

APPENDIX A

Project Planning Information

Table 7.1 Implementation Project listing for 2008-2010- A listing of potential Projects to be worked on within the Ponderosa Park Planning area that has been presented to the Homeowner's at the annual meeting

Project Name	Operation period	Project Number	Location	Funds acquired	Brief Description
Home Assessments	2008-2010	7.3.1	Entire area	None	Will do individual Landowner assessments and then develop a database to store information. Will work with DNR to complete project
Firewise Workshop	Spring 09	7.2.3	Entire area	DNR	Have DNR assist with a Firewise workshop along with potentially KLED#7 and NRCS
Two Sided Street signs	Winter 08	7.5.1	Entire area	Residents	Put up two sided street signs at all intersections for better understanding of what street or lanes are what
Ponderosa Park Steering committee Participation	Spring 2008 Spring 2010	7.2.7	Entire Area	Residents, committee	Residents participation in the planning processes with USFS and others in fuel reduction and other related processed within the Watershed
Firewise Landscaping	Fall 2008- Fall 2010	7.4.1	Entire area	Residents	Work on doing work parties to complete 30 homes using Firewise Landscaping techniques
Reflective Addresses	2009-2010	7.5.2	Entire area	State, residents, County(Pub.WKS)	Attempt to encourage the use of the reflective address signs at all residences in the Park. Attempt to find State and county funding to help defer costs
Phone Tree	2008-2009	7.3.3	Entire Area	Residents	Development of a neighborhood phone tree, and tested.
Annual Meeting	2009-2010	7.0	Entire Area	Residents	Annual meeting and review of CWPPP

Table 7.2 Gant Chart of Project listing for 2008-2010- A listing of potential projects in Gant chart form demonstrating potential timeframes for each project

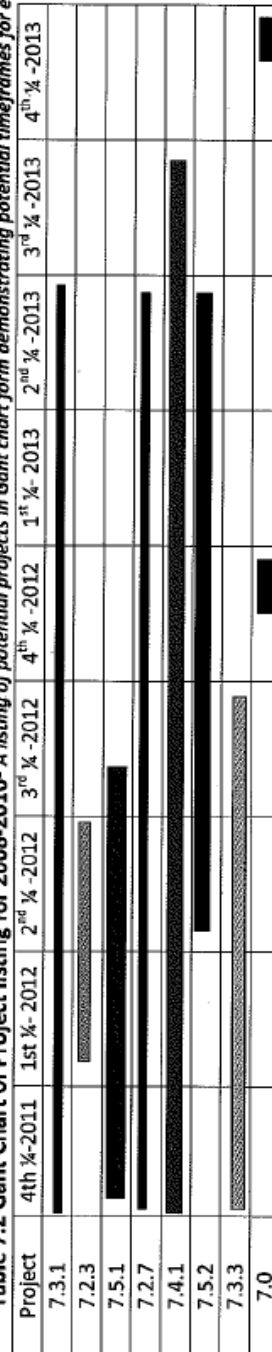


Table 7.3 Action Plan for Ponderosa Park 2011-2015: A listing of potential actions to be taken by the Ponderosa Park area within the next 5 years.

Project Name	Operation period	Project Number	Location	Funds acquired	Brief Description
Road Day lighting	2012-2014	7.3.1	Entire area	County, State, Residents	Work with County Public works to assess road daylight strategies and timing implementation
Firewise Information	Spring 12- Spring 2013	7.2.2, 7.2.3, 7.3.4	Entire area	Residents, DNR, KLF#7	Have DNR and KLF#7 assist with a Firewise workshop and development of informational packets to be distributed to new residents coming to the area
Evacuation Plan	2 nd ½ -2012 1 st ½ -2013	7.5.1	Entire area	Residents, KLF#7	Development of the neighborhood evacuation plan with assistance from KCFD#3
Escape Routes and Safety Zones	1 st ½ -2012 2 nd ½ -2013	7.5.6	Entire area	Residents, KLF#7, USFS, DNR	Assess and design an overall escape plan as well as designate locations for safety Zones for residents as well as suppression forces if necessary
Collaborative Fuel reduction planning and implementation	2012-2013	7.4.5	Entire area	State, County	Attempt to encourage the use of the reflective address signs at all residences in the Park. Attempt to find State and county funding to help defer costs
Annual Meeting	2011-2014	7.0	Entire Area	Residents	Continuation of annual meetings and review of neighborhood plan as well as funding ops.

Table 7.4 Gant Chart of Project listing for 2009-2013- A listing of potential projects in the action plan in Gant chart form demonstrating potential timeframes for each project



Table 7.5 Project Developmental Plan for Ponderosa Park - A projection of potential projects to be done in the Ponderosa Park CWPP from year 5-10. These projects have the potential of moving up in the priority listing if funding for specific items become available, the community sees a need to change, or priorities above them in the implementation and action plan are completed.

Project Name	Operation period	Project Number	Location	Funds acquired	Brief Description
Valley Cooperation	2013-2015	7.3.5	Entire area	County, State, Residents	Cooperation with surrounding communities on working through the entire watershed's fuel reduction plan
Firewise Information	Spring 2013- Spring 2015	7.2.2, 7.2.3, 7.3.4	Entire area	Residents, DNR, KLFD#7	Design some sort of "welcome wagon" firewise informational package for new landowners including phone tree and evacuation plan
Road Maintenance	Spring 2013	7.5.1	Entire area	Residents, County, USFS	Development of a long-term annual road maintenance assessment and grading plan
Escape Routes and Safety Zones	1 st ½ -2012 2 nd ½ -2014	7.5.6	Entire area	Residents, KCFD#3, USFS, DNR	A design and funding for keeping escape routes and safety zones maintained
Annual Meeting	2009-2013	7.0	Entire Area	Residents	Continuation of annual meetings and review of neighborhood plan as well as funding ops.

Table 7.6 Gant chart of Developmental projects - A listing of potential projects in the action plan in Gant chart form demonstrating potential timeframes for each project

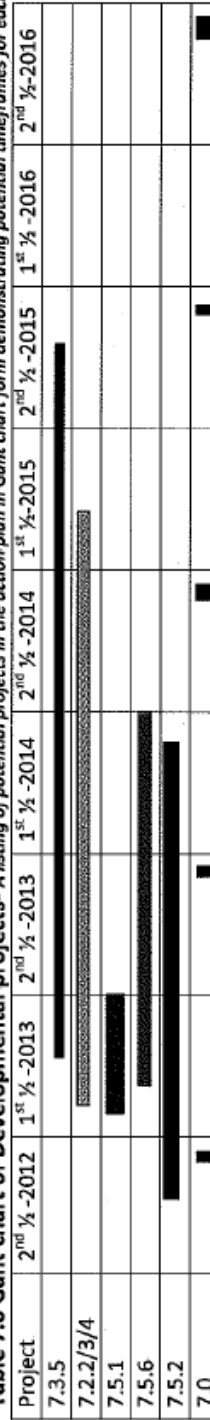


Plate A.7: 2009 listing of Firewise Accomplishments by Ponderosa Park Firewise Committee

Firewise Accomplishments

2009-2010

1. Firewise Community/USA recognition received for 2009 & 2010.
2. Community workparties cleared roadsides and two turn-arounds.
3. Educational activities were carried out after workparties, potlucks, and annual meetings.
4. DNR grant obtained and sweat equity hours collected from community members.
5. Two contracts for shaded fuelbreak around community perimeter were completed and fuel reduction chipping program is ongoing with grant funding.
6. Station 11 Rural 7 firehouse constructed and is now staffed by local volunteers.
7. Newspaper articles placed in community newspaper to let the broader community know about Ponderosa Park's new fire station, and its volunteers' impact on fire protection in the area.

Objectives for

2011-2012

Community Infrastructure

1. Maintain Firewise Committee
2. Work with Rural 7 volunteers to complete Wildfire Hazard Severity Form Checklist NFPA 299/1144 for all homes in Ponderosa Park.
3. Update wildfire evacuation and staging plans in consideration of new fire station & work force.
4. Pursue continuation of DNR grants to fund community fuel reduction projects.

Fuel Reduction

1. Complete additional shaded fuel break contracts on the perimeter.
2. Continue chipping program.
3. Continue community workparties for road and turn-around clearing.
4. Promote 15' x 15' access to individual properties in Ponderosa Park.
5. Encourage fuel reduction and defensible space on individual properties.

Education

1. Encourage media coverage of wildfire prevention activities and accomplishments.
2. Post Firewise educational materials on the Ponderosa Park website and bulletin boards.
3. Hold educational events in April to support of Wildfire Awareness Week.

Recognition

1. Renew Firewise Communities/USA status each year.

Plate 2.3.1: Wildfire Hazards Severity Form Checklist (Two Pages) - Assessment checklist used to assess personal property risks

Wildfire Hazard Severity Form Checklist NFPA 1144					
Name:					
Address:					
Mile Post/ Access Rd:					
GPS (Lat/ Long):					
Ownership Plat #:					
1. Station Location					
1.1 Ingress and egress (The main road is county Rd)					
Two or more roads in/out	0				
One road in/out	7				
2. Road width (The main road is county Rd)					
Greater than 24 feet	0				
Between 20 and 24 feet	2				
Less than 20 feet wide	4				
3. All season road condition (The main road is county Rd)					
Surfaced, grade < 5%	0				
Surfaced, grade > 5%	2				
Non-surfaced, grade < 5%	2				
Non-surfaced, grade > 5%	5				
Other than all-season	7				
4. Fire service access (Access to the house is driveway)					
< = 300ft, with turnaround	0				
> = 300ft, with turnaround	2				
< = 300ft, no turnaround	4				
> = 300ft, no turnaround	5				
5. Street signs					
Present (4 in. in size and reflectorized)	0				
Not present	5				
6. Vegetation (Use only 0, 5, 10, 20, and 25)					
6.1. Predominant vegetation					
Light (grasses, forbs)	5				
Medium (light brush and small trees)	10				
Heavy (dense brush, timber, and hardwoods)	20				
Slash (timber harvest residue)	25				
6.2. Defensible space					
More than 100 ft of treatment from buildings	1				
More than 71 -100 ft of treatment from buildings	3				
30-70 ft of treatment from buildings	10				
Less than 30 feet	25				
6.3. Topography					
6.3.1. Slope					
Less than 9%	1				
Between 10-20%	4				
Between 21-30%	7				
Between 31-40%	8				
Greater than 41%	10				
Totals for this page		0			

D. Additional Rating Factors		Points	Rating	1	2	3	4
1. Topography that adversely affects wildland fire behavior	0 - 5						
2. Area with history of higher fire occurrence	0 - 5						
3. Areas of unusually severe fire weather and winds	0 - 5						
4. Separation of adjacent structures	0 - 5						
E. Roofing Materials							
1. Construction material							
Class A roof (metal, tile)	0						
Class B roof (composite)	3						
Class C roof (wood shingle)	15						
Non-rated (no roofing material)	25						
F. Existing Building Construction							
1. Materials (predominant)							
Noncombustible siding, eaves, and deck	0						
Noncombustible siding with combustible wood deck	5						
Combustible siding and deck	10						
2. Setback from slopes > 30%							
More than 30 feet to slope	1						
Less than 30 feet to slope	5						
Not applicable	0						
G. Available Fire Protection							
1. Water source availability (on site)							
500 gpm pressurized hydrants < 1000ft apart	0						
250 gpm pressurized hydrants < 1000ft apart	1						
More than 250 gpm non-pressurized, 2 hours (off site)	3						
Less than 250 gpm non-pressurized, 2 hours (off site)	5						
Water unavailable	10						
2. Organized response resources							
Station within 5 miles of structure	1						
Station greater than 5 miles	3						
3. Fixed fire protection (Interior sprinklers)							
Sprinkler system (NFPA 13, 13R, 13D)	0						
None	5						
H. Utilities (Gas and Electric)							
1. Placement							
All underground utilities	0						
One underground, one aboveground	3						
All aboveground	5						
Totals for this page		0					
Totals for Risk Assessments							
Totals for page 1 and 2		0					
1. Low Hazard: < 39 points							
2. Moderate Hazard: 40-69 points							
3. High Hazard: 70-112 points							
4. Extreme Hazard: 113 > points							
Census Data							
Track number							
Block group number							
Block number (s)							

Plate 2.3.2- One page Home assessment –Uses the same format as the form 1144



Wildland Fire Risk Assessment Form

(Circle the most appropriate element in each category and total the points)

Homeowner: _____ Phone/Email _____

Address: _____ City: _____ Zip: _____

Element Assessed Points

A. Means of Access (County Rd/ Main Rd access)

- 1. Ingress and egress
 - a. Two or more roads in/out 0
 - b. One road in/out 7
- 2. Road width
 - a. ≥ 24 ft. 0
 - b. 20 to 24 ft. 2
 - c. < 20 ft. 4
- 3. All-season road condition
 - a. Surfaced road, grade < 5% 0
 - b. Surfaced road, grade > 5% 2
 - c. Non-surfaced road, grade < 5% 2
 - d. Non-surfaced road, grade > 5% 5
 - e. Other than all-season 7
- 4. Fire Service Access (Driveway)
 - a. ≤ 300 ft. with turnaround 0
 - b. > 300 ft. with turnaround 2
 - c. < 300 ft. with no turnaround 4
 - d. ≥ 300 ft. with no turnaround 5
- 5. Street signs and home address numbers
 - a. Present: 4 in. in size and reflectorized 0
 - b. Not present 5

B. Vegetation

- 1. Characteristics of predominate vegetation within 300 ft.
 - a. Light (grasses, forbs, sawgrasses and tundra) 5
 - b. Medium (light brush and small trees) 10
 - c. Heavy (dense brush, timber and hardwoods) 20
 - d. Slash (timber harvesting residue) 25
- 2. Defensible space
 - a. More than 100 ft. of vegetation treatment from the structure(s) 0
 - b. 71 – 100 ft. of vegetation treatment from the structure(s) 3
 - c. 30 – 70 ft. of vegetation treatment from the structure(s) 10
 - d. <30 ft. of vegetation treatment from the structure(s) 25

C. Topography within 300 ft. of structure(s)

- 1. Slope < 9% 1
- 2. Slope 10% to 20% 4
- 3. Slope 21% to 30% 7
- 4. Slope 31% to 40% 8
- 5. Slope > 41% 10

Hazard Rating	Total Points
1. Low hazard	< 40
2. Moderate hazard	40 - 69
3. High hazard	70 - 112
4. Extreme hazard	> 112

Source: NFPA 1144 Standard for the Protection of Life and Property from Wildfire, 2002 edition, NFPA, Quincy, MA

Element Assessed Points

D. Additional Rating Factors (rate all that apply)

- 1. Topographical features that adversely affect wildland fire behavior 0 1 2 3 4 5
- 2. Areas with a history of higher fire occurrence than surrounding areas due to special situations (e.g. Heavy lightning, railroads, escaped debris burning, malicious burning) 0 1 2 3 4 5
- 3. Areas that are periodically exposed to unusually severe fire weather and strong dry winds 0 1 2 3 4 5
- 4. Separation of adjacent structures that may contribute to fire spread 0 1 2 3 4 5

E. Roofing Assembly

- 1. Class A roof (rated in good condition) 0
- 2. Class B roof (rated in fair condition) 3
- 3. Class C roof (rated in poor condition) 15
- 4. Nonrated (wood shake shingles) 25

F. Building Construction

- 1. Materials (predominate)
 - a. Noncombustible/fire-resistive siding, eaves and decks 0
 - b. Noncombustible/fire-resistive siding, combustible deck 5
 - c. Combustible siding and deck 10
- 2. Building setback relative to slopes > 30%
 - a. ≥ 30 ft. to slope 0
 - b. < 30 ft. to slope 5

G. Available Fire Protection

- 1. Water source availability
 - a. Pressurized water source availability
 - (1) 500 gpm hydrants ≤ 1000 ft. apart 0
 - (2) 250 gpm hydrants ≤ 1000 ft. apart 1
 - b. Non-pressurized water source availability (off site)
 - (1) ≥ 250 gpm continuous for 2 hours 3
 - (2) < 250 gpm continuous for 2 hours 5
 - c. Water unavailable 10
- 2. Organized response resources
 - a. Station ≤ 5 mi. from structure 0
 - b. Station > 5 Mi. from structure 3
- 3. Fixed fire protection
 - a. NFPA 13, 13R, 13D sprinkler system 0
 - b. None 5

H. Placement of Gas and Electric Utilities

- 1. Both utilities underground 0
- 2. One underground and one aboveground 3
- 3. Both aboveground 5

Totals for Home or Subdivision

(Total of circled points) _____

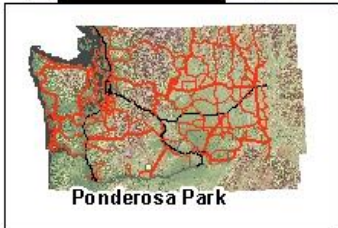
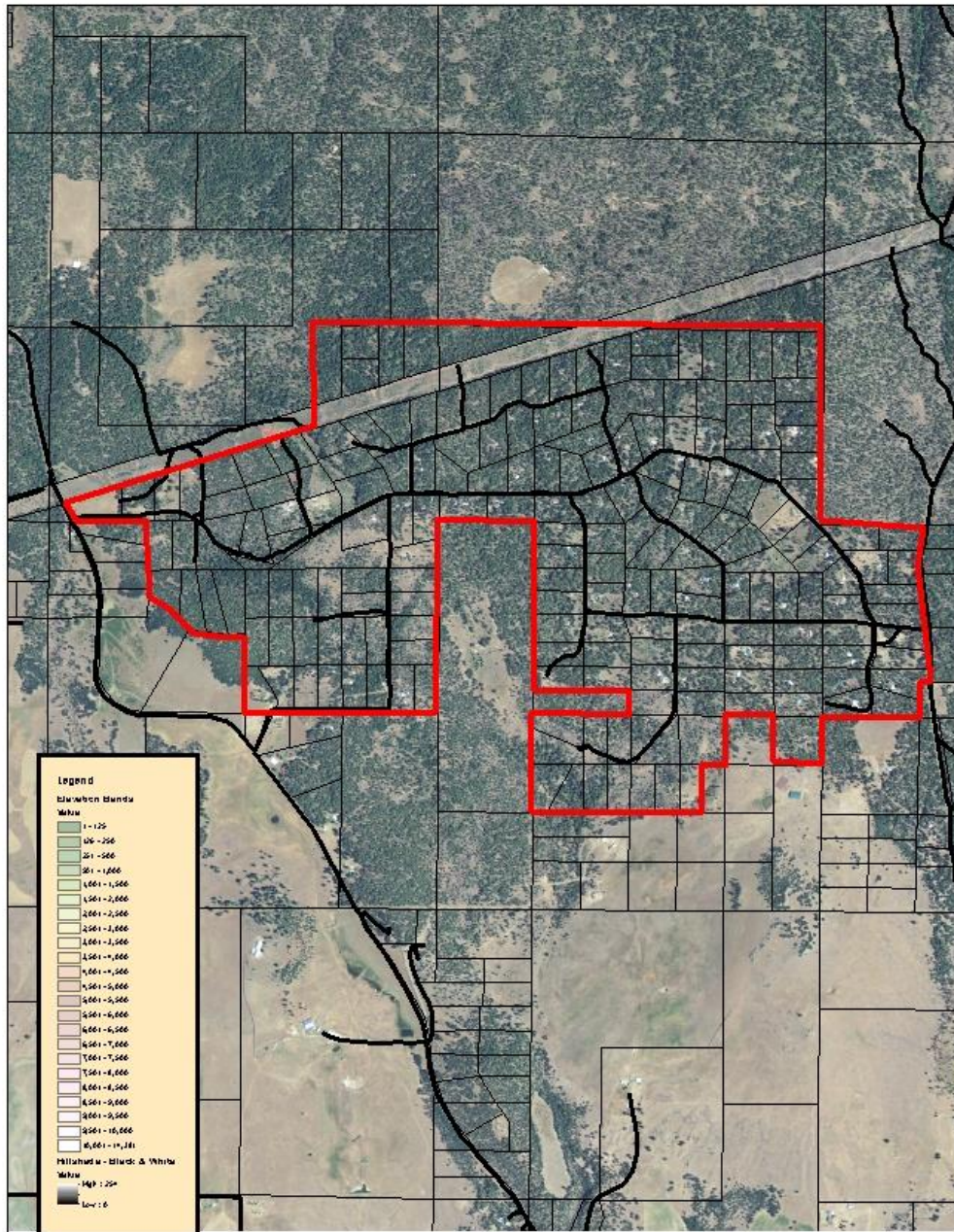
Hazard Rating: _____

