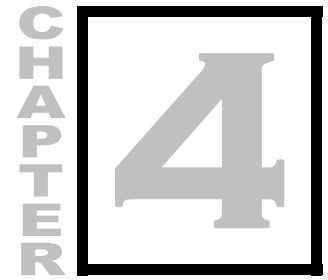


# MANAGEMENT AREA AND WATERSHED DIRECTION

---



## INTRODUCTION

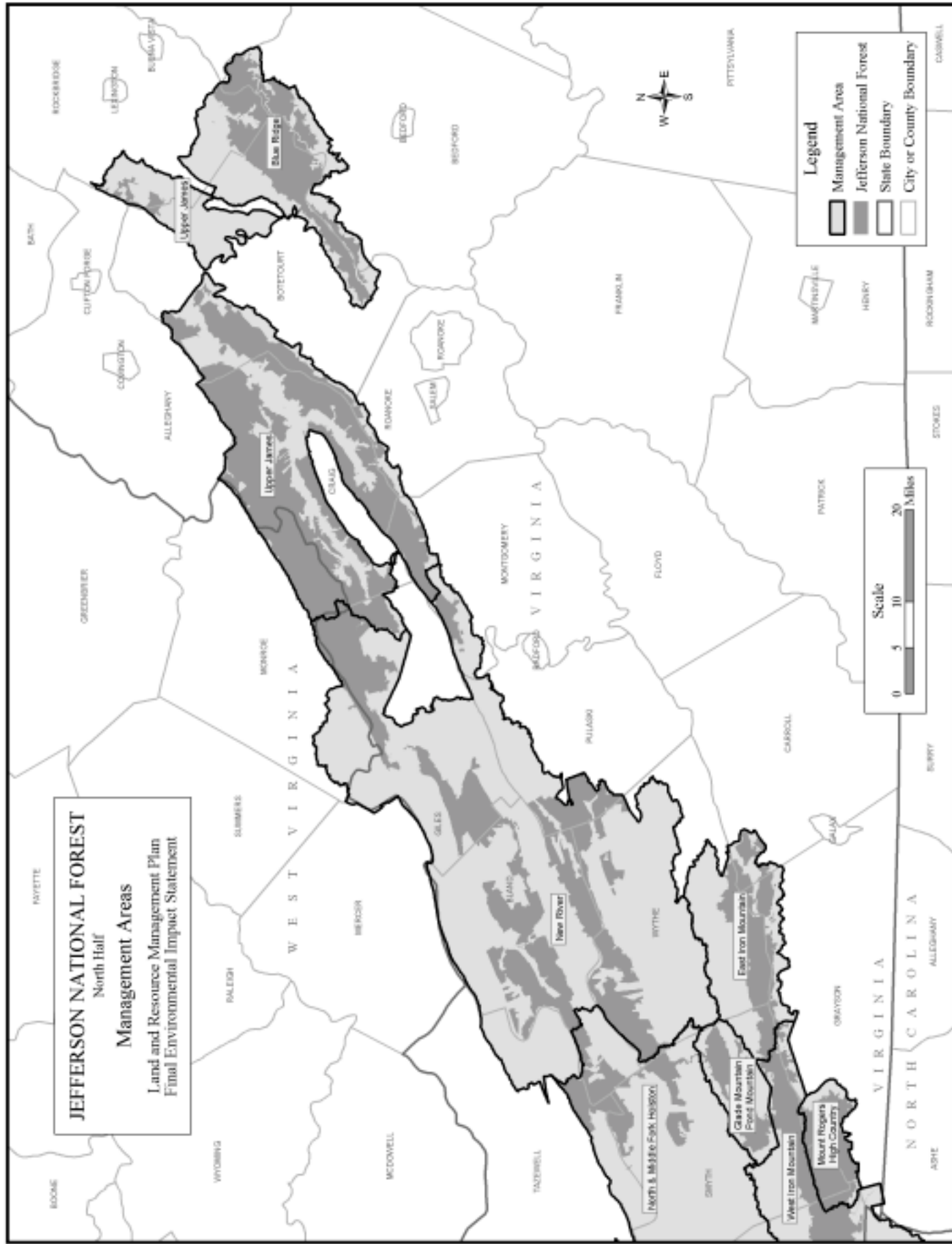
Principles of ecosystem management include consideration of several geographic scales when making management decisions. The Southern Appalachian Assessment considered a scale larger than the Jefferson National Forest. Site-specific project decisions will consider scales much smaller than the entire Forest. Management Areas serve as a bridge between the scale of the entire forest as described in Chapter 2, Forestwide Direction, the scale of individual Management Prescriptions described in Chapter 3, and the site-specific project level analysis that will be done to implement this Forest Plan.

Management Areas were defined based on a holistic approach that considered watershed divides, ecological factors, and social factors. For example, ecologically the Blue Ridge, Ridge and Valley, and Cumberland Mountains Sections distinguish all management areas. Hydrologically, the major river basins of the James, Roanoke, New, Big Sandy, Holston, Cumberland, and Clinch/Powell (Upper Tennessee) delineate many management areas. Lastly, how people relate to and use various areas of the Forest also helped us define some management areas, the High Country of the Mount Rogers for example.

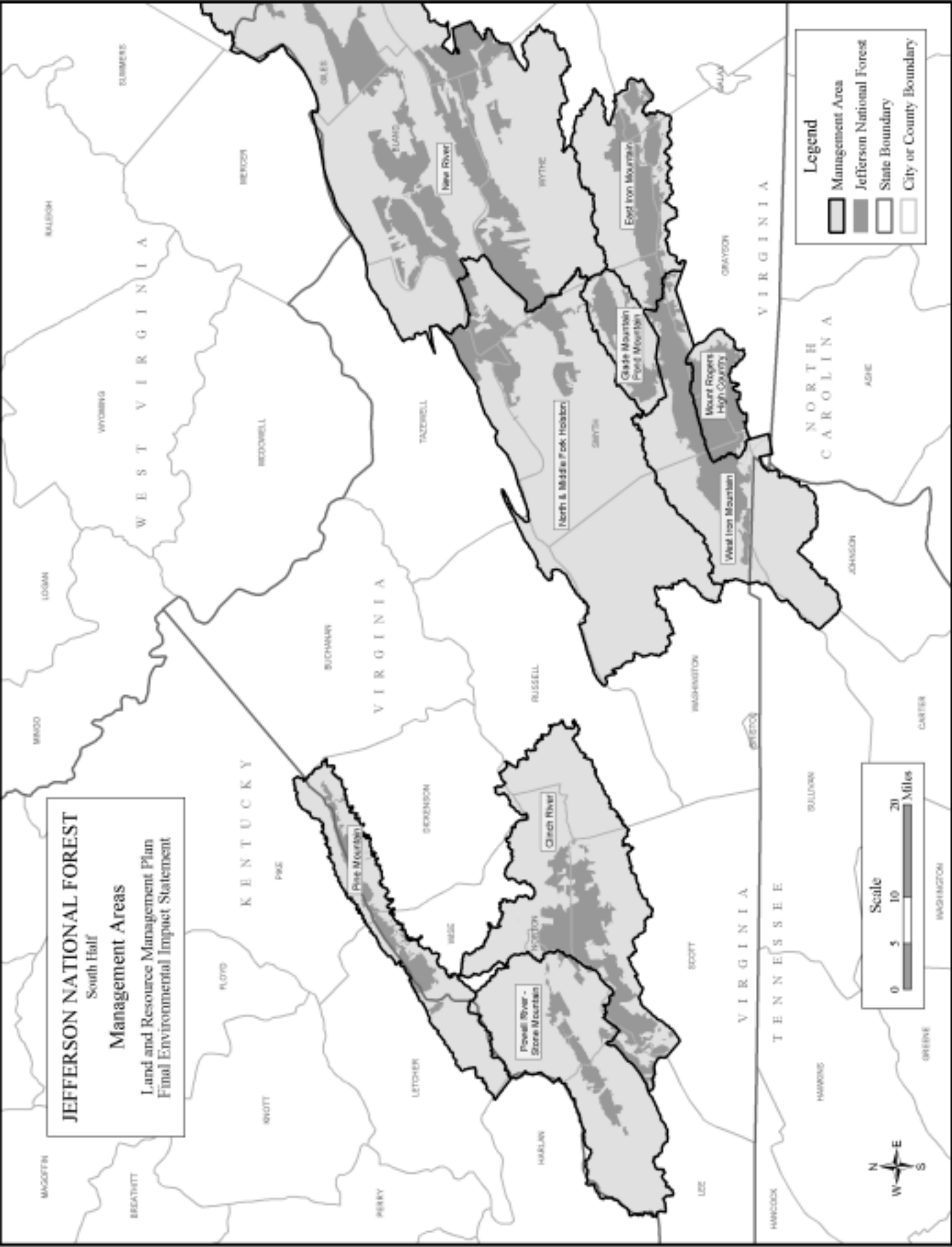
The Jefferson National Forest is separated into eleven distinct management areas (see maps on following pages). Generally running from north to south these management areas are:

- |  |               |
|--|---------------|
| 1. Northern Blue Ridge                   | 70,100 acres  |
| 2. Upper James River                     | 196,500 acres |
| 3. New River                             | 184,600 acres |
| 4. North & Middle Fork Holston           | 39,000 acres  |
| 5. Glade Mountain/Pond Mountain          | 20,600 acres  |
| 6. East Iron Mountain (Mount Rogers NRA) | 43,200 acres  |
| 7. High Country (Mount Rogers NRA)       | 29,000 acres  |
| 8. West Iron Mountain (Mount Rogers NRA) | 48,600 acres  |
| 9. Clinch River                          | 54,500 acres  |
| 10. Powell River/Stone Mountain          | 17,100 acres  |
| 11. Pine Mountain                        | 20,100 acres  |

The following section describes each of these management areas, the fifth and sixth level watersheds within each management area, the desired future condition, the allocation of management prescriptions, and any direction specific for the management area. Note that Riparian Corridors (11) have not been included in the management prescription tables.

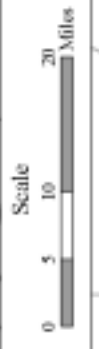


**JEFFERSON NATIONAL FOREST**  
 South Half  
**Management Areas**  
 Land and Resource Management Plan  
 Final Environmental Impact Statement



**Legend**

-  Management Area
-  Jefferson National Forest
-  State Boundary
-  City or County Boundary



**NORTHERN BLUE  
RIDGE****MANAGEMENT AREA 1. NORTHERN BLUE RIDGE**

This management area contains the Glenwood Ranger District, except for the Smith Flats area. The area lies within the Northern Blue Ridge Ecological Subsection. Congressionally-designated features include the James River Face and Thunder Ridge Wildernesses in its north portion. The James River Face Wilderness provides the Forest's only Class 1 air quality area. The Appalachian National Scenic Trail and Blue Ridge Parkway traverse the area.

