C

Fire Management Zones

Areas where wildland fire is desired, but there are significant constraints that must be considered for its use.

General Description:
Fire is a desirable component of the ecosystem, however, ecological, social or political constraints must be considered. These constraints could include air quality, threatened and endangered species considerations (effect of fire on survival of species), or wildlife habitat considerations.

Fire Mitigation Considerations:
Programs should mitigate potential threats to values before ignitions occur and reduce unwanted human ignitions.

Fire suppression/use considerations:
Ecological and resource constraints along with human health and safety, etc., are utilized in determining the appropriate suppression response on a case by case basis by the incident commander and sub-unit line officer. Areas in this category would generally receive lower suppression priority in multiple wildland fire situations than would areas in “A” or “B” FMZs.

Fuel treatment considerations:
Fire and non-fire fuels treatments may be utilized to ensure constraints are met or to reduce any hazardous effects of unplanned wildland fire. Significant prescriptive fire activity would be expected to help attain desirable resource/ecological conditions. Prescribed fire for hazard/fuel reduction are of a lower priority than in “B” zones. Prescribed fire unit costs are low to moderate and are generally non-complex. Try to concurrently achieve fire protection and resource benefits, when possible.

Gibbler and Cactus Park C-130-01

Location: This FMU is located south west of Whitewater and is primarily the Gibbler and Farmers Canyon drainages. This unit totals 22,275 acres of which 21,782 acres are BLM administered land and only 493 acres of private land.

Characteristics: This unit is mostly a sloping series of ridges that run to the northeast into Cactus Park. The lowest elevation in this unit is 6,056 ft at the entrance to Cactus Park and the highest point is 8,100 ft on the western edge. Soils in the open, park-like areas are usually deep, and have clayey or silty textures (Horse Mountain [Horse Mesa?] area) to sandier textures (Cactus Park area). The northwestern section of Cactus Park, and up into the Dominguez area, contains extensive areas of very shallow soils over sandstone bedrock and exposed, flat-lying sandstone bedrock. Many of the soils under P-J are shallow to moderately deep and very stony or flaggy. Access to the unit is gained by way of the Cactus Park road or the Divide Road. There are numerous roads and Four wheel drive trails that traverse the unit. The uses found in this include livestock grazing, big game hunting, Christmas tree cutting, dispersed recreation and a flagstone quarry. The elk population is healthier than the deer population in this FMU.

The unit lies within the Farmers Canyon and Gibbler Gulch watersheds which are tributary to East Creek. These are ephemeral to intermittent drainages that generally flow in response to snowmelt and convective summer storms. Significant reaches of these drainages can be dry during much of the year. A short reach of East Creek flows though the unit. This is a perennial stream that is influenced by irrigation withdrawal and return flows. Water quality data collected on East Creek just downstream of this unit indicates very good quality waters with dissolved solids below 500 mg/l. Major ions include bicarbonate, sulfate, and calcium. The state of Colorado has classified East Creek and associated tributaries recreation 1a, aquatic life cold 1, water supply, and agriculture. The 303(d) list, a listing of impaired water, includes East Creek for selenium.

Riparian: Gibbler Creek, Gibbler Gulch, Jacks Canyon, and Rocky Pitch are riparian systems that were all found to be in Properly Functioning Condition. Most species in these areas would re-sprout after wildfire and in some areas could work as a firebreak if necessary.

This area is dominated by pinyon-juniper woodlands at the higher elevations with scattered pockets of ponderosa pine. There are sagebrush parks and extensive mountain shrub in the large chained areas within this unit. The upper mesas were chained in the late sixties and P-J is returning into these areas. Recently some of these old treatments have been retreated using a roller chopper and prescribed fire.

The following cultural resource classes are found within this FMU: **CR-1** High Value/High Risk

Fuels and Fire Behavior: This area has had a significant amount of fuels treatments since 2001. These areas are primarily grass with a moderate loading of down dead woody. There are areas mountain brush and pinyon and juniper with significant fire potential.

Fire History: This unit has a history of small, low intensity fires.

Fire Regime/Condition Class:
The vegetation communities of the Gibbler area is generally in a condition class 1 due to the number and scope of the past mechanical and Rx fire activities. The remnant stands of Ponderosa pine are considered to be in a CC 3, due to the heavy fuel loading in the understory (mainly mountain shrub).