Latitude: _____

Longitude: _____

Date: _____

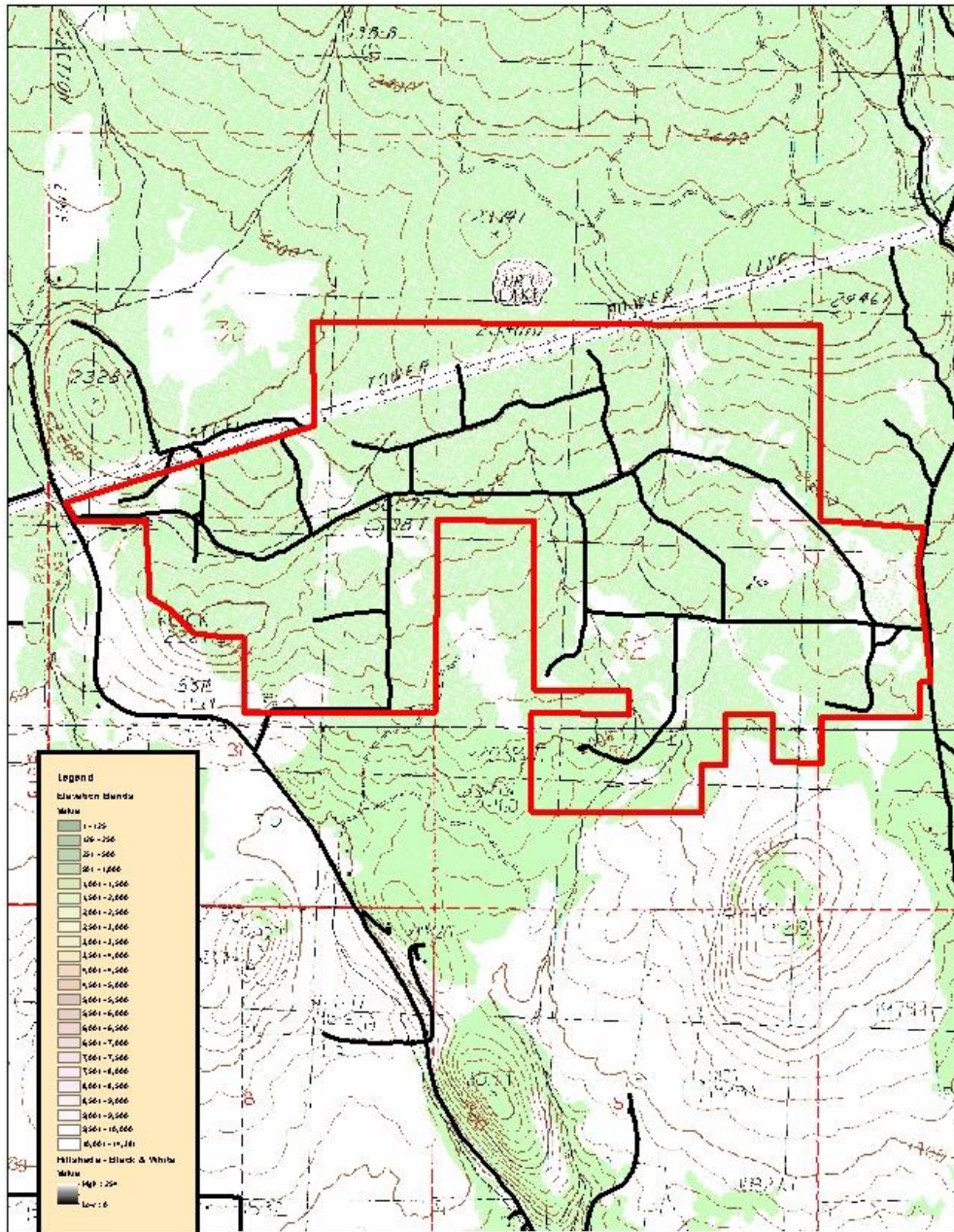
Appendix B
Photos and Maps



Ponderosa Park CWPP 2014

Park's Property Parcels

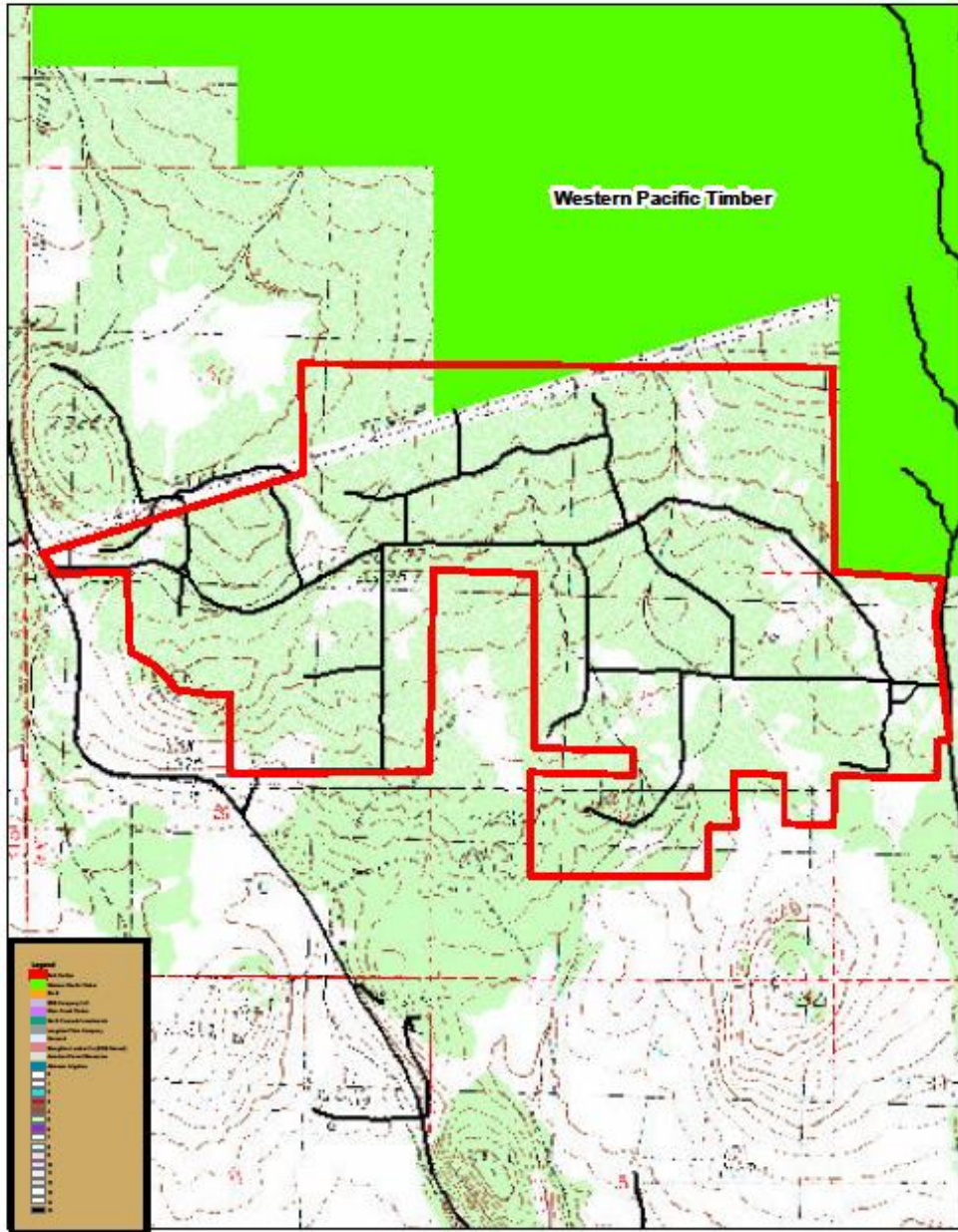




Ponderosa Park CWPP 2014

Park's Topography

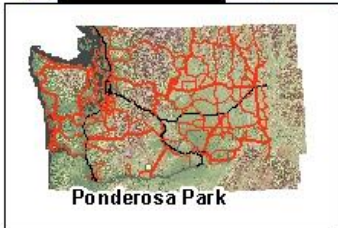
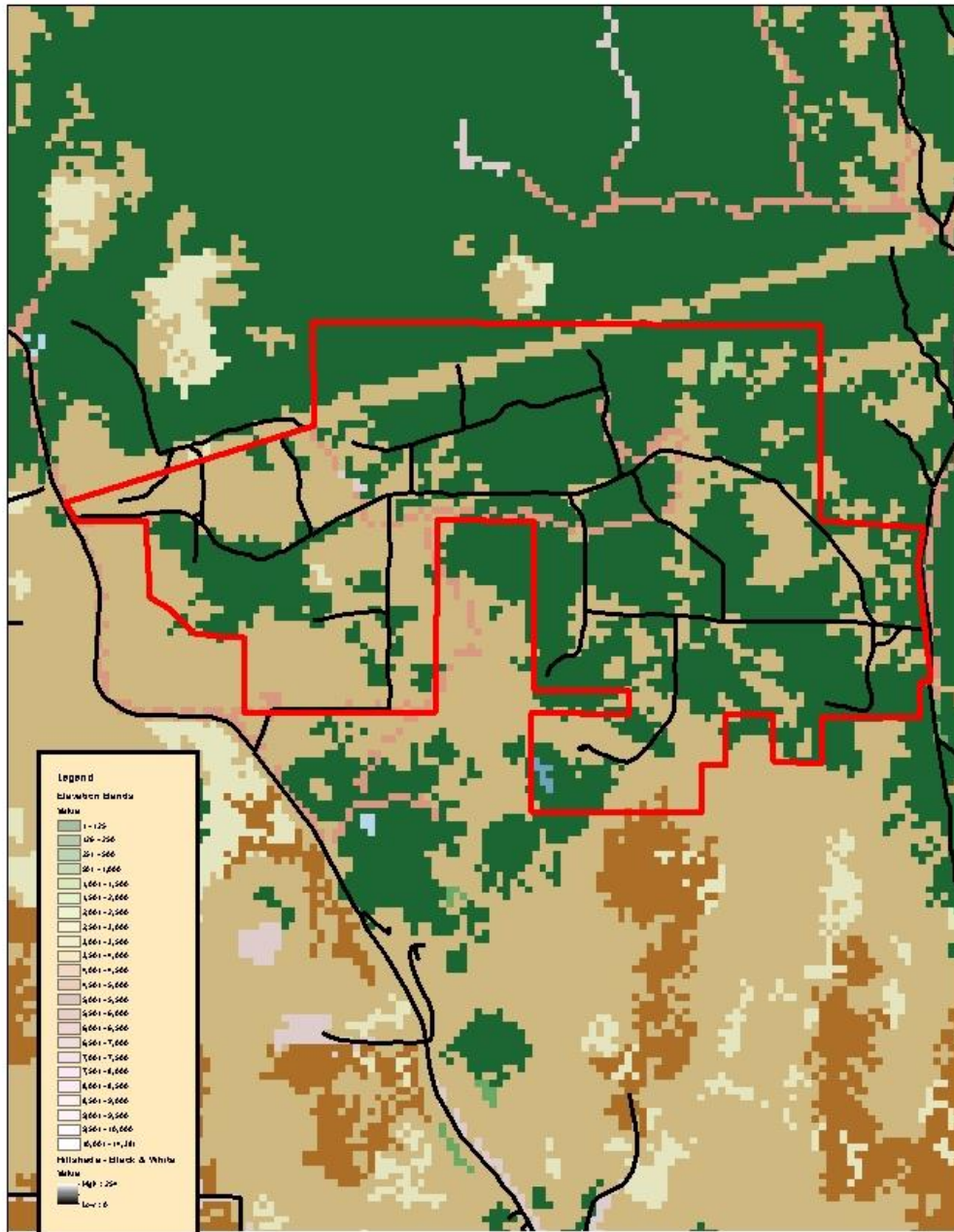




