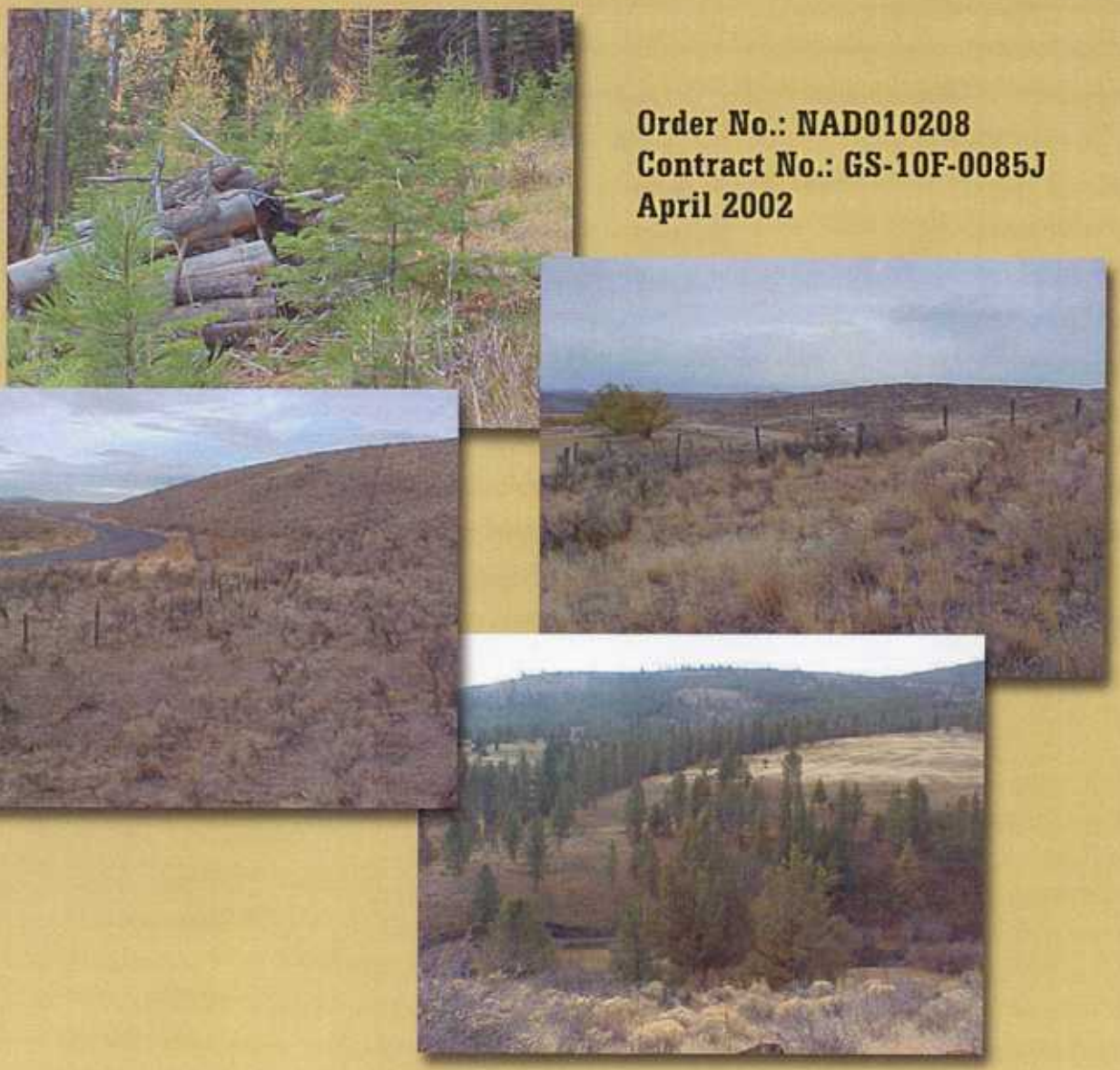
WILDLAND-URBAN INTERFACE COMMUNITIES-AT-RISK PROGRAM

Final Mitigation Recommendations
BLM Vale District
Cove Assessment Area



Order No.: NAD010208
Contract No.: GS-10F-0085J
April 2002

DYNAMAC
CORPORATION
www.dynamac.com

FINAL
COMMUNITIES-AT-RISK, WILDLAND-URBAN INTERFACE MITIGATION RECOMMENDATIONS

VALE DISTRICT
COVE ASSESSMENT AREA

Prepared for:

U.S. Department of Interior
Bureau of Land Management
Vale District
100 Oregon Street
Vale, Oregon 97918
(541) 473-3144

Prepared by:

Dynamac Corporation
20440 Century Boulevard
Suite 100
Germantown, Maryland 20874

Order Number: NAD010208
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ACRONYM LIST

amsl	Above mean sea level
BLM	Bureau of Land Management
GPS	Global Positioning System
NAD	North American Datum
ODF	Oregon Department of Forestry
RFD	Rural Fire Department
SOW	Statement of Work
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator

1.0 EXECUTIVE SUMMARY

During the 2000 fire season more than 6.8 million acres of public and private lands were burned by wildfire, resulting in loss of property, damage to resources, and disruption of community services. Many of these fires occurred in wildland-urban interface areas and exceeded fire suppression capabilities. To reduce the risk of fire in the wildland-urban interface, the President of the United States directed the Secretaries of the Departments of Agriculture and the Interior to increase federal investments in projects to reduce the risk of wildfire in the wildland-urban interface. The Bureau of Land Management (BLM), Vale District, together with the U.S. Forest Service (USFS) and the Oregon Department of Forestry (ODF) is currently in the process of forming partnerships with local governments to plan fuels reduction treatments and other mitigation measures targeted at the wildland-urban interface in the vicinity of Federal lands. These partnerships are indicative of a shared responsibility to reduce wildland fire risks to communities.

