historic and recent photographs shows the difference in vegetation densities, and the differences in natural vegetative patterns of open, park-like stands, compared to dense, jungle-like forests with existing wildland fuel conditions.

The characteristic landscape is a rich diversity of scenic elements. The character of the landscape is a mosaic of colors, textures, lines and forms, created by the diversity of mountainous terrain, mixed conifer and hardwood vegetation, punctuated by serpentine and basalt rock outcrops. Waterforms include numerous small streams feeding into the Rogue River, which twists its way through dark gray basalt rock cliffs and along tan and gray gravel- and sand-bars. Light- and medium-green hardwoods of white oak, tan oak and madrone grow in patches, intermixed with stands of dark-green conifers, such as Douglas-fir, ponderosa pine and sugar pine. Light green brushfields with buckbrush, poison oak, live oak and chinquapin oak are scattered in patches across the steep topography. Closer to the river and along mountain streams, riparian vegetation is predominantly green blackberries, poison oak and gray-green willows, with scattered occurrences of native Pacific dogwood and orchard trees, adding seasonal color of white and pink flowers in spring.

Recreationists view the corridor from numerous recreation sites, the river surface, sand- and gravel-bars and paved roads. The Merlin-Galice Road, a part of the Galice-Hellgate National Back Country Byway, parallels the river in the Dunn Reach and is the primary public access to Josephine County and BLM lands. There are a number of developed and primitive camp areas and day-use sites, plus numerous trails and boat landings.

Distance zones of visibility for the entire study area are foreground/middleground. Foreground/middleground is the area that can be seen from each travel route, use area and the river for a distance of 3 to 5 miles, based on topographic screening. Because the Rogue River is incised in steep mountainous terrain with axial views both upriver and downriver, all of the study area is located within the foreground/middleground distance zone as viewed from the River and from nearby roads.

Within the 8,657-acre study area, approximately 83% is mapped as “seen areas” and 17% is mapped as “seldom seen areas.” Seen areas/seldom seen areas were delineated based upon topographic screening, not vegetative screening, because the opacity/transparency of vegetation, and therefore its screening ability, can change due to human activities such

as fuels treatment or timber harvesting, or due to natural occurrences such as wildfire, insect infestation or wind-storm damage. See Figure ***xxx***.

Because of distinctions in recreational use and opportunities, the 27-mile Hellgate Recreational stretch of the Rogue National Wild and Scenic River is divided into two reaches – the Applegate Reach and the Dunn Reach (RAMP-2003).

Applegate Reach

In the Applegate Reach (12.8 miles), the river has a gradient of about 7 feet per mile and the channel averages approximately 400 feet wide. It is essentially flat to rolling terrain with the river meandering through an alluvial plain. There are scattered groves of cottonwood trees with light brown trunks, plus willow, ash and alder trees with dark gray and light gray tree trunks. Lush green willows and blackberries line the riverbanks and streams, creating a soft visual texture of deciduous vegetation reflected on smooth, flat waters of the Rogue. The surrounded landscape consists primarily of even-textured, tan and green agricultural fields on the floodplains, with a backdrop of mixed conifer (Douglas-fir, ponderosa pine, sugar pine) forests on rolling hills, creating partial enclosure of the view.

Visual Landforms

The serpentine river has created meanders, oxbows and large floodplains in the flatter terrain. It is incised in riverbanks that are 10' to 15' high on each side of the river, creating topographic screening for the relatively flat landforms above the river. Foothills and mountains create containment beyond these flats. Slopes are predominantly from 0% to 30%, with pitches from 31% to 50%, and scattered occurrences of rock cliffs with slopes as steep as 200%.

Visual Rockforms

Rockforms are primarily river cobble, ranging in size from a few inches to a few feet in diameter. Riverine cobble has been deposited in river bends and along sand- and gravel-bars. In a few areas, riffles are created by underwater boulders that protrude from the river's surface.

Rogue River - Glass Plate Photo - 1800s
From Josephine County Historical Society

Historic Vegetation

Scattered cottonwood, willow, pine and alder trees lined the banks. Agricultural fields created a smooth texture of light brown, tilled soil in winter and verdant fields of crops in the summer. Middleground and background mountains had sparse tree cover, remnants of logging.

Present-Day Vegetation

As compared to historic landscapes, vegetation is denser and riverine trees are larger and taller. Vegetation remains growing in dense groves that line the banks. Beyond the riverbank, agricultural fields are visually the same as historic vegetation in the area. Middleground and background mountains are more densely covered with conifers, hardwoods and brushfields.

Further downriver, approaching Hog Creek, the terrain becomes steeper and more angular. Light green woodlands of cottonwood, ash and alder transition into darker green conifer forests, with their medium to coarse texture of vegetation. The river has more turbulent waterforms, with large boulders protruding from the river, and with cobbles and boulders becoming more common at large sand- and gravel-bars.

Dunn Reach

Entering the Dunn Reach, the Rogue has carved its way through a narrow canyon called Hellgate, with near-vertical, dark gray basalt bluffs almost completely devoid of vegetation. The horizontal form of the river contrasts with the near-vertical bluffs that contain the twisting, narrow, tumultuous Rogue River. Hellgate, with its vertical relief and complete enclosure of the view, creates a dramatic portal as people raft or boat from the Applegate to the Dunn Reach.

Below Hellgate, the landscape opens up to long vistas of dense forests on steep, rugged mountain slopes in the middleground and background. In the Dunn Reach (14.5 miles), the river is steeper and faster. It has a gradient of approximately 10 feet per mile and narrows to approximately 200 feet in width, creating more white-water rapids. The forest vegetative character augments steep terrain to provide a vertical edge and spatial enclosure at the river. Concentrated areas of hardwoods (tan oak, white oak, and madrone) with adjacent dense conifer stands (Douglas-fir, ponderosa pine, sugar pine) and contrasting barren serpentine rock outcrops create an interesting, scenic mosaic of forms, lines, colors and textures. Soft textures and rounded lines of gray-green tan oak/live oak hardwood forests, next to coarse textured, dark green Douglas-fir/mixed evergreen forests, create visual diversity and interest. The occasional intrusions of serpentine rocks and soils in the lush forested landscape create a contrast of smooth and coarse textures. Waterforms are a series of flat-water pools punctuated by whitewater rapids, with numerous large gray boulders protruding from the river and lining the banks.

Visual Landforms

The serpentine river has carved a circuitous, twisting route through the steep, mountainous terrain. Slopes are predominantly from 51% to 200%, with small, scattered occurrences of 31 to 50% slopes. Along the river, there are small, scattered flats with deposits at sand- and gravel-bars, and benches with slopes ranging from 0% to 30%. These flats and benches form visual relief from the steep mountainsides and cliffs that visually dominate and contain the view.

Visual Rockform

In-river rockforms typically are large boulders that jut up out of the river, creating whitewater rapids and spectacular scenic quality. Other rockforms include gravel-bars, basalt boulders and cliffs along the river, plus large outcrops of bare serpentine rock outcrops on mountain slopes.

Pre-Historic Vegetation

Vegetation used to be more open, with park-like stands of trees that were created by frequent under-burning by Native Americans. As hunter-gatherers, native peoples knew that forests cleared with fire made it easier to traverse, hunt and gather. *"Takelma Indians in Oregon set fires in the mountain forests around the Rogue River to facilitate the driving of game." "Wherever Indians gathered acorns, especially in California and Oregon, they cleared with fire. This kept oak woodlands open and productive." "Indians who lived in the coastal mountains sometimes set their fires before gathering the acorns to roast them where they lay." "The trees [tanoak] are better if they are scorched by fire each year because burning kills disease and pests and it leaves the ground underneath the trees bare and clean and it is easier to pick up the acorns." (Bonnicksen, 2000. "America's Ancient Forests: From the Ice Age to the Age of Discovery," John Wiley & Sons.)*

Historic Vegetation

Subsequent to that era, gold mining, logging, human-caused and lightning-ignited fires have continued to alter vegetation patterns. Additionally, "the Columbus Day gale of 1962 produced wind velocities that had not been experienced in Josephine County since half of the marketable timber was blown down in 1892." (*Sutton, "110 Years With Josephine County, The History of Josephine County – 1856 to 1966"*).

Old Channel Mine, Galice Oregon - 1900s
From Josephine County Historical Society

Historic photos show that vegetation, both trees and shrubs, were widely scattered, giving an open, park-like feeling to the forest. Therefore, the ability to see through the forest, its transparency, was greater historically and when Congress designated the Rogue as a Wild and Scenic River in 1968. (This photograph, taken in Montana in 1909, may resemble the landscapes of the Rogue River in historic times.) *(Smith & Arno. 1999. "Eighty-Eight Years of Change in a Managed Ponderosa Pine Forest.")*

This photo of old mining claim buildings, located at the present-day site of the Chair Recreation Site, shows more widely spaced vegetation in the forest and along the river.

Present Day Vegetation

Crowded, overgrown vegetation provides dense visual screening and the forest is very opaque. Forests of thick vegetation, dark green, mixed conifer trees and thick groves of gray-green hardwood trees and brush, completely cover the mountainsides, except at scattered serpentine outcrops and steep basalt bluffs. The forested mountainsides and decades of fire exclusion have created unnaturally dense forests. The dense growth of trees and shrubs has limited visibility through the forest, creating a jungle-like appearance of black and gray tree trunks, dark green tree canopies, low branches, fallen trees, thick brush and forest litter on the ground. Therefore, the forest is less transparent now (2003) than it was when Congress designated the Rogue as a Wild and Scenic River (1968), and much less transparent than historic landscapes.

"Osborne" Photos

Following are excerpts from *"Steve Peak: 1933 and 1995 – What Has Fire Suppression Done?" Between 1933 and 1935, the Forest Service took 813 "Osborne" photographs from fire lookouts across Washington and Oregon. The Osborne, named after designer W. B. Osborne, was a combination transit and camera, able to take 360-degree photos – photos providing full-circle views. Currently, a project is underway to take photos from the same sites from which the original Osbornes were taken. When these retakes are compared to the originals, change in the landscape from the mid-1930s to the present will become more apparent. Vince Randall is working on the Osborne retakes for the Siskiyou National Forest and BLM. Randall feels that major impacts on forests have not come primarily from high-profile activity such as road-building and clearcuts, but rather "have come subtly through fire exclusion." This has allowed the proliferation of an*

understory so dense and conifer overstocking so pronounced, that "You can't get off the trail today. Randall also feels that the Osborne retakes show an expanding forest. Where fire has been kept out of the system, the forest has expanded. Along ridges previously open, forests now spread. Through it all – settlement, management, fire exclusion – Randall sees a forest of pronounced vigor." McKinley & Frank, 1996. "Stories on the Land: An Environmental History of the Applegate and Upper Illinois Valleys." Joint BLM & FS publication.

Insert 1933 Osborne here

Insert 1995 Randall retake here

Public Preferences for Visual Resources

Research results indicate the public prefers "managed" or "fuel treated" landscapes to untreated landscape or intensely burned landscapes *(Scott, 1998. Fuel Reduction in Residential and Scenic Forests: a Comparison of Three Treatments in a Western Montana Ponderosa Pine Stand."*

"Fire damage to forest stands immediately reduces the scenic beauty of the area, the magnitude of the impact depending on the severity of the fire and the level and timing of recovery. Prescribed burns were found to negatively impact scenic beauty in the short-term, but with ground vegetation recovery, prescribed burns can enhance scenic beauty after a few years. This is primarily due to the elimination of slash after harvest or increasing visual penetration through reducing understory density. More severe prescribed burns may decrease scenic beauty, since they may leave visible scars." (Rosenberger, 1998. "Assessing Forest Scenic Beauty Impacts of Insects and Management." USDA FS.)

3.3.1A.2 VISUAL ENVIRONMENTAL CONSEQUENCES

Visual Effects Common to All Alternatives

All proposed activities would be designed, planned, implemented and monitored to protect and enhance the natural scenic quality (an outstandingly remarkable value, or ORV) and character of the landscape within the Hellgate Recreational Section of the Rogue National Wild and Scenic River, and are designed to meet VRM Class I objectives.

Effects Common to All Action Alternatives

Landform – No change.
Rockform – No change.
Waterform – No change.

Vegetation

- Vegetative screening of structures, per BLM scenic easements and State Scenic Waterways Act requirements and objectives, would be safeguarded to protect, restore, or enhance the scenic view of the landscape as seen from upon or directly adjacent to the river or the backcountry byway,.
- Re-creation of open, park-like stands of trees would increase forest transparency, reduce forest opacity, move toward a similarity to historic landscape conditions and restore natural scenic quality (ORV).
- In seen areas, percentage limitations on crown canopy changes would limit effects on natural scenic quality (ORV) so that the level of change to the characteristic landscape would be very low and would not attract attention.
- Phased treatments and multiple entries with minimal crown canopy changes during each entry, spaced approximately two- to three-years apart in seen areas, would gradually create open, park-like stand of trees. This would gradually decrease forest opacity and increase forest transparency. Color contrasts created in one phase would be greened-up before another phase, so minimal visual contrast would be created during any phase.
- The fifty-foot (50') strip of vegetation left untouched next to the Rogue River and along certain recreation roads – the Merlin-Galice Road, Robertson Bridge Road and Lower River Road – would help visually screen ground disturbance activities.
- Directional falling of trees would lessen damage to the remaining trees and shrubs (residual stand), and thereby, reduce visual impacts.
- In seldom seen areas, fuel treatment activities would not be visible, and therefore, would have no short term or long term visual effect.
- Project design features (PDFs) for other resources aid visual resources, e.g., un-entered patches of 1/10th- to 3-acres would be scattered throughout the project area to maintain diversity and for wildlife habitat. Dense thickets of trees would be thinned to density levels that would improve stand growth and individual tree vigor. Larger hardwoods and scattered large conifer trees would be reserved for the future large-stand growth component. Stream buffers and sensitive plant zones would remain

untouched. These PDFs would create a natural mosaic of visual diversity and have a positive effect on natural scenic quality (ORV).

Summary of Effects That Would Vary By Alternative

Vegetation – Vegetative response would change by alternative.

Under Alternative 1, No Action, vegetation would not be changed, altered or managed, and the existing character of the landscape and the over-stocked vegetation density of the forest would remain. Visibility through the forest would continue to be limited by the dense vegetation, and opacity of the forest would continue to be dark and dense. There would be no change to the characteristic landscape.

Under Alternative 1, No Action with Fire, visual resource characteristics (form, line, color, and texture) of existing vegetative character could change dramatically, depending on fire location, intensity, timing and suppression/containment response. The level of change to the characteristic landscape could be very low and not attract attention, or it could be very high and attract much attention, depending on fire characteristics.

Under Alternative 2, crown canopy vegetation would not be altered noticeably. Overall visual effects of ground-cover disturbance would be slightly noticeable in the short term, 1- to 2-years, and negligible in the long term. Overall landscape character would not change dramatically, and existing vegetation would remain with medium-coarse textures. The level of change to the characteristic landscape would be very low and would not attract attention.

Under Alternative 3, crown canopy vegetation would be altered slightly, creating coarser textures and more open canopies in the Defense Zone and Threat Zone. Overall visual effects of ground-cover disturbance would be similar to Alternative 2. Re-creation of open, park-like stands of trees would increase forest transparency, similar to historic landscapes. The level of change to the characteristic landscape would be low and would not attract attention.

Under Alternative 4, crown canopy vegetation would be most altered of any alternative, creating coarser visual textures with more spacing between tree crowns. Removal of large trees in the areas closest to human occupancy (CARs, WUI and Defense Zones) would have the greatest potential impacts to visual resources. Overall visual effects of ground-cover disturbance would be similar to Alternatives 2 and 3. Re-creation of open, park-like stands of trees would increase forest transparency, similar to historic landscapes. The level of change to the characteristic landscape in the Defense Zone could be moderate and could potentially attract attention. The level of change to the characteristic landscape in the Threat Zone and General Forest Zone would be low and would not attract attention.

Detailed Description of Effects That Would Vary By Alternative

No Action Alternative

Vegetation

Under Alternative 1, No Action, vegetation would not be changed, and the existing scenic character and over-stocked vegetation density of the forest would remain. Under the No Action Alternative, natural vegetative succession would continue and the existing scenic characteristics would remain relatively unchanged. Continuation of the current "hands-off" approach to all vegetation manipulation in the river corridor would result in continued tree mortality and build-up of dead standing trees, dead and down woody material, high accumulations of fuels – brush, low-limbed trees and dense tree canopies. Visibility through the forest would continue to be limited by the dense vegetation, and opacity of the forest would continue to be dark and dense.

The Applegate Reach. The existing scenic characteristics of vegetation would remain unchanged.

The Dunn Reach. The existing scenic characteristics of vegetation would remain unchanged.

No Action Alternative with A Wildfire

Under Alternative 1, No Action with Fire, visual resource characteristics (form, line, color, and texture) of existing vegetative character could change dramatically, depending on fire location, intensity, timing and suppression/containment response. The least scenic effect would be a small, low-intensity fire that was contained quickly. Under this scenario, the fire would leave patches of blackened, standing dead trees, plus orange/red scorched and dead vegetation among a forest of living, green trees and shrubs. The remainder of vegetation in the WSR corridor would remain. Conversely, the greatest scenic effect would be a very large fire, similar to the 2002 Biscuit Fire, where large areas would be consumed, leaving blackened standing trees, and blackened mountainsides of consumed trees and brush, with some patches of unburned green vegetation.

The Applegate Reach. Under Alternative 1, No Action with Fire, only the scenic quality of vegetation would change. The overall form, line, color and texture of vegetation could change dramatically after a large wildfire. In the short term, if a wildfire were to occur in agricultural areas, with their pastures, fences, fields and meadows, the vegetative colors of greens with a mixture of tans would change to black and browns. However, because this is predominantly an agricultural area, the colors of fields and pastures would return to their original hues in the short term, within one to two years. The smooth, uniform texture of the landscape would not change in the long term. However, in nearby woodlands and forests a large wildfire would cause changes in color from greens, grays and tans to blacks and browns, plus red/orange scorched trees. Visual texture of trees and

shrubs would change from coarse to smooth. Overall, there would be minor to moderate changes to the natural scenic quality of the upper Applegate Reach after a large wildfire, depending on fire location and intensity.

If a large wildfire were to occur further down river in the Applegate Reach, removal of vegetation and vegetative screening would create changes in the short and long term. The rounded hills, which have green, coarse textured vegetative character of conifer species, would change to blackened, smooth textured hills with stark vertical, black lines and more contrasting forms of blackened, burnt trees standing on barren hillsides. The changes in form, line, color and texture would be obvious in the short and long term, lasting up to 20- or 25-years. The variety of visual hues, such as dark greens and browns would dramatically change to blacks, grays, orange/reds and whites. In addition, landscape character would drastically change from medium-coarse texture to smooth textured mountainsides with sparse or no vegetation. This change would create a long-term, adverse visual impact to the overall scenic quality of the landscape.

The Dunn Reach. Under Alternative 1 with Fire, only the scenic quality of vegetation would change. Visual effects would be similar to those described above for the lower Applegate Reach. Because of the thick vegetation on steeper slopes with longer axial views in the Dunn Reach, if a large wildfire were to occur, it would leave dramatic changes in the scenic character of the landscape. The variety of rich forest colors in this reach, such as dark- and light-greens, blacks and grays, would in the short-term, change to black, gray, red/orange and white. In the long-term, colors would eventually revert back to greens, blacks and grays within 20- to 25-years. However, forms, lines and textures of the existing dense forested landscape would not return to existing conditions for many decades.

