

**Decision Memorandum on Action and for Application of:
Categorical Exclusion 516 DM2, Appendix 1, 1.12 – Hazardous Fuel Reduction
PLAN CONFORMANCE AND CATEGORICAL EXCLUSION DETERMINATION
Bureau of Land Management (BLM)**

Project Name: Pokegama Winter Range Improvement and Fuels Reduction CX Log #: OR-014-CX-07-03
Location: T41 S., R6E. Sect. 5, 6, 7; T41S, R5E, Sect. 1, 5, 7, 8, 17
BLM Office: Lakeview District , Klamath Falls Resource Area County: Klamath County, Oregon

DESCRIPTION OF THE PROPOSED ACTION (INCLUDING PURPOSE AND NEED)

The proposal is to reduce the density of vegetation in 18 units totaling approximately 281 acres of brushfields using a combination of methods including selective mastication (slashbuster), mowing, hand cutting (with chainsaws) and prescribed fire. Table 1 displays the treatments to be applied to each unit.

There are dual purposes for this project, fuels hazard reduction and big game winter range forage improvement. As brushfields age and become decadent the proportion of dead wood in each shrub increases and the volatility and fine dead fuel load increases correspondingly. Many of the brushfields in this area are intermingled with commercial conifer stands on both private and federal lands. The increasing density of the shrubs under and around the conifers poses a threat to the conifers should a wildfire start in this area. Of particular concern are dense shrub patches under ponderosa pine. In this situation the dead needles cast by the pines catch in the shrubs creating a needle-draped fuel condition that is highly volatile. These fuel conditions can incite very intense wildfire with long flame lengths which greatly hinders control efforts and options. Shrub development under oaks is also a fire threat to the oaks. While most oaks of acorn bearing size will survive even moderate burning intensity, their mast production can be negatively affected for several years by such a burn. Acorns are an important component of the winter range forage base in this area. In addition to mowing and burning of ceanothus, the project includes thinning of small oaks and cutting of scattered small and medium sized junipers where they occur within the units. The absence of historic levels of low intensity fire has facilitated the encroachment of junipers into oak woodlands and shrublands in the project area. Removing encroaching junipers will increase the quality and productivity of the winter range by reducing competition between junipers and desirable forage species. Appendix C contains a table indicating the types and sizes of vegetation to be cut and to be retained in the treated units.

The Pokegama area is an important deer and elk winter range. The deer herd numbers are well below (approximately 40% of) the Oregon Department of Fish and Wildlife (ODFW) target population levels for the Keno Big Game Unit. Winter range conditions are sub-optimal due to lack of disturbance in the brushfields of wedgeleaf ceanothus. Wedgeleaf ceanothus is considered an “obligate seeder” and regeneration depends almost entirely on germination from seed that is scarified during a fire (FEIS, Ackerly 2004, Biswell 1961). Without periodic disturbance (fire, mastication or overstory removal that opens the canopy) the brushfields grow decadent and the individual shrubs grow tall enough and bushy enough that the highly nutritious new growth is beyond the reach of deer. Shrub and conifer encroachment into formerly disturbance-maintained open areas reduces the amount of grass available for wintering elk.

Table 1. Treatments to be applied to units in the Pokegama fuels reduction and winter range improvement project.

Unit #	Unit acres	Broadcast Burn	Mow Shrubs	Thin Oaks	Cut Encroaching Junipers
1	8.8	Yes	Yes	Yes	Yes
2	23.4	Yes	Yes	Yes	Yes
3	20.5	Yes	Yes	Yes	Yes
4	12.5	Yes	Yes	Yes	Yes
5	7.8	Yes	Yes	Yes	Yes
6	13.1	Yes	Yes	Yes	Yes
7	9.4	Yes	Yes	Yes	Yes
8	2.7	Yes	Yes	Yes	Yes
9	3.8	Yes	Yes	Yes	Yes
10	3.3	Yes	Yes	Yes	Yes
11	13.5	Yes	Yes	Yes	Yes
12	12.9	Yes	Yes	Yes	Yes
13	7.0	Yes	Yes	Yes	Yes
14	18.5	Yes	Yes	Yes	Yes
15	20.7	Yes	Yes	Yes	Yes
16	57.9	Yes	Yes	Yes	Yes
17	8.0	Yes	Yes	Yes	Yes
18	37.5	Yes	Yes	Yes	Yes
Total	281.3 acres				

While the units were selected based on their having wedgeleaf ceanothus (*Ceanothus cuneatus*) as the dominant vegetation, there is substantial variability in vegetation density, vegetation structure, and amount of surface rock and boulders within and across the units. Also, some units have a component of western juniper (*Juniperus occidentalis*) and or oaks (*Quercus spp.*). This variability may require that a variety of tools be used within each unit. It may be possible to mow on all acres within some units, but some units (or parts of units) may have too much rock for mowing. Some units (or parts of units) may be able to be burned without mowing as a pretreatment. All units with oaks and/or junipers will have the oak and juniper portion of the treatment prescription applied by hand cutting with chainsaws. Until some work on the units is started, it is not certain which treatments for the finer vegetation (fire or mowing or both) will work best for achieving the project objectives on any particular unit. Consequently, adaptive management will be applied and treatments tools will be selected and applied as the project progresses and we learn what is possible, and works best, in each unit. For this Categorical Exclusion it is assumed that all units will be mowed, burned, have oaks thinned and have most junipers removed. Any one, or combinations of, these treatments to be applied to the identified units is categorically excluded.

The following mitigations will be implemented as part of the project design:

- All burning would be done in accordance with a BLM developed and approved burn plan. Appendix I contains a list of desired post-burn conditions. This list will be used to develop a site specific burn plan to cover any units that would be treated with fire, either instead of, or in addition to, mechanical treatment. Burning would be overseen by qualified federal government (BLM, USFS, USFWS, NPS, etc) fuels personnel.
- All existing road segments (as shown on attached maps) within or bordering the treatment units would be brushed to a width of 15 feet from the center line on each side of the road (30 feet total).
- The road segment along Long Prairie Creek from the southern end of unit #2 to the “T” junction at the location marked “Dixie” on the attached map runs very close, to and at times within, the flood plain of the creek and is unstable. This road segment would not be used for access.

