APPENDIX A1

CLARKS FORK FIRE MANAGEMENT UNIT

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1. Clarks Fork Fire Management Unit Guidance

a) FMU Synopsis

Fire Management Unit Identification

Administrative Unit	FMU Name	FMU #	Management Response Zones	Acres
Shoshone National Forest - North Zone	Clarks Fork	1	01 – Suppression	1,544
			02 – Resource Dependent	138,115
			03 – Wildland Fire Use	366,652

Ownership and Jurisdictions

Owner	Jurisdiction	Acres
US Forest Service	Shoshone National Forest	495,849
Private	Park County Fire District #2	10,367
	Total	**506,216**

Dispatch Center

Name	Phone Number
Cody Interagency Dispatch Center	307-578-5140

Radio Frequencies*

Agency	Name	Receive Frequency	Transmit Frequency	Transmit Tone
USFS	North Zone Net	170.5000	170.5000	110.9
USFS	Dead Indian RPT	170.5000	166.5625	110.9
USFS	Clay Butte RPT	170.5000	166.5625	123.0

*See the Shoshone National Forest Radio Guide in Appendix F1 for a complete list of radio frequencies.

NFDRS Weather Stations

Station Number	Station Name & Owner	Fuel Model	Location	NESDIS #	Elevation
480213	Crandall USFS	G, H Timber	44° 51.01" 109° 36.41"	32353130	6,612 ft.
480214	Eagle USFS	G, H Timber	44° 29.08" 109° 53.47"	326fa142	7,500 ft.

NFDRS Weather Station Fire Behavior Indicators and Thresholds

Station	ERC		KDBI		1,000 hr Fuel Moisture	
	90th %	97th %	90th %	97th %	90th %	97th %
Crandall	67	76	492	600	9	8
Eagle	75	81	300	333	9	8

General Risk Category

Subjective overall risk relative to values present, fuel hazard and fire frequency is identified for each fire management unit response zone in the table below. Additional risk information related to fire behavior and length of season are described in Section III, Part D.

Response Zone	Risk Rating			
	Values Present	Fuel Hazard	Fire Frequency	Overall Risk
01 - Suppression	5	1	1	**2**
02 – Resource Dependent	4	3	3	**3**
03 – Wildland Fire Use	1	4	3	**2**

1 – Low; 2 – Low Moderate; 3 – Moderate; 4 - Moderate High; 5– High

Predominate Vegetation Types

Cover Type	Acres
Grassland-Sagebrush	
Forest – conifers	
Forest – aspen & willow	
Barren	

b) Management Guidance

Wildland fire management guidance for the resources associated with the fire management unit is derived from the Shoshone National Forest Land and Resource Management Plan (Forest Plan). Applicable wildland fire management Forest Plan direction, goals, desired conditions, standards, guidelines, and management area prescriptions are detailed in Section III, Part C of the Shoshone Fire Management Plan (FMP). The specific Forest Plan direction that is used to formulate wildland fire benefit and resource protection objectives; initial attack/response actions; and appropriate management response strategies and tactical options that apply to the resources, values and attributes that occur in the fire management unit (FMU) are referenced throughout this section.

Other sources of wildland fire management direction and resource protection measures that originate in other laws, policy, handbooks and guides are also used to provide direction and guidance for wildland fire management activities for this FMU.

c) Safety Considerations

Firefighter and public safety considerations

Firefighter and public safety is the priority in all fire management activities. Reduce firefighter and public injuries and loss of life, and damage to communities from unwanted wildland fires, by prioritizing firefighter and public safety above other concerns in fire management activities (Forest Plan Amendment 2008-01, page 4).

History on the Forest indicates that while the annual number of fire starts is not particularly high, the fire environment is complex as high intensity fires with rapid rates of spread are common during active burning years. The fire environment is further complicated by a Forest-wide insect epidemic; mature forest, steep terrain, and frequent wind events that are not always well forecasted. There have been three recorded fire fighter entrapments on the Forest. The most serious occurred in 1937 when ten firefighters lost their lives on the Blackwater Fire. The most recent entrapment occurred in 2006 on the Little Venus Fire where ten firefighters survived an entrapment, fortunately with only minor injuries.

Environmental and Aviation Hazards
Aviation hazards are identified on the Forest Aviation Hazard Map (FMP electronic file). High winds and terrain-influenced winds that affect aviation operations are common. Environmental hazards include steep, rocky and difficult terrain, and grizzly bears.

Travel routes
Much of the FMU does not have road access. The primary travel routes are located in the Resource Dependent Management Response Zone. Main travel routes include the Chief Joseph Highway that accesses the Crandall area and Cooke City, Montana; the Beartooth Highway; and the Sunlight Basin Road.

d) Fire Management Unit Resources and Values

Air Quality
The North Absaroka Wilderness is the only federally designated Class I area in the FMU. Yellowstone National Park located to the west of the FMU is also designated as a Class 1 airsheds. The Absaroka-Beartooth Wilderness in the northern part of the FMU is federally designated as a Class II airshed. There are no non-attainment areas within or adjacent to the FMU.

Resource Protection Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
air quality	Comply with State and Federal air quality standards (Forest Plan 1986, page III-97).

Resource Protection Measures for Fire Management Activities

Resource	Description of Protection Measures
air quality	Implement smoke management actions in accordance with Wyoming Air Quality Standards and Regulations (Regulations) chapter 10, section 4, Smoke Management Requirements.

Vegetation
Forested vegetation varies widely across the FMU due to variations in elevation, aspect, climatic factors, and past disturbances. The uppermost elevation zone is characterized by alpine tundra and the absence of trees. The next lower elevation zone is the subalpine zone, dominated in most places by Engelmann spruce, subalpine fir, and whitebark pine. Below the subalpine zone lies the montane zone, characterized by Douglas-fir. Other species that occur in the subalpine and montane zones include lodgepole pine, limber pine, and aspen.

Grass, sometimes mixed with sagebrush, regularly occurs in forest openings. In areas where environmental factors do not support tree reproduction, grasslands and shrublands persist. In the foothill zone below the montane zone, grass and shrubs dominate. In the montane and subalpine zones, grass and shrubs persist in areas where site conditions limit moisture, such as well-drained landforms, southern or western exposures, thin or poorly developed soils, and high windswept sites. In the severe environment of the alpine zone, grass and shrubs dominate. In portions of the subalpine and montane zones, lodgepole pine and aspen are common early seral species following fire disturbance. Fire also affects the acres that are dominated by grasses and shrubs.

Clarks Fork FMU Vegetation Types and Acres

Cover Type	Acres	Cover Type	Acres
Grassland		Lodgepole pine	
Sagebrush		Whitebark pine	
Willow		Limber pine	
Spruce/fir		Aspen	
Douglas-fir			

Resource Benefit Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
vegetation	Both unplanned ignitions and prescribed fire are used as tools to achieve and maintain vegetation conditions and desired fuel levels. Fire operates within historical fire regimes appropriate to the vegetation type and management objectives. Prescribed fire plays a role in areas where managing unplanned ignitions for resource benefits is not appropriate because of high values (FPA 2008-1 p. 3). Improve the health and vigor of vegetation types outside wilderness and selected types in wilderness where necessary (Forest Plan 1986, page III-6). Integrate vegetation management with resource management in functional areas – range, recreation, water and wildlife (Forest Plan 1986, page III-7).
aspen	Clearcut, burn or treat aspen mechanically to in order to promote suckering and revegetation of aspen patches (Forest Plan 1986, page III-155)

Resource Protection Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
vegetation	Fire management strategies are designed to achieve land management protection or benefit objectives, are cost effective, and meet safety objectives for firefighting and the public(Forest Plan Amendment 2008-01, page 3).