Alternative 2 Fuel Treatment Scenario

The Applegate Reach. In the seen areas, overall form, line, color and texture of vegetation would change slightly under Alternative 2, with removal of some vegetation up to 8" DBH. Because this size of trunk is predominantly understory, there would be minimal alteration to the canopy vegetation that is visible as foreground/middleground from the Rogue River, the Merlin/Galice Road or from numerous recreation sites along the river. If Slashbuster work were to occur in the seen areas, the vegetative colors of greens and tans would change to orange/reds, tans and browns in the short term because wood chips would cover some of the land. If pile and burn or broadcast burn activities were to occur, vegetative colors would change in the short term from greens and tans to gray and brown with spots of black. However, natural colors would return quickly within one- to two-years because of the green-up effect in this agricultural area. The smooth, uniform colors and textures of the landscape would not change in the long term, with very minor changes to the natural scenic quality.

Under Alternative 2, further down river in the Applegate Reach and in seen areas, the crown canopy of existing conifer and hardwood forests would be opened only slightly,

because the 8" size class is predominantly understory trees and shrubs. This very slight reduction in canopy closure would slightly increase the coarse texture of forested slopes. Forest canopy would remain opaque, and the 50' screening of vegetation next to the river and roads, plus crown canopies further uphill would almost completely screen ground disturbances. Fuels treatment on-the-ground, covering up to 50% of the seen area, would create slight color contrasts in the short term, changing from the existing dark greens, grays and browns to tans, orange/reds, blacks and grays, caused by a variety of fuel treatment activities. If burn piles or pits remained visible and noticeable after burning, these would be scattered or raked over, lessening the visual effect. Additionally, after one- or two-years of vegetation re-sprout and green-up, plus weathering of wood chips or burned material, landscape colors and textures would return to near-original condition and landscape character. Creation of open, park-like stands of trees would increase forest transparency, moving toward a similarity to historic landscape conditions.

Approximately two- to three-years after the first treatment, crown canopies in seen areas would be re-treated to further reduce canopy closure by another 15%. Forest opacity would be reduced and transparency of the forest canopy would be increased. However, color contrast created in phase one would be greened-up before the second entry, so very little visual contrast would be created by the second entry. From a visual resource management standpoint, the overall goal of these phased entries in the seen areas, with minimal crown disturbance each phase, is to lessen the overall scenic impact by utilizing multiple entries with minimal crown canopy treatments during each entry. Further reduction in scenic impact would occur because on-the-ground activities in Phase 2 would probably not include Slashbuster activity, but would more likely be a variety of under-burning treatments. Creation of open, park-like stands of trees would increase forest transparency, moving toward a similarity to historic landscapes.

In seldom seen areas, fuel treatment activities would not be visible, and therefore would have no short term or long term visual effect.

Under Alternative 2, overall landscape character would not dramatically change, and existing vegetation would remain at medium-coarse textures. Implementation of Alternative 2 would not create an adverse impact to the overall scenic quality or landscape character in the Applegate Reach.

The Dunn Reach. Under Alternative 2, there would be changes to the natural scenic quality of vegetation in the short or long term. The vegetative character, which provides vertical lines, angular forms and coarse visual textures, would change slightly under Alternative 2. In seen areas, the crown canopy of existing conifer and hardwood forests would be opened slightly by removing understory trees. This reduction in canopy closure would slightly increase the coarse texture of forested slopes. In general, 50' screening of vegetation next to the river and roads, plus tree boles and crown canopies would screen ground disturbances. Fuels treatment on-the-ground would create slight color contrasts in the short term, with similar visual effects as those described above. After 1 or 2 years of vegetation re-sprout, green-up and weathering of wood chips or burned material,

landscape colors would return to near-original condition. Phased entries, with similar effects to those described above, would occur.

In seldom seen areas, fuel treatment activities would not be visible, and therefore would have no short term or long term visual effect.

Overall, landscape character would not dramatically change, and existing vegetation would remain at medium-coarse textures. Implementation of Alternative 2 would not create adverse impacts to the overall scenic quality or landscape character in the Dunn Reach.

Alternative 3 – Fuel Treatment Scenario

The Applegate Reach. Under Alternative 3, the natural scenic quality of landforms, rockforms and waterforms would not change in the Applegate Reach in the short or long term. In the upper portion of the Applegate Reach, visual effects would be identical to Alternative 2.
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Further down river in the Applegate Reach, and in the seen areas, overall form, line, color and texture of vegetation would be affected, similar to Alternative 2, except that up to 20% of the existing crown canopy would be removed, thereby creating more coarse visual texture. The forest would be slightly more transparent than in Alternative 2, and more transparent than existing conditions, but in general, the 50' screening of vegetation next to the river and roads, plus tree boles and crown canopies further uphill would screen some ground disturbances. Fuels treatment on-the-ground would create color contrasts in the short term, similar to Alternative 2, changing from the existing dark greens, grays and browns to tans, reds, blacks and grays, caused by a variety of fuel treatment activities. However, after 1- or 2-years of vegetation re-sprout, green-up and weathering of wood chips or burned material, landscape colors would return to natural greens and browns. Under Alternative 3, phased treatments of the canopy would occur approximately two years apart. Each phase would treat up to 20% of the existing crown canopy in seen areas, creating open, park-like stands of trees with greater visibility (transparency) through the forest, and reducing the existing jungle-like appearance. Creation of open, park-like stands of trees would increase forest transparency, moving toward a similarity to historic landscapes.

In seldom seen areas, fuel treatment activities would not be visible, and therefore would have no short term or long term visual effect.

Overall landscape character would not dramatically change, and existing vegetation would remain at medium-coarse textures. Implementation of Alternative 3 would not create an adverse impact to the overall scenic quality or landscape character in the Applegate Reach.

The Dunn Reach. Under Alternative 3, the vegetative character, which provides vertical lines, angular forms and coarse textures, would change slightly. In seen areas, the crown canopy of existing conifer and hardwood forests would be opened slightly, up to 20% more canopy opening than existing. This reduction in canopy closure would slightly increase the coarse texture of forested slopes and would create more open, park-like stands of trees. Additionally, the forest canopy would be slightly more transparent, but in general, tree boles and crown canopies would screen ground disturbances. Fuels treatment on-the-ground would create color contrasts in the short term, changing from the existing dark greens, grays and browns to tans, reds, blacks and grays, caused by a variety of fuel treatment activities. If burn piles or pits remained visible and noticeable after burning, these would be scattered or raked over. After 1- or 2-years of vegetation re-sprout, green-up and weathering of wood chips or burned material, landscape colors would return to near-original condition.

In seldom seen areas, fuel treatment activities would not be visible, and therefore would have no short term or long term visual effect.

Overall, landscape character would not dramatically change, and existing vegetation would remain at medium-coarse textures. Implementation of Alternative 3 would not create an adverse impact to the overall scenic quality or landscape character. Creation of open, park-like stands of trees would increase forest transparency, moving toward a similarity to historic landscapes.

Alternative 4 – Fuel Treatment Scenario

The Applegate Reach. Under Alternative 4 in the upper portion of the Applegate reach, visual effects would be identical to Alternatives 2 and 3.

Further down river in the Applegate Reach and in the seen areas, overall form, line, color and texture of vegetation would be affected, similar to Alternative 3, except that up to 20% of the existing crown canopy trees would be removed in the Defense Zone, thereby creating a more coarse and open visual texture. Potentially, branches and crowns of leave-trees could be damaged due to felling trees up to 21" DBH. PDFs are designed to minimize these visual effects of felling larger trees. Under Alternative 4, vegetation would be more transparent than under Alternative 3, and much more transparent than under Alternatives 1 or 2. In most Defense Zone areas, remaining tree boles and crown canopies would only partially screen ground disturbances. Fuels treatment on-the-ground would create moderate color contrasts in the short term, changing from the existing dark greens, grays and browns to tans, orange/reds, blacks and grays, caused by a variety of fuel treatment activities. If burn piles or pits remained visible and noticeable after burning, these would be scattered or raked over. After 1- or 2-years of vegetation re-sprout, green-up and weathering of wood chips or burned material, landscape colors would return to green, natural appearing condition.

In the Threat Zone, vegetation treatment would create moderate color contrasts in the short term, changing from the existing dark greens, grays and browns to tans, reds, blacks and grays, caused by a variety of fuel treatment activities. However, after 1- or 2-years of vegetation re-sprout, green-up and weathering of wood chips or burned material, landscape colors would return to near-original condition. In most Threat Zone areas, tree boles and crown canopies would screen ground disturbances. Under Alternative 4, phased treatments of the canopy would occur approximately two- to three-years apart. Each phase would treat up to 20% of the existing crown canopy in seen areas.

In seldom seen areas, fuel treatment activities would not be visible, and therefore would have no short term or long term visual effect.

Overall landscape character would not change dramatically, and existing vegetation would move from medium-coarse textures to more coarse and open textures. Implementation of Alternative 4 would not create an adverse impact to the overall scenic quality or landscape character in the Applegate Reach. Creation of open, park-like stands of trees would increase forest transparency, moving toward a similarity to historic landscapes.

The Dunn Reach. Under Alternative 4 in the seen areas, overall form, line, color and texture of vegetation would be affected, similar to Alternative 3, except that up to 20% of the existing crown canopy trees would be removed in the Defense Zone, thereby creating the most coarse and open visual texture. Potentially, branches and crowns of leave-trees could be damaged due to felling trees up to 21" DBH. PDFs are designed to minimize these visual effects of felling larger trees. Under Alternative 4, vegetation would be more transparent than under Alternative 3, and much more transparent than under Alternatives 1 or 2. In most Defense Zone areas, remaining tree boles and crown canopies would only partially screen ground disturbances because of the steep slopes and greater visibility. Fuels treatment on-the-ground would create moderate to high color contrasts in the short term, changing from the existing dark greens, grays and browns to tans, reds, blacks and grays, caused by a variety of fuel treatment activities. If burn piles or pits remained visible and noticeable after burning, these would be scattered or raked over. After 1- or 2-years of vegetation re-sprout, green-up and weathering of wood chips or burned material, landscape colors would return to green, natural appearing condition.

In the Threat Zone, vegetation manipulation would create moderate color contrasts in the short term, changing from the existing dark greens, grays and browns to tans, reds, blacks and grays, caused by a variety of fuel treatment activities. However, after 1- or 2-years of vegetation re-sprout, green-up and weathering of wood chips or burned material, landscape colors would return to near-original condition. In most Threat Zone areas, tree boles and crown canopies would screen ground disturbances. Under Alternative 4, phased treatments of the canopy would occur approximately two- to three-years apart. Each phase would treat up to 20% of the existing crown canopy in seen areas.

In seldom seen areas, fuel treatment activities would not be visible, and therefore would have no short- or long-term visual effect.

Overall landscape character would not dramatically change, and existing vegetation would move from medium-coarse textures to more coarse and open textures. Implementation of Alternative 4 would not create an adverse impact to the overall scenic quality or landscape character. Creation of open, park-like stands of trees would increase forest transparency, moving toward a similarity to historic landscapes.

Cumulative Effects

Within the viewshed of the Rogue River, yet outside the WSR boundary, there are several timber sale areas that are visible from the Rogue River, Merlin-Galice Road, Lower River Road, Robertson Bridge Road and various recreation sites in the corridor. Examples are Picket Charge, Maple Syrup and Straton Hog Timber Sales. These timber sales have been designed and planned by the BLM to meet VRM Class II, where visual changes are evident, but do not attract attention. VRM Class II is the appropriate VRM Class outside the Wild and Scenic River Corridor.

The Straton Hog Timber Sale is already logged, and there were no adverse effects to the visual resources. In the center of the photo to the left, a logging helicopter is visible just below the ridgeline, but the harvest unit is not noticeable. Implementation of these other timber sales will be similar, and will not have an adverse cumulative visual impact on the Rogue WSR.

VRM Summary/Conclusions

In all action alternatives, re-creation of open, park-like stands of trees would increase forest transparency, similar to historic landscapes.

In Alternatives 2 and 3, because of the effectiveness of Project Design Features and considering the existing diversity of landscapes within the RNWSR corridor, impacts to visual resources would be minimal. Areas treated would meet VRM Class I objectives, and added to untreated areas that are left for biological and watershed buffers, would add to scenic diversity and natural scenic quality (ORV). Phased implementation in seen areas would further lessen psychological impacts to changes in natural scenic quality (ORV).

In Alternative 4, removal of large trees in the areas closest to human occupancy (CARs, WUI and Defense Zones) would have the greatest potential impacts to visual resources. The level of change to the characteristic landscape in the Defense Zone could be moderate and could potentially attract attention. The level of change to the characteristic landscape in the Threat Zone and General Forest Zone would be low and would not attract attention.

Reference 6841

Biological Assessment
for the
Rogue River Hazardous Fuel Reduction Project
May 13, 2003

I. INTRODUCTION

This biological assessment (BA) analyzes effects of the Rogue River Hazardous Fuel Reduction Project, located in Josephine County, Oregon on the threatened northern spotted owl (*Strix occidentalis caurina*) and the endangered Gentner's fritillary (*Fritillaria gentneri*). The Medford District Office, Bureau of Land Management (BLM) requests concurrence from the U.S. Fish and Wildlife Service (Service) that the Rogue River Hazardous Fuel Reduction Project may affect, but is not likely to adversely affect (NLAA) northern spotted owls or Gentner's fritillary in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (ESA).

The proposed action includes project design features designed to conserve the listed species. The project will have no effect on the bald eagle, (*Haleaeetus leucocephalus*), or marbled murrelet (*Brachyramphus marmoratus*). The project area is outside the range of MacDonald's rockcress (*Arabis mcdonaldiana*), Agate desert-parsley (*Lomatium cookii*), large wooly meadowfoam (*Limnanthes floccosa var. grandiflora*), and vernal pool fairy shrimp (*Branchinecta lynchi*). These species are not discussed further.

This BA addresses the impacts of the proposed Rogue River Hazardous Fuel Reduction Project on northern spotted owls and Gentner's fritillary. The Rogue River was one of eight rivers identified under the National Wild and Scenic Rivers System when the Wild and Scenic Rivers Act was passed in 1968. The Hellgate Recreation Area (HRA) is classified as a recreational river area. A wildlife management plan for the HRA was completed in 1980 (USDI BLM1980). Consultation on bald eagle, northern spotted owl, and marbled murrelet was concluded in 2002 (US Fish and Wildlife Service 2002) for the Recreation Area Management Plan (RAMP) for the Rogue National Wild and Scenic River. Conservation measures developed for the RAMP project are incorporated in this proposed project to reduce effects. No previous consultations have addressed Gentner's fritillary in this area.

II. CONSULTATION HISTORY

The BLM and the Service discussed the proposed project on February 27, 2003 and conservation measures were incorporated to reduce adverse effects. Additional discussions with the Service on March 26, 2003 further clarified conservation measures. The Level 1 team reviewed the potential effects and conservation measures on April 24, 2003 and those recommendations were incorporated into this BA.

III. REGULATORY MEASURES

The Service listed the northern spotted owl as threatened in 1990, and Gentner's fritillary as an

endangered species in 1999 under the authority of the ESA. This designation requires all federal agencies to actively pursue efforts to conserve listed species Section 7 (a)1; and ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or adversely modify its critical habitat Section 7 (a) 2. Critical habitat for the northern spotted owl was designated in1992. Critical habitat for Gentner's fritillary has never been designated.

IV. ACTION AREA

The action area includes the designated river corridor (approximately 1/4 mile on each side of the river) of the Rogue National Wild and Scenic River HRA, which is the 27-mile stretch from the confluence of the Applegate River to Grave Creek. It is the land encompassed by the congressionally designated boundary of the Hellgate Recreation section of the Rogue National Wild and Scenic River (see attached maps). The HRA is approximately 8,657 acres in southwestern Oregon, located within Josephine County, Oregon. Approximately 60 percent (5,091 acres) is federal land managed by the BLM Grants Pass Resource Area, Medford District Office. Both private lands that have BLM scenic easements and BLM managed lands are to be treated under this action. There are approximately 190 residences within the boundaries of the HRA and housing density averages 3.4 homes per mile. There are 21 recreational developments in the HRA that include a range of facilities such as boat landings, campgrounds, fishing access, recreation sites and day use areas.

V. PROPOSED ACTION

The proposed project is to thin under-story brush and small trees, reduce ground fuel loads and ladder fuels, and reduce over-story crown density using a combination of manual (i.e. chain-saws, pruners) and heavy equipment methods (i.e. chippers, slash-buster). The goal is to reduce the risk of high intensity wildfire and create defensible spaces around homes and structures. Some material may have to be removed with equipment (yarders, cable, tractors, or helicopter). Follow-up treatments such as pile burning, under-story burning, or broadcast burning may occur. Multiple entries will occur in many areas in different years depending on specific site conditions (e.g. manual removal, piling, followed up with burning). No road building is proposed. (See attached table 1 for detailed prescription).

The most intensive fuel reduction treatments will take place in the "Defense Zone", that area next to and within ¼ mile of homes and structures, involving no more than 3,547 acres of the action area.

The action also reduces fuel loads, and potential fire intensity within the "Threat Zone", an additional 1¼ miles (linearly within the river corridor) which borders the "Defense Zone" (see maps 2 and 3). BLM proposes to treat no more than 2,753 acres within the Threat zone. Thinning will occur on 704 acres throughout the remaining "General Forest Zone" to improve forest health and stand vigor. In all, up to 5,090 acres of federal lands and an additional 1,914 acres of private lands could be treated using a combination of methods appropriate for individual sites.

Conservation Measures (or Project Design Criterion)
The following conservation measures to reduce effects to listed species will be implemented as part of the proposed action.

Northern Spotted Owls:

- Surveys of known spotted owl sites will be conducted prior to treatments between March 1 and June 1 to determine nesting status. No activities will occur within ¼ mile of active nesting sites during the nesting season (March 1 to June 30).

- Unsurveyed suitable habitat adjacent to the river with be surveyed prior to activities, or will be protected by a seasonal restriction during the nesting season.

- Canopy closure will not be reduced below 60% within units that currently provide suitable nesting habitat. Units will be well identified on the ground with ribbon.

- Fuels treatments within riparian corridors (150 feet on a fish stream) will occur at a lower level than outside the riparian corridors. No trees greater than 12"dbh will be cut within riparian corridors and canopy will be maintained at =60%. Where existing canopy is less than 60%, only understory vegetation would be removed.

- Major roads will be buffered with a 50' no-treatment zone. All access points for large equipment along roads will be blocked after work is complete.