- All project activity would be conducted outside of the Pokegama Cooperative Big Game Closure Area closure dates, i.e., no mechanical treatment or burning activity would occur from November 20 through March 31 annually.
- The material to be cut in this project is not considered suitable for commercial utilization due to material size and quantity.
- All lands proposed for treatment have been surveyed for special status plants and noxious weeds. On several sites within the project area, the special status plant Bellinger's meadow foam (*Limnanthes floccosa* ssp. *bellingermana*) are present. These sites will be avoided during mechanical operations and fireline construction. Prescribed fire may be allowed to burn through these plant sites. One site of St. John's wort (*Hypericum perforatum*) was found inside the project area and two sites of yellow star thistle (*Centaurea solstitialis*) were found adjacent to the project area. These areas will not be entered with mechanical equipment and the Weed Mitigation Measures (Appendix B) will be followed to prevent introduction and spread to other areas.
- Any fences damaged as a result of project implementation will be immediately restored to the condition which existed prior to implementation of the project.

IMPLEMENTATION DATE

This project is expected to be implemented between FY 2008 and FY 2010.

PLAN CONFORMANCE

The proposed project has been reviewed and found to be in conformance with one or more of the following BLM plans, programmatic environmental analyses or policies:

Klamath Falls Resource Area Plans

- Klamath Falls Resource Area Record of Decision and Resource Management Plan (1995), as amended (1999), Page 32, Table 2
- Klamath Falls Resource Area Fire Management EA (OR-014-94-09; 1994)
- Integrated Weed Control Plan (IWCP) and Environmental Assessment (EA) OR-014-93-09

District and Regional Plans

- National Fire Plan (A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan) (2001)
- Klamath Interstate Habitat Management Plan (1982)
- Western Oregon Transportation Management Plan (1996; Updated 2002)
- Oregon Wilderness FEIS and ROD (1989 and 1991)
- Vegetation Treatment on BLM Lands in Thirteen Western States FEIS and ROD (1991)
- Supplement to the Northwest Area Noxious Weed Control Program FEIS and ROD (1987)
- Lakeview District Fire Management Plan – Phase 1 (1998)
- Rangeland Reform '94 FEIS and ROD (1995)
- Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington (1997)
- Standards for Land Health for Lands Administered by the Bureau of Land Management in the States of Oregon and Washington (1998)

On July 25, 2007, the Under Secretary of the Department of Interior signed a new Survey and Manage Record of Decision that removed the wildlife Survey and Manage requirements from all of the BLM resource management plans (RMPs) within the range of the northern spotted owl. This project has been designed to be consistent with the 2007 Survey and Manage decision and is tiered to that decision.

LIMITATIONS

There are a number of limitations on the use this hazardous fuels reduction CX. The project:

- (a) Shall not exceed 1,000 acres for mechanical methods (crushing, piling, thinning, pruning, cutting, chipping, mulching, and mowing) and shall not exceed 4,500 acres for prescribed fire,
- (b) Shall be conducted in wildland-urban interface or in condition classes 2 or 3 in fire regime groups I, II, or III outside the wildland-urban interface,
- (c) Shall be identified through a collaborative framework as described in A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan,
- (d) Shall be conducted in accordance with BLM and DOI procedures and applicable land/resource management plans (refer to Plan Conformance section above),
- (e) Shall not be conducted in wilderness areas or where it would impair the suitability of WSA's for preservation as wilderness,
- (f) Shall not include the use of herbicides or pesticides,
- (g) Shall not involve the construction of new permanent roads or other new permanent infrastructure,
- (h) May include the sale of vegetative materials if the primary purpose is hazardous fuels reduction.

COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT

The proposed action is categorically excluded from further analysis or documentation under the National Environmental Policy Act (NEPA) in accordance with 516 DM2, Appendix 1, 1.12 (Mechanical Treatment/Prescribed Fire) provided none of the Extraordinary Circumstances listed in 516 Departmental Manual 2, Appendix 2 (5/27/04) are met. The proposed action will:

Extraordinary Circumstances	Yes	No
2.1 Have significant adverse effects on public health or safety?		X
2.2 Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas?		X
2.3 Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA Section 102(2)(E)]?		X
2.4 Have highly uncertain and potentially significant environmental effects or unique or unknown environmental risks?		X
2.5 Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?		X
2.6 Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects?		X
2.7 Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by either the bureau or office?		X
2.8 Have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species?		X
2.9 Violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment?		X
2.10 Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898)?		X
2.11 Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007).		X
2.12 Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?		X

The proposed action would not create adverse environmental effects, meet any of the above extraordinary circumstances, or fail to comply with Executive Order 13212 (Actions to Expedite Energy-Related Projects) – to avoid direct or indirect adverse impact on energy development, production, supply, and/or distribution

DOCUMENTATION OF RECOMMENDED MITIGATION

Note: although none of the conditions for the above extraordinary circumstances are met, some resources discussed may potentially be affected. Mitigation Measures and Project Design Features in the table below will be applied to prevent the adverse conditions discussed in the extraordinary circumstances:

Exception No.	Can Be Mitigated	Cannot Be Mitigated	Mitigation Measures and/or Project Design Features
8	yes		Seasonal Restriction on project activities in units # 1 and #2. No mechanical activity or burning March 1- Sept. 30 in years when the Long Branch spotted owl site is occupied.
8	Yes		Nine special status plant sites are present within the project, <i>Limnanthes floccosa</i> ssp. <i>Bellingeriana</i> , which should be avoided during mastication and fire line construction but can be burned through. Surveys have been completed or were not needed for Survey and Manage species.
15	Yes		One weed site of <i>Hypericum perforatum</i> was found inside the project area. Two sites of <i>Centaurea solstitialis</i> were found adjacent to the project area. The Weed Mitigation Measures in Appendix B will be followed to prevent introduction or spread.