Ponderosa Park CWPP 2014

Major Private Landowners

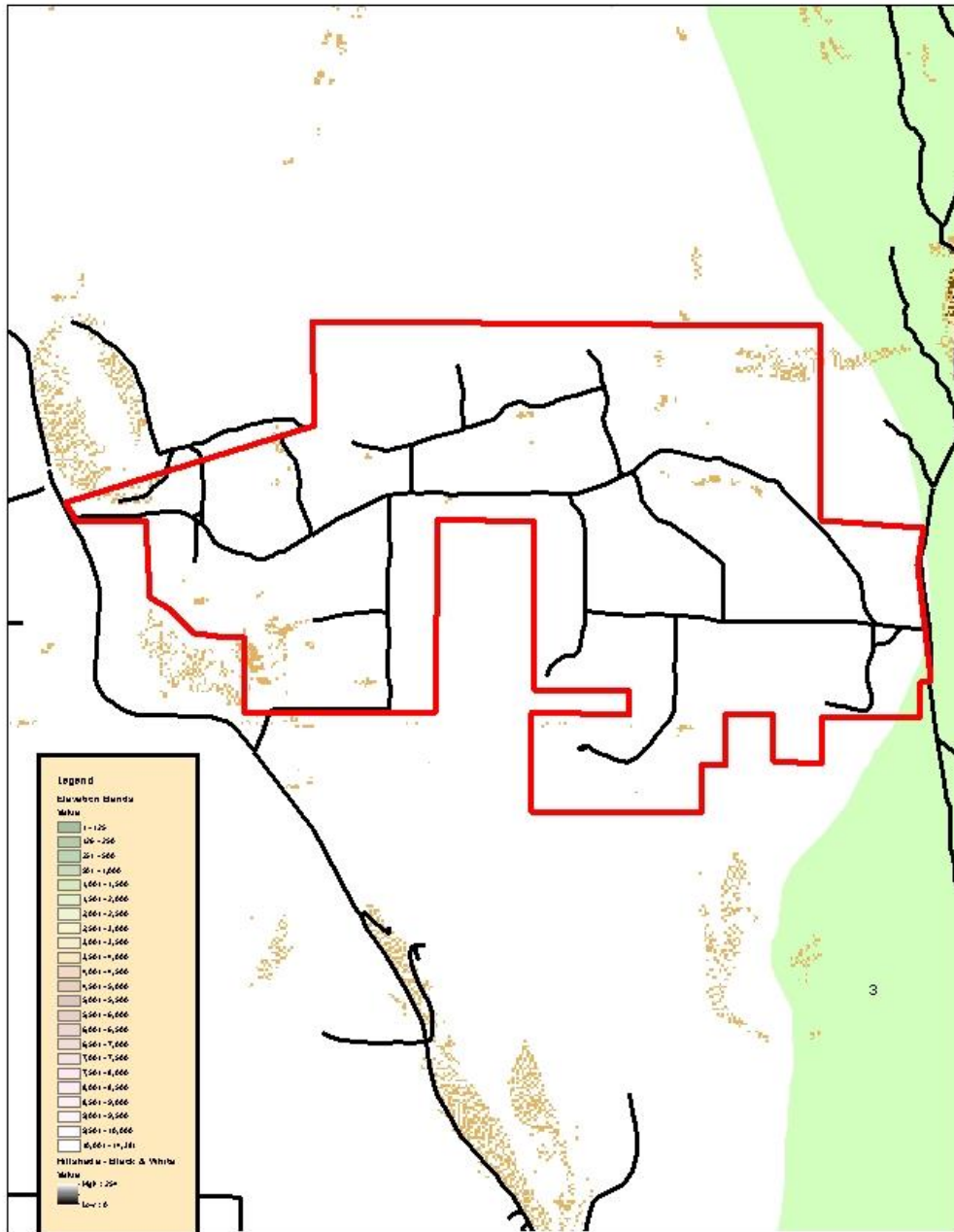




Ponderosa Park CWPP 2014

Land Cover

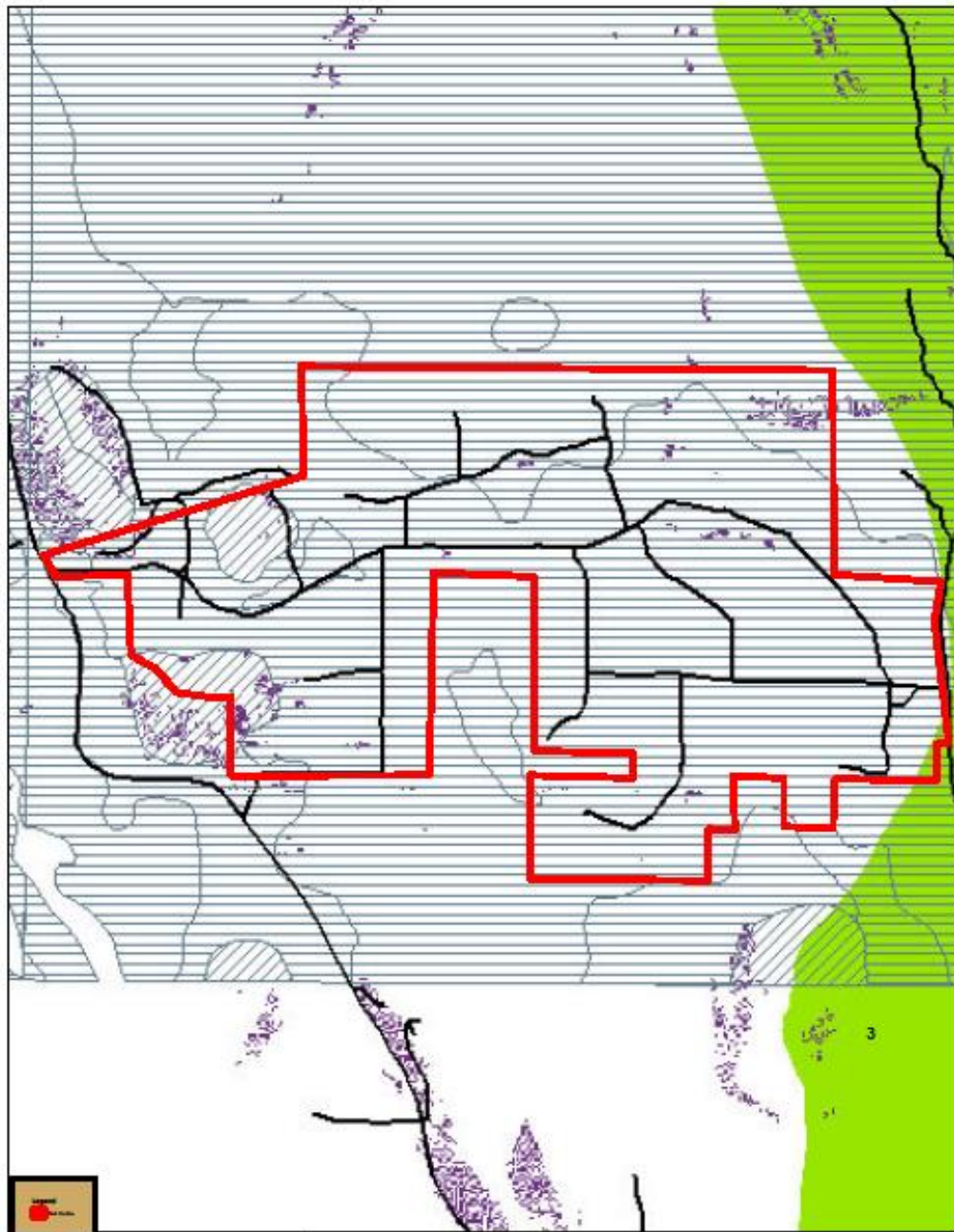




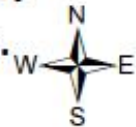
Ponderosa Park CWPP 2014

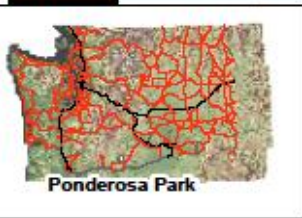
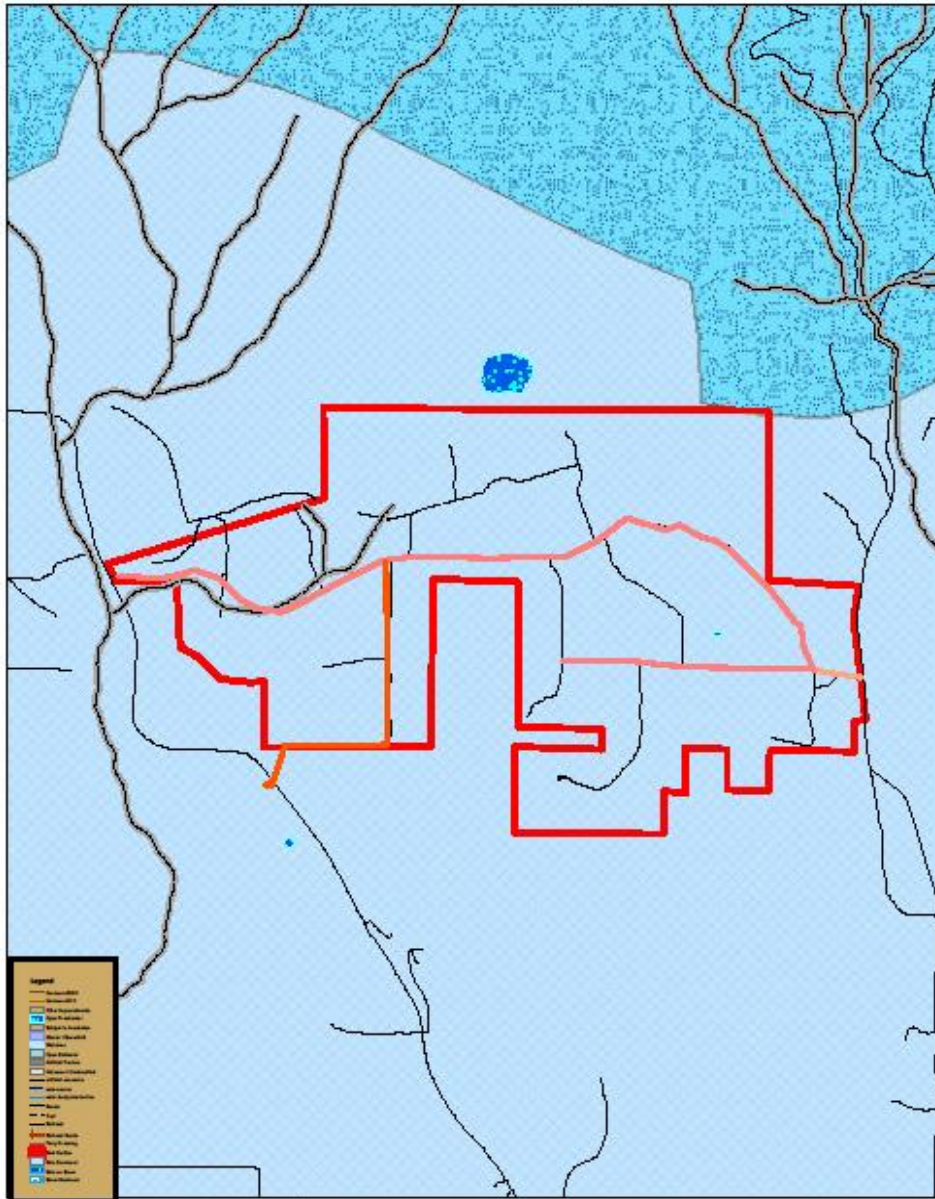
Slope Stability/Landslice Potential





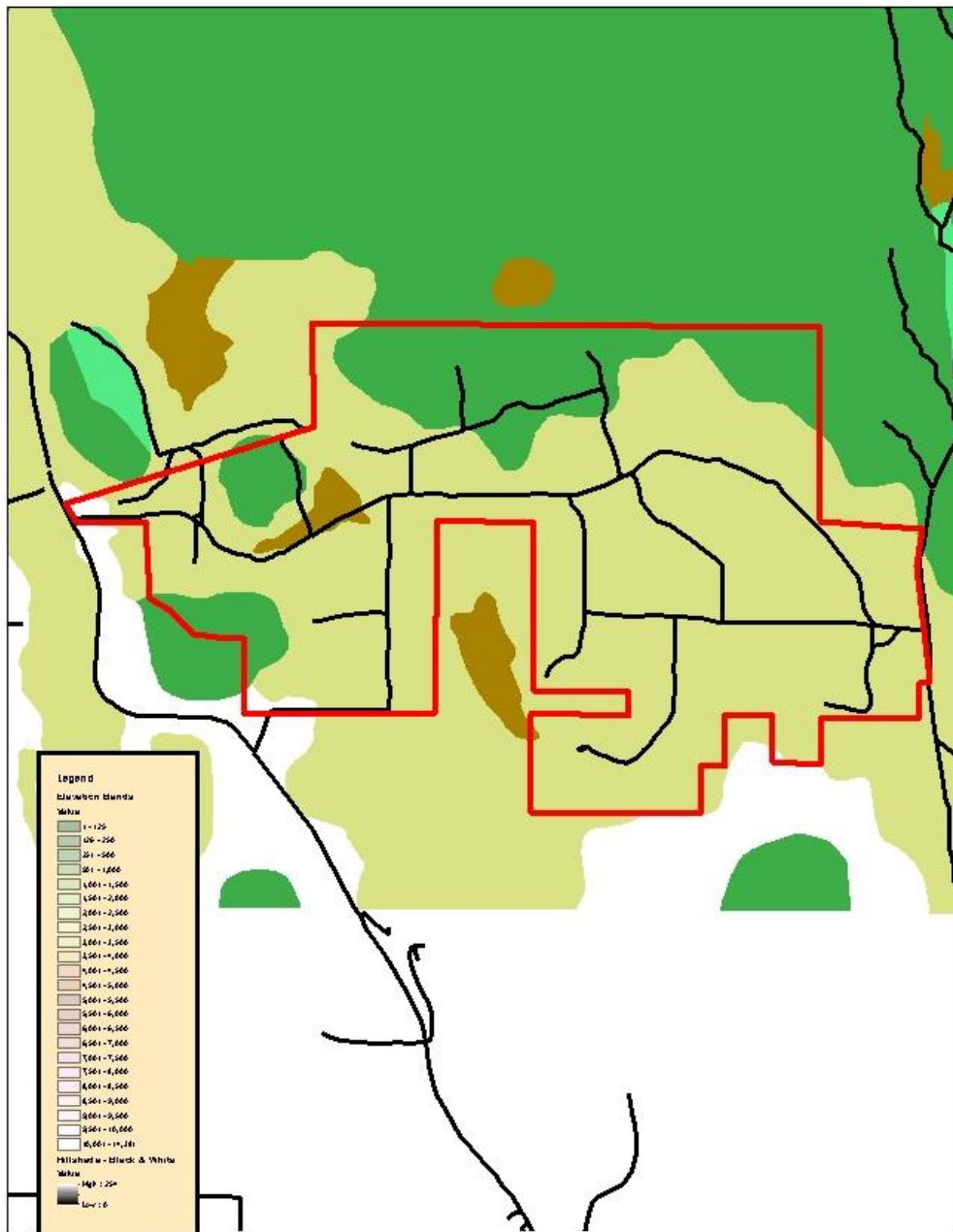
Ponderosa Park CWPP 2014 Soil Stability-Landslide Freq.





Ponderosa Park CWPP 2014 Rain on Snow

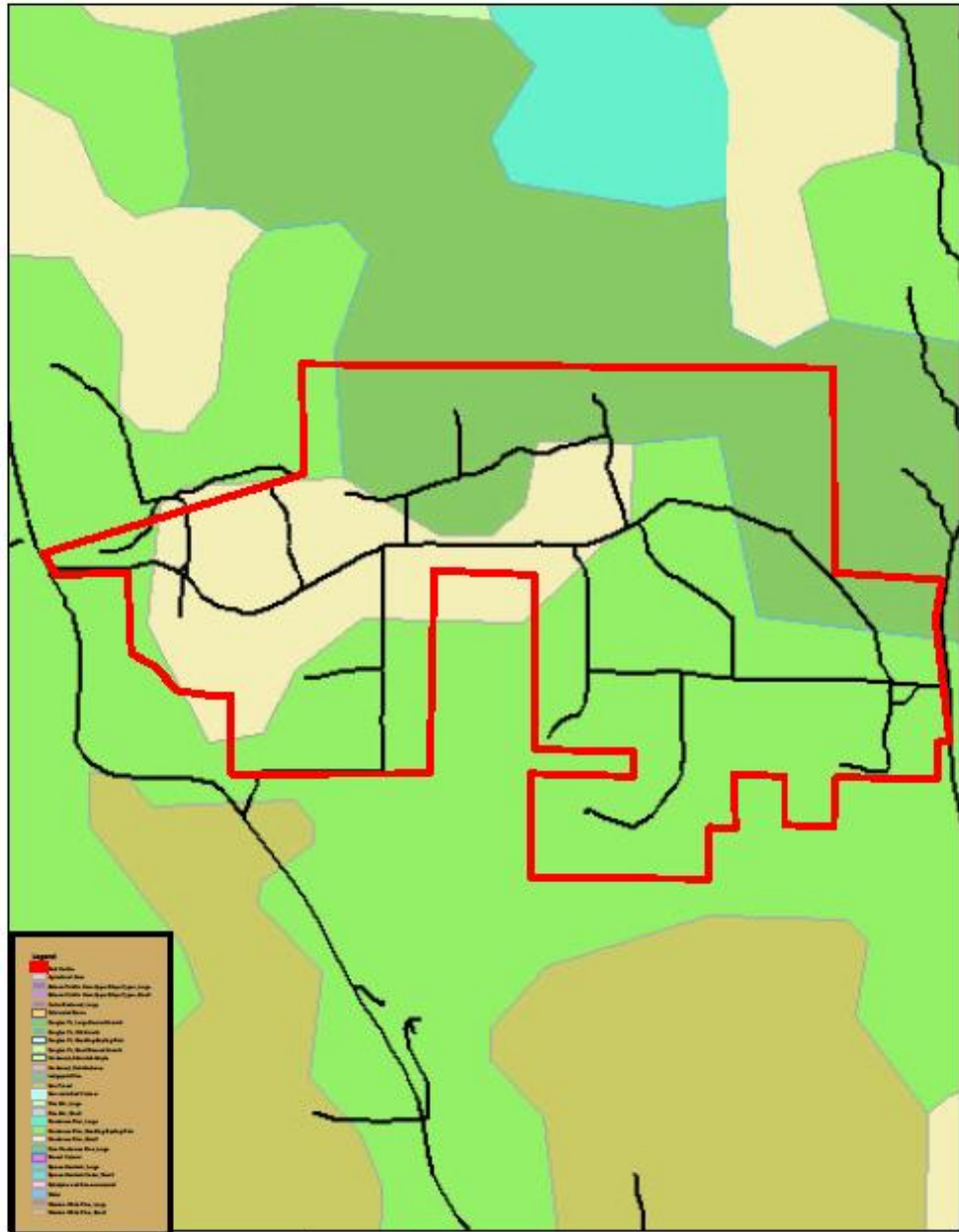




Ponderosa Park CWPP 2014

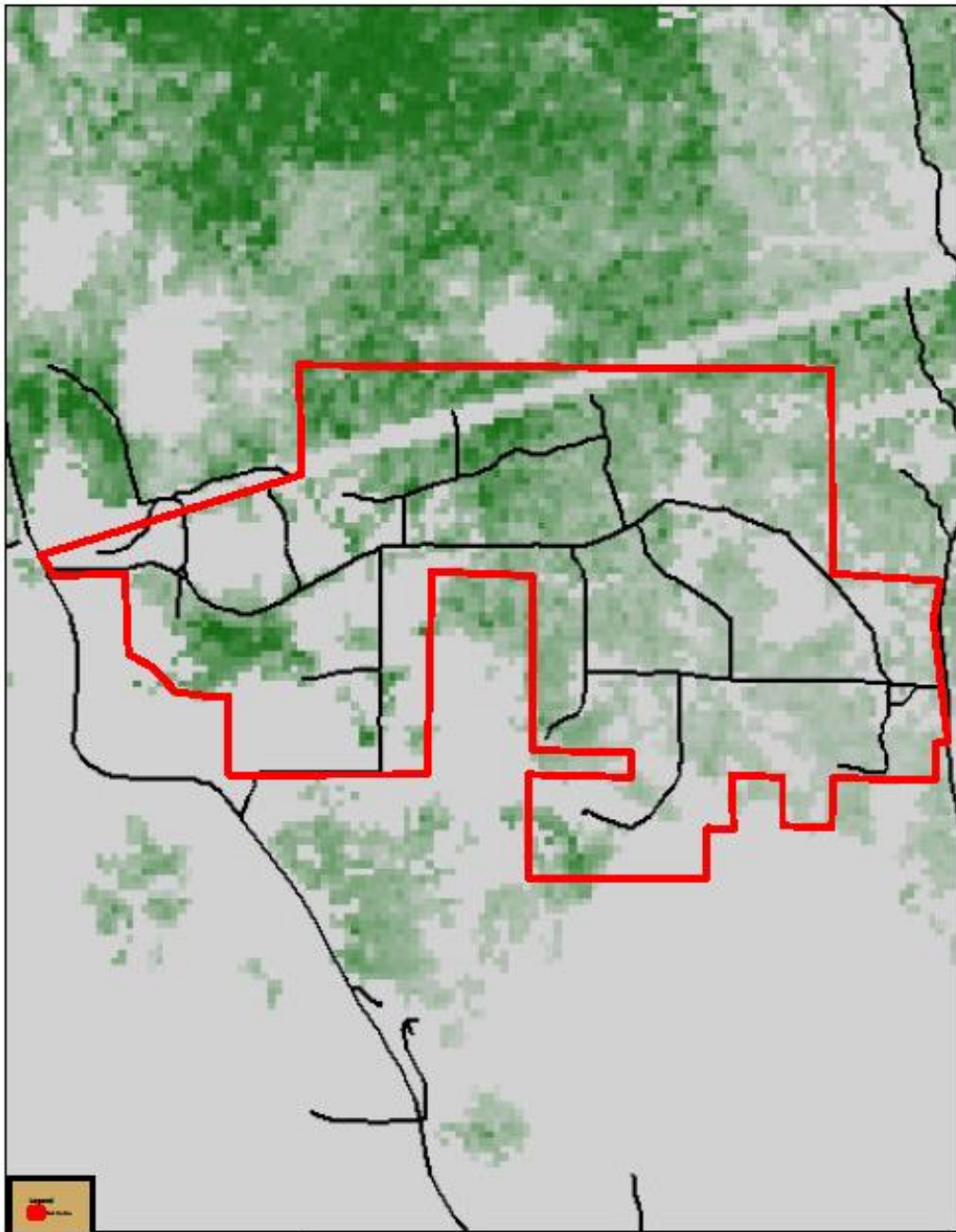
Site Index- Doug Fir/P Pine





Ponderosa Park CWPP 2014 Historical Vegetation

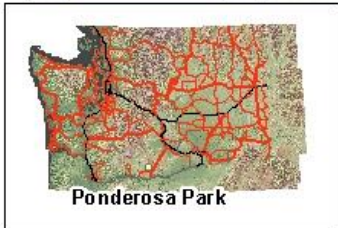
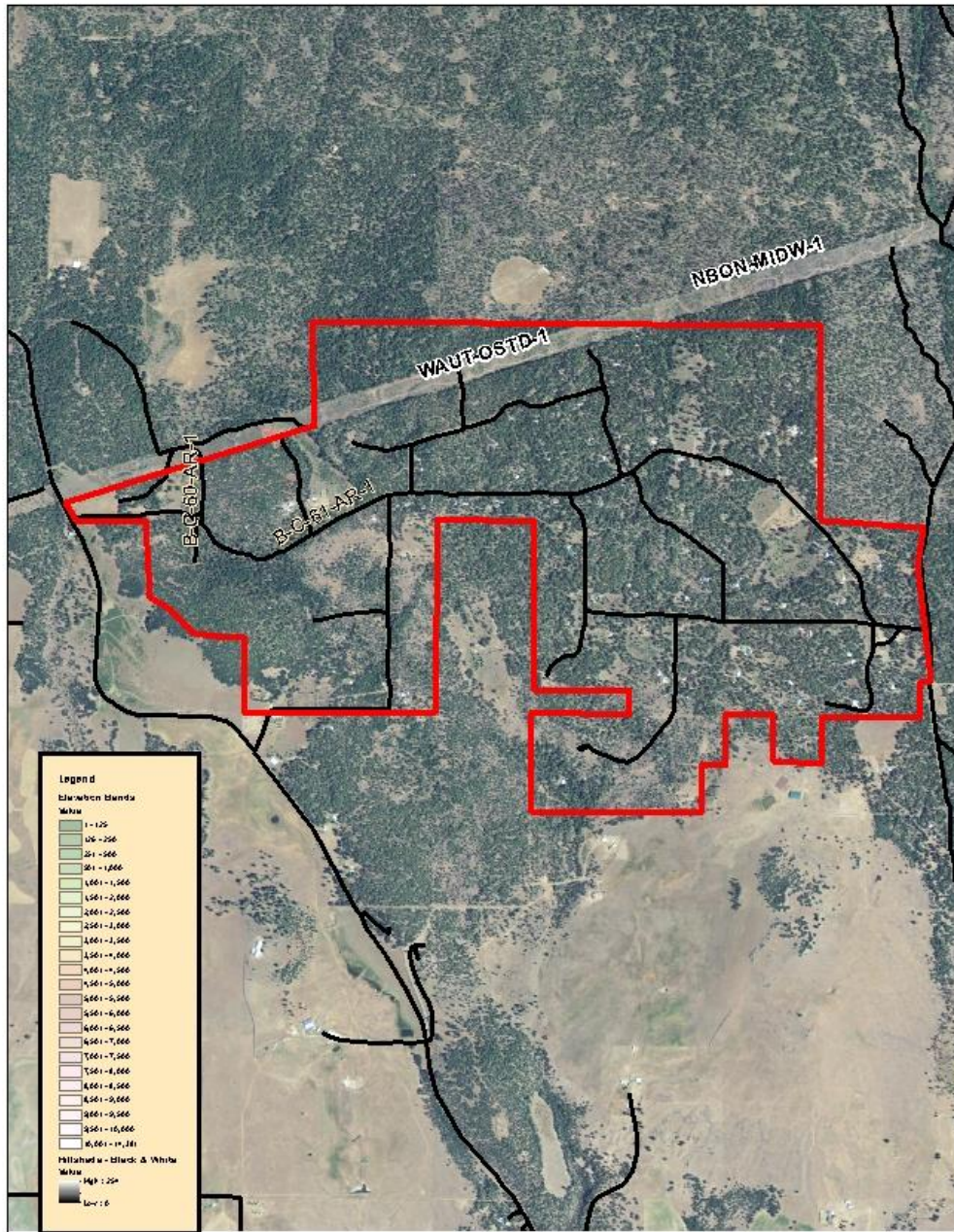