Gentner's fritillary

- Surveys will occur for Gentner's fritillary in suitable habitat prior to the action during April – May. Populations will be well identified on the ground with plant signs or ribbon. All federal lands and private lands with scenic easements in the corridor will be surveyed. Noxious weed populations will also be identified.
- No heavy equipment within any Gentner's fritillary populations; a no-ground disturbance protection buffer will be implemented.
- Actual buffer size will be dependent on microsite conditions or the species habitat requirements necessary to maintain habitat, but will be a minimum of 25' from the occurrence boundary.
- Manual fuels treatments and prescribed fire can occur within buffered populations as long as heavy equipment is kept outside the buffer boundaries and a backing fire started outside of the buffer boundaries is used.
- Manual treatments can occur through populations if done during the dormant period (August 1 – February 15th). Within these buffers a canopy cover of at least 40% will be retained. If the canopy is less than 40%, no treatment in the buffers is needed.
- Prescribed burns through documented populations will occur while the species is dormant; no spring burning through populations will occur.
- No piling of slashed material shall occur within buffers, and material to be burned must be piled 25 feet from the buffers. No yarding of material through buffers.
- All equipment will be washed prior to treatment to minimize the introduction of any noxious weeds.

VI. ENVIRONMENTAL BASELINE

Northern Spotted Owls

A detailed account of the taxonomy, ecology, and reproductive characteristics of the spotted owl is found in the 1987 and 1990 U.S. Fish and Wildlife Service Status Reviews (USDI 1987, 1990a); the 1989 Status Review Supplement (USDI 1989); the Inter-Agency Scientific Committee (ISC) Report (Thomas et al. 1990); and the final rule designating the spotted owl as a threatened species (USDI 1990b. The NWFP is expected to limit the extent of a declining trend by protecting all spotted owl sites within LSRs and by providing for spotted owl dispersal through the matrix.. Currently unsuitable habitat within the LSRs will be managed to develop suitable habitat characteristics. Active management designed to advance forest condition in LSRs includes density management, precommercial thinning, and fertilization. Spotted owl populations are expected to stabilize across its range as habitat develops within the LSRs.

Spotted owl dispersal habitat consists of those stands that are capable of providing for the safe movement of spotted owls across the landscape. The NWFP identifies several habitats that serve as dispersal: riparian reserves, 15 percent leave trees in harvest units, 100 acre LSRs (known spotted owl activity centers), and 15 percent LS/OG retention guideline. Dispersing owls use suitable and dispersal habitat. Dispersal habitat provides some forage and roosting habitat, some protection from predators, but lacks the structure of suitable roosting/nesting habitat. Thomas, et al. (1990) described dispersal habitat as stands averaging 11 inches DBH with a 40 percent canopy cover. Thomas, et al. (1990) also described a landscape (quarter-townships) with more than 50 percent of the dispersal habitat as being adequate for the movement of dispersing NSO across the landscape

Critical habitat

Critical habitat was designated for the northern spotted owl in 1992 (US Fish and Wildlife Service 1992). The NWFP identified a strategy for providing for the continued existence and recovery of the northern spotted owl, and emphasizes LSR management. Critical habitat occurs throughout all land use allocations under the NWFP. Primary constituent elements (PCEs) of spotted owl critical habitat are those physical and biological habitat features that support nesting, roosting, foraging and dispersal. The final designation of critical habitat was completed in 1992. There are 3781 acres of critical habitat within the treatment area.

Surveys

Surveys have not been done in recent years in most of the spotted owl activity centers near the river corridor. There are no known northern spotted owl nests within the **3**-mile corridor. However, spotted owls are a wide-ranging species, which undoubtedly utilize the **3**-mile river corridor of the HRA for foraging, roosting, and dispersal. There are eight spotted owl activity centers within 1.2 miles of the river corridor of the Hellgate Recreation Area. Recent reproductive success at these sites is unknown.

Habitat

Northern spotted owls are found in old-growth conifer habitats within the corridor and associated viewshed of the recreational area. Spotted owl occurrence is strongly associated with the suitable nesting, roosting and foraging habitat associated with mature conifer forests. Douglas-fir forest, hardwood/conifer forest, and canyon live oak/Douglas-fir all have the potential to provide spotted owl nesting, roosting, or foraging habitat. Spotted owls rely on these types of forested habitats because they generally contain the structures (multi-layered and multi-species canopy, high canopy closure, large over-story trees and snags, trees with large cavities, large amounts of large dead wood on the ground, open space within and below the upper canopy, etc.) required for nesting, roosting, foraging and dispersal as well as providing thermal cover and protection from predation. Additionally, they provide the habitat required for high levels of prey diversity Approximately 3,675 acres of suitable nesting, roosting, foraging habitats occur in the designated **3**-mile river corridor.

Reproduction and population ecology

Spotted owls generally clutch two eggs (range 1 – 4) and nest in cavities and on platforms, primarily in Douglas-fir trees. Nesting starts in March and continues into June although elevation influences the exact timing of nesting. Spotted owls in southwest Oregon generally hatch from early to mid-May and remain in the nest until early to late June. The majority of young fledge from the nest prior to June 15. Young remain dependent upon their parents until they are able to fly and hunt on their own with post-fledging parental care continuing into August or September, and sometimes into October. Juvenile spotted owls experience extremely high mortality rates, with a reported first year survival rate of 23 percent.

Gentner's Fritillary

Gentner's fritillary is a tall perennial monocot in the lily family (*Liliaceae*) that arises from a fleshy bulb and has showy deep red or maroon flowers that bloom in the spring (Late March – June).

The main threats to its persistence are habitat degradation by canopy encroachment, habitat alteration due to fire exclusion, residential and agricultural development and uses, collection, recreational vehicle use, and problems associated with its small population size (USDI 1999). A draft Recovery Plan for this species was completed in August 2002, and the final plan will be published later this year (Pendergrass, 2003). It is likely that Gentner's fritillary was once more prolific throughout its range in the Rogue Valley. Fire exclusion in SW Oregon during the last century has altered natural forest stands so that canopy closures and densities are higher than historic levels, which may exclude or reduce population size of this species. The introduction of exotic plants, annual grasses and noxious weeds can also increase competition for water, space and nutrients within Gentner's fritillary habitat. Grazing by deer and cattle are a threat. It is highly palatable to deer (USDI 2002), which tend to top browse the plants and has necessitated the caging of plants for pollination studies conducted by the Oregon Department of Agriculture (Meinke and Amsberry, 2002).

The lily is restricted in range to southwestern Oregon, where it is known from scattered localities in the Rogue River drainages in Josephine and Jackson Counties. Recent surveys by the BLM have documented it in the Klamath River watershed in the Cascade Siskiyou National Monument, within a

mile of the California border. The action area is within its range. Of the 125 historical or known occurrences, 77 sites (62%) occur on federal lands (75 BLM, 2 FS), 16 sites (13%) are on State, County or City managed lands, and 32 sites (25%) occur on private, non-federal lands. The status of most private land sites is unknown; 3 sites are reported as extirpated. Although state law gives protection to federally listed plants on city, county, and state public lands, there is no formal protection for plants occurring on private lands. The nearest Gentner's fritillary population to the action area occurs east about a mile. The largest population area of Gentner's fritillary on Federal lands is located about four air miles from the action area in the Picket Creek drainage.

Habitat

Gentner's fritillary occurs in dry, open woodlands of oak with Douglas-fir at elevations below approximately 4,450 feet, or in openings or brush fields at the margin of such woodlands. Most known populations at elevations below 3,000 ft, and a few occurrences in the Cascade Siskiyou National Monument occur up to 4,450 feet. This species also can be found in transition areas or ecotones between grasslands and chaparral, chaparral and oak woodlands, and between oak woodlands and mixed conifer (Douglas-fir/pine) forests, often along ridgelines (Brock and Callagan 2000).

Although Gentner's fritillary primarily grows in or on the edge of open oak woodlands, it can also be found in stands dominated by madrone (*Arbutus menziesii*) and Douglas-fir (*Pseudotsuga menziesii*). Most commonly, however, Oregon white oak (*Quercus garryana*) and madrone comprise the over-story. Dense forest canopy is not required, nor seemingly desirable. Partial cover is beneficial (40%-60% canopy cover), as this plant does not grow in open sites without some wind and sun protection. Optimum canopy coverage for this species is not known; most occurrences (especially the larger ones) have varied canopy closures, but generally average between 40-60 percent. Existing populations in more dense, closed canopied stands generally are very small, with few flowering individuals. Plants in full sun also tend to not survive well.

Although no Gentner's fritillary populations are known in the project area, its habitat, mainly within more open oak woodlands, mixed evergreen, and ecotones, can be found interspersed throughout the length of the Hellgate Recreation Area. The amount of suitable habitat has not been quantified. Suitable habitat for Gentner's fritillary exists within the project area.

Ecology

This species seems to require some infrequent but regular level of disturbance, such as the historic pattern of fire frequency in the Rogue River valley. It is not an early colonizer of these sites but eventually takes advantage of the created opening or edge effect. This species has been found to occupy certain sites that have experienced various levels of human disturbance (USDI 1999), but several large populations are known from areas that have had little to no disturbance from mining, logging, or road building activities. This fritillary appears to colonize disturbed areas after other species are established, but before trees and shrubs become dense and shade it out (USDI 1999). Historically, fire likely played an important role in creating the "edge" habitat that this species inhabits.

Gentner's fritillary is thought to reproduce primarily asexually by bulblets that break off and form new plants. Exactly how the bulbs move from the parent plants is not exactly known, but gravity, the shrink

and swell of clay soils, and perhaps rodents, contribute to dispersal. Seed production is variable, episodic, and very low. Controlled crosses done in 2002 have produced viable seed, and germination studies are currently in progress (Amsbery, Meinke 2002). Individuals of this species may not flower every year or may remain dormant underground, making accurate population counts and the determination of population viability extremely difficult (USDI 1999). The effect of thinning and fuels reduction work on reproduction is not well known. Anecdotal observations suggest that partial decreases in the canopy cover (e.g. fuels treatments) should result in increased health, size, bulblet production and flowering by increasing light and available precipitation.

Having flowering plants to identify populations is critical, as it is nearly impossible to differentiate between Gentner's fritillary and the common scarlet fritillary (*Fritillaria recurva)* unless the plant is blooming. The true number of plants in any Gentner's fritillary population is not known, because of dormancy, and the inability to tell the common scarlet fritillary from Gentner's fritillary in a vegetative state. Scarlet fritillary is documented along the river corridor, and the two species often occur together.

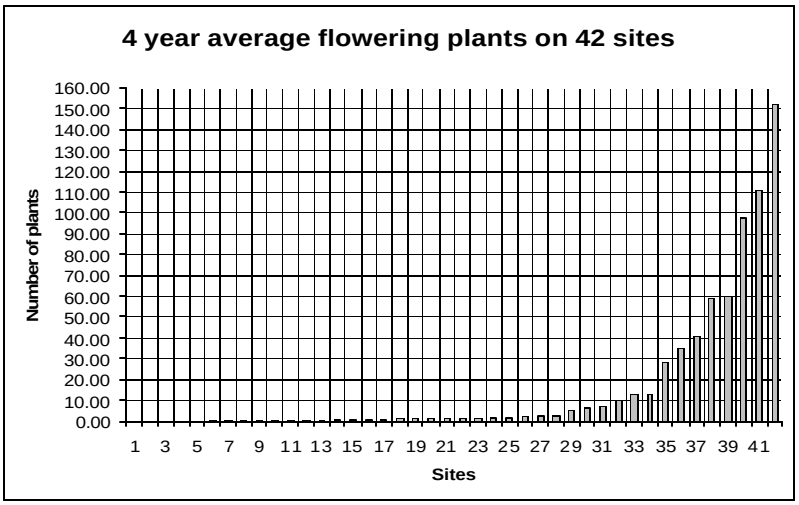
The Medford BLM (Brock and Callagan 2002) is monitoring 42 Gentner's fritillary sites scattered across the Rogue Valley. This represents about 56% of the known populations on Federal lands. The plant is very variable, with wide fluctuations in flowering and dormancy. Over the last 5 years, the average population size was 16 flowering plants per site (SERVICE, 2002), with a range of 0 (previously had flowering plants) to 306 plants.

Over the last 4 years, 15 of the 42 sites had less than 1 plant on average (i.e. at least 1 year with no flowering plants). Sixteen sites had between 1-7 flowering plants in any given year, and 9 sites had between 10-99 flowering plants on average. Only 2 sites had more than 100 flowering plants on average in any given year and one of these sites is just 4 miles from the action area (see Table 2).

Surveys

Surveys for Gentner's fritillary are ongoing. No populations have been found to date. All lands with scenic easements and federal lands will be surveyed prior to treatment during the spring blooming season (April – May) in suitable habitat. Populations of Gentner's fritillary within the proposed treatment areas have a high probability of occurrence in suitable habitat.

Table 2. Average Number of flowering plants on 42 monitored sites for 4 years



VII. EFFECTS OF THE PROPOSED ACTION

The proposed action may effect the northern spotted owl and Gentner's fritillary in the HRA. However, as part of the proposed action, conservation measures will reduce impacts significantly.

Direct and Indirect Effects to Northern Spotted Owls

Direct effects Conservation measures (seasonal restrictions and no reduction in suitable habitat) will minimize any potential direct effect to the northern spotted owl or to reproductive success. Canopy closure will not be reduced below 60% within the 136 acres is suitable nesting habitat within the project area.

No more than 136 acres of short-term suitable habitat degradation would occur on BLM lands and no suitable habitat degradation would occur on private lands associated with this project. No suitable habitat would be removed. 136 acres of dispersal habitat would be degraded, but not removed.

No disturbance impacts would occur within ¼ mile of known northern spotted owl sites during the nesting season. Surveys will ensure no activities will occur during the sensitive nesting period in the currently unsurveyed areas. Potential impacts associated with fuels reduction activity are not well documented. Although more than 20 years of intensive research on spotted owls suggests that most individuals are relatively tolerant of disturbances, there are no quantitative data to evaluate the impacts of disturbance due to various management activities (USDA and USDI, 1996; USDA and USDI, 2001). Fuels treatments are not expected to disturb nesting northern spotted owls due to spatial and seasonal restrictions. Fuel treatments disturbance outside the sensitive breeding season are expected to be insignificant to any northern spotted owls in the area. The proposed actions are limited in location, restricted to areas already close to human inhabitation, would be spaced over time, and would impact only small portions of the action area at any given time. Any northern spotted owls in the area could easily avoid activities related to fuel management that have the potential to disturb them. Adequate undisturbed habitat occurs throughout the action area.

Indirect effects The reduction of understory fuels could improve long-term habitat suitability and reduce the risk of future loss of habitat due to wildfire. Fuels treatments reduce understory vegetation

and can impact soil health. Even very light use on a site impacts the soil and vegetation. Short-term affects to foraging habitat and reduction of prey species habitat along the river corridor may result. Foraging habitat type is abundant across the range of the northern spotted owls (NWFP) and is not a limiting factor. The project will not degrade habitat to an extent that would remove suitable habitat nor preclude dispersal between interprovincial provinces: from the Klamath Mountains Province to the Western Cascades Province, and from the Klamath Mountains Province north to the Coast Ranges Province.

Decrease in understory vegetation could improve recreation access. Additional recreation use could result in displacement or disturbance of spotted owls. However, most of the treatment area is close to occupied rural residential areas. Any owls using this area are likely to be somewhat habituated to human activity. Any increase in recreational use related to temporary access improvements is likely to be insignificant.

Effects within Critical Habitat .

Table 3. Acres of treatment within northern spotted owl designated critical habitat (CHU)				
	CHU	CHU – Defense Zone	CHU – Threat Zone	CHU – General Forest
Total acres	3781	1071	1930	663
Suitable habitat acres within CHU impacted	0	0	136	0

There will be no adverse modification to CHU or LSR Within northern spotted owl designated critical habitat (CHU), 668 acres are within the treatment zone outside the 1 ½ miles around homes. The area west of the river within CHU (CHU #OR-65), is also within the Fish Hook/Galice Late Successional Reserve (LSR). Within overlapping CHU and LSR there are 136 acres of suitable nesting habitat (Table 3). This habitat will be degraded because of understory treatments, but will remain suitable. Overstory canopy will be retained as will suitable structure of existing hardwoods to maintain a secondary canopy. Negligible impacts to spotted owls are anticipated due to the proposed action. This project will not negatively impact late-successional management within the watershed. The function of both CHU and LSR will remain unchanged

There are136 acres of suitable nesting habitat occurring in both CHU and LSR that would would be degraded, but would remain suitable nesting habitat. Within the CHU outside of LSR, 415 acres of foraging habitat could be degraded to dispersal habitat. Within CHU or LSR, up to 1215 acres of dispersal habitat could be reduced to 40% canopy cover (Table 4), the minimum canopy required to be classified as dispersal habitat. Within the Defense Zone, single larger class trees could also be removed, further degrading late-successional forest characteristics within the river corridor, though not to an extent that would impact spotted owls.

Table 4. Acres of Spotted Owl Habitat and changes in habitat due to project treatments (habitat changes in bold)					
	Pre-project Habitat acres		**Post-Project**		**Change**
Land Designation	**Suitable**	**Dispersal**	**Suitable**	**Dispersal**	
Within CHU only	0	415		**415**	**Unchanged**

Within CHU & LSR	136	1215	136	1215	**136 suitable degraded but still suitable No change in dispersal**
Within CHU or LSR	0	1215			**Unchanged**
Outside CHU & LSR	0	0			

Fuel reduction treatment may treat up to 136 acres of suitable nesting habitat. This treatment may degrade the habitat by reducing the understory habitat characteristics necessary to support a healthy prey population. However, it would still retain suitable habitat characteristics. No suitable habitat would be removed within the project area. The project will not affect dispersal between adjacent LSR and other suitable habitat.

Direct and Indirect Effects to Gentner's Fritillary

Direct effects Direct physical effects are possible from fuels reduction projects (slashing, piling, yarding, and burning). Hand thinning in the spring can cause trampling of above ground portion of plants, but is unlikely to kill the plants. Given the conservation measures, direct effects are reduced to insignificant levels.

Indirect effects Indirect effects would include increasing the light regime and precipitation by removal of part of the tree and shrub over-story. Reducing canopy cover down to 40-60% would be beneficial to any existing plants over the long term. Fire in the late fall or winter would have an effect on the successional state of the existing plant communities and in turn positively influence the lily. Fires at these times of the year can burn incompletely and in a mosaic pattern, creating more edge habitat. One goal of reducing fuels is to reduce the intensity of wildfires so that they burn in a mosaic pattern and less severely. Gentner's fritillary can be thought of as a mid-seral species, and tends to like partially open, edge habitats, and this type of treatment would likely benefit the plant by increasing some light and available precipitation, and create more suitable habitat conditions. However, fire during the growing period (February - June), would likely burn leaves and flowers. By not reducing the fuels however, eventually a stand replacing burn in late summer would consume the site and likely negatively affect plants. Complete removal of the over-story from a late severe summer wildfire and the intense heat, can bake the bulbs, oxidize the soil, and completely open the canopy. That would likely have an adverse influence on Gentner's fritillary populations, at least in the short term. Some bulbs would likely survive.

Plants are often nipped and browsed by deer, which removes the top portion of the plants, and yet these plants have been observed growing and flowering again the next year (USDI, 2002). Thinning and fuels treatments can regenerate decadent shrub browse, resulting in increased deer populations. Adverse effects from any increase in deer populations because of increased browsing on Gentner's fritillary plants is expected to be minimal given the large area that will be treated; herbivory will be dispersed. The effects of repeated deer browsing, (akin to flower picking), however, is not known, but

it's believed top browsing doesn't effect the plants ability to sequester carbohydrates in the bulb. If the above ground portion of the plant is removed entirely (pulled or repeatedly grazed to the ground), and the lily does not produce stem leaves that provide carbohydrates to the bulb for several years, it will eventually die. Individual plants do go dormant for several years however (USDI 2002).