SURVEYS AND CONSULTATION

Surveys and/or consultation may be needed for special status plants and animals, for cultural resources, and other resources as necessary (appropriate fields are Initialed and Dated by responsible resource specialist):

SURVEYS	Are Completed	Will Be Completed	Are Not Needed
SS Animals			MDB 11/13/07
SS Plants	May 1996 and May 2005 MJ 12/26/06		
Cultural Resources	MD 11/13/07		
Survey and Manage Plants	LW 11/13/07		
Survey and Manage animals			MDB 11/13/07
CONSULTATION	Is Completed	Will Be Completed	Is Not Needed
SS Animal Consultation*	MDB 5/2/07		
Botanical Consultation			MJ 12/26/06
Cultural Consultation	MD 8/14/07		
*(SS = Special Status)			

Remarks:

Portions of the project area are potentially suitable habitat for *Monadenea chaseana*, a land snail listed as Sensitive in Oregon by the Bureau. This species is most strongly associated with moist rock outcrops and riparian areas, neither of which occur within project units. However, this species is also loosely associated with oaks. The Pokegama project could impact individuals of this species due to direct killing by crushing or burning if they occur within treatment units. Due to the scattered nature, relatively small total acreage, and comparatively low snail habitat quality of the project units within the much larger landscape of potentially

suitable habitat (habitat in the Klamath River corridor containing oaks, and other more typical snail habitat types such as conifers forests) this project is expected to result in no effect on viability of any population of this species that may exist in the project area. Units that are not burned, but where small oaks are thinned, will probably remain as suitable for this species as before treatment because oaks will still be well distributed within these units post treatment. Units that consist mostly (or entirely) of non-oak species are not considered suitable habitat for this species.

PERSONS AND AGENCIES CONSULTED

- US Fish and Wildlife Service: Fuels Programmatic Consultation # 1-10-06-I-0104 (March 27, 2006).
- Klamath Tribes: Periodic meetings with the Tribe by Tim Canaday, (and Michelle Durant, acting) Resource Area Archaeologists - Most recent discussion on Aug. 14, 2007.
- Oregon Department of Fish and Wildlife: Project originally suggested by ODFW in spring of 2006. M. Broyles discussed the project with ODFW biologists on several occasions; the most recent being Oct. 30, 2007.

SUMMARY OF FINDINGS AND CX DETERMINATION

The proposed action would not create adverse environmental impacts or require the preparation of an environmental assessment (EA) or environmental impact statement (EIS). The proposed action has been reviewed against the criteria for an Exception to a categorical exclusion (listed above) as identified in 516 DM 2, Appendix 2, and does not meet any Exception. The application of this categorical exclusion is appropriate, as there are no extra ordinary circumstances potentially having effects that may significantly affect the environment. The proposed action is, therefore, categorically excluded from additional NEPA documentation.

Prepared By: Matt Broyles, Wildlife Biologist

Reviewed by: Klamath Falls Interdisciplinary Team

Approved By: (Signature)	Name: Donald J. Holmstrom <i>/s/ Donald J. Holmstrom</i>	Title: Field Manager	Date: 3/13/08
-----------------------------	---	----------------------	------------------

ADMINISTRATIVE REVIEW OPPORTUNITY

Appeal

Any party that is adversely affected and determined to be a party to the case, may appeal the implementation of the proposed action to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR Part 4. A notice of appeal must be filed in this office (at the address below) within 30 days of receipt of this decision. The appellant has the burden of showing that the decision is in error.

An appellant may also file a petition for a stay (suspension) of this decision during the time that the appeal is being reviewed by the Board pursuant to Part 4, Subpart B, 43 CFR Part 4.21. The petition for a stay must accompany the notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must be submitted to each party named in this decision, to the Interior Board of Land Appeals, and the Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. The appellant has the burden of proof of demonstrating that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of decision pending appeal shall show sufficient justification based on the following standards:

- (a) The relative harm to the parties if the stay is granted or denied,
- (b) The likelihood of the appellant's success on the merits,
- (c) The likelihood of immediate and irreparable harm if the stay is not granted, and
- (d) Whether the public interest favors granting the stay.

CONTACT PERSON

For additional information concerning this project, contact:

Matt Broyles, Klamath Falls Resource Area, 2795 Anderson Avenue, Building 25, Klamath Falls, Oregon
97603-7891 or telephone: 541-884-2907.

APPENDIX A – PERTINENT PROJECT DESIGN FEATURES (PDFS) FROM THE 2006 FUELS PROGRAMMATIC CONSULTATION

The following list of Project Design Features (PDFs) is a partial listing of the PDFs used on the Klamath Falls Resource Area fuels program projects. These PDFs were developed through consultation with the US Fish and Wildlife Service (FWS) completed March 2006. This list includes only those PDFs pertinent to species federally listed as threatened, endangered, proposed, or candidates for such listing, and their habitats. Additional project design features are applied to each project on a case by case basis for the protection/management of other species of wildlife and other resources.

These project design features are taken verbatim from the Letter of Concurrence from the US Fish and Wildlife Service for the Fuels Program Programmatic consultation #1-10-06-I-0104 (March 27, 2006). As such they are not subject to change as part of development of NEPA documents for projects. They are a standard set of features to be applied, as applicable, to in all projects covered by that consultation.

General Design Features:

- A wildlife biologist will approve the annual fuels reduction plan and fuels personnel will be informed about T&E concerns.
- For each selected fuels reduction unit, the wildlife biologist will provide input to the appropriate treatment and provide any T&E concerns associated with that unit.
- For each selected prescribed burn unit, a plan will be completed that details the preferred weather conditions, the range of conditions that will allow burning and the methods of control needed. Emergency and escaped fire conditions and control methods are also discussed.
- An annual monitoring report will be generated to inform FWS of the completed projects from the previous year and proposed fuel treatment projects for the upcoming year.

Situations that will trigger re-initiation or further discussions with FWS:

- If an eagle nest is occupied, then spring burning will not be allowed until site-specific discussions/consultations are completed with FWS.
- If a spotted owl is nesting in an area, then spring burning will not be allowed until site-specific discussions/consultations are completed with FWS on this matter.
- Emergency situations that go outside planned operations (e.g. escaped fire in eagle or owl areas, retardant spill near riparian zones, newly discovered nest sites near or in burn units). (FOR ESCAPED FIRE EMERGENCIES, CONSULTATION CAN OCCUR AFTER THE EMERGENCY RESPONSE ACTION).
- Re-initiation of consultation will occur concurrent with or after BLM takes Emergency action to contain a spill or escaped fire. The requirement to re-initiate consultation shall not preclude the BLM from taking immediate, emergency action to prevent additional resource damage resulting from an accident or escaped prescribed fire.
- If the level or rate of habitat modification or disturbance will exceed any of the levels described in the Biological Assessment (BA) and associated Biological Opinion (BO).
- If the project does not meet the criteria discussed in the BA or are beyond the scope of the PDFs.

For units adjacent to or containing spotted owls, NRF habitat, dispersal habitat, or in areas of designated Critical Habitat:

Implementation of the following Project Design Features will result in projects being considered as being not likely to adversely affect: spotted owls, NRF habitat, dispersal habitat, and designated spotted owl Critical Habitat.