Wildlife habitats – terrestrial and aquatic

Critical Winter Range: Critical wildlife winter range areas are identified on Map 1.1. Currently, there are no issues with condition of the winter range area that would prevent a fire to be managed for resources benefits or require protection.

Grizzly Bear: This species is a Forest Service Region 2 sensitive species. Grizzlies have variable habitat, and eat everything from carcasses to moths to whitebark pine seeds to garbage. The most important elements needed to stabilize grizzly bear populations are minimizing bear/human conflicts and protecting key food sources, such as whitebark pine and moth sites. Most of the FMU is inside the Crandall Sunlight Bear Management Unit of the Primary Conservation Area.

Yellowstone Cutthroat Trout: Yellowstone cutthroat trout is a subspecies of cutthroat trout that was historically found in the Yellowstone River drainage and reaches of the Snake River drainage. Stream segments containing Yellowstone cutthroat trout are identified on Map 1.1.

Resource Benefit Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
wildlife	Integrate vegetation management with resource management in functional areas – range, recreation, water and wildlife (Forest Plan 1986, page III-7) Maintain fuel conditions that permit fire suppression and prescribed fire to maintain habitat needed for selected species or species population levels (Forest Plan 1986, page III-152).

Resource Protection Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
grizzly bear – food storage	Minimize grizzly bear/human conflicts using food storage, information and education, and other management tools (FPA 2006-001).
grizzly bear habitat – food sources	Maintain the productivity, to the extent possible, of the four key grizzly bear food sources as identified in the Conservation Strategy (FPA 2006-001).

Resource Protection Measures for Fire Management Activities

Resource	Description of Protection Measures
grizzly bear	Implement bear safety and food storage mitigation measures as described in the Shoshone National Forest Wildland Fire Management Resource Protection Standards and Guidelines.
Yellowstone Cutthroat Trout	Implement protection measures for riparian areas, lakes and streams as described in the Shoshone National Forest Wildland Fire Management Resource Protection Standards and Guidelines.

Special areas

Research Natural Areas: There is one established and four proposed research natural areas in the FMU: Line Creek Research Natural Area, Proposed Lake Creek Research Natural Area, Proposed Beartooth Buttes Research Natural Area, Proposed Pat Ohara Research Natural Area, and the Proposed Bald Ridge Research Natural Area. Research Natural Areas are part of a national network of ecological areas designated in perpetuity for research, education, and to maintain biological diversity on National Forest System lands.

Botanical Areas: There is one established botanical area in the FMU. The Swamp Lake Botanical Area (580 acres) contains eight different wetland vegetation types and an unusually high concentration of regionally rare, boreal disjunct plants. The riparian wetland comprises and unusual and perhaps unique set of ecological conditions.

Geological Areas: The Proposed Sawtooth Peatbed Geologic Area (577 acres) is a large peat deposit with permafrost. The geomorphic feature is the only known palsa figure in the lower 48 states.

Natural and Scenic River: A 20.5 miles segment of the Clarks Fork of the Yellowstone River within the FMU has been designated as a Wild and Scenic River. The River and its corridor are to manage to retain free-flowing status, wild classification, and outstanding remarkable values.

See Map 1.2 for the location of special areas in the FMU.

Resource Benefit Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
special management areas	Allow natural succession to proceed without human intervention in designated wilderness, wilderness study areas, and special management areas (Forest Plan 1986, page III-6). Both unplanned ignitions and prescribed fire are used as tools to achieve and maintain vegetation conditions and desired fuel levels. Fire operates within historical fire regimes appropriate to the vegetation type and management objectives. (Forest Plan Amendment 2008-1 p. 3).

Resource Protection Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
research natural areas	Fires within research natural areas (established and proposed) should be suppressed when they threaten the values for which the research natural area was established or threaten other values outside the research natural area. For unwanted wildland fires that threaten to burn into research natural areas, the appropriate management response should consist of strategies and tactics that keep fires from burning into research natural areas (FPA 2008-1 p. 6).
Swamp Lake Botanical Area	Fires within the botanical area should be suppressed. Use initial attack actions that keep fires as small as possible. For wildland fires that threaten to burn into the botanical area, the appropriate management response should consist of strategies and tactics that keep fires from burning into the botanical area (FPA 2008-1 p. 7).
Proposed Sawtooth Peatbed Geologic Area	Fires within the geologic area should be suppressed. Use initial attack actions that keep fires as small as possible. For wildland fires that threaten to burn into the geologic area, the appropriate management response should include of strategies and tactics that keep fires from burning into the geological area (FPA 2008-1 p. 7).

Resource Protection Measures for Fire Management Activities

Resource	Description of Protection Measures
Research Natural Areas	Use minimum impact suppression techniques when suppressing fires within research natural areas area (FPA 2008-1 p. 6).
Swamp Lake Botanical Area	Use minimum impact suppression techniques when suppressing fires within the botanical area. Avoid ground disturbing activities on sites where unique or sensitive plants exist (FPA 2008-1 p. 7).
Proposed Sawtooth Peatbed Geologic Area	Use minimum impact suppression techniques when suppressing fires within the botanical area. Avoid ground disturbing activities on sites where unique or sensitive plants exist (FPA 2008-1 p. 8).

Water quality

The entire 6th level hydrologic unit boundary watersheds in the FMU are rated as being in good condition except for two (Map 1.3). Those in good condition reflect, to varying degrees, past and present activities. There are two watersheds in the FMU of extraordinary concern. One is Upper Soda Butte Creek, which includes drainage areas in Wyoming and Montana. The concern is entirely within Montana and is related to historic mining activity in the Cooke City area. The second watershed is the Lower Crandall Creek composite and in particular, one of its sub-watersheds, Lodgepole Creek. This sub-watershed was severely burned during the 1988 Clover Mist Fire and then experienced a damaging thunderstorm and flood event in 1989. These two disturbances resulted in significant changes in upland and stream channel stability, which can best recover with time.

Resource Protection Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
water	Improve or maintain water quality to meet state water quality standards (Forest plan 1986, page III-70).
Lodgepole Creek and Soda Butte Creek	Wildland fire plays a role within and outside of wilderness where appropriate and desirable, but active suppression of fire occurs where necessary to protect life, investments, and valuable resources. Valuable resources include the wildland urban interface, utility corridors and communication sites. Other valuable resources include public water supply, recreation facilities, administrative sites, range allotments, special management areas, fish and wildlife habitats, and lands suitable for timber production (Forest Plan Amendment 2008-01, page 2).