Above ground trampling from manual treatments during the growing season is unlikely to harm the bulb that is buried 2 - 8 inches underground, but would hurt the above ground leaves and flowers. The likelihood that plants will be killed from browsing, or trampling, is low, most plants would likely survive.

Noxious weeds can out-compete Gentner's fritillary for space, light, water and nutrients. The project area does have infestations of listed noxious weeds and other non-native species. In this area, yellow star-thistle, weedy annual grasses, and scotch broom present the greatest threat. Particularly susceptible are disturbed areas in the oak woodlands, and small meadow openings. Thinning and opening up the canopy coupled with some soil disturbance could result in increased population of weeds that could compete with Gentner's fritillary. *Effects would be reduced by implementing conservation measures and BMPs,*

In summary, fuels treatments with minimal ground disturbance is thought to have some positive effects, by reducing the intensity of wildfires, and by increasing light and decreasing moisture interception by the canopy and competing vegetation. Some minor effects from indirect effects could occur.

Interrelated and Interdependent Effects

The project on non-federal lands would not occur but for the the National Fire Plan project in the Rogue River / Hellgate corridor. Interrelated and interdependent effects on private lands are analyzed with the impacts on federal land, addressed above. Modification of the vegetation on private lands within the Rogue River corridor is controlled by the BLM by scenic easements, and make up a portion of the lands to be treated. There is no suitable spotted owl habitat on private lands within the river corridor. There is suitable habitat for Gentner's fritillary on private lands. The effects for the plants are the same as the direct and indirect effects described above.

Cumulative effects

Non-federal lands within and adjacent to the action area in the sub-basin contain suitable Gentner's fritillary and northern spotted owl habitat. No suitable habitat on private land will be adversely modified. The listed species populations on private lands will likely decline as undeveloped private lands are converted through time to other uses (*e.g.* managed timber lands, rural and home development, increased recreation associated with the river. Continued developments and recreation activities within the HRA create a level of background disturbance from recreation and home owners, and habitat modifications which affect the overall suitability of habitat for northern spotted owls. Habitat modifications include clearing of land for buildings, fuel reduction activities or recreational site development. Additional modifications to habitat and encroachment of disturbance will likely result in a reduction of suitable northern spotted owl foraging and nesting areas. No formal regulatory mechanisms

provide protection on private lands for listed plants and most populations located on private lands will be lost.

VIII EFFECTS DETERMINATION

Implementation of the National Fire Plan Pilot project in the Rogue River /Hellgate Recreation Area may affect, but is not likely to adversely affect (NLAA) the northern spotted owl and Gentner's fritillary. No suitable habitat will be removed for northern spotted owls, but some degradation of habitat will occur over the short term in CHU's and LSRs. Negative affects to the species are insignificant given the conservation measures. The proposed project is expected to have a long-term positive effect on Gentner's fritillary and the spotted owl by improving habitat conditions and reducing the risk of catastrophic wildfire in treated areas.

The Medford District Office, Bureau of Land Management requests informal consultation on this action.

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Table 1. Rogue River Fuel Hazard Reduction Project

Treatment Zone	Vegetation Treatment Diameter Range (DBH) [4]	Seen Areas *Maximum Treatment Level per entry* [1]		Seldom Seen Areas *Total Potential Treatment Level* [1]	
		Overstory Canopy Treatment[2] (% Disturbance)	Understory Treatment[3] (% Disturbance)	Overstory Canopy Treatment[2] (% Disturbance)	Understory Treatment[3] (% Disturbance)
Defense Zone	0 – 21”	= 20%	= 60%	= 50%	= 90%
Threat Zone	0 – 12”	= 20%	= 50%	= 50%	= 80%
General Forest	0 – 8”	= 20%	= 40%	= 40%	= 50%

1 ***Treatment levels*** –The final target silvicultural / fuel hazard stand conditions (and the resultant potential wildfire behavior characteristics, fire suppression opportunities and potential structure survivability) are the same for similar vegetation types in both the seen and the seldom seen areas. The target canopy closure, regardless of the number of entries needed, would be 30+% for ponderosa pine stands and 40+% for Douglas-fir dominated stands to meet fuel hazard reduction and silvicultural / forest health conditions. Other management objectives (*e.g.,* Aquatic Conservation Strategy, wildlife considerations, special status species, etc.) may, in some situations, mandate that the target total minimum crown canopy closure be greater than the 30% - 40% minimum levels. This could be the case with regard to understory treatments as well.

Multiple entries may be needed to reach the target conditions. This is because the level of change at each entry that VRM I management “character of the landscape” standard would permit varies depending on whether a site is within the seen or the seldom seen area.

Seen areas – Incremental entries would be necessary to meet the visual resource management objectives (VRM Class 1). The maximum treatment level per entry indicates the percent of change to the condition that exists at the time of entry that would be permissible for that entry. Multiple (2-3+) entries may be necessary to incrementally move current fuel hazard conditions to a desired silvicultural / fuel hazard stand condition.

Seldom seen areas - The degree of per entry change to the current condition is much greater within seldom seen areas than within the seen area. A single entry that moves the current condition to the desired silvicultural / fire hazard stand conditions may be acceptable.

Individual stand treatment silvicultural / fuel treatment prescriptions would be prepared for each entry based on the stand conditions at the time of entry and the silvicultural / fuel treatment prescriptions in Appendix B - 1. Entries would occur at intervals based on considerations of vegetation type, vegetation / fuel conditions, vegetation response characteristics, and the permissible level of disturbance for the site.

Measuring or quantifying the level of change / percent disturbance would be indexed by, for example, canopy density, canopy cover, number of stems, or visual transparency of the stand being treated.

Multiple or staged entries will also provide opportunities for adaptive changes of the silvicultural / fuel treatment prescriptions. Adjustment of prescriptions would come from BLM’s Visual Contrast Rating methods to insure that VRM standards are met.

2. Overstory Canopy Treatment – Upper limit of the percent decrease in the overstory canopy that exists at the time of treatment. The overstory is the upper level in a 2-storied stand or upper 2 levels in 3 and 4-storied stands.

3. Understory Treatment – Upper limit of the percent of surface area treated on the ground per entry.

4. Vegetation Treatment Diameter range - Vegetation cut would be restricted to within the specified DBH range. (Ground fuels would be reduced as needed in all cases.)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
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Roseburg, Oregon 97470
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Reply To: 8330.04344 (03)
File Name: Roguehazard
Tracking Number: 03-3658

May 28, 2003

Memorandum

To: Mary Smelcer, Acting District Manager, Medford District BLM, 3040 Biddle Road, Medford, OR 97504
/s/ Craig A. Tuss

From: Craig Tuss, Field Supervisor, U.S. Fish and Wildlife Service, Roseburg Field Office, 2900 NW Stewart Parkway, Roseburg, Oregon. 97470

Subject: Request for Initiation of Informal Consultation for the Rogue River Hazardous Fuel Reduction Project (FWS Ref # 1-15-03-I-434).

The U.S. Fish and Wildlife Service (Service) has reviewed your request for informal consultation pursuant to Section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1536 et seq.) (Act), as amended, on the proposed Rogue River Hazardous Fuel Reduction Project for the Grants Pass Resource Area of the Medford Bureau of Land Management (BLM). Your request was received in our office on May 16, 2003. As identified in your consultation request, the Federally listed species that would be affected by the proposed action are the northern spotted owl (*Strix occidentalis caurina*), and Gentner's fritillary (*Fritillaria gentneri*) (lily).

This concurrence letter is based on information provided in the May Biological Assessment (Assessment) and numerous in-person, e-mail, and phone discussions, between David Clayton and Sam Friedman of the Service and Carole Jorgensen, Mark Mousseaux, and Tony Kerwin of Medford BLM, as well as reviews of the Assessment by the Rogue Basin Level I Team.

DESCRIPTION OF PROPOSED ACTION

The Medford BLM proposes to conduct a fuels reduction project in the Hellgate Recreation Area of the Rogue River. The Hellgate Recreation Area (HRA) is located within Josephine County, Oregon and covers approximately 8,657 acres in southwestern Oregon. Approximately 60 percent (5,090 acres) is federal land managed by the BLM Grants Pass Resource Area, Medford District Office.

The proposed project reduces potential high intensity wildfire behavior and creates defensible spaces around homes and structures by thinning under story brush and small trees, reducing ground fuel loads and ladder fuels, and lowering over-story crown density using a combination of manual (i.e. chain-saws, pruners) and heavy equipment methods (i.e. chippers, slash-buster). Some material may have to be removed with equipment (yarders, cable, tractors, or helicopter). Follow up treatments such as pile burning, under-story burning, or broadcast burning will occur. Multiple entries will occur in many areas in different years depending on specific site conditions (e.g. manual removal, piling, followed up with burning). No road building is proposed.

The proposed action creates defensible spaces (a "Defense Zone") next to and within ¼ mile of homes and structures for human safety on no more than 3,547 acres. This is where the most intensive fuel reduction treatments will take place. There are approximately 190 residences within the boundaries of the HRA and housing density averages 3.4 homes per mile. There are 21 recreational developments in the HRA that include a range of facilities such as boat landings, campgrounds, fishing access, recreation sites and day use areas.

The action also reduces fuel loads, and potential fire intensity within an additional 1¼ miles (linearly within the river corridor) surrounding the ¼ mile "Defense Zone" next to homes (the "Threat Zone"). The treatment acres within the Threat zone are 2,753 acres. Throughout the rest of the "General Forest Zone" to improve forest health and stand vigor, thinning will occur on 704 acres. In all, up to 5,090 acres of federal lands and an additional 1,914 acres of private lands could be treated using a combination of methods appropriate for individual sites. Approximately 3,669 acres of the proposed project area is located within a designated spotted owl critical habitat unit (CHU OR-65)(Table 1).

Table 1. Treatment zones within designated critical habitat for the northern spotted owl.

Table 1. Acres within Northern Spotted Owl designated critical habitat (CHU) and overlapping treatment zones

	CHU	CHU – Defense Zone	CHU – Threat Zone	CHU – General Forest
Total acres	3669	1071	1930	668

As part of the proposed action, the following conservation measures to reduce adverse effects to listed species will be implemented:

Northern Spotted Owls:

- Surveys of known sites will be conducted between March 1 and June 1 to determine nesting status. This will be done prior to treatments to determine seasonal restriction requirements.
- Canopy closure will not be reduced below 60 percent within treatment units that currently provide suitable nesting habitat. Units will be well identified on the ground with ribbon.
- Fuels treatments within riparian corridors (150 feet on a fish stream) will occur at

a lower intensity than outside the riparian corridors. No trees greater than 12"dbh will be cut within this area and canopy will be maintained at =60 percent. Where existing canopy is less than 60 percent, only understory vegetation would be removed.

- No activities will occur within ¼ mile of active nesting sites during the nesting season (March 1 to June 30).
- Major roads will be buffered with a 50 feet no-treatment zone.
- All access points for large equipment along roads will be blocked after work is complete.

Gentner's fritillary

- Surveys will occur for the Lily in suitable habitat prior to the action during April – May. Populations will be well identified on the ground with plant signs or ribbon. All federal lands and private lands with scenic easements in the corridor will be surveyed. Noxious weed populations will also be identified and controllable patches removed by using hand removal methods.
- No heavy equipment will be used within any known Lily populations; a no-ground disturbance protection buffer will be implemented.
    - Actual buffer size will be dependent on microsite conditions or the species habitat requirements necessary to maintain habitat, but will be a minimum of 25' from the occurrence boundary.
    - Manual fuels treatments and prescribed fire can occur within buffered populations as long as heavy equipment is kept outside the buffer boundaries and a backing fire started outside of the buffer boundaries is used.
    - Manual treatments can occur through populations if done during the dormant period (August 1 – February 15th). Within these buffers a canopy cover of at least 40 percent will be retained. If the canopy is less than 40 percent, no treatment in the buffers is needed.
    - No piling of slashed material shall occur within buffers, and material to be burned must be piled 25 feet from the buffers. No yarding of material through buffers.
- Prescribed burns through documented populations will occur while the species is dormant; no spring burning through populations will occur.
- All equipment will be washed prior to treatment to minimize the introduction of any noxious weeds.

Effects to northern spotted owls

The proposed project will degrade 136 acres of suitable spotted owl habitat which will still continue to serve as suitable habitat. This suitable habitat occurs within both a Late-Successional Reserve (LSR #RO-258) and spotted owl CHU (OR-65). The area west of the river within CHU is also within the Fish Hook/Galice Late Successional Reserve. The 136 acres of suitable spotted owl habitat proposed for treatment is within this

overlapping CHU and LSR. Understory fuel reduction treatment will occur in the 136 acres of suitable nesting habitat. This treatment may degrade the habitat by reducing the understory habitat characteristics that may be necessary to support a healthy prey population. However, it would still retain suitable habitat characteristics. In addition, much of the overstory canopy will be retained as will suitable structure of existing hardwoods to maintain a secondary canopy. While there may be a short-term reduction in prey species because of reduction in understory vegetation, reduction of understory fuels could improve long-term habitat suitability and reduce the risk of future loss of habitat due to wildfire.

The proposed action will also degrade 415 acres of forage habitat to dispersal habitat within the CHU OR-65. While there may be short-term effects to foraging habitat along the river corridor, this habitat type is abundant in the area and not a limiting factor for spotted owls.

The proposed project will also degrade 639 acres of dispersal habitat outside of CHU and within CHU and LSR, up to 1215 acres of dispersal habitat could be reduced to 40 percent canopy cover, the minimum canopy required to be classified as dispersal habitat. However, this degraded dispersal habitat will still continue to provide at least minimal dispersal habitat. Dispersal habitat will not be degraded within the project area to an extent that would preclude dispersal between interprovincial provinces from the Klamath Mountains Province to the Western Cascades Province, and from the Klamath Mountains Province north to the Coast Ranges Province.

Effects to Gentner's Fritillary

Direct physical effects are possible from fuels reduction projects (slashing, piling, yarding, and burning). Hand thinning in the spring can cause trampling of above ground portion of plants, but is unlikely to kill the plants. However, given the conservation measures, direct effects are likely reduced to insignificant levels.

Indirect effects could include increasing the light regime and precipitation by removal of part of the tree and shrub overstory. Reducing canopy cover down to 40-60 percent would be beneficial to any existing plants over the long term. Fire in the late fall or winter would have an effect on the successional state of the existing plant communities and in turn positively influence the Lily. Fires at these times of the year can burn incompletely and in a mosaic pattern, creating more edge habitat. One goal of reducing fuels is to reduce the intensity of wildfires so that they burn in a mosaic pattern and less severely. Gentner's fritillary can be thought of as a mid-seral species, and tends to like partially open, edge habitats, and this type of treatment would likely benefit the plant by increasing some light and available precipitation, and create more suitable habitat conditions. However, fire during the growing period (February - June), would likely burn leaves and flowers.

Noxious weeds can out-compete the Lily for space, light, water and nutrients. The project area does have infestations of listed noxious weeds and other non-native species. In this area, yellow star-thistle, weedy annual grasses, and scotch broom present the greatest threat. Particularly susceptible are disturbed areas in the oak woodlands, and

small meadow openings. Thinning and opening up the canopy coupled with some soil disturbance could result in increased population of weeds that could compete with Gentner's fritillary. Given the conservation measures proposed for the project, these effects would be reduced.

In summary, fuels treatments with minimal ground disturbance is thought to have some positive effects, by reducing the intensity of wildfires, and by increasing light and decreasing moisture interception by the canopy and competing vegetation. Some minor effects from activities such as increased recreation or the potential for noxious weed invasion could occur as an indirect result of the proposed action.

Concurrence

Based on the proposed action and the conservation measures as outlined above, the Service concurs that the implementation of the National Fire Plan hazardous fuels reduction project in the Rogue River /Hellgate Recreation Area **may affect, but is not likely to adversely affect** the northern spotted owl. Negative affects to the species are likely insignificant given the conservation measures. Minimal adverse impacts to spotted owl suitable and critical habitat are anticipated as a result of the proposed action. This project will not result in adverse effects to late-successional habitat or the function of the LSR within the watershed. The proposed project may affect critical habitat by degrading suitable and dispersal habitat but it would not result in adverse modification to critical habitat and the CHU would continue to function as intended. Conservation measures such as seasonal restrictions and minimal degradation of suitable habitat will minimize any potential direct effect to the northern spotted owl or to reproductive success.

Based on the proposed action and the conservation measures as outlined above, the Service concurs that the implementation of the National Fire Plan hazardous fuels reduction project in the Rogue River /Hellgate Recreation Area **may affect, but is not likely to adversely affect** the Gentner's fritillary. Negative affects to the species are likely insignificant given the proposed conservation measures. All federal lands and private lands with scenic easements in the corridor will be surveyed. No heavy equipment would be used within any Gentner's fritillary populations. Manual fuels treatments or prescribed burns could occur through plant populations only if done during the dormant period and within these populations, a canopy cover of at least 40% will be retained. All equipment would be washed prior to treatment to minimize the introduction of any noxious weeds.

Modification of the vegetation on private lands within the Rogue River corridor is controlled by the BLM through scenic easements, and make up a portion of the lands to be treated. There is no effect to the spotted owl due to interrelated and interdependent effects as there is no suitable spotted owl habitat on private lands within the river corridor that. There is suitable habitat for Gentner's fritillary on private lands within the action area. However the proposed action will minimize potential effects to the fritillary by requiring surveys on those private lands where there are scenic easements, as well as implementing of all of the other conservation measures described above.

For both Gentner's fritillary and the spotted owl, there is a high likelihood that the proposed project will, in time, have a positive effect by improving habitat conditions and reducing the risk of catastrophic wildfire in treated areas.

This response is prepared in accordance with section 7(a)(2) and 7(c) of the Act, and concludes informal consultation on the project pursuant to 50 CFR 402. If new information or project modification reveals that the proposed actions may affect listed species in a manner or to the extent not considered in your assessment, or if a new species is listed or critical habitat is designated that may be affected by the actions, work should be halted and consultation reinitiated immediately.

If any questions arise concerning the contents of this concurrence letter, please contact David Clayton, Samuel Friedman, or myself at (541) 957-3474.

cc: Office Files, FWS-OFWO, Portland, OR (e)
Carole Jorgensen, BLM, Medford, OR (e)
Anthony Kerwin, BLM, Medford, OR (e)
Mark Mousseaux, BLM, Medford, OR (e)
Frank Bird, NMFS, Roseburg, OR (e)

TO: LEVEL 1 TEAM; NATIONAL MARINE FISHERIES SERVICE
FM: JON RAYBOURN, FISHERIES BIOLOGIST
CC: PROJECT FILE
RE: CONSULTATION ON FUEL HAZARD REDUCTION PROJECT
DATE: JUNE 5, 2003

PROJECT: Rogue River Fuel Hazard Reduction Project

SPECIES AND HABITATS: Southern Oregon/Northern California (SONC) coho salmon and its Critical Habitat; Essential Fish Habitat for Commercially-Harvested Anadromous Fish Stocks. Essential Fish Habitat and Coho Critical Habitat are the same areas in this project and for the purposes of this document are considered equivalent.