- No fuels treatments will be planned within the core area (as identified by the BLM biologist) of a nesting spotted owl during the nest season, or within ¼ mile of an active or possibly active nest. The seasonal restriction period will be March 1-Sept. 30. This restriction can be lifted by the BLM biologist on or after June 30 if it is determined that the nest is no longer active or that young owls are not present in the project area. The core area will normally be the 100-acre reserve as required under the Northwest Forest

Plan (NFP) but may be expanded due to potential disturbance to the nest. For spotted owl sites that were located after Jan. 1, 1994, and thus are not protected by a Northwest Forest Plan Un-mapped Late Successional Reserve (“100 acre core”), the BLM biologist will designate a 100 acre core for fuels project planning and implementation purposes.

- Smoke management will be considered during prescribed fire activities to try to reduce the effects of residual smoke on nest sites adjacent to burn units
- In areas containing spotted owls, a BLM biologist will monitor spotted owl use of the area before the fuel treatment is initiated to ensure that the owl situation is closely monitored.
- If the nest is occupied or spring burning is preferred because of excess fuel loading or to meet other resource objectives, then spring burning will not be allowed until site-specific discussions/consultations are completed with FWS on this matter.
- A biologist/designee will monitor the nest area during the burns to ensure objectives and PDFs are met (smoke management, fire intensity, etc).
- In NRF habitat maintain a diversity of understory brush, and herbaceous layer vegetation (islands of undisturbed vegetation), while still reducing the continuity of the fuel.
- In NRF habitat maintain visual screening along open roadways to minimize disturbance.
- In northern spotted owl NRF habitat, maintain the understory structure by retaining a diversity of the sub-merchantable understory conifer trees (Douglas-fir, white fir, sugar pine, cedar, ponderosa pine). In mechanical treatment areas this would be done by site-specific designs described in the individual task orders. During prescribed fire activities the overall objective is to create a mosaic of burned and unburned areas. Ignition techniques and pull back on smaller trees may also be used to maintain the understory structure and desirable understory species.

Roads and temporary fire trail access in riparian reserves:

- In general, new roads are not constructed for fuels management projects. However, in rare cases a new road may be needed. No new road will be constructed within a Riparian Reserve unless it replaces an existing road in poor condition that the KFRA Manger has determined is causing more resource damage (erosion /sediment etc.) than the new road would. If possible, use new technology and construction methods for building temporary roads into treatment units (including but not limited to wood chip constructed roads).
- Use of existing closed or brushed over roads and landings within the RR will be subject to review and approval by the resource advisor. The resource advisor may ask for Area Manager review if he/she feels it is necessary.
- Minimize grading of the existing roads to maintain the existing ground cover and vegetation and to decrease sediment movement.
- If a road that is currently vegetated or brushed over needs to be opened for access for a fuels project or burn, the vegetation will be cut by hand and debris will be placed back on the road after the burn or other treatment is complete. If the road was impassible prior to being brushed out, it will be returned to an equally impassible condition after the fuels program access is no longer needed.
- Roads and temporary fire trails used in fuels reduction operations, and substantially impacted or disturbed by those operations, would be treated to reduce erosion and sediment production as identified by the resource advisor. Treatments could include blocking, water-barring, ripping, or planting.

Chemical fire retardants and fueling in riparian reserves:

- No use of chemical retardants would occur within the full width of the riparian reserve (per KFRA RMP).
- In cases of escaped or wildfire control soap based retardants may be applied to within 50 feet of a stream that contains water.
- No refueling of mechanical equipment or vehicles within the riparian reserves unless approved by a resource advisor.
- No staging areas will occur in the riparian reserves, unless approved by a wildlife biologist.

Streamside pumping sites:

- Pumping on small streams should not reduce the downstream flow of the stream by more than half the

flow.

- If possible avoid the construction of temporary pump chances. When necessary, use temporary plastic dams to create chances and remove these dams when not actively pumping.
- All pumping located on fish bearing streams must have a screen over the intake to avoid entrainment of small fish.
- Recommend that pump intake be suspended near the thalweg (deepest/highest quantity of flow) of the stream. Avoid placing pump intakes on the substrate or edges of the stream channel.

Consultation requirements in emergency situations (escaped RX fire etc.):

Project design features listed above are meant to apply to planned operations, not emergencies. In the event of an emergency on a BLM operation, the BLM, its cooperators, and its contractors are authorized to take emergency action to address the emergency situation without first consulting with the FWS. Emergency consultation may be necessary, but it can occur after the situation is under control.

DO NOT WAIT FOR CONSULTATION TO BE STARTED OR COMPLETED BEFORE TAKING NECESSARY ACTION TO ADDRESS AN EMERGENCY.

APPENDIX B - WEED MITIGATION MEASURES

- All vehicles and equipment will be cleaned off prior to operating on BLM lands. Removal of all dirt, grease, and plant parts that may carry noxious weed seeds or vegetative parts is required and may be accomplished with a pressure hose.
- High concentrations of noxious weeds in the immediate area of mechanical operations shall be mowed to ground level prior to the start of project activities.
- All equipment and vehicles operating off of main roads shall be cleaned off prior to leaving the job site when the job site includes noxious weed populations. Removal of all dirt, grease, and plant parts that may carry noxious weed seeds or vegetative parts is required and may be accomplished with a pressure hose.