Resource Protection Measures for Fire Management Activities

Resource	Description of Protection Measures
water quality	Implement protection measures for riparian areas, lakes and streams as described in the Shoshone National Forest Wildland Fire Management Resource Protection Standards and Guidelines. Implement practices regarding fire management activities as described in the Forest Service Handbook 2509.25, Watershed Conservation Practices.
Lodgepole Creek	Because of the Cover Mist Fire, fuel conditions are such that no significant fire growth that would cause additional damage to the watershed would occur at this time.

Cultural Resources

The general location of known cultural resource sites and not yet surveyed areas that have a high probability of containing sites are located on the Cultural Resources Map for the FMU Map 1.4). The map with the general locations is part of the FMP electronic file and is also available for use by fire managers and agency administrators. More specific information regarding site locations will be provided by the heritage program manager when needed.

Resource Protection Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
cultural	Wildland fire management activities should protect cultural resources when feasible with priority given to sites listed on the National Register of Historic Places, sites recommended for selection to the Register and to known unevaluated sites (FPA 2008-1 p. 6).

Resource Protection Measures for Fire Management Activities

Resource	Description of Protection Measures
cultural	Follow procedures for wildland fire management activities as outlined in Appendix G of the Programmatic Agreement with the State Historic Preservation Officer for Compliance with the National Historic Preservation Act on Forest and Grasslands of Wyoming. Implement protection measures for cultural resources as described in the Shoshone National Forest Wildland Fire Management Resource Protection Standards and Guidelines.

Wilderness

There are two wildernesses in the FMU (Map 1.0). The North Absaroka comprises a significant portion of the western and southern parts of the FMU and extends south into the North Fork FMU. A portion of the Beartooth-Absaroka Wilderness extends into the north central part of the Clarks Fork FMU. The remaining portion of the Beartooth-Absaroka Wilderness is located on the Gallatin and Custer National Forests.

Resource Benefit Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
wilderness	Permit fires to play, as nearly as possible, their natural ecological role within wilderness area (FPA 2008-1 p. 9). Allow natural succession to proceed without human intervention in designated wilderness, wilderness study areas, and special management areas (Forest Plan 1986, page III-6).

Resource Protection Measures for Fire Management Activities

Resource	Description of Protection Measures
wilderness	Implement minimum impact suppression and logistic techniques as described in the Shoshone National Forest Wildland Fire Management Resource Protection Standards and Guidelines.

Goods and Services

Timber: Lands suitable for timber production are present within the FMU and are primarily located within the resource dependent zone. Lands suitable for timber production are identified on the Values at Risk Map for the FMU (Map1.5) Lands suitable for timber production are considered high value assets and under most circumstances would not be allowed to burn unless it was determined there would be beneficial effects or no effects. Development of strategies to manage a fire for resource benefits would consist of an assessment of what areas would benefit from fire and what areas should be protected from fire or subject to limited fire intensity.

There may be a few instances where lands suitable for timber production may be allowed to burn and commercial timber products destroyed or damaged while managing a fire as wildland fire use or as an unwanted wildland fire. For example, situations where it is infeasible to protect an isolated stand, or where the value of the timber does not warrant the cost or commitment of resources and a substantial resource benefit may be achieved.

Clarks Fork FMU Active and Planned Timber Sales

Sale Name	Location	Status	Purchaser
Sunlight	Within Sunlight Creek drainage from Hardee Cabin to Elk Creek	Planned	N/A
Bald Ridge East	T55N, R104W, S26,27,28, 33,34	Active	CR Logging – Grady Roberts 406-360-2267
Bald Ridge West	T55N, R104W, S15,21,22,27, 28	Advertise 08	NA
Leatherman	T55N, R104W, S25, 36	Advertise 08	NA
Hunter Peak	T57N, R107W, S4,9,10,11,13, 14, R58N, R107W S5,19,30 T58N R108 W S24	Advertise 09	NA
Reef Creek	T56N, R106W, S7,12,15 T57N, R106W, S11,14	Advertise 08	NA
Crazy Creek	T57N, R107W S2,3,10	Active	Elk River Sawmill – Joe Bowen 406-622-5551

Grazing: There several grazing allotments within the FMU and they are identified on the Values at Risk Map (Map 1.5). Forest-wide Forest Plan direction and desired conditions regarding vegetation is generally consistent with range management objectives. Whether a fire is being managed for resource benefits or protection objectives, coordination with range management specialist and permittees occur.

Special Uses: Permitted outfitter and guide operations occur throughout the FMU. Camp locations are identified on the Values at Risk Map (Map 1.5). Whether a fire is being managed for resource benefits or protection objectives, coordination with special uses managers and outfitters occur.

Minerals: There are no mining, drilling or exploration operations occurring in the FMU.

Resource Benefit Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
timber and grazing	Both unplanned ignitions and prescribed fire are used as tools to achieve and maintain vegetation conditions and desired fuel levels. Fire operates within historical fire regimes appropriate to the vegetation type and management objectives. Prescribed fire plays a role in areas where managing unplanned ignitions for resource benefits is not appropriate because of high values. Fire management strategies are designed to achieve land management protection or benefit objectives, are cost effective, and meet safety objectives for firefighting and the public(Forest Plan Amendment 2008-01, page 3).

Resource Protection Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
goods and services	Wildland fire plays a role within and outside of wilderness where appropriate and desirable, but active suppression of fire occurs where necessary to protect life, investments, and valuable resources. Valuable resources include the wildland urban interface, utility corridors and communication sites. Other valuable resources include public water supply, recreation facilities, administrative sites, range allotments, special management areas, fish and wildlife habitats, and lands suitable for timber production (Forest Plan Amendment 2008-01, page2).

Developments, Facilities and Infrastructure

Developments, facilities and infrastructures occur within and adjacent to the FMU and are displayed on the Values at Risk Map (Map 1.5). Most of the sites are located within the Resource Dependent Management Zone. There are some facilities and developments in the Wildland Fire Use Management Zone.

Clarks Fork FMU Recreation Sites (developed)

Name	Geographic Location
Fox Creek Campground	T58N, R107W, S30
Pilot Creek Trailhead	T57N, R107W, S5
Crazy Creek Campground	T57N, R107W, S10
Lily Lake	T57N, R106W, S6
Clarks Fork Overlook	T57N, R106W, S17
Pilot & Index Overlook	T57N, R106W, S11
Clay Butte Visitor Center	T57N, R106W, S2
Beartooth Campground	T57N, R105W, S5,6
Island Lake Camprground	T57N, R105W, S3,10

Name	Geographic Location
Morrison Jeep Trailhead	T57N, R105W, S10
Lake Creek Campground	T57N, R106W, S17
Hunter Peak Campground	T57N, R106W, S27
Clarks Fork Trailhead	T57N, R106W, S34
North Crandall Trailhead	T56N, R106W, S9
Lodgepole Trailhead	T56N, R106W, S9
Swamp Lake Boat Access	T56N, R106W, S15
Reef Creek Picnic Area	T56N, R105W, S7
Little Sunlight Trailhead/CG	T55N, R106W, S26
Sunlight Falls Picnic Area	T55N, R104W, S7
Sunlight Bridge Overlook	T55N, R104W, S6
Dead Indian Campground	T55N, R104W, S8
Dead Indian Trailhead	T55N, R104W, S17
Dead Indian Pass Overlooke	T55N, R104W, S16