Values at Risk:

Aquatic Habitat — Taylor Reservoir #1 and Picture Rock Reservoir support noteworthy riparian/aquatic communities. These areas need heightened protection from wildfire and disturbance that attends fire control work.

Special Status Species – Table III.D.5 gives the status of each species, locational information, and provides the fire suppression prescriptions for the species in this unit. The species of concern to this FMU are six big river fish species, northern goshawk, fringed myotis bat, and northern leopard frog.

Riparian Areas - Most species in these areas would re-sprout after wildfire and in some areas could work as a firebreak if necessary.

Sagebrush/greasewood – Low-growing black sagebrush occupies the greatest acreage and these are relatively fire resistant. The big sagebrush/greasewood habitat in Cactus Park and the tallest black sagebrush higher in the Dominguez area supports sagebrush-dependant wildlife and large fires in these areas are unacceptable.

Pinyon-Juniper – Mechanical and prescribed fire treatment can be used to reduce the amount of encroachment into the old chainings as well as to maintain the plant diversity in these areas. There has been a large die-off of Pinyon in this unit due to invasion of the Ips beetle.

Ponderosa Pine – Ponderosa pine stands are good areas for mechanical treatment until fuel loading is brought down to a level where natural fires can burn through without killing the mature trees. Care must be taken to avoid young ponderosa seedlings and poles, since the ponderosa pine stocking level is generally low.

Cultural: The area has a high density of Archaeological and Historic Resources that are eligible or potentially eligible for nomination to the National Register of Historic Places. Sites at risk in all three categories, (**A)**, **(B)**, and all levels of **(C)** have been recorded (see Chapter 3.1.1). Areas on maps showing no cultural resources have not had previous inventory. The most sensitive vegetation community is the piñon-juniper woodland that has not had disturbance in the last 400 years and areas of remnant Ponderosa Pine. Open camps with slab lined features would be most susceptible to suppression efforts using heavy equipment and are known to be intact within the existing vegetation treatments. Fragile rock art in canyon rock shelters would be susceptible to high intensity fire or slurry drops. Post-fire monitoring and ESR planning will need to address all surface disturbing suppression activities as well as erosion threats to buried sites.

General – The water saver overlooking upper Dominguez Canyon and Dominguez Campground in the canyon should be protected from wildfire.

Communities at Risk: There are no communities at risk in this unit. There are a few private homes on the northern boundary of the FMU.

Gateway Blackbrush **C-130-02**

Location: This FMU is located north of Gateway and is the bench area east of the Dolores River. (See Map C-130-02 Gateway Blackbrush) This unit is made up of entirely BLM administered lands that total 11,862 acres.

Characteristics: This FMU consists of benches and rocky hillsides with access limited to a county road that runs along the western boundary of the unit. The elevation varies from 4,480 ft on the western edge to 7,800 ft on the eastern boundary. The soils are very deep, calcareous gravelly and cobbly sandy loams to loamy sands, and are primarily in granitic alluvium. Several unnamed ephemeral tributaries to the Dolores River drain the area. These are dry with the exception of snowmelt periods and when runoff is generated from summer thunderstorms. No water quality data are available for these drainages because they are virtually dry. Runoff from this area is projected to meet state water quality standards.

Blackbrush occurs almost as a monoculture with very little herbaceous cover in a significant band on the benches above the Dolores River stopping almost immediately at Gateway. Pinyon – juniper woodlands is the other major vegetation type on the steeper hills. Below the benches, swale vegetation extending in fingers up from the Dolores River (FMU B-04) are carpeted with prickly pear cactus, galleta grass, and cheatgrass. A scattering of Utah junipers and rabbitbrush are found here too. The rare Dolores skeletonplant, *Lygodesmia doloresensis*, occurs here.

Water Quality: Several unnamed ephemeral tributaries to the Dolores River drain the area. These are dry with the exception of snowmelt periods and when runoff is generated from summer thunderstorms. No water quality data are available for these drainages because they are virtually dry. Runoff from this area is projected to meet state water quality standards.

Riparian: There are no significant riparian resources in this FMU.