**Physical and Biological Profile**

The Northern Blue Ridge Management Area represents an area of relatively high site productivity dominated by mesic deciduous forests characterized by historically low levels of wildland fire occurrence. The Blue Ridge Mountains Ecological Section contains some of the oldest rocks in Virginia. These igneous and metamorphic rocks, remnants of volcanic explosions and lava flows, form many high gradient, deeply incised streams. North Creek is the only designated Tier III Exceptional Water in Virginia (as of 2003).

Several rare communities can be found within this management area including a high elevation hemlock-yellow birch seepage swamp at Camping Ridge, a montane buttonbrush pond at Day Creek, riverside prairie along the James River, and a representative Carolina hemlock forest, to name a few. Devil's Marbleyard, an eastern acid talus slope within the James River Face Wilderness, is both a rare community and regional attraction.

The Pulaski Tract and Cove Mountain are composed of metasedimentary rocks and soils with sandstone origins and consequently, lower site productivity and more oak and oak-pine forest communities. A few Central Appalachian shale barrens are even sprinkled throughout these areas.

Much of the southern yellow pine was killed by a southern pine beetle outbreak in 1994 and 1995. Other forest health concerns include oak decline and hemlock wooly adelgid infestation, which has already killed many hemlocks in Hunting Creek and has infested many hemlocks elsewhere in the area. Gypsy moth infestations are now occurring in the area.

This management area contains the entire known global range of the Peaks of Otter Salamander, a rare terrestrial salamander. The North Creek area is also home to the cerulean warbler.

**Cultural and Economic Profile**

This management area has very high value for recreation, wildlife habitat, and timber production. These high resource values have often lead to conflicting demands on resources and management activities in recent years have often been publicly controversial. Timber production is an important part of the economy of the general area and this area is primarily composed of sites capable of producing high quality hardwood sawtimber. The Pulaski Tract and Cove Mountain are popular with local residents for small commercial firewood sales. The area is heavily used for a variety of recreation activities including hunting, fishing, camping, hiking, picnicking, swimming, horseback riding, driving for pleasure, and wildlife viewing.

The Glenwood Horse Trail runs through the entire area with the most popular part of the Horse Trail, a loop starting at the Day Creek trailhead, located at the south end. In addition to the Appalachian National Scenic Trail, are the Apple Orchard Falls and Cornelius Creek National Recreation Trails.

Table 4-1. Northern Blue Ridge Management Area Prescription Allocation

NORTHERN BLUE  
RIDGE

Code	Description	Acres
1A	Designated Wilderness	11,300
1B	Recommended Wilderness Study Areas	1,100
4A	Appalachian Trail Corridor	6,500
4D	Botanical and Zoological Areas	400
4E1a	Cultural and Heritage Areas	<100
4K1	North Creek Special Area	5,200
5A	Administrative Sites	<100
5B	Designated Communication Sites	<100
5C	Designated Utility Corridors	100
6B	Old Growth Forest Communities-Fire Dependant	<100
6C	Old Growth Forest Communities-Disturbance Associated	600
7B	Scenic Corridors and Sensitive Viewsheds	900
7D	Concentrated Recreation Zones	300
7E1	Dispersed Recreation Areas	3,200
7E2	Dispersed Recreation Areas with Vegetation Management	7,000
7F	Blue Ridge Parkway Visual Corridor	3,900
7G	Pastoral Landscapes	200
8A1	Mix of Successional Habitats in Forested Landscapes	900
8B	Early-Successional Habitat Emphasis	2,300
8E1	Ruffed Grouse Habitat Management Area	4,800
8E2a	Peaks of Otter Salamander Primary Habitat Conservation Area	2,400
8E2b	Peaks of Otter Salamander Secondary Conservation Area	5,300
8E5	Watchable Wildlife Emphasis	100
9A2	Reference Watersheds	<100
9F	Rare Communities	400
9G1	Maintenance and Restoration of Bottomland Hardwoods	<100
10B	High Quality Forest Products Emphasis	10,800
12A	Remote Backcountry Recreation -Few Open Roads	2,300

The Blue Ridge Parkway and Forest Service roads provide good public access in most of this area. The Terrapin Mountain and Onion Mountain areas have only a limited amount of road access. Scenic quality is an important feature of this area since much of the area is visible from various viewpoints along the Blue Ridge Parkway and Appalachian Trail.

Population densities are very high with suburbs of Roanoke surrounding the most southern boundary. This population presents substantial demands on the resources of this Management Area. The North Creek drainage is unique on the Glenwood District in that it contains no private in-holdings or residences.

The Apple Orchard Mountain communications site, which includes a large Federal Aviation Administration radar dome, is located in the northeast corner of this area.

#### Watersheds

There are three 5<sup>th</sup> level watersheds in the Northern Blue Ridge Management Area: Upper Roanoke, Upper James, and Middle James-Buffalo.

NORTHERN BLUE RIDGE

UPPER ROANOKE

Five 6<sup>th</sup> level watersheds in the Upper Roanoke basin contain National Forest System lands. One of these, North Fork Roanoke/Bradshaw Creek is in the Upper James River Management Area. Of the remaining four watersheds, North Otter Creek is the only one where National Forest ownership exceeds 10% of the watershed.

6 <sup>th</sup> Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
North Otter Creek 03010101080-L24	32,414	11%	Low	Medium

UPPER JAMES

Four 6<sup>th</sup> level watersheds in the Upper James basin contain National Forest System lands in this Management Area (six others are in the Upper James River Management Area). Three of the four, James River/Jennings Creek, James River/Elk Creek/Cedar Creek, and Looney Creek/Mill Creek have National Forest ownership of more than 10 percent of the watershed. A segment of the James River is eligible as a “recreational river.” Concerns in this watershed include the high recreation pressure that is second only to Mount Rogers High Country at the 5<sup>th</sup> level watershed.

North Creek, in the Jennings Creek watershed, is the only Tier III Outstanding Natural Resource Water in the state of Virginia. A concern in this watershed is the extent of roads near streams. Every major stream in the southern half of the watershed contains a State or Forest Service Road within its floodplain.

The James River/Elk Creek/Cedar Creek watershed also has a high road density and contains two old quarries (Elk Creek and Hellgate) on the National Forest. Private land influences include a high population density almost completely surrounded by National Forest. This is the only Chemical Condition Class 3 watershed on north end of Forest. This rating reflects chronically low pH in the streams and low acid buffering capacity of the soils. It is also a Physical Condition Class 3 watershed reflecting raw banks, landslides, sediment in stream bottoms, and other indicators of poor stream stability primarily in the bottom lands of Arnold’s Valley itself.

Looney Creek (Segment 147) is impaired due to fecal coliform from agricultural lands.

6 <sup>th</sup> Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
James River/Jennings Creek 02080201090-I27	54,517	44%	Low	Low
James River/Elk Creek/ Cedar Creek 02080201090-I28	37,711	42%	Medium	Medium
Looney Creek/Mill Creek 02080201070-I26	39,952	20%	Medium	Low

**MIDDLE JAMES - BUFFALO**

NORTHERN BLUE  
RIDGE

One 6<sup>th</sup> level watershed in the Middle James - Buffalo basin contains National Forest System lands in this Management Area. This is the James River/Reed Creek watershed.

The Reed Creek watershed has one impaired stream (Reed Creek) due to coliform levels from agriculture. This watershed also has a pulp mill on the James River.

UPPER JAMES  
RIVER

6 <sup>th</sup> Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
James River/Reed Creek - 02080203010-H01	62,437	42%	Low	Low

Desired Conditions

The good access and high site productivity in Arnolds Valley and Middle Creek are used to emphasize wildlife habitat management with creation of early successional habitat. The northern end of the Management Area is Wilderness and remote, dispersed recreation opportunities are also highlighted in the eastern end where access is not as well established. The North Creek area's rich diversity of resources is a special management area where water quality, Peaks of Otter salamander, recreation and habitat management are all highlighted. The Habitat Conservation Agreement for the Peaks of Otter Salamander (August 26, 1997) and the standards found in Management Prescription 8E2 are followed to protect this rare species. Visual resources are very important and managed to maintain the spectacular views, especially along the Blue Ridge Parkway, Appalachian Trail, Peaks of Otter and other major roads.

Objectives

- MA1-OBJ1 Inventory the Day Creek abandoned mines area during this planning period.
- MA1-OBJ2 Maintain North Creek to meet Tier 3 exceptional water standards.
- MA1-OBJ3 Meet the conditions of the Peaks of Otter Salamander Conservation Agreement.

**MANAGEMENT AREA 2. UPPER JAMES RIVER**

The Upper James River Management Area contains the entire New Castle Ranger District, the Smith Flats portion of the Glenwood Ranger District and the portions of the New River Ranger District that flow into Potts Creek and Craig Creek and the North Fork Roanoke River. The area lies within the Ridge and Valley Ecological Subsection. Congressionally-designated features include the Shawvers Run and Barbours Creek Wildernesses and most of the Mountain Lake Wilderness. A segment of the Appalachian National Scenic Trail is located along the southeastern portion of the area.

Physical and Biological Profile

The Upper James River Management Area lies within the Ridge and Valley Ecological Section consisting of closely spaced ridges of sandstone or shale with deep intervening valleys of limestone or shale. The underlying geology of these ridges and valleys has dictated their historic land use as their productivity varies widely.

The natural vegetation of this are was broadly described by Lucy Braun in 1950 as Oak-Chestnut Forest. Although the American Chestnut is no longer a dominant feature of

**UPPER JAMES RIVER**

these forests, oaks and hickories with small inclusions of rich mixed mesophytic forests in the moist coves still predominate. Historically, before successful fire suppression, many of the oak and oak-pine woodlands found throughout the area were much more open containing a grassy or shrubby understory.

The side slopes that face west in Potts Creek, Johns Creek, and Upper Craig Creek are dominated by Table Mountain pine, a fire dependent species. Site productivity ranges from poor to excellent with most of the area being average. Examples of threatened, endangered, sensitive, or locally rare plant species found in the area include: box huckleberry, pirate bush, sword leaf phlox, small spreading pogonia, Virginia white haired leatherflower and butternut.

The James spiny mussel, a federally endangered mussel species, is found in Johns Creek the South Fork of Potts Creek, Catawba Creek and Craig Creek. Big Pond, (less than one

**Table 4-2. Upper James River Management Area Prescription Allocation**

Code	Description	Acres
0B	Custodial Management-Small Land Areas	500
1A	Designated Wilderness	17,600
1B	Recommended Wilderness Study Areas	4,400
4A	Appalachian Trail Corridor	4,400
4D	Botanical and Zoological Areas	300
4E1a	Cultural and Heritage Areas	100
4E1b	Cultural and Heritage Areas with Vegetation Management	1,500
4J	Urban/Suburban Interface	3,400
4K2	Hoop Hole Special Area	4,400
5A	Administrative Sites	<100
5B	Designated Communication Sites	<100
5C	Designated Utility Corridors	900
6A	Old Growth Forest Communities-Not Disturbance Associated	<100
6B	Old Growth Forest Communities-Fire Dependant	<100
6C	Old Growth Forest Communities-Disturbance Associated	9,200
7B	Scenic Corridors and Sensitive Viewsheds	3,600
7C	OHV Use Areas	1,500
7D	Concentrated Recreation Zones	700
7E1	Dispersed Recreation Areas	7,100
7E2	Dispersed Recreation Areas with Vegetation Management	5,300
8A1	Mix of Successional Habitats in Forested Landscapes	32,400
8B	Early-Successional Habitat Emphasis	13,100
8C	Black Bear Habitat Management Areas	26,800
8E1	Ruffed Grouse Habitat Management Area	2,800
8E4a	Indiana Bat Primary Cave Protection Area	300
8E4b	Indiana Bat Secondary Cave Protection Area	3,900
8E6	Old Field Habitat Emphasis	300
9A1	Source Water Protection Watersheds	700
9A4	Aquatic Habitat Areas	200
9F	Rare Communities	2,800
9G1	Maintenance and Restoration of Bottomland Hardwoods	<100
9H	Management, Maintenance, Restoration of Forest Communities	7,400
12B	Remote Backcountry Recreation-Nonmotorized	40,800



half acre in size) is located on the upper slopes of Johns Creek Mountain and is listed as a unique area by the Virginia Natural Heritage Program. Rare communities in this management area are primarily shale barrens, glades and associated woodlands. Although the area also contains a Southern Appalachian swamp forest-bog complex and montane buttonbrush pond.

Dragons Tooth, a unique geological feature, and Millers Cove are both found in the area. The Cove contains many permanent springs and seeps and a variety of vegetative ecosystems as well as two mapped caves--the Molly Scott Hollow Cave and the Millers Cove Cave. Because of its history and relative isolation, its historic, biological and geological values are unique on the District. Ancient giant landslide features are visible along the southern ridgetop of Sinking Creek Mountain.

Forest health concerns include hemlock wooly adelgid infestations at Roaring Run and in Millers Cove along the Pickles Branch drainage, scarlet oak and black oak decline throughout the area, and southern pine bark beetle infestations in Patterson Creek, Barbours Creek Wilderness, the Fenwick Mines, Lignite, and other scattered areas. Back Valley, Potts Creek, Peters Mountain, and North Mountain have all been treated with pheromone flakes as a pre-suppression or suppression efforts for gypsy moth infestations. Various native defoliating loopers continue to infest the Johns Creek area. Dogwood is scarce due to anthracnose-induced mortality.

#### Cultural and Economic Profile

Vegetation has historically been managed for both timber and wildlife throughout most of this management area. This is particularly true in Patterson Creek, Catawba, Lower Potts Creek, and the gentle slope areas in Upper Craig. Due to limited access, vegetation management in the upper reaches of Potts Creek has been minimal. The vegetation in the Roaring Run area was impacted by iron ore mining at the turn of the 20<sup>th</sup> century, resulting in large even-aged stands approximately 85 years old. There are approximately 2,000 acres that are less than 30 years of age in the Lignite area that were purchased in 1997.

Hunting is an important part of the culture here and that is the primary recreation use in this area. A major feature of the area is the Wildlife Road (FSR 224), built in the early 1960s for wildlife research conducted by Virginia Tech and the Virginia Division of Game and Inland Fisheries. It provides many wildlife clearings and water holes and is very popular for hunting, scenic driving, wildlife viewing, and firewood cutting. There are several hiking trails from the road to the North Mountain Trail that are used by both hikers and mountain bikers. There is an area in Tub Run that was developed in cooperation with the Ruffed Grouse Society to emphasize management for ruffed grouse. Craig Creek Recreation Area is also managed for quail habitat in cooperation with the Virginia Department of Game and Inland Fisheries and Quail Unlimited, with plantings of warm season grasses.

The only all-terrain vehicle (ATV) trail area on the Forest is located on Patterson Mountain.

Many dispersed and developed recreation opportunities are centered around historic sites. Millers Cove is a unique, historically-farmed isolated cove, accessible to the public by foot travel only. Two main features are the old historic mining areas of Fenwick and Lignite. While little remains of either original town, Fenwick is now a picnic area with nature walks and a family fishing pond, and the Town of Lignite is being evaluated by archaeologists. The old Catawba Furnace, a relic of the mining history of the District, is located on the National Forest off State Route 600. Roaring Run Furnace has a very popular day use area and several trail opportunities near the historic furnace.

**UPPER JAMES RIVER**

The crest of Potts Mountain is utilized for communications towers by the Forest Service, the Federal Aviation Administration, local law enforcement, and private industry.

The Catawba and North Fork of Roanoke areas are more urban than Craig County, as they are adjacent to the cities of Blacksburg and Roanoke. These privately-owned lands along the NFS boundary and main road corridors are gradually being converted from large rural parcels to single family small parcels. It can be anticipated that this conversion will accelerate over time. The area typifies the "wildland-urban" interface.

Most of the area has good access. The exceptions are the Lower Craig Creek and upper Potts Creek areas. Most of the valley bottoms are in private ownership so there are a number of tracts of National Forest on the mountain slopes that are difficult to access.

**Watersheds**

This Management Area has only one 5<sup>th</sup> level watershed, the Upper James River. One 6<sup>th</sup> level watershed in the Upper Roanoke basin, North Fork Roanoke/Bradshaw Creek, is also included in this Management Area since it is in the Ridge and Valley and adjoins National Forest System lands within the Upper James River watershed. However, the North Fork watershed has less than 3 percent of its area in National Forest ownership.

**UPPER JAMES**

Six 6<sup>th</sup> level watersheds in the Upper James basin contain National Forest System lands in this Management Area. These are Upper Potts Creek, Catawba Creek, Upper Craig Creek, Johns Creek, Lower Craig Creek/Patterson Creek/Lower Barbours Creek, and Upper Barbours Creek. Sensitive aquatic species is a concern throughout this watershed. The James spiny mussel is found in all the 6<sup>th</sup> level watersheds except Upper Barbours Creek. In addition, the orangefin madtom is present in Upper Craig Creek, Johns Creek and Lower Craig Creek. The Atlantic pigtoe, a state-listed threatened mussel and the roughhead shiner a state species of special concern are also found in the Upper James River watershed.

Wetland resources in the area include a natural pond on Potts Mountain and wetlands along Cove Creek and on Peters Mountain. In the Upper Craig watershed there are a number of fire dependent plant communities on Brush Mountain and concerns with the urban/wildland interface in this same area. The Lower Craig/Patterson Creek watershed

6 <sup>th</sup> Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
Upper Potts Creek 02080201030-110	66,585	59%	Low	High
Catawba Creek 02080201070-125	73,780	15%	Medium	Medium
Upper Craig Creek 02080201080-119	62,778	72%	Low	Medium
Johns Creek 02080201080-121	58,978	61%	Low	High
Lower Craig Creek/Patterson Creek/Lower Barbours Creek 02080201080-122	79,409	53%	Low	High
Upper Barbours Creek 02080201080-123	19,973	84%	Low	Low

contains the Forest's all-terrain vehicle trail and is also a popular area for creek-based recreation. Mining was an important aspect of past management with the Fenwick and Lignite mine areas in this watershed. Concerns in the Catawba watershed include urbanization and hazardous waste sites. A section of Catawba Creek is water quality limited.

UPPER JAMES  
RIVER

NEW RIVER

### Desired Conditions

Restoration of the more open oak and oak-pine woodlands on the drier south-facing slopes and ridgetops through reintroduction of wildland and prescribed fire will benefit many of the wildlife species found throughout this management area. Both early and late successional forest species can find important elements of their habitat needs in these historically widespread communities. Increased use of fire will also reduce potential wildland-urban interface problems along the Forest boundary where communities are developing.

Clean water and gravels will be provided in streams inhabited by and upstream of the James spiny mussel, Atlantic pigtoe and their host fish, as well as the roughhead shiner and orange-fin madtom so that populations can be maintained, protected and restored.

The traditional emphasis of this management area on creation of wildlife habitat is continued with a focus on early successional habitat and a mix of habitats especially in the Broad Run, Johns Creek, Fenwick areas and along roads in Patterson Creek. Tub Run will continue to be managed for ruffed grouse and Craig Creek for quail. Habitat for more remote wildlife, like bear, continues to be the emphasis in the Potts Creek drainage and the west slope of Upper Craig Creek. The upper end of Potts Creek and Johns Creek also has the Mountain Lake Wilderness. Remote conditions continue in the two Wildernesses and a large block of the North, Caldwell and Price Mountain is devoted to remote backcountry recreation.

### Objectives

There are no objectives specific to this area.

## MANAGEMENT AREA 3. NEW RIVER

This management area contains the portion of the New River Valley Ranger District that is within the New River watershed. It lies within the Ridge and Valley Ecological Subsection. Congressionally-designated features include Peters Mountain Wilderness, Kimberling Creek Wilderness, and a portion of the Mountain Lake Wilderness. The Appalachian National Scenic Trail runs through most of the northern part of this area.

### Physical and Biological Profile

The geology and vegetation of the New River Management Area are very similar to those described for the Upper James River, since they both lie in the Ridge and Valley Ecological Section. The higher elevations of the Mountain Lake Wilderness are different however, containing inclusions of both northern hardwoods and red spruce. There are fewer rare shale barrens, and we begin to pick up some different rare mountain wetland communities, including a montane herbaceous pond, a Central Appalachian calcareous shrub fen/seep, a montane basic seepage swamp, and several Appalachian bogs. The Dismal Creek area contains an excellent example of a northern white-cedar slope forest.

Stony Creek supports some mixed mesophytic forest and contains wetlands, bogs, red-spruce habitat, and cliff lines that provide for the highest capture rates for eastern woodrats in Virginia, and provides remote habitat for an abundance of black bear. Table

NEW RIVER

mountain and pitch pine are found on southwest aspects along the north side of Little Walker Mountain and along the southwestern slopes of Piney Ridge and Tract Mountain. In addition, box huckleberry, a Forest Service sensitive plant species, is found along the north side of Little Walker Mountain. Past disturbance from fires was instrumental in these species occurring in this area today.

Beaver activity has contributed to open wetland areas along the upper portions of North Fork, White Rocks Branch, Stony and Little Stony Creeks, Mud Branch and the upper portions of Nobusiness and Dismal Creeks.

Forest health concerns include gypsy moth. Various strategies to control gypsy moth populations have been employed in the Goldbond area since 1989 to control an isolated low level population outbreak.

Stony Creek, Laurel Creek, and the lower reaches of Dismal Creek contain the candy darter, a Forest Service sensitive fish species. Wolf Creek contains populations of the Tennessee heelsplitter mussel.

Table 4-3. New River Management Area Prescription Allocation

Code	Description	Acres
OB	Custodial Management-Small Land Areas	800
1A	Designated Wilderness	11,400
1B	Recommended Wilderness Study Areas	11,000
2C3	Eligible Recreational River	700
4A	Appalachian Trail Corridor	11,800
4D	Botanical and Zoological Areas	<100
4J	Urban/Suburban Interface	400
5A	Administrative Sites	<100
5B	Designated Communication Sites	100
5C	Designated Utility Corridors	2,300
6A	Old Growth Forest Communities-Not Disturbance Associated	<100
6B	Old Growth Forest Communities-Fire Dependant	500
6C	Old Growth Forest Communities-Disturbance Associated	10,600
7B	Scenic Corridors and Sensitive Viewsheds	3,100
7D	Concentrated Recreation Zones	1,800
7E1	Dispersed Recreation Areas	5,300
7E2	Dispersed Recreation Areas with Vegetation Management	7,100
8A1	Mix of Successional Habitats in Forested Landscapes	40,200
8B	Early-Successional Habitat Emphasis	800
8C	Black Bear Habitat Management Areas	8,900
8E1	Ruffed Grouse Habitat Management Area	2,800
8E4a	Indiana Bat Primary Cave Protection Area	200
8E6	Old Field Habitat Emphasis	900
9A1	Source Water Protection Watersheds	11,900
9A3	Watershed Restoration Areas	1,100
9A4	Aquatic Habitat Areas	1,500
9F	Rare Communities	1,200
9G1	Maintenance and Restoration of Bottomland Hardwoods	<100
9H	Management, Maintenance, Restoration of Forest Communities	11,300
12B	Remote Backcountry Recreation-Nonmotorized	33,600
12C	Remote Backcountry Recreation-Natural Processes	2,900

The Crawfish Valley was once actively farmed. Today it is managed as a complex of open and old field habitats through the use of prescribed fire, mowing and timber harvest. Both the blue-winged and golden-winged warbler, locally rare bird species, inhabit the area. The cerulean warbler, another locally rare species, is found on Round Mountain. The Poverty Creek area is well known for historical occurrences of several sensitive butterflies and moths, including the diana fritillary and the Appalachian grizzled skipper.

### Cultural and Economic Profile

Use of public lands is greatest during hunting season, primarily by local residents. The area also provides horseback riding, bicycle riding, fishing and picnicing opportunities on National Forest lands in the area. The Appalachian Trail heavily influences this management area. Two major recreation attractions are Pandapas Pond and the Cascades. Both are easily accessible to Blacksburg and have very high use. A network of multiple use trails connect Pandapas Pond to the Poverty Creek drainage. The trails have a very high established use by mountain bike users, horseback riders and hikers. The Cascades includes a picnic area and the Cascades National Recreation Trail.

Interstate 77 cuts through the middle of the Management Area from north to south. The southern perimeter of the area is heavily influenced by industrial and more urban development in the towns of Blacksburg, Pulaski, Dublin, Wytheville, and Radford and along the corridors of Interstates 81 and 77, and U.S. 460. Privately-owned lands along the public roads within this area are gradually being converted from large rural parcels to single family small parcels and more extensive single family housing subdivisions. It is anticipated that this conversion will accelerate over time. The area typifies the "wildland-urban" interface found on the more developed parts of the Forest.

Illegal all-terrain vehicle use continues to be a problem in the area, particularly in the upper Hunting Camp Creek portion. Problems with illegal dumping, litter, and poaching are continual problems on National Forest lands in parts of the area.

Communication sites atop Brush Mountain, Butt Mountain, Flat Top Mountain, and Walker Mountain house communications equipment for the Forest Service and other agencies.

This management area contains the 1,000 foot corridor for the proposed location of the 765 kV Appalachian Electric Power powerline that has been recently approved but not yet constructed, as well as an existing 69 kV line.

State and Forest Service roads provide good access throughout the northern portion of the area. Access in much of the Tract Fork, Stony Fork and Crawfish Valley is limited to the lower slopes with little access to their upper slopes. In the Wolf Creek area there are several parcels of National Forest with no access. Access to National Forest Land on Little Walker Mountain and Big Walker Mountains north of Interstate 77 is very limited with mostly private ownership along the state routes in the valleys.

### Watersheds

This Management Area has two 5<sup>th</sup> level watersheds, the Middle New River and the Upper New River.

### MIDDLE NEW RIVER

Eleven 6<sup>th</sup> level watersheds in the Middle New River basin contain National Forest System lands in this Management Area. Seven of these watersheds have National Forest ownership that comprises 10 percent or more of the watershed, New River/Little Stony Creek, Stony Creek, Kimberling Creek, Little Walker Creek, Upper Wolf Creek, Hunting

NEW RIVER

Camp Creek, and New River/East River.

Little Stony Creek and Big Stony Creek are eligible as a “recreational rivers.” It is subject to a high level of recreational use with the Cascades Recreation Area. It has also been subject to repeated recent flooding. Big Stony Creek is also eligible as a “recreational river.” The candy darter is found in Big Stony Creek and this watershed contains the Glen Alton Tract, a recent acquisition that has high recreation potential related to its ponds and streams. Dismal Creek, in the Kimberling Creek watershed, supports populations of candy darter and there is much beaver activity in Dismal and Nobusiness Creeks. Upper Wolf Creek supports populations of the Tennessee heelsplitter mussel. This watershed also includes Burkes Garden and a number of agriculture/dairy operations. Hunting Camp Creek has a portion of the stream that is impaired from unknown causes.

6th Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
New River/Little Stony Creek 05050002010-N24	29,392	18%	Medium	High
Stony Creek 05050002010-N28	30,973	80%	Low	Medium
Kimberling Creek 05050002020-N26	60,773	53%	Low	Medium
Little Walker Creek 05050002020-N27	38,458	54%	Low	Low
Upper Wolf Creek 05050002030-N30	50,576	21%	Medium	Low
Hunting Camp Creek 05050002030-N31	20,581	77%	Low	Low
New River/East River 05050002040-N29	24,658	18%	Low	Low

UPPER NEW RIVER

Five 6<sup>th</sup> level watersheds in the Upper New River basin contain National Forest System lands in this Management Area. Three of these watersheds have National Forest ownership that comprises 10 percent or more of the watershed, Upper Reed Creek, Cove Creek and Peak Creek. A small portion of Upper Reed Creek is also located in the Glade Mountain Management Area.

6th Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
Upper Reed Creek 05050001080-N10	93,506	29%	High	Low
Cove Creek 05050001080-N12	24,512	16%	Medium	Low
Peak Creek 05050001100-N17	59,666	30%	Low	Low

Peak Creek is the municipal water supply for the Town of Pulaski. Downstream of the reservoir, Peak Creek is impaired from urban sources. The stream has a Physical Condition Class of 3.

NEW RIVER

NORTH & MIDDLE  
FORK HOLSTON

### Desired Conditions

Restoration of the more open oak and oak-pine woodlands on the drier south-facing slopes and ridgetops through reintroduction of wildland and prescribed fire will benefit many of the wildlife species found throughout this management area. Both early and late successional forest species can find important elements of their habitat needs in these historically widespread communities. Increased use of fire will also reduce potential wildland-urban interface problems along the Forest boundary where communities are developing.

Clean water and gravels will be provided in streams inhabited by and upstream of the Tennessee heelsplitter and its host fish in Wolf Creek, as well as the candy darter in Laurel Creek, Stony Creek, and Dismal Creek so that populations can be maintained, protected and restored. The water quality from streams draining into Hunting Camp Creek will be improved through restoration on NFS lands and working cooperatively with local landowners.

Remote characteristics are emphasized north of the New River, with Mountain Lake and Peters Mountain Wildernesses and bear habitat on the more remote ridges. More accessible areas, like Clendenin, are managed for a mix of wildlife habitats. Recreation is a strong emphasis at Cascades and Poverty Creek, while fishing, recreation and protection of aquatic species are the focuses along Stony Creek.

Wilderness and backcountry recreation is the emphasis along the Appalachian Trail from Garden Mountain to Brushy Mountain. Readily accessible areas at Crab Orchard and between Kimberling Creek Wilderness and Brushy Mountain will be used to create a mix of habitats. This is also true for Round Mountain and Dismal Creek. Crawfish Valley is managed to provide old field and early successional habitat while the surrounding slopes are managed for backcountry recreation. Backcountry recreation is also the focus of the Long Spur and Tract Fork areas, while developed and dispersed recreation are featured in Stony Fork and municipal watershed management in Peak Creek.

### Objectives

There are no objectives specific to this area.

## MANAGEMENT AREA 4. NORTH & MIDDLE FORK HOLSTON

This management area contains the western portion of the New River Ranger District that drains into the Holston River. The area lies within the Ridge and Valley Ecological Subsection. A Congressionally-designated feature is the Beartown Wilderness. A segment of the Appalachian National Scenic Trail runs through the area.

### Physical and Biological Profile

The geology and vegetation of the North & Middle Fork Holston Management Area are very similar to those described for the New River, since they both lie in the Ridge and Valley Ecological Section. The higher elevations of the Beartown Wilderness, like Mountain Lake, contain both northern hardwoods and red spruce. The almost 800 acres of red spruce are a rare community. Chestnut Ridge to the immediate south of Beartown Wilderness is a grassy bald rare community.

NORTH & MIDDLE  
FORK HOLSTON

Table 4-4. North & Middle Fork Holston Management Area Prescription Allocation

Code	Description	Acres
0B	Custodial Management-Small Land Areas	900
1A	Designated Wilderness	5,600
1B	Recommended Wilderness Study Areas	3,300
4A	Appalachian Trail Corridor	1,300
6B	Old Growth Forest Communities-Fire Dependant	<100
6C	Old Growth Forest Communities-Disturbance Associated	2,200
7B	Scenic Corridors and Sensitive Viewsheds	200
8A1	Mix of Successional Habitats in Forested Landscapes	9,500
8C	Black Bear Habitat Management Areas	2,400
9A4	Aquatic Habitat Areas	4,600
12B	Remote Backcountry Recreation-Nonmotorized	2,000
12C	Remote Backcountry Recreation-Natural Processes	6,900

Lick Creek drains into the North Fork of the Holston River and provides habitat for the Tennessee dace, a Forest Service sensitive species. Bear Creek and Hungry Mother Creek drain into the Middle Fork of the Holston River and also contain the Tennessee dace.

Forest health concerns include oak decline, especially on scarlet and black oaks. Gypsy moth infestations are expected during the current planning cycle. Hemlock wooly adelgid infestations are beginning to impact this area as well.

Cultural and Economic Profile

The entire area receives considerable use during hunting season. Illegal 4-wheel use is heavy throughout the area, including within the Beartown Wilderness.

The close proximity of the area to population centers in Wytheville, Rural Retreat and Marion, and the ease of access from Interstate 81 and various federal highways, state secondary roads and Forest Service roads make the area a popular destination for dispersed recreation on the Forest.

While the western portion of the area is less than ten miles from the town of Tazewell, it is considered to be remote due to the lack of paved roads. The western section of the area is bisected by Poor Valley Road. Along this road system there are dozens of hunting cabins and numerous houses. Two of the larger groups of residences are informally known as the communities of Poor Valley and Roaring Fork.

Timber harvest has historically occurred on public and private lands in the area. The overall quality of the timber is considered moderate in the Bear Creek area and low in the Beartown area.

Watersheds

This Management Area is located in two 5<sup>th</sup> level watersheds, the North Fork Holston River and the South Fork Holston River.

**NORTH FORK HOLSTON**

Two 6<sup>th</sup> level watersheds in the North Fork Holston basin contain National Forest System lands in this Management Area. These are Upper North Fork Holston River and North Fork Holston River/Laurel Creek. This watershed supports populations of the Tennessee dace



in Lynn Camp Creek and in the North Fork Holston River.

Segment 229 of the North Fork of the Holston is impaired due to agriculture impacts. This section also supports the longhead darter and the slippershell and slabside pearly mussels. Private inholdings in the Upper North Fork Holston have about 60 private hunting cabins located adjacent to the National Forest. In the Laurel Creek watershed there is much illegal all-terrain vehicle use that enters the Beartown Wilderness.

6th Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
Upper North Fork of Holston River (Lick Creek)	72,422	22%	Medium	Medium
North Fork Holston River/ Laurel Creek 06010101010-010	75,207	15%	High	High

**SOUTH FORK HOLSTON**

Two 6<sup>th</sup> level watersheds in the South Fork Holston basin contain National Forest System lands in this Management Area. These are Upper Middle Fork Holston River and Middle Fork Holston River/Hungry Mother Creek. Portions of the Glade Mountain Management Area are also located in both of these watersheds. Portions of the West Iron Mountain Management Area are also located in the Upper Middle Fork Holston watershed.

The Tennessee dace inhabits both watersheds. The Tennessee heelsplitter is found in the Middle Fork Holston. The Upper Middle Fork Holston also contains a developed spring just downstream from the National Forest that supplies the Town of Marion with drinking water. This watershed also contains a large silica/sand mine. Hungry Mother State Park is located in the Middle Fork Holston watershed adjacent to the National Forest. The Middle Fork supports populations of little-wing pearly, tan riffleshell, Tennessee heelsplitter, slabside pearly, and cracking mussels around Marion and Atkins.

6th Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
Upper Middle Fork Holston River 06010102020-003	52,121	33%	Low	Low
Middle Fork Holston River/ Hungry Mother Creek 06010102020-004	50,234	10%	Medium	High

**Desired Conditions**

Remote backcountry and Wilderness continue from the adjoining New River Management Area along Garden Mountain and Beartown. The more accessible areas are managed to create a mix of wildlife habitats and Bear Creek is a mix of bear management and backcountry recreation.

Clean water and gravels in streams inhabited by and upstream of the Tennessee dace are provided so that populations can be maintained, protected and restored.

**GLADE  
MOUNTAIN/POND  
MOUNTAIN**

Objectives

There are no objectives specific to this area.

**MANAGEMENT AREA 5. GLADE MOUNTAIN/POND MOUNTAIN**

Glade Mountain/Pond Mountain is a crossroads management area. It is the only management area in the Great Valley Ecological Subsection. It had been part of the Wythe Ranger District, but is now administered by the Mount Rogers National Recreation Area, though it is not within the proclaimed National Recreation Area. The only Congressionally designated feature is the Appalachian Trail that crosses through the center of the area where it leaves the Blue Ridge for the Ridge and Valley.

Interstate 81 is along the northern boundary of the area. The southern boundary is State Routes 614 and 670. Private lands surround this management area on all sides except for the National Forest lands that form a corridor along the Appalachian Trail in the northeast and southwest corner of this management area.

Physical and Biological Profile

Glade Mountain Management Area is uniquely situated in that it is part of a natural constriction that lies south of Interstate 81 and is part of a natural corridor for black bear as they cross the Great Valley from the Southern Blue Ridge Subsection to the Ridge and Valley. Unfortunately many black bear and other species fall victim to interstate traffic in this area.

There are no identified rare communities within this management area. Native brook trout are found in Nicks Creek and Killinger Creek. Both of these streams have been heavily impacted in the past: Nicks primarily from State Route 622 and Killinger from the private mining operations which occurred several years ago. Several rare aquatic species are known to occur within the Middle Fork of Holston River.

Forest health concerns include oak decline, especially on scarlet and black oaks. Gypsy moth infestations are expected during the current planning cycle. Hemlock wooly adelgid infestations are beginning to impact this area as well.

Code	Description	Acres
OB	Custodial Management-Small Land Areas	500
4A	Appalachian Trail Corridor	2,900
4E1a	Cultural and Heritage Areas	<100
5A	Administrative Sites	<100
5B	Designated Communication Sites	<100
5C	Designated Utility Corridors	100
6B	Old Growth Forest Communities-Fire Dependant	100
6C	Old Growth Forest Communities-Disturbance Associated	1,000
7B	Scenic Corridors and Sensitive Viewsheds	200
7G	Pastoral Landscapes	100
8C	Black Bear Habitat Management Areas	15,100
9A3	Watershed Restoration Areas	600

Cultural and Economic Profile

Prominent features include Glade Mountain and Pond Mountain. Use of the area is

primarily by dispersed recreationists such as hunters and hikers.

Timber harvesting and the mining of manganese have been the major historical uses for this area. Mining was completed by the mid 1900's and restoration of these areas was done in the 1960's under Forest Service management. Today the majority of these areas are restored with small portions needing on-going restoration work.

The Appalachian National Scenic Trail is the most prominent recreation resource within this management area. The main developed facility is the Pat Jennings Visitor Center which is located centrally along State Route 16. This route serves as a primary access to the Mount Rogers National Recreation Area.

Illegal all-terrain vehicle use on this area is also a problem that appears to be growing annually. This illegal use is coming onto National Forest from adjoining private lands primarily on the east end of Glade Mountain.

#### Watersheds

This Management Area is one of two on the Forest that is not defined by watershed divides. This Management Area is located in two 5<sup>th</sup> level watersheds, the South Fork Holston River and the South Fork Holston River.

#### SOUTH FORK HOLSTON

This management area is located in three 6<sup>th</sup> level watersheds within the South Fork Holston basin. These are the Upper Middle Fork Holston River, Middle Fork Holston River/Hungry Mother Creek and the Upper South Fork Holston River. These watersheds are described in the Holston (MA 4) and West Iron Mountain (MA 9) Management Area descriptions.

The Upper South Fork Holston contains many old manganese and sand strip mines, including Georges Branch, Slabtown and Iron Mountain Mines. This watershed also contains the Buller Fish Cultural Station, which includes the Aquatic Wildlife Conservation Center, used to propagate and grow threatened and endangered mussels from the Upper Tennessee River drainage in Virginia.

#### UPPER NEW RIVER

This management area is located in two 6<sup>th</sup> level watersheds in the Upper New River basin. They are the Cripple Creek and Upper Reed Creek watersheds that are discussed in the East Iron Mountain (MA 6) Management Area and New River (MA 3) Management Area, respectively.

#### Desired Conditions

Bear management is the focus of this area along with continued monitoring and restoration of past mining impacts.

Soil and water quality are restored through soil and water improvement activities. Those improvements that have been implemented continue to be monitored to speed the recovery of the abandoned mines in the area. Place a high priority on maintaining all of these improvements until the lands are fully recovered.

#### Objectives

MA5-OBJ1 Minimize impacts to soil and water from historic mining activity.

**EAST IRON MOUNTAIN**

**MANAGEMENT AREA 6. EAST IRON MOUNTAIN (MRNRA)**

This management area contains the portion of the Mount Rogers National Recreation Area that drains into the Upper New River (except for the High Country). The East Iron Mountain Management Area is in the Southern Blue Ridge Ecological Subsection. Mt. Rogers is one of only twelve national recreation areas within the Nation. Congressionally-designated features includes the National Recreation Area itself and the Little Dry Run Wilderness.

The boundary between the East Iron Mountain Management Area and the High Country Management Area is along Highway 16. The western boundary of this management area is the watershed divide between the New and Holston Rivers.

**Physical and Biological Profile**

The East Iron Mountain Management Area lying within the Blue Ridge Mountains Ecological Section represents higher site productivity than the Ridge and Valley; but lower than the West Iron Mountain Management Area due to lower precipitation. There is a higher proportion of mesic deciduous forests characterized by historically low levels of wildland fire occurrence, but the southern exposures and ridgetops are dominated by drier oak and oak-pine forest communities. Open woodland conditions were probably more common in these communities prior to successful fire suppression. Pitch and Table mountain pine stands are found on the driest slopes of Iron Mountain and these communities are declining due to the absence of fire in recent years.

The Raven Cliff area contains montane acidic cliffs, a sandstone seepage cliff, and a rare and sensitive karst special geologic area ,as well as a rare Carolina hemlock community, a Southern Appalachian rich cove forest, and a dry calcareous forest.

Forest health concerns include the balsam woolly adelgid since this is one of the few areas on the Forest that has spruce-fir forests. The effects of acidification on tree health

**Table 4-6. East Iron Mountain Management Area Prescription Allocation**

<b>Code</b>	<b>Description</b>	<b>Acres</b>
1.A	Designated Wilderness	2,900
4.C.1	Geologic and Paleontologic Areas-unsuitable	800
4.D	Botanical and Zoological Areas	500
5.C	Designated Utility Corridors	<100
6.A	Old Growth Forest Communities-Not Disturbance Associated	100
6.B	Old Growth Forest Communities-Fire Dependant	100
6.C	Old Growth Forest Communities-Disturbance Associated	1,600
7.B	Scenic Corridors and Sensitive Viewsheds	4,600
7.D	Concentrated Recreation Zones	400
7.E.1	Dispersed Recreation Areas	500
7.E.2	Dispersed Recreation Areas with Vegetation Management	18,200
7.G	Pastoral Landscapes	1,500
8.A.1	Mix of Successional Habitats in Forested Landscapes	2,200
8.E.1	Ruffed Grouse Habitat Management Area	2,200
9.H	Management, Maintenance, Restoration of Forest Communities	1,400
12.A	Remote Backcountry Recreation-Few Open Roads	2,200
12.B	Remote Backcountry Recreation-Nonmotorized	4,000

are also of prime concern on Mount Rogers. Oak decline, especially on scarlet and black oaks some of which are currently in decline, is a concern elsewhere in this management area. Gypsy moth infestations are expected during the current planning cycle. Hemlock wooly adelgid infestations are beginning to impact this area as well.

Cultural and Economic Profile

The main recreational uses are horseback riding, hunting, fishing, and camping. There are two horse camps within this management area. This management area shares the regionally significant Virginia Highlands Horse Trail with the West End Management Area. The Hussy Mountain campground and the Raven Cliff horse campground are modestly developed areas. Many visitors also disperse camp along Forest Road 14. Comers Rock campground provides recreation for people who want to stay away from the crowds. Raven Cliff Family Campground is located on Cripple Creek. New River Campground is partially developed. None of the campgrounds in this management area provide water, electric or sewer hookups.

The New River Trail State Park, a 57-mile long former railroad grade, is adjacent to the east end of this management area. The New River has been designated an American Heritage river. Water based recreation is popular along the river.

Illegal all-terrain vehicle use on this area is a serious problem that continues to grow annually. The Bournes Branch, Jones Knob, and Ewing Mountain areas are hot spots for this illegal use.

Timber harvesting and mining have been major historical uses for much of this area. Mining for manganese was largely completed around Cripple Creek and Speedwell prior to 1950. Most of these mines have been restored except for one that is located southwest of the town of Cripple Creek.

Many of the lands acquired for the NRA were grazing lands and this pastoral setting is maintained through permitted livestock grazing allotments.

Watersheds

There is one 5<sup>th</sup> level watershed in the East Iron Mountain Management Area, the Upper New River.

UPPER NEW RIVER

Five 6<sup>th</sup> level watersheds in the Upper New River basin contain National Forest System lands. Three of these watersheds have National Forest ownership that comprises 10 percent or more of the watershed, New River/Chestnut Creek/Brush Creek, Fox Creek, and Cripple Creek. Portions of the Glade Mountain/Pond Mountain Management Area are located in Cripple Creek. Portions of the High Country Management Area are also located in Fox Creek.

This section of the New River has two hydroelectric dams on it. Bournes Branch on the

6th Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
New River/Chestnut Creek/Brush Creek 05050001040-N06	90,234	10%	High	Low
Cripple Creek 05050001070-N09	88,729	32%	High	Medium

**EAST IRON  
MOUNTAIN**

National Forest has many new trails being created illegally for all-terrain vehicles. In addition, the Bournes Branch Trail crosses the creek (a wild trout stream) numerous times. The upper reaches of Bournes Branch receive a lot of horse use on and off the trail in riparian areas. Some of the historic mines areas are still delivering sediment to local streams. Some of the recently acquired grazing lands are in need of riparian area restoration.

**HIGH COUNTRY****Desired Conditions**

The focus in this area is primitive to modestly developed recreation; offering areas for people who want to stay away from the crowds. Most of the area is managed for dispersed recreation ranging from Wilderness to backcountry to low level developed campgrounds, many with an emphasis on horse use. A few areas are managed for restoration of woodland and southern yellow pine communities, as well as the creation of early successional and a mix of successional habitats. All of the area is also managed to protect and enhance scenery.

As part of the Mount Rogers National Recreation Area, East Iron Mountain is managed to best provide for (1) public outdoor recreation benefits; (2) conservation of scenic, scientific, historic, and other values contributing to public enjoyment; and (3) such management of natural resources as will promote, or is compatible with, and does not significantly impair the purposes for which the NRA was established.

Horse use is maintained and managed to meet the recreational needs of the horseback riders while maintaining the resource needs of sensitive areas. Recreation use in Bournes Branch is managed to reduce impacts on the riparian resources.

Grazing allotments showcase sound range management practices that maintain and restore vegetated riparian areas and stable streambanks, along with a pleasant rural setting reminiscent of an earlier period in time.

**Objectives**

MA6-OBJ1 Relocate the Bournes Branch Trail to reduce stream impacts.

MA6-OBJ2 Reduce sediment delivery to streams from developed and dispersed recreation facilities, livestock grazing allotments, and historic mining sites.

**Management Area Standards**

MA6-001 Allow bicycles, horses and pack stock only on open and closed classified roads (unless otherwise posted) and designated trails. Horses and pack stock are allowed immediately adjacent to these trails and roads for the purpose of camping, resting, picnicking, watering, etc. (within a corridor of 300 feet on either side of the designated routes.)

**MANAGEMENT AREA 7. HIGH COUNTRY (MRNRA)**

This management area is composed of the "high country" of the Mount Rogers National Recreation Area, so called because much of the management area is located at elevations over 4,000 feet. Mount Rogers and Whitetop Mountain, the highest and second highest mountains in the state respectively, are located within this management area. The area lies within the Southern Blue Ridge Ecological Subsection.

Mt. Rogers is one of only twelve national recreation areas in the Nation. Congressionally-designated features includes the National Recreation Area itself, Lewis Fork Wilderness,

Little Wilson Creek Wilderness and the Appalachian National Scenic Trail.

HIGH COUNTRY

The northern boundary runs along the crest of Straight Mountain, Grave Mountain, and Iron Mountain; the eastern boundary follows State Routes 16 and 730 along the proclamation boundary. The southern boundary follows the proclamation boundary just north of U.S. Highway 58; the western boundary follows U.S. Highway 58 from Green Cove to Bear Tree Gap.

#### Physical and Biological Profile

The High Country management area contains one of the highest concentrations of rare species and significant plant communities in the Commonwealth. Included is Virginia's only population of the globally rare, Southern Appalachian endemic tree, Fraser fir (*Abies fraseri*). Fraser fir has been identified as a species of concern by the U.S. Fish and Wildlife Service. The spruce-fir and northern hardwood forest communities in the High Country are home for the federally endangered northern flying squirrel, rare salamanders, several globally rare plant species, and what may be one of the best breeding concentrations of forest birds in Virginia, including several that are the southernmost of their global breeding ranges.

This management area is renowned for the high elevation meadows and balds that include numerous rare native herbs, grasses, and shrubs, and also serve as the greatest visual attraction to the Mount Rogers National Recreation Area, offering views in a unique setting not found elsewhere in Virginia. Whitetop Mountain area includes the only Southern Appalachian "grassy bald" community in Virginia. The globally-rare fringed scorpion weed is likely disturbance dependent requiring fire or some other disturbance to maintain long-term viability. These high elevation grassy and shrubby areas are also important habitat for the Appalachian Bewick's wren, alder flycatcher, and golden-winged warbler.

Various rare plant communities such as red spruce-Fraser fir, sub-Alpine beech forest, Southern Appalachian beech gaps, Central Appalachian rich cove forests, high elevation outcrop barrens and boulderfield forests, and Southern Appalachian swamp forest-bog complexes, have been identified within this area. Many plant species reach their northern

Table 4-7. High Country Management Area Prescription Allocation

Code	Description	Acres
1A	Designated Wilderness	9,500
1B	Recommended Wilderness Study Areas	2,100
4A	Appalachian Trail Corridor	1,100
4K3	Mount Rogers Crest Zone Special Area	5,100
4K4	Whitetop Mountain Special Area	5,100
5A	Administrative Sites	<100
5B	Designated Communication Sites	<100
6A	Old Growth Forest Communities-Not Disturbance Associated	<100
7A	Scenic Byway Corridors	100
7B	Scenic Corridors and Sensitive Viewsheds	2,500
7D	Concentrated Recreation Zones	100
7E1	Dispersed Recreation Areas	1,500
7E2	Dispersed Recreation Areas with Vegetation Management	400
7G	Pastoral Landscapes	1,000
8A1	Mix of Successional Habitats in Forested Landscapes	500

---

**HIGH COUNTRY**

or southern extent at Mount Rogers.

The fire regime is infrequent low intensity surface fires (>25 year fire return interval). The fires are small. Natural fire occurrence is low and most fires are human-caused. This area has an extensive history of prescribed burning for balds and pasture management beginning in the late 1970's to the present. Approximately 700-900 acres have been burned annually using a three year rotation on balds around Mount Rogers and an annual rotation at Whitetop Mountain. The purpose of these burns has been to retard the encroachment of woody vegetation into the balds stimulate the grass/forb component.

There are also individual stems and scattered clumps of northern hardwood species such as yellow birch, sugar maple, and yellow buckeye that have died in recent years. The total picture as to the cause of this mortality is unclear at present. Various research and monitoring projects are underway to help determine the cause of this mortality. Some of the causes may be climatological factors such as drought, ice damage, and hurricanes, or insect damage, pathogens such as *armillaria* (root disease), historical grazing, or air pollution in the form of nitrates, sulfates, and ozone damage or a combination of many of these factors.

The Balsam wooly adelgid has infested almost all Fraser fir stands on Cabin Ridge, Wilburn Ridge, and Pine Mountain. Mortality has been extensive in mature trees, saplings and seedlings. Most mature trees are dead on Mount Rogers proper, primarily due to their age. Here the seedlings and saplings are still alive and growing except on the lower slopes adjacent to the areas mentioned above. There are isolated stems of Fraser fir still alive that appear to be resistant to the adelgid within the areas of greatest mortality.

#### Cultural and Economic Profile

This management area contains the high elevation meadows and balds that are the central attraction for high numbers of visitors to the National Recreation Area annually. The bald areas on Whitetop Mountain and in the Elk Garden area which lies between Mount Rogers and Whitetop, were recorded as open meadows in the mid-1700's. Both are considered naturally-occurring, but it is not certain how they evolved to their present state. The open balds around Mount Rogers were created by humans from intensive logging and the subsequent indiscriminate burning and grazing prior to Forest Service acquisition. These areas, kept open through grazing by ponies and cattle, the use of prescribed fire, and manual brush control offer outstanding views in a unique setting not found elsewhere in Virginia. The most popular trails in the area include the Appalachian National Scenic Trail, Virginia Highlands Horse Trail and Rhododendron Gap trail. Approximately 30 other trails also provide dispersed recreation opportunities on over 100 miles.

Whitetop Mountain is accessible via Forest Service Road 89. Whitetop has a history of recreation use dating back to early 1900's when the mountain was in private ownership. While in private ownership, a toll was charged to access the summit and a dance hall. Today, the road is very popular with sightseers and hikers.

Day hiking, backpacking, horseback riding and pony watching are the primary dispersed recreation activities, with hunting, fishing and blueberry picking also being primary uses seasonally. Developed recreation areas include Grindstone Campground, Fairwood Horse Camp, Fairwood Picnic Area, and Fairwood Horse Livery, all of which are located along State Route 603. Grayson Highlands State Park is immediately adjacent to the management area. Several festivals are held there each year, as well as the annual Wilburn Ridge Pony Association's pony auction, that attracts thousands of people to the area.

Big Wilson Creek and Fox Creek receive large number of anglers annually from both Virginia and neighboring states. Hunters in pursuit of deer, turkey, grouse and various small game



animals flock to the forest within this area each fall and spring.

HIGH COUNTRY

Land uses in the three counties in this management area are mostly agricultural. The Christmas tree and roping/greenery industry has been increasing dramatically in the last 10 years. There are approximately 150 Christmas tree growers producing trees on 4,000 non-Forest Service acres. Pasture land continues to be converted to Christmas tree production.

### Watersheds

This Management Area is one of two on the Forest that is not defined by watershed divides. This Management Area is located in two 5<sup>th</sup> level watersheds, South Fork Holston River and Upper New River. This area supports the Crest Zone, or High Country, of Mount Rogers; the highest recreation use area on the Forest.

### SOUTH FORK HOLSTON

This management area is located in one 6<sup>th</sup> level watershed in the South Fork Holston basin: South Fork Holston River/Whitetop Laurel Creek. This watershed is described in the West Iron Mountain Management Area.

### UPPER NEW RIVER

This management area is located in three 6<sup>th</sup> level watersheds in the Upper New River basin, Helton Creek/Big Horse Creek, Upper New River/Wilson Creek, and Fox Creek. A portion of the East Iron Mountain Management Area (MA 6) is also located in the Fox Creek watershed.

High country soils are very unique to the region and the Southern Appalachians. Soils at these higher elevations have formed in "frigid" conditions and are characteristic of soils found much further north in New England. These soils and the unique climate and geology help produce the many special ecosystems in the area. Air quality concerns include extremely low pH in cloud water and ground level ozone at higher elevations. The area also supports a wide diversity of salamanders. On private lands there are many Christmas tree farms and their associated fertilization, herbicide, and pesticide use. The Wilson Creek watershed has the lowest road density of any watershed on the Forest. It is also adjacent to Grayson Highlands State Park which provides additional recreation pressure on the area. Concerns in Fox Creek include impacts from permitted grazing, livery, and the horse camp along Fox Creek. Fox Creek riparian work to stabilize banks and revegetate from historic private land use prior to National Forest acquisition continues. Water in Fox Creek is high in coliform from livestock and horse camp use.

6th Level Watersheds	Total Acres	% National	Non-Point Source	Natural Heritage
Helton Creek/Big Horse	25,078	22%	Medium	Medium
Upper New River/Wilson	40,818	13%	Medium	High
Fox Creek	48,845	23%	Medium	Medium

**HIGH COUNTRY**

## Desired Conditions

**WEST IRON MOUNTAIN**

Management focuses on the special biological and recreational attributes of the High Country, almost entirely allocated to special area management prescriptions and Wilderness. Rare communities and the habitats of listed and rare species are protected and expanded.

As the heart of the Mount Rogers National Recreation Area, the High Country is managed to best provide for (1) public outdoor recreation benefits; (2) conservation of scenic, scientific, historic, and other values contributing to public enjoyment; and (3) such management of natural resources as will promote, or is compatible with, and does not significantly impair the purposes for which the NRA was established.

Horse use is maintained and managed to meet the recreational needs of the horseback riders while maintaining the resource needs of sensitive areas.

Grazing is used to control vegetation. Allotments showcase sound range management practices that preserve rare communities, maintain and restore vegetated riparian areas and stable streambanks, along with a pleasant rural setting reminiscent of an earlier period in time.

## Objectives

MA7-OBJ1 Relocate the Fox Creek Horse Camp to reduce stream impacts.

## Management Area Standards

MA6-001 Allow bicycles, horses and pack stock only on open and closed classified roads (unless otherwise posted) and designated trails. Horses and pack stock are allowed immediately adjacent to these trails and roads for the purpose of camping, resting, picnicking, watering, etc. (within a corridor of 300 feet on either side of the designated routes.)

**MANAGEMENT AREA 8. WEST IRON MOUNTAIN (MRNRA)**

West Iron Mountain contains the portion of the Mt. Rogers National Recreation Area that drains into the South Fork Holston River, except for the High Country. It lies within the Southern Blue Ridge Ecological Subsection. Mt. Rogers is one of only twelve national recreation areas within the Nation. Congressionally-designated features includes the National Recreation Area itself and the Appalachian National Scenic Trail. The Virginia Creeper National Recreation Trail is also located in the area.

The boundary between the West Iron Mountain Management Area and the High Country Management Area is along U.S. 58 from Green Cove to Beartree Gap and along the ridge of Iron Mountain.

## Physical and Biological Profile

The West Iron Mountain Management Area lying within the Blue Ridge Mountains Ecological Section receives notably higher precipitation than East Iron Mountain and consequently has high site productivity and a higher proportion of mesic deciduous forests. The primary forest communities consist of Dry Mesic Oak, Mixed Mesophytic Hardwoods, and Northern Hardwoods. Northern hardwoods are not typical within this ecological subsection.

The federally threatened Virginia round-leaf birch is located within the headwaters of the

South Fork Holston River drainage. Several plantations aimed at propagating this species are also located within this drainage. Other rare communities and special biological areas include a montane basic woodland at Whitetop Laurel slopes, beech gaps along Pine and Iron Mountains, Southern Appalachian high-elevation boulderfield forest, and Little Laurel Creek old growth. Some important old field habitats exist within this area also.

Whitetop Laurel Creek and the headwaters of the South Fork of Holston River are two popular trout streams in Virginia listed in some publications as "Blue Ribbon Trout Streams".

Forest health concerns include the balsam woolly adelgid since this is one of the few areas on the Forest that has spruce-fir forests. The effects of acidification on tree health are also of prime concern on Mount Rogers. Oak decline, especially on scarlet and black oaks some of which are currently in decline, is a concern elsewhere in this management area. Gypsy moth infestations are expected during the current planning cycle. Hemlock woolly adelgid infestations are beginning to impact this area as well.

### Cultural and Economic Profile

Regionally popular and heavily publicized trails within this area are the Virginia Highlands Horse Trail and the Whitetop Laurel Accessible Fishing Trail; trails with national significance are the Virginia Creeper National Recreation Trail and the Appalachian National Scenic Trail. Unique to this area are motorcycle trails in the Feathercamp area, one of only two areas across the national forest.

The trail which gets the most use on the Mount Rogers National Recreation Area is the Virginia Creeper Trail. This trail, once a railroad line of the same name, now has no less than four businesses out of Damascus and Abingdon completely reliant on the trail. These businesses provide bike rentals and shuttle services to Virginia Creeper Trail users.

Table 4-8. West Iron Mountain Management Area Prescription Allocation

Code	Description	Acres
2C3	Eligible Recreational River	1,200
4A	Appalachian Trail Corridor	2,600
4D	Botanical and Zoological Areas	<100
4F	Scenic Areas	200
4K5	Whitetop Laurel Special Area	4,200
5C	Designated Utility Corridors	<100
6A	Old Growth Forest Communities-Not Disturbance Associated	200
6B	Old Growth Forest Communities-Fire Dependant	<100
6C	Old Growth Forest Communities-Disturbance Associated	700
7A	Scenic Byway Corridors	1,700
7B	Scenic Corridors and Sensitive Viewsheds	4,200
7D	Concentrated Recreation Zones	2,100
7E1	Dispersed Recreation Areas	1,300
7E2	Dispersed Recreation Areas with Vegetation Management	4,700
7G	Pastoral Landscapes	1,000
8A1	Mix of Successional Habitats in Forested Landscapes	4,400
8C	Black Bear Habitat Management Areas	5,300
9H	Management, Maintenance, Restoration of Forest Communities	1,900
12A	Remote Backcountry Recreation-Few Open Roads	5,200
12B	Remote Backcountry Recreation-Nonmotorized	7,700

**WEST IRON MOUNTAIN**

This management area is the gateway to the National Recreation Area’s High Country. People travel through the West End Management Area to the High Country and as a result, bring high recreation use and pressure to the area. Beartree Campground and Day Use area, Hurricane Campground, Raccoon Branch Campground are located in this area.

Some of the best trout fishing on the Forests exists within this area. Various small businesses in Abingdon, Glade Springs, Chilhowie, Damascus, Konnarock, Thomas Bridge, Sugar Grove and Troutdale earn much of their annual profits from sales related to the fishing of these streams.

**Watersheds**

There is one 5<sup>th</sup> level watershed in the West Iron Mountain Management Area: South Fork Holston River.

**SOUTH FORK HOLSTON RIVER**

Two 6<sup>th</sup> level watersheds in the South Fork Holston basin contain National Forest System lands. They are Upper South Fork Holston River and South Fork Holston River/Whitetop Laurel Creek. Portions of the Glade Mountain/Pond Mountain Management Area and High Country Management Area are also located in the Upper South Fork Holston watershed.

Whitetop Laurel is eligible as a “recreational river.” It supports the greenfin darter, sharphead darter, Tennessee dace, and little-wing and slabside pearly mussels. There is a lot of bicycle and hiking use on the Virginia Creeper Trail, an old railroad grade along the stream. There has been a big increase in horse use and private horse outfitters. Undesignated horse trails are a problem as more and more new trails are appearing.