Clarks Fork FMU Backcountry Administrative Sites

Name	Geographic Location
None	

Clarks Fork FMU Utilities and Communication Sites

Name	Geographic Location
Dead Indian Comm Site	T55N, R104W, S10
Dillworth Bench Comm Site	T56N, R104W, S16
Rocky Mountain Power Powerline	Above ground line extending from Forest Boundary on east side of Dead Indian along Highway 296 to Cooke City and a spur along Sunlight Road from near Elk Creek up to near Little Sunlight Creek
Qwest Phone Line	Buried line with scattered above ground boxes near powerline and along road system
Qwest Way West Comm Site	T55N, R104W, S6
Qwest Crandall Comm Site	T56N, R106W, S5
Crandall RAWS	T56N, R106W, S10
Evening Star SNOTEL	T54N, R107W, S20
Beartooth SNOTEL	T57N, R105W, S8
Wolverine SNOTEL	T56N, R106W, S29
Chief Joseph WYDOT Weather Station	T55N, R014, S15
Bald Ridge DEQ Air Monitor	T55N, R014, S15

Resource Protection Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
developments, facilities and infrastructure	Wildland fire plays a role within and outside of wilderness where appropriate and desirable, but active suppression of fire occurs where necessary to protect life, investments, and valuable resources. Valuable resources include the wildland urban interface, utility corridors and communication sites. Other valuable resources include public water supply, recreation facilities, administrative sites, range allotments, special management areas, fish and wildlife habitats, and lands suitable for timber production (Forest Plan Amendment 2008-01, page2). Fire management strategies are designed to achieve land management protection or benefit objectives, are cost effective, and meet safety objectives for firefighting and the public(Forest Plan Amendment 2008-01, page 3).

Wildland Urban Interface

Structures occurring within and adjacent to the FMU are primarily located within the Resource Dependent Management Zone (Values at Risk - Map 1.5).

Local fire departments and agencies are responsible for structure protection; management of wildland fires burning on the Shoshone National Forest is the responsibility of the Forest Service. Keeping fires from reaching structures and private property adjacent to the Forest as well as permitted lodges and residences located on the Forest is consistent with current federal policy and Forest Plan direction. In addition, cooperative agreements and operating plans are in place that permits Forest Service firefighters to assist local jurisdictions with structure protection on private property, but for not entering structures to suppress fires.

The approach for developing the appropriate management response for wildland fire burning on the Forest that threatens individual structures or the wildland urban interface is the same for fire being managed for resource benefit or suppression objectives. Aggressive or intense management actions would occur in locations that have the highest probability of success in preventing damage or loss while ensuring the safety of the public and firefighters. These actions could occur near structures in close cooperation with the local jurisdiction or at some distance from structures where circumstances are favorable for stopping the advance of a fire toward structures.

Clarks Fork FMU Communities and Subdivisions

Community Name	Geographic Location
Crandall	Squaw Creek Development along Squaw Creek; Painter Estates Subdivision along lower Beartooth and Ghost Creeks; Crandall Ranches along Crandall Creek; Hancock Ranch along lower Lake Creek; L-T Ranch near Onemile Creek; RDS Ranch and B-4 Ranch near Crazy Creek; Beaver Ranch near Table Mountain; Reef Creek Developments along lower Reef Creek,
Sunlight	Way West Subdivision and Elk Creek Subdivision along lower Sunlight Road; Sunlight Ranches, 7D Ranch, along sunlight Road between Beem and Huff Gulches, Sunlight Ranches along Sunlight Creek between Gravelbar Creek and Strawberry Gulch; Sulphur Creek and Silvertip Mine developments, Switchback Ranch T56N, R104W, S20
Northwestern Field Station and Subdivison	T55N, R104W, S26, 27

Clarks Fork FMU Permitted recreation residences

Community Name	Geographic Location
None	

Clarks Fork FMU Permitted lodges

Lodge Name	Geographic Location
Top of the World Store	T57N, R105W, S9
K-Z Ranch	T56N, R106W, S15

Clarks Fork FMU Administrative sites

Site Name	Geographic Location
Crandall Ranger Station	T56N, R106W, S9
Sunlight Ranger Station	T55N, R105W, S19
Beartooth Highway Camp	T57N, R106W, S11

Resource Protection Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
wildland urban interface	Wildland fire plays a role within and outside of wilderness where appropriate and desirable, but active suppression of fire occurs where necessary to protect life, investments, and valuable resources. Valuable resources include the wildland urban interface, utility corridors and communication sites. Other valuable resources include public water supply, recreation facilities, administrative sites, range allotments, special management areas, fish and wildlife habitats, and lands suitable for timber production (Forest Plan Amendment 2008-01, page2). Fire management strategies are designed to achieve land management protection or benefit objectives, are cost effective, and meet safety objectives for firefighting and the public(Forest Plan Amendment 2008-01, page 3).

e) Invasive species

Invasive plants: There are over 20 high priority terrestrial invasive species on the Shoshone with many more invasive species with the potential to spread across large portions of the Forest. Wildfires of any cause can enhance conditions for spread if fires expose soil, reduce native vegetation, and facilitate the introduction or movement of invasive seed sources into an area. Locations of invasive plants are mapped (Map 1.6) and are located in the FMP electronic files.

Invasive aquatics: Aquatic nuisance species occur just inside or adjacent to the Forest (Map 1.7), including whirling disease, New Zealand mudsnails, and didymo. Fire suppression equipment can travel long distances to the Forest, and with them, the potential to introduce other aquatic nuisance species or move them to another area.

Whirling disease has been found adjacent to the FMU in the following locations:

- Clarks Fork River off the Forest near Clark around the hatchery
- Bennett Creek just off the Forest

Resource Protection Measures for Fire Management Activities

Resource	Description of Protection Measures
vegetation	Implement protection measures for invasive plants as described in the Shoshone National Forest Wildland Fire Management Resource Protection Standards and Guidelines. Follow practices related to fire management activities described in Forest Service Manual 2080 Noxious Weed Management for Forest Service activities.
aquatic	Implement protection measures for riparian areas, streams and lakes as described in the Shoshone National Forest Wildland Fire Management Resource Protection Standards and Guidelines.

f) Fire Environment

Historic Fire Occurrence and Behavior

Map 1.8 displays the historic fire occurrence and cause for the FMU. Additional information related to fire behavior on the Forest is described in Section III, Part D.

Fire Weather

Historical weather information, patterns influencing fire behavior and fire seasons are described in Section III, Part D. Additional weather and fire behavior related information is located in the Shoshone National Forest Weather Handbook in Appendix J.

Fire Behavior and fuels

Map 1.9 displays the fuel types and relative acres for each type associated with the FMU. GIS data layers are also available in the FMP electronic file. Additional information regarding fuel conditions and topography that influence fire behavior and potential control problems are described in Section III, Part D.