APPENDIX C - VEGETATION TREATMENT PROJECT DESIGN FEATURES

Species	Cut	Leave	Spacing/tree density
Curl-leaf mountain mahogany <i>Cercocarpus ledifolius</i>		Leave all	Leave All
Birchleaf mountain mahogany <i>Cercocarpus montanus</i>	Cut stems less than 4" DBH	Leave stems greater than 4" DBH	n/a
Greenleaf manzanita <i>Arctostaphylos sp.</i>	Cut all	none	n/a
<i>Ceanothus</i> species	Mow/bust to ground level, all plants greater than 24" in height	Leave un-treated all plants that are less than 24" in height	Mow/bust all to ground level, within dripline of oaks greater than 12" dbh
Cherry/plum <i>Prunus sp.</i>	Cut stems less than 4" DBH	Leave stems greater than 4" DBH	
Conifers (other than juniper) 8"DBH and larger	None	Leave all	n/a
Conifer reproduction (other than juniper) less than 8"DBH Ponderosa pine <i>Pinus ponderosa</i> White Fir (<i>Abies concolor</i>) Douglas Fir <i>Pseudotsuga menziesii</i> Incense cedar <i>Calocedrus decurens</i>	To spacing	To spacing	50' spacing between retained trees in this size class. Space off of other retained conifers and retained oaks.
Oaks (<i>Quercus species</i>) less than 8" DBH	To spacing	To spacing	Thin individuals to 30' spacing. Space off of retained conifers and other retained oaks. Thin within conjoined clumps to retain the largest 2 or 3 stems
Oaks (<i>Quercus species</i>) 8" DBH and larger	None	Leave all	n/a
Oaks (<i>Quercus species</i>) 12" DBH and larger	None	Leave all. Clear all shrubs and conifer reproduction from dripline.	n/a
Juniper <i>Juniperus occidentalis</i>	Cut all non-old growth.	Old growth (see Appendix D)	Leave Old Growth (see Appendix D)
DBH = diameter at breast height			

- Leave 1 wildlife tuft ¼ acre in size every 2 acres, of the thickest brush/tree stands in the project area. Tufts are not to contain any junipers.

APPENDIX D - CHARACTERISTICS OF OLD JUNIPER

Older juniper: Juniper that originated in the “presettlement” period, before 1870. It is assumed that these trees are growing on sites that they are adapted to, since they began growing there under “natural conditions” when natural processes (including lightning fires) determined vegetation patterns. Older juniper are usually found in rocky areas where vegetation is sparse and natural fire frequency is low. Some typical characteristics of older juniper are:

- Crown is flat, rounded, broad at top, or irregular (as opposed to the more pointed tops of younger trees)
- Spike top
- Numerous dead branches
- Branches covered with a coarse, bright yellow-green lichen (*Letharia*, or wolf lichen)
- Large diameter lower branches
- Large diameter trunk relative to height
- Trunk has spirally-twisted bark, deep furrows
- Hollow trunk

It is rare for an older juniper to have all of the above features, but more commonly will have at least three or four. Also, older juniper are trees not always the largest trees; on drier, rocky sites, they can be short, stubby, gnarly trees.

APPENDIX E - SOILS QUALITY PDFS AND BMPS

Soil Quality PDFs and BMPS (BMPs are from KFRA RMP Page D-11)

- Limit detrimental soil conditions to less than 20 percent of the total acreage within the activity area. Use current soil quality indicators to monitor soil impacts. Sites where the 20 percent standard is exceeded will require treatment, such as ripping, backblading or seeding.
- Retain and establish adequate vegetative cover in accordance with RMP BMPs to reduce erosion.
- Seed and/or mulch exposed and disturbed soil surfaces with native seed when seed is available.
- Recommend placement of residual slash on trail upon completion of mechanical treatments.
- Limit mechanical operations to soil moistures below 20 percent at a six inch depth. Even lower soil moisture levels are preferable on fragile soils.
- Construct fireline by hand on slopes greater than 35 percent.

APPENDIX F - WATER AND FISH MITIGATION

Project Design Features (PDFs) for Fuels Treatments within Riparian Reserves with No Listed Fish Species

The purpose of this document is to provide guidance to fuels management personnel for designing fuels projects that include treatments within Riparian Reserves. These PDFs should be used for units adjacent to or containing riparian areas and/or fish habitats. Objectives of fuels treatments within riparian reserves (RRs) are: protection of vegetation and soils from catastrophic fire, (including overhead canopy for stream shading); restoration of riparian areas to the potential natural community for the site; increased productive vigor vegetation within the riparian areas; and retention and protection of coarse woody debris (CWD) and overhead cover for stream function and aquatic habitats.

The following information is from the Klamath Falls Resource Area Resource Management Plan.

- Riparian Reserves are lands along streams and unstable and potentially unstable areas where special standards and guidelines direct land use.
- Riparian areas, for the purposes of these PDFs, are defined as lands adjacent to perennial and intermittent streams, springs, lakeshores, wetlands, and reservoirs. Riparian areas have vegetation and soils with physical characteristics showing permanent surface or subsurface water influence.
- Streams covered under these PDFs include perennial streams, (streams that generally flow year round) and intermittent streams (streams that generally run for at least 30 days per year, and have a definable channel and evidence of annual scour or deposition.)

- Wetlands are areas that are inundated by surface or ground water for a sufficient frequency and duration to support vegetation adapted to saturated soil conditions.
- There should be an opportunity on a case-by-case basis to assess the effect of the buffer width on riparian areas and aquatic species and habitats.

Riparian Reserve Types And Widths For The Klamath Falls Resource Area	
Riparian Reserve Type	Reserve Width (for each side of streams/wetlands)
Fish-bearing streams	At a minimum, the reserve width will include: <ul style="list-style-type: none"> ▪ Slope distance equal to the height of two site potential trees (240 feet); or, ▪ The stream channel and the area extending to the top of the inner gorge; or, ▪ The area extending to the outer edges of riparian vegetation; or, ▪ The 100-year floodplain; or, ▪ The extent of unstable or potentially unstable areas, whichever is greatest.
Perennial non-fish-bearing streams and Intermittent (seasonal) non-fish-bearing streams and constructed ponds and reservoirs and wetlands greater than one acre	At a minimum, the reserve width will include: <ul style="list-style-type: none"> ▪ Slope distance equal to the height of one site potential tree (120 feet); or, ▪ The stream channel (or waterbody/wetland) and the area extending to the top of the inner gorge; or, ▪ The area extending to the outer edges of riparian vegetation; or, ▪ The 100-year floodplain (for streams) or the extent of seasonally saturated soil (for waterbodies and wetlands); or, ▪ The extent of unstable or potentially unstable areas, whichever is greatest.
Wetlands less than one acre and unstable or potentially unstable areas	At a minimum, the reserve width will include: <ul style="list-style-type: none"> ▪ The wetland and the extent of seasonally saturated soil; or, ▪ The area extending to the outer edges of riparian vegetation; or, ▪ The extent of stable or potentially unstable areas, whichever is greatest.
Lakes and natural ponds	At a minimum, the reserve width will include: <ul style="list-style-type: none"> ▪ Slope distance equal to the height of two site potential trees (240 feet); and, ▪ The body of water or wetland and the area to the edges of riparian vegetation; ▪ The extent of seasonally saturated soil; ▪ The extent of unstable or potentially unstable areas; whichever is greatest.
Springs	Reserve widths vary according to the size of the associated wetland (see above).