EFFECTS DETERMINATION: NLAA

PROJECT LOCATION:

Agency: Medford District, Grants Pass Resource Area
HUC - 4: Lower Rogue River
HUC - 5: Rogue-Recreation Section
HUC - 6: Hellgate Recreational Section of the Rogue National Wild & Scenic River (Dunn and Applegate reaches). Other streams and watersheds intersect the project area only at their confluences with the Rogue (e.g., Grave, Galice, Pickett, Taylor, Hog, Stratton, Jumpoff Joe, Limpy, Shan, and Dutcher Creeks, and the Applegate River).

EA #: OR 110-03-xx (Rogue River Fuel Hazard Reduction)
WA: Rogue-Recreation Section Watershed Analysis, Medford BLM, January 1999

EXECUTIVE SUMMARY:

The Rogue River Fuel Hazard Reduction Project constitutes a May Effect, Not Likely to Adversely Effect action regarding coho salmon and/or coho critical habitat because of the low risk of sediment delivery resulting from: road maintenance and renovation activities, hazardous fuel reduction treatments, underburning, and use and decommissioning of landings and skid roads. Additionally, riparian canopy and subsequent shade will be sufficient to maintain all life history stages of fish. Considering these factors the project will produce discountable, benign, and insignificant effects to coho and/or coho critical habitat at the sixth and fifth fields.

Any existing non-vegetated skid trail or landing located in the riparian reserve will be decommissioned following use. Decommissioning will reestablish vegetation and subsequently reduce erosion and encourage revegetation of the sites.

Underburning will occur on streams containing coho and coho critical habitat. Ignition would not take place within 50 feet of the stream, but a backing fire could cross into the no treatment area to create a mosaic burn. Burning would be done when conditions allow for a cool

controlled burn, most likely in the fall, winter or early spring, therefore having an extremely small chance of mortality among larger trees. Burn objectives include the reduction of fuels created by vegetation treatments and consumption of smaller diameter down woody debris.

It is highly unlikely that salmonid survival and production will be adversely affected by fuel reduction treatments within the riparian reserves, due to the no treatment buffers on intermittent and perennial streams, retention of trees 12" DBH or larger within 150 feet of streams, and retention of trees 8-12" DBH within 75 feet of perennial streams.

I. PROJECT DESCRIPTION

A. BACKGROUND

This project is a Healthy Forests Initiative Project and is based upon the goals of the National Fire Plan. A majority of the project area is within a designated community at risk (CAR) or a wildland urban interface (WUI) area outside of a CAR.

The ***purpose of*** this proposed project is four-fold:

1. To reduce the current vegetative fuel hazard within the Hellgate Recreation Section of the congressionally designated Rogue National Wild & Scenic River (RNWSR);
2. To create vegetation / fuel conditions that will reduce fire behavior (intensity and rate of spread) such that in the event of a wildfire (a) the threat to communities and residences will be reduced, (b) the probability of residential and Wild and Scenic river values surviving will improve, and (c) suppression effectiveness as well as firefighter and public safety will be enabled.
3. To implement vegetation / fuel changes in a manner consistent with the protection and enhancement of the river's Outstandingly Remarkable Values (particularly scenic) and the management direction of the Medford District Resource Management Plan; and
4. To create a sustainable mosaic of vegetation and fuel types / profiles that are more reflective of healthy forest conditions and which will facilitate protection of property and Wild & Scenic river values into the future.

The ***need for*** this project is that the fire hazard within the Hellgate Recreation Section of the Rogue National Wild & Scenic River has been increasing for many years due to natural vegetation growth and fire exclusion. Fire risk is high due to extensive residential and recreation use. Property and wild and scenic river values would be significantly and adversely impacted if a high intensity, high severity wildfire occurred.

B. AFFECTED ENVIRONMENT

The project area includes the Applegate and Dunn reaches of the Rogue River, as well as approximately 0.25 miles of every stream that flows into the Rogue in these reaches. Fish species present in the Rogue mainstem and these tributary streams include: fall and spring chinook salmon, coho salmon, winter and summer steelhead, cutthroat trout, Pacific lamprey, Klamath small scale sucker, speckled dace, and sculpin species. SONC coho salmon are

federally listed as threatened and Pacific lamprey is a Bureau tracking species in Oregon. Chinook are not federally listed but are an Oregon Special Status Species. Klamath Mountain Providence Steelhead were ruled not warranted for listing in March 2001.

The RAMP EIS (USDI 2003) includes a detailed description of the status of fish populations and the condition of significant habitat features in Rogue in the project area. There are 14 main fall chinook salmon spawning areas on the Rogue itself. Steelhead trout spawn in at least 11 streams which flow into the Rogue within the project area. Coho salmon spawn in at least 8 streams within the project area. The Rogue mainstem provides rearing habitat for chinook as well as the fish that are spawned in the tributary streams.

Stream and fisheries conditions in the main tributary streams in the project area are included in the Grave Creek (USDI April 1999), Jumpoff Joe (USDI June 1998), Rogue-Recreation Section (USDI January 1999), and Murphy (USDI February 2000) watershed analyses. The Rogue and several tributaries in the project area are DEQ 303(d) listed as water quality-limited streams based on temperature and other factors. In general, the main tributary streams in the project area are characterized as having low large woody debris complexity, shade levels <60% and low levels of mature trees (>32-inch DBH) within 100 feet of the streams, based on Oregon Department of Fish and Wildlife (ODFW) Habitat Benchmarks. Salmon production and survival are limited in these streams by these factors.

C. PROPOSED ACTION

This project area encompasses a total of approximately 8,657 acres, which includes approximately 900 acres of river channel. The total number of acres proposed for treatment acres is 7,732. Approximately 4,270 acres are within the Riparian Reserve, and 3,462 are outside of Riparian Reserve.

The proposed action reflects three different scales of fuel hazard reduction work. The primary emphasis is on the creation of defensible space around structures (homes and businesses) in the project area. Outside of this defensible space, the proposed action treats ground fuels, ladder fuels and tree canopy fuels to different degrees. Design of the project focuses primarily on melding fuel reduction goals with visual resource management goals. Management goals and objectives for other resources such as fisheries are brought into the proposal through project design features.

The overall fuel reduction goal is to reduce the number of high-risk fire days. Treatments will not eliminate the risk of wildfire. Fuel treatment objectives are to: 1) reduce potential ground fire intensity by reducing fuels such that flame lengths are =4', b) reduce the potential for crown fire initiation by reducing surface and ladder fuels so that crown base height is 6 – 14', and 3) reduce the forest's ability to sustain a crown fire by reducing crown bulk density.

The reduction of crown bulk density would be an objective in high value areas (such as communities) where fire behavior modeling revealed a risk from a crown fire and the opportunity exists to reduce the risk through the removal of trees up to 21" DBH. Within

Riparian Reserves, trees with 12-21" DBH would only be removed outside of 150 ft. from a stream, and canopy closure of 60% would be retained (cf. Project Design Features, below).

From a visual resource management perspective, the BLM's VRM Class I standards guide the level of permissible change to the characteristic landscape. It determines how rapidly vegetation and fuel hazard conditions can be shifted from their current condition to a more fire resilient condition. Careful strategic design of the vegetation treatments is key to meeting this goal. Multiple entries and smaller incremental changes will, in some cases, be needed to meet VRM standards. The degree of acceptable change depends upon whether the treatment area is within a seen area or a seldom seen area (from the perspective of a casual observer on the river, at recreation sites or on the main roads) and the degree to which a particular location is a focal point. As a result, treatments along the Rogue and in many other Riparian reserves would be subtle and spread out over the 10 year life of the project.

A variety of methods would be used inside and outside of the riparian reserves to meet fuel hazard reduction objectives (slashing, handpiling, slashbusting, chipping, felling, etc.). Prescriptions within riparian reserves include provisions for maintaining stream shade, streambank stability, and future large woody debris recruitment. The following project features are designed to maintain important riparian functions: a) a no treatment area of 50' would be maintained along all streams; b) all trees >12?DBH within 150' of any stream would be retained; c) all trees >8?DBH within 75' of a perennial stream would be retained; and d) canopy closure within a riparian reserve would be maintained at 60+%. Where the existing closure is <60%, vegetation / fuel treatments would be limited to the understory.

Fuel hazard reduction would be accomplished through use of a slashbuster where possible. The slashbuster would not treat areas within 50 feet of perennial and intermittent streams, with the treads stopping at 75 feet. Where slashbuster operations are not possible, other methods would be used, as described above.

Prescribed burning could occur in riparian reserves to achieve fuel reduction and wildlife habitat objectives with the following caveats: a) hand piles closer than 50' of a stream would not be burned, b) no direct ignition would be done within the 50' no treatment zone, and c) underburns initiated outside of the 50' buffer would be allowed to back into this buffer as long as the underburn is of low intensity and the midlevel and upper canopies are not at risk. The burn plan for treatments adjacent to perennial streams would include the objectives of retaining an unburned strip of duff next to the stream averaging between 25-50 feet wide, as well as retention of large woody debris (LWD) within 50 feet. These objectives would be met through means such as igniting well outside 50 feet, watering down or removing fuels around at-risk LWD, constructing handlines, etc.

Within the riparian reserve, approximately 4.1 miles will continue to be maintained. Much of this maintenance is on the paved Galice Road and is within the riparian reserve as it crosses small streams which flow into the Rogue River. In the project area outside of riparian reserves, approximately 8.0 miles will continue to be maintained to current BLM standards for minimal hydrologic disturbance. In addition, an estimated 2 miles of existing skid trails within the

riparian reserves and 7 miles outside the riparian reserves would be decommissioned following use. Maintenance and decommissioning would be done in accordance with the project design criteria in the Southwest Oregon Biological Opinion for Programmatic Actions and the Medford District BMPs. Applicable practices have been incorporated into the Project Design Features (cf. below).

Existing operator spur roads would be used whenever possible to access fuel treatment areas. In addition, an estimated 1.0 miles of new, semi-permanent road construction (spur roads) located outside of riparian reserves is proposed. The roads would be decommissioned following use. No new permanent roads will be constructed in the riparian reserve or the matrix. All newly constructed spur roads will be decommissioned following use.

D. PROJECT DESIGN FEATURES

- Within riparian reserves, trees to be removed from the site would be directionally felled to pre-approved skid trails.

- To maintain stream shade: a) a no treatment area of 50' would be maintained along all streams; b) all trees >12?DBH within 150' of any stream would be retained; c) all trees >8?DBH within 75' of a perennial stream would be retained; and d) canopy closure within a riparian reserve would be maintained at 60+%. Where the existing closure is <60%, vegetation / fuel treatments would be limited to the understory.

- Hardwoods, especially California black oak, would be retained and encouraged where appropriate.

- Prescribed burning could occur in riparian reserves to achieve fuel reduction and wildlife habitat objectives with the following caveats: a) hand piles closer than 50' of a stream would not be burned, b) no direct ignition would be done within the 50' no treatment zone, and c) underburns initiated outside of the 50' buffer would be allowed to back into this buffer as long as the underburn is of low intensity and the midlevel and upper canopies are not at risk.

The burn plan for treatments adjacent to perennial streams would include the objectives of retaining an unburned strip of duff next to the stream averaging between 25-50 feet wide, as well as retention of large woody debris (LWD) within 50 feet. These objectives would be met through means such as igniting well outside 50 feet, watering down or removing fuels around at-risk LWD, constructing handlines, etc.

There will be no slashbuster treatments within 50' of perennial or intermittent streams. The machine's tracks / treads would be kept at least 75' from of these streams. Post slashbuster treatment burning would comply with burning within riparian reserve design criteria described above. Pre-existing coarse wood material greater than 10" diameter would be protected from shredding or damage. All snags would be protected. If a snag is felled for safety reasons, it would be retained and protected on site.

- No new skid trails or stream crossings would be constructed in riparian reserves. Existing skid trails could be used if they are stable and unrecovered. These trails would be decompacted and planted according to prescription, and covered with mulch or small diameter slash (less than 8? thick.

- Yarding tractors (D-4 size) used outside of riparian reserves would be confined to designated skid trails and would be restricted to soil moisture <25%. Main skid trails would be decommissioned (ripped and water barred) after use. Skid trails would be covered with slash, chipped material or debris to protect the mineral soil surface. Low ground pressure (<4 psi) equipment would be permitted without designated skid trails if soil moisture is <20% and it is able to operate on areas with at least 80% slash cover.

- Existing roads and temporary spurs would be utilized whenever possible to minimize new road construction. New roads would be located, designed and constructed to meet VRM guidelines. Temporary spurs would be obliterated after use by restoring natural drainage patterns and placing a combination of brush, logs, boulders, and/or stumps across the disturbed area.

- BLM roads used for bio-mass removal and haul would be maintained as needed. Road maintenance and decommissioning would comply with Best Management Practices (Medford District RMP, Appendix D-VII). If follow up treatment is scheduled a year or more after initial treatment, roads would be waterbarred, seeded, or mulched, or blocked as needed to prevent wet season vehicle use.

- Fire control lines, if needed, would be manually constructed (e.g., chainsaws, pulaskis, shovels). Waterbars would be installed based on soil type and slope. Suppression crews and equipment remain on site after prescribed burns to perform post-burn patrol, and mop-up would occur to prevent reburn or fire escape. Burn plans include escape contingency measures to provide standards for keeping burns within prescription. Any fire outside of the primary or secondary unit is not approved within the prescription. All slop overs and spot fires will be lined as soon as practical with 100% mop-up occurring and the location noted on the patrol map.

E. PRESCRIPTION TABLE

Rogue River Fuel Hazard Reduction				
Total Project Area = 8,657 Acres	**INSIDE RIPARIAN** Fuel Treatment (Acres)	**OUTSIDE RIPARIAN** Fuel Treatment (Acres)	**INSIDE RIPARIAN** Road Activities (miles)	**OUTSIDE RIPARIAN** Road Activities (miles)
Huc-5 Watershed **Rogue-Recreation Section** (93,316 acres)	Total Treatment = 4270	Total Treatment = 3462	Spur construction= 0 Decommission of existing skid trails estimated at <2.0 Maintenance = 4.1	Spur Construction and decommission following use estimated at < 1.0 Decommission of existing skid trails estimated at <7.0 Maintenance = 8.0

F. PROXIMITY OF COHO TO PROPOSED ACTIONS

The project area comprises the Applegate and Dunn Reaches of the Rogue River-Recreation Section and includes a corridor of land approximately 0.25 mile wide on each side. Coho salmon spawn in at least 8 streams within the project area. Coho critical habitat in the project area includes approximately 0.25 miles of each of these streams as they flow into the Rogue River, and in addition, 0.25 miles of all steelhead streams where coho are not currently found (at least 3 streams). Consequently, all treatments would be less than approximately 0.25 miles from coho and coho critical habitat.

Coho and coho critical habitat are present in the following: Hellgate Recreational Section of the Rogue National Wild & Scenic River (Dunn and Applegate reaches), Grave, Galice, Pickett, Taylor, Hog, Stratton, Jumpoff Joe, Limpy, Shan, Dutcher, Madams, and Pass Creeks, and the Applegate River. The only part of these creeks that is within the project area is the lower 0.25 mile at the confluence with the Rogue.

III. EFFECTS OF PROPOSED ACTIONS TO COHO AND COHO CRITICAL HABITAT

A. ROAD MAINTENANCE AND DECOMMISSIONING

Within the riparian reserve, approximately 4.1 miles will continue to be maintained. In the project area outside of riparian reserves, approximately 8.0 miles will continue to be maintained to current BLM standards for minimal hydrologic disturbance. In addition, an estimated 2 miles of existing skid trails within the riparian reserves and 7 miles outside the riparian reserves would be decommissioned following use.
It is anticipated that the long term beneficial effects from road maintenance and decommissioning will maintain downstream salmon survival and production. Long term beneficial effects from road activities include sediment reduction, improving road conditions for peak runoff flows, and better water drainage.

Minimal, insignificant, short term pulses of sediment may occur from road maintenance and decommissioning but the effects are not likely to adversely affect coho or coho critical habitat. The amount of sediment delivery would be so small as to not cause an increase in streambed embeddedness, an increase of fines in the gravel, or turbid water. Road maintenance and/or renovation will have negligible affects to coho migration, spawning, egg incubation, rearing, and feeding. Sediment delivery associated with road maintenance and renovation will not cause significant degradation or modifications to coho habitat.

B. OPERATOR SPUR CONSTRUCTION AND DECOMMISSIONING

Existing operator spur roads would be used whenever possible to access fuel treatment areas. In addition, an estimated 1.0 miles of new, semi-permanent road construction (spur roads) located outside of riparian reserves is proposed. The roads would be decommissioned following use. No

new permanent roads will be constructed in the riparian reserve or the matrix. All newly constructed spur roads will be decommissioned following use.

The operator spur roads to be constructed and decommissioned are short and discontinuous in nature and would be located on stable ridge tops and midslopes. The location of roads on ridge tops and midslopes will not affect floodplain connectivity. Sediment delivery would be less than negligible, due to the location of the roads on ridge tops and midslopes. Road density will not be increased, because the roads will be decommissioned following use. Sediment delivery to streams from decommissioned skid roads would be eliminated by buffers of undisturbed vegetation and duff between the skid roads and the streams.

The construction and decommissioning of operator spur roads will have negligible effects to riparian habitats, stream habitats, and hydrologic function at the sixth field level. The construction and decommissioning of the proposed operator spur roads will not result in significant habitat degradation or modification of coho habitat, because of their location on stable ridge tops and midslopes. Sediment delivery associated with operator spur road construction and decommissioning will not cause significant degradation or modifications to coho habitat, because sediment delivery would be short-term and minimal in quantity. The effects of these actions will not likely affect coho as they complete their life history requirements such as migration, spawning, egg incubation, rearing and feeding.

C. USE AND DECOMMISSIONING OF LANDINGS AND SKID ROADS

Some existing roads and landings have been constructed in the past within the riparian reserve. If these roads and existing landings are stable and unrecovered, they would be reused to minimize additional new road or landing construction. These skid roads or landings would be decommissioned following use, with such methods as ripping/decompaction, water barring, seeding, tree planting, and blocking, after use. No new skid roads or new stream crossings will be constructed in riparian reserves.

A net decrease in skid roads and landings in the riparian reserve will occur. Tractors will be restricted to the use of existing skid roads thereby reducing areas of compaction and maintaining stream bank stability. The use and subsequent decommissioning of pre-existing but unrecovered skid roads in the riparian will provide a long term benefit for aquatic resources by reducing sediment delivery and re-establishing canopy cover on riparian roads. Decompacting skid roads will increase soil absorption and infiltration.

Any skid trails and landings that are decompacted would be located on stable areas more than 50 feet from streams, and sediment delivery to coho habitat would be unlikely because of improved infiltration and the retention of a buffer of undisturbed duff. Behavior such as feeding, migration, and spawning as well as the life history requirements of coho will not likely be affected. Based on an analysis of the effects, we have determined that the use and decommissioning of pre-existing skid roads in the riparian reserve are not going to significantly degrade or modify coho habitat.