Resource Benefit Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
fuels	Both unplanned ignitions and prescribed fire are used as tools to achieve and maintain vegetation conditions and desired fuel levels (Forest Plan Amendment 2008-01, page 3). Reduce the accumulation of natural fuels (Forest Plan 1986, page III-8). Prescribed fire will be utilized as a vegetative and fuels management technique where it is the most cost-efficient and acceptable alternative to achieve management objectives (Forest Plan 1986, page III-96). Maintain fuel conditions that permit fire suppression and prescribed fire to maintain habitat needed for selected species or species population levels (Forest Plan 1986, page III-152).

Fire Regime Condition Class

Seventy-eight percent of the FMU is in a fire regime condition class 1. Two vegetation conditions are in some jeopardy based on the time since the last disturbance. These include approximately 110,400 acres of fire regimes II and III that are in condition class 2. This represents approximately 22 percent of the FMU. A summary of the number of acres by fire regime condition class are displayed in the table below and on Map 1.10.

Clarks Fork FMU Fire Regimes and Condition Classes

Fire regime	Condition class	Fire return interval	Burn severity	Acres	Percent
II	1	35 – 70 years	Stand replacement	989	<1%
	2			14,439	3%
III	1	35 -100 years	Mixed	12,724	3%
	2			96,008	19%
IV	1	70 - 150 years	Stand replacement	262,126	52%
V	1	200 – 300 years	Stand replacement	115,995	23%
Barren	None	None	None	3,940	1%

Resource Benefit Objectives

Resource	Forest Plan Direction (Goal, Desired Condition, Standard, Guideline)
fire regime condition class	Both unplanned ignitions and prescribed fire are used as tools to achieve and maintain vegetation conditions and desired fuel levels. Fire operates within historical fire regimes appropriate to the vegetation type and management objectives. Prescribed fire plays a role in areas where managing unplanned ignitions for resource benefits is not appropriate because of high values (Forest Plan Amendment 2008-01, page 3).

g) FMU Initial Response/Attack Run Card

Clarks Fork Fire Management Unit Initial Response/Attack Run Card

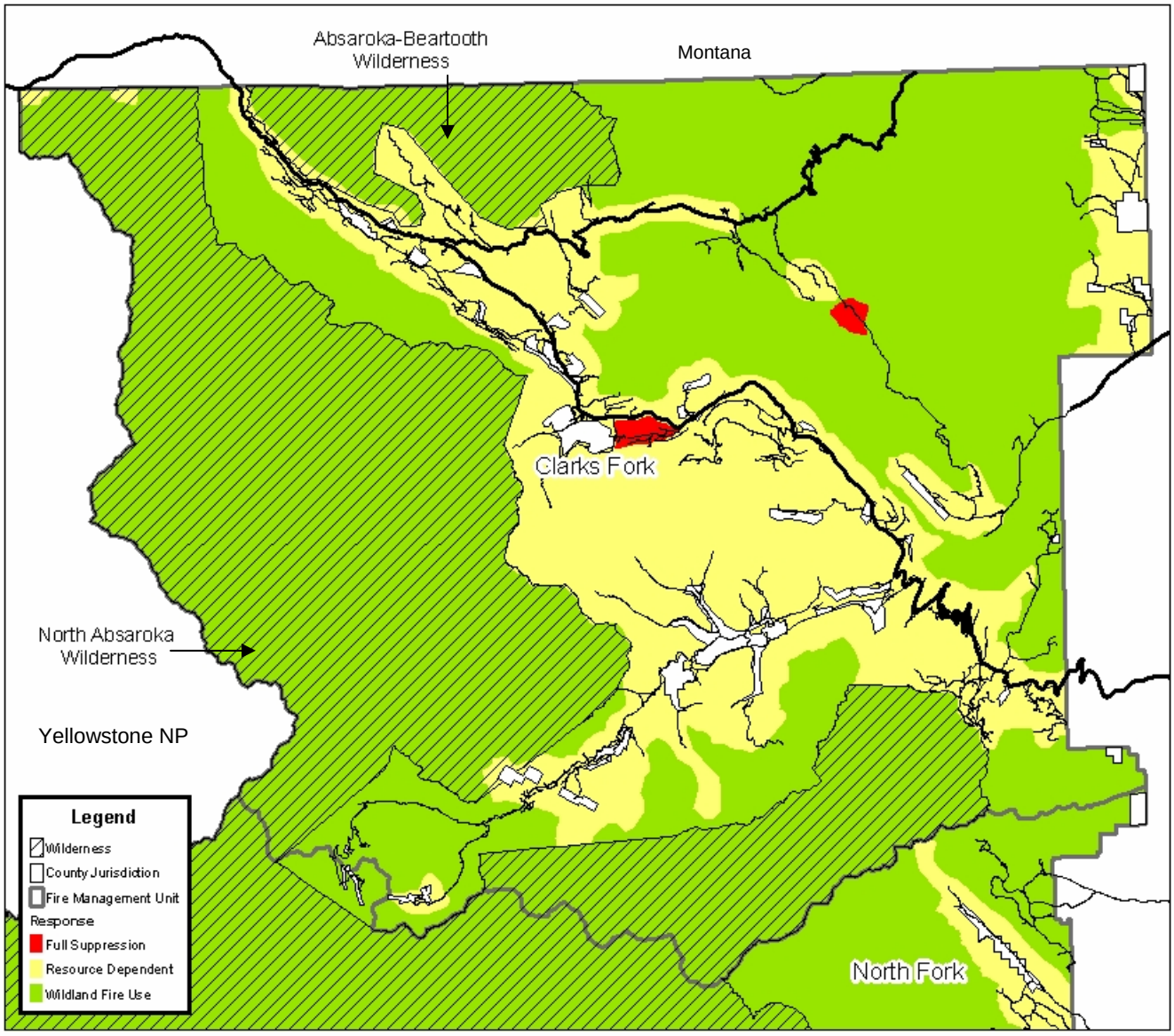
Full Suppression Response Zone					
Dispatch Resource	Fire Danger - Crandall RAWS 480213				
	Low	Mod	High	VH	EXT
Engine			1	2	3
Hand Crew (2 - 4 person)	1	1	1	1	2
Helicopter/Aerial Recon				1	1
Duty Officer/FMO/AFMO Notification	X	X	X	X	X
Unplanned ignitions are considered to be unwanted fires and initial attack responses will consist of the safest and most effective and cost efficient actions to contain and control fires as quickly as possible.					

Resource Dependent Response Zone					
Engine (T3, T4, or T6)		1	1	2	3
Hand Crew (2 - 4 person)	1		1	1	2
Helicopter/Aerial Recon				1	1
Duty Officer/FMO/AFMO Notification	X	X	X	X	X
Local Jurisdiction Notification (if structures are threatened)	X	X	X	X	X
Initial response to fires within the Resource Dependent Response Zone will require an assessment as to whether or not the fire is a wildland fire use candidate. The Duty Officer/AFMO/FMO begins this assessment immediately by evaluating the probable cause and location of the fire relative to resource values. Commensurate with the assessment, initial attack resources are dispatched to a fire under the assumption that the fire is to receive a suppression response unless directed otherwise. Human caused fires are classed as an unwanted fire and will receive a suppression response.					

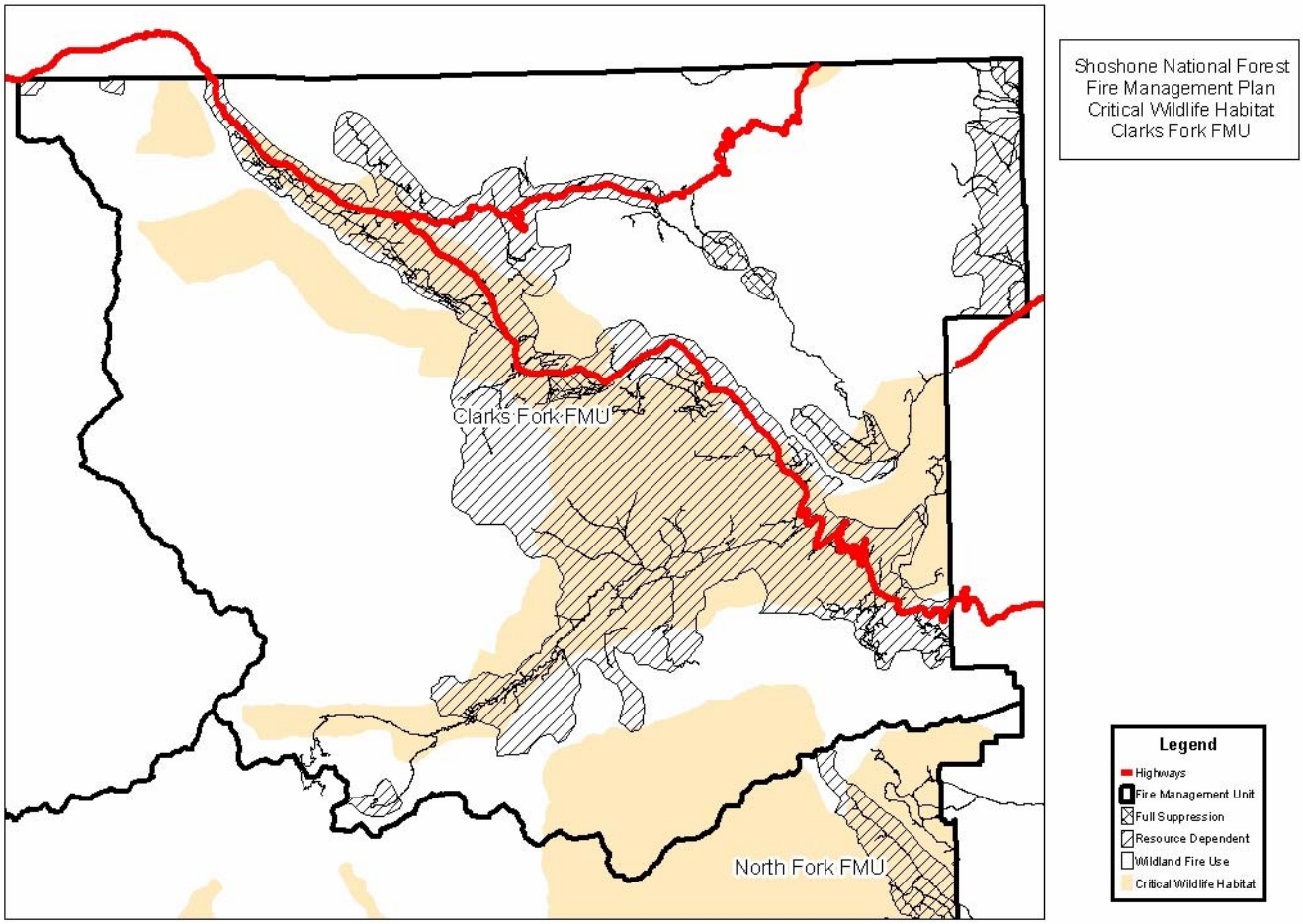
Wildland Fire Use Response Zone					
Engine				1	2
Hand Crew (2 - 4 person)	1	1	1	1	2
Helicopter/Aerial Recon			1	1	1
Duty Officer/FMO/AFMO Notification	X	X	X	X	X
Initial response to fires within the Wildland Fire Use Response Zone will require an assessment as to whether or not the fire is a wildland fire use candidate. The Duty Officer/AFMO/FMO this assessment immediately by evaluating the probable cause and location of the fire relative to resource values. Human caused fires are classed as an unwanted fire and will receive a suppression response. Initial response resources are dispatched to a fire under the assumption that the fire is a potential wildland fire use candidate and would not begin suppression actions unless directed otherwise.					

Other Instructions

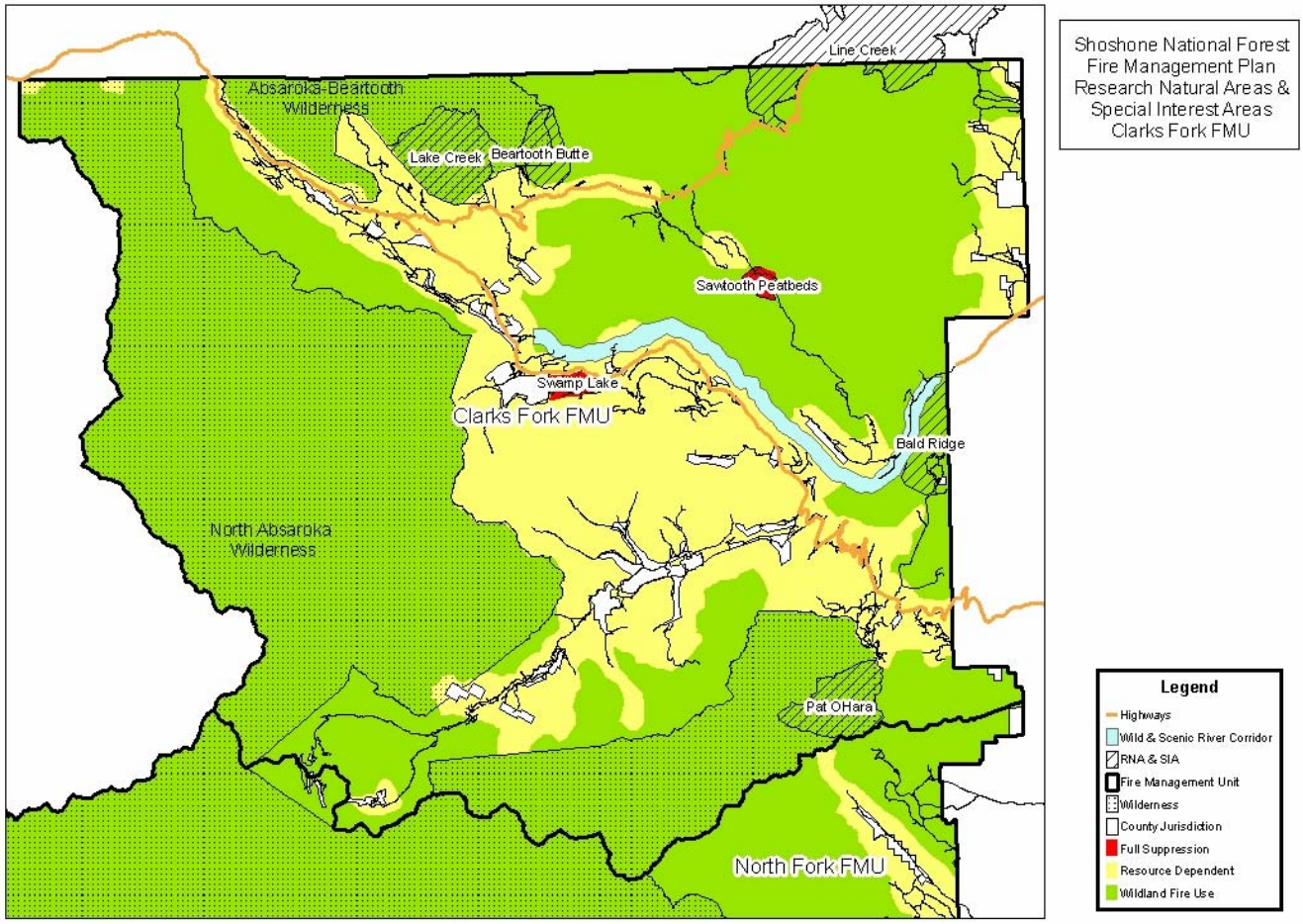
Map 1.0 - Clarks Fork FMU Boundaries and Response Zones



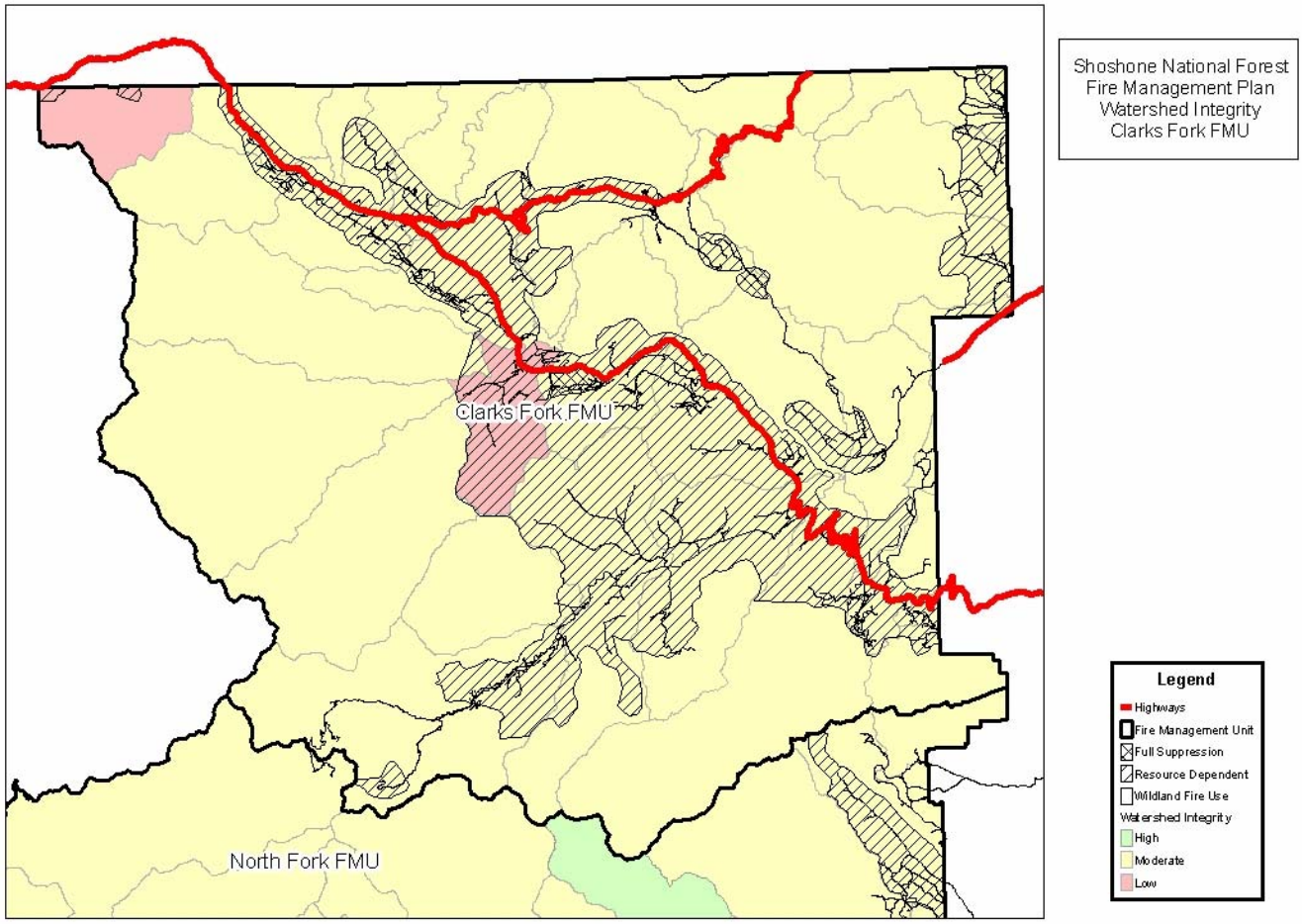
Map 1.1 - Clarks Fork FMU Wildlife Critical Winter Range and Yellowstone Cutthroat Trout Locations



Map 1.2 - Clarks Fork FMU Special Areas



Map 1.3 - Clarks Fork FMU Watershed Condition



Map 1.4 - Clarks Fork FMU Cultural Resources

A hard copy map of the approximate location of known cultural sites and not yet surveyed areas that have high probability of containing sites have been distributed to the zone FMOs. Detailed site-specific information is held by the Forest heritage program manager and can be obtained when needed. The information is stored in a GIS database as well.

Map 1.5 - Clarks Fork FMU Values at Risk

A comprehensive map displaying the values in the FMU that may be at risk is available in hardcopy and can be printed from the FMP electronic file. The associated data is also stored in a GIS data format that can be accessed from the Forest's GIS fire files at anytime when needed.

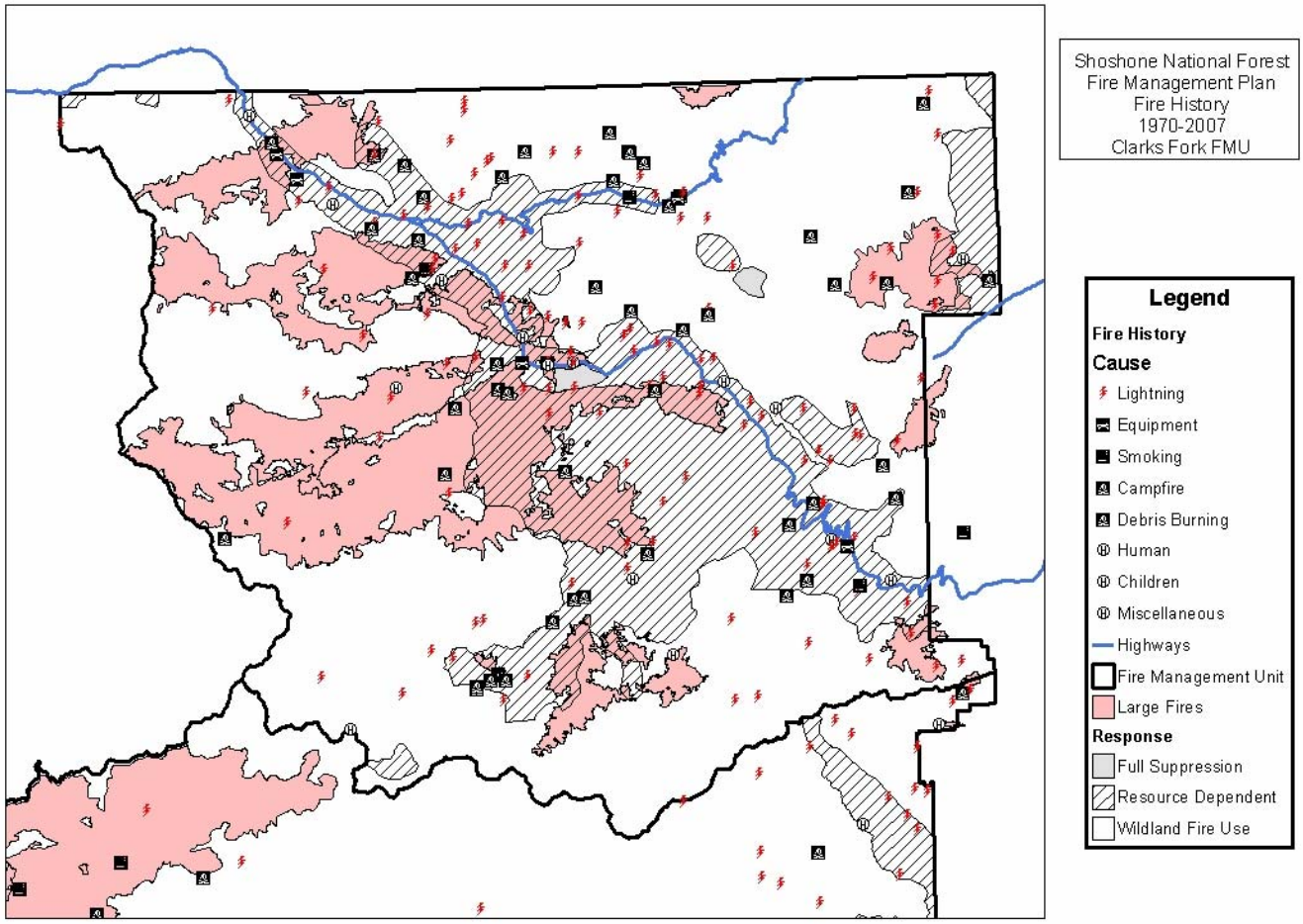
Map 1.6 - Clarks Fork FMU Invasive Plants

Invasive plant locations are mapped and available from the Forest's GIS corporate database.

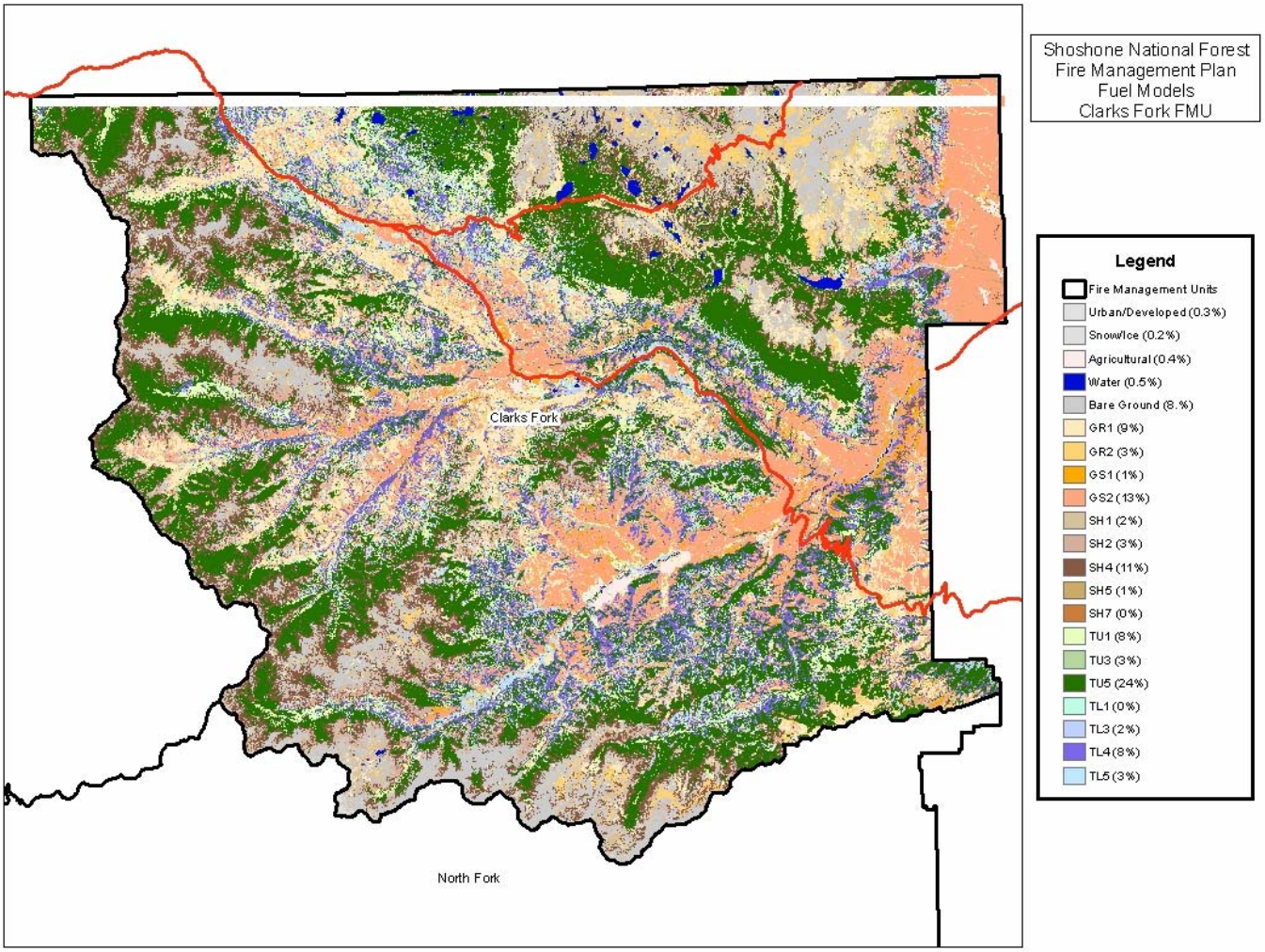
Map 1.7 - Clarks Fork FMU Invasive Aquatics

To be developed

Map 1.8 - Clarks Fork FMU Historical Fire Occurrence



Map 1.9 - Clarks Fork FMU Fuel Type



Map 1.10 - Clarks Fork FMU Fire Regimes and Condition Classes