Limited dispersed recreation spring and summer, intensive dispersed use during late big game season. The Palisade WSA makes up the eastern part of the unit

This unit supports rare plants/plant communities within its boundary; these are listed by unit number in (Appendix 1A). In addition, this unit supports State Potential Conservation Areas, which are listed by unit, in (Appendix 1B)

The following cultural resource classes are found within this FMU: CR-0 Low Value/Low Risk

Fuels and Fire Behavior: The lower pinon-juniper stands have moderate fire potential. Blackbrush stands are subject to fire, and fire will start and spread easily due to the dense, close spacing, "tinder-like" nature, and resinous foliage of blackbrush. There are usually few forbs or grasses in blackbrush stands that might aid in carrying fire, but despite this, blackbrush community's burn under conditions of high temperature, high wind velocity, and low relative humidity. Fire also occurs in blackbrush stands on sites with high proportions of herbaceous perennial species or in years in which annuals are abundant. Blackbrush's often strong association with red brome and cheatgrass may

result in higher fire frequencies than would occur without the bromes: the grasses leave dense, persistent dead stems that promote fire spread.

Fire History: This unit has a very low occurrence of detected fires.

Fire Regime/Condition Class:
The blackbrush shrub community of the Gateway area is generally in a condition class 1 due to the fact that fire historically played little role in blackbrush; however while the blackbrush community is within their NRV, due to the potential for conversion of these stands to cheatgrass or other invasives following disturbance they are considered to be in a condition class (CC) 2

Values at Risk:

Aquatic Habitat – There are very few, springs, seeps, and ponds in this unit provide aquatic habitat for various species.

Special Status Species – Table III.D.5 gives the status of each species, location information, and provides the fire suppression prescriptions for the species in this unit. The plants are listed by scientific name. The species of concern to this FMU are four big river fish species, fringed myotis bat, longnose leopard lizard, northern leopard frog (?), *Lygodesmia dolorensis*, and *Pediomelum aromaticum.* All known locations for rare plants as well as the one State Potential Conservation Area in this unit are in the BLM GIS system to insure protection/avoidance during fire suppression efforts.

Blackbrush – Its yellow flowers provide an attractive landscape seasonally. Deer and habituated cattle browse it extensively. Literature notes that fire generally has negative impacts to blackbrush communities especially if cheatgrass invasion is a factor. In many cases blackbrush communities do not return for long periods of time. Blackbrush is a non-sprouter after fire and does not aggressively return to burned sites. A number of common desert shrubs and annuals occupy blackbrush sites after a fire, but very few blackbrush seedlings are usually present. Fire destroys the short-lived blackbrush seedbank and blackbrush may take 60 years or more to reestablish after fire. Blackbrush reinvades so slowly following fire that even after 35 years it may not be an important component of the vegetation.

Pinyon-Juniper – Mechanical means can be used to thin the P-J woodland in this unit. Fire would be harmful to the dominate Blackbrush community. In the event of wildfire, rehab efforts should include seeding the area to address cheatgrass invasion and to jump start the herbaceous community. An herbaceous seed source in the blackbrush community may be absent. Exotic perennial plant species may be required to have a reasonable chance to out compete cheatgrass. Forage kochia (*K. prostrata*) may be the species of choice if the short-lived seed can be planted soon enough after harvest.

Cultural Resources - Almost no BLM land in the unit has been surveyed and no therefore no sites have been recorded. Greatest sensitivity is anticipated on the benches associated with the edge of pinyon woodland or overlooking the river. Cultural resource management may best be mitigated during post fire evaluation and ESR project work.

General – There are no range improvement projects at risk in this unit. The livestock-big game exclosure should not be protected from fire, but the fence should be repaired after fire passes through.

Communities at Risk: Gateway is one mile directly south of this unit.

Outlaw and Calamity Mesa, Cone Mt., Sewemup Mesa C-130-03

Location: This FMU is directly south of Gateway on both sides of the Dolores River. It does not include the riparian corridor along the Dolores River. (See Map C-03 Outlaw and Calamity Mesa, Cone Mt., Sewemup Mesa) The unit has a total size of 106,885 acres made up of 100,377 BLM acres and 6,508 acres of private land.