Ponderosa Park CWPP 2014

Percent Canopy

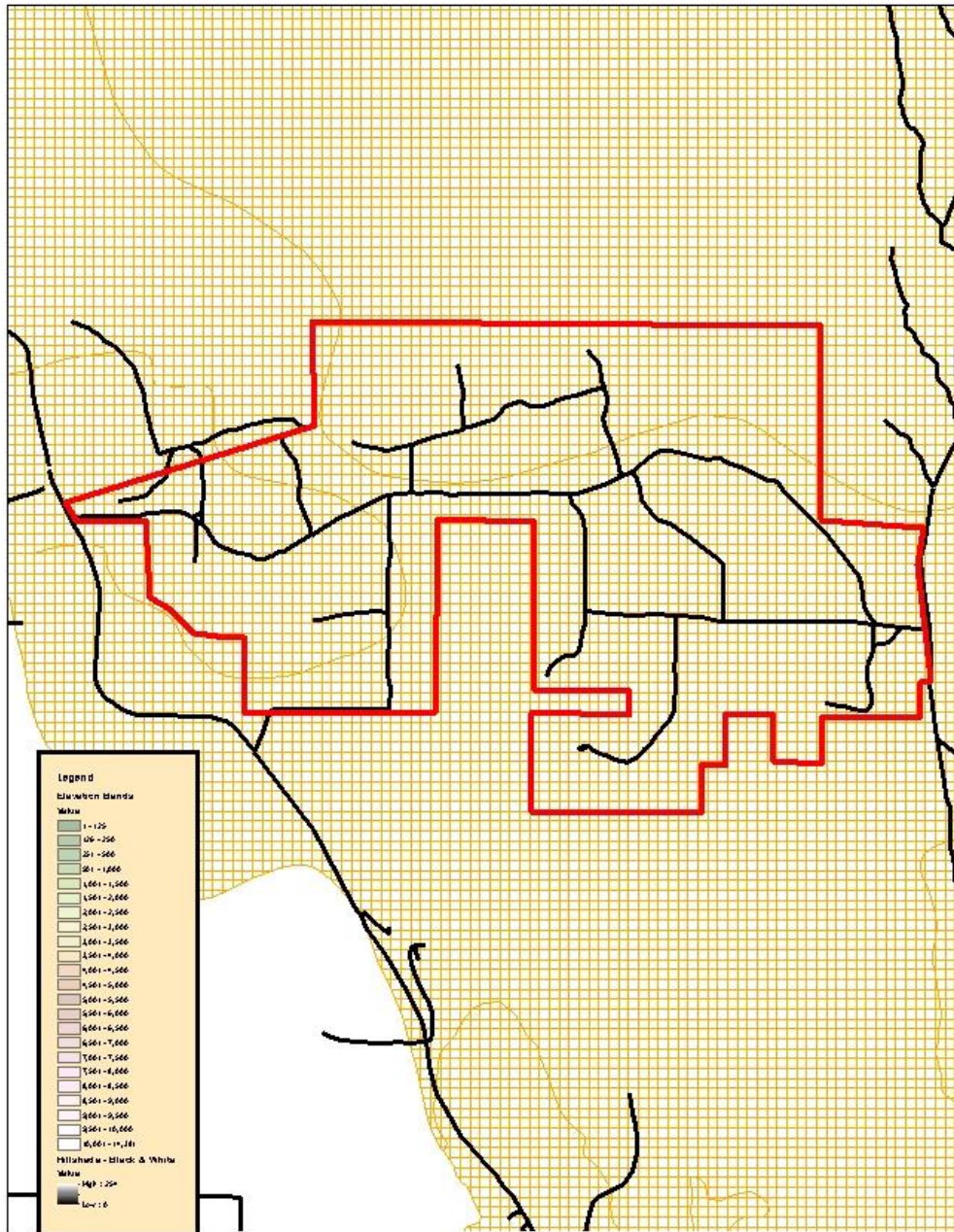




Ponderosa Park CWPP 2014

Utility Lines _ BPA

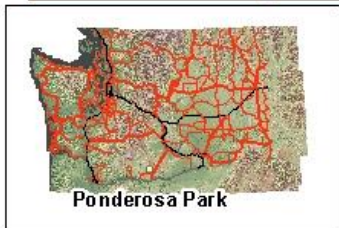
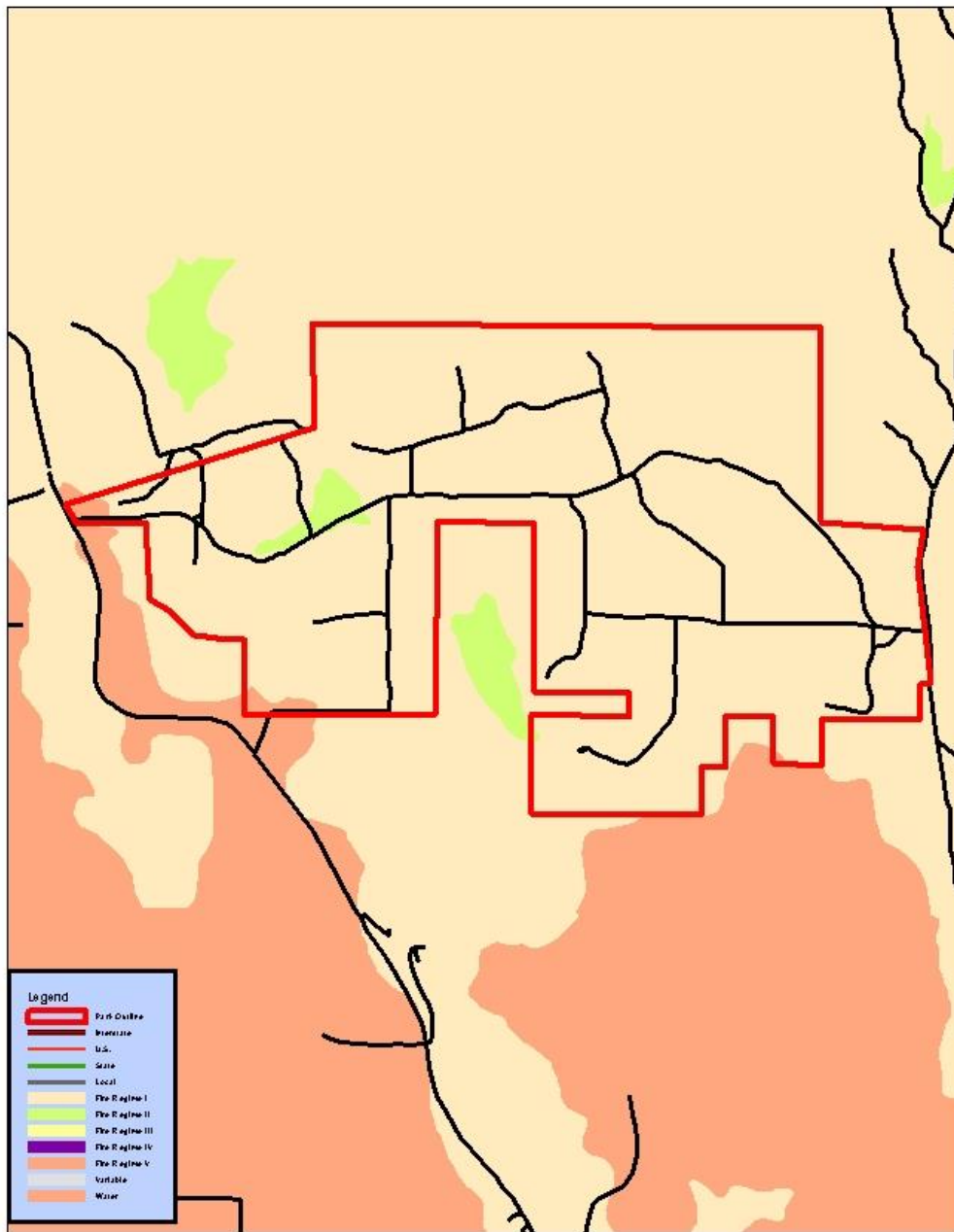




Ponderosa Park CWPP 2014

Priority Specie

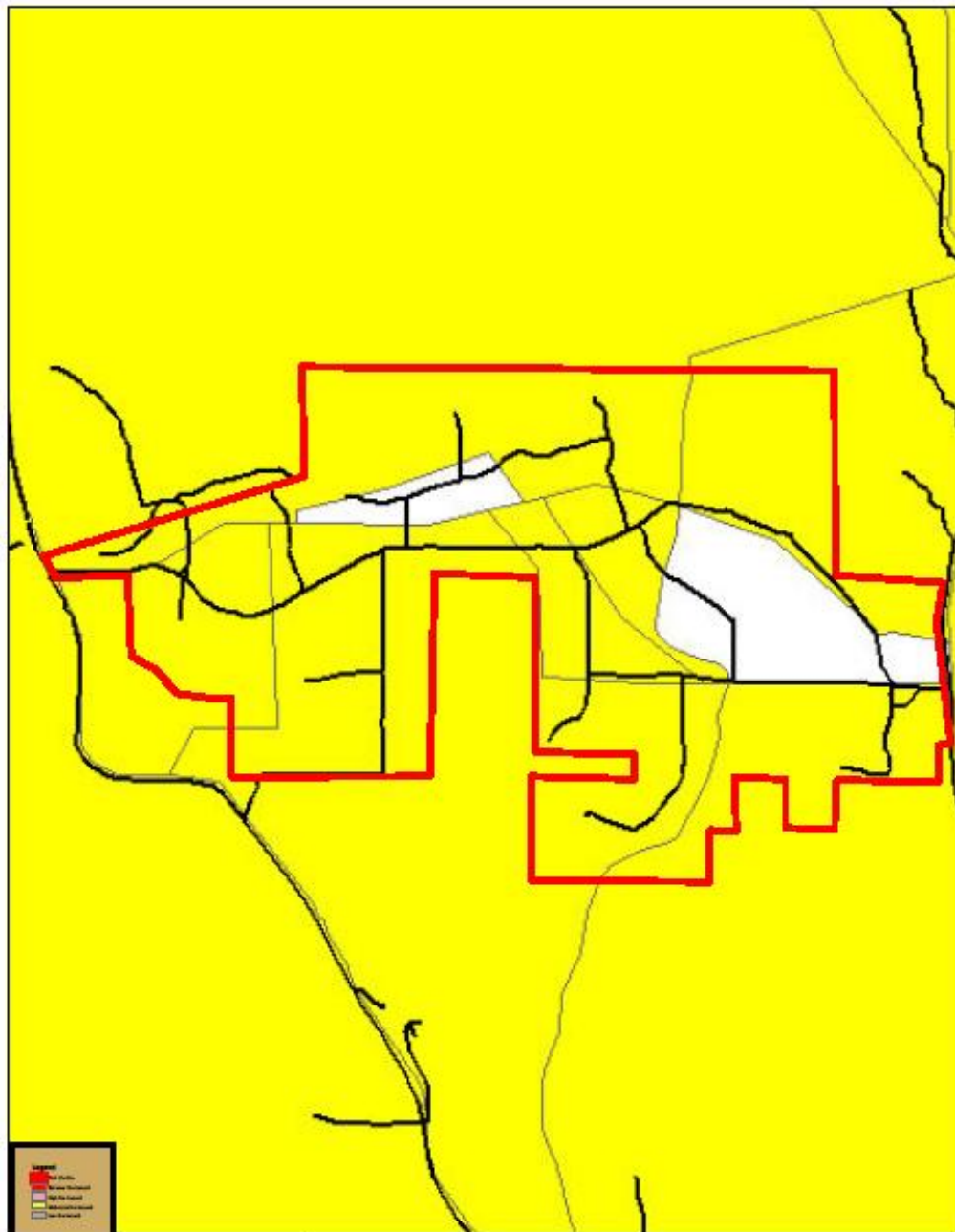




Ponderosa Park CWPP 2014

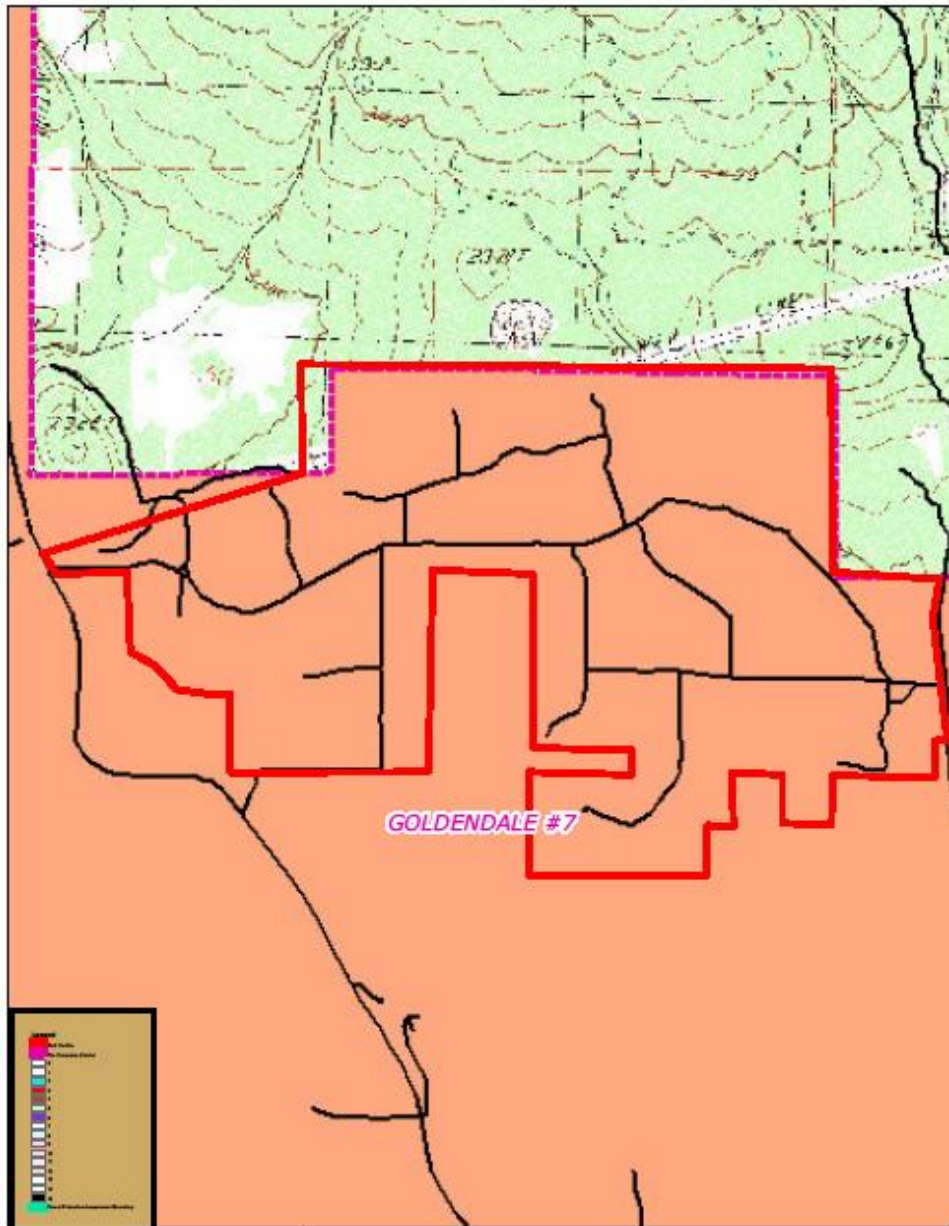
Landscape Fire Regimes





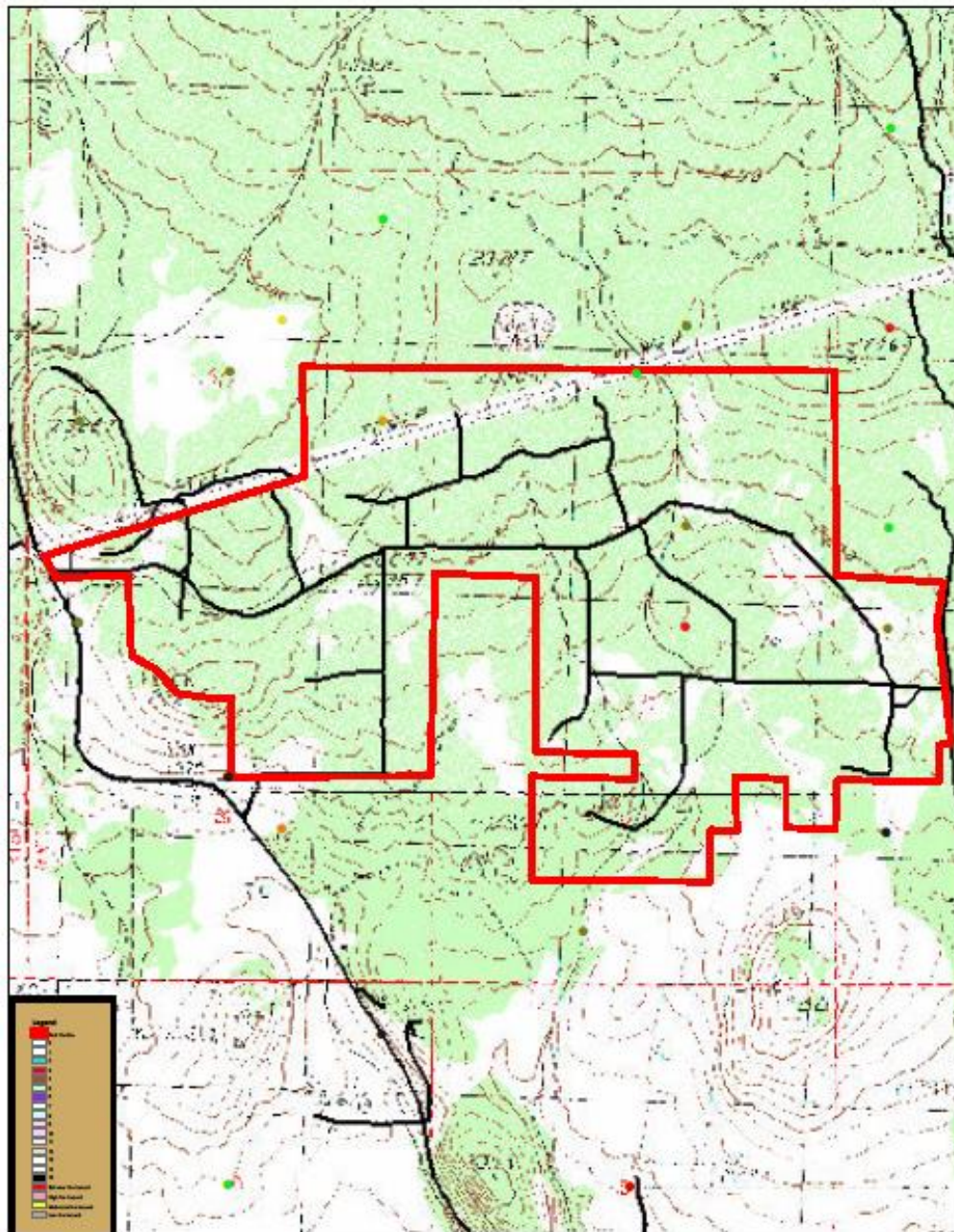
Ponderosa Park CWPP 2014 Current Risk Assessment



