

**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, (*Haliaeetus 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 woolly 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 in 1992. 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 1/4 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 1 1/4 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 will 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.

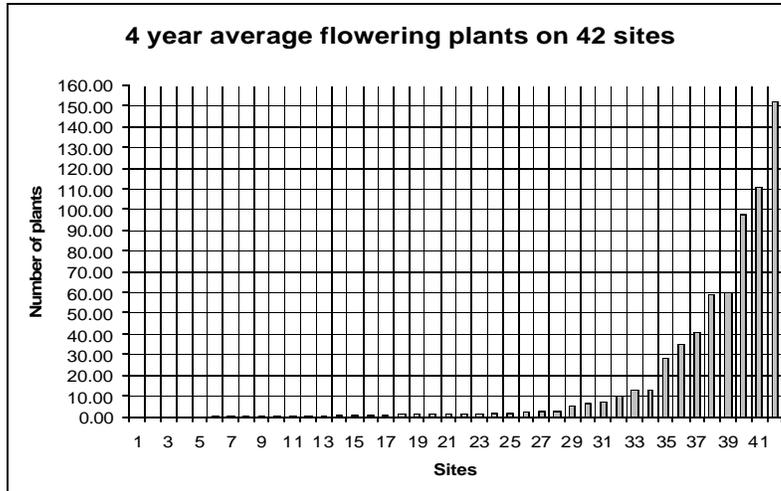
The Medford BLM (Brock and Callagan 2002) is monitoring 42 Gentner's fritillary sites scattered across the Rogue Valley. This represents about 56% of the known populations on Federal lands. The plant is very variable, with wide fluctuations in flowering and dormancy. Over the last 5 years, the average 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 are 136 acres of suitable nesting habitat occurring in both CHU and LSR that 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)

Land Designation	Pre-project Habitat acres		Post-Project		Change
	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 <i>Maximum Treatment Level per entry</i> ¹		Seldom Seen Areas <i>Total Potential Treatment Level</i> 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.)