Stream crossings:

- Cross streams only at designated crossings. Select locations that are stable and naturally armored. If naturally armored sites for crossings are not present, temporarily stabilize crossings (i.e. logs, rock.)
- Cross stream at right angles.
- Minimize number and width of crossings.
- Locate crossings in areas with minimum relative slope. Crossings should not occur on slopes > 30%.
- Minimize number of passes.
- Rehabilitate (ruts, disturbed soils, etc.)

Roads and temporary fire trail access in riparian reserves:

- No new roads will be constructed within the RR unless they replace an existing road that is causing more resource damage. If possible, use new technology construction methods for building temporary roads into treatment units (including but not limited to wood chip constructed roads.)
- Use of existing roads and landings within the RR will be reviewed and approved by the resource advisor.
- Minimal or no grading of the existing roads will be done to maintain the existing ground cover and vegetation and to decrease sediment movement.

Chemical fire retardants in riparian reserves:

- No use of chemical retardants would occur within the full width of the riparian zone (per KFRA RMP.)
- In cases of escaped or wildfire control, soap based retardants may be applied to within 50 feet of a stream that contains water.

Streamside pumping sites:

- Pumping on small streams should not reduce the downstream flow of the stream by more than half the flow.
- If possible, avoid the construction of temporary pump chances. When necessary use temporary plastic dams to create chances and remove these dams when not actively pumping.
- All pumping located on fish bearing streams must have a screen over the intake to avoid entrainment of small fish.
- The pump intake should be suspended near the thalweg (deepest/highest quantity of flow) of the stream. Avoid placing pump intakes on the substrate or edges of the stream channel.

Post-fuels treatments for access roads and temporary fire trails:

- Install drainage dips, or water bars, in accordance with RMP BMPs to reduce surface run-off.
- A layer of duff (average of ½ inch after final burn) will be retained to protect soil from erosion during the wet season.
- Mulch and seeding or other methods of soil stabilization should be applied to any exposed soil surfaces prior to the wet season to reduce surface erosion.
- Surface roads in accordance with RMP BMP’s (Roads C-1-8) for all naturally surfaced roads not proposed for decommissioning or closure.
- Design blockages (close or decommission) upon completion of treatments to minimize non-authorized use of roads and trails within treatment areas.
- Placement of residual slash on trails upon completion of mechanical treatments should occur.

APPENDIX I - PRESCRIBED BURN OBJECTIVES

Because these units are not in the commercial timber base, concerns about killing trees of commercial species are reduced compared to burning on timber base lands. However, the intent of the burning is not to kill trees over 8” dbh. Accordingly, the burn prescription will be designed to minimize mortality of trees over 8”dbh. The loss of “oldgrowth” ponderosa pine is not desirable and special steps will be taken, if necessary, in order to avoid killing oldgrowth pines with fire.

For units being burned without mechanical pre-treatment:

Acceptable mortality levels

Species	Mortality target	Acceptable mortality range
Curl-leaf mountain mahogany <i>Cercocarpus ledifolius</i>	0%	0-50%
Birchleaf mountain mahogany <i>Cercocarpus montanus</i>	Stems less than 4” DBH—100% Stems greater than 4” DBH—0%	Stems less than 4” DBH—50-100% Stems greater than 4” DBH—0%-100%
Manzanita <i>Arctostaphylos sp.</i>	100%	50-100%
Ceanothus species	75-100%	50-100%
Prunus/cherry/plum	100%	50-100%
Conifers (other than juniper) 8”DBH and larger	None	0-10%
Conifer reproduction (other than juniper) less than 8”DBH Ponderosa pine <i>Pinus ponderosa</i> White Fir <i>Abies concolor</i>	50%	25-75%

Douglas Fir <i>Pseudotsuga menziesii</i> Incense cedar <i>Calocedrus decurens</i>		
Conifers (other than juniper) 20"DBH and larger	0%	0-5% duff pull back and special lighting pattern may be necessary.
Oaks (<i>Quercus species</i>) less than 8" DBH	50%	25-75%
Oaks (<i>Quercus species</i>) 8" DBH and larger	0%	0-25%
Oaks (<i>Quercus species</i>) 12" DBH and larger	0%	0-10%
Juniper <i>Juniperus occidentalis</i>	Non- oldgrowth—100% Oldgrowth—0%	Non-oldgrowth 25-100% 0-10%

