

Chapter 5 – Complexes: Area-Specific Management Recommendations

This section contains our detailed, area-specific proposal utilizing the theme based approach to land management. As an organizational tool, this proposal divides the Pike-San Isabel National Forest into eleven separate **Complexes**, based on geo-physical characteristics of the land such as mountain ranges, parklands, or canyon systems. Each complex narrative provides details and justifications for our management recommendations for specific areas. In order to emphasize the larger landscape and connectivity of these lands with the ecoregion, commentary on relationships to adjacent non-Forest lands are also included.

Evaluations of ecological value across public and private lands are used throughout this chapter. The Colorado Natural Heritage Programs rates the biodiversity of Potential Conservation Areas (PCAs) as General Biodiversity, Moderate, High, Very High, and Outranking Significance. The Nature Conservancy assesses the conservation value of its Conservation Blueprint areas as Low, Moderately Low, Moderate, Moderately High and High. The Southern Rockies Ecosystem Project's Wildlands Network Vision recommends land use designations of Core Wilderness, Core Agency, Low and Moderate Compatible Use, and Wildlife Linkages. Detailed explanations are available from the respective organizations.

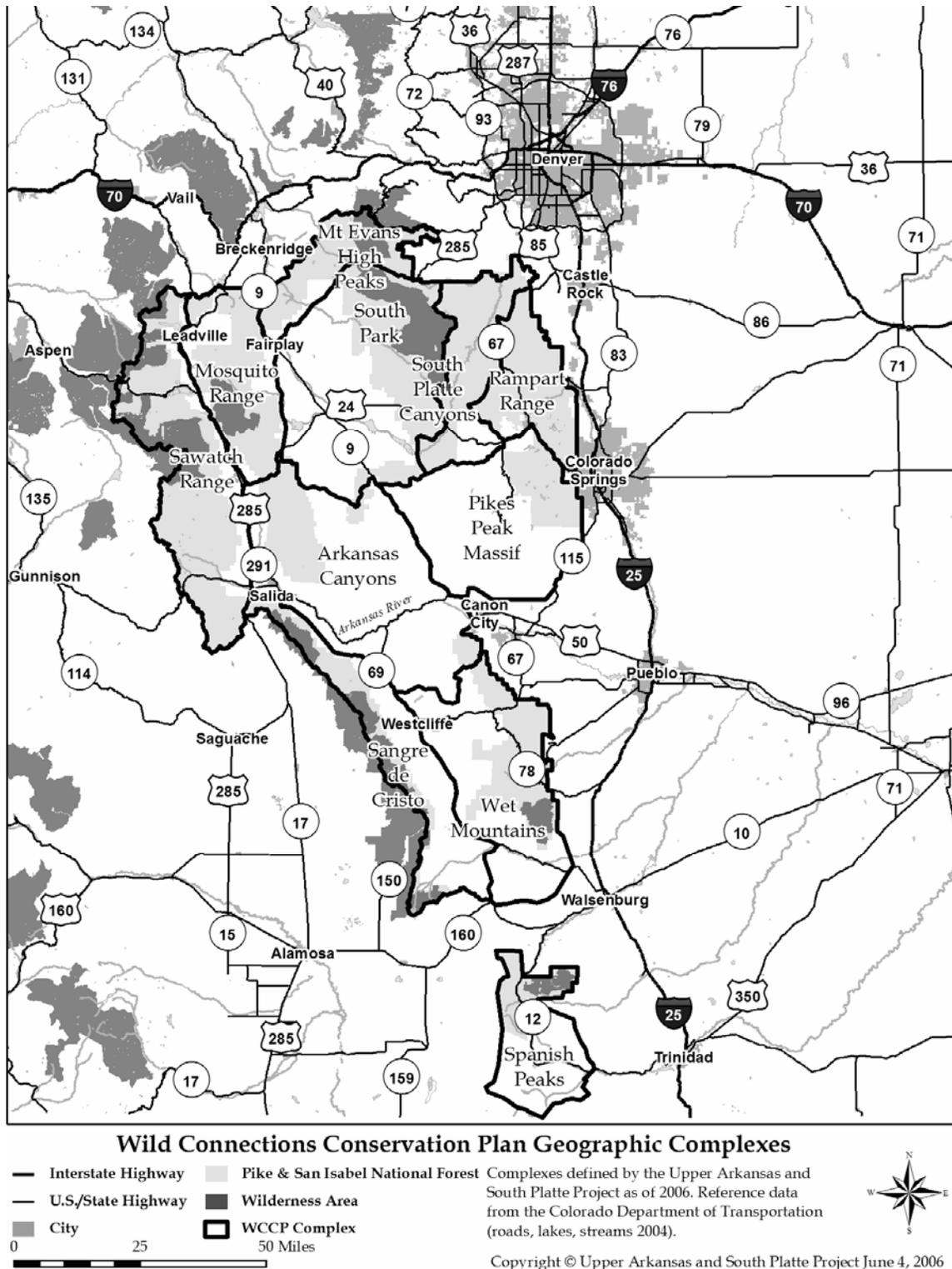
Complexes – Summary List by Watershed

Table 5.1: Summary of WCCP Complexes

Watershed	Complex	Ranger District
South Platte	Mount Evans High Peaks	South Platte & South Park
	South Park	South Platte & South Park
	South Platte Canyons	South Platte & South Park
South Platte and Arkansas	Mosquito Range	South Park, Leadville and Salida
	Pikes Peak Massif	Pikes Peak
	Rampart Range	South Platte & Pikes Peak
Arkansas	Sawatch	Leadville and Salida
	Arkansas Canyons	Salida, San Carlos & BLM Royal Gorge Resource Area
	Sangre de Cristo	Salida and San Carlos
	Wet Mountains	San Carlos
	Spanish Peaks	San Carlos