Characteristics:

Terrain of the unit is a plateau setting, dissected by deep sandstone canyon country. Soils are developing in sandstone and shale parent materials; they are shallow to deep over bedrock, with exposed bedrock common throughout the area. Soils in the sagebrush parks are generally deep, with sandy clay loam to clay loam textures. There are several vegetation types located within this unit. Mesa tops are generally the sagebrush and/or pinyon-juniper type. North-facing slopes are the mountain shrub type. Steep rocky hillsides are pinyon-juniper. In the north portion of the area east of the Dolores River adjacent to the National Forest and in the higher elevations west of the river smaller patches of Ponderosa Pine can be found. Sagebrush parks on Outlaw, Tenderfoot and Calamity Mesas are being encroached upon by pinyon-juniper woodland. Vegetative inventories have shown that a large extent of the vegetative communities in this unit is in late seral stages. Sagebrush is older growth and dying in some parts with a limited amount of recruitment. Age class of the pinyon-juniper woodland weighs toward the old growth side.

The FMU has a number of roads that traverse the area most of them built during the uranium mining era over 60 years ago. There are old mining sites which contain old structures, cabins and power lines. There is a radio tower facility on Dolores Point. The area is an important livestock grazing area, critical deer and elk winter range, and receives dispersed recreational use during the summer and fall seasons.

The FMU lies within the Dolores River watershed. Major streams on the west side of the river include Salt Creek and upper John Brown Canyon. Perennial water on the eastern portion of the unit includes Ute and Blue Creeks, and North Fork of Mesa Creek. Many canyons and gulches within the FMU have a discontinuous or ephemeral flow pattern. With the exception of Salt Creek, water quality is generally excellent. Data collected in John Brown and Lumsden Canyons, and on Ute Creek had total dissolved solids concentrations below 500 mg/l, with bicarbonate, calcium and sulfate the predominant ions, respectively. In contrast Salt Creek typically had total dissolved solids concentrations over 25,000 mg/l, with sodium and chloride the predominant ions. All of these tributaries to the Dolores River have been classified aquatic life warm 2, recreation 1a, and agriculture by the State of Colorado. No streams within the unit are included on the 303(d) list which is a listing of impaired waters within the state. Salt Creek is included on the 303(d) monitoring and evaluation list for selenium.

The vegetation types here are from desert shrub to sagebrush parks and piñon-juniper woodland to mountain shrub and isolated stands of ponderosa pine..

Riparian - The FMU takes in the Dolores River watershed. Perennial streams on the west side of the river include Salt Creek and upper John Brown Canon. Perennial streams on the eastern portion of the unit include Ute, Blue, and North Mesa Creeks. Salt Creek was found not to contain riparian values in 2000 when it was re-evaluated.

Wildfire in these systems should not do any long term damage the system. Most species will re-sprout and recruitment seedlings should occur but those systems supporting cottonwood stands should be protected from wildfire. In addition, valuable riparian areas are around springs on Sew-em-up Mesa, at the head of Cave Canyon, and DP Spring all in the west unit. The data on hand suggest there is marginal invasive species in these systems and a type conversion to non-natives is not a big threat at this time.

Several fuel reduction projects have been completed in this unit in the past 10 years. Treatments include prescribed fire, hydro-ax and rollerchopping. All three treatment types demonstrated an increase in the cheatgrass component following the treatment. Seeding the area during or following treatment appears to reduce the degree of this increase. Rehab efforts for wildfires showed similar results.

Limited dispersed recreation with big game hunting attracting the most people in the fall.

The following cultural resource classes are found within this FMU: **CR-1** High Value/High Risk:

This unit supports rare plants/plant communities within its boundary; these are listed by unit number in (Appendix 1A). In addition, this unit supports three State Potential Conservation Areas, which are listed by unit, in (Appendix 1B)

Fuels and Fire Behavior: The dominate fuel type of the area is pinyon-juniper with scattered areas of ponderosa pine and mountain brush. Fires are generally wind driven and have the potential to get large due to continuous fuels.

Fire History: The areas west of the Dolores River tend to receive a high level of lightning. There have been numerous small and large fires in the area since 1994. The remote nature of the area and lack of access make fire suppression challenging.

Fire Regime/Condition Class:
The vegetative composition of the Outlaw/Calamity Mesas, Dolores Point, Cone Mtn., and Sewemup Mesa area is generally in a late seral stage, with the composition and structure of the sage/grass and Ponderosa pine communities being moderately departed from their natural range of variability (NRV). These communities are considered to be in a condition class (CC) 2 moving towards a condition class 3, with some of the Ponderosa pine stands firmly in a CC 3 due to the mature shrub layer in the understory. The mountain shrub and pinyon-juniper communities are considered to be within their respective NRV, and are generally considered to be in CC 1.