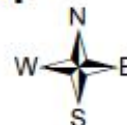


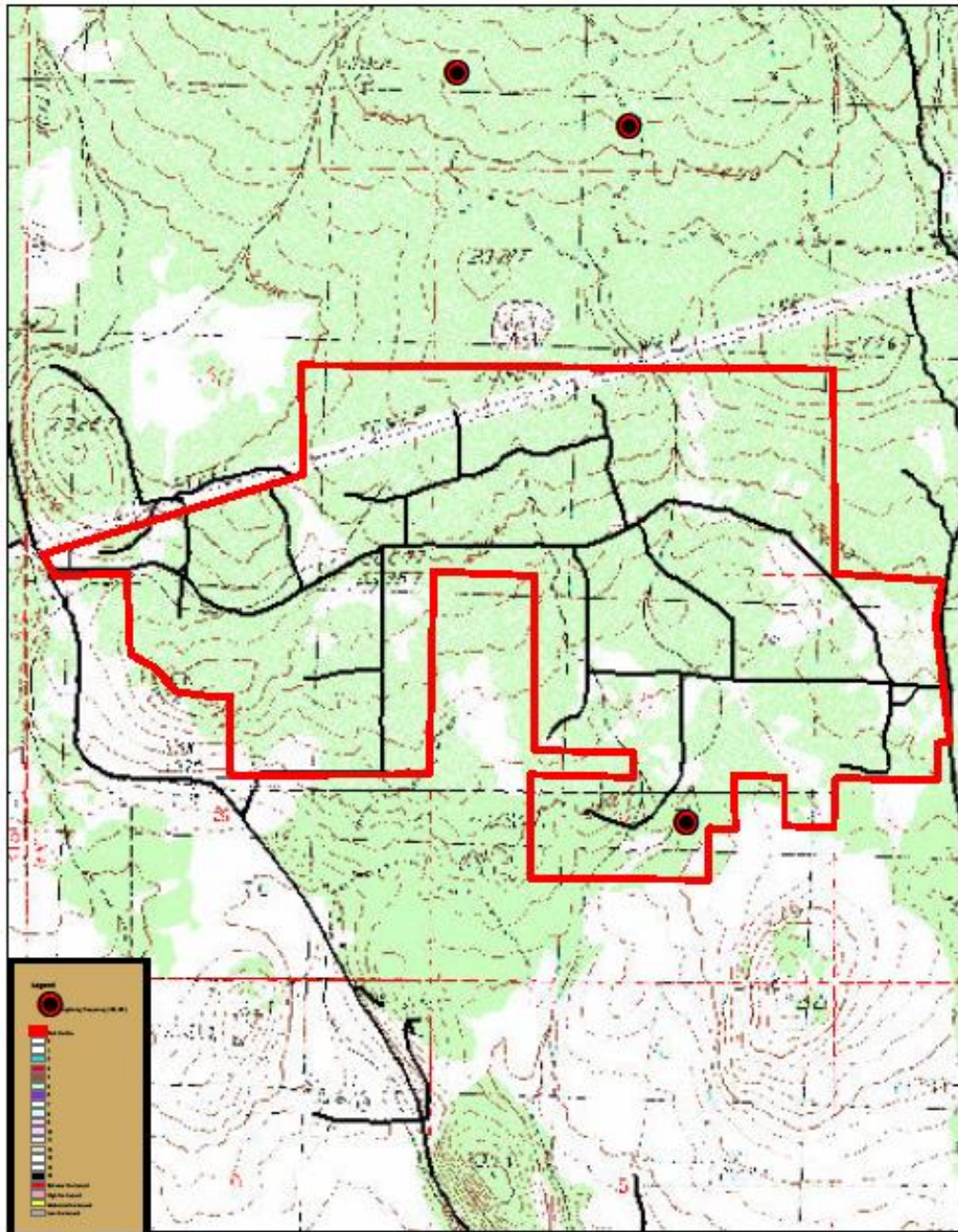
Ponderosa Park CWPP 2014
Fire District Boundary





Ponderosa Park CWPP 2014 Fires 1979-2012





Ponderosa Park CWPP 2014
Lightning Frequency - 88=89



Appendix C
Activity Tracking

Plate C.1- Ponderosa Park Landowner agreement form (two Pages): Firewise Committee's agreement form with Landowners to do shaded fuel break work on their parcel.

FIRE FIRE FIRE FIRE FIRE

There is a fire burning along the border of your property and is about to spread onto your property. Now it has spread onto your property and is burning the bitter brush and the dead Branches and the other dead fall and soon it will be burning trees that are dead due to being too close to other trees. Now the next thing to burn is your home.

Now all this can be prevented with some work before a fire breaks out. I am about to tell you an easy way to prevent this from happening.

At the entrance to Ponderosa Park at the corner of Ponderosa and Golden Pine you might have noticed a sign that says THIS IS A FIREWISE COMMUNITY. The Ponderosa Park Community was recognized by the Federal Government, (Firewise USA) and given the status of being a Firewise Community by the Department of Natural Resources. What this means is that Ponderosa Park was given a grant of money to create a program to clear out fire hazard materials and to create a way to protect or at least aid in the protection of the people's property within the Park.

The Firewise Committee is about to let a contract to a contractor to come on to your property and clear out the bitter brush, dead brush, dead trees, limb existing trees up 15' above the ground, and fall any trees that are crowding other trees and causing them to become sick or dying. This is all going to happen within a 100' (one hundred foot) area beginning at your property line. This being the property line next to the property belonging to someone not in the Park. This area of clearing is called a SHADED FUEL BREAK. Now this would be done at no expense to you the property owner. It will be paid for from the funds that Ponderosa Park has received from the Department of Natural Resources.

The best way to make this happen is to cooperate with the Firewise Volunteer and work with them in order to work out any details of the project. The Volunteer will mark out the boundaries of the project and explain and in some cases even mark trees that have to come down. Any tree that is taken down will be limbed and the limbs removed and the tree log can be left for you to make fire wood out of. All the brush, limbs and other items will be reduced to chips and left on your property as ground cover.

So we hope you take advantage of this opportunity to reduce the risk of fire spreading onto your property and work with the Firewise Volunteer.

THANK YOU.

I approve of the creation of a SHADED FUEL BREAK on the first 100' of the exterior of the perimeter of my Lot # _____.

Signature of Property Owner. _____ Date. _____.



FIREWISE COMMUNITIES/USA

VOLUNTEER TIME SHEET

DATE	
NAME OF PERSON/GROUP	
NUMBER OF VOLUNTEERS	
CONTACT PERSON	
TELEPHONE	
ADDRESS	
E-MAIL	
NO. OF HOURS WORKED	
TYPE OF PROJECT	

ADDITIONAL INFORMATION:

1. POWER EQUIPMENT HOURS

2. BRUSH /SLASH REMOVAL HOURS

3. ACRES CLEARED

4. MILEAGE/EXPENSES

5. MISC.

C3- Ponderosa Park Homeowner's time sheet instructions (two Pages

Instructions for Submitting a Firewise Volunteer Time Sheet

1. From the Home page, click on Data Entry Forms.
2. In the Data Entry Forms page, click on Firewise Volunteer Time Sheet.
3. A Firewise Volunteer Time Sheet will display with your Name and Email already entered.
4. Address*. This is a required field. Enter your Park street address or lot number.
5. Phone*. This is a required field. Enter the phone number where the Firewise committee can reach you.

Work Details for the Firewise work project.

6. Beginning Date*. This is a required field. Enter the date the work started. Any format is acceptable, mm/dd/yyyy is preferred.
7. Ending Date. Enter this date if the hours required more than 1 day to complete the work. Any format is acceptable, mm/dd/yyyy is preferred.
8. Name of Person/Group. If the work was performed by a group, enter the name such as Weekend Work Party. If the Time Sheet is for someone other than you, enter their name.
9. Number of Volunteers. Enter the number of volunteers that worked on the project.
10. Total Hours Worked*. This is a required field and is the total number of hours worked by all volunteers.
11. Acreage or. Enter the total acreage of the work area. If less than 1/4 acre, enter Square Footage in the following field instead.
12. Square Footage. Enter the square footage of the Firewise work area if acreage is not used.

Total Hours Breakdown - Hours entered below show when combined should equal the hours entered in step 10 - Total Hours Worked.

13. Flammable Brush Control Hours. Enter the number of hours spent removing brush and dead timber, including falling, cutting and stacking.
14. Defensible Space Hours. Enter the number of hours spent clearing a defensive space around a structure. This includes clearing, falling, cutting and stacking.
15. Pruning Hours. Enter the number of hours spent pruning trees and shrubs.
16. Thinning Hours. Enter the number of hours spent thinning trees and shrubs.
17. Chipping Hours. Enter the number of hours that chipping was performing on the debris. Do not enter Chipping Hours if the work was performed by the Park's Firewise Chipping contractor.

Power Equipment - Chain Saws, Trim Saws or any other gas powered equipment used.

18. Power Equipment Hours. Enter number of hours power equipment was used during the Total Hours Worked.

Firewise Committee - Following 2 fields used by Firewise Committee members only.

19. Type of Activity. Select Bids, Contract Documents, Meetings or Others from the selection list.
20. Activity Hours. Enter the total number of hours for all committee members combined.

Additional Comments

21. Comments. Enter any comment needed to clarify an entry.
22. Click Submit. A ticket is generated and forwarded to the Firewise committee.
23. You will receive an email from the Firewise committee when your ticket is posted to the Firewise database, usually within 24 hours.

More information on the Firewise Volunteer Time Sheet is available in Frequently Asked Questions. From the Home page, click on FAQ. On the FAQ page, click on a question to display an answer to the question.

***Ponderosa Park Firewise
Chipping
Program***

Name. _____

Address. _____

Phone Number. _____

Lot # _____

Your brush piles have been inspected and found to be ready to be chipped.

Firewise supervisor. _____

By signing this form, you the property owner do hereby agree to hold harmless from any liability that may occur due to this chipping operation, Ponderosa Park Owners Association and its Firewise committee.

Owner. _____ Date. _____

**Eastern Washington
Forest Landowner
Cost-Share Application
(October 1, 2007 – September 30, 2008)**

**MAIL ALL THREE (3) PAGES TO: FOREST STEWARDSHIP PROGRAM,
 WA DNR, P.O. BOX 47012, OLYMPIA, WA 98504-7012 –OR– FAX TO:
 (360) 902-1428 (FAX).**

**Please print legibly. Read carefully all terms, conditions, and requirements; and
 BE SURE TO SIGN THE LAST PAGE.**

Name: Ponderosa Park Home Owners Assn.
 Mailing Address: P.O. Box 988
Goldendale WA 98620
 Daytime Phone: (206) 696-6075 E-mail (optional): Riverid@Gorge.net
 County where property is located: Klickitat Nearest town: GOLDENDALE # of forested acres: _____
 Legal Description: Sec. 29 through 33 T.5 N. R16 E. W4.
 (Example Legal Description: (NW 1/4 of S 1/2 of Section 31, Township: 57N, Range 42E).
 Name of road from which property can be accessed: TRAILER ROAD
 Map or Photo: **Please attach a map or copy of aerial photo to help forester locate the property.**

Does this property have a DNR-approved Forest Stewardship Plan? Y N BUT HAVE A NEIGHBORHOOD CWPT
 If not, do you wish to apply for FLEP cost-sharing to hire a private consulting forester to prepare such a plan?
 Y N Name and address of consulting forester (if known at this time): _____

Please use key words to describe the type and extent of work you would like to do (e.g. thinning and slash disposal – 10 acres, etc.):
This project will be doing thinning, pruning, and slash disposal on individual home lots as well as the potential of shaded fuel break in some areas along boundary of the Park property

BE SURE TO READ THE TERMS, CONDITIONS, AND REQUIREMENTS CAREFULLY AND COMPLETELY AND THEN SIGN THE LAST PAGE.

Cost-Share Terms, Conditions, and Requirements

Landowner Eligibility Requirement

The applicant must be a non-federal owner of no more than 5,000 forested acres within the state of Washington.

Minimum Ownership Requirement

Forest Stewardship Plans – minimum of 20 forested acres.

All other practices: No minimum acreage.

Maximum Ownership Limit

The applicant must own no more than a total of five thousand (5,000) forested acres in the state of Washington.

Minimum Cost-Share

Applications must be for a minimum of \$500 in cost-share funds.

Maximum Cost-Share

Applicants may be approved for up to \$20,000, plus the cost of a Forest Stewardship Plan (if applicable), per federal fiscal year. Public agency applicants, and multi-landowner group projects, under a Community Wildfire Protection Plan, are exempt from this limitation.

Minimum Treatment Acreage

Forest Stewardship Plans – plan must be for a minimum of 20 acres.

All other practices: No minimum treatment acreage.

Maximum Treatment Acreage

There is no maximum treatment acreage.

Cost-Share Rate Limit

Cost-share will be paid at 50% of actual cost incurred, not to exceed the maximum per-unit reimbursement rate shown in this application.

Prior Written Approval Requirement

No cost-sharing can be paid for any practice which was begun before written approval is issued. The applicant agrees NOT to begin any work until formal written approval is received from the Washington State Department of Natural Resources (DNR). Filing of this application does NOT constitute approval to begin a practice nor does a subsequent site visit to determine project needs and specifications. Purchase of materials (e.g. tree seedlings) ahead of when work actually commences is acceptable, however, there is no guarantee that the applicant will be reimbursed for any costs unless and until you receive a written approval letter from DNR.

Forest Stewardship Plan Requirement

When a DNR-approved Forest Stewardship Plan is required in order to receive cost-share funds for “on-the-ground” practices, payment for such practices will be withheld until the plan is completed. **A DNR-approved Forest Stewardship Plan is required EXCEPT in the following cases:**

- a) Ownerships of 20 acres or less.
- b) Ownerships of 21-100 acres when cost-share approval is \$5,000 or less.
- c) Public agency projects, and multi-landowner group projects, conducted under a Community Wildfire Protection Plan (CWPP).
- d) When adequate funds are not available to cost-share Forest Stewardship Plans.

Practices Must Meet Specifications

Cost-shared practices must meet written specifications provided, or approved, by DNR.

Any change in specifications or practice extents requires written approval in advance from DNR.

The applicant is responsible for having, and understanding, written practice specifications before any work commences.

Non-Commercial Requirement

Slash (debris) created by commercial harvest, and reforestation following commercial timber harvest, are ineligible for cost-sharing.

In mixed stands, containing both commercial and non-commercial sized trees; slash resulting from treatment of that portion of the acreage occupied by non-commercial trees is eligible. Slash treatment following commercial harvest is eligible in cases where the land has been sold and the new owner (cost-share applicant) did not receive financial benefit from the harvest.

Defensible Space

Creation of wildfire-resistant “defensible space” around structures is not eligible as a stand-alone practice. However, defensible space is both eligible and required when combined with other practices to treat surrounding forested acreage.

Practices Must Meet Permit and Regulatory Requirements

The applicant is required to comply with all appropriate legal requirements, including obtaining appropriate permits (e.g. hydraulics and forest practices applications, etc.) when required. No cost-share funds will be paid for any practice installed without proper permits, or for any practice which is out of compliance with regulatory requirements at the time of completion.

Cost Documentation Requirement

The applicant must provide DNR with acceptable written documentation (e.g. receipts from contractors and suppliers and/or time logs for do-it-yourself work) of costs incurred for each practice category for which cost-sharing is to be paid. Landowners may charge up to \$20 per hour for do-it-yourself labor.

Timely Completion Requirement

Cost-shared practices must be completed, and reported to DNR, no later than the completion deadline stated in the application approval letter, at which time the approval expires and no cost-sharing will be paid. **There are no extensions of time. Applications cannot be renewed.**

Ten Year Practice Maintenance Requirement

Cost-share recipients are required to maintain their properties in forest land use, and to protect and maintain cost-shared practices in a fully viable condition for a period of 10 years (e.g. if cost-share is paid for tree planting, the recipient is required to make a good faith effort to control competing vegetation and animal damage). Failure to meet this obligation may require the applicant to repay the government for all, or part, of the cost-share funds received. The landowner is not liable for practice failures caused by events or circumstances beyond their control. There is no obligation whatsoever after the 10 year period.

Sale of Property
If the property is sold within the above-mentioned ten year period, the original cost-share recipient retains responsibility for practice protection and maintenance unless the new owner advises DNR in writing that they are assuming this responsibility for the balance of the ten year period.