Complexes – Map Locater

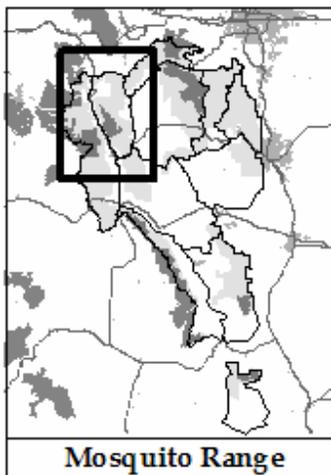
Map 5.1: Wild Connections Complexes



The Mosquito Range Complex

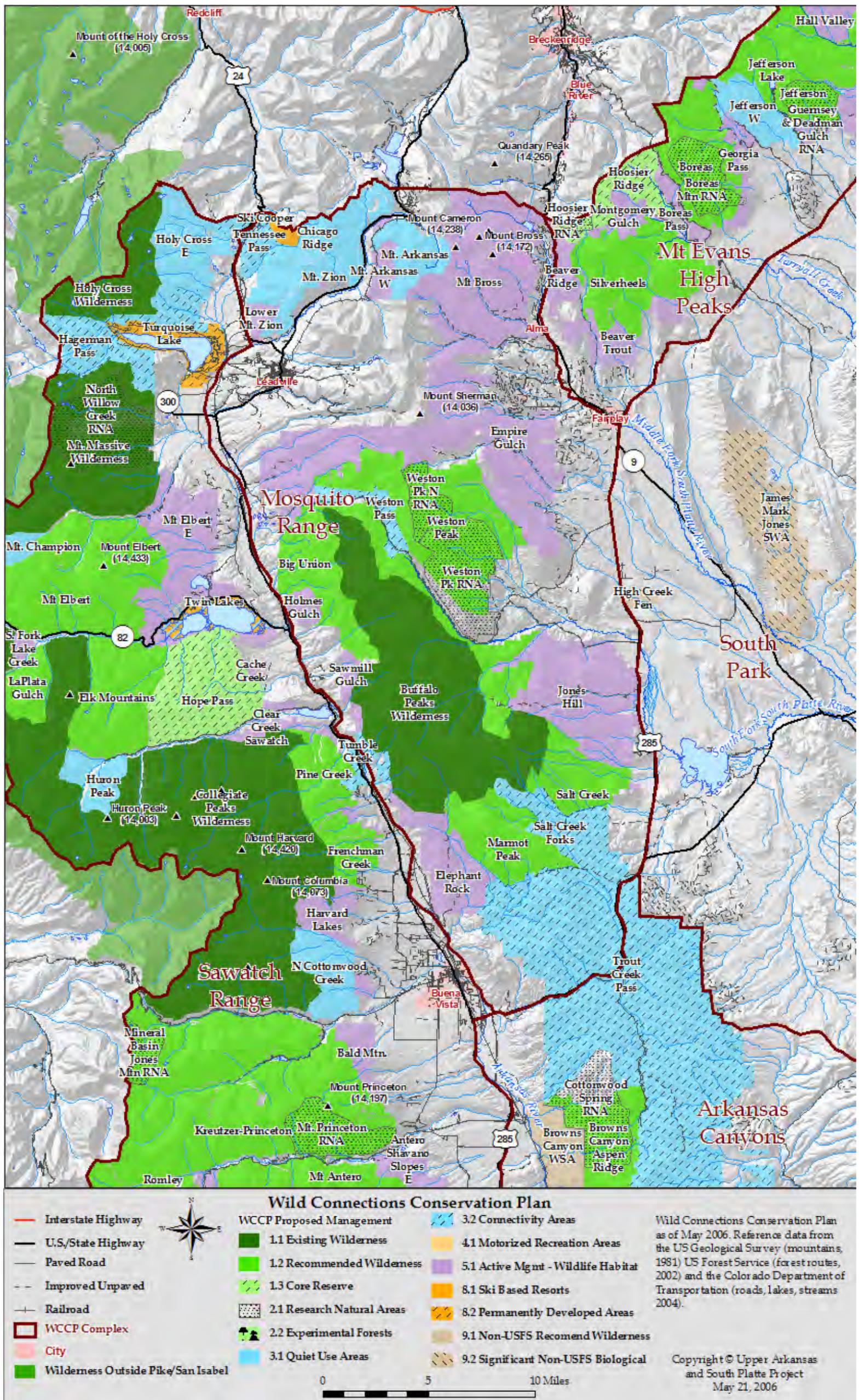


Salt Creek roadless area



The Mosquito Range Complex is located between the Arkansas Valley and South Park, from the Continental Divide south to Trout Creek Pass.

Eleven complexes centered on geographical features encompass sections of the Pike-San Isabel National Forest, adjacent BLM, state, and private lands. Fitting together like a mosaic, they cover the headwaters of the South Platte and Arkansas Rivers.



Map 5.3: Mosquito Range Complex Proposed Management

Note: This map is located in the pocket at back of the document for usability.

Description

Overview

The Mosquito Range is a high mountain ridge that runs north-south for approximately 40 miles between the Arkansas Valley on the west and South Park on the east. The Mosquito Range complex, as its name suggests, includes most of the Mosquito Range and lies in Lake, Park, and Chaffee counties. The landscape of the Mosquito Range complex varies from isolated 14,000 foot high mountain peaks and rugged canyons to the foothills of South Park and the riparian zone of the Arkansas Valley. The northern part of the complex is a history book of Colorado's mining industry where precious minerals, whether lead, silver, or molybdenum, created both wealth and adversity for thousands of miners.

A description of the landscape, vegetation, wildlife and ecological values, including detailed descriptions of roadless areas, is followed by the recommendations for the complex organized according to the management themes. A discussion of connectivity within the complex and to adjacent complexes is found at the end.

The landscape and wildlife

Mount Lincoln, the eighth highest peak in Colorado at 14,286 feet, is the highest point in the Mosquito Range complex. Another four peaks rise above 14,000 feet: Mount Sherman, Mount Democrat, Mount Bross, and Mount Cameron. The range also includes 26 peaks higher than 13,000 feet. Tennessee Pass at 10,424 feet and Hoosier Pass at 11,541 feet are at northwest and northeast corners of the complex respectively, with the Continental Divide between them forming the northern boundary of the complex. East and West Buffalo Peaks in the southern portion of the complex, both above 13,000 feet, are prominent landmarks seen from South Park. The complex descends to the Arkansas River at about 8,000 feet in elevation on the southwest, Trout Creek Pass at 9,346 feet on the southeast, and around 9,000 feet along the eastern edge, in South Park.

The Mosquito Range complex contains the headwaters of the East Fork of the Arkansas River and of the South and Middle Forks of the South Platte River. The East Fork of the Arkansas River, Fourmile Creek, and Trout Creek all flow into the Arkansas River, which forms the complex's western boundary. Buckskin Creek flows east into the Middle Fork of the South Platte River, while Fourmile Creek, Twelvemile Creek, and Salt Creek flow southeast into the South Fork of the South Platte River. The Middle and South Fork later join together near Hartsel to form the South Platte River.

The primary vegetation found in the high central portions of the Mosquito Range is alpine tundra and barren rock. Lodgepole pine predominates on the lower western slopes. The northeastern area includes bristlecone and limber pine, with Engelmann spruce-subalpine fir, mixed conifer, ponderosa pine, and aspen covering the southeastern sides. On south slopes ponderosa pine and piñon-juniper woodlands are prevalent, while montane grasslands are located along the Arkansas River and at the edge of South Park. More than 30 rare plants are found in the complex; of note are Leadville milkvetch (*Astragalus molybdenus*), seven different moonworts (*Botrychium sp.*), six types of drabas/whitlow-grasses (*Draba sp.*), and Penland alpine fen mustard (*Eutrema edwardsii ssp penlandii*). In spite of the heavy mining impact near Leadville and the Climax Mine, many of these rare plants are located in that area, mostly on BLM or private lands. Numerous sensitive natural communities in the complex include extreme rich fens, upper montane and montane woodlands,

mixed foothill shrublands, timberline forests, montane riparian forest, subalpine riparian areas, wet meadows, and alpine meadows.

Although much of the complex is high tundra or rock, there is a variety of habitat for lynx, wolverine, mountain lion, bobcat, black bear, mule deer, elk, bighorn sheep, pine marten, raptors, and smaller mammals. Ungulates abound in the Mosquito Range, with elk, bighorn sheep, and mule deer living in the high peaks in the summer and moving to various lower elevation locations in the winter. Pronghorn are found on the eastern areas at the edge of South Park. Rare and sensitive species found in the complex include dwarf shrew (*Sorex nanus*), Townsend’s big-eared bat (*Plecotus townsendii pallescens*), boreal toad (*Bufo boreas*), American peregrine falcon (*Falco peregrinus anatum*), and swampy lymnaea (*Lymnaea stagnalis*), a mollusk. There are three rare insects present in the complex: the rhesus skipper (*Polites rhesus*), xanthus skipper (*Pyrgus xanthus*), and polixenes arctic (*Oeneis polixenes*).

Ecological values of the complex

The Mosquito Range complex includes many rich and unique biological areas. Two proposed Research Natural Areas (RNA) are located on Weston Peak. The Colorado Natural Heritage Program also lists twenty Potential Conservation Areas (PCAs), with most having high, very high or outstanding biodiversity significance. Most notable is the very large Mosquito Range PCA which covers the central spine of the range to the southern edge of the Weston Peak Roadless Area. The Nature Conservancy’s Southern Rocky Mountains Conservation blueprint (TNC blueprint) shows the same area as having moderately high conservation value. Both the South Park PCA, of very high significance, and TNC blueprint’s South Park conservation portfolio area, of moderate significance, overlap into the southeastern part of the complex. A large BLM Area of Critical Environmental Concern (ACEC) - Top of the World – is located in the mining district east and south of Leadville. Southern Rockies Ecosystem Project’s Wildlands Network Vision (SREP’s Vision) proposes most of the National Forest and BLM lands in the complex to be protected as wilderness, wildlife linkages or low use areas. These designations highlight the biological richness of the Mosquito Range complex.

Wilderness and Roadless Areas

Much of the roadless land within the Mosquito Range complex is in the high mountain environment that typifies most of Colorado’s existing Wildernesses. However, areas around the southern portion of Buffalo Peaks Wilderness add more moderate elevations to the mix of biodiversity. Table 5.4 lists the roadless areas in the Mosquito Range complex.

Wilderness Areas

Buffalo Peaks Wilderness

At 43,400 acres, Buffalo Peaks Wilderness is the largest roadless area in the Mosquito Range complex; it is protected by Congressional designation. Twenty-five to thirty million years ago volcanic ash and lava flows filled a valley where the Buffalo Peaks Wilderness is located today. The subsequent uplifting and erosion shaped the current landscape. The Buffalo Peaks themselves mark the southern terminus of the Mosquito Range, a large faulted anticline. The Wilderness is the central feature of the Mosquito Range complex, and includes a range of elevations from 9,000 feet near the Arkansas River up to East Buffalo Peak at 13,300 feet, and West Buffalo Peak at

Table 5.4: Mosquito Range Roadless Areas

Name	Acres (UASPP)	Roadless Under Roadless Rule
Big Union	18,300	Yes
Buffalo Peaks Wilderness	43,400	n/a
Chicago Ridge	11,600	Yes*
Marmot Peak	9,300	Yes
Mt Arkansas	4,700	Yes
Salt Creek	6,900	No
Weston Peak	20,900	Yes

*Roadless rule area has significantly fewer areas than UASPP inventory.

13,326 feet. From most of South Park and much of the Arkansas River Valley, the twin Buffalo Peaks are visible as high, rounded domes.

Much of the central part of the Wilderness is either barren or alpine tundra interspersed with high wetlands, continuing a high ridge that sweeps southward from the Continental Divide. But around the edges of the Wilderness, except at Weston Pass, aspen and lodgepole predominate, with Engelmann spruce-subalpine fir in the higher forested areas. A number of stands of bristlecone/limber pine are located on the east-central and southeast sides. Rare plants include Rocky Mountain columbine (*Aquilegia saximontana*), globe gilia (*Ipomopsis globularis*), and Colorado larkspur (*Delphinium ramosam var. alpestre*), as well as montane woodlands natural communities: bristlecone pine/common juniper (*Pinus aristata/Juniperus communis*) and bristlecone pine/mesic forb (*P. aristata*/mesic forb), and Drummonds willow/mesic forb (*Salix drummondii*/mesic forb).

One of Colorado's largest herds of bighorn sheep lives in the Buffalo Peaks Wilderness where there is winter range and a large lambing area on the southern end. Summer habitat for mule deer and elk is common across most of the Wilderness, and a large elk calving area rings the lower slopes of East and West Buffalo Peaks. The forested areas provide general, winter, and denning habitat for lynx. The Forest Service has identified a lynx linkage that connects the west central part of the Wilderness across the Arkansas Valley to the Collegiate Peaks Wilderness and Elk Mountains roadless area in the Sawatch Range. The Southern Rockies Ecosystem Project identified a similar lynx linkage, as well as a medium priority linkage for wide-ranging wolverine from the Buffalo Peak Wilderness to the northern end of the Mosquito Range complex. That area is laced with large meadows and impressive beaver ponds behind elaborate dams; Fourmile Creek is a good place to see these beaver dams and lodges. American peregrine falcons (*Falco peregrinus anatum*) have been recorded on the west side of the Wilderness.

The Low Pass Gulch and Rick Creek areas are biologically diverse with aspen, willows, riparian areas, beaver ponds, peregrine falcon, and a number of rare plants and natural communities. The very large Mosquito Range PCA of outstanding biodiversity significance overlaps into the Wilderness in the Weston Pass area. Two PCAs of moderate significance are located in the upper Fourmile Creek and Brush Creek on the south side.

Unprotected roadless areas

The Upper Arkansas and South Platte Project mapped six roadless areas in the Mosquito Range complex. Three are contiguous with the Buffalo Peaks Wilderness. Five are Roadless Area Conservation Rule Inventoried Roadless Areas. An additional roadless area named Salt Creek was not part of the Roadless Area Conservation Rule inventory. The roadless areas in the Mosquito Range complex are described below in north to south order.

Chicago Ridge

Chicago Ridge, at about 12,600 feet in elevation, spans the Continental Divide along the boundary of the San Isabel and White River National Forests. The Inventoried Roadless Area of the same name encompasses 11,600 acres on the southern portion of Chicago Ridge between the headwaters for the Arkansas River and the East Fork of the Arkansas River, including 12,867 foot Buckeye Peak and 12,126 foot Mount Zion. The boundary of UASPP's roadless area, which has some cherrystemmed routes, is much larger than the Roadless Area Conservation Rule Inventoried Roadless Area. The Chicago Ridge roadless area is contiguous with over 5,000 acres of roadless land in the White River National Forest to the north. Chicago Ridge is a popular area for snowcat skiing; however, most of the skiing occurs in the White River National Forest

portion. Much of the area is dotted with old exploratory mine sites, and in some places past logging activity has left fields of nothing but stumps. The National Forest boundary along the Continental Divide forms the northern boundary of the area, with Ski Cooper and Forest Roads 102, 189 and 109, which is cherrystemmed into the area, making up the western boundary. Colorado Highway 91 runs along the east and southeast boundary, allowing the roadless area to include some roadless state and BLM lands. On the south, Forest Road 102/102A delimits the area.

The eastern half of Chicago Ridge is primarily alpine tundra, but Engelmann spruce-subalpine fir lodgepole pine, and some aspen stands are found in lower elevations on the far east, south, and western portion. The Colorado Natural Heritage Program located the rare dwarf hawkbeard (*Askellia nana*) along with sensitive Drummonds willow/mesic forb (*Salix drummondiana*/mesic forb) alpine meadows and Rocky Mountain fir-Engelmann spruce/Drummond's willow (*Abies lasiocarpa-picea engelmannii/salix drummondiana*) montane riparian forest communities in this roadless area.

The entire area is summer range for elk and mule deer. Elk calve in the western half of the roadless area and along with mule deer find some winter habitat in the southwest portion of the area. Most of the forested area is potential habitat for lynx, and the Colorado Department of Wildlife has recorded radio signals from reintroduced lynx in the area. Both the Southern Rockies Ecosystem Project and the Forest Service consider the Tennessee Pass area to be a high priority lynx linkage connecting Chicago Ridge to Holy Cross Wilderness and to the north into the White River National Forest.

The eastern edge of the Chicago Ridge roadless area is adjacent to both the East Fork of the Arkansas River at Delmonica Gulch PCA, of very high biodiversity significance and The Nature Conservancy's Mosquito Range conservation area, of moderately high value. The southwestern portion of the roadless area is overlapped by TNC's Elk Ridge portfolio area of moderately low conservation value. The Southern Rockies Wildlands Network Vision proposes that the Chicago Ridge roadless area be managed for low use.

Mount Arkansas

The Mount Arkansas roadless area is located south of Fremont Pass and the Climax Mine. Mount Arkansas at 13,795 feet and nearby 13,672 foot Mount Tweto are the headwaters for the East Fork of the Arkansas River; the terrain is steep and rugged with striking scenic views. Evidence of past mining activities includes tailings and mine shafts. The roadless area boundary follows the railroad tracks on the northwest and the Forest boundary on the north, east, and south. Nearly all of its 4,700 acres is currently managed for non-motorized recreation, and the eastern boundary corresponds to the boundary of this designation.

The Mount Arkansas roadless area is almost entirely alpine tundra including large areas of bare tundra. Drainages to the west feed into the East Fork of the Arkansas River located east of the railroad tracks. Rare and sensitive plant species include a great number of moonworts: Mingan, common, lance leafed, reflected, Western, and least moonworts (*Botrychium minganense*, *B. lunaria*, *B. lanceolatum* var *lanceolatum*, *B. echo*, *B. hesperium* and *B. simplex*), and Penland alpine fen mustard (*Eutrema edwardsii* ssp *penlandii*). Water sedge (*Carex aquatilis*) montane wet meadows, strapleaf willow (*Salix eriocephala* var. *Ligulifoli*) montane willow carr, and Wolf's willow/water sedge (*Salix wolfii/carex aquatilis*) subalpine riparian willow carr are sensitive natural communities found in this area.

The entire roadless area is summer range for elk and mule deer. Bighorn sheep are found in the

eastern half of the roadless area during the summer. A large elk calving area between the Arkansas River and Mount Arkansas overlaps the northwestern corner of the roadless area. Although the tundra environment is not typical lynx habitat, the Southern Rockies Ecosystem Project identified a high priority lynx linkage west across Chicago Ridge and Tennessee Pass to Holy Cross Wilderness, which corresponds with the large linkage identified by the Forest Service.

Most of the Mount Arkansas roadless area is in the Mosquito Range PCA with outstanding biodiversity significance, and the southern half is in The Nature Conservancy's Mosquito Range portfolio area of moderately high conservation value. The Bureau of Land Management's Top of the World Area of Critical Environmental Concern lies less than two miles south of the roadless area and includes Mosquito Pass. The Southern Rockies Wildlands Network Vision proposes that the Chicago Ridge roadless area be managed for low use.

Weston Peak

The Weston Peak roadless area lies along the high peaks of the central Mosquito Range with the area dropping to the east into the forested edge of South Park at 10,000 feet. At 13,572 feet, Weston Peak is the westernmost of a series of mountain peaks in the area that include Ptarmigan Peak (13,739 feet) and Horseshoe Mountain (13,898 feet). Straddling the ridge between the South Fork of the South Platte and Fourmile Creek, the roadless area encompasses 20,900 acres in both the Pike and San Isabel National Forests. Although the region was extensively mined in the past, the vastness of this rugged roadless area left much of the land untouched. The boundaries of the roadless area correspond roughly to the boundaries of the Roadless Area Conservation Rule Inventoried Roadless Area. The power line near Weston Pass road forms the south and southwestern boundary of the roadless area. The 111/111A network of Forest Routes and private inholding parcels are the boundary to the northwest and north. Forest Routes 175, 426, 455.A, the National Forest boundary, and private parcels form the roadless area boundary on the east. The roadless area includes the headwaters of the Middle Fork of South Platte River and of Twelvemile Creek, with smaller streams west of the watershed divide flowing into the Arkansas River.

The northwest two-thirds of the Weston Peak roadless area consist of alpine tundra including bare rock areas, but with a number of wetlands. On the eastern side, Engelmann spruce-subalpine fir, intermixed with bristlecone/limber pine, gives way in the lower elevations to lodgepole pine and large aspen stands. Extremely rich fens of Bellardi bog sedge/alpine meadow-rue (*Kobresia myosuroides-thalicttrum alpinum*), Geyer's willow/water sedge (*Salix geyeriana/carex aquatilis*) montane willow carr, Analogue sedge (*Carex simulata*) wet meadow, and snow-grass (*Phippsia algida*) alpine wetland natural communities add to the diversity of vegetation. Rare plants include alpine and arctic brayas (*Braya humilis* and *B. glabella* var *glabella*); altai cotton grass (*Eriophorum altaicum* var *neogaeu*); Avery peak twinpod (*Physaria alpina*); Canadian single-spike sedge (*Carex scirpoidea*); woods and clawless drabas (*Draba oligosperma* and *D. exunguiculata*); Yellowstone, Gray's Peak, and Colorado Divide whitlow-grasses (*Draba incera*, *D. grayana*, *D. crassa*, and *D. streptobrachia*); Colorado tansy-aster (*Machaeranthera coloradoensis*); common and pale moonworts (*Botrychium lunaria* and *B. pallidum*); globe gilia (*Ipomopsis globularis*); kotzebue grass-of-parnassus (*Parnassia kotzebuei*); Leadville milkvetch (*Astragalus molybdenus*); lime-loving willow (*Salix lanata* ssp *calcicola*); Penland alpine fen mustard (*Eutrema edwardsii* ssp *penlandii*); Rothrock Townsend-daisy (*Townsendia rothrockii*); snow grass (*Phippsia algida*), and Weber saussurea (*Saussurea weberi*). The list attests to the species richness of the Weston Peak roadless area.

The Weston Peak roadless area contains some lynx habitat, but only in the lower elevations on

the east side. Black bear and mountain lion are found in suitable locations, and there is summer range for elk and mule deer, with a large elk calving area and winter range for deer on the northeast side. Bighorn sheep use summer range across most of the area and a substantial amount of winter range in the central portion.

Two proposed RNAs, Weston Peak and Weston Peak North, are highly recommended by the Center for Native Ecosystems for their excellent alpine tundra and wetlands. Most of the roadless area is included in the Mosquito Range PCA of outstanding biodiversity significance and TNC's Mosquito Range conservation portfolio area of moderately high conservation value. The Weston Pass PCA crosses the pass between Weston Peak and Big Union roadless areas, intersecting both areas. The Southern Rockies Wildlands Network Vision proposes that the Weston Peak roadless area be managed as core wilderness.

Big Union

The Big Union roadless area forms a horseshoe of some 18,300 acres around the eastern, northern, and western sides of Buffalo Creek Wilderness – roadless wilderness quality land that was not included in the Buffalo Peaks Wilderness boundary. It is the headwaters for the South Fork of the South Platte River and of several smaller tributaries of the Arkansas River, including Big Union Creek, for which the area is named. The eastern side is in the Pike National Forest and western side is in the San Isabel National Forest. Elevations range from 12,892 feet at South Peak near Weston Pass to 9,200 feet on the west side near the Arkansas River, and 9,900 feet on the east in the slopes above South Park. The UASPP roadless area is larger than the Roadless Area Conservation Rule Inventoried Roadless Area boundary in the northwest near Spring Creek and southeast near Lynch Creek. Weston Pass Road is the northern boundary, and the South Fork of the South Platte River is on the northeast side, with Rough and Tumbling Creek and Forest Routes 142, 158, and the 163 network forming the eastern boundary of the roadless area. Forest Roads 396 and the 397 network are the southwestern boundary and further north the western boundary follows the Forest boundary.

At the higher elevations near Weston Pass, the Big Union roadless area consists mostly of alpine tundra. On the western side, lodgepole pine intermixed with aspen and some Engelmann spruce-subalpine fir or Douglas-fir predominates, with a small amount of sage shrubland. On the east there is a mixture of Engelmann spruce, subalpine fir, aspen, and lodgepole pine with smaller pockets of bristlecone/limber pine. The southeastern portion in the Lynch Creek drainage was logged at least twenty-five years ago and has revegetated to the point that logging spurs are invisible in the deadfall and understory and 6-8 foot trees are growing in former logging roads in the higher elevations. Big Union is unusually rich in natural communities including Rocky Mountain fir-Engelmann spruce/Drummond's willow (*Abies lasiocarpa-Picea engelmannii/Salix drummondiana*) montane riparian forest, Analogue sedge (*Carex simulata*), extremely rich fens of Bellardi bog sedge/alpine meadow-rue (*Kobresia myosuroides-Thalictrum alpinum*), bristlecone pine/Arizona fescue (*Pinus aristata/Festuca arizonica*) montane woodlands, Geyer's willow/water sedge (*Salix geyeriana/Carex aquatilis*) montane willow carr, barren-ground willow/water sedge (*Salix brachycarpa/Carex aquatilis*) subalpine riparian/wetland carr, Rocky Mountain willow/mesic forb (*Salix monticola*/mesic forb) montane riparian willow carr, and Geyer's willow-Rocky Mountain willow/mesic forb (*Salix geyeriana-Salix monticola*/mesic forb) communities. Big Union shares many rare plants found in the adjacent Buffalo Peaks Wilderness and Weston Peak roadless area. Rare plants include Rocky Mountain columbine (*Aquilegia saximontana*), Leadville milkvetch (*Astragalus molybdenus*), pale moonwort (*Botrychium pallidum*), alpine braya (*Braya humilis*), clawless draba (*Draba exunguiculata*), woods draba (*Draba oligosperma*), Colorado Divide whitlow-Grass (*Draba streptobrachia*), Penland alpine fen mustard (*Eutrema edwardsii ssp. penlandii*), globe gilia (*Ipomopsis globularis*), swampy

lymnaea (*Lymnaea stagnalis*), Avery Peak twinpod (*Physaria alpina*, intermountain bitterweed (*Picradenia helenioides*), and Weber saussurea (*Saussurea weberi*).

Most of the area, except near Weston Pass where it is open tundra, is denning or winter habitat for lynx, and the lynx linkage that connects the west central part of the Buffalo Peaks Wilderness across the Arkansas Valley to the Collegiate Peaks Wilderness and Elk Mountains roadless area in the Sawatch Range crosses the southwest part of Big Union. The entire area is within the overall range for black bear and mountain lion and summer range for mule deer and elk. Elk calve in the Lynch Creek drainage in the southeast and in several places on the west side. On the west a large area of winter elk and deer habitat overlaps Big Union. Bighorn sheep can be found in the summer, primarily on the eastern side, and the Lynch Creek drainage on the far southeast portion of the area overlaps a larger area of winter habitat. American peregrine falcon (*Falco peregrinus anatum*), and Townsend's big-eared bat ssp. (*Plecotus townsendii pallescens*) have been recorded here.

The Weston Pass PCA overlaps the northeast part of Big Union as does the Mosquito Range TNC conservation area of moderately high conservation interest. The land along the South Fork South Platte River and Rough and Tumbling Creek east of Lynch Creek in the eastern portion of the Big Union Roadless Area is part of the South Fork of South Platte River PCA identified as having very high biodiversity significance and the South Park portfolio area identified by The Nature Conservancy. Southern Rockies Ecosystem Project recommends that the Big Union roadless area be managed as core wilderness.

Salt Creek

The Salt Creek roadless area of 6,900 acres is contiguous with the Buffalo Peaks Wilderness to the west. Its northern boundary is Pony Park Road, the eastern boundary follows the Forest boundary and Forest Road 433, and the southern boundary is Salt Creek road (Forest Road 435). Short cherrystems in the roadless area are included for Forest Roads 434 and 433.2B on the north. Salt Creek was not part of the Roadless Area Conservation Rule roadless area inventory. Salt Creek itself, with headwaters in the Marmot Peak roadless area, flows through the southern portion of the Salt Creek roadless area and into the Antero Reservoir, part of the water system for the Denver metropolitan area. Salt Creek ranges in altitude from almost 11,000 feet at the border of the Buffalo Creek Wilderness on the west down to about 9,000 feet in the northeast. East and West Buffalo Peaks dominate the western views from the roadless area and South Park is visible to the east.

The Salt Creek roadless area contains substantial aspen woodlands on the west, changing to areas of limber and bristlecone pine, Douglas-fir, foothills and mountain grassland, and ponderosa pine as one moves to the east. Although the area does not have the species richness of some others in the complex, it has some sensitive natural communities of note: Drummond's willow/mesic forb (*Salix drummondiana*/mesic forb) communities, mountain mahogany/needle-and-thread grass (*Cercocarpus montanus/Stipa comata*) mixed foothill shrublands, and strapleaf willow (*Salix eriocephala* var. *ligulifolia*) montane willow carr.

USAAP field workers saw a black bear on the southern boundary of the roadless area, and mountain lion can be found here. There is some very scattered habitat for lynx. Mule deer are widespread and the most of the area is winter range. Pronghorn antelope might be seen occasionally on the eastern edge of the roadless area as it is very similar to their main range in South Park. Elk calve and spend the summer and winter in portions of this roadless area.

The eastern half of the roadless area is part of the large South Park PCA that has very high

biodiversity significance, and a small part of the extreme western corner is included in the Brush Park PCA of moderate biodiversity significance. The land directly to the east of the roadless area is the Antero/Salt Creek Colorado State Land Board Stewardship Trust Area. The Southern Rockies Wildlands Network Vision recommends managing the roadless area as core wilderness.

Marmot Peak

The Marmot Peak roadless area of 9,300 acres is contiguous with the Buffalo Peaks Wilderness, sharing a boundary on the north. The area's other boundaries are Forest Roads 436, 436.2C, and 309A on the northeast and east, and 311, 373, 373A, 375, and the Homestake pipeline on the south and west. Marmot Peak itself at 11,730 feet is the highpoint of the roadless area, and the land descends to 9,000 feet in the west and to 9,400 feet in the east. There are scenic views of rugged Marmot Peak, the rounder twin Buffalo Peaks, and the high Collegiate Peaks to the west. The headwaters for Salt Creek, a tributary to the South Fork of the South Platte River, rise here. Fourmile Creek, a tributary of the Arkansas, traverses the western boundary of the area and has its headwaters nearby in the Buffalo Peaks Wilderness.

Vegetation is a diverse mix of Engelmann spruce-subalpine fir, lodgepole pine, aspen, ponderosa pine, Douglas-fir, and some bristlecone/limber pine in the northeast

Much of the roadless area is habitat for lynx, although the denning and winter habitat is somewhat scattered. However, SREP identified several low priority lynx linkages from Marmot Peak south toward the Browns Canyon area. The entire area is within the overall range for black bear and mountain lion and summer range for mule deer, with some winter mule deer habitat on the south side. Elk find summer habitat across the area and the large calving area in the Wilderness comes down into the northern portion, along with another smaller area on the east side. Bighorn sheep lamb and spend the summer and winter in large portions of this roadless area, with the lambing area covering the whole west side and into the Buffalo Creek Wilderness.

The Southern Rockies Wildlands Network Vision recommends managing the roadless area as core wilderness.

Historical and Cultural Features of the Mosquito Range

Some archeological, historical and cultural features of note include the following:

- The Colorado Historical Society recorded Ute and other Native American chipped stones at Bear Gulch and elsewhere.
- The Colorado Historical Society recorded Euro-American remnants, including remains of the Leadville Stage Road, Colorado Midland Railroad, Weston Stage Stop, Briggs Brothers Creek Saw Mill circa 1900 to 1916, and artifacts from the Belle of Granite, Pioneer, and other mining operations.
- Gold was discovered in California Gulch in 1860. Although the gold in the area did not rival California, the heavy sands containing lead and silver produced real wealth. Leadville, first known as Oro City, became a boomtown. Horace Tabor's "Little Pittsburg Mine," claimed in 1877, earned \$100,000 a month and his Matchless Mine put \$2,000 a day into his pockets. However the repeal of the Sherman Silver Purchase Act in 1893 left Tabor nearly destitute.
- Weston Pass served as an important link between the mining community that eventually became known as Leadville and South Park and the Front Range cities to the east. The pass became part of a stage route, and a skier brought mail across the pass in the 1860s.
- Near Salt Creek and Antero Reservoir, the Buffalo Salt Works provided salt to Denver in the 1860s.

- Malta, at the mouth of California Gulch, was home to a smelter in the 1870s-1880s that handled the ores of the Homestake region.
- Buena Vista in the 1880s was the terminus of the Denver and Rio Grande Railway and served as a supply depot for Leadville and surrounding mining camps.

Management Recommendations

The ecological value of protecting large roadless areas prompted the Wild Connections team to recommend new Wilderness designations or additions to existing Wilderness (Theme 1) for four of the six roadless areas in the Mosquito Range complex. There are two proposed RNAs (Theme 2); quiet use and connectivity areas (Theme 3); a number of areas proposed for active management (Theme 5); and one area proposed for permanent recreation (Theme 8). Grazing, sustainable logging/fuels reduction projects, mining or energy development, recreation on designated trails and roads and dispersed camping is allowed throughout the complex, except for the statutory restrictions on activities in designated or proposed Wilderness areas. Table 5.5 lists the major management units by theme. Refer to the Mosquito Range Complex map for specific locations and roadless area descriptions for more details on the unit.

Table 5.5: Mosquito Range Management Recommendations

Name	Acres	Recommended Management
Theme 1 – Natural Processes Dominate		
Buffalo Peaks Wilderness	41,200	1.1 Existing Wilderness
Big Union	18,300	1.2 Recommended Wilderness (add to Buffalo Peaks)
Marmot Peak	9,300	1.2 Recommended Wilderness (add to Buffalo Peaks)
Salt Creek	6,900	1.2 Recommended Wilderness (add to Buffalo Peaks)
Weston Peak	20,900	1.2 Recommended Wilderness
Theme 2 – Special Areas		
Weston Peak North RNA	3,000	2.1 Research Natural Areas
Weston Peak RNA	9,100	2.1 Research Natural Areas
Theme 3 – Natural Landscapes with Limited Management		
Chicago Ridge	11,600	3.1 Quiet Use Areas
Mount Arkansas	4,700	3.1 Quiet Use Areas
Salt Creek Forks	5,700	3.2 Connectivity Areas
Tennessee Pass (also in Sawatch Range)	2,900	3.2 Connectivity Areas
Trout Creek Pass (also in Arkansas Canyons)	73,900	3.2 Connectivity Areas
Tumble Creek (also in Sawatch Range)	2,100	3.2 Connectivity Areas
Weston Pass	2,500	3.2 Connectivity Areas
Theme 4 – Recreation Emphasis Areas		
Top of the Rockies Scenic Byway	200	4.2 Scenic Byways
Theme 5 – Active Management		
Elephant Rock	7,800	5.1 Active Mgmt - Wildlife Habitat
Empire Gulch	30,000	5.1 Active Mgmt - Wildlife Habitat
Holmes Gulch	1,400	5.1 Active Mgmt - Wildlife Habitat
Jones Hill	16,500	5.1 Active Mgmt - Wildlife Habitat
Lower Mount Zion	1,100	5.1 Active Mgmt - Wildlife Habitat
Mount Ross	21,100	5.1 Active Mgmt - Wildlife Habitat
Mount Arkansas West	2,000	5.1 Active Mgmt - Wildlife Habitat
Mount Zion	100	5.1 Active Mgmt - Wildlife Habitat

Name	Acres	Recommended Management
Sawmill Gulch	1,500	5.1 Active Mgmt - Wildlife Habitat
Theme 8 – Permanently Developed Areas		
Ski Cooper	800	8.1 Ski Based Resorts

Theme 1 – Natural Processes Dominate

Lands are managed to maintain highly natural conditions and management activities are virtually unnoticeable. They may include Wilderness as well as semi-primitive lands that provide user opportunities that are inconsistent with Wilderness such as mountain biking.

Theme 1.1 – Existing Wilderness

Wilderness Areas are designated by Congress and managed to protect and perpetuate their natural state, while offering opportunities for solitude and individual self-reliance.

- Buffalo Peaks is the only existing Wilderness in this complex. It should be managed over the next decade to bring it up to the national standards reflected in the Wilderness Stewardship Challenge issued by the Forest Service in celebration of the 40th anniversary of The Wilderness Act.

Theme 1.2 – Recommended Wilderness

Recommended Wilderness areas are those that stakeholders advocate for inclusion in the National Wilderness Preservation System. All of the proposed wilderness areas meet the capability requirements of the Wilderness Act of 1964 for designation

The Wild Connections Conservation Plan calls for designation of (from north to south) Weston Peak, Big Union, Lynch Creek, Salt Creek, and Marmot Peak areas as Wilderness. The latter four areas are recommended as additions to the existing Buffalo Peaks Wilderness in light of the heavy concentration of roads across the Pike-San Isabel National Forest in the lower elevations of the Mosquito Range complex. The following benefits were considered in making these recommendations: permanent protection to enhance wildlife habitat and connectivity, protecting sources of domestic water, providing for native species, and balancing motorized, high impact recreation in other parts of the complex with opportunities for quiet, challenging back country recreation.

We believe that all of these areas meet the capability, availability and suitability criteria of the Wilderness Act and Forest Service Wilderness Handbook. These are discussed for the complex as whole below, with notations as to particular values or potential conflicts.

Capability

All of the proposed Wildernesses meet the capability requirements of the Wilderness Act of 1964 for designation. All provide opportunities for solitude, challenge, and unconfined recreation once the trailheads are left behind. There are mountain peaks with stunning undisturbed views, rugged cirques and steep ravines, valleys without trails, and forested ridges. The imprints of humans are substantially unnoticeable, as care was taken to exclude major mining areas, and recent logging operations. While there are old mines in some areas, especially in Weston Peak, most are slowly disappearing and these remnants illustrate the mining history of the area, while providing a lesson in the length of time it takes for nature to heal in an unforgiving climate. Logging was limited within the proposed wilderness and old cuts are recovering, as are old access roads, eliminating signs of human use.

Availability

Likewise all the proposed areas are available for Wilderness with no known impediments. The proposed Wildernesses contain no active mines. The watersheds and streams are already allocated, and no new water projects are planned. Access to the Homestake pipeline and the transmission line along Weston Pass Road has been maintained. Major highways are not anticipated to affect the areas. The Mosquito Range complex is not appropriate for timber harvest. The vegetation within the area is largely intact with much of it tending toward mature and old growth characteristics.

All or part of the Arkansas, Bross, Weston and Horseshoe S&G; and the Union, Sheep Creek, McQuaid, Fourmile, and Chubb Park C&H grazing allotments would be grandfathered in with Wilderness designation, although over time they could be retired, where feasible. Overall, there are no known or anticipated threats to the proposed wilderness areas that would preclude their designation as wilderness.

Suitability

The main uses that would be forgone in newly designated Wilderness are motorized recreation on newly created or illegal roads and cross-country snowmobile use off currently designated routes. However, there is continued motorized access to the perimeter of the roadless areas, and in most cases between the areas. Dispersed camping and motorized recreation would still be permitted in and near the areas surrounding the expanded Buffalo Peaks Wilderness, south to Trout Creek Pass and north to Fremont Pass. If the Lynch Creek drainage in the Big Union is scheduled for another logging entry, Wilderness designation would cut off this possibility.

Many values can be listed for the designation of the proposed Wildernesses in this complex:

- Big Union, Salt Creek and Marmot Peak additions offer remote and challenging terrain in lower elevation ecosystems.
- The Buffalo Peaks Wilderness additions provide wildlife linkages across the Mosquito Range and into South Park and the upper Arkansas Valley.
- Weston Peak has challenging alpine terrain with cirques and cliffs, and except along Weston Pass road, the area is remote.
- The Weston Peak area provides scenic views of South Park, the upper Arkansas Valley, and the mountains of the Mosquito Range.
- Solitude can be found in the distant views and absence of visitors in the alpine areas and in the forested terrain at lower elevations.
- Habitat for rare and endangered species including American peregrine falcon (*Falco peregrinus anatum*), Townsend's big-eared bat (*Plecotus townsendii pallescens*), boreal toad (*Bufo boreas*), the swampy lymnaea mollusk (*Lymnaea stagnalis*), and many plants.
- Foothills, montane, subalpine and alpine natural communities including riparian areas and very rare rich fens would be protected.
- Domestic and agricultural water supplies are best protected from erosion and pollution when they are located on roadless areas. The Mosquito Range complex includes many tributaries to the South Platte and Arkansas Rivers which serve mountain communities, as well as Front Range cities.
- Local economies will be enhanced by their proximity to Wilderness areas, as these are prime destinations for self-guiding and outfitter trips.

Theme 2 – Special Areas

Theme 2 areas are managed to protect or enhance areas with unusual characteristics, including Research Natural Areas, special biological or geological areas, cultural/historical areas, or other special designations.

Theme 2.1 – Research Natural Areas: Existing and Proposed

Research Natural Areas (RNAs) form a long-term network of ecological reserves designated for research, education, and the maintenance of biodiversity. Emphasis is on research, study, observations, monitoring, and educational activities that allow ecological processes to prevail with minimal human intervention

To supplement the range of research opportunities and increase the ecosystem representation UASPP recommends that Weston Peak North and Weston Peak be added to the RNA system. Each has its unique combination of ecological values that will enhance the system.

- The Weston Peak proposed RNA, about 9,100 acres, is in the southeastern portion of the proposed Weston Peak Wilderness and also includes a significant amount of land outside the proposed Wilderness. It features diverse plant communities, including many coniferous forest types such as bristlecone pine, limber pine, and a possible spruce ribbon forest, aspen, and a post-fire natural succession. It has good quality wetlands, including old beaver dams in good condition. It has six rare plants or plant communities: Avery Peak twinpod (*Physaria alpina*); bristlecone pine common juniper (*Pinus aristata/Juniperus communis*); extreme wet fens of Bellardi bog sedge/ alpine meadows (*Kobresia myosuroides/Thalictrum alpinum*); Alalogue sedge (*Carex simulata*) community; Hoosier Pass ipomopsis (*Ipomopsis globularis*); and bristlecone pine/Arizona fescue (*Pinus aristata/Festuca arizonica*) community. The RNA is included in TNC's Mosquito Range conservation area of moderately high value and the Mosquito Range PCA of outstanding significance.
- The Weston Peak North RNA of about 3,000 acres lies in the north central portion of the Weston Peak proposed wilderness. It includes a large number of rare plants, including five not found in other potential RNAs in the area -- Raymond whitebristle cotton grass (*Eriophorum altaicum var. neogaeum*); Penland's eutrema (*Eutrema edwardsii ssp. penlandii*); wooly willow (*Salix lanata ssp. calcicola*); Weber saussurea (*Saussurea weberi*); Rothrock's Townsend daisy (*Townsendia rothrockii*) -- and five additional rare plants: smooth northern rockcress (*Braya glabella var. glabella*); low northern rockcress (*Braya humilis*); northern singlespike sedge (*Carex scirpoidea*); Kotzebue grass-of-Parnassus (*Parnassia kotzebuei*); and Avery Peak twinpod (*Physaria alpina*). The proposed RNA intersects the Mosquito Range PCA, of outstanding significance; the Mount Sheridan and Weston Pass PCAs of very high significance. The TNC conservation blueprint includes it in Mosquito Range area of high uniqueness and moderate landscape integrity.

Theme 3 – Natural Landscapes with Limited Management

Theme 3 management maintains or restores the natural character of these areas while providing limited opportunities for recreation, including backcountry motorized and non-motorized settings.

Fuels treatment and prescribed fire are conducted primarily to maintain or restore natural ecological conditions. Livestock grazing is common.

Theme 3.1 – Quiet Use Areas

Management emphasizes non-motorized recreation opportunities in a natural or natural-appearing landscape with little or no evidence of recent human-caused disturbance

The Chicago Ridge Quiet Use unit, lying west of State Route 91, connects with additional roadless acreage in the White River National Forest. Its designation as a quiet use area will promote connectivity through the northern Mosquito Range between roadless areas and will help protect a significant elk migration corridor from motorized recreation disturbances. Back country recreation in a quiet setting will be featured.

The Mount Arkansas Quiet Use unit is currently managed by the Forest Service as non-motorized. Its designation as a quiet use area will promote connectivity through the northern Mosquito Range between roadless areas, protect a lynx linkage and elk calving area from motorized recreation disturbances, and provide quiet backcountry recreation.

Theme 3.2 – Connectivity Areas

Management emphasis is to facilitate daily, seasonal, and natal dispersal movements of native wildlife between larger blocks of suitable habitat.

Weston Pass, Tennessee Pass, and the Tumble Creek area (the latter two areas partially in the Sawatch complex) surround roads with significant vehicular traffic, particularly in the case of Tennessee Pass and Tumble Creek, which are crossed by US Highway 24. The Salt Creek Forks area is a narrow corridor between the Salt Creek and Marmot Peak proposed wildernesses and adjacent to the Trout Pass connectivity unit.

The large Trout Pass connectivity unit on the south end of the complex connects the Wilderness areas on the north across US Highway 24 and Trout Creek Pass south to Browns Canyon proposed Wilderness in the Arkansas Canyons complex. At 73,900 acres, roughly divided equally north and south of Highway 24, this is the largest connectivity area recommended in the Wild Connections Conservation Plan, and recognizes the importance of maintaining north-south connections for elk, bighorn sheep, mule deer, black bear and mountain lion. The recent Fourmile Travel Management Plan has designated roads and motorized trails across much of this area, and these routes are a substantial impact on wildlife movement, winter range and production areas. Enforcement of route designations and possible seasonal closures to protect wildlife will be important management activities. Designation of these areas as connectivity areas recognizes the need to give special protection to wildlife movements in light of the cumulative impact of multiple roads or motorized trail networks as an impediment wildlife migration. Management emphasis will facilitate daily, seasonal and natal dispersal movements of native wildlife between larger blocks of suitable habitat. A broader discussion of connectivity is found below.

Theme 4 – Recreation Emphasis Areas

Lands in Theme 4 are managed to emphasize recreation opportunities and scenery values. These areas are typically centered on recreational destinations, transportation corridors, winter snow play areas, and near bodies of water. Motorized uses are common and include trails and roads.

Theme 4.2 – Scenic Byways

These areas consist of designated scenic byways, scenic areas, vistas, and travel corridors, or other high-quality scenic areas in which outstanding features draw attention and to which people gravitate.

The Top of the Rockies Scenic Byway runs along the western boundary of the Mosquito Range complex for a short distance south of Tennessee Pass before exiting San Isabel National Forest. Special management options should be designed to protect the surrounding Tennessee Pass connectivity area, the scenic qualities of the byway, and significant wildlife values.

Theme 5 – Active Management

These areas are managed to meet a variety of ecological and human needs with active management for a full spectrum of multiple use activities such as: wildlife habitat, energy development, timber harvest, livestock grazing, dispersed motorized recreation, prescribed fire, and vegetation treatments. This zone is where intensive timber management can occur for commercial production and fuels reduction objectives.

Theme 5.1 – Active Management for Wildlife Habitat

Management objective is to provide high quality, all-season habitat, forage, cover, escape terrain, solitude breeding habitat, and protection for a variety of wildlife species and associated plant communities

Mount Arkansas West, Mount Bross, Jones Hill, Elephant Rock, Empire Gulch, Holmes Gulch, Mount Zion, Lower Mount Zion, and Sawmill Gulch are included in this theme. These lands connect the Buffalo Peaks and other central portions of the Mosquito Range to South Park on the east or to the Arkansas River valley on the west, and provide connectivity through the northern Mosquito Range. These lands have road densities ranging from low to high. Many of them are lower elevation areas of particular value to wildlife on a seasonal basis; some include roaded riparian valleys which will require some oversight to protect riparian vegetation and water quality. Seasonal or permanent restrictions should be applied to sensitive wildlife areas: mule deer fawning, elk calving, and bighorn sheep lambing areas, winter range for ungulates, locations of rare, endangered or sensitive species, and accommodation for larger carnivores such as lynx.

Theme 8 – Permanently Developed Areas

These areas are permanently altered by human activities to the extent ecological conditions and landscape appearances are likely outside their natural range of variability. Management emphasis is generally for highly developed recreation sites such as ski areas and campgrounds, utility corridors, or mineral development areas.

Theme 8.1 – Ski-Based Resorts

These areas are primarily devoted to downhill skiing on existing sites with natural vegetation substantially altered and managed to create ski slopes.

Ski Cooper is directly west of the Chicago Ridge Roadless Area, east of Highway 24, and north of Leadville and includes lands in the San Isabel and White River National Forests. Most of the downhill ski area is in the White River National Forest, while most of the less-intensively developed Nordic (cross-country) ski area is in the San Isabel National Forest. This ski area provides an affordable, family friendly ski area, including opportunities for cross-country skiing and more extreme backcountry snow-cat skiing.

Connectivity

An important aspect of our conservation perspective is connections between protected core areas. The Mosquito Range complex is an example of the core reserve model with protected core areas connected by wildlife linkages. However the protected core areas proposed in the Mosquito Range complex may be smaller than is ideal for some species.

Within the complex, a major barrier to animal movement is Colorado Highway 91 from Leadville over Fremont Pass, cutting across the northern-most portion of the complex. Other barriers are primarily geographic rather than man-made. The high peaks of the Mosquito Range limit animal movement to the most hardy high elevation species. Forest roads crossing Mosquito Pass and Weston

Pass can also be barriers to animal movement and should be monitored during times of animal migration to ensure the safety of the animals and of the drivers.

There are several major barriers to connectivity between the Mosquito Range and all adjacent complexes. US Highway 24 and the populated Arkansas valley and Leadville region is a barrier between the Mosquito Range and the Sawatch Range to the west. Colorado Highway 9 is a barrier between the Mosquito Range and the Mount Evans High Peaks complex to the northeast. US Highway 285 is a barrier between the Mosquito Range and South Park to the east and the Arkansas Canyons complex to the south.

The Southern Rockies Ecosystem Project identified several corridors for animal movement in and out of this complex. There is a high priority corridor for wolverine that crosses several forest service roads in the northern and central portions of the complex. Both the Forest Service and SREP identified a very high priority linkage for lynx across the northern portion of the complex that provides east-west and north-south connectivity across Fremont and Tennessee Passes. The Southern Rockies Ecosystem Project also identified a linkage for lynx from the Mosquito Range to the Sawatch Range across US Highway 24 south of Clear Creek Reservoir.

Summary

The Mosquito Range complex is an excellent example of the rich biodiversity that is found as parkland and river corridors give way to forests, riparian areas, and high alpine tundra. Although its historical mining heritage has left major disturbed areas in the north, even there many areas are intact and rare plants and natural communities abound. In the south, a major part of the complex is already protected in the Buffalo Peaks Wilderness, where dense forests and riparian zones contribute their ecological values. These are all are important to the network of wildlands that will sustain the integrity of the Pike-San Isabel National Forest, both now and in the foreseeable future.