Values at Risk:

Aquatic Habitat – Major streams in this unit include Salt Creek, upper John Brown Canyon, Ute Creek Blue Creek (which supports a rainbow trout fishery), and North Fork of Mesa Creek (which supports a fishery downstream of the unit). These creeks along with any other streams, wet areas, springs, seeps, and ponds found in this unit provide aquatic habitat for various species.

Special Status Species – Table III.D.5 gives the status of each species, location information, and provides the fire suppression prescriptions for the species in this unit.

The plants are listed by scientific name. The species of concern to this FMU are four big river fish species, bluehead sucker, bald eagle, northern goshawk, fringed and Yuma myotis bats, northern leopard frog, *Astragalus rafaelensis*, and *Lygodesmia dolorensis.* All known locations for rare plants as well as the three State Potential Conservation Areas in this unit are in the BLM GIS system to insure protection/avoidance during fire suppression efforts. For example, if driving off existing tracks in the lower swales is required for fire control, avoid the known sites of the BLM sensitive plant, *Lygodesmia doloresensis*.

Riparian Areas – Of vegetation types, this one requires the first response and the greatest care in preventing loss or damage. The major streams, other than Salt Creek, have well-developed stands. Clockwise around the FMU as seen on a map, the streams with this habitat are Cottonwood and North Cottonwood Creeks, upper John Brown and upper Lumsden Canyon drainages, Turner Gulch, Ute Creek, Maverick Canyon, Calamity, Cow, Indian, Blue and North Fork of Mesa Creeks.

Sagebrush – The condition of some the sagebrush community is a concern for this unit especially areas receiving extensive deer use. Sagebrush in many areas is stagnant with limited amounts of recruitment or have piñon-juniper invasion. Treatments and/or seeding efforts should focus on sustaining a mixture of age classes within the sagebrush community.

Pinyon-Juniper – Fire should play as natural a role as possible. Mechanical means can be used to thin the P-J woodland in this unit. This is an important source of woodland products: fuelwood, posts and Christmas trees. It should be noted that there are excellent 400+ year-old closed and nearly closed-canopy woodlands, with large diameter pinyon and juniper trees in both divisions of this FMU. These woodlands serve the big game thermal and hiding cover and PJ dependant wildlife better than any alternative for these sites. These sites should not necessarily be protected from wildfire, but should be segregated from the younger tree sites suitable for treatment. Treatment and protection schedules should be adjusted by comparing disturbance rates with total area with each vegetation condition and the knowledge of recovery rates. The dynamic is between the area in sagebrush/grassland versus area in PJ.

Mountain Shrub – There is no fire suppression prescription for this type. Much of the ground in the west division of this FMU is a mosaic of sagebrush and Gambel oak clumps. As a mosaic this is a productive habitat for wildlife. Regular periodic wildfire may have designed this distribution of habitats. In the higher areas of the eastern division of the FMU, mountain shrub, especially oaks, occur in larger more dense stands. Large dense stands are especially valuable to bears. The slopes above Turner Gulch and Ute Creek are bear country. Smaller stands with many openings are desirable for deer and elk., with wide openings for elk, and narrower ones for deer. Mechanical shredding treatments have created temporary large openings, which as they resprout are providing a few years of enriched browse for big game. To permanently change the percentage of ground cover, a period of frequent intensive retreatments are needed and herbicide may be the cheapest alternative. Large-stem oaks usually has a rich elk sedge understory and these stands should be spared treatment, since they supply the desirable herb component, shade for livestock, nesting habitat for birds, and an acorn crop for mast-eating wildlife, such as wild turkeys, bears, deer, band-tailed pigeons, ground squirrels, and others. Squawapple, *Paraphyllum ramosissimum*, near the north end of its range, is a desirable shrub component in this area.

Ponderosa Pine – Low ground fires are desired to reduce fuel ladders and eliminate competition allowing the pines to dominate. These fires may also kill seedling ponderosa pines and desirable understory shrubs. However, at a frequency of once every 15 to 20 years there is ample opportunity for seedlings to escape the vulnerable stage counting on good seedling establishment in the first few years following fire.