Property Access

Applicants agree to allow DNR staff, or persons authorized by DNR, access to the property to determine cost-share needs, feasibility, and specifications; certify practice completion; and to determine compliance with the ten year practice maintenance requirement. FLEP recipients are NOT required to allow public access to their properties.

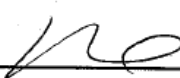
Tax Information Disclosure

Upon practice completion, applicants will be required to submit a Cost-Share Claim Form and an IRS Form W-9 on which they must disclose their Social Security Number or Employer Identification Number. DNR is required to annually submit a Form 1099 to the IRS and to the payee indicating the amount of cost-share funds paid during the previous calendar year.

Appeals

Applicants can appeal any program determination within 30 days by sending a detailed letter of appeal to: Forest Stewardship Program Manager, WA DNR, P. O. Box 47012, Olympia, WA 98504-7012.

I/we, the undersigned, understand and agree to comply with all terms, conditions, and requirements described herein.

X  Ralph David Kivnick FFOA President

SIGN HERE Applicant(s) Signature(s) 11-1-2008 Date

MAIL all 3 pages of completed application to: Forest Stewardship Program Manager, WA DNR, P.O. Box 47012, Olympia, WA 98504-7012 --- OR --- FAX all 3 pages to: (360)-902-1428 (FAX). You will receive written confirmation of the receipt of your application by US Mail.

Ponderosa Park Fuel Reduction Proposal

1.0 Purpose of Proposal:

The purpose of this proposal is to seek funding to supplement funding and work to be done as part of the Ponderosa Park fuel reduction proposal. This is part of the overall Ponderosa Park CWPP and was on the priority list as one of the highest projects to be completed.

2.0 Proposed of Preliminary Action Plan:

The following is a proposed action plan to be taken to reduce the Fuels found within the "Park" area and therefore reducing fire risks in this area. As stated previously this is part of the Ponderosa Park's CWPP and was listed in the priority actions to be taken list in Section 7.4.2 under Fuels Reduction in high risk areas as well as under Education and Outreach 7.2.3 in holding Firewise Workshops as well as working with Klickitat Conservation District in regards to doing personal risk assessments under Section 7.3.1

3.0 Identification of Wildfire Risk Factors:

The following risk factors have been accessed:

- Heavy second-growth forests with many small and tightly spaced smaller trees and brush
- While landowners are particularly attached to the forest setting of their residences they also recognize the need for a protective zone about improvements.
- Topography of the area provides for a high risk of rapidly spreading fire if one was to ignite
- Risk of human caused fires is high in the area due to the amount of tourist traffic and past history.
- Some of the landowners on the lower portions of the slopes are absentee in nature and will probably not be available to assist or are willing to do the fuels reduction yet these parcels with the fuel loading that are present do have the potential of hot fires being created if they do ignite..
- Road rights-of-way fuel reduction is also a key for future access, as well as the potential of creating fuel breaks in case of an incident happening.

4.0 Suggested Actions to be taken

4.1 Identify actions to be taken. Where, who, what

4.2 Additional actions proposed to be taken

4.3 Obstacles to the proposed actions

- Time and cost considerations- need to have some source of funding to enhance the overall project funding
- Some landowners will inevitably choose not to participate
- Potential Rights-of-way issues

4.4 Solutions to potential obstacles

- Time will be volunteered by the homeowners in the area, possibly as groups or on individual landowner's time and effort. This will include the thinning pruning and slash disposal that will improve protective zones around infrastructure
- Use of homeowner's "sweat equity" will include individual time, chainsaws, small equipment and mileage as well as other forms of expenses will be logged and kept current.
- Will seek out if there are other forms of assistance that can help to complete the project.
- Work with KCCD to come up with ways of completing the Park's Homeowner Assessments by July 1, 2009
- Look at mapping homes and other structures using GPS equipment

5.0 Target outcomes of this proposal

- ✓ By June 15th, 2009 completion of the Phase 1 portion of the plan will be outlined and approved by those participating at this time.
- ✓ By July 1st, 2009 a listing of all landowners in the proposal will be obtained.
- ✓ Assessment of the amount of slash build up due to logging as well as blow down from the past winter storms
- ✓ Review of the potential of safety zones located with the proposal area.
- ✓ By July 15, 2008 a mailing will go out to all absentee landowner to see if they are willing to work on phase 2 of the project
- ✓ By October 30th, 2009 phase 1 of the project will be 50% completed.
- ✓ January 2010 work will be started in planning the 2010 project work in both phase 1 and phase 2
- ✓ Slash disposal alternatives need to be looked at from burning, chipping and hauling material off site

6.0 Associated projects being done at the same time as well as future projects the compliment the current proposal

6.1 Current associated projects

- Ponderosa Park's Neighborhood CWPP
- DNR coop demonstration projects within the Park
- KCCD assistance in individual Home Assessments

6.2 Projected Community Projects that compliment the current proposal

- There are no proposed projects at the "Community" level at this time.

7.0 BUDGET :Proposed budgetary items associated with the proposal

Table 7.1 Review of budget request using FLEP Identification and costs

Work type	Item Number	Acres	Proponent's Costs	Cost Share limits	Total
Precom Thinning (<500 st/ac)	FSI-2	100	\$10,500	\$9,000	\$19,500
Precom Thinning (510-1000 st/ac)	FSI-3	140	\$21,000	\$16,000	\$37,000
Precom Thinning (1001-2000 st/ac)	FSI-4				
Precom Thinning (2000 st/ac +)	FSI-5				
Pruning	FSI-6	90000 ft	\$18,000	\$18,000	\$36,000
Slash Disposal	FSI-9	120	\$33,000	\$34,000	\$77,000
Totals			\$82,000	\$76,000	\$158,000

Table 7.2 Review of costs related to those proposed by proponents.

Title	Funding	Match	Total
Planning			
Planning meetings		\$1,000.00	
Information outreach		\$500.00	
Labor			
Volunteer Labor @18.00/ hour 2000 hours		\$36,000.00	
Misc. Labor costs		\$3,000.00	
Equipment Costs			
Chainsaw time		\$6,000.00	
Gas and oil		\$3,200.00	
Chipping and slash disposal		\$30,000.00	
Misc. Equipment costs			
Transportation Costs			
Vehicle Transportation costs @ .58/mi.X 10,000		\$5,800.00	
ATV (.305/mi)		\$1,500.00	
GRAND TOTAL		\$87,000.00	

C7- Approval letter for original cost share funding for Ponderosa Park



WASHINGTON STATE DEPARTMENT OF
Natural Resources
Doug Sutherland - Commissioner of Public Lands

Caring for
your natural resources
... now and forever

January 15, 2009

Ponderosa Park Homeowners Association
P. O. Box 988
Goldendale, WA 98620

RE: APPROVAL OF FORESTRY COST-SHARE APPLICATION

We are pleased to inform you that the cost-share application for your property in Klickitat County is **APPROVED** as itemized below. This approval is effective immediately and expires on **JANUARY 31, 2011**.

Assuming all conditions of the program are met, you will be reimbursed for 50% of your written documented costs --OR-- at the "not to exceed" rate shown below, whichever is less.

FSI-2: Non-commercial thinning - 100 acres @ 50% not to exceed \$120/acre.
FSI-3: Non-commercial thinning - 140 acres @ 50% not to exceed \$150/acre.
FSI-6: Pruning - 90,000 lineal feet @ 50% not to exceed 20 cents/ft.
FSI-8: Slash Disposal - 120 acres @ 50% not to exceed \$350/acre.

IMPORTANT: The maximum amount of cost-share that you can potentially earn under this approval is \$93,000. If you complete less work than the amount approved above, your payment will be less. The payment cannot exceed the per unit rate (e.g. \$/acre) shown above.

All work must be completed, and reported to DNR, before the expiration date of this approval
All work must be completed, and reported to DNR, no later than **JANUARY 31, 2011** at which time this approval expires and will be cancelled if no performance is reported. **There are no extensions of time.**

All work must be done according to specifications acceptable to DNR

All work must be completed according to written specifications provided, or approved, by your DNR Stewardship Forester. If you have not been provided with written specifications, or if you have any questions, please contact your Stewardship Forester **BEFORE** beginning any work. Any changes in practice specifications must be approved, in writing, by the DNR Stewardship Forester.

All costs must be documented in writing

At the time of completion, you will need to provide DNR copies of cost documentation. These may be invoices or receipts for materials or for hired labor and/or a log of "do-it-yourself" labor. Do-it-yourself labor can be valued at any rate up to a maximum of \$20/hour.

A DNR-approved Forest Stewardship Plan may be required before any payment can be made
If a Forest Stewardship Plan is required, DNR must approve and have a file copy of your plan before any cost-share payments can be made for other practices. If practices are completed before the plan is completed, then payment will be withheld until such time that the plan is approved by DNR.

FOREST PRACTICES DIVISION ■ 1111 WASHINGTON ST SE ■ M5 47012 ■ OLYMPIA, WA 98504-7012
TEL (360) 902-1400 ■ FAX (360) 902-1428 ■ TTY (360) 902-1125 ■ TRS 711 ■ WWW.DNR.WA.GOV
EQUAL OPPORTUNITY EMPLOYER

RECYCLED PAPER ♻️

Additional program requirements

You reviewed and agreed to the complete list of program terms, conditions, and requirements when you submitted and signed your application. A copy of these is enclosed for your reference.

Who to Contact

If you have questions, or when you are ready to report completion, please contact the DNR Stewardship Forester highlighted on the attached sheet.

If at any time you decide to cancel your application, or reduce the amount of work you plan to do, please advise your DNR Stewardship Forester so that we can make the funds available to another landowner.

Thank you for your participation in this cost-share program and for the proactive steps you are taking to improve forest health and reduce wildfire risk in your area.

Sincerely,



Steven D. Gibbs
Forest Stewardship Program Manager
P.O. Box 47012
Olympia, WA 98504-7012
(360) 902-1706
FAX: (360) 902-1428
steve.gibbs@dnr.wa.gov

c: Joe Weeks, Jesse Calkins, Bart Ausland-- DNR-SE
Div. Landowner File

C8- Submittal for accomplishment 09/29/09

FOREST LANDOWNER COST-SHARE CLAIM FORM
 (Use for ALL cost-share claims regardless of funding source)

PART I: PAYEE INFORMATION: *To be completed by landowner or consultant/contractor.*
IMPORTANT: The person to whom the check will be made payable must also complete and attach a IRS W-9 Form to this form.

Check One:

The consultant/contractor has been paid in full, and/or the applicant has done the work on a "do-it-yourself" basis and I/we are now claiming cost-share reimbursement.

The consultant/contractor has not yet been paid. The cost-share payment should be sent to the consultant/contractor. I/we will be responsible for payment of any remaining balance.

Landowner Applicant Signature(s): _____

Print Landowner Applicant Name(s): Ponderosa Park Homeowners Association

Mailing Address: P.O. Box 988
 Goldendale, Washington 98620

Consultant/Contractor Name (if applicable): _____

Mailing Address: _____

PART II: COMPLETION AND COST INFORMATION: *To be completed by DNR Stewardship Forester.*

PLANS (FLEP-1) Acres: _____ Total Amount Paid for Plan: \$ _____

PRACTICES (FLEP 2-11)

<u>Practice Category</u> <small>(e.g. FLEP-3)</small>	<u>Practice Code/Description</u> <small>(e.g. FSI-3: Non-comm Thin)</small>	<u>Units Completed</u> <small>(e.g. 10 acres)</small>	<u>Cost</u>
FSI-3	Non-Comm Thin (501-1000 tr/ac)	100 ac. @ \$150/ ac	\$15,000
FSI-2	Non-Comm Thin (<500)	50 ac. @ \$120/ac	\$ 6,000
FSI-6	Pruning	40,000 lin. ft @ \$0.20/ft.	\$ 8,000
FSI-8	Slash Disposal	60 ac @ \$350/ac	\$ 21,000

Grand Total \$50,000

TOTAL COST INCURRED FOR ALL PRACTICES (EXCLUDING PLANS) ➔ \$ 50,000

Stewardship Forester's Approval Signature: _____

[Handwritten Signature]

Date: 09/29/09

PART III: COST-SHARE PAYMENT CALCULATION: *To be completed by DNR-Olympia.*

Amount Due Claimant: \$ _____ Program Descriptor: _____
 Approval to Pay: _____ ENR Program Code: _____
 Date: _____ Agency/Grant #: _____

Appendix D
Additional Information

Plate D.1- Incident complexity definitions–Used in the development of Plate 4.3

Incident Type Descriptions

(The following is a list of incident complexity levels used in evaluating fire suppressions needs)

Type 5 Incident

- a) Resources required are local and typically vary from two to six firefighters.
- b) The incident is generally contained within the first burning period and often within a few hours after resources arrive on scene.

Type 4 Incident

- a) Command staff and general staff functions are not activated.
- b) Resources are local and vary from a single module to several resources.
- c) The incident is usually limited to one operational period in the control phase.
- d) No written incident action plan (IAP) is required. However, a documented operational briefing will be completed for all incoming resources.

Type 3 Incident

- a) Resources are usually local and some or all of the command and general staff positions may be activated, usually at the division/group supervisor and/or unit leader level. Units may have a predetermined Type 3 organization designated.
- b) Type 3 organizations manage initial attack fires with a significant number of resources, an extended attack fire until containment/control is achieved, or an escaped fire until a Type 1 or 2 team assumes command.
- c) Initial briefing and closeout are more formal.
- d) Resources vary from several resources to several task forces/strike teams.
- e) The incident may be divided into divisions.
- f) The incident may involve multiple operational periods prior to control, which may require a written Incident Action Plan (IAP).
- g) A documented operational briefing will be completed for all incoming resources, and before each operational period.
- h) Staging areas and a base may be used.
- i) By completing an Incident Complexity Analysis, a fire manager can assess the hazards and complexities of an incident and determine the specific positions needed (e.g., if sensitive public/media relationships are evident, then an information officer should be ordered as part of the team).
- j) When using a Type 3 organization or incident command organization, a manager must avoid using them beyond the Type 3 complexity level.
- k) A Type 3 IC will not serve concurrently as a single

Type 2 Incident

- a) A Type 2 team can be ordered in a short or long configuration. The national standard configuration is the same for all teams. GACCs may adjust the makeup of teams for use in their areas.
- b) The incident extends into multiple operational periods.
- c) Operations personnel often exceed 200 per operational period and total personnel will usually exceed 500 (numbers are guidelines only).
- d) A written action plan is required for each operational period.
- e) Many of the functional units are needed and staffed.
- f) The agency administrator will have regular briefings, and ensure that WFSAs and delegation of authority are updated.
- g) Divisions established for span of control are usually established to geographically facilitate work assignments.

Type 1 Incident

A Type 1 incident meets all the characteristics of a Type 2 incident, plus the following:

- a) All command and general staff positions are activated.
- b) Operations personnel often exceed 500 per operational period and total personnel will usually exceed 1,000 (numbers are guidelines only).
- c) Divisions are established requiring division supervisor qualified personnel.
- d) May require the establishment of branches.
- e) Aviation operations often involve several types and numbers of aircraft

PLATE D.2 -List of Acronyms- Commonly used acronyms in CWPP development

°C	degrees Celsius
°F	degrees Fahrenheit
BAER	Burned Area Emergency Rehabilitation
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BTU/ft./sec	British Thermal Units per feet, per second
ch/h	chains per hour
CVAR	Community Values at Risk
CWPP	Community Wildfire Protection Plan
DOD	Department of Defense
EAS	Emergency Alert System
EPA	Environmental Protection Agency
ESRI	Environmental Systems Research Institute
FIREMON	Fire Effects Monitoring and Inventory Protocol
FMP	Fire Management Plan
FRCC	Fire Regime Condition Class
GIS	geographic information system
HFRA	Healthy Forests Restoration Act
HIZ	Home Ignition Zone
m ² /ha	square meters per hectare
MAA	mutual aid agreement
NCDC	National Climatic Data Center
NEPA	National Environmental Policy Act
NFP	National Fire Plan
NIFC	National Interagency Fire Center
NOAA	National Oceanic and Atmospheric Administration
NWCG	National Wildfire Coordinating Group
NYCD	North Yakima Conservation District
RAWS	remote automated weather station
RMP	Resource Management Plan
SAF	Society of American Foresters
t/ac	tons per acre
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
WADNR	Washington Department of Natural Resources
WFIP	Wildland Fire Implementation Plan
WUI	Wildland Urban Interface
YCCWPP	Yakima County Community Wildfire Protection Plan

D.3 Glossary of Terms - Definitions of commonly used terms and words related to CWPPS

Glossary of Terms

"A"

Aerial Fuels:

All live and dead vegetation in the forest canopy or above [surface fuels](#), including tree branches, twigs and cones, [snags](#), moss, and high [brush](#).

Aerial Ignition:

Ignition of [fuels](#) by dropping incendiary devices or materials from aircraft.

Aerial Reconnaissance:

Use of aircraft for detecting and observing fire behavior, values at risk, suppression activity, and other critical factors to assist command decisions on strategy and tactics needed for fire suppression. Often called aerial recon or just recon.

Agency:

Any federal, state, or county government organization with jurisdictional responsibilities.

Air Attack:

The deployment of fixed-wing or rotary aircraft on a wildland fire to drop retardant or suppressant, shuttle and deploy crews and supplies, or perform aerial reconnaissance of the overall fire situation. Can also refer to the person functioning as air attack officer and directing aerial operations.

Airtanker:

A fixed-wing aircraft equipped to drop fire [retardant](#) or [suppressant](#).

Anchor Point:

An advantageous location, usually a barrier to fire spread, from which to start building a [fireline](#). An anchor point is used to reduce the chance of firefighters' being flanked by fire.

Aramid:

The generic name for a high-strength, flame-resistant synthetic fabric used in firefighters' protective clothing. Nomex, a brand name for aramid fabric, is the term commonly used by firefighters.

Aspect:

Direction toward which a slope faces.

"B"

Backfire:

A fire set along the inner edge of a fireline to consume the [fuels](#) in the path of a wildfire and/or to change the direction of force of the fire's convection column.

Backpack Bucket:

A portable sprayer with a hand pump, fed from a liquid-filled container fitted with straps and worn like a backpack, used mainly in fire and pest control. (See also [Bladder Bag](#))

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Bambi Bucket:

A collapsible bucket slung beneath a helicopter. Used to dip water or retardant from a variety of sources for fire [suppression](#).

Behave:

A system of interactive computer programs for modeling [fuels](#) and [fire behavior](#) that includes two systems: BURN and FUEL.

Bladder Bag:

A collapsible backpack portable sprayer made of neoprene or high-strength nylon fabric fitted with a pump. (See also Backpack Pump)

Blow-up:

A sudden increase in [fire intensity](#) or [rate of spread](#) strong enough to prevent direct control or to upset control plans. Blow-ups are often accompanied by violent convection and may have other characteristics of a [fire storm](#). (See [Flare-up](#).)

Brush:

A collective term that refers to stands of vegetation dominated by shrubby, woody plants or lowgrowing trees, usually of a [type](#) undesirable for livestock or timber management.