D. FUEL HAZARD REDUCTION TREATMENTS IN THE RIPARIAN RESERVE

On all streams, handpile burning and underburning would be outside of 50 feet. Ignition would not take place within 50 feet of the stream, but a backing fire could cross into the no treatment area to create a mosaic burn. Burning would be done when conditions allow for a cool controlled burn, most likely in the fall, winter or early spring, therefore having an extremely small chance of mortality among larger trees. The burn plan for treatments adjacent to perennial streams would include the objectives of retaining an unburned strip of duff next to the stream averaging between 25-50 feet wide, as well as retention of large woody debris (LWD) within 50 feet. These objectives would be met through means such as igniting well outside 50 feet, watering down or removing fuels around at-risk LWD, constructing handlines, etc.

Small woody material would be consumed in the fire, but large coarse woody material would most likely be left intact. The movement of prescribed fire within the riparian areas is dependent on fuel distribution and moisture, relative humidity, and fuel loading. During underburns in riparian areas, higher fuel moisture and relative humidity combine to slow the movement of fire, reducing the risk of mortality of large trees and consumption of snags and large down wood. The cool, low intensity fires will most likely not result in the consumption of snags or large trees within the riparian reserve. Units with moderate to high fuel levels will be handpiled and burned, reducing the risks associated with underburning. Burn objectives would include the retention of root networks that act to stabilize banks of streams with the potential to deliver sediment to coho habitat. Handlines constructed previously in riparian areas have been found to retain infiltration and not channel runoff into streams (pers. observ., Raybourn 2002). Waterbarring on these handlines has been used as a precaution to minimize erosion, although it has been found to be unnecessary in some cases.

Sediment

Direct Effects - During a controlled burn, it is unlikely that fire would back down all the way into the no treatment area and to the edge of any stream. However, if this did happen, small amounts of sediment and ash could be suspended in the stream. The small amounts of sediment involved, combined with the likelihood of high flows at the time of suspension make it very unlikely that this event would have an adverse effect on coho, coho critical habitat, Essential Fish Habitat, or any other fish or aquatic resources. If sediment were to reach the Rogue under the same conditions, it is very unlikely that it would adversely affect the fish species present. This would be due to the small amount of fine sediment compared to the volume of water in the river.

Indirect Effects- Reducing fuel loading in the drainages through fuel treatments and prescribed burning would decrease the risk of catastrophic fire resulting in high severity burning. By reducing the likelihood of catastrophic events, the potential for erosion and sedimentation from increased runoff would be diminished. Lowering the chance of increased sedimentation from a stand destroying fire would increase the likelihood of salmonid survival in the egg to fry stage. Decreasing sediment delivery and associated turbidity indirectly increases the chance of survival of juvenile salmonids by avoiding gill scour and associated mortality from disease.

Channel Morphology

Direct Effects - The direct effects to channel morphology anticipated would result from the possibility that a backing fire could cause a tree or snag to fall into a stream. A log falling into the stream channel could result in the scouring of a pool and/or the recruitment of gravel and storage of sediment. These effects would be beneficial and long term.

Indirect Effects - By reducing the risk of catastrophic fire events, the risk of negative impacts on channel morphology would be decreased. Slope failure would be less likely to increase. Pulses of sediment which can change channel morphology by filling pools and burying riffles would be less likely. Degradation of spawning gravels and loss of pool rearing habitat would be less likely to occur, and so the survival of salmonids in the egg, fry, and juvenile stages would not decrease.

Temperature

Direct Effects - Vegetative treatments are not anticipated to affect stream shade and temperature because the restrictions on cutting trees adjacent to perennial streams would be sufficient to protect shade (e.g., retention of all trees >8" DBH within 75 ft. of perennial streams). However, if a backing fire caused a tree or snag to fall adjacent to a perennial stream, then there could be a direct effect on stream shade and therefore, temperature. In both cases, the effects anticipated would be negligible and short term due to the infrequency of the event, the distribution of the event over time and the landscape, and the ability of the surrounding canopy to grow into a light gap and reestablish shade.

Indirect Effects - By reducing the risk of a catastrophic fire event occurring, an extensive high severity burn that would diminish shade and increase stream temperatures in a given drainage is less likely. Juvenile salmonids which depend on cool water for rearing would benefit because the adverse effect from even a short term increase in temperature resulting from a stand replacement fire would be lessened.

Large Woody Debris

Direct Effects - Underburning would result in a mosaic pattern of lightly burned areas that are discontinuous and surrounded by unburned shredded slash and vegetation. Small woody material would be consumed in the fire, but large coarse woody material would be left intact. The cool, low intensity fires would most likely not result in the consumption of snags or large trees within the riparian reserve. The movement of prescribed fire within the riparian areas is dependent on fuel distribution and moisture, relative humidity, and fuel loading. During underburns in riparian areas, higher fuel moistures and relative humidities combine to slow the movement of fire, reducing the risk of mortality of large trees and consumption of snags and large down wood. In addition the potential removal of trees 12-21" DBH would only take place outside of 150 ft. from streams and only where 60% canopy closure could be retained. Within 1 site potential tree of streams, future recruitment of down wood and large woody debris would be maintained.

Indirect Effects - By reducing the risk of a stand destroying fire in the riparian reserves of the project area, the recovery of mature forests would be advanced and the opportunity for future recruitment of large woody debris into these streams would be increased. Large diameter (>24? DBH) trees are required adjacent to streams for the recruitment of "key pieces". Key pieces are important for creating habitat complexity for rearing juvenile salmonids and cover for adults during migration. Large wood is critical in determining the productivity of the stream, as it affects channel stability, stream hydraulics, pool formation and quality, nutrient and gravel retention, and macroinvertebrate diversity. The future recruitment of large trees into streams increases the possibility for recovery of properly functioning large woody debris and increases the production and survival of salmonid populations dependent on the tributary streams of the project area.

Potential effects to streams from thinning within the Riparian Reserve are anticipated to be highly localized, unmeasurable, negligible, and short term at the project level (6th and 7th field scales) and fifth field scale. The effects to coho or coho critical habitat are not likely to be adverse because of the efforts to eliminate sediment delivery mechanisms and disturbance through project design features.

Based on an analysis of the above effects, we have determined that the effects of the proposed fuel hazard reduction treatments would not be likely to disrupt normal behavior patterns such as migration spawning, egg incubation, rearing and feeding. Significant modifications or degradations of habitat will not occur. The habitat is expected to improve as late successional characteristics are achieved.

F. SLASHBUSTER TREATMENTS

The slashbuster would not treat areas within 50 feet of perennial and intermittent streams, with the treads stopping at 75 feet. The slashbuster machine will be restricted to slopes generally less than 40%. The slashbuster will only cross intermittent and perennial streams at preexisting crossings. Low intensity (winter/spring) underburning would occur after mechanical treatment within 1-10 years if needed to reduce fuel hazard risk. Fires will be allowed to back into the no treatment areas, but no ignition will occur within 50 feet of streams

Effects from slashbuster and subsequent underburning will be highly localized, unmeasurable, negligible, and have short term impacts. Streambank stability will be maintained with the tracks of the slashbuster stopping at 75 feet. Due to the fact the tracks are riding on an 8" to 12" layer of shredded /chopped vegetation, only 2 - 4% of the project area will have signs of soil compaction. This will result in the reduction of surface disturbance, erosion and sedimentation, and soil compaction. Associated underburning would result in a mosaic pattern of lightly burned areas that are discontinuous and surrounded by unburned shredded slash and vegetation. Pre-existing coarse wood material greater than 10" diameter would be protected from shredding or damage. All snags would be protected. If a snag is felled for safety reasons, it would be retained and protected on site.

Based on an analysis of the above effects, we have determined that the proposed slashbuster and subsequent underburning will not cause significant degradation or modifications to coho habitat. The slashbuster and the underburning will have negligible affects to coho migration, spawning, egg incubation, rearing, and feeding.

SUMMARY/CONCLUSION

Potential effects to fish and aquatic resources from fuel hazard reduction within the Riparian Reserve are anticipated to be highly localized, negligible, and short term at the project level (6th and 7th field scales) and fifth field scale. Mechanical vegetation treatments and handpile burning are not anticipated to have any direct effect. Prescribed underburning may incidentally cause ash and sediment to enter streams immediately adjacent to a burn. The amount, timing and duration of sediment delivery would be so small and of short duration that it would not kill aquatic insects used as food and would not embed spawning gravels affecting the eggs and alevins. Any ash or sediment that might reach coho or coho critical habitat would be negligible and would not likely disrupt spawning, migration, egg incubation, rearing or feeding and would not cause degradation or modification of habitat. The turbidity would be within the range of natural variability for the streams affected. Further, any sediment would be delivered during the wet season when flows are higher, thereby reducing effects to coho and other salmonids. Long term increases in canopy cover will contribute to lowering summer water temperatures. Increased recruitment of large woody debris into streams will improve channel complexity and instream habitat. The future recruitment of large woody debris would not be reduced, therefore having no negative effect on future instream habitat conditions. Improved rearing habitat would increase the survival of juvenile salmonids. Retention of shade on perennial streams will prevent stream temperature increases. It is anticipated that the long term beneficial effects will maintain downstream salmon production and survival and the environmental conditions will be maintained. The effects to coho or coho critical habitat are not likely to be adverse because of the efforts to eliminate sediment delivery mechanisms, retain shade, and provide for future LWD recruitment through project design features.

DICHOTOMOUS KEY FOR MAKING SECTION 7 DETERMINATION OF EFFECTS

Name and location of action: Grants Pass Resource Areas, Medford District
Project: Rogue River Fuel Hazard Reduction Project

1. Are there any proposed/listed anadromous salmonids and/or proposed/designated critical habitat in the watershed or downstream from the watershed?

   NO ..... No effect
   YES ..... **May affect, go to 2**[1]

2. Will the proposed action(s) have any effect whatsoever[1] on the species and/or critical habitat?

   NO ..... No Effect
   ..... **YES Go to 3**

3. Does the proposed action(s) have the potential to hinder attainment of relevant properly functioning indicators (from checklist)?
   ..... **NO Go to 4**
   YES ..... Likely to adversely affect[2]

4. Does the proposed action(s) have the potential to result in "take"[3] of proposed/listed anadromous salmonids or destruction/ adverse modification of proposed/designated critical habitat?

   A. There is a negligible (extremely low) probability of take of proposed/listed anadromous salmonids or destruction/adverse modification of proposed/designated critical habitat .....
   ..... **Not likely to adversely affect**

   B. There is more than a negligible probability of take of proposed/listed anadromous salmonids or destruction/adverse modification of proposed/designated critical habitat .....
   ..... Likely to adversely affect[4]

---

[1] "Any effect whatsoever" includes small effects, effects that are unlikely to occur, and beneficial effects, i.e. a "no effect" determination is only appropriate if the proposed action will literally have no effect whatsoever on the species and/or critical habitat, not a small effect, an effect that is unlikely to occur, or a beneficial effect.

[2] Document expected incidental take on reverse side of this key.

[3] "Take" - The ESA (Section 3) defines take as "to harass, harm, pursue, hunt, shoot, wound, trap, capture, collect or attempt to engage in any such conduct". The USFWS further defines "harm" as "significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering", and "harass" as "actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering".

III. ENVIRONMENTAL BASELINE AND EFFECTS OF PROPOSED ACTION(S) ON RELEVANT INDICATORS

A. TEMPERATURE

The Rogue River Recreation Section ("Rogue-Rec") is 303(d) listed by the Oregon Department of Environmental Quality (DEQ) as water quality limited due to high summer temperatures. The Rogue-Rec fifth field watershed is not properly functioning for temperture. The current condition would be maintained.

Direct Effects

Vegetative treatments are not anticipated to affect stream shade and temperature because the restrictions on cutting trees adjacent to perennial streams would be sufficient to protect shade. In addition, if a backing fire caused a tree or snag to fall adjacent to a perennial stream, then there could be a direct effect on stream shade and therefore, temperature. In both cases, the effects anticipated would be negligible and short term due to the infrequency of the event, the distribution of the event over time and the landscape, and the ability of the surrounding canopy to grow into a light gap and reestablish shade.

Indirect Effects

By reducing the risk of a catastrophic fire event occurring, an extensive high severity burn that would diminish shade and increase stream temperatures in a given drainage is less likely. Juvenile salmonids which depend on cool water for rearing would benefit because the adverse effect from even a short term increase in temperature resulting from a stand replacement fire would be avoided to a degree. The above actions would not decrease shade cover and therefore will not affect stream temperatures at the watershed level.

B. SEDIMENT

The watershed is currently "at risk" for sediment and turbidity. The current condition would be maintained and the watershed will remain "at risk" for sediment.

Direct Effects

During a controlled burn, it is unlikely that fire would back down all the way into the no treatment area and to the edge of any stream. However, if this did happen, small amounts of sediment and ash could be suspended in the stream. The small amounts of sediment involved, combined with the likelihood of high flows at the time of suspension make it very unlikely that this event would have an adverse effect on coho, coho critical habitat, Essential Fish Habitat, or any other fish or aquatic resources. If sediment were to reach the Rogue under the same conditions, it is very unlikely that it would adversely affect the fish species present. This would be due to the small amount of fine sediment compared to the volume of water in the river.

Indirect Effects

Reducing fuel loading in the drainages through fuel treatments and prescribed burning would decrease the risk of catastrophic fire resulting in high severity burning. By reducing the likelihood of catastrophic events, the potential for erosion and sedimentation from increased runoff is diminished. Lowering the chance of increased sedimentation from a stand destroying fire increases the likelihood of salmonid survival in the egg to fry stage. Decreasing sediment delivery and associated turbidity indirectly increases the chance of survival of juvenile salmonids by avoiding gill scour and associated mortality from disease.

C. POOL QUALITY

Pool character and quality are currently "at risk" in the watershed. On the watershed level, pool quality will remain "at risk".

The quality of some pools located in the project area would over time, improve as late successional conditions increase in riparian reserves. Fuel reduction treatments in the riparian reserve would accelerate late successional conditions, such as, structural diversity, large tree diameter, and future large woody debris supply, thereby increasing shade and large woody debris recruitment at site specific locations within the project area.

D. OFF-CHANNEL HABITAT

Off-channel habitat is "at risk" within the watershed. The current condition would be maintained. Channelization resulting from past logging practices has prevented some streams from meandering and forming side channels. Sediment delivery has compromised off-channel habitat by filling the areas in with fines At site specific locations within the project area, off-channel habitat could improve as large woody debris is recruited and side channels become functional again.

E. REFUGIA

The proposed actions will not fill in pools with sediment or decrease shade cover. Refugia will remain "at risk" at the watershed level.

F. WIDTH/DEPTH RATIO

Elevated sediment loads within the watershed have increased channel width and decreased channel depth as pools become filled. The amount of sediment delivered to critical habitat from implementing the proposed actions would be discountable and insignificant. The width/depth ratio at the watershed level will continue to be "at risk" from activities unrelated to this proposed action.

G. STREAMBANK CONDITION

Streambank conditions within the watershed are "at risk" and will remain at this level. At the site specific locations within the project area, streambank conditions will not be degraded. Fuel reduction

treatments will not take place within the no treatment zone of the riparian reserve. Ignition will not take place within the no treatment zones, but a backing fire could cross into the no treatment zones imitating a naturally occurring low intensity ground fire. These actions will not cause a reduction in streambank conditions. Trees greater than 12"DBH, outside of the 150 foot buffer, would be directionally felled and lined out by a skidder working from an existing unrecovered skid trail or road. No new stream crossings will occur. Alterations to streambanks are not anticipated because of absence of equipment entry into the no treatment zones.

H. FLOODPLAIN CONNECTIVITY

The floodplain connectivity is naturally limited and is further degraded due to roads, channelization, agricultural practices, and downgrading of the channels on private and federal lands. Channelizing the streams has disconnected the floodplain from the channel and has decreased fish rearing capability over the past century. The streams in the watershed are prevented from meandering and forming side channels. The connectivity will not be restored at the watershed level as a result of the proposed actions; it will be maintained at the current "at risk" conditions.

I. PEAK/BASE FLOWS

The proposed actions will not restore currently "at risk" peak/base flows at the watershed level, but will maintain them. Decommissioning preexisting skid trails used in the riparian reserves and ripping and planting temporary operator spurs will increase infiltration of exposed groundwater, but will have no detectable effect on returning peak/base flows to more natural levels

J. DRAINAGE NETWORK INCREASE

Long term beneficial effects of ripping and seeding operator spur roads, and the decommissioning of preexisting skid trails used within the riparian reserve include improved infiltration and drainage within the project area. The proposed actions will not affect the drainage network at the watershed level and it will remain not properly functioning.

K. ROAD DENSITY AND LOCATION

The road density within the project area will be reduced as a result of decommissioning 0.5 mile of road in the matrix and decommissioning any preexisting skid roads used in the riparian reserves. There will be construction of operator spur roads outside of the riparian reserve, however these roads will be decommissioned following use. No new road construction is proposed within the riparian reserve. Within the project area the road density will not be reduced, but unrecovered skid trails would be returned to riparian function. Road density and location of roads will remain not properly functioning at the watershed level.

L. DISTURBANCE HISTORY

The aquatic environment within the watershed has been degraded as a result of past land use practices.

Major changes in the watershed have occurred from agricultural water diversions, timber harvesting and road development. Diversions from streams for irrigation and mining purposes combined with century old water rights have significantly decreased the amount of water available to fish, especially during low flow periods. Timber harvesting in riparian reserves in parts of the watershed has caused a loss of large woody debris and a diminished recruitment of future large woody debris. Road development near streams has channelized the streams, limiting stream meander. Presently there is little connectivity between the streams and the floodplains. The disturbance history indicates that the aquatic environment is not properly functioning.

M. LANDSLIDE RATES

Within unstable areas where there is active soil movement (such as slip plains, step benches, recent debris flows or debris slides) there will be no vegetative treatment. Within areas with indications of past movement that are potentially unstable, some vegetative treatment may occur where long term root strength can be maintained or increased. This would include fuel treatments such as hand piling and slashing. The landslide rates at the watershed level will not be affected and they will remain "at risk". The proposed actions will not promote landslides within the project area.

N. RIPARIAN RESERVE

In the past, timber harvesting in the riparian reserve in parts of the watershed caused a loss of large woody debris and a diminished recruitment of future large woody debris. The proposed actions will accelerate the stand to late successional conditions, increase the future recruitment of large woody debris, reduce fuel loading in the riparian reserve, and reduce the chance of a stand replacing fire. The riparian reserves are "at risk" within the watershed, but will be improved at site specific levels within the project area in the long-term. The current condition would not change at the sixth field scale, however.