Cultural Resources: The CR-1 areas have a high density of Archaeological and Historic Resources that are eligible or potentially eligible for nomination to the National Register of Historic Places. Sites at risk in all three categories, (**A)**, **(B)**, and all levels of **(C)** have been recorded (see Chapter 3.1.1). Calamity Camp, as well as other historic mining areas, has buildings and other structures that need to be protected from fire. Direct retardant drops on historic structures can destroy them and caution needs to be exercised when ordering air drops. Areas on maps showing no cultural resources have not had previous inventory. The most sensitive vegetation community is the piñon-juniper woodland that has not had fire events in the last 400 years and areas of remnant Ponderosa Pine. These locales may be small islands and would be extremely vulnerable to crown fires. Open camps with slab lined features would be most susceptible to suppression efforts using heavy equipment. If fires burn in this unit, extensive post-fire monitoring (and probably treatment) will need to be planned.

General – There are no high investment range improvement projects at risk in this unit.

Communities at Risk: There are no communities in the unit. There is a ranch house and outbuildings at the southern edge of the eastern division on Blue Creek, periodically occupied mining structures scattered throughout the FMU, and dwellings in Utah immediately to the west.

Book Cliffs **C-130-04**

Location: This FMU is located in the northwest corner of the Grand Junction Field Office. (See Map C-130-04 Book Cliffs) This unit total 297,238 acres encompasses 260,629 acres of BLM administered lands and 36,610 acres of private land.

Characteristics:

Terrain consists of overall south-facing aspects dissected by numerous canyons. Soils are on or in materials from the Mesa Verde, Wasatch, or Green River Formations. These sandstones and shales produce a wide range of soil textures and depths, with the soils having the most clay coming from the Wasatch Formation. The higher elevation soils of the Green River Formation are very channery loams and sandy loams. Many of the soils have a high content of stones and boulders on and in the surface; exposed bedrock is common throughout the area. The erosion hazard is generally high. Steep ground of the western division of this FMU characterizes this area more than any other. The eastern division of this FMU is more typical mesa-canyon country.

The eastern polygon of this FMU is comprised of the reach of the Colorado River in De Beque Canyon and associated easterly and southeasterly trending tributary canyons and creeks. These tributaries have ephemeral to intermittent flow patterns. While no water quality data are available for this streams, visual observations indicate high sediment concentrations are common during runoff events. The Colorado River experiences seasonal variation of flow. May and June, the snowmelt period, is the high flow period while December through February is the low flow period. Water quality is highly variable. High flow produces waters the have suspended sediment levels often over 1000 mg/l dropping to below 50 mg/l during low flow conditions. Total dissolved solids are generally below 500 mg/l during high flow increasing to over 1000 mg/l during low flow. Predominant ions are sulfate, bicarbonate, chloride and sodium. The state of Colorado has classified the Colorado River aquatic life warm 1, recreation 1a, water supply, and agriculture. The tributaries are classified aquatic life warm 2, recreation 1b, and agriculture. The 303(d) monitoring and evaluation list, a listing of waters with perceived problems, includes the Colorado River and tributaries within this polygon for sediment. The western polygon, the largest portion of the FMU, is made up of the Prairie Canyon, West Salt Creek, East Salt Creek, Big Salt Wash, and Hunter Canyon watersheds from their sources to where they leave the Book Cliffs. All are tributary to the Colorado River. Most of the streams within this area have discontinuous flows with many reaches dry during most of the year. Limited water quality data are available for Big Salt Wash in the central portion of the unit. Those data indicate a sodium, bicarbonate, sulfate type waters with total dissolved solids averaging over 1100 mg/l. These data are influenced somewhat by irrigation, so the balance of the area is projected to have similar type water, but with a lower total dissolved solids concentration. The state of Colorado has classified these streams aquatic life warm 2, recreation 1b, and agriculture. The 303(d) monitoring and evaluation list, a listing of waters with perceived problems, includes these streams for sediment.

The western division of the FMU is bisected by Highway 139, which runs north and south between Loma and Rangely. Much of the area has roads that follow the ridge tops or valley bottoms. Natural gas production is occurring at reduced levels in this unit. The area is also grazed by domestic livestock. Big game hunting (deer, elk, bear, and mountain lion) is important here.