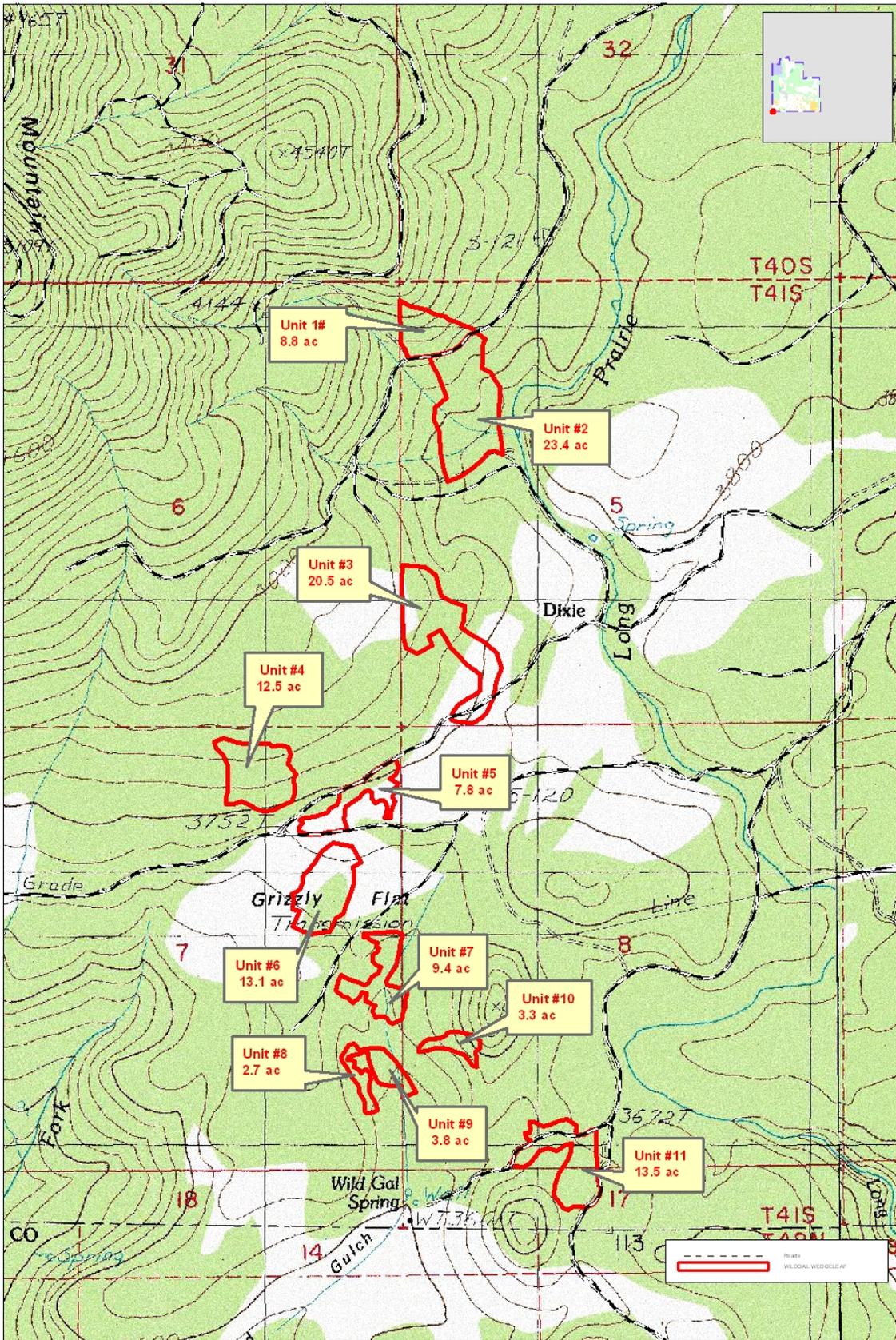
For units being burned after mechanical pre-treatment:

Acceptable levels of post burn mortality. Percentages are of the live vegetation on site after mechanical pre-treatment.

Species	Mortality target	Acceptable mortality range
Curl-leaf mountain mahogany <i>Cercocarpus ledifolius</i>	0%	0-25%
Birchleaf mountain mahogany <i>Cercocarpus montanus</i>	Stems less than 4" DBH—100% Stems greater than 4" DBH—0%	Stems less than 4" DBH—75-100% Stems greater than 4" DBH—0%-100%
Manzanita <i>Arctostaphylos sp.</i>	100%	0-100%
Ceanothus species	75-100%	0-100%
Prunus/cherry/plum	100%	50-100%
Conifers (other than juniper) 8"DBH and larger	None	0-10%
Conifer reproduction (other than juniper) less than 8"DBH Ponderosa pine <i>Pinus ponderosa</i> White Fir <i>Abies concolor</i> Douglas Fir <i>Pseudotsuga menziesii</i> Incense cedar <i>Calocedrus decurens</i>	0%	0-25%
Oaks (<i>Quercus species</i>) less than 8" DBH	0%	0-25%
Oaks (<i>Quercus species</i>) 8" DBH and larger	0%	0-10%
Oaks (<i>Quercus species</i>) 12" DBH and larger	0%	0-10%
Juniper <i>Juniperus occidentalis</i>	Non- oldgrowth—100% Oldgrowth—0%	Non-oldgrowth 25-100% 0-10%

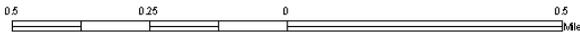
CONSUMPTION TARGETS FOR DEAD FUELS IN ALL UNITS

Time Lag Fuel Class	Target Reduction	Acceptable Range
1-hour fuels	80%	50-95%
10-hour fuels	60%	40-95%
100-hour fuels	50%	20-80%
1000-hour fuels	30%	0-60%



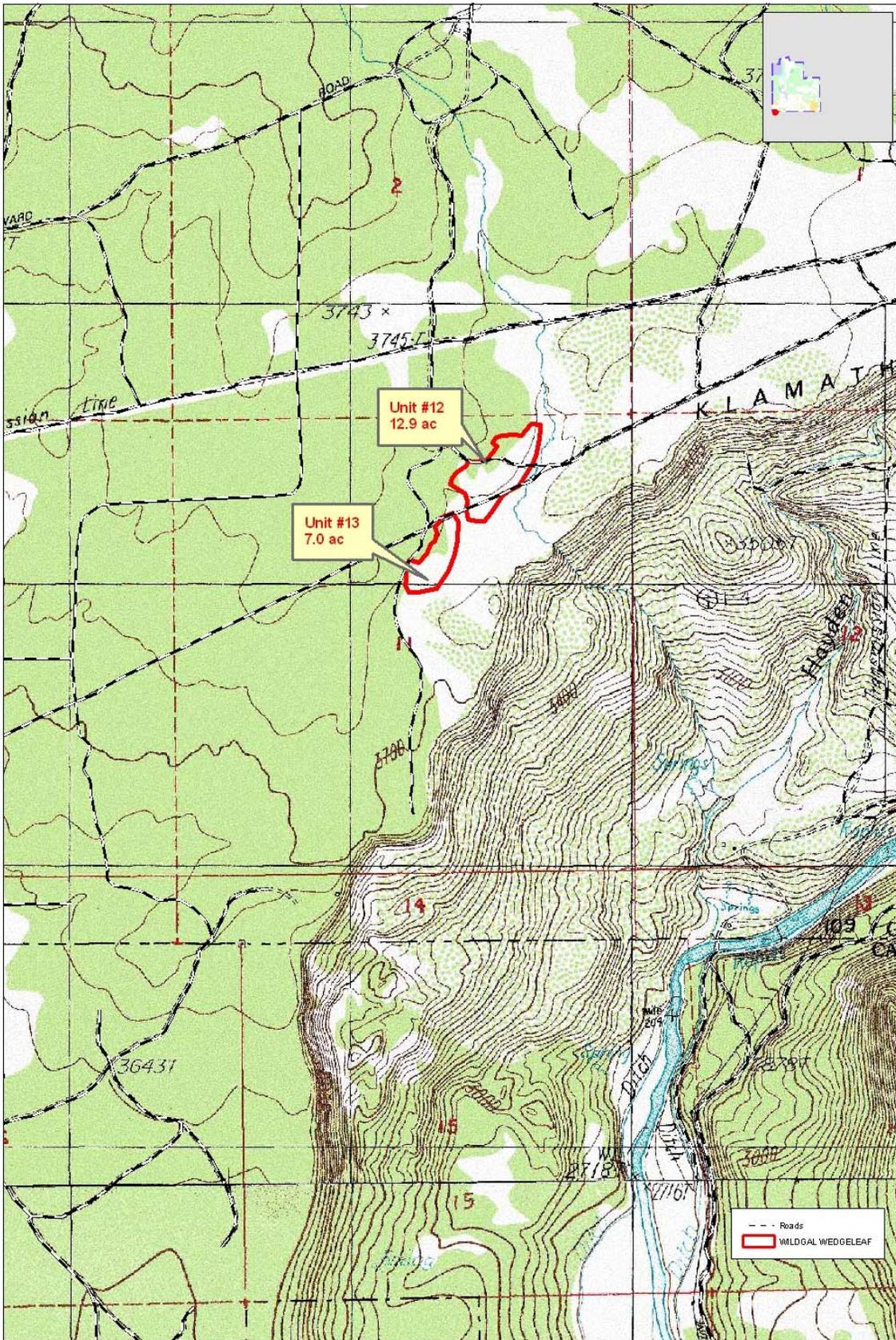
POKEGAMA WINTER RANGE AND FUELS UNITS MAP #1 (west units)

No warranty is made for the fitness of said measures or the accuracy of the data. No warranty is made for the fitness of said measures or the accuracy of the data. No warranty is made for the fitness of said measures or the accuracy of the data.



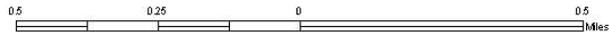
Prepared by: Matt Boyles
Updated: 12/18/07





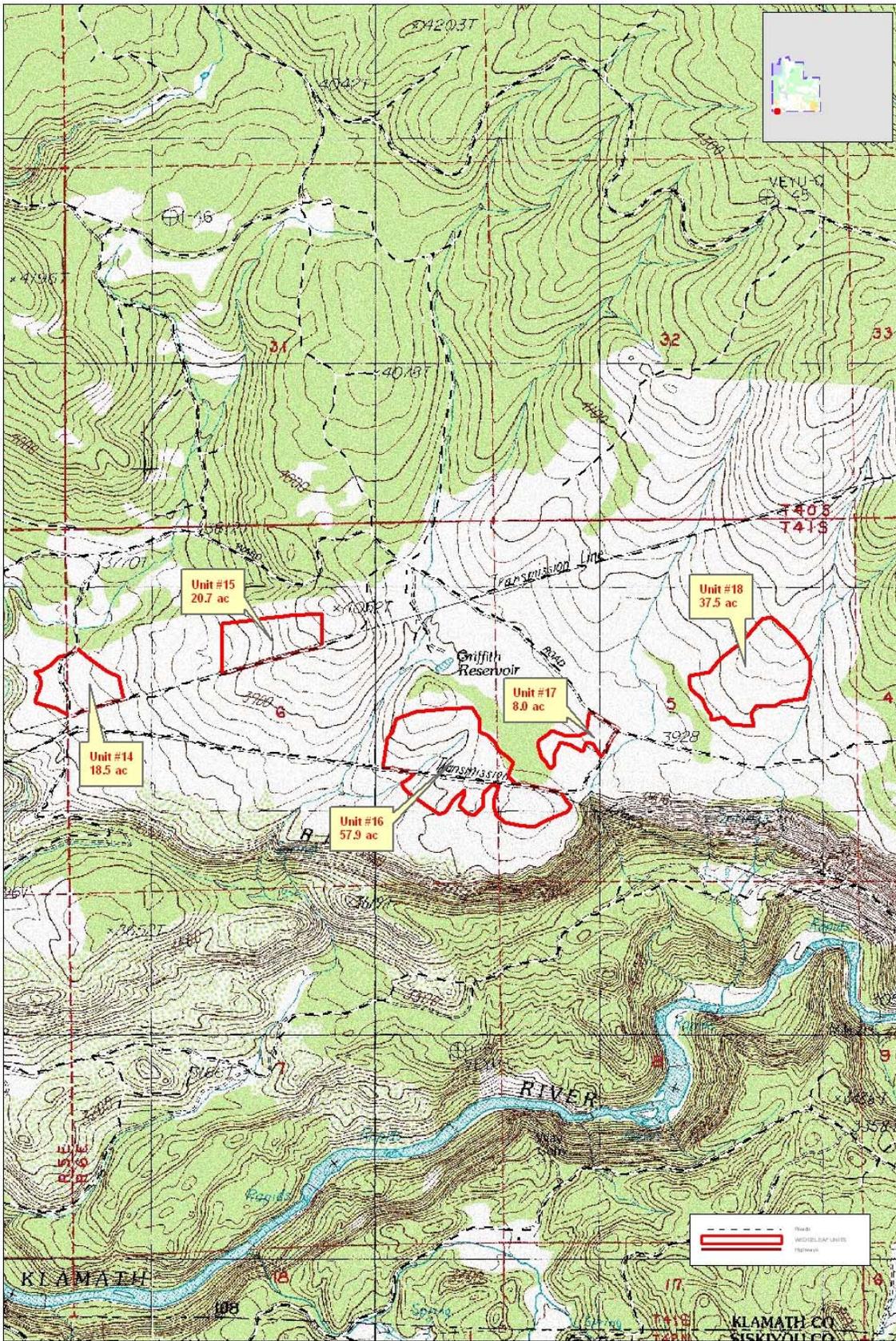
POKEGAMA WINTER RANGE AND FUELS UNITS MAP #2 (middle units)

Not responsible for the fitness of land management units for any use or application. The data is provided as a reference only. The user is responsible for the accuracy of the data. The user is responsible for the accuracy of the data. The user is responsible for the accuracy of the data.



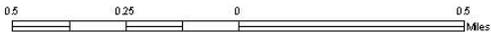
Prepared by: Matt Boyles
Updated: 12/18/07





POKEGAMA WINTER RANGE AND FUELS UNITS MAP #3 (east units)

Not responsible for the fitness of land management units for use in any other application. The information on this map was compiled from various sources. The information on this map is not intended to be used for any other purpose. The user assumes all responsibility for the use of this information.



Prepared by: Matt Boyles
Update #: 12/8/07