Checklist for Documenting Environmental Baseline and Effects of Proposed Action(s) on Relevant Indicators

Name and location of action: Rogue River Fuels Pilot Project

Watersheds: Rogue-Rec. Section HUC-5

FACTORS / INDICATORS	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S)		
	Properly Functioning [1]	At Risk [1]	Not Propr.[1]	Restore [2]	Maintain [3]	Degrade [4]
Water Quality: Temperature			WA		EA	
Turbidity		WA			EA	
Chemical Contam/Nutrients	PJ				EA	
Habitat Access: Physical Barriers			WA		EA	
Habitat Elements: Sediment		PJ			EA	
Large Woody Debris		PJ			EA	
Pool Character and Quality		PJ			EA	
Off-channel Habitat		WA			EA	
Channel Cond. & Dyn. Width/Depth Ratio		WA			EA	
Streambank Cond.		PJ			EA	
Floodplain Connectivity		WA			EA	
Flow/Hydrology: Changes in Peak Flow		PJ			EA	
Watershed Condition: Road Dens. & Loc.			PJ		EA	
Disturbance History			PJ		EA	
Landslide and Erosion Rates			PJ		EA	
Riparian Reserves		PJ				

1 Environmental Baseline conditions are derived from Forest Service, BLM and ODFW stream survey data and synthesis of watershed analysis findings. Document your baseline condition findings with the source, e.g. WA (watershed analysis), NEPA, SS

(stream surveys- specify whether BLM, FS,ODFW,other), PJ (professional judgment), Monitoring (MON), etc. Explain with a footnote at bottom of checklist your abbreviation if not listed here.

2 Effects of the Action(s) are derived from scoping for the environmental document (NEPA) or the environmental document supporting the proposed action(s). Document your sources with abbreviations and explanatory footnotes as discussed above.

3 These three categories of function ("properly functioning", "at risk", and "not properly functioning") are defined for each indicator in the "Matrix of Factors and Indicators" (Table 1.)

4 For the purposes of this checklist, "restore" means to change the function of an "at risk" indicator to "properly functioning" or to change the function of a "not properly functioning" indicator to "at risk" or "properly functioning", moving conditions towards recovery.

Name of Biologist: J. Raybourn Date: 6-5-03

IV. ESSENTIAL FISH HABITAT

The Magnuson-Stevens Act designates Essential Fish Habitat (EFH) for coho and chinook salmon. Portions of the proposed project occur within EFH. Actions which have the most potential to produce adverse effects are underburning, road maintenance, and the use and decommissioning of landings and skid roads in the riparian reserve. The project design features and best management practices adequately mitigate or eliminate the potential adverse effects to EFH. The executive summary discusses the analysis for the effects of the proposed actions.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2003/00897

July 30, 2003

Tim Reuwsaat
District Manager
Bureau of Land Management, Medford District
3040 Biddle Road
Medford, OR 97504

Re: Endangered Species Act Section 7 Informal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Rogue River Fuel Hazard Reduction Project, Josephine County, Oregon

Dear Mr. Reuwsaat:

This correspondence is in response to your July 11, 2003, request for consultation under the Endangered Species Act (ESA) for the proposed Medford District Bureau of Land Management (MBLM) Rogue River Fuel Hazard Reduction Project in the Lower Rogue River HUC-4 watershed. Additionally, this letter serves to meet the requirements for consultation under the Magnuson Stevens Fishery Conservation and Management Act (MSA).

ENDANGERED SPECIES ACT

On July 14, 2003, NOAA's National Marine Fisheries Service (NOAA Fisheries) received a complete biological assessment (BA) describing the project and its effects, maps detailing the project location, and a written request for concurrence with a determination that the proposed action is "not likely to adversely affect" (NLAA) Southern Oregon/Northern California (SONC) coho salmon (*Oncorhynchus kisutch*). A field trip to the project area took place on June 4, 2003.

NOAA Fisheries listed SONC coho salmon as threatened under the ESA on May 6, 1997 (62 FR 24588), with critical habitat designated on May 5, 1999 (64 FR 54049). Interim protective regulations for SONC coho were issued under section 4(d) of the ESA on July 18, 1997 (62 FR 38479). This consultation is undertaken under section 7(a)(2) of the ESA, and its implementing regulations, 50 CFR Part 402.

The proposed action occurs in the Hellgate Recreational Section of the Rogue National Wild and Scenic River (Dunn and Applegate reaches), a HUC-6 watershed within the Rogue-Recreation HUC-5 watershed. The hazardous fuels reduction project occurs along 27 miles of the Rogue River, approximately a quarter mile on either side of the river. Other streams and watersheds

occur in the project area, but only at their confluences with the Rogue River and extending 1/4 mile upstream. Streams include Grave, Galice, Taylor, Stratton, Hog, Jumpoff Joe, Pickett, Shan, Limpy, Dutcher, Madams, and Pass Creeks, and the Applegate River. Coho salmon critical habitat exists in the Rogue River and all of the above mentioned tributaries. Coho salmon are present in the Rogue River, the Applegate River, and at least eight of the tributary creeks. The MBLM is proposing fuel reduction treatments on 7,732 acres, with 4,270 acres within riparian reserves and 3,462 acres outside.

The fuel reduction project along the river corridor involves approximately 190 residences and three communities at risk from wildfire, as designated by the National Fire Plan. The area within the project has been divided into four zones: (1) The home ignition zone that extends outward from structures 50 to 200 feet, depending on topography; (2) the defense zone extending outward from structures about 0.25 miles; (3) the threat zone that extends beyond the defense zone about 1.25 miles; and (4) a general forest zone, that encompasses the remainder of the project. The home ignition zone will receive the most intensive fuel reduction treatment designed to prevent structures from catching fire during a wildfire. MBLM will complete vegetative treatments around all structures on its lands within the project area. Where MBLM has a scenic easement associated with this recreational corridor of the Rogue River, it will work collaboratively with supportive landowners. The defense zone is designed to protect loss of life and property by creating a broader defensible space around homes and communities at risk. Approximately 1,523 acres are within the defense zone. The threat zone is intended to interrupt fire spread and reduce intensity before a wildfire is able to reach the defense and home ignition zones. The threat zone will receive a lesser amount of fuel reduction than the defense and home ignition zones. Approximately 2,567 acres are within the threat zone. Fuel reduction at an even lower level will occur within the general forest zone providing some protection to adjacent forest lands from fires initiated within the corridor. Approximately 657 acres of the project arewithin the general forest zone. The MBLM will engage the three communities at risk within the home ignition and defense zones in a collaborative process to create neighborhood fire plans. These neighborhood fire plans will follow all of the Project Design Features (PDFs) in the BA and Environmental Assessment (EA) for the project, but will allow for a lesser amount of fuel reduction if the citizens in those communities so desire.

A no-treatment zone of 50 feet will be maintained along all streams. All trees greater than 8 inches diameter at breast height (dbh) within 75 feet of perennial streams will be retained. All trees greater than 12 inches dbh within 150 feet of any stream will be retained. Outside of 150 feet from streams, trees with a dbh of 12 to 21 inches may be removed where necessary to reduce bulk crown density and prevent crown fires, but a canopy closure of 60% would be retained. Where the existing canopy closure is less than 60%, fuel treatments would be limited to the understory. Burning of piles will not occur within 50 feet of a stream. After mechanical treatments, underburning could be initiated outside of the 50-foot no-treatment buffer and be allowed to back in as long as the underburn is of low intensity and the midlevel and upper canopies are not at risk, and an unburned strip at least 25 feet wide is left next to the stream. These objectives would be met by means such as igniting well outside 50 feet, watering down or

removing fuels around at-risk large woody debris, constructing handlines, *etc.* Suppression crews and equipment will remain on site after prescribed burns to perform post-burn patrol, and mop-up would occur to prevent reburn or fire escape. Treatments with a slashbuster (rotary head masticator mounted on an excavator) will not occur within 50 feet of perennial or intermittent streams. The tracks on the slashbuster would be kept at least 75 feet from perennial or intermittent streams. Within riparian reserves, trees to be removed from the site would be directionally felled to preapproved skid trails. No new skid trails or stream crossings will occur in riparian reserves. Existing skid trails could be used if they are stable and outside of the no treatment zone. After use they will be decompacted, covered with mulch and small diameter slash, and planted. About two miles of existing skid trails within riparian reserves will be decommissioned. No new permanent roads will be constructed in the riparian reserves or matrix lands. About 4.1 miles of existing roads within riparian reserves will receive maintenance, and about one mile of spurs will be constructed outside of riparian reserves and decommissioned after use. Yarding tractors used outside of riparian reserves would be confined to designated skid trails and restricted to soil moisture less than 25%. Low ground pressure equipment (<4 psi) would be permitted without designated skid trails if soil moisture is <20% and it is able to operate on areas with at least 80% slash cover. About 7 miles of existing skid trails outside of riparian reserves will be decommissioned. About 8 miles of road outside of riparian reserves will receive maintenance. Much of the project is in Visual Resource Management (VRM) Class I, meaning that areas visible from the river or country by-way can only be changed in ways not noticeable to someone floating or driving by. Thus, in those areas, vegetation can only be reduced by about 20% per entry, with entries occurring every two to three years. The project will take about 10 years to complete.

Based on information provided by the MBLM and developed during informal consultation, NOAA Fisheries concurs with the MBLM determination that the proposed project is NLAA for the following reasons: (1) A 50-foot no-treatment buffer will occur along all streams; (2) skid trails will be decompacted, mulched and planted; (3) all trees >8 inches dbh within 75 feet of perennial streams will be retained; (4) all trees >12 inches dbh within 150 feet of all streams will be retained; (5) all practices will follow conventional PDFs as described in the BA and EA and utilized in all other MBLM actions of this nature; and (6) the project will occur incrementally over 10 years avoiding a large amount of disturbance at any one time. Therefore, the proposed project is not reasonably certain to cause incidental take of OC coho salmon.

The MBLM must reinitiate this consultation if: (1) New information reveals that effects of the action may affect listed species in a way not previously considered; (2) the action is modified in a way that causes an effect on listed species that was not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16).

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Federal agencies are required, under §305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NOAA Fisheries regarding actions that are authorized, funded, or undertaken by that agency that may adversely affect essential fish habitat (EFH). The MSA (§3) defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." If an action would adversely affect EFH, NOAA Fisheries is required to provide the Federal action agency with EFH conservation recommendations (MSA §305(b)(4)(A)). This consultation is based, in part, on information provided by the Federal action agency and descriptions of EFH for Pacific salmon contained in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (August 1999) developed by the Pacific Fishery Management Council and approved by the Secretary of Commerce (September 27, 2000).

The proposed action and action area are described above in this concurrence letter and in the BA. Designated EFH for various life stages of coho salmon and chinook salmon (*O. tshawytscha*) occurs within and downstream from the project area.

Because the habitat requirements (*i.e.*, EFH) for the MSA-managed species in the project area are similar to that of the ESA-listed species, and because the conservation measures that the MBLM included as part of the proposed action to address ESA concerns are also adequate to avoid, minimize, or otherwise offset potential adverse effects to designated EFH, conservation recommendations pursuant to MSA (§305(b)(4)(A)) are not necessary. Since NOAA Fisheries is not providing conservation recommendations at this time, no 30-day response from the MBLM is required (MSA §305(b)(B)).

This concludes consultation under the MSA. If the proposed action is modified in a manner that may adversely affect EFH, the MBLM will need to reinitiate EFH consultation with NOAA Fisheries in accordance with NOAA Fisheries implementing regulations for EFH at 50 CFR 600.920(k).

Please direct questions regarding this letter to Tom Halferty of my staff in the Oregon Habitat Branch at 541.957.3378.

Sincerely,

Steve Livernois for

D. Robert Lohn
Regional Administrator

cc: Jon Raybourn, Grants Pass Resource Area, Medford BLM

Northwest Forest Plan Aquatic Conservation Strategy
Consistency Review

PROJECT: Rogue River Fuel Hazard Reduction Project
Medford District BLM, Grants Pass Resource Area
PREPARERS: D. Maurer (Soil Scientist), J. Raybourn (Aquatic / Fisheries Biologist)

HUC-5: Rogue-Recreation Section

PROJECT AREA: Hellgate Recreational Section of the Rogue National Wild & Scenic River. (include the Dunn and Applegate reaches). Other streams and watersheds intersect the project area only at their confluences with the Rogue (e.g., Grave, Galice, Pickett, Taylor, Hog, Stratton, Jumpoff Joe, Limpy, Shan, and Dutcher Creeks, and the Applegate River).

Rogue-Recreation Section Watershed Analysis, Medford BLM, January 1999
Rogue River Fuel Hazard Reduction Project Environmental Assessment, Medford BLM 2003

I. ROD Standard and Guidelines analyzed at the project level

I.A. Road Management:

RF-2 (Page C-32). Meet or attain ACS objectives for existing and planned roads.

Proposed Action: No new spur road construction is proposed in the riparian reserve. As necessary to provide access to fuel treatment areas, existing operator spurs would be brushed and new, semi-permanent spurs would be constructed outside of riparian reserves. Approximately 4.1 miles of BLM roads within the riparian reserve and approximately 8 miles of roads outside the riparian reserve will continue to be maintained. Approximately 7.2 miles of existing non-capitalized roads or unrecovered skid trails on BLM lands could be opened and used for biomass removal. Helicopter landings would be constructed outside of the riparian reserves. Road maintenance, renovation, and decommissioning will be done in accordance with Best Management Practices (Medford District RMP, Appendix D-VII).

Consistency Assessment: These activities follow the standards and guides for road maintenance and renovation in the riparian reserve. By following District BMPs and project design features, all proposed activities would maintain baseline conditions and be consistent with ACS objectives.

I.B. Stream Crossing

RF-4 (Page C-32). New culverts, bridges, and other stream crossings shall be constructed...to accommodate at least the 100-year flood including associated bedload and debris. Crossings will be constructed and maintained to prevent diversion of stream flow out of the channel and down the road in the event of crossing failure.

Proposed Action: There are no stream crossings proposed.

Consistency Assessment: This activity follows the standards and guides for road construction in the riparian reserve.

I.C. Sediment

RF-5 (Page C-33). Minimize sediment delivery to the streams from roads.

Proposed Action: Maintain and renovate roads to minimize delivery of sediment to streams (see RF-2 above). Road maintenance and renovation will be done in accordance with Best Management Practices (Medford District RMP, Appendix D-VII).

Consistency Assessment: These activities follow the standards and guides for road maintenance and renovation in the riparian reserve. Sediment delivery from existing roads will be decreased by road maintenance and road renovation. A minimal amount of sediment delivery to streams could result from this work, but would cause highly localized, negligible, short term impacts at the site level. There will be a long term reduction of sediment and long term beneficial impacts from less sediment entering streams.

I.D. Fire/Fuels Management

D.1. FM-1 (Page C-35). "Design fuel treatment(s)...to meet ACS objectives and to minimize disturbance of riparian ground cover and vegetation...recognize role of fire in ecosystem function...."

Proposed Action: Fuel hazard reduction treatments would be implemented within the riparian reserves. In all cases a no treatment area adjacent to the stream would be maintained. No treatment area widths will be 50 feet on all streams to minimize reduction of vegetation shading the stream and to prevent the delivery of sediment to any stream. Slash treatment and fuel reduction objectives within the riparian reserves could incorporate the slashbuster, with followup underburning. If a slashbuster is used, it would not treat areas within 50 feet of perennial and intermittent streams, with the treads stopping at 75 feet. All trees >8" DBH within 75 feet of perennial streams would be retained, therefore causing no reduction of shade on perennial streams. All trees >12" DBH within 150 feet of any stream would be retained. Larger trees could be removed from the riparian reserve outside of 150 feet from a stream as prescribed to meet fuel hazard reduction objectives, but all trees >21" DBH within the riparian reserve would be retained.

Hand pile burning will be combined with fall, winter or spring cool, low intensity underburning. Low intensity underburns in the riparian reserve may extend into the no treatment zones where this can mimic a naturally occurring low intensity ground fire, but no ignition will occur within the no treatment zones.

Consistency Assessment: These activities follow the standards and guides for fire/fuels management in the riparian reserve.

D.2. FM-2 (C-35). Fuel treatment staging areas meet or attain ACS objectives.

Proposed Action: Fuel treatment staging areas will be restricted to existing roads and spurs.

Consistency Assessment: These activities follow the standards and guides for fire/fuels management in the riparian reserve.

D.3. **FM-4 (Page C-36): Design prescribed burn projects and prescriptions to contribute to attainment of ACS objectives**.

Proposed Action: See FM-1.

Consistency Assessment: These activities follow the standards and guides for fire/fuels management in the riparian reserve.

II. Evaluation of Pathways and Indicators In Relation To ACS Objectives

In the following discussion, factors and indicators from the National Marine Fisheries Service (NMFS) Matrix of Pathways and Indicators are evaluated individually. Each factor and indicator relates to various ACS objectives. By including ACS objectives in the discussion of factors and indicators, a common link and logic track is developed between ACS consistency and the effects determination of the proposed project on federally listed fish species.

When discussing effects in the individual analyses of ACS objectives, "long term" is used in the context of ACS, meaning a period of time defined as "...decades, possibly more than a century" (USDA, USDI 1994 p. B-9), unless otherwise described. The "baseline" is the current condition of the watershed, rated in the environmental baseline as Properly Functioning, At Risk, or Not Properly Functioning (see Table 1 with footnotes). The effects of an action are evaluated as to whether they will move the relevant indicator to a different baseline condition on a watershed (fifth field) scale. The proposed action would neither degrade or restore any of the indicators, but all baseline conditions would be maintained at the sixth field scale or smaller.

II.A. Water Quality

Temperature (ACS 2,4,8,9

The Rogue River Recreation Section is 303(d) listed as water quality limited due to high summer temperatures. It is anticipated activities will not increase stream temperature. The removal of brush and small trees outside of 50 foot buffers will not cause a reduction of effective shade. Trees which are >8"DBH will be retained within 75 feet of perennials streams, and trees >12" DBH will be retained within 150 feet of perennial streams, therefore causing no reduction of effective shade.

Baseline:

Maintain: This indicator is not expected to change in a way measurable at the project or watershed scales.

Sediment/Turbidity and Substrate (ACS 3, 4,5,6,8,

Project design features would minimize the potential for sediment delivery mechanisms. The amount, timing and duration of sediment delivery would be minimal and of short duration. The sediment would be delivered during winter run-off when flows are higher, thereby reducing adverse affects. Road maintenance and renovation activities will reduce the amount of sediment entering streams in the project area. In addition, temporary operator spurs would be ripped and seeded or planted with trees after yarding is completed and any preexisting skid trails used in the riparian reserve will be decommissioned following use. The ripping and decommissioning of spur roads and landings would not cause sediment delivery to streams because of the project design features and the location outside of riparian reserves.

Baseline:

Maintain: No short or long term adverse effects to fish survival or production are expected to occur. The sediment regime or turbidity levels are not expected to change on the sixth field scale.

Chemical Contamination/Nutrients (ACS 2,4,8,9).
The use of chemicals such as petroleum products is restricted and controlled by BLM Best Management Practices. Long term nutrient input to the riparian reserve from the addition of coarse wood will provide a benefit to the nutrient cycle related to aquatic production. Precautions to prevent the possibility of chemical spills from fuel treatments or road activity are stipulated in contracts. Spill plans are required from contractors and equipment is immediately available to contain oil or fuel spills from leaking machinery.

Baseline:
No long term effects are expected to occur which would measurably change the current condition at the sixth field scale.

II.B. Habitat Access

Physical Barriers (ACS 2,6,9).
No activities will create a barrier to fish.

Baseline:
The project would not affect this indicator.

II.C. Habitat Elements

Substrate (ACS 3,5,8,9). Refer to Water Quality above.