Vegetation consists of aspen and Douglas fir on the upper elevation divide and in higher, north-facing ravines. Bunchgrasses grow on the drier slopes and with sagebrush and snowberry on benches and ridgetops. Mountain shrub/sagebrush mosaics occur on benches and ridgetops too. As one drives north on Highway 139 entering the FMU pinyon-juniper woodlands dominate both south and north faces. Farther north mountain shrub takes over the north faces. Further yet mountain shrub overtakes both north and south faces, even though a few junipers continue to the top of the divide. Greasewood, sagebrush and rabbitbrush dominate in the valley bottoms, with a meager development of cottonwood riparian downstream from Trail Canyon and the Flying W Ranch. The other north to south major drainages have the same pattern. The east edges of the eastern division of this FMU holds the most sites of the DeBeque rare plants. They occur in desert shrubland and open PJ country.

The unit contains a portion of the Colorado and several ephemeral drainages. Prairie Canyon, West Salt Creek, East Salt Creek, Big Salt Wash, Hunter Canyon (Little Salt Wash), Barrel Springs, Calf Canyon, Edds Canyon and Layton Wash These systems should recover after a wildfire through vegetation re-sprouting and recruitment of young species. Special attention should be given to Barrel Spring and both its right and left forks as they contain the only fisheries in this unit and removal of too much riparian vegetation could have a negative affect on the fish, with loss of vegetation shading and sediment loading. Tamarisk advancement should be monitored within the lower reaches if wildfire were to consume the native vegetation. There are several substantial seeps and spring throughout the Bookcliffs and location of those should be confirmed with a resource advisor if needed for water or if they are improved.

Generally intensive, dispersed recreation during big game hunting seasons; and intensive recreation use during the spring and fall in the Coal Gulch Area inside the North Fruita Desert Planning Area.

The following cultural resource classes are found within this FMU: **C-2** Moderate Value/ Moderate Risk in the west and central zones, C-1 High Value/High Risk in the east zone

Fuels and Fire Behavior: There are a wide variety of fuels in this unit. The major fuel types are pinyon-juniper, sagebrush, cheat and perennial grasses, and mountain brush. Douglas-fir occurs at the upper elevations. There are also two isolated pockets of ponderosa pines. This FMU has a tendency for large wind driven fires.

Fire History**:** This is one of the more active areas for lightning fires, with numerous starts, and eleven large fires in the past decade.

Fire Regime/Condition Class:
The vegetative composition of the Bookcliffs area is generally in a late seral stage, with the composition and structure of the sagebrush/grass, aspen, and Douglas fir communities being moderately departed from their natural range of variability (NRV). These communities are considered to be in a condition class (CC) 2 moving towards a condition class 3. The mountain shrub and pinyon/juniper communities are considered to be within their respective NRV, and are generally considered to be in CC 1. Cheatgrass invasion is a concern at the lower elevations of this FMU, which could alter the condition class of these areas.

Values at Risk:

Aquatic Habitat: The Colorado River and some of the main tributaries including Prairie Canyon, West Salt Creek, East Salt Creek, Big Salt Wash, and Hunter Canyon along with with the wet areas, springs, seeps, vernal pools and ponds provide aquatic habitat for various species.

Water quality – Inclusion of these streams on the 303(d) monitoring and evaluation list indicates there is a perceived problem with sediment concentrations. Maintenance of good vegetative cover is crucial to limit sediment produced from these watersheds.

Special Status Species – Table III.D.5 gives the status of each species, locational information, and provides the fire suppression prescriptions for the species in this unit. The plants are listed by scientific name. The species of concern to this FMU are the six big river fish species, bald eagle, northern goshawk, greater sage-grouse, fringed and Yuma myotis bats, northern leopard frog, Great Basin spadefoot toad, *Astragalus debequaeus, A. naturitensis, Circium perplexans, Gilia stenothyrsa, Phacelia submutica*, and *Sclerocactus glaucus.* All known locations for rare plants as well as the State Potential Conservation Areas in this unit are in the BLM GIS system to insure protection/avoidance during fire suppression efforts.