Brush Fire:

A fire burning in vegetation that is predominantly shrubs, brush, and scrub growth.

Bucket Drops:

The dropping of fire [retardant](#) or [suppressant](#) from a specially designed bucket slung beneath a helicopter.

Buffer Zones:

An area of reduced vegetation that separates wildland areas from vulnerable residential or business developments. This barrier is similar to a greenbelt in that it is often used for another purpose such as agriculture or recreation, or parks or golf courses.

Bump-up Method:

A progressive method of building a [fireline](#) on a wildfire without changing firefighters' relative positions in the line. Work is begun with a suitable space between firefighters. Whenever one overtakes another, all crew members ahead move one space forward and resume work on the uncompleted part of the line. The last in line does not move ahead until completing his or her section of line.

Burn Out:

Setting fire inside a [control line](#) to widen it or to consume [fuels](#) between the edge of the fire and the [control line](#).

Burn Plan:

This document provides the prescribed fire burn boss the information needed to implement an individual prescribed fire project. Also called prescribed fire plan.

Burning Ban:

A declared ban on open-air burning within a specified area, usually put into place by the agency in charge of managing that area and usually in cases of sustained high fire danger.

Burning Conditions:

The state of the combined factors of the environment that affect [fire behavior](#) in a specified fuel type.

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Burning Index:

An estimate of the potential difficulty of fire containment as it relates to the [flame length](#) at the most rapidly spreading portion of a fire's perimeter.

Burning Period:

That part of each 24-hour period when fires spread most rapidly, typically from 10:00 a.m. to sundown.

"C"

Campfire:

As used to classify the cause of a [wildland fire](#), a small fire that was started for cooking or warming that spreads sufficiently from its source to require action by a fire control [agency](#).

Candle:

A single tree or a small clump of trees that is candling, or burning from the bottom up.

Chain:

A unit of linear measurement equal to 66 feet, often used in describing the length of fireline built or yet to be built.

Closure:

Legal restriction on -- but not necessarily elimination of -- specified activities such as smoking, camping, or entry that might cause fires in a given area.

Cold Front:

The leading edge of a relatively cold air mass that displaces warmer air. The heavier cold air may cause some of the warm air to be lifted. If the lifted air contains enough moisture, the result may be cloudiness, precipitation, and thunderstorms. If both air masses are dry, no clouds may form. Following the passage of a cold front in the Northern Hemisphere, westerly or northwesterly winds of 15 to 30 mph or more often continue for 12 to 24 hours.

Cold Trailing:

A method of controlling a partly dead fire edge by carefully inspecting and feeling with the hands for heat to detect any fire, digging out every live spot, and trenching any live edge.

Command Staff:

The command staff consists of the information officer, safety officer, and liaison officer. They report directly to the incident commander (IC) and may also have assistant staff.

Complex:

Two or more individual [incidents](#) located in the same general area which are assigned to a single incident commander or unified command.

Condition Class 1:

Fire regimes are within a historical range, and the risk of losing key ecosystem components is low. Vegetation attributes (species composition and structure) are intact and functioning within the historical range.

Condition Class 2:

Fire regimes have been moderately altered from their historical range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals (either increased or decreased). This results in moderate changes to one or more of the following: fire size, intensity and severity, and landscape patterns. Vegetation attributes have been moderately altered from their historical range.

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Condition Class 3:

Fire regimes have been significantly altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals. This results in dramatic changes to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been significantly altered from their historical range.

Contain a Fire:

A fuel break around the fire has been completed. This break may include natural barriers such as a river or road, and/or fireline built by hand, and/or fireline constructed mechanically.

Control a Fire:

The complete extinguishment of a fire, including [spot fires](#). Fireline has been strengthened so that [flare-ups](#) from within the perimeter of the fire will not break through the line.

Control Line:

All built or natural fire barriers and treated fire edge used to control a fire.

Cooperating Agency:

An agency supplying assistance other than direct [suppression](#), rescue, support, or service functions to the [incident](#) control effort; e.g., Red Cross, law enforcement agency, telephone company, etc.

Coyote Tactics:

A progressive line construction duty using self-sufficient crews who build [fireline](#) until the end of the [operational period](#), stay or camp there while off duty, then begin building line again the next operational period where they left off.

Creeping Fire:

Fire burning with a low flame and spreading slowly.

Crew Boss:

A person in supervisory charge of a crew -- usually 16 to 21 firefighters -- and responsible for their performance, safety, and welfare.

Crown Fire:

The movement of fire through the crowns or tops of trees or shrubs more or less independently of the surface fire. A fire is said to be crowning when the flames get up into the tops of trees and spreads.

Curing:

Drying and browning of herbaceous vegetation or [slash](#).

"D"

Dead Fuels:

Fuels with no living tissue in which moisture content is governed almost entirely by atmospheric moisture ([relative humidity](#) and precipitation), dry-bulb temperature, and solar radiation.

Debris Burning:

A fire originally set for the purpose of clearing land or for rubbish, garbage, range, stubble, or meadow burning.

Defensible Space:

An area either natural or manmade where material capable of causing a fire to spread has been treated, cleared, reduced, or changed to act as a barrier between an advancing wildland fire and

resources or lives at risk. In practice, defensible space is generally defined as an area of 30 feet or more around a structure that is cleared of flammable brush or vegetation or other fuels.

Deployment:

Removing a fire shelter from its case and using it as protection against fire.

Detection:

The act or system of discovering and locating fires, for example, by staff or volunteers in lookout towers.

Direct Attack:

Any treatment of burning fuels, such as by wetting, smothering, or chemically quenching the fire or by physically separating burning fuels from unburned fuels.

Dispatch:

The implementation of a command decision to move a resource or resources -- such as crews or dozers or engines or aircraft -- from one place to another.

Dispatch Center:

A facility from which resources are directly assigned to an [incident](#).

Dispatcher:

A staff person who receives reports of discovery and status of fires, confirms their locations, receives orders for resources and takes action to provide people and equipment needed for control, and sends them to the designated locations.

Division:

Divisions are used to divide an incident into geographical areas of operation. Divisions are established when the number of [resources](#) exceeds the span-of-control of the operations chief. A division is located with the [Incident Command System](#) organization between the branch and the task force or [strike team](#).

Dozer:

Any tracked vehicle with a front-mounted blade used for exposing [mineral soil](#) or constructing fireline or safety zones.

Dozer Line:

Fireline constructed by a dozer.

Drip Torch:

A hand-held device for igniting fires by dripping flaming liquid fuel onto the materials or area to be burned; consists of a fuel fount, burner arm, and igniter. The fuel used is generally a mixture of diesel and gasoline.

Drop Zone:

Target area for [airtankers](#), helicopters, and cargo dropping.

Drought Index:

A number representing the net effect of evaporation, transpiration, and precipitation in producing cumulative moisture depletion in deep [duff](#) or upper soil layers.

Dry Lightning Storm:

Thunderstorm in which negligible precipitation reaches the ground. Also called a dry storm.

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Duff:

The layer of decomposing organic materials lying below the [litter](#) layer of freshly fallen twigs, needles, and leaves and immediately above the [mineral soil](#).

"E"

Energy Release Component (ERC):

The computed total heat released per unit area (British thermal units per square foot) within the fire front at the head of a moving fire.

Engine:

A ground vehicle providing specified levels of pumping, water, and hose capacity.

Engine Crew:

Firefighters assigned to an engine. The Fireline Handbook defines the minimum crew makeup by engine type.

Entrapment:

A situation where personnel are unexpectedly caught in a [fire behavior](#)-related, life-threatening situation where planned escape routes or [safety zones](#) are absent, inadequate, or compromised. An entrapment may or may not include [deployment](#) of a [fire shelter](#). These situations may or may not result in injury; they include "near misses."

Environmental Assessment (EA):

EAs were authorized by the National Environmental Policy Act (NEPA) of 1969. They are analytical documents prepared with public participation to determine whether an Environmental Impact Statement (EIS) is needed for a project or action. If an EA determines an EIS is not needed, the EA becomes the document allowing agency compliance with NEPA requirements.

Environmental Impact Statement (EIS):

EISs were authorized by the National Environmental Policy Act (NEPA) of 1969. Prepared with public participation, they assist decision-makers by providing information, analysis, and an array of action alternatives, allowing managers to see the probable effects of management decisions on the environment. Generally, an EIS is written for a large-scale action or geographical area.

Equilibrium Moisture Content:

Moisture content that a fuel particle will attain if exposed for an infinite period in an environment of specified constant temperature and humidity. When a [fuel](#) particle reaches equilibrium moisture content, net exchange of moisture between it and the environment is zero.

Escape Route:

A pre-planned and understood route firefighters can take to move to a [safety zone](#) or other low-risk area, such as an already burned area (commonly called "the black"), a previously constructed safety area, a meadow that won't burn, or a natural rocky area that is large enough to provide refuge without being burned.

Extended Attack Incident:

A fire which has exceeded or is expected to exceed [initial attack](#) capabilities or [prescription](#).

Extreme Fire Behavior:

"Extreme" implies a level of [fire behavior](#) characteristics that ordinarily precludes methods of direct control action. One or more of the following are usually involved: high [rate of spread](#), prolific [crowning](#) and/or [spotting](#), presence of [fire whirls](#), a strong convection column. Predictability is difficult because such fires often exercise influence on their environment and behave erratically, sometimes dangerously.

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"F"

Faller:

A person who cuts down or fells trees. Also called a sawyer or cutter.

Field Observer:

Person responsible to the Situation Unit Leader for collecting and reporting information about an incident obtained from personal observations and interviews.

Fine Fuels:

Fast-drying fuels, generally with a comparatively high surface area-to-volume ratio, which are less than 1/4-inch in diameter and have a [timelag](#) of one hour or less. These fuels ignite readily and are rapidly consumed by fire when dry.

Fingers of a Fire:

The long narrow extensions of a fire projecting from the main body.

Fire Behavior:

The manner in which a fire reacts to the influences of fuels, weather, and topography.

Fire Behavior Forecast:

A prediction of probable fire behavior, usually prepared by a Fire Behavior Analyst, in support of fire [suppression](#) or prescribed burning operations.

Fire Behavior Specialist:

A person responsible to the Planning Section Chief for establishing a weather data collection system and for developing fire behavior predictions based on fire history, fuels, weather, and topography. Also called Fire Behavior Analyst.

Fire Break:

A natural or constructed barrier used to stop or check fires, or to provide a [control line](#) from which to work.

Fire Cache:

A supply of fire tools and equipment assembled in planned quantities or standard units at a strategic point for exclusive use in fire suppression.

Fire Crew:

An organized group of firefighters under the leadership of a crew leader or other designated official.

Fire Front:

The part of a wildland fire in which continuous flaming combustion is taking place. Unless otherwise specified the fire front is assumed to be the leading edge of the [fire perimeter](#). In ground fires, the fire front may be mainly smoldering combustion.

Fire Intensity:

A general term relating to the heat energy released by a fire.

Fireline:

A linear fire barrier that is scraped or dug to [mineral soil](#) after being cleared of all vegetation.

Fire Load:

The number and size of fires historically experienced on a specified unit over a specified period (usually one day) at a specified index of fire danger.

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Fire Management Plan (FMP):

A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved land use plan. The plan is supplemented by operational plans such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans.

Fire Perimeter:

The entire outer edge or boundary of a fire, which may contain within it substantial areas of unburned fuels.

Fire Season:

1) Period(s) of the year during which [wildland fires](#) are likely to occur, spread, and affect resource values sufficient to warrant organized fire management activities. 2) A legally enacted time during which burning activities are regulated by state or local authority.

Fire Shelter:

An aluminized tent offering protection by means of reflecting radiant heat and providing a volume of breathable air in a fire [entrapment](#) situation.

Fire Shelter Deployment:

Removing a fire shelter from its case and using it as protection against fire.

Fire Storm:

Violent convection caused by a large continuous area of intense fire. Often characterized by destructively violent surface indrafts, near and beyond the perimeter, and sometimes by tornado-like whirls.

Fire Triangle:

Instructional aid in which the sides of a triangle are used to represent the three factors (oxygen, heat, fuel) necessary for combustion and flame production; removal of any of the three factors causes flame production to cease.

Fire Use Module:

A team of skilled and mobile personnel dedicated primarily to [prescribed fire](#) management. These are national and interagency [resources](#), available throughout the prescribed fire season, trained to ignite, hold, and monitor prescribed fires.

Fire Weather:

Weather conditions that influence fire ignition, fire behavior, and [suppression](#).

Fire Weather Watch:

A term used by [fire weather](#) forecasters to notify firefighters and agencies, usually 24 to 72 hours ahead of the event, that current and developing meteorological conditions may evolve into a dangerous fire weather situation.

Fire Whirl:

A spinning vortex column of ascending hot air and gases rising from a fire and carrying aloft smoke, debris, and flame. Fire whirls range in size from less than one foot to more than 500 feet in diameter. Large fire whirls can equal the intensity of a small tornado.

Firefighting Resources:

All people and major items of equipment that are or could be assigned to fires, ranging from crews and other personnel to engines to aircraft to dozers to water tenders and including a large variety of support personnel and services.

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Flame Height:

The average maximum vertical extension of flames at the leading edge of the [fire front](#). Occasional flashes that rise above the general level of flames are not considered. The flame height is less than the [flame length](#) if flames are tilted by winds or slope.

Flame Length:

The distance between the flame tip and the midpoint of the flame depth at the base of the flame

(generally the ground surface); flame length is an indicator of [fire intensity](#) .

Flaming Front:

The zone of a moving fire where the combustion is primarily flaming. Behind this flaming zone, combustion is primarily glowing. [Light fuels](#) typically have a shallow flaming front, and [heavy fuels](#) have a deeper front. Also called [fire front](#).

Flanks of a Fire:

The parts of a fire's perimeter that are roughly parallel to the main direction of spread.

Flare-up:

Any sudden acceleration of fire spread or intensification of a fire. Unlike a [blow-up](#), a flare-up lasts a relatively short time and does not radically change control plans.

Flash Fuels:

Fuels such as grass, leaves, pine needles, ferns, tree moss, and some types of [slash](#), flash fuels or flashy fuels ignite readily and are consumed rapidly when dry. Also called [fine fuels](#).

Forb:

A plant with a soft rather than permanent woody stem, that is not a grass or grass-like plant.

Fuel:

Combustible material. Includes vegetation such as grass, leaves, ground [litter](#), plants, shrubs, and trees that feed a fire. (Also see [Surface Fuels](#).)

Fuel Bed:

In a research setting, an array of fuels usually constructed with specific loading, depth, and particle size to meet experimental requirements; also commonly used to describe the fuels composition in natural settings.

Fuel Loading:

The amount of fuels present expressed quantitatively in terms of weight per unit area.

Fuel Model:

Simulated fuel complex (or combination of vegetation [types](#)) for which all fuel descriptors required for the solution of a mathematical [rate of spread](#) model have been specified.

Fuel Moisture:

The quantity of moisture in fuels expressed as a percentage of the weight when thoroughly dried at 212 degrees Fahrenheit. Also referred to as fuel moisture content.

Fuels Reduction:

Manipulation, including combustion or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control. Often includes thinning and/or prescribed burning.

Fuel Type:

An identifiable association of fuel elements of a distinctive plant species, form, size, arrangement, or 38

other characteristics that will cause a predictable rate of fire spread or difficulty of control under specified weather conditions.

Fusee:

A colored flare originally designed as a railway warning device and widely used to ignite suppression and prescription fires.

"G"

General Staff:

The group of [incident](#) management personnel reporting to the incident commander. They may each have a deputy or assistant, as needed. Staff includes operations section chief, planning section chief, logistics section chief, and finance/administration section chief.

Geographic Area:

A political boundary designated by the wildland fire protection agencies, where these agencies work together in the coordination and effective utilization of fire management resources. Each geographic area includes a [Geographic Area Coordination Center](#) (GACC) that handles fire intelligence, information, ordering, and dispatch.

Ground Fuels:

All combustible materials below the surface litter, including duff, tree or shrub roots, punky wood, peat, sawdust, and other materials that can support a glowing combustion without flame.

"H"

Haines Index:

An atmospheric index used to indicate the potential for wildfire growth by measuring the stability and dryness of the air over a fire.

Hand Line:

A fireline built with hand tools, such as shovels and pulaskis.

Hazard Reduction:

Any treatment of a hazard that reduces the threat of ignition and [fire intensity](#) or [rate of spread](#).

Head of a Fire:

The portion of the fire having the fastest rate of spread.

Heavy Fuels:

Fuels of large diameter such as [snags](#), logs, and large limb wood, that ignite and are consumed more slowly than [flashy fuels](#).

Helibase:

The main location within the general incident area for parking, fueling, maintaining, and loading helicopters. The helibase is usually located at or near the incident base.

Helispot:

A temporary landing spot for helicopters.

Helitack:

The use of helicopters to transport crews, equipment, and fire [retardant](#) or [suppressant](#) to the fireline during the initial stages of a fire. Helitack can also refer to personnel, as in helitack crews.

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Helitack Crew:

A group of firefighters trained in the technical and logistical use of helicopters for fire suppression.

Holding Actions:

Planned actions required to achieve wildland [prescribed fire](#) management objectives. These actions have specific implementation timeframes for fire use actions but can have less sensitive implementation demands for suppression actions.

Holding Resources:

Firefighting personnel and equipment assigned to do all required fire suppression work following fireline construction but generally not including extensive [mop-up](#).

Hose Lay:

Arrangement of connected lengths of fire hose and accessories on the ground, beginning at the first pumping unit and ending at the point of water delivery.

Hotshot Crew:

A highly trained and experienced [fire crew](#) used mainly to build fireline by hand. Hotshots -- also called Interagency Hotshot Crews or IHCs -- are national resources, also called Type 1 crews.

Hotspot:

A particular active part of a fire.

Hotspotting:

Reducing or stopping the spread of fire at points of particularly rapid rate of spread or special threat, generally the first step in prompt control, with emphasis on first priorities.

"I"

Incident:

A human-caused or natural occurrence, such as a [wildland fire](#) or tornado or hurricane or major flood, that requires emergency service action to prevent or reduce the loss of life or damage to property or natural resources.

Incident Action Plan (IAP):

The plan that contains objectives reflecting the overall incident strategy and specific tactical actions and supporting information for the next [operational period](#) on an incident. The plan may be oral or written. When written, the plan may have a number of attachments, including incident objectives, organization assignment list, division assignment, incident radio communication plan, medical plan, traffic plan, safety plan, fire weather, and incident maps.

Incident Command Post (ICP):

Location at which primary command functions are executed. The ICP is often co-located with the incident base or other incident facilities.

Incident Command System (ICS):

The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, with responsibility for the management of assigned resources to effectively accomplish stated objectives on an incident.

Incident Commander:

The individual responsible for the management of all operations at the incident site. The IC is usually in charge of an incident management team, which may be national (Type 1) or regional or local (Type 2 or 3) and which includes a wide variety of resources and personnel.

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Incident Management Team:

The incident commander and appropriate general staff or [command staff](#) personnel assigned to manage an incident. Teams vary in size and experience and are assigned based on availability of the teams and complexity of the incident.

Incident Objectives:

Statements of guidance and direction necessary for selection of appropriate [strategy](#) or strategies, and the tactical direction of assigned resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed.

Infrared Detection:

The use of heat sensing equipment, known as Infrared Scanners, for detection of heat sources that are not visually detectable by the normal surveillance methods of either ground or air patrols.

Initial Attack:

The actions taken by the first resources upon arrival at a wildfire to protect lives and property and prevent further expansion of the fire.

"J"

Job Hazard Analysis:

This analysis of a project is completed by staff to identify hazards to employees and the public. It identifies hazards, corrective actions, and the required safety equipment to ensure public and employee safety.

Jump Spot:

Selected landing area for [smokejumpers](#).

Jump Suit:

Approved protection suit worn by smokejumpers.

"K"**Keetch-Byram Drought Index (KBDI):**

Commonly used drought index adapted for fire management applications, with a numerical range from 0 (no moisture deficiency) to 800 (maximum drought). [Updated maps](#) are online.

Knock Down:

To reduce the flame or heat on the more vigorously burning parts of a fire edge.

"L"**Ladder Fuels:**

Fuels which provide vertical continuity between strata, thereby allowing fire to carry from [surface fuels](#) into the crowns of trees or shrubs with relative ease. They help start and continue [crowning](#) on a fire.

Large Fire:

1) For statistical purposes, a fire burning more than a specified area of land; e.g., 100 acres. 2) A fire burning with a size and intensity such that its behavior is determined by interaction between its own convection column and weather conditions above the surface.

Lay Down:

A fire is said to "lay down," often at night, when temperatures drop and RH rises. Fires do not "lie

down." It's a long-standing term in fire and means that the fire is burning less actively than it did during the day.

Lead Plane:

Aircraft used to make dry runs over a target area to check wind and smoke conditions and topography and to lead [airtankers](#) to targets and supervise their drops. Lead planes are mandatory with [MAFFS](#) operations.

Light Fuels:

Fast-drying fuels, generally with a comparatively high surface area-to-volume ratio, which are less than 1/4-inch in diameter and have a [timelag](#) of one hour or less. These fuels ignite readily and are rapidly consumed by fire when dry.

Lightning Activity Level (LAL):

A number, on a scale of 1 to 6, that reflects frequency and character of cloud-to-ground lightning. The scale is exponential, based on powers of 2 (i.e., LAL 3 indicates twice the lightning of LAL 2).

Line Scout:

A firefighter who determines the location or placement or route of a fireline to be built.

Litter:

Top layer of the forest, scrubland, or grassland floor, directly above the fermentation layer. It's composed of loose debris including sticks, branches, twigs, and recently fallen leaves or needles, little altered in structure by decomposition.

Live Fuels:

Living plants, such as trees, grasses, and shrubs, in which the seasonal moisture content cycle is controlled largely by internal physiological mechanisms rather than by external weather influences.

"M"**Micro-Remote Environmental Monitoring System (Micro-REMS):**

Mobile weather monitoring station. A Micro-REMS usually accompanies an incident meteorologist and Air Transportable Modular Unit (ATMU) to an incident. The ATMU is a weather data collection and forecasting unit consisting of four modules, weighing a total of 282 pounds and occupying 27.1 cubic feet of space when transported. Used by incident meteorologists on an incident.

Mineral Soil:

Soil layers below the predominantly organic layers; soil with little combustible material.

Mobilization:

The process and procedures used by all organizations -- federal, state, and local -- for activating, assembling, and transporting all resources requested to respond to or support an incident.

Modular Airborne Firefighting System (MAFFS):

A manufactured unit consisting of five interconnecting tanks, a control pallet, and a nozzle pallet, with a capacity of 3,000 gallons, designed to be rapidly mounted inside an unmodified military C-130 (Hercules) cargo aircraft for use in dropping retardant on wildland fires.

Mop up:

To make a fire safe or reduce residual smoke after the fire has been contained, by extinguishing or removing burning material along or near the [control line](#), felling [snags](#), or moving logs and large rocks so they won't roll downhill. Mop-up work is usually (but not always) handled by hand crews.

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Multi-Agency Coordination (MAC):

A generalized term describing the functions and activities of representatives of involved agencies and/or jurisdictions who make decisions regarding the prioritization of incidents and the sharing and use of critical resources. The MAC organization is not a part of the on-scene ICS and is not involved in developing incident strategy or tactics.

Mutual Aid Agreement:

Written agreement between agencies and/or jurisdictions in which they agree to assist one another upon request by furnishing personnel and equipment.

"N"

National Environmental Policy Act (NEPA):

NEPA is the basic national law for protection of the environment, passed by Congress in 1969. It sets policy and procedures for environmental protection, and authorizes [Environmental Impact Statements](#) and [Environmental Assessments](#) to be used as analytical tools to help federal managers make land management decisions.

National Fire Danger Rating System (NFDRS):

A uniform fire danger rating system that focuses on the environmental factors that control the moisture content of fuels.

National Wildlife Coordinating Group (NWCG):

A group formed under the direction of the Secretaries of Agriculture and the Interior that includes representatives of the U.S. Forest Service, Bureau of Land Management, Bureau of Indian Affairs, National Park Service, U.S. Fish and Wildlife Service, and National Association of State Foresters. The group's purpose is to handle coordination and effectiveness of wildland fire activities and provide a forum to discuss and resolve issues and problems of substantive nature. NWCG is the certifying body for all courses in the National Fire Curriculum.

Nomex®:

Trade name for a fire-resistant synthetic material used in the manufacturing of flight suits and protective clothing worn by firefighters. (see [Aramid](#))

Normal Fire Season:

1) A season during which the weather, fire danger, and number and distribution of fires are about average. 2) Period of the year that normally comprises the fire season.

"O"

Operational Period:

The period of time scheduled for execution of a given set of tactical actions as specified in the [Incident Action Plan](#). Operational periods can be of various lengths, although usually are not more than 24 hours.

Operations Branch Director:

Person under the direction of the operations section chief who is responsible for implementing that portion of the [incident action plan](#) appropriate to the branch.

Overhead:

People assigned to supervisory positions, including incident commanders, command staff, general staff,, directors, supervisors, and unit leaders.

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"P"

Pack Test:

The pack test gauges the aerobic capacity of fire suppression and support personnel and assigns physical fitness scores. The test consists of walking a specified distance, with or without a weighted pack, in a predetermined period of time, with altitude corrections. Various levels of the test apply to various levels of firefighting duties or jobs.

Paracargo:

Anything intentionally dropped, or intended for dropping, from an aircraft by parachute, by other retarding devices, or by free-fall. Often includes firefighting supplies and tools for firefighters in remote areas.

Peak Fire Season:

That period of the fire season during which fires are expected to ignite most readily, to burn with greater than average intensity, and to cause damage at an unacceptable level.

Personal Protective Equipment (PPE):

All firefighting personnel must be equipped with protective equipment and clothing in order to mitigate the risk of injury from or exposure to hazardous conditions encountered while working. PPE includes, but is not limited to, 8-inch high-laced leather boots with lug soles, fire shelter, hard hat with chin strap, goggles, ear plugs, aramid shirts and trousers, leather gloves, and individual first aid kits.

Preparedness:

Condition or degree of being ready to cope with a potential fire situation. Preparedness Levels are determined by region and nationally as the season progresses, based on current and expected conditions.

Prescribed Fire:

Any fire ignited by management actions under certain pre-determined conditions to meet specific objectives related to hazardous fuels reduction or habitat improvement. A written, approved [prescribed fire plan](#) must exist, and [NEPA](#) requirements must be met prior to ignition. Prescribed fires are ignited and managed within a "window" (see "Prescription" below) of very specific conditions including winds, temperatures, humidity, and other factors specified in the burn plan.

Prescribed Fire Module:

A team of skilled and mobile personnel dedicated primarily to prescribed fire management. These are national and interagency resources, available throughout the prescribed fire season, trained to ignite, hold, and monitor prescribed fires.

Prescribed Fire Plan:

This document provides the prescribed fire burn boss the information needed to implement an individual prescribed fire project. Also called burn plan.

Prescription:

Measurable criteria that define conditions under which a prescribed fire may be ignited, which also guide selection of appropriate management responses and indicate other required actions. Prescription criteria may include safety, economic factors, air quality, public health, and other environmental, geographic, administrative, social, or legal considerations.

Prevention:

Activities directed at reducing the incidence of fires, including public education, law enforcement, personal contact, and reduction of fuels hazards.

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Project Fire:

A fire of such size or complexity that a large incident management organization and prolonged activity are required to suppress it.

Pulaski:

A combination chopping and trenching tool that combines a single-bitted ax blade with a narrow adzlike trenching blade fitted to a straight handle. Useful for grubbing or trenching in duff and matted roots. Well-balanced for chopping.

"R"

Radiant Burn:

A burn injury incurred from a radiant heat source.

Radiant Heat Flux:

The amount of heat flowing through a given area in a given time, usually expressed as calories per square centimeter per second.

Rappelling:

Technique of landing specially trained firefighters from hovering helicopters; involves sliding down ropes with the aid of hand-held friction-producing devices called "Genies." Rappellers are often deployed into remote areas where access is difficult (e.g. without roads or helicopter landing spots) or too remote to allow effective deployment of firefighters without extended hiking time.

Rate of Spread:

The relative activity of a fire in extending its horizontal dimensions. It is expressed as a rate of increase of the total perimeter of the fire, as rate of forward spread of the [fire front](#), or as rate of increase in area, depending on the intended use of the information. Usually it is expressed in [chains](#) or acres per hour for a specific period in the fire's history.

Reburn:

The burning of an area that has previously burned but that contains flammable fuels that ignite when burning conditions are more conducive to ignition. Can also refer to an area that has reburned.

Red Card:

Fire qualifications card issued to fire-rated persons showing their training needs and their qualifications to fill specified fire suppression and support positions on a fire or other incident.

Red Flag Warning:

Alert issued by fire weather forecasters to warn personnel about an ongoing or imminent critical [fire weather](#) situation.

Rehabilitation:

Commonly referred to as "rehab," the work necessary to repair damage or disturbance caused by wildland fire or suppression activities. Often includes restoration of firelines or dozer work, and projects such as erosion control, installation of water bars or culverts, re-seeding or other rehab of fire-damaged areas.

Relative Humidity (RH):

The ratio of the amount of moisture in the air to the maximum amount of moisture that the air would contain if it were saturated -- the ratio of the actual vapor pressure to the saturated vapor pressure.

Remote Automated Weather Station (RAWS):

There are nearly 1,500 interagency [Remote Automated Weather Stations](#) (RAWS) strategically located throughout the United States. Weather data assists land management agencies with monitoring air

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quality, rating fire danger, and providing information for research applications. Most of the stations owned by the wildland fire agencies are located where they can monitor fire danger. RAWS units collect, store, and forward data to a computer system at the National Interagency Fire Center (NIFC) in Boise, Idaho, via the Geostationary Operational Environmental Satellite (GOES). The GOES is operated by the National Oceanic and Atmospheric Administration (NOAA). These data are automatically forwarded to other computer systems including the Weather Information Management System (WIMS) and the Western Regional Climate Center in Reno, Nevada (www.wrcc.dri.edu). Other Automated Weather Stations (AWS) transmit data to the WIMS system via telephone telemetry. Fire managers use RAWS data to predict fire behavior and monitor fuels; resource managers also use data to monitor environmental conditions.

Resource Management Plan (RMP):

A document prepared by field office staff with public participation and then approved by field office managers, providing direction for land management activities at a field office. The RMP identifies the need for fire in a particular area and for a specific benefit.

Resource Order:

An order placed with dispatch for firefighting or support resources, often initiated by the incident management team on a fire.

Resources:

1) Personnel, equipment, services, and supplies available, or potentially available, for assignment to fires or other incidents. 2) The natural resources of an area, such as timber, wildlife habitat, grasslands, watershed values, and recreational and other values.

Retardant:

A substance or chemical agent which reduces the flammability of combustibles. Retardant application is generally via fixed-wing airtankers or helicopters, and is used to slow or retard the flames, often for pre-treatment of fuels prior to ground attack or other suppression activities or for slowing the spread or potential for spread of the fire.

Run of a Fire:

The rapid advance of the **head of a fire** with a marked change in fireline intensity and **rate of spread** from that noted before and after the advance. A fire "makes a run" if such conditions are present.

Running:

A fire event including rapidly spreading surface fire with a well-defined head.

"S"

Safety Zone:

An area cleared of flammable materials used for escape in the event the line is outflanked or in case a **spot fire** causes **fuels** outside the **control line** to render the line unsafe. In firing operations, crews maintain a safety zone close at hand. Safety zones may also be constructed as integral parts of fuel breaks; they are greatly enlarged areas which can be used with relative safety by firefighters and their equipment in the event of a blow-up in the vicinity.

Scratch Line:

An unfinished preliminary fireline hastily established or built as an emergency measure to slow or halt the spread of fire.

Severity Funding:

Funds provided to increase suppression response capability necessitated by abnormal weather patterns, extended drought, or other events causing abnormal increase in the fire potential and/or danger.

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Single Resource:

An individual, a piece of equipment (such as an engine) and its staff, or a crew or team of persons with an identified work supervisor.

Size Up:

To evaluate a fire to determine a course of action for suppression.

Slash:

Debris left after logging, pruning, thinning, or brush cutting; can include logs, chips, bark, branches, stumps and broken understory trees or brush.

Sling Load:

Cargo carried beneath a helicopter and attached by a lead line and swivel.

Slop-over:

A fire edge that crosses a control line or natural barrier intended to contain the fire.

Smoke Management:

Application of fire intensities and meteorological processes to minimize degradation of air quality during prescribed fires.

Smokejumper:

A firefighter who travels to fires by aircraft and parachutes in to the fire area.

Smoldering Fire:

A fire burning without flame and barely spreading.

Snag:

A standing dead tree or part of a dead tree from which at least the smaller branches have fallen.

Spark Arrester:

A device installed in a chimney, flue, or exhaust pipe to stop the emission of sparks and burning fragments.

Spot Fire:

A fire ignited outside the perimeter of the main fire by flying sparks or embers.

Spot Weather Forecast:

A special forecast issued to fit the time, topography, and weather of a specific fire. These forecasts are issued upon request of the user agency and are more detailed, timely, and specific than regular zone forecasts.

Spotter:

In smokejumping, the person responsible for selecting drop targets and supervising all aspects of dropping smokejumpers.

Spotting:

Behavior of a fire producing sparks or embers that are carried by the wind and start new fires beyond the zone of direct ignition by the main fire.

Staging Area:

Locations set up at an incident where resources can be placed while awaiting a tactical assignment on an available basis. Staging areas are managed by the operations section.

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Strategy:

The science and art of command as applied to the overall planning and conduct of an incident.

Strike Team:

Specified combinations of the same kind and type of resources -- such as a group of staffed engines -- with common communications and a leader.

Strike Team Leader:

Person responsible to a division or group supervisor for performing tactical assignments given to the strike team.

Structure Fire:

Fire burning any part or all of any building or structure.

Suppressant:

An agent, such as water or foam, used to extinguish the flaming and glowing phases of combustion when directly applied to burning fuels.

Suppression:

All the work of extinguishing or containing a fire, beginning with its discovery.

Surface Fuels:

Loose litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches that have not yet decayed; also grasses, forbs, low and medium shrubs, tree seedlings, heavier branchwood, downed logs, and stumps interspersed with or partially replacing the litter.

Swamper:

(1) A worker who helps [fallers](#) and/or sawyers by clearing away brush, limbs, and small trees. Carries chainsaw gas, oil, and tools and watches for dangerous situations. (2) A worker on a dozer crew who pulls winch line, helps maintain equipment, etc., to speed suppression work on a fire.

"T"**Tactics:**

Deploying and directing resources on an incident to accomplish the objectives designated by [strategy](#).

Temporary Flight Restrictions (TFR):

A restriction requested by an agency and put into effect by the Federal Aviation Administration (FAA) in the vicinity of an incident restricting the operation of nonessential aircraft in the airspace around that incident.

TerraTorch®:

A device for throwing a stream of flaming liquid, used to initiate rapid ignition during [burn out](#) operations on a wildland fire or during a prescribed fire project.

Test Fire:

A small fire ignited within the planned burn unit to determine the characteristics of the prescribed fire, such as fire behavior, detection, performance, and control measures.

Timelag:

Time needed under specified conditions for a fuel particle to lose about 63 percent of the difference between its initial moisture content and its [equilibrium moisture content](#). If conditions remain unchanged, a fuel will reach 95 percent of its equilibrium moisture content after four timelag periods.
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Torching:

The ignition and [flare-up](#) of a tree or small group of trees, usually from bottom to top.

Two-way Radio:

Radio equipment with transmitters on the same frequency as the base station, permitting conversation in two directions using the same frequency in turn.

Type:

The capability of a firefighting resource in comparison to another type. Type 1 usually means a greater capability in power, size, or capacity. Can refer to type of engine or type of crew or type of team.

"U"**Uncontrolled Fire:**

Any fire which threatens life, property, or natural resources.

Underburn:

A fire that consumes [surface fuels](#) but not trees or shrubs.

"V"**Vectors:**

Directions of fire spread as related to rate of spread calculations (in degrees from upslope).

Volunteer Fire Department (VFD):

A fire department of which some or all members are unpaid.

"W"**Water Tender:**

A ground vehicle capable of transporting water in the field, generally used to supply engines.

Weather Information and Management System (WIMS):

An interactive computer system designed to accommodate the weather information needs of all federal and state natural resource management agencies. Provides timely access to weather forecasts, current and historical weather data, the National Fire Danger Rating System (NFDRS), and the National Interagency Fire Management Integrated Database (NIFMID).

Wet Line:

A line of water, or water and retardant, sprayed along the ground, which serves as a temporary control line from which to ignite or stop a low-intensity fire.

Wildland Fire:

Any non-structure fire, other than prescribed fire, that occurs in a wildland area.

Wildland Fire Implementation Plan (WFIP):

A progressively developed assessment and operational management plan that documents the analysis and selection of strategies and describes the appropriate management response for a wildland fire that is managed for resource benefits.

Wildland Fire Situation Analysis (WFSA):

A decision-making process that evaluates alternative suppression strategies against selected environmental, social, political, and economic criteria. Provides a record of decisions. A WFSA is required when the documentation of suppression decisions needs to occur when (1) a wildland fire

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escapes initial actions or is expected to, or (2) a wildland fire managed for resource benefits exceeds prescription parameters in the fire management plan, or (3) a prescribed fire exceeds its prescription and is then declared a wildland fire.

Wildland Fire Use:

The management of naturally ignited (usually by lightning) wildland fires to accomplish specific pre-stated resource management objectives in predefined areas outlined in [Fire Management Plans](#).

Wildland/Urban Interface:

The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. Often incorrectly referred to as the "interzone" or "urban/wildland interface."

Wind Vectors:

Wind directions used to calculate fire behavior.

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