The wildland-urban interface occurs where manmade structures meet or intermix with wildland vegetation. In certain situations, specific actions such as fuels reduction around communities, forest and rangeland restoration, infrastructure improvements, and public education and outreach may reduce the risk of catastrophic fire in the wildland-urban interface. To this end, the federal agencies implemented the Communities-at-Risk, Wildland-Urban Interface Program. The program seeks to reduce the hazard of wildland fires to communities through public outreach, the reduction or prevention of fuel build-up, and increasing the fire protection capabilities of communities. The Cove community was selected to evaluate the hazard of wildland fire and to identify specific actions that may reduce the risk.

BLM contracted Dynamac Corporation to conduct an assessment of wildfire risk to the Cove community in the wildland-urban interface. Dynamac scientists conducted fuel surveys by categorizing the vegetation, slope, and aspect of the land in the Cove assessment area. The risk of wildland fire to homes, structures, and cultural resources on private land was also evaluated according to building materials, the presence of survivable space, road access, and the response time of the local fire department. Dynamac assessed the adequacy of the community's service infrastructure (including roads, water supplies, and fire fighting equipment) by systematic observation, and by interviewing community officials and fire prevention personnel. A community open house was held to disseminate information about the Communities-at-Risk, Wildland-Urban Interface Program to citizens, to afford them the opportunity to identify

resources that are of value to the community, and to have them identify actions that may reduce the risk of wildland fire. The information gathered from the fuel surveys, structural surveys, interviews, infrastructure assessments, and community profile was integrated into two reports: a hazard assessment report and mitigation recommendations. The following action items were identified to reduce the wildfire threat in the Cove assessment area:

- Conduct fuels reduction activities in the wooded areas in the eastern portion of the assessment area, and coordinate these efforts with federal, state, county, and private landowners as appropriate;
- Develop an ongoing education and outreach program to encourage firewise practices by the residents of Cove and Union County; and
- Provide assistance to Cove area Rural Fire Departments (RFDs) in obtaining training and additional equipment.

2.0 GOALS AND OBJECTIVES

The goals of the Cove wildfire hazard assessment and mitigation recommendations are to evaluate the hazards of wildland fire within the assessment area and then identify specific actions that could reduce the risks. The objectives are to decrease the chances of wildfire spreading from public lands onto private lands, while correspondingly decreasing the risk of wildfire spreading from private lands onto public lands.

3.0 BACKGROUND

Wildland fire is an integral component of many forest and rangeland ecosystems. In the conterminous United States before European settlement, an estimated 145 million acres were annually scorched by wildfire. In comparison, only about 14 million acres are currently burned annually due to increased agriculture, urbanization, habitat fragmentation, and fire suppression programs. This change from the historical fire regime to the present day has caused a shift in the native vegetation composition and structure of fire-prone ecosystems such as some forests and rangelands resulting in a dangerously high accumulation of fuels. As a result, when wildland fires do occur, they may burn larger and hotter than those in the past and pose an increased risk to human welfare and ecological integrity.

The hazard of wildland fires is compounded by the increasing occurrence of human structures and activities in fire-prone ecosystems. The wildland-urban interface occurs where human structures meet or intermix with wildland vegetation. In certain situations, specific actions such as fuels reduction around communities, forest and rangeland restoration, infrastructure improvements, and public outreach may reduce the risk of losses to catastrophic fire in the wildland-urban interface. The Vale District BLM implemented the Communities-at Risk, Wildland-Urban Interface Program to determine what these specific actions may be, and where they are needed. The program seeks to reduce the hazard of wildland fires to communities through public education and outreach, the reduction or prevention of fuel build-up, and increasing the fire protection capabilities of communities. The Cove community was selected to assess the threat of wildland fire and to identify specific actions that may reduce the risk of loss.

The BLM Vale District intends to use the mitigation measures identified in this document as a guide and prioritization tool in implementing the Communities at Risk program. The District is committed to working with any partners (private, local government, state, and federal) in order to accomplish mutual goals and objectives identified in the recommendations. The recommendations that the District chooses to implement will go through the NEPA process and will be accomplished as funding, policy, and regulations permit.

4.0 EXISTING SITUATION

Cove is a small picturesque town situated between the Blue Mountains and Wallowa Mountains in northeastern Oregon. The Assessment Area is located approximately 130 miles northwest of Ontario, Oregon and 13 miles east of LaGrande, Oregon, in Union County. The assessment area included the towns of Cove and Union, and the city of LaGrande. The assessment area covered portions of townships T01S R38E; T01S R39E; T01S R40E; T01S R41E; T02S R38E; T02S R39E; T02S R40E; T02S R41E; T02S R42E; T03S R38E; T03S R39E; T03S R40E; T03S R41E; T03S R42E; T04 R38E; T04S R39E; T04S R40E; T04S R41E; T04S R42E; T05S R38E; T05S R39E; T05S R40E; T05S R41E; and T05S R42E.

The climate of the Cove area is characterized by warm, dry summers with average daily high temperatures reaching 84ºF in July and August, and an average daily summertime low of 44-48ºF (see **Table 1**). Winter months are typically cool, with average daily temperatures from November to March ranging from the mid 40s to the low 20s. Precipitation is typically moderate

with an average annual precipitation of 22 inches. Most precipitation arrives from November to January as snowfall and from March through June as rain (WRCC, 2001).

Vegetation is primarily open ponderosa pine forests with some dense multi-storied, stands of decadent mixed conifer. Public lands are primarily those managed by USFS, accounting for approximately 250 square miles. Public land managed by BLM in the Cove assessment area amounts to approximately 10 square miles in 17 small isolated parcels located in the southern one-third of the area. There are more than 50,000 acres of high-hazard fuels (dense, multistoried stands) surrounding the community.

Dynamac conducted evaluations of the flammable fuels hazards near the wildland interface in the Cove assessment area. Details of the methods used in the fuels survey are presented in Section 7.0 of this document. In brief, locations on or near public land were categorized as to fuel (vegetation) and land characteristics associated with the spread of wildfire. In choosing fuel survey points, emphasis was placed on land near the urban interface that is representative of the features in the surrounding area. The results have been reported in the Hazard Assessment Report for the Cove assessment area.

The Hazard Assessment Report for the Cove assessment area characterizes six fuel and terrain conditions as Class A (low hazard), Class B (intermediate hazard), or Class C (high hazard). The data from the fuels hazard assessment are also graphically depicted in **Figures 1 and 2.** The charts depict the percentage of assessment points, based on a total of 9 points surveyed, that received a high, moderate, or low hazard ranking. Those data are summarized as follows:

- **Slope:**
  - Class A - 11% of the points were flat (<10% slope).
  - Class B - 78% of the points were on moderate slopes (10-30% slope).
  - Class C - 11% of the points were on steep slopes (>30% slope).
- **Aspect:**
  - Class A - 11% of the points had northern exposures.
  - Class B - 22% had eastern exposures.
  - Class C - 67% of the points has southern and western exposures.
- **Elevation:**
  - Class A - None of the points was below 3,500 feet above mean sea level (amsl)
  - Class B - 100% of the points were at 3,500-5,500 feet amsl.

Class C - None of the points observed was higher than 5,500 feet amsl.

- **Fuel Type:**

  Class A - 0% of the points had light vegetation (predominantly grass).

  Class B - 11% of the points had moderate vegetation (sagebrush/shrubs).

  Class C - 89% of the points had heavy vegetation (forested).

- **Fuel Density:**

  Class A - 0% of points had a discontinuous fuel bed (<10% cover).

  Class B - 44% had a broken/moderate fuel bed.

  Class C - 56% had a continuous fuel bed.

- **Fuel Bed Depth:**

  Class A - 0% of points had low fuel depth (<1 foot).

  Class B - 11% of points had intermediate fuel depth (1-3 feet).

  Class C - 89% of points had high fuel depth (>3 feet).

Figure 1: Cove Fuel Hazard Assessment Results (Topography)

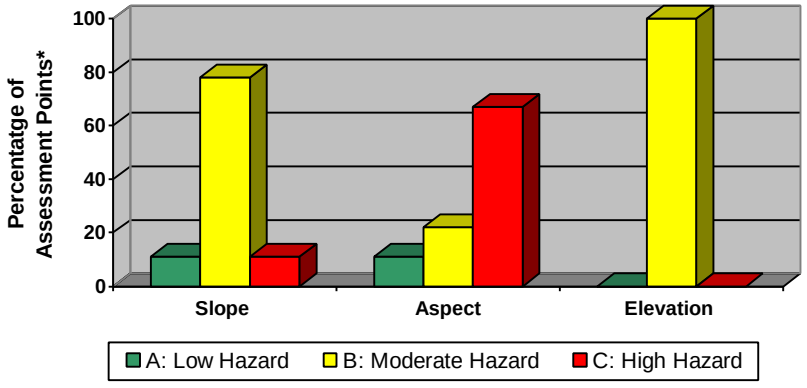
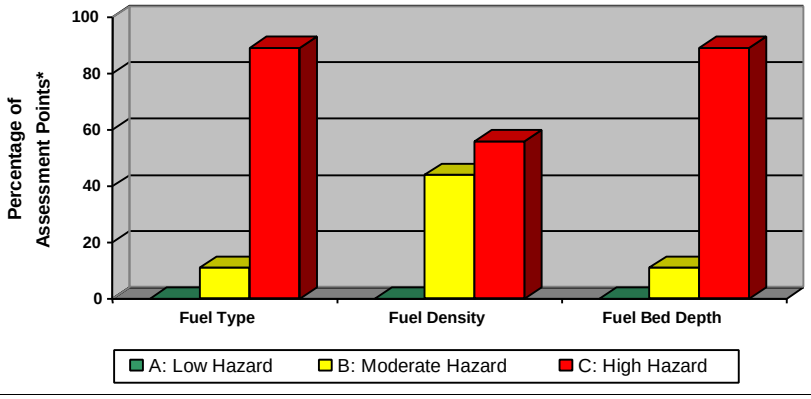


Figure 2: Cove Fuel Hazard Assessment Results (Fuels)



*Percentages for Figures 1 and 2 based on 9 assessment points surveyed.

A second component of the hazard assessment was to observe the features of structures such as dwellings and other structures of value that can categorize fire resistance. For this survey, Dynamac assessed one-square-mile sections of the assessment area that were within 1 mile of the wildland interface near public land. The data that were gathered characterized for each square mile section structure density, building materials, proximity to fuels, presence of a survivable space, and roads/accessibility. Results of the structure survey are summarized as follows:

- **Structure Density:**
  - Class A - 18% of sections had one structure per 5-10 acres.
  - Class B - 12% of sections had at least one structure per 5 acres.
  - Class C - 70% of sections had less than one structure per 10 acres.
- **Proximity to Structures:**
  - Class A - 65% of sections had flammable wildland fuels greater than 100 feet from the majority of structures.
  - Class B - 23% of sections had fuels that were 40 to 100 feet away from the majority of structures.
  - Class C - 12% had fuels less than 40 feet from most structures.
- **Predominant Building Materials:**
  - Class A - In 65% of sections, the majority of homes had fire-resistant roofs and/or siding.
  - Class B - In 29% of sections,10-50% of structures had fire-resistant roofs and/or siding.
  - Class C - In 6% of sections, less than 10% of structures were built of fire-resistant materials.
- **Survivable Space:**
  - Class A - 65% of the sections featured improved survivable space around the majority of homes.
  - Class B - 23% of the sections were rated with 10-50% of homes surrounded by survivable space.
  - Class C - In 12% of sections, less than 10% of structures had improved survivable space.
- **Roads:**
  - Class A - 59% of the sections featured wide looped roads that were maintained, paved or solid, and surfaced with shoulders.
  - Class B - 23% of sections had maintained, two-lane roads with no shoulders.

Class C - 18% of sections had mostly narrow, steep, or rutted roads.

- **Response Time:**

  Class A - Response times to 54% of the sections surveyed in the area were estimated to be less than 20 minutes.

  Class B - Response times to 46% of the sections surveyed in the area were estimated to be between 20 and 40 minutes.

  Class C - None of the sections surveyed had an average response time of more than 40 minutes.

- **Access:**

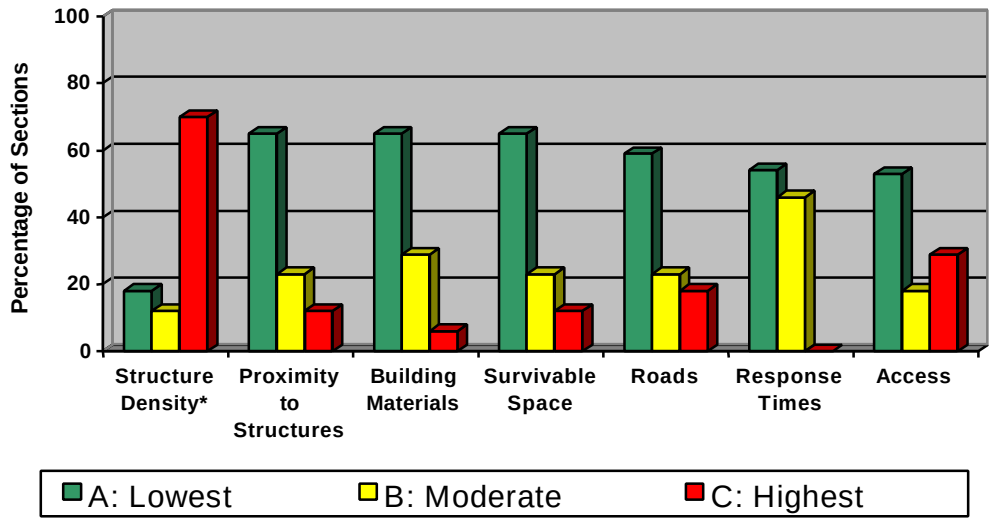
  Class A - In 53% of sections surveyed, most roads had multiple entrances and exits that were suitable for truck turnarounds.

  Class B - In 18% of sections, access was limited.

  Class C - 29% of sections had poor road access.

The percentages of assessment points for hazards to structures are graphically depicted in **Figure 3**. It should be noted that, with the exception of structure density, these percentages are based on the 17 sections *with* structures in the assessment area and not on all 66 sections surveyed (49 of which had no structures).

Figure 3: Cove Structure Risk Assessment Results for 17 Sections with Structures



* Structure Density percentage is based on all 66 sections surveyed within the assessment area. The other metrics are based on the 17 sections that contained structures.

5.0 PUBLIC COMMENT SUMMARY

Dynamac collected comments regarding the wildfire hazard in the Cove assessment area through discussions with community leaders, fire officials, disaster coordinators, and residents of Cove, Union County, and the surrounding wildland-urban interface lands. The public provided comments through written surveys and at the open house held on November 4. The following comments and concerns were expressed:

1. The Cove RFD made requests for firefighter training, personal protective equipment, and a new truck with a 500-gallon water capacity.

2. A few residents have requested to be allowed to clear dead trees from forested land for use as firewood. Some of the responses recommended selective thinning of forested land. Some residents are interested in reducing fuels around their homes. Mowing of ditches and prescribed fire of forest and pastureland were also recommended.

3. Some residents recommended that more educational material should be provided to residents so they can better protect themselves and their property from wildland fires. Informational articles in local newspapers and free pamphlets were requested.

4. One resident recommended, in the questionnaire, that concerned citizens form an informal group in which landowners take responsibility for their own property. The group could share ideas and strategies to reduce the threat of fire to their property.

5. Many residents remarked that homeowners should be held responsible for conditions on their property. Some felt that homeowners should be fined if they do not maintain firewise practices on their property. In addition, it was noted that construction of homes should not be allowed in forested areas.

At a second public meeting where the results of the fuel, structure, and community surveys were presented, residents were again encouraged to express their concerns. Many of the comments and questions that emerged at the second meeting were similar to those expressed at the first public meeting. However, the following additional points were raised with regard to fuels reduction:

1. Landowners desire assistance with fuels cleanup on private property and would like for these benefits to apply to land without structures near the wildland interface.
2. Residents expressed the desirability for maintenance of fuels reduction areas in years subsequent to the initiation of these projects.
3. Some citizens recommended livestock grazing as a fuels reduction measure.

6.0 NEED FOR ACTION

Wildfires in the Cove assessment area are common and have both natural and human origins. At risk are houses and other structures on private land near the wildland interface, natural resources, wildlife habitat, and recreational areas. Under the National Fire Plan, USFS and ODF have initiated public outreach aimed at identifying public and private lands for fuels reduction projects and promoting firewise landscaping and construction practices. The goal is to develop a comprehensive fire plan that addresses issues of structure vulnerability and citizen and firefighter safety in the wildland-urban interface through partnerships with federal, state, local, and private concerns as appropriate.

The recommendations presented in this report will compliment the ongoing UFSF and ODF effort. These recommendations will augment and enhance community outreach and fuels reduction planning and will add a component focused on firefighter safety and rural assistance in obtaining equipment grants. The need for action is immediate in order to avoid delay, as preliminary assessments NEPA compliance must precede fuels reduction.

7.0 METHODOLOGY

The mitigation actions proposed herein for the Cove assessment area are based on information acquired from wildland fuel and structure surveys, a public meeting, interviews of community officials, and surveys filled out and submitted by residents of Cove and Union County. The majority of information presented in this report was gathered during November 4-8, 2001.

Dynamac characterized land and fuels at 9 points on public land within a 15-mile radius of Cove, concentrating on sections of land near inhabited areas. As not all sections of public land were accessible, Dynamac endeavored to choose fuel survey points that were representative of surrounding sections. The rating elements included slope, aspect, elevation, fuel type, fuel density, and fuel bed depth, and were assigned to a hazard category of low (Class A), medium

(Class B), or high (Class C). At each survey point, the field crew recorded the location in UTM coordinates using a Trimble hand-held global positioning system unit (GPS), and photographed the surrounding area in the four cardinal directions (See Hazard Assessment Report, Table 3, and Appendix B). Also, a wildland fuels fire hazard assessment form (Form 1) was completed which rated the characteristic of the land features and fuel sources.

Dynamac staff also collected information on the flammability and defensibility of structures on private land from 66 sections located within one mile of public lands, within the assessment area. The structural hazard assessment rated the structures based on the resistance of building materials to fire, and the distance of flammable fuels to the structures located within a section. The rating elements included structure density, proximity of flammable fuels to the structures, building materials, survivable space, and types of roads, response times, and accessibility. Each element was assigned a rating of low (Class A), medium (Class B), or high (Class C) hazard category (See Hazard Assessment Report, Table 4, and Appendix C).

A public open house was convened on November 6, 2001, at the Kimsey Commons Building, Ascension School Camp and Conference Center, Cove, Oregon, from 6:00 to 9:00 p.m. The community was invited to attend through a direct mailing to 627 households in and around Cove, a newspaper article in the local paper, and announcements posted in public places such as grocery stores and the post office. Although the meeting was well publicized and outreach activities were conducted to notify the public, the total attendance was 21 people. Dynamac, BLM, USFS, and ODF staff attended the public meeting, and representatives of each gave a short presentation on their roles in the overall National Fire Plan in general and in the current initiative. The government and Dynamac staff provided firewise informational materials, obtained information from the community on hazardous fire situations and desired conditions, and served as informational resources to those attending the meeting. Residents attending the meeting were asked to fill out a survey form regarding their perceptions and concerns about wildland fire in their communities. Several of these were also received later from individuals who did not attend the meeting. (See Hazard Assessment Report, Appendix D.)

The Dynamac Community Relations Specialist conducted interviews with numerous local public officials and residents. Individuals or groups interviewed included Union County officials, BLM representatives, ODF, USFS, the chief of the Cove Rural Fire Departments, and the Sheriff's office (See Hazard Assessment Report, Appendix E).

A second public open house was held on March 4, 2002, at the same location in Cove. Publicity for this meeting included a direct mailing to 627 residences, and also mailing a letter and a factsheet about findings from the community assessment to 31 people who attended the first meeting and signed the mailing list, or were interviewed. Twenty-four people attended the second open house. Dynamac's team lead for the Cove assessment area presented a short slide show of the fuel hazard and structure hazard assessments that had been conducted the previous November. A USFS participant contributed information regarding ongoing and planned fuels reduction projects in the assessment area. In addition, an ODF representative discussed National Fire Plan public outreach, mitigation surveys, and addressed the potential for local districts to obtain additional equipment and help with grant applications.

8.0 PROPOSED PROJECTS AND PRIORITY

The projects proposed are based on information obtained from the fuel and structure surveys, community meeting, and interviews. The following specific action items were identified to potentially reduce the hazard of wildfire in the Cove assessment area:

- Establish a fuels reduction plan for areas of public and private land that is focused on interface areas in the eastern portions of the assessment area;
- Develop an on-going education and outreach program throughout the assessment area to encourage private landowners to adopt firewise landscaping and building practices; and
- Assist the local RFDs in obtaining funding for training and firefighting equipment.

8.1 Fuels Reduction Recommendations

Purpose of Fuels Reduction: The hazard to the community from wildfire on public lands near Cove is high. Recent fuels assessments revealed high risks in several categories, including fuel height, density, and elevation. Moreover, dead vegetation and multiple understory layers in some areas could serve as ladder fuels, spreading fire rapidly and increasing the chances of canopy fires. Fuels reduction has been shown to be effective around communities to reduce the risk of fire in the wildland-urban interface. A good assessment of specific hazards and threats to a community will help identify problems and solutions for both federal and private landowners, and offer opportunities for partnerships and agreements. Treatments will aid in reducing the wildfire threat and risks of loss to existing homes in the vicinity of the most hazardous fuels.

Types of Fuels Treatments: Mitigation measures appropriate to reduce forest crown fire hazard include commercial and non-commercial mechanical fuel removal, and maintenance of treated areas. Fuel removal could be effected through timber sales, the opening of firewood-clearing areas on public land, and removal of dead and insect-infested wood. Residential homeowners are encouraged to coordinate their individual fuels reduction efforts with those of the public and commercial landowners in their respective areas.

Locations of Firebreaks and Fuel Treatments: Map 2 shows the locations of the proposed high-priority areas for fuels reduction. In the November 5 meeting, the USFS and ODF indicated that the highest risk urban interface areas within the assessment include Mill Creek and High Valley areas southeast of Cove. There is public land near these areas, although the amount of land administered by BLM is small compared with that managed by the USFS. BLM parcels of less than one square mile are located southeast of Cove adjacent to or surrounded by the National Forest in T03S, R41E, sections 31 and 32; T04S, R41E, sections 5 and 9; and T05S, R41E, sections 10, 15, 24, 26, 33 and 34. BLM has jurisdiction over these parcels, but BLM can coordinate and collaborate with USFS on any fuels reduction plans in these contiguous areas. Three additional parcels of BLM land in T03S, R40E, sections 25 and 35; and T04S, R40E, section 1; south of Cove within 1-3 miles of residential areas, warrant consideration for fuels treatments. Just south of the assessment area boundary in T05S, R41E, section 32; and T06S, R41E, section 5, are parcels where BLM has received approval for and is currently conducting fuels reduction activities.

Project Timing: BLM generally times projects in the following manner: Year One is the year identification and justification of projects occurs, and treatment objectives are determined. Field surveys begin. In Year Two projects that require compliance with the National Environmental Policy Act (NEPA) are planned, analyzed, and designed. In Year Three, NEPA projects begin implementation. All steps are contingent on available funding. In Year Four, post-treatment monitoring begins. Fuels reduction on private property can be implemented at any time with compliance with local, State, and Federal regulations if applicable.

Project Necessity: Fuel removal and reduction of ladder fuels and dead standing and down vegetation will reduce the danger of fires escalating to uncontrollable levels. This treatment will help to protect structures, forestland, and the pristine watershed by lowering the hazard fires pose, and by making fires that do occur easier to suppress.

8.2 Community Education and Outreach Recommendations

Purpose of Public Education and Outreach: The purpose of the community-wide education program is to 1) educate the public of the dangers of wildfire in the area, 2) urge residents to take responsibility in reducing the risk of wildfire and to create defensible space around their residence, and 3) increase awareness of the natural role of fire in forest and rangeland ecosystems, and the benefits of prescribed burning or occasionally managing natural wildland fires to achieve ecological benefits, while maintaining firefighter and public safety as the top priority. The public education and outreach program could be co-sponsored by federal, state, and county partnerships as appropriate.

Outreach Occurrence: An annual "Firewise Clean-Up Day" is one tool that is recommended to encourage residents to create defensible/survivable space around their residence. In conjunction with the Firewise Clean-Up Day, specific demonstration projects may be designed and utilized to educate residents about longer-term investments they could make to increase fire safety. The clean-up day would occur in conjunction with public demonstrations, education programs, and speakers on wildfire and firewise practices.

Outreach Timing: Within the general guidelines set forth above, the annual "Firewise Clean-Up Day," education program, and public demonstrations would be most effective in the spring, to remind people to prepare their properties for the coming fire season.

Outreach Necessity: Citizen involvement in wildfire mitigation in and around communities is a necessary element for success. Public education and outreach is an effective means of engaging the public in the process of reducing risks to a community. Such education and outreach has been shown to motivate homeowners to take measures around their individual property, thereby contributing to the reduction of wildfire hazards in a community. Further, a community education and outreach program will help identify problems and solutions for both federal and private landowners, and offer opportunities for partnerships and agreements. Implementation of the program, and appropriate action by homeowners, will reduce fire risk to structures in the Cove assessment area.

8.3 Local Fire Department Assistance

Purpose of Assistance: Firefighter safety is one paramount concern in battling wildfire. The Cove area RFDs could greatly benefit from government-sponsored training courses. In addition, there is a need for additional personal safety equipment. The efficiency of the local RFDs would be enhanced and response times shortened by the procurement of additional equipment. For example, the Cove RFD has expressed a need for a 500-gallon tender. Furthermore, the additional equipment would allow the fire departments to respond to more than one fire at a time.

Necessity for Assistance: The residential component of Cove and Union County may outgrow the capabilities of the Cove RFD in the future. The area is growing rapidly. Because much of this development is within one mile of the wildland interface, it is appropriate for State and Federal agencies to assist the Cove RFDs in implementing these improvements by helping to facilitate grant proposals for assistance funding.

Project Timing: While considered a lower priority than fuels reduction and public outreach and education activities, federal, state, and county agencies should assist the Cove RFD in obtaining grant money as appropriate.

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Video: Firewise Landscaping, Part 1-Overview.

Video: Firewise Landscaping, Part 2-Design and Installation.

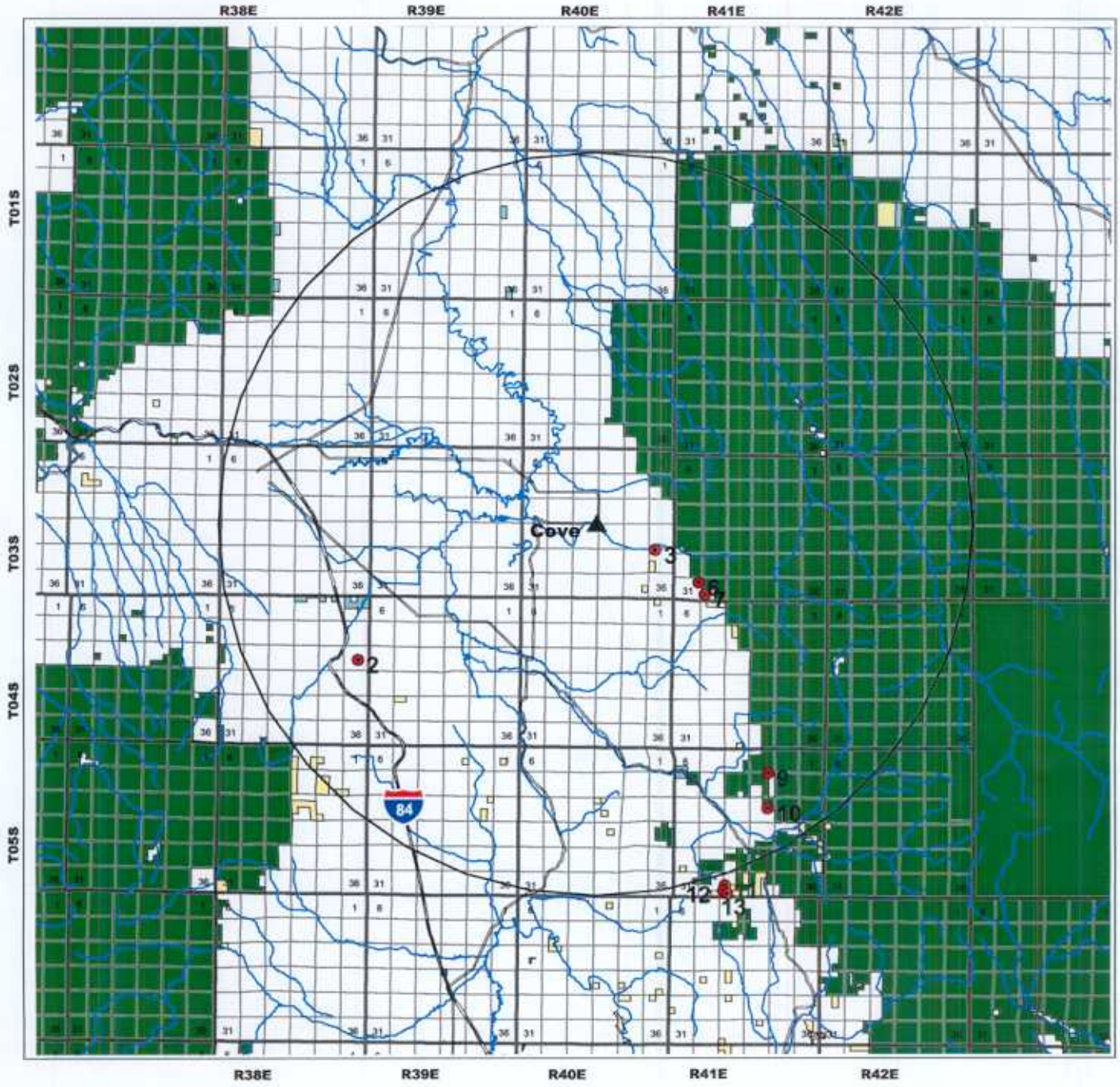
Video: Firewise Landscaping, Part 3-Maintenance.

Video: Wildfire Control--An Introduction for Rural and Volunteer Fire Departments.

Video: The Meeting: Fire Protection Planning in the Wildland/Urban Interface (1991).

Appendix: Maps

Map 1: Cove Assessment Area and Fuel Survey Points



N

2 0 2 4 6 8 10 Miles

Scale 1:400,000

Ownership:

- BLM
- U.S. Forest Service
- U.S. Fish & Wildlife
- Private
- State of Oregon
- Assessment Area
- Interstate Highway
- US or State Highway
- Stream
- Actual Assessment Point

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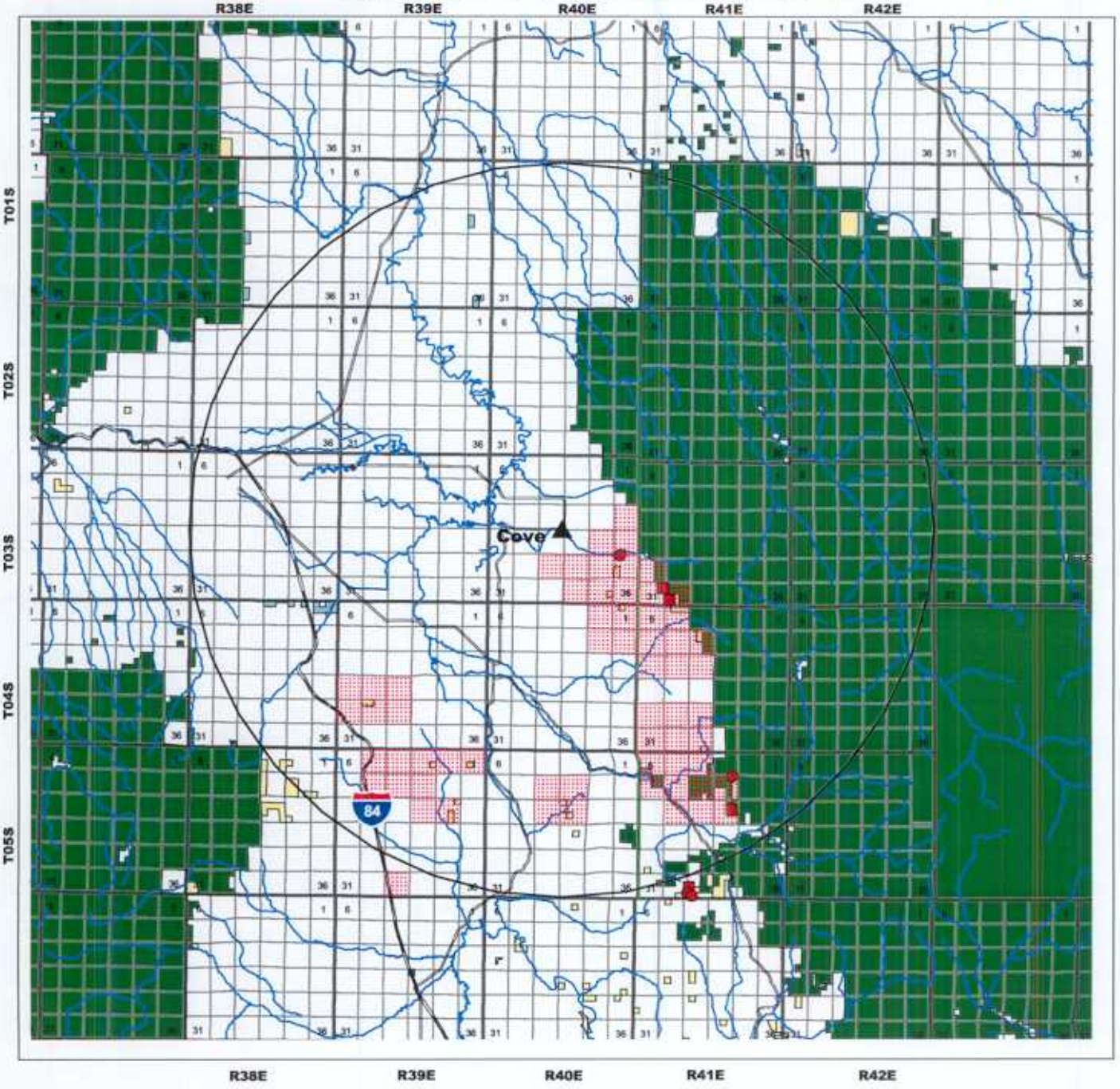
Map 2: Highest Risk Areas for Fuels and Fire Suppression within the Cove Assessment Area



N

2 0 2 4 6 8 10 Miles

Scale 1:400,000

Ownership:

- BLM
- U.S. Forest Service
- U.S. Fish & Wildlife
- Private
- State of Oregon
- Assessment Area
- Interstate Highway
- US or State Highway
- Stream

- Highest Risk Fuel Areas within the Assessment Area
- High Risk Fuel Areas within the Assessment Area
- Highest Risk to Fire Suppression Areas (Low Structure Density) within the Assessment Area

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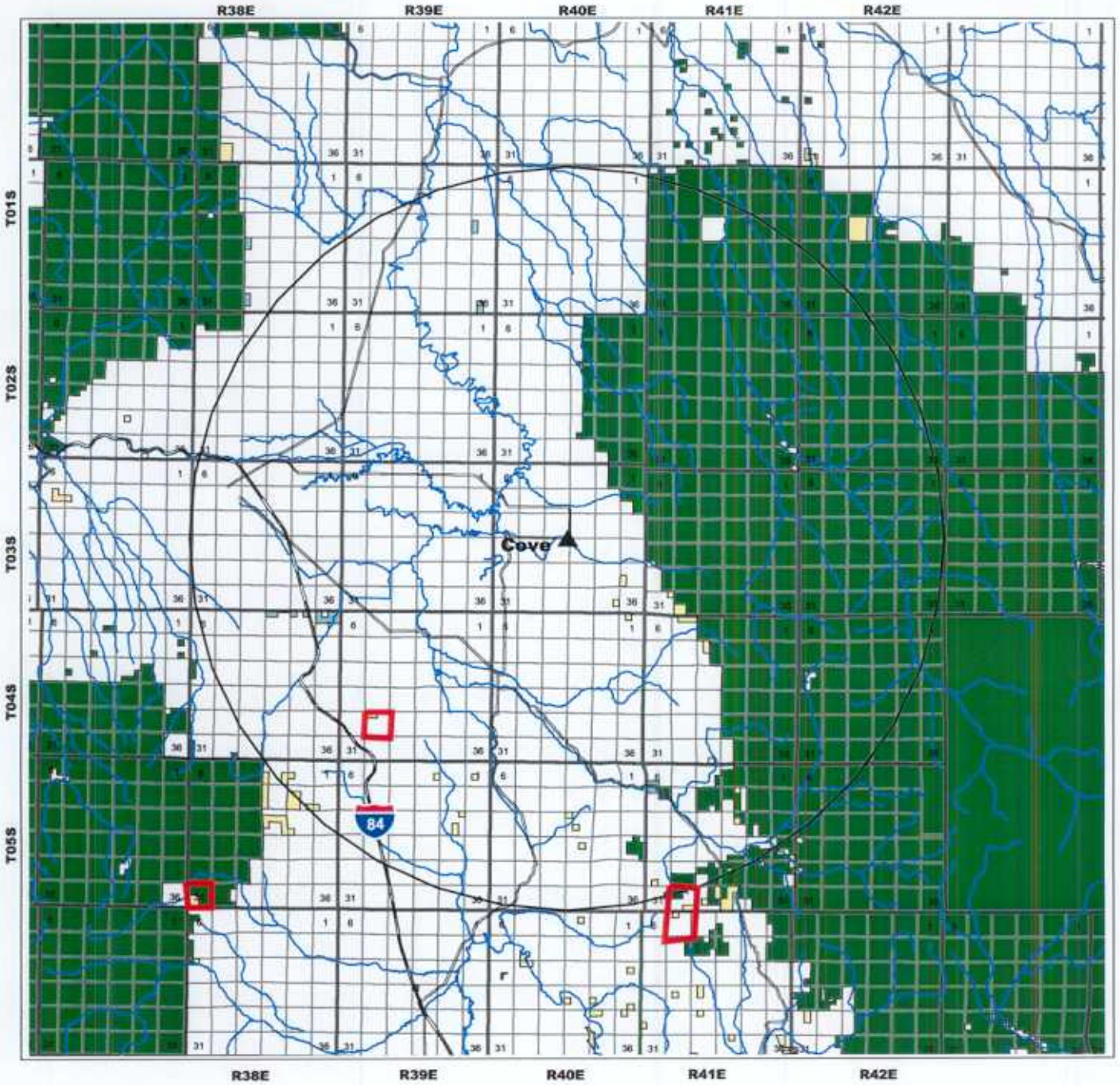
Map 3: Proposed Mitigation Recommendations in the Cove Assessment Area



N

2 0 2 4 6 8 10 Miles

Scale 1:400,000

Ownership:

- BLM
- U.S. Forest Service
- U.S. Fish & Wildlife
- Private
- State of Oregon
- Assessment Area
- Interstate Highway
- US or State Highway
- Stream

Mitigation:

- Proposed Fuels Reduction on BLM Land

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