Riparian Areas – This habitat is irregularly distributed in the major canyon bottoms and around springs. Some of the most important habitat and vulnerable to wildfire is along the Colorado River in DeBeque Canyon, for aesthetic and bald eagle reasons. One spring in upper East Salt Creek has basswood, a common species elsewhere, but adjunct here in western Garfield County. These habitats need protection from wildfire and physical and chemical damage from fire management activities.

Desert Shrubland – The usual interest in protecting this vegetation type from conversion to cheatgrass or other annual plants exists in this FMU. Most of this habitat is in the eastern division of this FMU.

Sagebrush – The tall Basin big sagebrush of the valley bottoms needs no protection from wildfire and has even been treated with managed fire to achieve an open Western wheatgrass-dominated habitat to improve big game and livestock forage. Good cover and browse remains for deer nearby on the slopes. The shorter Wyoming big sagebrush on the benches and in large parks in the eastern division, and mountain big sagebrush higher up are essential to maintain the deer population. Wildlife should not be the rationale for burning them. Livestock forage may be improved by the limited control burning of this sagebrush that is done. Controlling cheatgrass invasion of lower elevation sagebrush is a key concern.

Pinyon – Juniper – Fire can be used to open up these stands (How? With wildfire? Intentionally set fire? Steep country, C area, seems the dominant western part of this FMU is not place to say this about, especially since a couple of big fires have already done this in spades – Buniger and Hatchet Fires) . Mechanical means on less steep slopes can also be used to produce woodland products (?? Didn't know we had biomass options being proposed anywhere in the FMP) from these stands. Deadwood harvesting west of Big Salt Wash (16 Road) is not permitted (RMP/ROD p. 2-37) as insurance against an aggressive fuelwood market, leaving too few acres with a natural ratio of live and litter components, avoiding the European "clean forestry" model. Much

of this habitat is critical deer winter range in conjunction with adjacent sagebrush/greasewood habitats and the edges of FMUs B-130-01 and B-130-08. The eastern edge, along the Colorado River and in the tributary canyons is a newly re-introduced herd of bighorn sheep. Thinning of PJ in their canyons and immediately above the rims would improve this habitat, although there is a high cheatgrass invasion hazard here.

Mountain Shrub – There is no prescription for limiting fire in this vegetation type. Large stem stands of oak are scarce in this FMU, usually in more moist topographic depressions. They are the most valuable stands serving many species of wildlife including calving elk. Loss of them to fire would be a long-term (80+ year) wildlife habitat loss.

Aspen – Aspen needs open areas to regenerate. Remnant stands of aspen, invaded by subalpine fir, could be allowed to burn in order to re-establish this species. The CDOW has identified the aspen stands in this FMU as critical elk calving areas.

Douglas fir – In the dougfir stands, due to the steepness of the slopes they are found on, fire is not likely to stay close to the ground but grow into crown fires. These stands need should be protected. Dougfir and other tall conifers are relatively scarce habitats in this part of Colorado and the habitat that they form is a linkage corridor for high country wildlife and their interstate flow of genetic material (Southern Rockies to Uinta-Wasatch Mountains). It is the “backbone” of the Utah High Plateaus Ecoregion.

Ponderosa Pine – The narrow line of ponderosa pines in Pine Gulch at the southeast end of the western division of this FMU should be protected from fires that threaten to “crown”.

Cultural Resources- The area generally has a moderate density of Archaeological and Historic Resources that are eligible or potentially eligible for nomination to the National Register of Historic Places with some areas, especially the east unit having a high density. Sites at risk in all three categories, **(A), (B)**, and **(C)** have been recorded (see Chapter 3.1.1). Greatest sensitivity for prehistoric sites is anticipated in the remnant woodlands that have open architecture and campsites on benches associated with the major drainages. The area has a large number of historic mine and ranch sites. All sites associated with the Baxter Pass Railroad grade are eligible and susceptible to surface disturbing suppression activities. Unrecorded historic sites are known to exist in the north-slope forests. The greatest risk is from fire burning structures and may be best mitigated by fuel reduction near structures. Surface disturbing suppression activities anywhere in the unit will best be mitigated during post fire evaluation and ESR project work.

Communities at Risk: There are no communities in this unit. Oil and gas infrastructure (high pressure above ground lines, well heads, welding associated with maintenance and vehicle operation by companies etc.) creates both a hazard and is a major investment that isn’t classified in HFI or HFRA but is at risk. There are scattered cabins and ranches.