Large Woody Debris (ACS 3,6,8,9).
By reducing the risk of a stand destroying fire in the riparian reserves of the project area, the recovery of mature forests would be advanced and the opportunity for future recruitment of large woody debris into these streams would be increased.

Baseline:
Maintain: Within 1 site potential tree of streams, future recruitment of down wood and large woody debris would be maintained.

Pool Frequency (ACS 3,8,9). This project is not expected to affect pool-forming processes at the watershed scale.

Baseline:
Maintain: No long-term effects are expected to occur that would measurably change this indicator at the sixth field scale.

Pool Quality (ACS 3,5,6,9). This project is not expected to affect pool-forming processes at the sixth field scale but the recruitment of large woody debris would improve the quality of pools at the site level.

Baseline:
Maintain: No long-term effects are expected to occur that would measurably change this indicator at the sixth field scale.

Off-Channel Habitat (ACS 1,2,3,6,8,9). This project is not expected to affect pool-forming processes at the watershed scale.

Baseline:
Maintain: No long-term effects are expected to occur that would measurably change this indicator at the sixth field scale.

Refugia (ACS 1,2,9).
The project will not retard the attainment of this objective. It will not affect existing refugia because there is a no treatment area adjacent to all streams. Limited treatment will be allowed within the riparian reserves.

Baseline:
Maintain: No long-term effects are expected to occur that would measurably change this indicator at the sixth field scale.

II.D. Channel Condition and Dynamics

Width/Depth Ratio (ACS 3,8,9).
This project is not expected to affect channel processes that influence width/depth ratios.

Baseline:
Maintain: No long-term effects are expected to occur that would measurably change this indicator at the sixth field scale.

Streambank Condition (ACS 3,8,9).
Fuel reduction treatments will not take place within the no treatment zone of the riparian reserve. Ignition will not take place within the no treatment zones, but a backing fire could cross into the no treatment zones imitating a naturally occurring low intensity ground fire. These actions will not cause a reduction in streambank conditions. Trees greater than 12"DBH, outside of the 150 foot buffer, would be directionally felled and lined out by a skidder working from an existing unrecovered skid trail or road. No new stream crossings will occur. Alterations to streambanks are not anticipated because of absence of equipment entry into the no treatment zones.

Baseline:
Maintain: No long-term effects are expected to occur that would measurably change this indicator at the sixth field scale.

Floodplain Connectivity (ACS 1,2,3,6,7,8,9).
Fuel treatments will not affect the floodplain connectivity because riparian reserves will be maintained and stream channels will not be altered.

Baseline:
Maintain: No long-term effects are expected to occur that would measurably change this indicator at the sixth field scale.

II.E. Flow/Hydrology

Change in Peak/Base Flow (ACS 5,6,7).
Peak, summer and annual flows are expected to be within the range of natural variability for these types of streams. It is anticipated that the road maintenance and decommissioning of skid trails would improve the infiltration of exposed groundwater and runoff from roads.

Baseline:
Maintain: Improvements to infiltration will not be detectable in the duration and intensity of peak winter runoff from roads at the sixth field scale.

Increase in Drainage Network (ACS 2,5,6,7).
Maintenance proposed on natural surface roads such as installing waterdips and ditch relief culverts, would minimally decrease the drainage network by allowing exposed groundwater to infiltrate into the soil off the road.

Baseline:
Maintain: This indicator would decrease minimally in response to maintenance on natural surface roads. Water on treated roads would drain onto forest soils rather than into ditchlines. The factor would not measurably change at the sixth field scale.

Road Density and Location (ACS 1,3,5). The decommissioning of unrecovered skid trails within and outside of the riparian reserves would minimally improve this indicator, but there would be no substantial change at the sixth field scale.

Baseline:
Maintain: Skid trail decommissioning and road maintenance work will have no observable effect on the aquatic environment at the sixth field scale.

Disturbance History (ACS 1,5).
Fuel hazard reduction treatments would act to reverse the trend of fire exclusion and move the project area as a whole back toward a natural fire disturbance regime at a local unit scale.

Baseline:
Maintain: The long term benefit of the reduction of fuels and the trend back toward a natural fire disturbance regime would only be noticeable at less than the sixth field scale.

Riparian Reserves (ACS 1,2,3,4,5,7,8,9). The long term effect of reducing fuel hazard would be to decrease the risk of stand destroying events in the riparian reserves. On a project scale, this maintains the Rogue and tributaries as connected corridors for migration and the function of the aquatic ecosystem. Full riparian reserve widths based on site potential tree heights are proposed.

Baseline:
Maintain: The proposed activities will promote the attainment of the Aquatic Conservation Strategy

Objectives, as interim widths for riparian reserves will be used on all streams. The long term benefit of the reduction of fuels and the trend back toward a natural fire disturbance regime would only be noticeable at less than the sixth field scale.

III. Evaluation of Consistency With Aquatic Conservation Strategy Objectives.

This project is consistent with ACS Objectives because baseline indicators at a local scale would move toward properly functioning condition while not adversely affecting environmental conditions. The distribution, diversity and complexity of watershed and landscape-scale features (e.g. late successional habitat) would be maintained (ACS objective 1). Connectivity within and between watersheds (ACS objective 2) would be maintained by restricting the size of trees removed from within Riparian Reserves. Physical integrity of the aquatic system would be maintained (ACS objective 3) by not disturbing streambanks and by minimizing localized, short-term increases in turbidity and fine sediment. Road maintenance would help improve water quality (ACS objective 4) and move the sediment regime (ACS objective 5) toward properly functioning by reducing existing and potential sediment contribution from roads. The project would not affect instream flows (ACS objective 6), the timing, variability and duration of floodplain inundation or water table (ACS objective 7) or alter species composition and structural diversity of riparian plant communities (ACS objective 8). Reducing the risk of catastrophic fire in the riparian reserves would contribute toward restoring well-distributed populations of native plants, invertebrates and vertebrate riparian-dependent species (ACS objective 9).

IV. Conclusion

Based on this review, I find the proposed project is consistent with Watershed Analysis recommendations and findings, applicable Northwest Forest Plan Standards and Guidelines, NEPA Documentation. Additionally, I find the proposed project does not hinder or prevent attainment of Aquatic Conservation Strategy objectives at the 5th field watershed scale over the long term.

_____ Date:_____

Abbie Josie
Grants Pass Resource Area
Field Manager

Table 1. **Checklist for Documenting Environmental Baseline and Effects of Proposed Action(s) on Relevant Indicators**

Name and location of action: Rogue River Fuel Hazard Reduction Project
Watersheds: Rogue-Rec. Section HUC-5

FACTORS / INDICATORS	ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S)		
	Properly Functioning [1]	At Risk [1]	Not Propr.[1]	Restore [2]	Maintain [3]	Degrade [4]
Water Quality: Temperature			WA		EA	
Turbidity		WA			EA	
Chemical Contam/Nutrients	PJ				EA	
Habitat Access: Physical Barriers			WA		EA	
Habitat Elements: Sediment		PJ			EA	
Large Woody Debris		PJ			EA	
Pool Character and Quality		PJ			EA	
Off-channel Habitat		WA			EA	
Channel Cond. & Dyn. Width/Depth Ratio		WA			EA	
Streambank Cond.		PJ			EA	
Floodplain Connectivity		WA			EA	
Flow/Hydrology: Changes in Peak Flow		PJ			EA	
Watershed Condition: Road Dens. & Loc. Disturbance History Landslide and Erosion Rates Riparian Reserves			PJ		EA	

1 Environmental Baseline conditions are derived from Forest Service, BLM and ODFW stream survey data and synthesis of watershed analysis findings. Document your baseline condition findings with the source, e.g. WA (watershed analysis), NEPA, SS (stream surveys- specify whether BLM, FS,ODFW,other), PJ (professional judgement), Monitoring (MON), etc. Explain with a footnote at bottom of checklist your abbreviation if not listed here.

2 Effects of the Action(s) are derived from scoping for the environmental document (NEPA) or the environmental document supporting the proposed action(s). Document your sources with abbreviations and explanatory footnotes as discussed above.

3 These three categories of function ("properly functioning", "at risk", and "not properly functioning") are defined for each indicator in the "Matrix of Factors and Indicators"

4 For the purposes of this checklist, "restore" means to change the function of an "at risk" indicator to "properly functioning" or to change the function of a "not properly functioning" indicator to "at risk" or "properly functioning", moving conditions towards recovery.

GLOSSARY of TERMS

Active crown fire – Crown fire in which the entire fuel complex becomes involved, but the crowning phase remains dependent on heat released from the surface fuels for continued spread.

Angle of observation - The angle, both vertical and horizontal, between a viewer's line of sight and the landscape being viewed.

Background distance zone - The visible area of a landscape which lies beyond the foreground-middle-ground. Usually from a minimum of 3 to 5 miles to a maximum of about 15 miles from a travel route, use area, or other observer point. Atmospheric conditions in some areas may limit the maximum to about 8 miles or less.

Basic elements -The four design elements (form, line, color, and texture), which determine how the character of a landscape is perceived.

Canopy - The more or less continuous cover of branches and foliage formed collectively by adjacent trees and other woody species in a forest stand. Where significant height differences occur between trees within a stand, formation of a multiple canopy (multi-layered) condition can result.

Canopy base height - The distance between the surface fuels and the average bottom level of the tree crowns and is usually expressed in feet. The greater the canopy base height, the longer the flame length needed to ignite the crowns.

Canopy bulk density - The amount of crown fuels within a given area and is usually expressed as pounds of foliage per cubic foot. The greater the canopy bulk density, the easier for crown fires to initiate and propagate.

Characteristic landscape - The established landscape within an area being viewed. This does not necessarily mean a naturalistic character. It could refer to an agricultural setting, an urban landscape, a primarily natural environment, or a combination of these types.

Community at risk – Wildland interface communities in the vicinity of Federal lands that are at high risk from wildfire. In Oregon, communities identified in the Federal Register were selected by the Oregon Department of Forestry.

Contrast - Opposition or unlikeness of different forms, lines, colors, or textures in a landscape.

Contrast rating - A method of analyzing the potential visual impacts of proposed management activities.

Distance zones - A subdivision of the landscape as viewed from an observer position. The subdivision (zones) includes foreground - middle-ground, background, and seldom seen.

Ecosystem resilience - The ability of a system to respond to disturbances. Resiliency is one of the properties that enable the system to persist in many different states or successional stages.

Fire condition class - Fire Condition Classes categorize and describe vegetation composition and structure conditions that currently exist within the Fire Regime Groups, compared to natural potential vegetation types. These three classes serve as generalized wildfire risk rankings—based on the coarse-scale data. The risk components from unwanted wildland fire increases from Fire Condition Class 1 (lowest risk) to Fire Condition Class 3 (highest risk).

> **Condition class 1**- Fire regimes are within or near an historical range. The risk of losing key ecosystem components is low. Fire frequencies have departed from historical frequencies (either increased or decreased) by no more than one return interval. Vegetation attributes (species composition and structure) are intact and functioning within an historical range.
> **Condition class 2** - Fire regimes have been moderately altered from their historical range. The risk of losing key ecosystem components has increased to moderate. Fire frequencies have departed (either increased or decreased) from historical frequencies by more than one return interval. This change results in moderate changes to one or more of the following: fire size, frequency, intensity, severity, or landscape patterns. Vegetation attributes have been moderately altered from their historic ranges.
> **Condition class 3** - Fire regimes have been significantly altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed (either increased or decreased) by multiple return intervals. This change results in dramatic changes to one or more of the following: fire size, frequency, intensity, severity, or landscape patterns. Vegetation attributes have been significantly altered from their historic ranges.

Fire frequency (fire return interval) - How often fire burns a given area; often expressed in terms of fire return intervals (e.g., fire returns to a site every 5-15 years).

Fire hazard - Hazard is based on the fire's ability spread and thus the easy to suppress once a wildland fire has ignited

Fire intensity - Expression commonly used to describe the power of wildland fires; the rate of energy release per unit length of the fire-front.

Fire regime - A generalized description of the role fire plays in an ecosystem. It is characterized by fire frequency, predictability, seasonality, intensity, duration and scale (patch size), as well as regularity or variability.

> **0-35 years, Low severity -** Typical climax plant communities include ponderosa pine, eastside/dry Douglas-fir, pine-oak woodlands, Jeffery pine on serpentine soils, oak woodlands, and very dry white fir. Large stand-destroying fire can occur under certain weather conditions, but are rare events (i.e., every 200+ years).
>
> **0-35 years, Stand-destroying, non-forest -** Includes true grasslands (Columbia basin, Palouse, etc.) and savannahs with typical return intervals of less than 10 years and mountain shrub communities (bitterbrush, snowberry, ninebark, ceanothus, Oregon chaparral, etc.) with typical return intervals of 10-25 years. Fire severity is generally high to moderate. Grasslands and mountain shrub communities are not completely killed, but usually only top-killed and resprout.
>
> **35-100+ years, Mixed severity -** This regime usually results in heterogeneous landscapes. Large, stand-destroying fires may occur but are usually rare events. Such stand-destroying fires may "reset" large areas (10,000-100,000 acres) but subsequent mixed intensity fires are important for creating the landscape heterogeneity. Within these landscapes a mix of stand ages and size classes are important characteristics; generally the landscape is not dominated by one or two age classes.
>
> **<50 years, Mixed severity -** Typical potential plant communities include mixed conifer, very dry westside Douglas-fir, and dry grand fir. Lower severity fire tends to predominate in many events.

Fire risk - The opportunity for and ignition source to start a wildland fire.

Fire severity - A qualitative measure of the fire's immediate effects on the ecosystem. Relates to the extent of mortality and survival of plant and animal life (both above and below ground) and to loss of organic matter.

Forest health - The ability of forest ecosystems to remain productive, resilient, and stable over time and to withstand the effects of periodic natural or human-caused stresses such as drought, insect attack, disease, climatic changes, flood, resource management practices and resource demands.

Form - The mass or shape of an object or objects which appear unified, such as a vegetative opening in a forest, a cliff formation, or a water tank.

Ground fuel - All combustible materials below the surface litter, including duff, tree or shrub roots, punchy wood, peat, and sawdust, which normally support a glowing combustion without flame.

Hazardous fuel - Live or dead wildland fuel accumulations that increase the potential for uncharacteristically intense wildland fire and decrease the capability to protect life, property, and natural resources.

Hazard reduction - The planned treatment or manipulation of naturally growing vegetation or any other flammable material for the purpose of reducing rate of spread and output of heat energy from any wildfire occurring in the area treated.

Key observation point - One or a series of points on a travel route or at use area or a potential use area, where the view of a management activity would be most revealing.

Ladder fuels - Fuels that provide vertical continuity between the ground and the tree crowns, creating a pathway for surface fire to move into the overstory and initiate crown fire.

Landscape character - The arrangement of a particular landscape as formed by the variety and intensity of the landscape features and the four basic elements of form, line, color, and texture. These factors give the area a distinctive quality, which distinguishes it from its immediate surrounds.

Landscape diversity - The size, shape and connectivity of different ecosystems across a large area.

Landscape features - The land and water form, vegetation, and structures which compose the characteristic landscape.

Line - The path, real or imagined, that the eye follows when perceiving abrupt differences in form, color, or texture. Within landscapes, lines may be found as ridges, skylines, structures, changes in vegetative types, or individual trees and branches.

Multi-layered canopy - Forest stands with two or more distinct tree layers in the canopy; also called multi-storied stands.

National fire plan - A culmination of various reports, (i.e., Managing the Impacts of Wildfires on Communities and the Environment, Integrating Fire and Natural Resource Management – A Cohesive Strategy for Protecting People by Restoring Land Health, A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy), accompanying budget requests, Congressional direction, and resulting strategies, plans, projects, and other activities.

Natural scenic qualities (ORV) - Recognized for its diversity of scenery due its geology, topography, and relatively undeveloped visual appearance.

Naturalistic character - A landscape setting where the basic elements are displayed in a composition that appears unaltered by man.

Observer position - The placement and relationship of a viewer to the landscape which is being viewed.

Outstandingly remarkable values (ORV) - Section 10(a) of the WSRA states that: "Each component of the National Wild and Scenic Rivers System shall be administered in such a manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration, primary emphasis shall be given to protecting its aesthetic, scenic, historic, archaeological, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area."

Prescribed fire plan (burn plan) - A written plan which includes burn area description, resource and prescribed fire objectives, fuels description, weather and fuel parameters, acceptable fire behavior, smoke management and other considerations, ignition schedule, ignition and holding plan, safety considerations, workforce and equipment needs, unit maps, escape contingency plan, crew briefing and go/no go checklist, and the complexity rating of the burn project.

Scenery - The aggregate of features that give character to a landscape.

Scenic area - An area whose landscape character exhibits a high degree of variety and harmony among the basic elements which results in a pleasant landscape to view.

Scenic easement - The right to control the use of land (including the air space above such land) within the authorized boundaries of a component of the wild and scenic rivers system, for the purpose of protecting the natural qualities of a designated wild, scenic or recreational river area, but such control shall not affect, without the owner's consent, any regular use exercised prior to the acquisition of the easement. For any designated wild and scenic river, the appropriate Secretary shall treat the acquisition of fee title with the reservation of regular existing uses to the owner as a scenic easement for purposes of this chapter. Such an acquisition shall not constitute fee title ownership for purposes of section 1277 (b) of this title.

Scenic quality- the relative worth of a landscape from a visual perception point of view.

Scenic quality rating unit. - A portion of the landscape which displays primarily homogeneous visual characteristics of the basic landscape features (land and water form, vegetation, and structures).

Seen areas - That portion of the landscape which is visible from roads, trails, rivers, campgrounds, communities, or other key observation positions.

Seldom seen areas - Portions of the landscape which are generally not visible from key observation points, or portions which are visible but more than 15 miles distance.

Stand density - An expression of the number and size of trees on a forest site. May be expressed in terms of numbers of trees per acre, basal area, stand density index, or relative density index.

Structural diversity - Variety in a forest stand that results from layering or tiering of the canopy and the die-back, death and ultimate decay of trees. In aquatic habitats, the presence of a variety of structural features such as logs and boulders that create a variety of habitat.

Surface fuels - Loose surface litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches that have not yet decayed enough to lose their identity; also grasses, forbs, low and medium shrubs, tree seedlings, heavier branch wood, downed logs, and stumps interspersed with or partially replacing the litter.

Texture - The visual manifestations of the interplay of light and shadow created by the variations in the surface of an object or landscape.

Values at risk - The resource and human values for components of the watershed.

Viewshed - The landscape that can be directly seen under favorable atmospheric conditions, from a viewpoint or along a transportation corridor.

Visual resources - The visible physical features on a landscape (e.g., land, water, vegetation, animals, structures, and other features) that constitute the scenery of an area.

Visual resource management (VRM) - The inventory and planning actions taken to identify visual values and to establish objectives for managing those values and the management actions taken to achieve the visual management objectives.

Visual resource management classes – BLM categories assigned to public lands based on scenic quality, sensitivity level, and

distance zones. There are four classes. Each class has an objective which prescribes the amount of change allowed in the characteristic landscape.

> **VRM class I -** The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention. The existing character to be preserved may be rural, agricultural, recreational, or even urban. It does not necessarily mean preservation of a naturalistic character.

Wildland-urban interface (WUI) - The line, area, or zone, where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel.