

**Community Wildfire Protection Plan
for
Redlands-Glade Park Wildland Urban Interface
with Colorado National Monument**

Mesa County, Colorado

February, 2008

1. Introduction

This *Community Wildfire Protection Plan* (CWPP) was developed for the Redlands-Glade Park Wildland Urban Interface area surrounding the Colorado National Monument, with guidance and support from the Mesa County Emergency Manager, Mesa County Sheriff’s Office, the Bureau of Land Management, the Colorado State Forest Service, Mesa County GIS Department, National Park Service, Grand Junction and Rural Fire Protection District, Lower Valley Fire Protection District, and residents within the affected area. This CWPP supplements the Mesa County Fire Plan (2004), which identified both the Redlands and Glade Park areas as “Communities At Risk” in Mesa County.

The purpose in developing this CWPP is to help the communities immediately surrounding the Colorado National Monument to clarify and refine their priorities for the protection of life, property, and critical infrastructure in the wildland-urban interface. This CWPP is also designed to assist community members with decisions regarding management options to reduce the potential impacts of wildfire.

Community / Agencies / Interested Parties Involved

The following representatives were involved in the development of the Colorado National Monument CWPP. Persons identified as “core team” were responsible for primary development and decision-making for the plan. Persons identified as “extended team” provided input and expertise to the core team to ensure that the document reflects the highest priorities of the community.

Core Team

Name	Organization
Kimberly Bullen	Mesa County Emergency Manager
Ken Watkins	Grand Junction and Rural Fire Department
Kelly Rogers	Colorado State Forest Service

Extended Team

Doug Paul	Bureau of Land Management
Frank Cavaliere	Lower Valley Fire Department
Dave Price	Colorado National Monument, NPS
Rick Corsi	Mesa County GIS Department
Rich Acree	Mesa County Sheriff’s Office

3. Community Risk Assessment

A risk assessment was conducted during the summer of 2007 for the Redlands area of the city of Grand Junction and portions of unincorporated Mesa County, Colorado that lie within the wildland urban interface (WUI) that borders the Colorado National Monument (the Monument) managed by the National Park Service.

Need for Assessment

In June of 2005, the Monument's Superintendent signed an interagency Fire Management Plan completed jointly with the Bureau of Land Management and in consultation with Mesa County and the Colorado State Forest Service. Prior to 2005, the policy of the Monument had been full suppression of all fires within its boundaries. Under the new interagency plan, four fire management strategies ranging from immediate full suppression to opportunities for wildland fire use were assigned to various units of public lands throughout Mesa County. Within the Monument three management zones were established that include a high priority full suppression strategy in the Redlands-Glade Park Wildland Urban Interface, and a lower priority full suppression strategy in the Saddlehorn/ Fruita Canyon area. The third management zone includes nearly 75% of the monument lands, and allows opportunities for wildland fire use where naturally caused fires may be managed and monitored under prescribed conditions with appropriate management response. This practice is intended to achieve the resource benefits that fire introduces into the ecosystem. These WUI zones are identified on the map in Appendix C.

In order to mitigate potential effects of wildland fire or wildland fire use, the Monument implemented a fuels reduction program along the boundary and around valued public resources such as historic buildings. These projects, as well as planned projects on BLM lands, are shown in Appendix C. To further identify and eventually mitigate hazards on nearby private property in WUI areas, fire managers from the cooperating federal, state and county agencies agreed that an assessment of fuels and hazards in the Redlands (part of Grand Junction, population 45,000) and Glade Park (unincorporated) would be a prudent next step. In 2006, Mesa County applied for and received a \$20,000 Community Assistance grant through the National Park Service Department of Interior to conduct such an assessment.

The goal of this grant was to provide a detailed wildfire hazard risk assessment for the privately owned lands immediately surrounding the Monument. Following this assessment, results were presented to the landowners and fire authorities involved. This was accomplished through a mailing to all landowner properties that were assessed as extreme, high or medium. In addition, a public open house was offered at the Redlands Fire Station to provide information to all landowners in the survey area (see Appendix D). Over 20 homeowners attended the open house to learn more about the assessment and what they could do to mitigate wildfire hazard. Incorporation of this public input was seen as critical in creating the CWPP for this area.

Assessment Methods

The risk assessment incorporates potential fuels, slope, aspect, fire disturbance regimes, access/egress, water supply, and structure ignitability for 456 properties bordering the Monument, located in the Redlands and Glade Park. The final product of the risk assessment is a

map showing structures that have been rated as to overall risk of wildfire, as well a table showing data for all structures rated.

Local partners and cooperators worked together on this project to assess the risk of 348 parcels with structures and 108 parcels without structures. Cooperating agencies included Lower Valley Fire District, Colorado State Forest Service, Bureau of Land Management, and the Mesa County Sheriff's Office Wildland Fire Team. The risk assessments were completed using "RedZone" software, a mapping software for emergency services, and ArcMap GIS software. The RedZone software (RZ3) allowed evaluators to enter individual house locations and risk assessment data directly into Palm handheld computers, saving time in transferring data. The data along with structure photos and GPS coordinates were then imported into ArcMap for analysis and mapping. A training session was put together by the Mesa County GIS department to teach the partners and cooperators how to use RZ3 in July 2006.

The risk assessment had 53 questions; 39 of multiple choice, 13 of fill in the blank, and one for the latitude/longitude. The assessment collected the following information on each property:

Owner information – name

Structure information – address, driveway and road data, size of structure, utility placement

Fuel loading – type of fuel, amount of fuel, location of any wood piles

Defensible space – type of area, if the area is adequate

Construction materials – roof, siding, decks, eaves

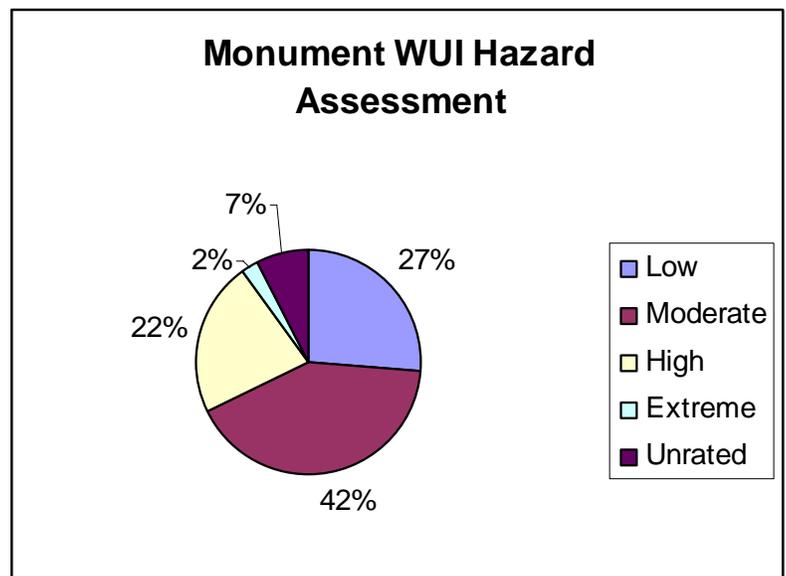
Location of home – on the slope, aspect

Evacuation – concerns, risks to responders, recommended tactics, location of gas/electrical shutoffs, any onsite water available

What homeowners can do – specific items

Results of the Assessment

Each answer was given a coded value to rank the severity of each question for a total value to determine the classification. The structure/site hazard classification was broken out as: Low 0-42, Moderate 43-84, High 85-125, and Extreme 126+. The structure hazard classification break down is 120 Low risk assessments, 189 Moderate risk assessments, 102 High risk assessments, and 11 Extreme risk assessments, as shown on the following pie chart. There were 34 parcels of land in the study area that were not rated.



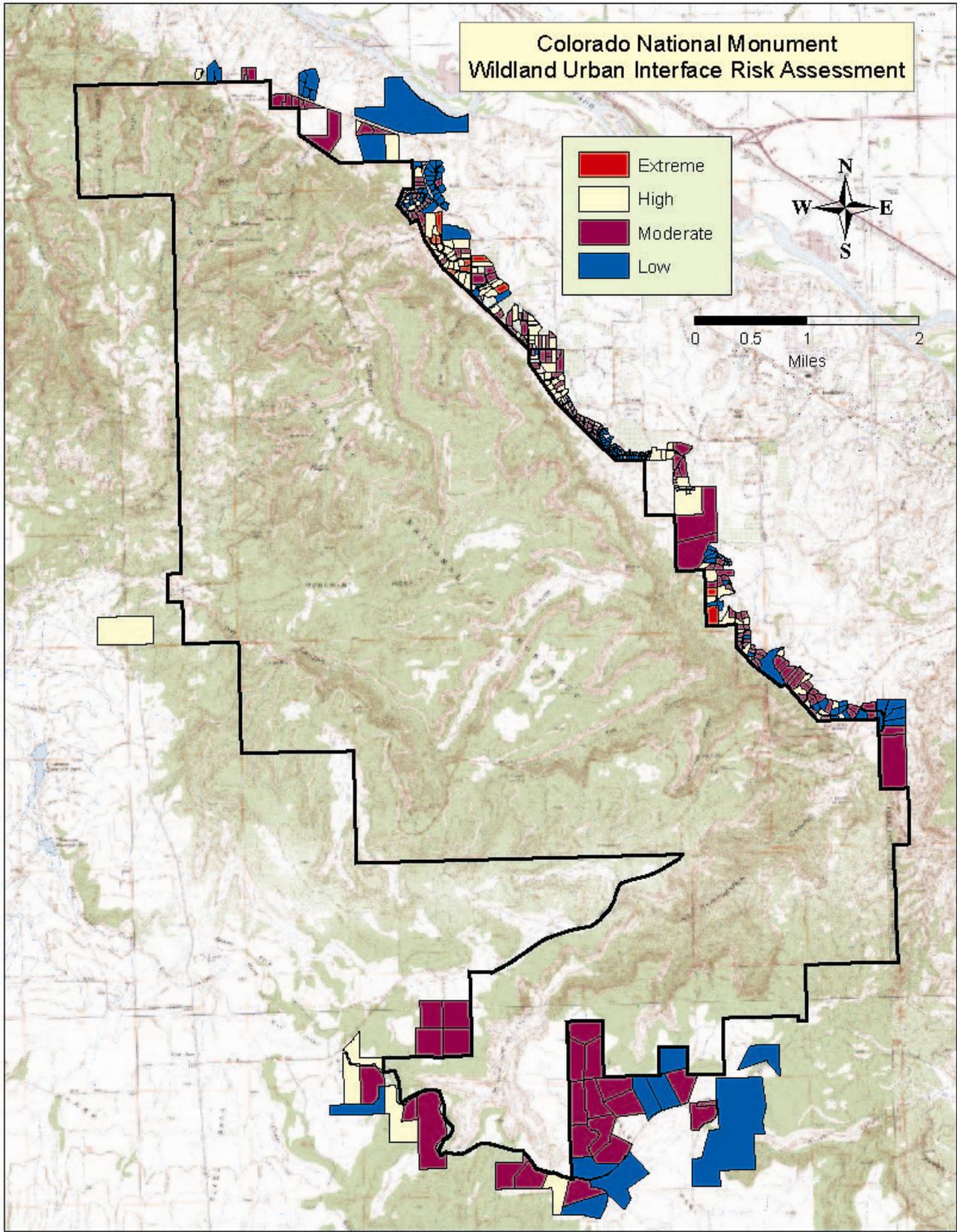
A map showing the hazard ratings of each lot surveyed is shown on the attached page. A list of landowners showing the ratings received, along with suggested mitigation measures, is shown in Appendix A. The entire database is too large to display in this report; the data is on file with both the Colorado State Forest Service, Grand Junction District office or with the Mesa County GIS Department.

The characteristics of the homes in the Extreme risk assessment range are:

- Heavy to moderate fuel loading
- Fuel type is timber with various combinations of grass, brush, and ground fuels
- Defensible space is less than 30 feet and non-conforming or does not exist
- Some roofing materials are unrated wood shakes
- Roofs have either braches within five feet or branches overhanging
- Most of the extreme rated homes have siding made out of combustible materials
- Most eaves and vents are not screened against fire embers
- Most homes have combustible materials within 30 feet of the structure
- Most homes have serious safety risks for responders due to poor escape routes and lack of safety zones



Some examples of homes given a “High” Hazard Rating



Risk of Wildfire Occurrence

This CWPP area is within the Upper Colorado River Fire Management Unit (UCR). During the period of 1980 – 2003, the UCR averaged 180 fires per year, burning 167 acres annually. The vast majority of these fires are relatively small (less than 300 acres). On average, lightning accounts for approximately 66% of the annual number of fires while a variety of human caused fires accounts for another 15%, and 19% are from unknown cause (*Grand Junction Field Office Fire Management Plan, 2005*). While the majority of fires are relatively insignificant in terms of size and fire intensity, periodic stand replacement events typically burn at high fire intensity levels. These fires can be several thousand acres in size, and can be very resistant to control efforts. In the cheatgrass, sagebrush, greasewood, and pinyon-juniper woodland fuel types of this area, any wildfire is capable of extremely fast rate of spread. In addition, the deep canyon topography of the Monument can produce erratic upslope/downslope winds that could complicate control efforts in this area. The Monument is a popular hiking area, very close to a major population center. The amount of human activity in and around the CWPP area certainly adds to the risk of human-caused fire.

Although there have not been any large fires within or near the Monument boundary recently, the potential is there. Most recently, the “22 ½ Road Fire” in 2004 burned over 100 acres in the Redlands area. Originating along the Colorado River, this fire moved very quickly through cheatgrass and light fuels and threatened several homes.

Local Preparedness and Firefighting Capability

Private lands covered by this CWPP are the responsibility of the Mesa County Sheriff, in conjunction three fire protection districts. The Redlands area is the responsibility of the Grand Junction and Rural Fire Protection District; north of the Redlands, near the west entrance to the Monument, is the responsibility of the Lower Valley Fire Protection District; and above the Monument to the south and west sides is the responsibility of the Glade Park Fire Department. On federally-owned lands within the Monument, as well as nearby Bureau of Land management lands, the Upper Colorado River Interagency Fire Management Unit (UCR) has responsibility for fires.

Wildland fire responsibilities of Mesa County, the Colorado State Forest Service, United States Forest Service, Bureau of Land Management and the National Park Service are described in the current *Mesa County Annual Operating Plan*. All mutual aid agreements, training, equipment, and response are the responsibility of the local fire department and the agencies listed above.

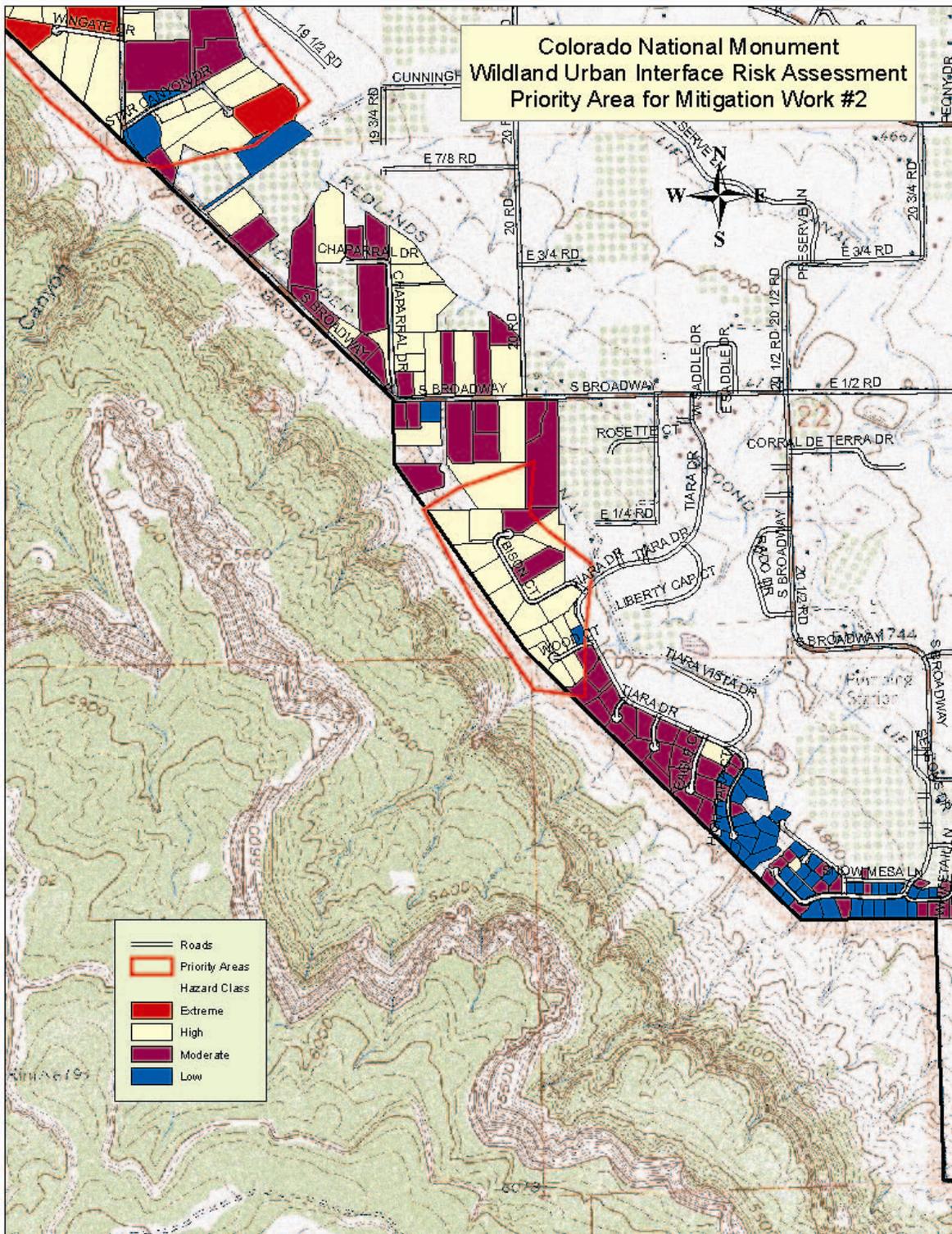
In the event of a wildfire within the area covered by this CWPP, it is likely that local fire department or Sheriff’s Office personnel would be the first to respond to initial attack efforts. Grand Junction, Lower Valley, and Glade Park fire departments, along with the Mesa County Sheriff;s Fire Team, have expertise and experience in wildland firefighting tactics, and have the capability to respond with 10-15 engines total. If necessary, mutual aid resources would be called from neighboring fire districts and/or federal agencies. The close proximity to the Grand Junction Interagency Air Center would likely mean that air support (such as helicopters with water buckets or fixed wing aircraft with retardant) could be called quickly to respond to this

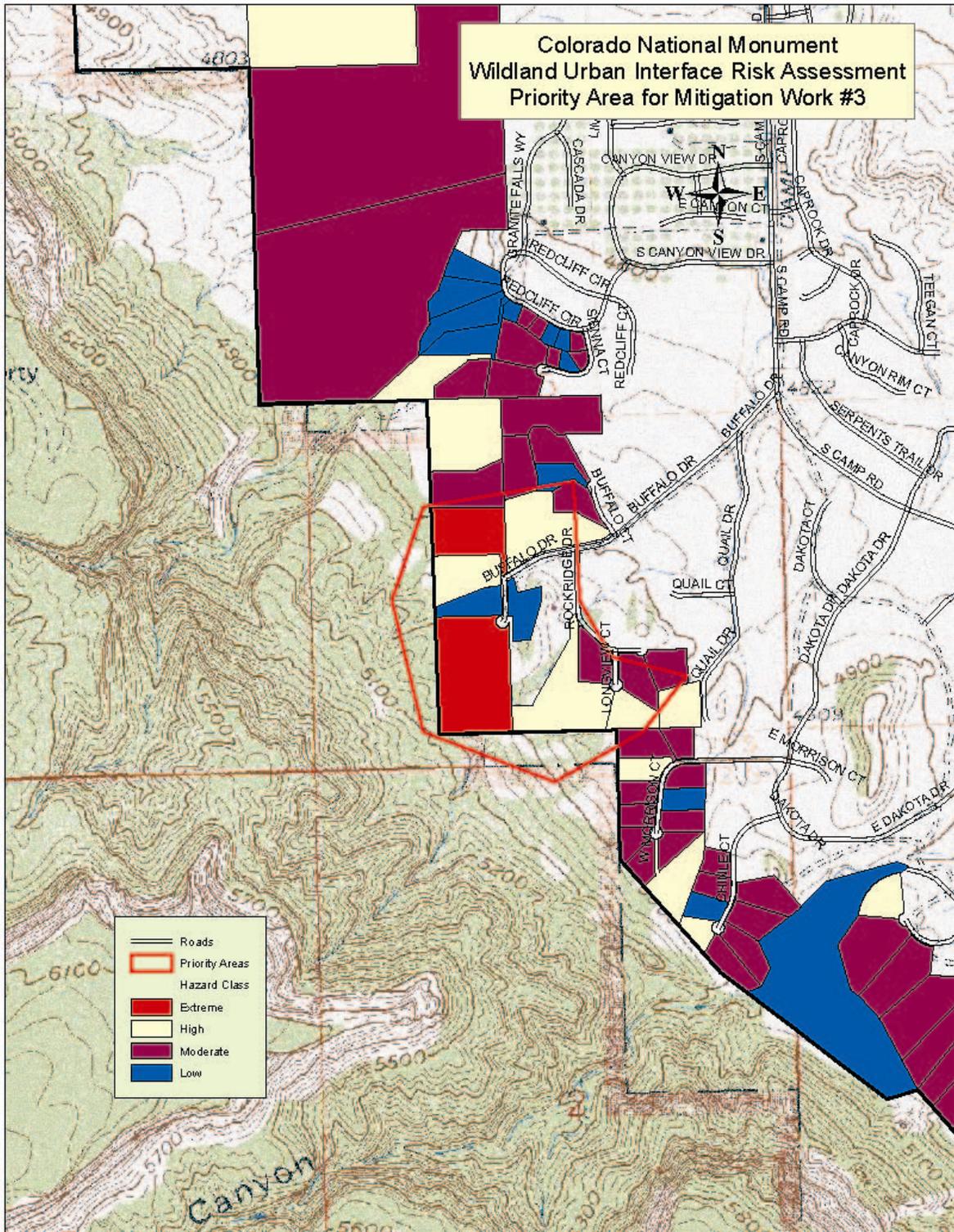
area. There are water hydrants located in the Redlands. However, water available for firefighting is very limited in the Glade Park and Little Park Road vicinity. As with any highly developed area in the wildland-urban interface, it is likely that a large fire event in this CWPP area would quickly overwhelm the capabilities of all the fire districts and mutual aid resources that could respond. It is therefore incumbent upon residents themselves to mitigate some of the risk of wildfire, where they can feasibly do so, on their own property.

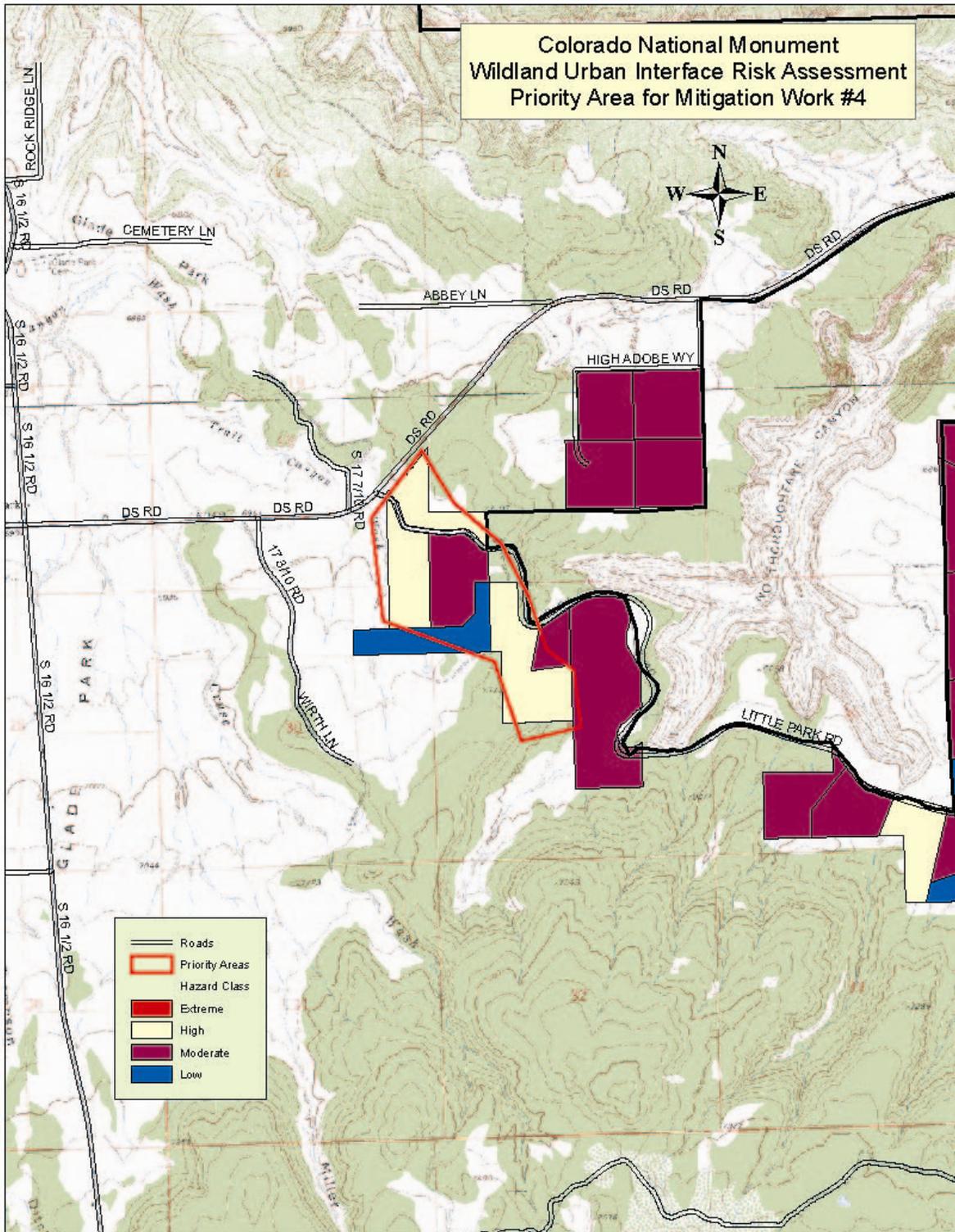
Hazard Reduction Priority Areas

Four areas stand out within the assessment area where mitigation work could be accomplished to significantly reduce wildfire hazard. These are shown on the attached maps and described as follows:

1. The area south of Deer Park subdivision and west of 19 ½ road, around Monument canyon Drive, Kayenta Drive, Wingate Drive, and Star Canyon Drive.
2. The area directly west of Tiara Rado Golf Course, around Bison Ct. and Wood Ct.
3. The area west of South camp Road, near Buffalo Dr., Rockridge Ct., and Longview Ct.
4. The area above Colorado National Monument, near the intersection of DS Road and Little Park Road.







Action Plan

- Homeowners with properties rated as “Extreme” or “High” hazard can undertake a variety of actions to reduce this rating. In most cases, these simple steps would be enough to reduce a homes rating to moderate or low.
- Combustible roofing material (i.e. wood shake/shingle) was the single highest-ranking factor involved in the assessment done for this CWPP. During a wildfire, airborne embers are a major cause of home ignitions. If roofing material is wood, replace it if at all possible with less combustible material such as asphalt shingles, metal, or tile.
- The second-highest factor in the assessment was fuel loading around the structure. Clear all flammable materials within 10 feet of structures. Reduce the density of brush and/or trees within 100 feet of structures by creating a “defensible space” as depicted in Appendix B: *Creating Wildfire-Defensible Zones*.
- Remove/replace flammable materials such as wood piles, wooden sheds, or wood porches and decks directly adjacent to structures.
- Recommended actions all homeowners can take, regardless of their hazard classification or future combined efforts, are:
 - Post a visible address marker
 - Clean roof and gutters of leaves and other debris
 - Remove combustible material (leaf litter, high grass, shrubs, trees, firewood) at least 30 feet away from home
 - Improve the driveway/access for responders to have safe escape routes and safety zones
 - Screen all eaves and vents with 1/16th inch metal mesh to prevent fire embers from enter the home
 - Clear debris (leaves, branches, weeds, grass) from under the home and deck
- Consider joining together with adjacent homeowners or neighbors who have similar concerns over the wildfire hazard in these areas. Where possible, create a fuelbreak thinning to reduce the density of fuels beyond the “defensible space” zone.

Plan Approval

The following community representatives / agencies have reviewed and support this *Community Wildfire Protection Plan*.

Grand Junction Fire Department

Colorado National Monument

Mesa County

Colorado State Forest Service

APPENDIX A Assessment Database

Properties classed as “Extreme Hazard”

	A	B	C	D	E
1	LASTNAME	FIRSTNAME	Hazard	Rating	Home Mitigation Tactics
2	BAINES	STEPHEN	Extreme	128	remove firewood/combustibles
3	BROWN	MARK	Extreme	167	close eaves/screen vents, remove firewood/combustibles
4	CRIPPEN	SUSAN	Extreme	156	post visible address marker, remove firewood/combustibles
5	FORTNEY	CAMDEN	Extreme	154	close eaves/screen vents, clean under home/decks, remove firewood/combustibles
6	HICKMAN	MICHEL	Extreme	143	close eaves/screen vents, skirt deck & openings, remove firewood/combustibles
7	HYDE	WILLIAM	Extreme	138	post visible address marker, improve driveway or access road, remove firewood/combustibles
8	MUELLER	GREGORY	Extreme	151	post visible address marker, remove firewood/combustibles
9	THOMPSON	DOUGLAS	Extreme	129	many comments, see survey data
10	WELLS	WILLIAM	Extreme	148	many comments, see survey data
11	WITHERS	W	Extreme	128	remove firewood/combustibles

Properties classed as "High Hazard":

	A	B	C	D	E
1	LASTNAME	FIRSTNAME	Hazard	Rating	Home Mitigation Tactics
12	ABSHEAR	TY	High	106	clean under home/decks, skirt deck & openings, remove firewood/combustibles
13	ALVILLAR	JAMES	High	86	remove firewood/combustibles
14	ANDERSON	LEE	High	99	skirt deck & openings, remove forest vegetation around home, remove ground/ladder fuels
15	BAILEY	DAVID	High	106	post visible address marker
16	BECHTEL	JOEL	High	102	<Not Answered>
17	BERING	FRANK	High	86	remove forest vegetation around home
18	BEVILL	ELDON	High	106	post visible address marker, close eaves/screen vents, remove firewood/combustibles
19	BLACKMER	PENELOPE	High	110	clean roof and gutters, close eaves/screen vents, clean under home/decks
20	BONDS	RONALD	High	94	post visible address marker
21	BOSCO	DEBORAH	High	108	remove firewood/combustibles
22	BOWERS	JAMES	High	89	post visible address marker
23	BOYD	ANN	High	88	remove firewood/combustibles
24	BRIDGES	DOUGLASS	High	89	post visible address marker
25	BROWN	JAMES	High	101	remove firewood/combustibles
26	BURCHETT	MARILYN	High	97	<Not Answered>
27	BURKE	CAROLYN	High	105	<Not Answered>
28	BURNETT	RUTH	High	101	<Not Answered>
29	CADY	BRUCE	High	105	<Not Answered>
30	CAFARELLI	PETER	High	102	remove firewood/combustibles
31	CAMERON	REID	High	118	post visible address marker, improve driveway or access road, remove firewood/combustibles
32	CAMPBELL	HANS	High	97	remove ground/ladder fuels
33	CARROLL	JOSEPH	High	89	<Not Answered>
34	CHAMBERLAIN	PATRICIA	High	98	post visible address marker
35	COLBY	HAROLD	High	88	<Not Answered>
36	COMERFORD	JAMES	High	100	post visible address marker, remove forest vegetation around home, remove ground/ladder fuels
37	COOPER	PAUL	High	103	<Not Answered>
38	CROM	PENNY	High	93	<Not Answered>
39	CURTIS	JOHN	High	108	clean roof and gutters
40	DELGALVIS	ANDRE	High	93	<Not Answered>
41	DILBECK	MARVIN	High	92	post visible address marker, clean roof and gutters
42	DIXON	WANDA	High	102	post visible address marker
43	DONAHUE	DONNA	High	85	post visible address marker
44	EDWARDS	STEVE	High	110	<Not Answered>
45	FABER	D	High	108	remove firewood/combustibles
46	GEMMELL	WILLIAM	High	100	remove firewood/combustibles
47	GIMPLE	GORDON	High	111	remove firewood/combustibles
48	GLANDT	LINDA	High	93	<Not Answered>
49	GSELL	STEPHEN	High	102	<Not Answered>
50	GULLEY	DONALD	High	122	skirt deck & openings, remove firewood/combustibles
51	HOEFER	STEPHEN	High	120	remove firewood/combustibles
52	HOLLOWAY	VIOLA	High	98	remove forest vegetation around home, remove ground/ladder fuels
53	HOLMES	LILLIAN	High	106	post visible address marker, remove firewood/combustibles
54	HUNT	STEVE	High	117	clean under home/decks, remove firewood/combustibles
55	JOHNSON	KENNETH	High	95	<Not Answered>
56	KAIN	WILLIAM	High	110	remove firewood/combustibles
57	KENNEDY	MARY	High	118	post visible address marker, close eaves/screen vents, remove firewood/combustibles
58	KIMBLE	PHILIP	High	113	<Not Answered>
59	KOHL	CARLA	High	105	<Not Answered>
60	KOLANO	FREDERICK	High	119	skirt deck & openings, remove firewood/combustibles
61	KOSAREK	GERALD	High	113	post visible address marker, remove firewood/combustibles
62	KUNZELMAN	EDWARD	High	91	post visible address marker, remove firewood/combustibles
63	LAFEHR	THOMAS	High	86	<Not Answered>
64	LANDING	LELAMARIE	High	92	remove forest vegetation around home, remove ground/ladder fuels
65	LEANY	ARVAN	High	93	post visible address marker
66	LINK	WENDELL	High	100	remove firewood/combustibles
67	MADSEN	STUART	High	97	post visible address marker, improve driveway or access road, remove firewood/combustibles
68	MALLINSON	LANCE	High	98	remove firewood/combustibles
69	MARTZ	SARA	High	92	post visible address marker
70	MCFARLAND	SANDRA	High	85	remove firewood/combustibles
71	MILES	JOSEPH	High	85	post visible address marker
72	MILLER	WALTER	High	92	remove firewood/combustibles, remove forest vegetation around home
73	MOLITOR	MICHAEL	High	95	<Not Answered>
74	MOREHOUSE	GEORGE	High	95	<Not Answered>
75	MOSER	DENNIS	High	90	<Not Answered>
76	MUELLER	ROBERT	High	100	clean roof and gutters, skirt deck & openings
77	MYGATT	PETER	High	85	post visible address marker
78	NIEBAUER	NATHAN	High	94	remove firewood/combustibles
79	OGLE	TERY	High	105	post visible address marker
80	OLSON	PAUL	High	91	<Not Answered>
81	ORBANEK	GEORGE	High	96	post visible address marker, remove firewood/combustibles
82	OWENS	DOUGLAS	High	99	clear around propane tank
83	PECK	ALAN	High	89	<Not Answered>
84	PETTY	AGNES	High	113	remove firewood/combustibles
85	PETTY	ARTHUR	High	101	post visible address marker
86	PEWTERS	MICHAEL	High	97	<Not Answered>
87	PHILLIPS	GARLAND	High	98	<Not Answered>
88	QUINCANNON	CHARLOTTE	High	98	clean roof and gutters
89	RIEGER	JOHANN	High	105	remove firewood/combustibles
90	SCHULLER	ED	High	98	clear around propane tank
91	SEIDMAN	CHRISTOPHER	High	85	<Not Answered>
92	SIEGEL	BARRY	High	106	remove firewood/combustibles
93	SILLIX	PATRICK	High	88	<Not Answered>
94	SMITH	JAMES	High	95	remove firewood/combustibles
95	SNYDER	JAMES	High	112	clean roof and gutters, remove firewood/combustibles
96	STATLER	JORDON	High	122	post visible address marker, remove firewood/combustibles, remove forest vegetation around home

Properties classed as “High Hazard” (continued):

	A	B	C	D	E
1	LASTNAME	FIRSTNAME	Hazard	Rating	Home Mitigation Tactics
97	STEVENS	JANA	High	110	remove firewood/combustibles
98	STEVENS	DAVID	High	96	remove firewood/combustibles
99	STONE	SUSAN	High	100	<Not Answered>
100	SUBLETTE	MARVIN	High	86	<Not Answered>
101	VARGO	DAVID	High	109	post visible address marker, remove firewood/combustibles
102	VIRGONA	JOSEPH	High	104	remove firewood/combustibles
103	WALKER	SCOTT	High	105	<Not Answered>
104	WHITE	MARY	High	109	post visible address marker
105	WILDE	RONALD	High	102	<Not Answered>
106	WILDE	RONALD	High	85	<Not Answered>
107	WILLE	ROBYN	High	109	<Not Answered>
108	WILSON	ROBERT	High	91	post visible address marker, remove firewood/combustibles
109	WOODRUFF	NEVILLE	High	107	remove firewood/combustibles
110	YOUNG	JAMES	High	122	clear around propane tank

Properties classed as “Moderate Hazard”

	A	B	C	D	E
1	LASTNAME	FIRSTNAME	Hazard	Rating	Home Mitigation Tactics
111	ACKLEY	STUART	Moderate	75	<Not Answered>
112	ADAMS	JERRY	Moderate	79	post visible address marker
113	ALLEN	BEVERLY	Moderate	70	<Not Answered>
114	ANSON	JOHN	Moderate	78	post visible address marker
115	ASHMAN	MARK	Moderate	77	post visible address marker
116	BACK	STEVE	Moderate	54	<Not Answered>
117	BAKER	ESTHER	Moderate	71	<Not Answered>
118	BARKER	DANA	Moderate	59	<Not Answered>
119	BARLIEB	CLAUDE	Moderate	68	post visible address marker
120	BARNES	WILLIAM	Moderate	47	<Not Answered>
121	BEEEMER	VIRGINIA	Moderate	72	remove forest vegetation around home
122	BEIDLEMAN	LAURENCE	Moderate	50	<Not Answered>
123	BENNETTS	CHRIS	Moderate	70	<Not Answered>
124	BENOIT	WILLIAM	Moderate	69	<Not Answered>
125	BIRNEY	WILLIAM	Moderate	72	<Not Answered>
126	BOCCONCELLI	MICHAEL	Moderate	62	<Not Answered>
127	BONDS	MICHAEL	Moderate	63	<Not Answered>
128	BOWERS	JAMES	Moderate	79	clean under home/decks
129	BRADY	BARBARA	Moderate	65	<Not Answered>
130	BREEDY	JEFFREY	Moderate	70	<Not Answered>
131	BRIAN	CATHIE	Moderate	71	<Not Answered>
132	CAMPBELL	JUDITH	Moderate	45	<Not Answered>
133	CANTER	WILLIAM	Moderate	57	<Not Answered>
134	CARMICHAEL	WILLIAM	Moderate	51	post visible address marker
135	CARPENTER	CLAY	Moderate	52	<Not Answered>
136	CART	L	Moderate	63	<Not Answered>
137	CARVILLE	ROYCE	Moderate	57	post visible address marker
138	CHANDLER	JEFFREY	Moderate	54	post visible address marker
139	CLARK	LYNN	Moderate	68	<Not Answered>
140	CLICK	MICHAEL	Moderate	62	<Not Answered>
141	COFER	LELAND	Moderate	60	<Not Answered>
142	COLEMAN	DENNIS	Moderate	46	<Not Answered>
143	COMENDANT	FREDERICK	Moderate	75	<Not Answered>
144	CONOLEY	BETTY	Moderate	50	<Not Answered>
145	COONEY	KEVIN	Moderate	49	<Not Answered>
146	CRANE	ROY	Moderate	68	remove ground/ladder fuels
147	CRITTENDEN	JAMES	Moderate	53	<Not Answered>
148	DAHLHEIMER	PETER	Moderate	43	<Not Answered>
149	DALESSANDRO	RICHARD	Moderate	65	<Not Answered>
150	DAVIS	OLIVE	Moderate	69	<Not Answered>
151	DOLAN	KERRY	Moderate	83	<Not Answered>
152	DOWDY	KENNETH	Moderate	77	<Not Answered>
153	DOYLE	STEPHEN	Moderate	72	<Not Answered>
154	DRAKE	RONALD	Moderate	51	<Not Answered>
155	DRAVIS	KENNETH	Moderate	62	<Not Answered>
156	DUCKETT	ANN	Moderate	75	post visible address marker
157	DUNBAR	GAROLD	Moderate	73	<Not Answered>
158	DUNN	OLE	Moderate	77	remove firewood/combustibles
159	ELLIS	ROBERT	Moderate	69	post visible address marker
160	ETHRIDGE	GLENN	Moderate	67	<Not Answered>
161	EVANS	JEFFREY	Moderate	66	<Not Answered>
162	FAY	CRAIG	Moderate	50	<Not Answered>
163	FETTER	ALVIS	Moderate	66	<Not Answered>
164	FLYNN	PATRICE	Moderate	51	<Not Answered>
165	FRANCL	DONALD	Moderate	53	<Not Answered>
166	FROST	JOHN	Moderate	57	<Not Answered>
167	GALLAGHER	GORDON	Moderate	44	<Not Answered>
168	GERSON	GEORGE	Moderate	83	<Not Answered>
169	GOODMAN	STEWART	Moderate	65	improve driveway or access road
170	GRAY	JOHN	Moderate	59	<Not Answered>
171	GREY	KATE	Moderate	68	remove firewood/combustibles
172	GRIFFITH	MARY	Moderate	65	<Not Answered>
173	GUSTAFSON	CRAIG	Moderate	72	<Not Answered>
174	HANSEN	VANGIE	Moderate	60	<Not Answered>
175	HARRELL	WANDA	Moderate	57	<Not Answered>
176	HARRIS	ROBERT	Moderate	55	improve driveway or access road
177	HECKMAN	JOHN	Moderate	84	remove forest vegetation around home, remove ground/ladder fuels
178	HENSLEY	PATRICK	Moderate	60	<Not Answered>
179	HODGSON	THOMAS	Moderate	58	<Not Answered>
180	HOFFMAN	WALTER	Moderate	69	<Not Answered>
181	HOLLAND	BONNIE	Moderate	50	remove ground/ladder fuels
182	HOUTRIS	RICKY	Moderate	66	post visible address marker
183	HOWARD	ALLEN	Moderate	49	<Not Answered>
184	HOWE	JOHN	Moderate	60	<Not Answered>
185	HUNTER	WAYNE	Moderate	57	<Not Answered>
186	HUSTON	CANDACE	Moderate	72	remove ground/ladder fuels
187	JACOBSON	CARL	Moderate	53	<Not Answered>
188	JAMSAY	RAYMOND	Moderate	54	<Not Answered>
189	JENSEN	EILEEN	Moderate	80	<Not Answered>
190	JENSEN	PAUL	Moderate	55	<Not Answered>
191	JOHNSON	ELIZABETH	Moderate	60	<Not Answered>
192	JONES	ROBERT	Moderate	65	<Not Answered>
193	JOST	MARY	Moderate	44	<Not Answered>
194	JURGENS	MELVIN	Moderate	57	<Not Answered>
195	KATZEL	JAMES	Moderate	76	<Not Answered>

	A	B	C	D	E
1	LASTNAME	FIRSTNAME	Hazard	Rating	Home Mitigation Tactics
196	KEITH	W	Moderate	66	post visible address marker
197	KEITHLEY	MATTHEW	Moderate	74	<Not Answered>
198	KING	DOUGLAS	Moderate	76	remove forest vegetation around home
199	KIRBY	RICHARD	Moderate	56	<Not Answered>
200	KLEIN	ROBERT	Moderate	54	<Not Answered>
201	KOLZ	A	Moderate	75	remove ground/ladder fuels
202	KONZAK	GEORGETTE	Moderate	47	<Not Answered>
203	KROHN	RICHARD	Moderate	49	<Not Answered>
204	KUGELER	FREDERICK	Moderate	63	<Not Answered>
205	LABONDE	MARY	Moderate	44	post visible address marker
206	LAMB	JAN	Moderate	57	<Not Answered>
207	LAMBERTON	HENRY	Moderate	73	remove firewood/combustibles
208	LANDMEIER	DANIEL	Moderate	83	remove ground/ladder fuels
209	LANDRUM	GEORGE	Moderate	58	post visible address marker
210	LAWSON	RALPH	Moderate	70	<Not Answered>
211	LECESNE	ERROL	Moderate	60	<Not Answered>
212	LEEVER	RUTH	Moderate	50	remove ground/ladder fuels
213	LIKLER	JULIUS	Moderate	50	remove firewood/combustibles
214	LIPSON	ROBERT	Moderate	50	<Not Answered>
215	LITTLE	ALFRED	Moderate	45	<Not Answered>
216	LONG	HARRY	Moderate	77	<Not Answered>
217	LONGENECKER	BETSY	Moderate	78	remove firewood/combustibles
218	LUCAS	DENNIS	Moderate	64	<Not Answered>
219	LYNCH	DENNIS	Moderate	80	<Not Answered>
220	MALVERN	MICHAEL	Moderate	45	<Not Answered>
221	MARKEL	JEFFREY	Moderate	77	<Not Answered>
222	MARTIN	H	Moderate	84	<Not Answered>
223	MARTIN	MICHAEL	Moderate	83	remove forest vegetation around home, remove ground/ladder fuels
224	MARTIN	GERALD	Moderate	74	<Not Answered>
225	MARTIN	GARY	Moderate	50	<Not Answered>
226	MARTSOLF	ANDREW	Moderate	65	<Not Answered>
227	MASTERTSON	KENNETH	Moderate	69	<Not Answered>
228	MAZON	KENNETH	Moderate	62	<Not Answered>
229	MCCALLUM	STEPHEN	Moderate	81	<Not Answered>
230	MCCARTY	MICHAEL	Moderate	64	<Not Answered>
231	MCCLURE	JOHN	Moderate	51	<Not Answered>
232	MEAR	LLOYD	Moderate	59	post visible address marker
233	MEUWLY	MICHAEL	Moderate	49	<Not Answered>
234	MIKA	RALPH	Moderate	64	post visible address marker, clean roof and gutters
235	MILIUS	WILLIAM	Moderate	84	<Not Answered>
236	MORGAN	BETTY	Moderate	52	<Not Answered>
237	MUGNIER	JEAN	Moderate	74	<Not Answered>
238	MUSGRAVE	JON	Moderate	46	post visible address marker
239	NARRAD	JAMES	Moderate	48	<Not Answered>
240	NAUROTH	GARY	Moderate	57	skirt deck & openings
241	NELSON	WILLIAM	Moderate	61	<Not Answered>
242	NORTON	JERRY	Moderate	66	remove firewood/combustibles
243	O'BRIEN	ROBERT	Moderate	59	<Not Answered>
244	OWENS	DOUGLAS	Moderate	69	<Not Answered>
245	PADILLA	A	Moderate	60	<Not Answered>
246	PETTY	SUE	Moderate	80	clean roof and gutters
247	POLLARD	RICHARD	Moderate	64	<Not Answered>
248	QUEALLY	MICHAEL	Moderate	79	remove firewood/combustibles
249	RALEY	FRANCIS	Moderate	77	<Not Answered>
250	RANEY	JOSEPH	Moderate	61	<Not Answered>
251	REDDIN	PAUL	Moderate	78	remove firewood/combustibles, remove forest vegetation around home, remove ground/ladder f
252	REISINGER	ANDREW	Moderate	60	<Not Answered>
253	RENDON	SHANNA	Moderate	68	post visible address marker
254	RENNER	STEVE	Moderate	50	<Not Answered>
255	RHYMER	LARRY	Moderate	75	<Not Answered>
256	ROBBINS	DAVID	Moderate	76	post visible address marker
257	ROBERTS	JANICE	Moderate	77	clean roof and gutters, remove firewood/combustibles
258	ROMNEY	VAN	Moderate	62	remove firewood/combustibles
259	RUND	JASON	Moderate	57	<Not Answered>
260	SARTEN	RICHARD	Moderate	51	<Not Answered>
261	SAYERS	SUSAN	Moderate	46	<Not Answered>
262	SCHEVEL	JAY	Moderate	63	remove firewood/combustibles
263	SCHNEIDER	FLOYD	Moderate	64	improve driveway or access road
264	SCISSORS	KENNETH	Moderate	60	<Not Answered>
265	SCOFIELD	SHAWN	Moderate	74	<Not Answered>
266	SEELEY	KENNETH	Moderate	80	<Not Answered>
267	SEIBOLD	ROBERT	Moderate	44	post visible address marker
268	SEWELL	MICHAEL	Moderate	57	<Not Answered>
269	SHERIDAN	DONALD	Moderate	70	skirt deck & openings, remove firewood/combustibles
270	SMALLEY	ANNA	Moderate	45	<Not Answered>
271	SMITH	BRADFORD	Moderate	76	remove forest vegetation around home, remove ground/ladder fuels
272	SMITH	ARTHUR	Moderate	74	post visible address marker
273	SQUIRRELL	SIDNEY	Moderate	55	remove firewood/combustibles
274	STRATTON	CHARLES	Moderate	63	post visible address marker
275	SUYDAM	ROBERT	Moderate	57	<Not Answered>
276	SWIM	SAMUEL	Moderate	81	<Not Answered>
277	TABOR	CHARLES	Moderate	65	<Not Answered>
278	TALUCCI	JOSEPH	Moderate	78	<Not Answered>
279	TAYLOR	DUKE	Moderate	66	<Not Answered>
280	THONEN	RODERICK	Moderate	72	<Not Answered>

	A	B	C	D	E
1	LASTNAME	FIRSTNAME	Hazard	Rating	Home Mitigation Tactics
281	TIBBETTS	RONALD	Moderate	53	<Not Answered>
282	TOMPKINS	GEORGE	Moderate	43	<Not Answered>
283	TOOL	DARRELL	Moderate	43	post visible address marker
284	VINDIOLA	DAVID	Moderate	82	remove firewood/combustibles
285	WEAVER	CLARK	Moderate	59	<Not Answered>
286	WEST	MARIA	Moderate	53	<Not Answered>
287	WICK	DAVID	Moderate	49	<Not Answered>
288	WILLIAMS	EARL	Moderate	45	<Not Answered>
289	WILSON	NED	Moderate	81	post visible address marker
290	WOLLIN	TIMOTHY	Moderate	46	<Not Answered>
291	WORKMAN	RAYMOND	Moderate	80	remove firewood/combustibles
292	WRIGHT	SUSAN	Moderate	47	<Not Answered>
293	WULFMAN	JOSEPH	Moderate	75	skirt deck & openings
294	ZECK	DANEEN	Moderate	80	<Not Answered>

Properties classed as “Low Hazard”:

1	A	B	C	D	E
	LASTNAME	FIRSTNAME	Hazard	Rating	Home Mitigation Tactics
295	ACUFF	JACK	Low	40	<Not Answered>
296	ALPHA	KAPPA	Low	40	<Not Answered>
297	ALSTER	ROBERT	Low	0	<Not Answered>
298	ANKER	JAMES	Low	33	<Not Answered>
299	ASH	WAYNE	Low	36	<Not Answered>
300	BAGG	DAVID	Low	32	<Not Answered>
301	BONDS	RONALD	Low	0	<Not Answered>
302	BONELLA	JOHN	Low	40	<Not Answered>
303	BRECKENRIDGE	FRANK	Low	23	<Not Answered>
304	BROTHERTON	DAVID	Low	0	<Not Answered>
305	BROWN	ROJENE	Low	33	<Not Answered>
306	BUCHHOLZ	RICHARD	Low	23	<Not Answered>
307	BURNBAUM	ERLA	Low	0	<Not Answered>
308	CARLSON	STANLEY	Low	37	<Not Answered>
309	CHERRY	EDWARD	Low	0	<Not Answered>
310	CONWAY	PAUL	Low	37	<Not Answered>
311	CORCORAN	HAROLD	Low	0	<Not Answered>
312	DAVIDSON	DARREN	Low	0	<Not Answered>
313	DERRIG	VIOLA	Low	36	<Not Answered>
314	DEVITA	MELISSA	Low	36	<Not Answered>
315	DICKES	KAREN	Low	33	<Not Answered>
316	DYBING	C	Low	24	<Not Answered>
317	ERICKSON	TIMOTHY	Low	27	<Not Answered>
318	FARR	JEAN	Low	0	<Not Answered>
319	FEE	THOMAS	Low	0	<Not Answered>
320	FICKEL	LARRY	Low	32	<Not Answered>
321	FORD	RICHARD	Low	0	<Not Answered>
322	FOYIL	LEEDS	Low	0	<Not Answered>
323	FRECH	DAVID	Low	33	<Not Answered>
324	FRIGETTO	FRANK	Low	0	<Not Answered>
325	FUNK	LARRY	Low	0	<Not Answered>
326	GAGE	JERRY	Low	42	<Not Answered>
327	GAMBLE	MARK	Low	32	<Not Answered>
328	GEYER	THOMAS	Low	0	<Not Answered>
329	GLOSENGER	CARL	Low	0	<Not Answered>
330	GODDARD	LARRY	Low	33	<Not Answered>
331	GOMEZ	NOE	Low	23	<Not Answered>
332	HAHNENBERG	FRANK	Low	23	<Not Answered>
333	HARLESS	STEVEN	Low	40	<Not Answered>
334	HEINEMAN	PETER	Low	0	<Not Answered>
335	HEITT	KENNETH	Low	25	<Not Answered>
336	HILDEBRANDT	DAVID	Low	10	<Not Answered>
337	HOFFMAN	ROBERT	Low	0	<Not Answered>
338	HOLCOMB	BARRY	Low	41	<Not Answered>
339	HORN	RICHARD	Low	40	<Not Answered>
340	HUMFELD	GEORGE	Low	0	<Not Answered>
341	IRWIN	RALPH	Low	38	<Not Answered>
342	JOHNSON	TERRY	Low	29	<Not Answered>
343	JONES	DAVID	Low	42	<Not Answered>
344	KELLY	WALTER	Low	38	<Not Answered>
345	KISSINGER	DON	Low	40	<Not Answered>
346	LAMOTHE	PAUL	Low	0	<Not Answered>
347	LARSON	JEFFREY	Low	0	<Not Answered>
348	LAURITZEN	ALICE	Low	37	<Not Answered>
349	LIGHTSEY	JAMES	Low	0	<Not Answered>
350	LINK	THEODORE	Low	0	<Not Answered>
351	LOCHRIE	STAN	Low	33	<Not Answered>
352	LOHLE	RICHARD	Low	34	<Not Answered>
353	MACK	DARIN	Low	40	<Not Answered>
354	MARQUIS	ROBERT	Low	0	<Not Answered>
355	MARTIN	H	Low	0	<Not Answered>
356	MAVRAKIS	HARRY	Low	0	<Not Answered>
357	MAYERIK	JOHN	Low	35	<Not Answered>
358	MCCLORY	CHRISTINE	Low	32	<Not Answered>
359	MCFEE	MARK	Low	0	<Not Answered>
360	MCMANUS	MEREDITH	Low	0	<Not Answered>
361	MILLS	PAUL	Low	0	<Not Answered>
362	MOORE	THOMAS	Low	30	<Not Answered>
363	MORRIS	CHIP	Low	37	<Not Answered>
364	NELSON	RODNEY	Low	23	<Not Answered>
365	NICHOLSON	EARL	Low	0	<Not Answered>
366	OCKELS	THEODORE	Low	40	<Not Answered>
367	OUPADIA	PAUL	Low	38	post visible address marker
368	PARISH	BARBARA	Low	40	<Not Answered>
369	PARISH	BARBARA	Low	0	<Not Answered>
370	PHEGLEY	DOUGLAS	Low	33	<Not Answered>
371	PHILLIPS	ROY	Low	20	<Not Answered>
372	POULSEN	ROGER	Low	18	<Not Answered>
373	POWELL	JOHN	Low	0	<Not Answered>
374	PRICE	REGINALD	Low	22	<Not Answered>
375	PROIETTI	DAVID	Low	31	<Not Answered>
376	QUIMBY	JANE	Low	42	<Not Answered>
377	REED	JAMES	Low	30	<Not Answered>
378	REINKING	ROGER	Low	0	<Not Answered>
379	RENDON	SHANNA	Low	0	<Not Answered>

	A	B	C	D	E
1	LASTNAME	FIRSTNAME	Hazard	Rating	Home Mitigation Tactics
380	RICHEY	WILLIAM	Low	0	<Not Answered>
381	ROBERTS	HOWARD	Low	0	<Not Answered>
382	ROEMER	EDWARD	Low	0	<Not Answered>
383	ROSENTHAL	DANIEL	Low	42	<Not Answered>
384	SALES	CARTER	Low	0	<Not Answered>
385	SCHMINKE	DOUGLAS	Low	23	<Not Answered>
386	SENG	DAVID	Low	16	<Not Answered>
387	SHEPARD	DAVID	Low	39	<Not Answered>
388	STATLER	JORDON	Low	0	<Not Answered>
389	STONE	ROGER	Low	0	<Not Answered>
390	SULLIVAN	CORNELIUS	Low	34	post visible address marker
391	TAYLOR	TERRANCE	Low	0	<Not Answered>
392	THOMAS	KENNETH	Low	0	<Not Answered>
393	VANDEGRIFT	JOHN	Low	0	<Not Answered>
394	VARECHA	WILLIAM	Low	31	<Not Answered>
395	VENTURI	NUMA	Low	38	<Not Answered>
396	VOGT	CHRISTINA	Low	38	<Not Answered>
397	WESTERSON	WAYNE	Low	33	<Not Answered>
398	WILSON	ANNE	Low	0	<Not Answered>
399	WISE	MARY	Low	0	<Not Answered>
400	YOUNGERN	TERESA	Low	29	post visible address marker
401	ZAMORA	CLAUDIA	Low	34	<Not Answered>



FORESTRY

Creating Wildfire-Defensible Zones no. 6.302

by F.C. Dennis¹

Quick Facts...

Wildfire will find the weakest links in the defense measures you have taken on your property.

The primary determinants of a home's ability to survive wildfire are its roofing material and the quality of the "defensible space" surrounding it.

Even small steps to protect your home and property will make them more able to withstand fire.

Consider these measures for all areas of your property, not just the immediate vicinity of the house.

Fire is capricious. It can find the weak link in your home's fire protection scheme and gain the upper hand because of a small, overlooked or seemingly inconsequential factor. While you may not be able to accomplish all measures below (and there are no guarantees), each will increase your home's, and possibly your family's, safety and survival during a wildfire.

Start with the easiest and least expensive actions. Begin your work closest to your house and move outward. Keep working on the more difficult items until you have completed your entire project.

Defensible Space

Two factors have emerged as the primary determinants of a home's ability to survive wildfire. These are the home's roofing material and the quality of the "defensible space" surrounding it.

Use fire-resistant materials (Class C or better rating), not wood or shake shingles, to roof homes in or near forests and grasslands. When your roof needs significant repairs or replacement, do so with a fire-resistant roofing material. Check with your county building department. Some counties now restrict wood roofs or require specific classifications of roofing material.

Defensible space is an area around a structure where fuels and vegetation are treated, cleared or reduced to slow the spread of wildfire towards the structure. It also reduces the chance of a structure fire moving from the building to the surrounding forest. Defensible space provides *room for firefighters to do their jobs*. Your house is more likely to withstand a wildfire if grasses, brush, trees and other common forest fuels are managed to reduce a fire's intensity.

The measure of fuel hazard refers to its continuity, both horizontal (across the ground) and vertical (from the ground up into the vegetation crown). Fuels with a high degree of both vertical and horizontal continuity are the most hazardous, particularly when they occur on slopes. Heavier fuels (brush and trees) are more hazardous (i.e. produce a more intense fire) than light fuels such as grass.

Mitigation of wildfire hazards focuses on breaking up the continuity of horizontal and vertical fuels. Additional distance between fuels is required on slopes.

Creating an effective defensible space involves developing a series of management zones in which different treatment techniques are used. See Figure 1 for a general view of the relationships among these management zones. Develop defensible space around each building on your property. Include detached garages, storage buildings, barns and other structures in your plan.

The actual design and development of your defensible space depends on several factors: size and shape of buildings, materials used in their construction, the slope of the ground on which the structures are built, surrounding topography,



Putting Knowledge to Work

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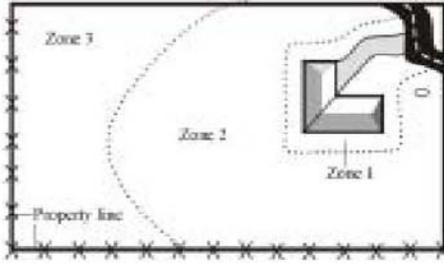


Figure 1: Forested property showing the three fire-defensible zones around a home or other structure.

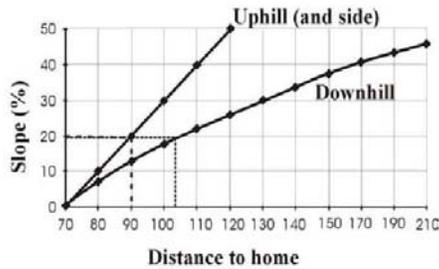


Figure 2: This chart indicates the minimum recommended dimensions for defensible space from the home to the outer edge of Zone 2. For example, if your home is situated on a 20 percent slope, the minimum defensible space dimensions would be 90 feet uphill and to the sides of the home and 104 feet downhill from the home.

and sizes and types of vegetation on your property. These factors all affect your design. You may want to request additional guidance from your local Colorado State Forest Service (CSFS) forester or fire department. (See the Special Recommendations section of this fact sheet for shrubs, lodgepole pine, Engelmann spruce, and aspen.)

Defensible Space Management Zones

Zone 1 is the area of maximum modification and treatment. It consists of an area of 15 feet around the structure in which all flammable vegetation is removed. This 15 feet is measured from the outside edge of the home's eaves and any attached structures, such as decks.

Zone 2 is an area of fuel reduction. It is a transitional area between Zones 1 and 3. The size of Zone 2 depends on the slope of the ground where the structure is built. Typically, the defensible space should extend *at least* 75 to 125 feet from the structure. See Figure 2 for the appropriate distance for your home's defensible space. Within this zone, the continuity and arrangement of vegetation is modified. Remove stressed, diseased, dead or dying trees and shrubs. Thin and prune the remaining larger trees and shrubs. Be sure to extend thinning along either side of your driveway all the way to your main access road. These actions help eliminate the continuous fuel surrounding a structure while enhancing homesite safety and the aesthetics of the property.

Zone 3 is an area of traditional forest management and is of no particular size. It extends from the edge of your defensible space to your property boundaries.

Prescriptions

Zone 1

The size of Zone 1 is 15 feet, measured from the edges of the structure. Within this zone, several specific treatments are recommended.

Plant nothing within 3 to 5 feet of the structure, particularly if the building is sided with wood, logs or other flammable materials. Decorative rock, for example, creates an attractive, easily maintained, nonflammable ground cover.

If the house has noncombustible siding, widely spaced foundation plantings of low growing shrubs or other "fire wise" plants are acceptable. Do not plant directly beneath windows or next to foundation vents. Be sure there are no areas of continuous grass adjacent to plantings in this area.

Frequently prune and maintain plants in this zone to ensure vigorous growth and a low growth habit. Remove dead branches, stems and leaves.

Do not store firewood or other combustible materials in this area. Enclose or screen decks with metal screening. Extend the gravel coverage under the decks. Do not use areas under decks for storage.

Ideally, remove all trees from Zone 1 to reduce fire hazards. If you do keep a tree, consider it part of the structure and extend the distance of the entire defensible space accordingly. Isolate the tree from any other surrounding trees. Prune it to at least 10 feet above the ground. Remove any branches that interfere with the roof or are within 10 feet of the chimney. Remove all "ladder fuels" from beneath the tree. Ladder fuels are vegetation with vertical continuity that allows fire to burn from ground level up into the branches and crowns of trees. Ladder fuels are potentially very hazardous but are easy to mitigate. No ladder fuels can be allowed under tree canopies. In all other areas, prune all branches of shrubs or trees up to a height of 10 feet above ground (or 1/2 the height, whichever is the least).

Zone 2

Zone 2 is an area of fuel reduction designed to reduce the intensity of any fire approaching your home. Follow these recommended management steps.

Thin trees and large shrubs so there is at least 10 feet between crowns. Crown separation is measured from the furthest branch of one tree to the nearest branch on the next tree (Figure 3). On steep slopes, allow more space between tree crowns. (See Figure 4 for *minimum recommended* spacing for trees on steep slopes.) Remove all ladder fuels from under these remaining trees. Carefully prune trees to a height of at least 10 feet.

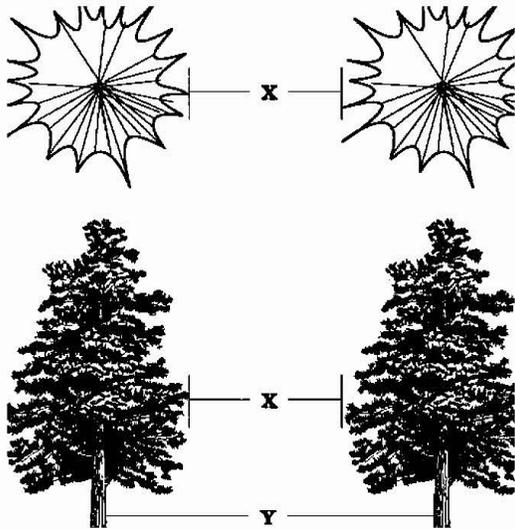


Figure 3: X = crown spacing; Y = stem spacing. Do not measure between stems for crown — measure between the edges of tree crowns.

Small clumps of 2 to 3 trees may be occasionally left in Zone 2. Leave more space between the crowns of these clumps and surrounding trees.

Because Zone 2 forms an aesthetic buffer and provides a transition between zones, it is necessary to blend the requirements for Zones 1 and 3. Thin the portions of Zone 3 adjacent to Zone 2 more heavily than the outer portions.

Isolated shrubs may remain, provided they are not under tree crowns. Prune and maintain these plants periodically to maintain vigorous growth. Remove dead stems from trees and shrubs annually. Where shrubs are the primary fuel in Zone 2, refer to the Special Recommendations section of this fact sheet.

Limit the number of dead trees (snags) retained in this area. Wildlife needs only one or two snags per acre. Be sure any snags left for wildlife cannot fall onto the house or block access roads or driveways.

Mow grasses (or remove them with a weed trimmer) as needed through the growing season to keep them low, a maximum of 6 to 8 inches. This is extremely critical in the fall when grasses dry out and cure or in the spring after the snow is gone but before the plants green up.

Stack firewood and woodpiles uphill or on the same elevation as the structure but at least 30 feet away. Clear and keep away flammable vegetation within 10 feet of these woodpiles. Do not stack wood against your house or on or under your deck, even in winter. Many homes have burned from a woodpile that ignited as the fire passed. Wildfires can burn at almost any time in Colorado.

Locate propane tanks at least 30 feet from any structures, preferably on the same elevation as the house. You don't want the LP container below your house — if it ignites, the fire would tend to burn uphill. On the other hand, if the tank is above your house and it develops a leak, LP gas will flow downhill into your home. Clear and keep away flammable vegetation within 10 feet of these tanks. Do not screen propane tanks with shrubs or vegetation.

Dispose of slash (limbs, branches and other woody debris) from your trees and shrubs through chipping or by piling and burning. Contact your local CSFS office or county sheriff's office for information about burning slash piles. If neither of these alternatives is possible, lop and scatter slash by cutting it into very small pieces and distributing it over the ground. Avoid heavy accumulations

% slope	Tree Crown Spacing	Brush and Shrub Clump Spacing
0 -10 %	10'	2 1/2 x shrub height
11 - 20%	15'	3 x shrub height
21 - 40%	20'	4 x shrub height
> 40%	30'	6 x shrub height

Figure 4: Minimum tree crown and shrub clump spacing.

Tree Diameter (in inches)	Average Stem Spacing Between Trees (in feet)
3	10
4	11
5	12
6	13
7	14
8	15
9	16
10	17
11	19
12	21
13	23
14	24
15	26
16	28
17	29
18	31
19	33
20	35
21	36
22	38
23	40
24	42

Figure 5: Minimum tree spacing for Zone 3.

of slash. Lay it close to the ground to speed decomposition. If desired, no more than two or three small, widely spaced brush piles may be left for wildlife purposes. Locate these towards the outer portions of your defensible space.

Zone 3

This zone is of no specified size. It extends from the edge of your defensible space to your property lines. A gradual transition into this zone from defensible space standards to other management objectives you may have is suggested. Typical management objectives for areas surrounding homesites or subdivisions are: provide optimum recreational opportunities; enhance aesthetics; maintain tree health and vigor; provide barriers for wind, noise, dust and visual intrusions; support limited production of firewood, fence posts and other forest commodities; or grow Christmas trees or trees for transplanting.

Specific requirements will be dictated by your objectives for your land and the kinds of trees present. See Figure 5 for the *minimum* suggested spacing between “leave” trees. Forest management in Zone 3 is an opportunity for you to increase the health and growth rate of the forest in this zone. Keep in mind that root competition for available moisture limits tree growth and ultimately the health of the forest.

A high canopy forest reduces the chance of a surface fire climbing into the tops of the trees and might be a priority for you if this zone slopes steeply. The healthiest forest is one that has multiple ages, sizes, and species of trees where adequate growing room is maintained over time. Remember to consider the hazards of ladder fuels. Multiple sizes and ages of trees might increase the fire hazard from Zone 3 into Zone 2, particularly on steep slopes.

A greater number of wildlife trees can remain in Zone 3. Make sure that dead trees pose no threat to power lines or fire access roads.

While pruning generally is not necessary in Zone 3, it may be a good idea from the standpoint of personal safety to prune trees along trails and fire access roads. Or, if you prefer the aesthetics of a well-manicured forest, you might prune the entire area. In any case, pruning helps reduce ladder fuels within the tree stand, thus enhancing wildfire safety.

Mowing is not necessary in Zone 3.

Any approved method of slash treatment is acceptable for this zone, including piling and burning, chipping or lop-and-scatter.

Special Recommendations

Tree spacing guidelines do not apply to *mature* stands of aspen trees where the recommendations for ladder fuels have been complied with. In areas of aspen regeneration and young trees, the spacing guidelines should be followed.

Brush and shrubs

Brush and shrubs are woody plants, smaller than trees, often formed by a number of vertical or semi-upright branches arising close to the ground. Brush is smaller than shrubs and can be either woody or herbaceous vegetation.

On nearly level ground, minimum spacing recommendations between clumps of brush and/or shrubs is 2 1/2 times the height of the vegetation. Maximum diameter of clumps should be 2 times the height of the vegetation. As with tree crown spacing, all measurements are made from the edges of vegetation crowns (Figure 3).

For example: For shrubs 6 feet high, spacing between shrub clumps should be 15 feet or more apart (measured from the edges of the crowns of vegetation clumps). The diameter of shrub clumps should not exceed 12 feet (measured from the edges of the crowns). Branches should be pruned to a height of 3 feet.

Grasses

Keep dead, dry or curing grasses mowed to less than 6 inches. Defensible space size where grass is the predominant fuel can be reduced (Figure 5) when applying this practice.

Windthrow

In Colorado, certain locations and tree species, including lodgepole pine and Engelmann spruce, are especially susceptible to damage and uprooting by high winds (windthrow). If you see evidence of this problem in or near your forest, or have these tree species, consider the following adjustments to the defensible space guidelines. It is highly recommended that you contact a professional forester to help design your defensible space.

Adjustments: If your trees or homesite are susceptible to windthrow and the trees have never been thinned, use a stem spacing of diameter plus five instead of the guides listed in the Zone 3 section. Over time (every 3 to 5 years) *gradually* remove additional trees. The time between cutting cycles allows trees to “firm up” by expanding their root systems. Continue this periodic thinning until the desired spacing is reached.

Also consider leaving small clumps of trees and creating small openings on their lee side (opposite of the predominant wind direction). Again, a professional forester can help you design the best situation for your specific homesite and tree species. Remember, with species such as lodgepole pine and Engelmann spruce, the likelihood of a wildfire running through the tree tops or crowns (crowning) is closely related to the overabundance of fuels on the forest floor. Be sure to remove downed logs, branches and *excess* brush and needle buildup.

Maintaining Your Defensible Space

Your home is located in a forest that is dynamic, always changing. Trees and shrubs continue to grow, plants die or are damaged, new plants begin to grow, and plants drop their leaves and needles. Like other parts of your home, defensible space requires maintenance. Use the following checklist each year to determine if additional work or maintenance is necessary.

% slope	D-space size (uphill, downhill, sidehill)
0 - 20 %	30'
21 - 40%	50'
> 40%	70'

Figure 6: Minimum defensible space size for grass fuels.

Defensible Space and FireWise Annual Checklist

- Trees and shrubs are properly thinned and pruned within the defensible space. Slash from the thinning is disposed of.
- Roof and gutters are clear of debris.
- Branches overhanging the roof and chimney are removed.
- Chimney screens are in place and in good condition.
- Grass and weeds are mowed to a low height.
- An outdoor water supply is available, complete with a hose and nozzle that can reach all parts of the house.
- Fire extinguishers are checked and in working condition.
- The driveway is wide enough. The clearance of trees and branches is adequate for fire and emergency equipment. (Check with your local fire department.)
- Road signs and your name and house number are posted and easily visible.
- There is an easily accessible tool storage area with rakes, hoes, axes and shovels for use in case of fire.
- You have practiced family fire drills and your fire evacuation plan.
- Your escape routes, meeting points and other details are known and understood by all family members.
- Attic, roof, eaves and foundation vents are screened and in good condition.



FIREWISE is a multi-agency program that encourages the development of defensible space and the prevention of catastrophic wildfire.

- Stilt foundations and decks are enclosed, screened or walled up.
- Trash and debris accumulations are removed from the defensible space.
 - A checklist for fire safety needs inside the home also has been completed. This is available from your local fire department.

References

Colorado State Forest Service, Colorado State University, Fort Collins, CO 80523-5060; (970) 491-6303:

- *FireWise Construction — Design and Materials*
- Home Fire Protection in the Wildland Urban Interface
- Wildfire Protection in the Wildland Urban Interface
- *Landowner Guide to Thinning*

Colorado State University Cooperative Extension, 115 General Services Bldg., Fort Collins, CO 80523-4061; (970) 491-6198; E-mail: resourcecenter@ucm.colostate.edu:

- 6.303, *Fire-Resistant Landscaping*
- 6.304, *Forest Home Fire Safety*
- 6.305, *FireWise Plant Materials*
- 6.306, *Grass Seed Mixes to Reduce Wildfire Hazard*
- 7.205, *Pruning Evergreens*
- 7.206, *Pruning Shrubs*
- 7.207, *Pruning Deciduous Trees*



This fact sheet was produced in cooperation with the Colorado State Forest Service.

*Wildfire Hazard Mitigation Coordinator,
Colorado State Forest Service.*

Colorado State University, U.S. Department of Agriculture, and Colorado counties cooperating. Cooperative Extension programs are available to all without discrimination. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.

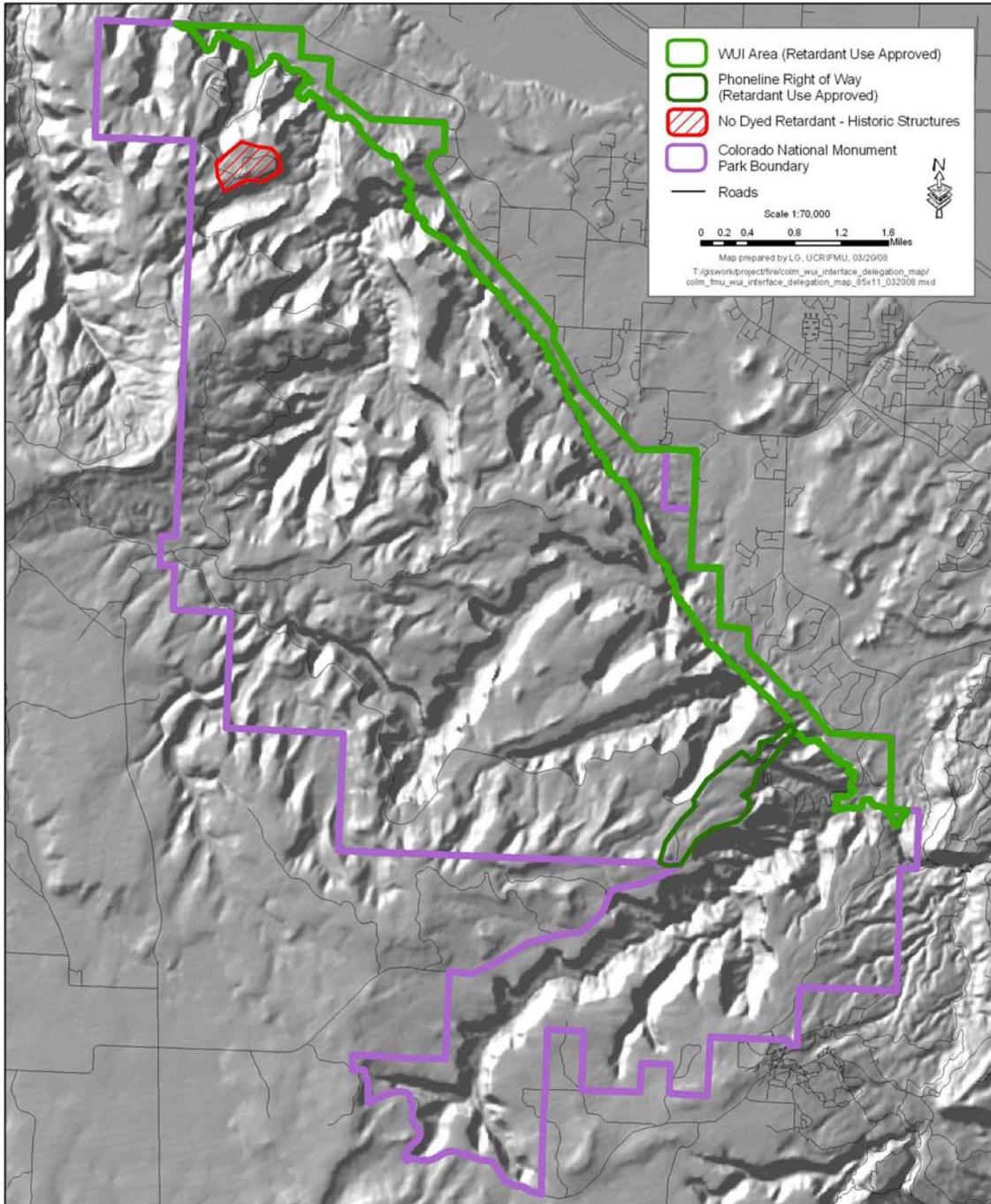
APPENDIX C
Colorado National Monument
WUI Zones and Fuel Reduction Projects

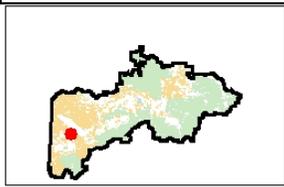
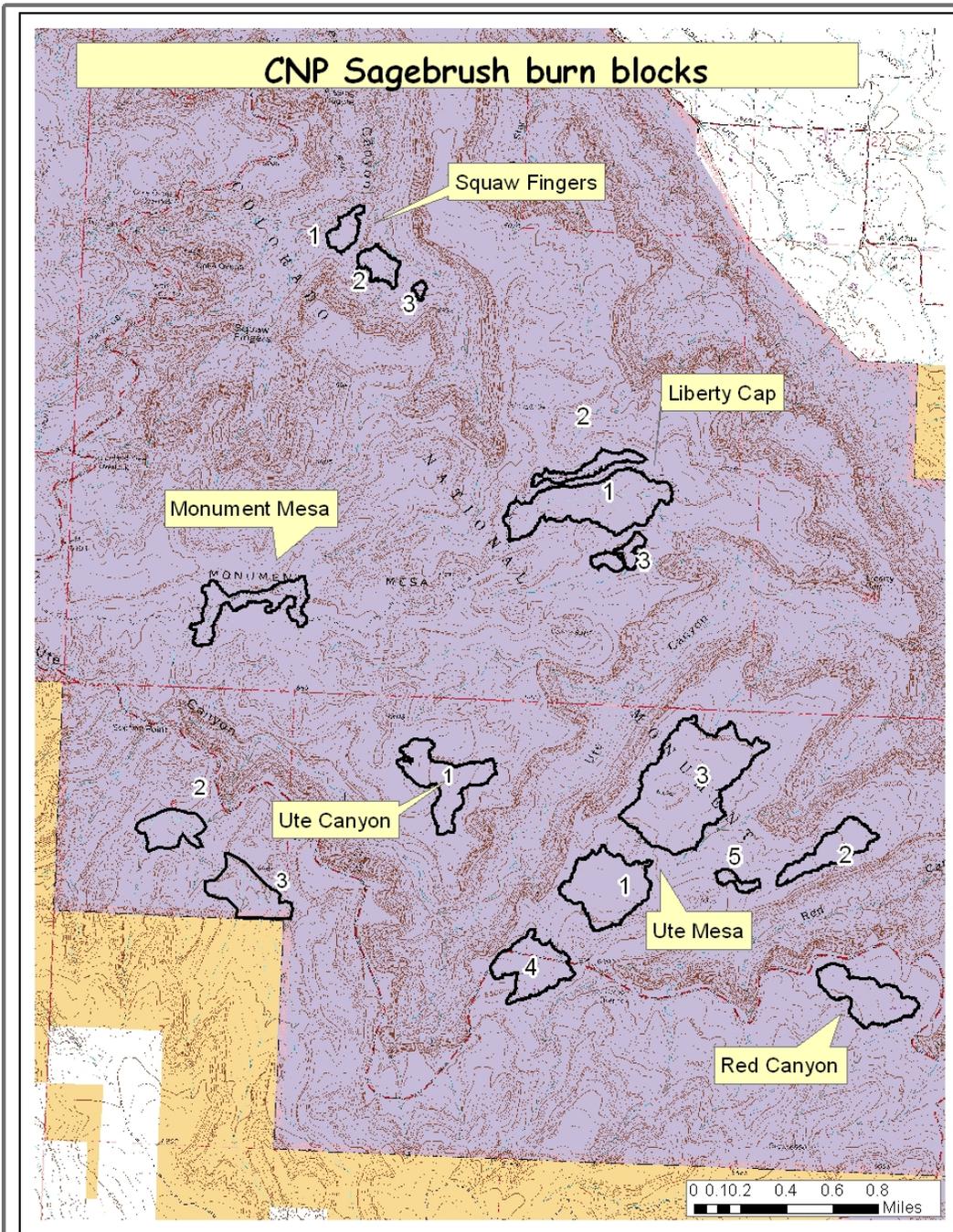
Consistent with the Interagency Fire Management Plan approved in 2005, Colorado National Monument (COLM) has planned or executed several fuel reduction and prescribed fire projects. The primary strategy in planning these projects has been to help secure the boundary of the monument to prevent unwanted fires out of the wildland-urban interface or vice versa. The fuels projects are also intended to achieve desired conditions that include: creating a mosaic of fuel condition classes; protect native species; improve wildlife habitat; protect cultural and historic resources; protect public infrastructure; and ensure safe access and egress for Glade Park residents, COLM visitors and staff and emergency responders.

Attached is COLM's 5-Year Fuels Management Plan, that includes tentative projects extending 6-10 years. Maps of planned projects and some that have already been completed along the monument boundary are also included.

CO-CNP WUI Fire Management Unit A-02 (Urban Interface - Glade Park, Grand Junction)

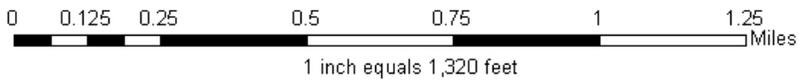
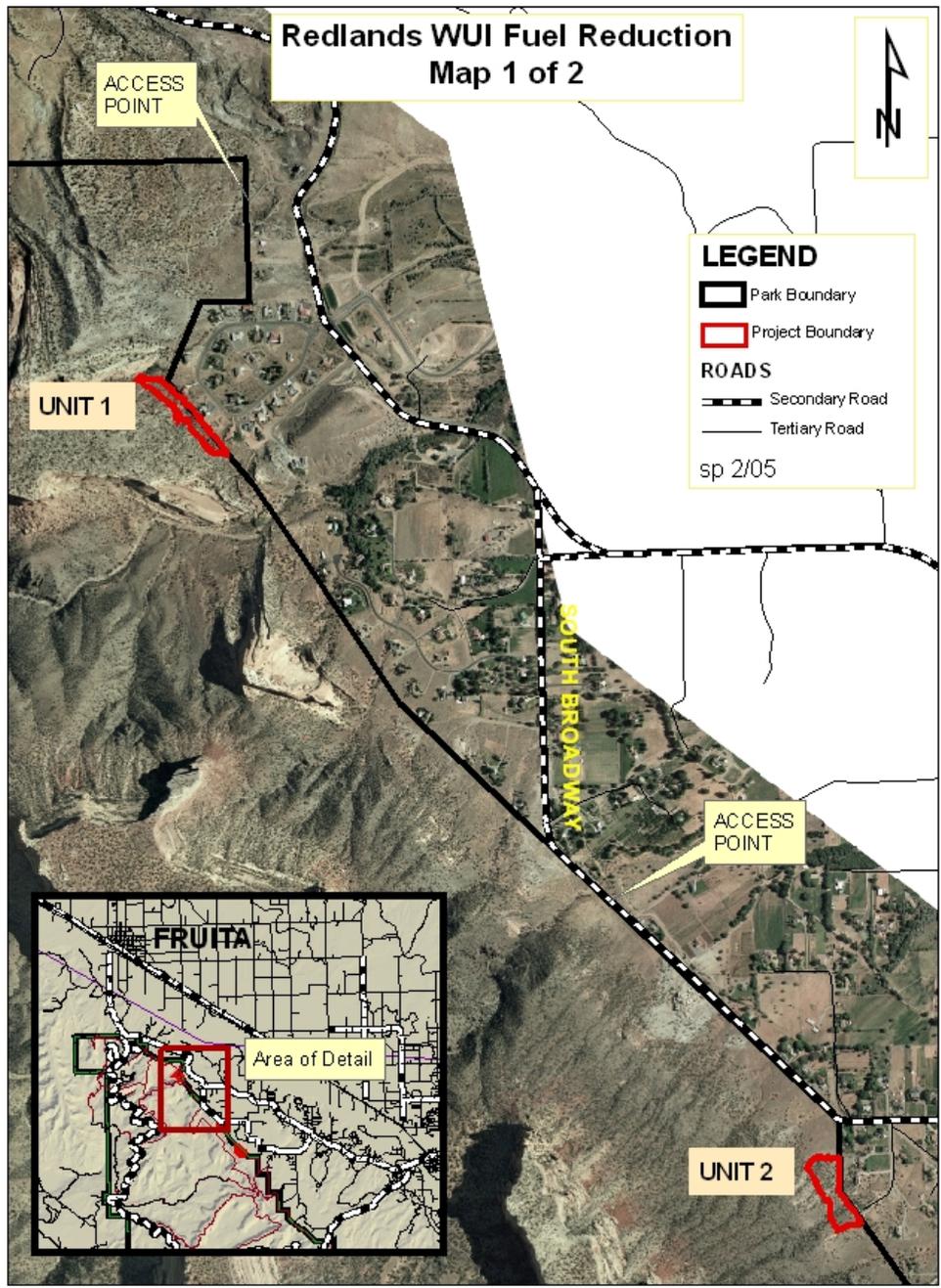
This map relates to delegation of authority to initial attack incident commanders

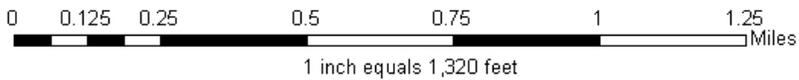
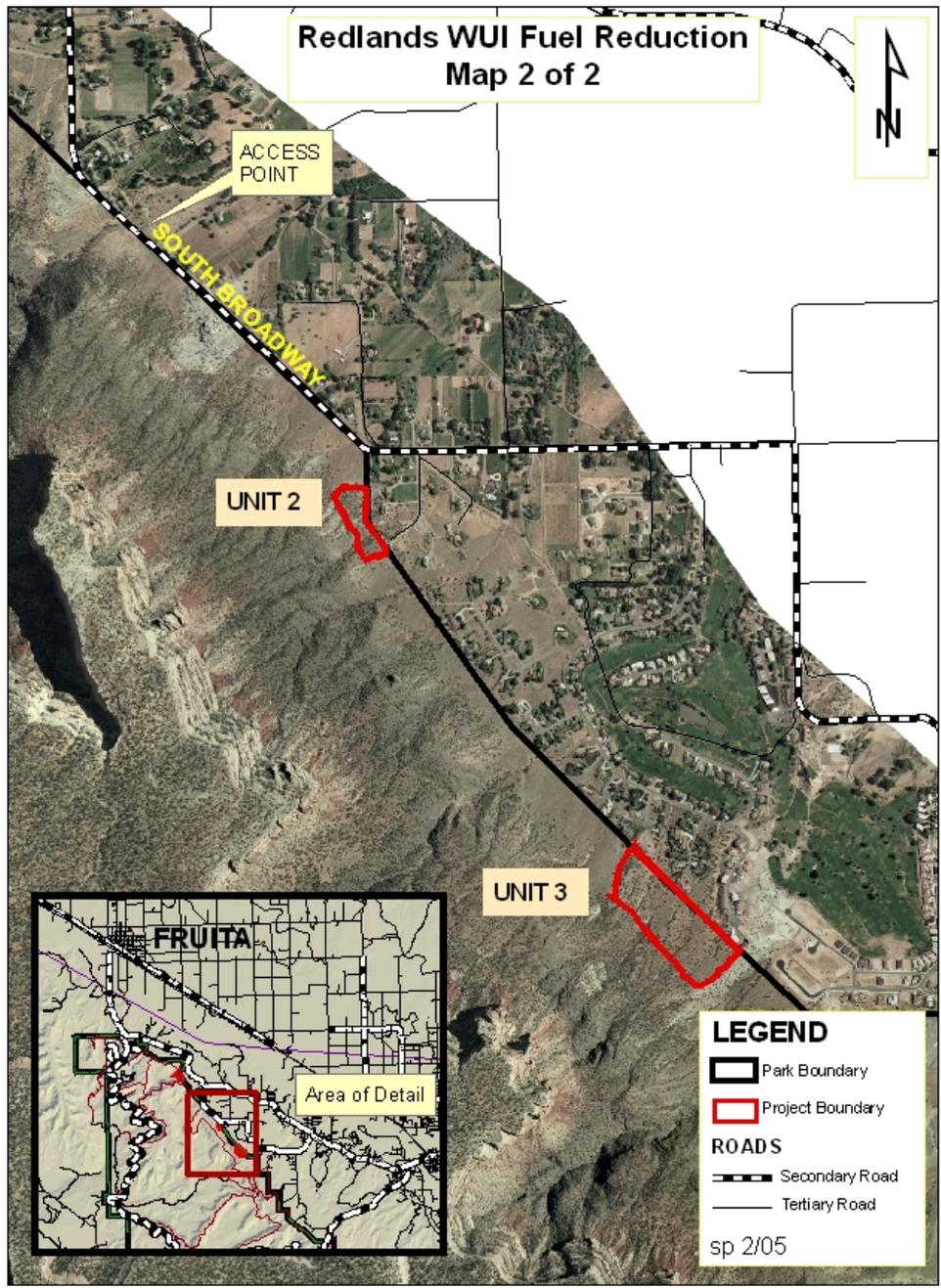


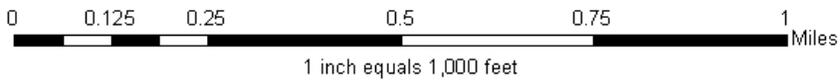
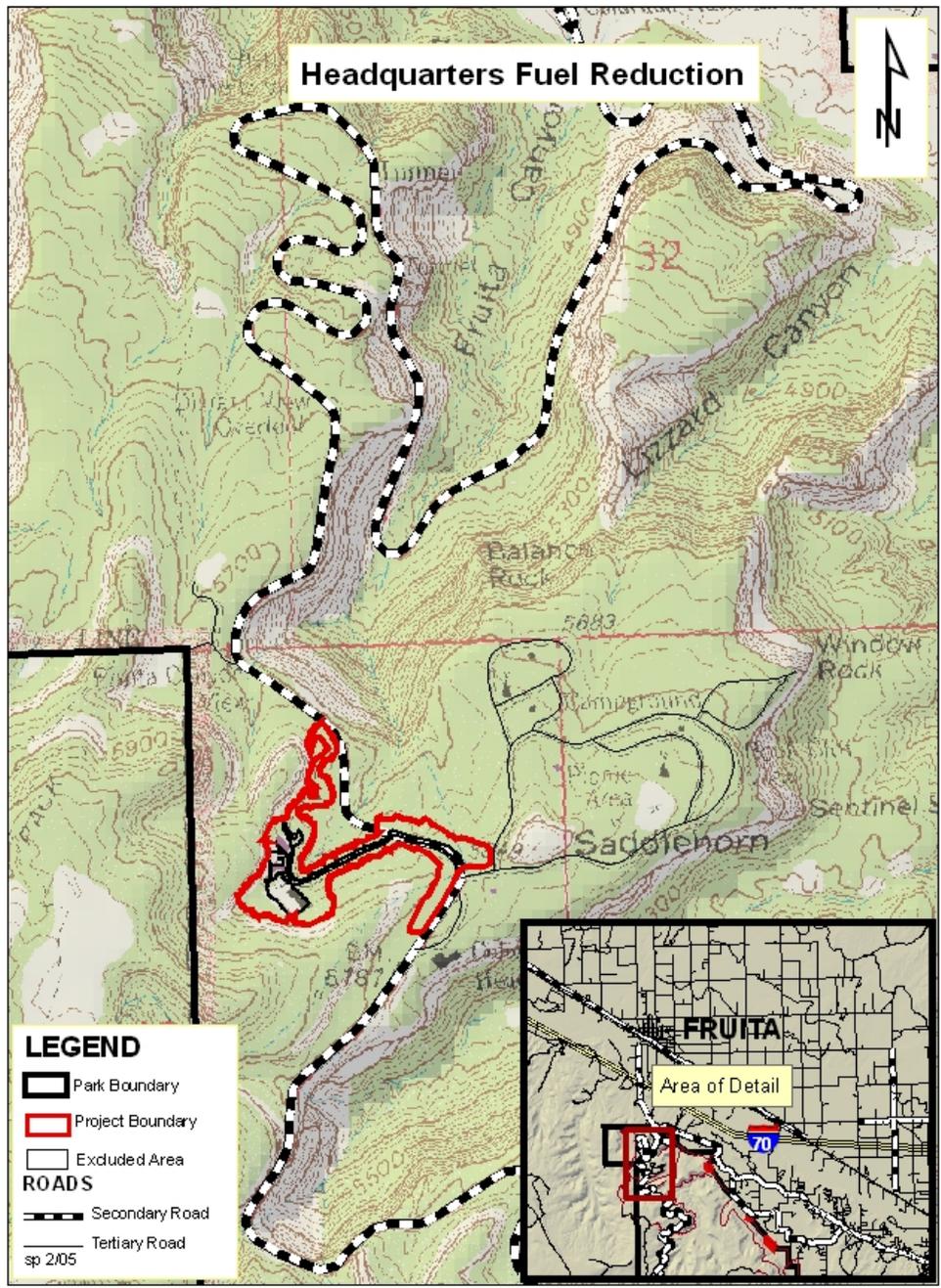


- Legend**
- BLM
 - PRI
 - NPS
 - FOR
 - CNP burn blocks

- 1:26,643
- Monument Mesa - 34 acres
 - Red Canyon - 40 acres
 - Ute Canyon 1 - 44 acres
 - Ute Canyon 2 - needs recon
 - Ute Canyon 3 - needs recon
 - Liberty Cap 1 - 77 acres
 - Liberty Cap 2 - 15 acres
 - Liberty Cap 3 - 12 acres
 - Ute Mesa 1 - 57 acres
 - Ute Mesa 2 - 29 acres
 - Ute Mesa 3 - 124 acres
 - Ute Mesa 4 - 40 acres
 - Ute Mesa 5 - 6 acres
 - Squaw Fingers 1 - 11 acres
 - Squaw Fingers 2 - 13 acres
 - Squaw Fingers 3 - 2 acres







COLM 5 Year Fuels Plan

Type	Project Name	Fire Regime and %	Condition Class and %	Fiscal Year and Acres

		I	II	III	IV	V	1	2	3	08	09	10	11	12
Mx	Monument Mesa (line prep)				100			100		6				
**	Monument Mesa (lop scatter/burn)				100			100		34				
**	Ute Mesa unit 3 (line prep)				100			90	10	20				
**	Red Canyon (line prep/lop & scatter)				100			100			40			
Mx	Qwest (cut and pile) ##				100			100				10		
Mx	Ute Canyon (prep/thin)				100			100				3		
Rx	Ute Canyon (burn)				100			100				44		
Rx	Ute Mesa (burn)				100			40	60				159	
PB	Qwest (pile burn) ##				100			100					10	
Rx	Liberty Cap (burn)				100			30	70					70

** - Mx and/or Rx, or combination treatment (different phases can occur different years)

Rx – prescribed fire

Mx – Mechanical/Manual

PB – Pile Burn

- identified but not in NFPORS as of 3-18-2008

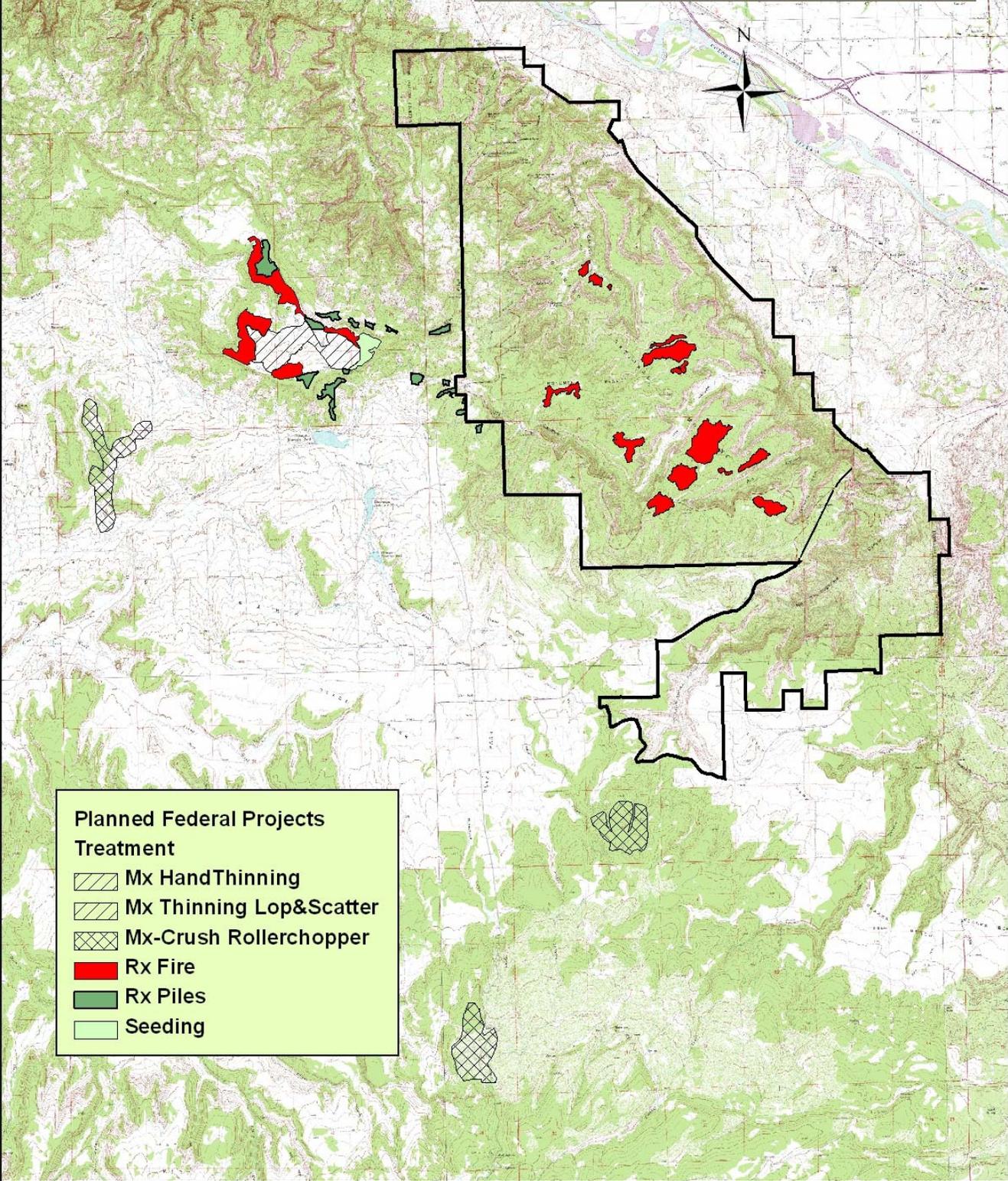
COLM 6-10 Year Fuels Plan

Type	Project Name	Fire Regime and %	Condition Class and %	Fiscal Year and Acres
				2013-2017

		I	II	III	IV	V	1	2	3				
*	Liberty Cap 2			50	50			30	70			15	
*	Liberty Cap 3			50	50			30	70			12	
*	Ute Mesa 1			100				40	60			57	
*	Ute Mesa 2			100				20	80			29	
*	Squaw Fingers 1			100				80	20			11	
*	Squaw Fingers 2			100				80	20			13	
*	Squaw Fingers 3			100				80	20			2	
*	Glade Park WUI access – 16 ½ road		10		90			40	60			15	
*	Ute Canyon 2		10	70	20							17	
*	Ute Canyon 3		10	70	20							36	

- - shows rx acres only, units may have line preparation, thinning, and/ lop and scatter prior to burning.

Colorado National Monument
Planned Projects within the Upper Colorado
Fire Management Unit, 2007-2011



APPENDIX D



Date: May 19, 2008

Contact: Jessica Peterson
P.R. Director, 244-1640

Jessica.peterson@mesacounty.us

The Results Are In!

Inventory will help fire fighters protect homes near Colorado National Monument, and put out fires when they do occur

Mesa County and the National Park Service have teamed up with local fire departments to collect data and map the wildland/urban interface that borders the Colorado National Monument. The information they have collected will help firefighters and community members prepare for fires and fight them more effectively—saving homes and lives.

One result of the recent survey is that homeowners are being notified of any actions they can take to protect their properties. The information will be available at an open house this week:

When: Tuesday, October 2nd

3:00 p.m.—7:00 p.m.

Where: Redlands Fire Station (Station #5)
2155 Broadway

In addition, the Colorado State Forest Service will use the information to create a detailed Wildfire Protection Plan for our community.

Staff members from the partner agencies used Global Positioning Systems to assess and catalogue the topography around approximately 450 buildings near the Monument. They have created a list of all water sources, types of vegetation, driveway access, slope, and combustible material around homes in the area.

The data collection and mapping has identified areas where fuels need to be cleared, and where better access is needed—helping local fire departments plan ahead and create strategies for fire protection and prevention. It will also help fire fighters know how best to access and fight wildfires on public or private land when they do occur.

For more information on this project,
visit:

gis.mesacounty.us/wildland_urban_interface/

For more information on how to protect your
home from wildfires, visit:

www.firewise.org

“Mesa County—Creating a community of opportunities for all residents with a focus on the future.”