6th Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
Upper South Fork Holston River 06010102010-001	62,722	48%	Medium	Low
South Fork Holston River/ Whitetop Laurel Creek 06010102010-002	76,653	41%	Medium	High

**Desired Conditions**

The emphasis for this Management Area is on providing a wide variety of recreation experiences. These include hiking, bicycling, motorized trail use, backcountry hiking, horseback riding, camping, fishing and hunting all at a very high level of quality.

As part of the Mount Rogers National Recreation Area, West Iron Mountain is managed to best provide for (1) public outdoor recreation benefits; (2) conservation of scenic, scientific, historic, and other values contributing to public enjoyment; and (3) such management of natural resources as will promote, or is compatible with, and does not significantly impair the purposes for which the NRA was established.

Horse use is maintained and managed to meet the recreational needs of the horseback riders while maintaining the resource needs of sensitive areas.

Allotments showcase sound range management practices that maintain and restore vegetated riparian areas and stable streambanks, along with a pleasant rural setting reminiscent of an earlier period in time.

---

**Objectives****CLINCH RIVER**

MA8-OBJ1 Complete the restoration of the trestles on the Virginia Creeper Trail within the next ten years.

MA8-OBJ2 Minimize impacts to soil and water quality from past mining activity.

**Management Area Standards**

MA8-001 Allow bicycles, horses and pack stock only on open and closed classified roads (unless otherwise posted) and designated trails. Horses and pack stock are allowed immediately adjacent to these trails and roads for the purpose of camping, resting, picnicking, watering, etc. (within a corridor of 300 feet on either side of the designated routes.)

**MANAGEMENT AREA 9. CLINCH RIVER**

This management area is located on the Clinch Ranger District and is the portion draining into the Clinch River. It lies in the Eastern Coal Fields Ecological Subsection of the Northern Cumberland Mountain Section. Although considered part of the Northern Cumberland Mountain Section, the area lies within a transition zone between this section and the Appalachian Ridge and Valley Section. There are no Congressionally designated areas.

**Physical and Biological Profile**

The Northern Cumberland Mountain Section this management area lies within is noted for its high site productivity and vast mineral resources. Geologically, this is the youngest area on the Jefferson consisting of plateau uplands incised with a dendritic stream pattern. Biologically, it is dominated by rich mixed mesophytic cove forests and drier oak ridges.

Eleven rare communities and special biological areas totaling 3,600 acres have been identified in this management area. Two medium sized old growth patches (Lonesome Ridge mixed/western mesophytic and Flannery Ridge dry mesic oak communities) are found on rocky, steep slopes which were inaccessible by early 1900's logging standards.

Within this management area, the Environmental Protection Agency has identified the Clinch River as the most biologically diverse aquatic system in the Nation. Globally significant mussels occupy the Clinch River, however they do not occur in the streams on the national forest.

**Cultural and Economic Profile**

Outdoor recreation is an important use of NFS land in this area. Some of the most popular recreation sites on the district are in this management area, including: Bark Camp, High Knob, High Knob Tower, Guest River Gorge, Flatwoods Picnic, Chief Benge Scout Trail, Wallen Ridge Trail, and Little Stony National Recreation Trail. Hunting for deer, turkey, and ruffed grouse and trout fishing are the most popular forms of recreation.

This management area is located in the "coalfields region" of southwestern Virginia, which has a history of resource extraction and exploitation. In the late 19th and early 20th centuries, exploitive logging and farming of mountainsides threatened the watersheds of the major rivers originating in this region, and the Jefferson National Forest was established to protect watersheds. Starting during World War I, the production of coal and the pressure of that demand on the coal reserves in southwest Virginia continued the

CLINCH RIVER

Table 4-9. Clinch River Management Area Prescription Allocation

Code	Description	Acres
2C3	Eligible Recreational River	2,400
4D	Botanical and Zoological Areas	1,700
4F	Scenic Areas	800
5A	Administrative Sites	200
5B	Designated Communication Sites	<100
6A	Old Growth Forest Communities-Not Disturbance Associated	<100
6B	Old Growth Forest Communities-Fire Dependant	<100
6C	Old Growth Forest Communities-Disturbance Associated	3,600
7B	Scenic Corridors and Sensitive Viewsheds	2,100
7D	Concentrated Recreation Zones	500
7E2	Dispersed Recreation Areas with Vegetation Management	5,000
8A1	Mix of Successional Habitats in Forested Landscapes	15,700
8B	Early-Successional Habitat Emphasis	3,400
8E1	Ruffed Grouse Habitat Management Area	2,800
8E4b	Indiana Bat Secondary Cave Protection Area	600
9A1	Source Water Protection Watersheds	2,800
9F	Rare Communities	1,900
9G1	Maintenance and Restoration of Bottomland Hardwoods	<100
9H	Management, Maintenance, Restoration of Forest Communities	2,700
10B	High Quality Forest Products Emphasis	5,300
12B	Remote Backcountry Recreation-Nonmotorized	3,000

exploitation of non-National Forest System lands in the area. Due to the past history of the area, the Forest is considered a "forest oasis" amongst all of this activity by the local citizens.

Over the last twenty years timber markets have been strong and wood products industries have provided stable employment and income. Site indices for oak are typically 100 or higher, making this the best sawtimber producing area on the JNF. Due to high site productivity, National Forest lands have been looked to as a primary source for high quality sawlogs in this area.

The majority of the mineral ownership in this management area is in reserved or outstanding rights. The Coeburn Gas Field (one of the largest in southwest Virginia) is located in this management area.

Watersheds

There is one 5<sup>th</sup> level watershed in the Management Area: Upper Clinch River.

UPPER CLINCH

Six 6<sup>th</sup> level watersheds in the Upper Clinch basin contain National Forest System lands. Five of these watersheds have National Forest ownership that comprises 10 percent or more of the watershed, Clinch River/Little Stony Creek, Guest River, Stony Creek, Clinch River/Stock Creek/Cove Creek, and North Fork Clinch River.

There are a number of strip mines in the upper part of the Clinch/Little Stony and Guest River watersheds. The Tippecanoe darter, emerald shiner, steelcolor shiner and many species of mussels occur in the Clinch River. The Clinch and Guest River are Physical and

Chemical Condition Class 3 watersheds. Little Stony, Guest River and Clinch River are eligible as a "recreational rivers." The road density in the Little Stony Creek and Stock Creek/Cove Creek watersheds are two of the highest on the Forest. Road density is also high in the Guest River Stony Creek, and North Fork Clinch River watersheds. There are several impaired stream segments due to mining and residential impacts on the Guest River. Virginia spirea is known to occur along the Guest River. Natural gas exploration and development is common in the area. There is an impaired stream reach on Stock Creek due to urban impacts. The North Fork Clinch has a Physical Condition Class of 3. It supports populations of Tennessee heelsplitter south of Duffield and freshwater snails in the Jasper area.

6th Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
Clinch River/Little Stony Creek 06010205040-P09	95,495	12%	Medium	High
Guest River 06010205040-P11	64,180	17%	Medium	Medium
Stony Creek 06010205040-P12	26,616	55%	Low	Medium
Clinch River/Stock Creek/Cove Creek 06010205050-P13	77,076	12%	Medium	High
North Fork Clinch River 06010205050-P15	53,563	14%	Medium	Low

#### Desired Conditions

The emphasis is to protect habitat for rare species, particularly aquatic species. This includes two Wild and Scenic River study areas, old growth, rare community and biologic areas. While protecting that habitat, the good access and high site productivity in Big Flat Top, Stone Mountain, Stock Creek, Cove Creek, and Wallen Ridge are used to emphasize wildlife habitat management with creation of a mix of successional habitat. The High Knob to Bark Camp area is managed to enhance its recreation value. Devils Fork is managed for backcountry recreation.

The aquatic diversity of fish and mussels are maintained, enhanced and restored into previously occupied habitat where suitable. Beneficial uses are maintained or improved while recreation use continues and while natural gas exploration and development proceeds. Roads are located and maintained so as to maintain slope stability. Forest Service activities will not contribute to impaired water segments. The landslide areas in lower Stony Creek are managed to reduce further impacts and encourage rapid recovery.

#### Objectives

There are no objectives specific to this area.

**POWELL RIVER/  
STONE MOUNTAIN**

**MANAGEMENT AREA 10. POWELL RIVER/STONE MOUNTAIN**

This management area is located on the Clinch Ranger District and is the portion draining into the Powell River. It lies in the Eastern Coal Fields Ecological Subsection of the Northern Cumberland Mountain Section. There are no Congressionally designated areas.

**Physical and Biological Profile**

Although the Powell River/Stone Mountain Management Area is also found within the Cumberland Mountains Ecological Section, the landform and geology closely resemble the Ridge and Valley Section. Both Powell and Stone Mountain are long narrow ridges flanking the Powell River valley. Site productivity is moderate to high due to a higher proportion of limestone.

Limestone geology is known for its cave and karst features and this management area contains Kelly and Rocky Hollow caves with known populations of the federally listed Indiana bat. Kelly Cave is located on national forest on Stone Mountain and Rocky Hollow is on private land on Powell Mountain. The Jefferson National Forest is in the process of acquiring the lands surrounding Rocky Hollow.

Rare communities and special biological areas include rock outcrops and cliffs at Stone Mountain/Pine Mountain Cliffs, dry calcareous forest at Little Stone Mountain, eastern hemlock old growth communities in Dark Hollow and Roaring Branch, the federally listed threatened small-whorled pogonia at Keokee Lake, and Central Appalachian limestone/dolomite woodlands and Central Appalachian rich cove forest at Cliff Mountain.

The Powell River was designated by EPA (Environmental Protection Agency) as the second most biologically diverse aquatic system in the nation.

**Cultural and Economic Profile**

Roaring Branch is the only river eligible for Wild and Scenic status as a "Wild" river. Roaring Branch is also a special biological area due to the distinctive hemlock component in the riparian area. Roaring Branch is accessed by the Stone Mountain Trail.

**Table 4-10. Powell River/Stone Mountain Management Area Prescription Allocation**

<b>Code</b>	<b>Description</b>	<b>Acres</b>
OB	Custodial Management-Small Land Areas	200
1B	Recommended Wilderness Study Areas	3,300
2C1	Eligible Wild River	900
4D	Botanical and Zoological Areas	1,100
5B	Designated Communication Sites	<100
5C	Designated Utility Corridors	200
6C	Old Growth Forest Communities-Disturbance Associated	500
7B	Scenic Corridors and Sensitive Viewsheds	2,000
7D	Concentrated Recreation Zones	<100
7E1	Dispersed Recreation Areas	700
8A1	Mix of Successional Habitats in Forested Landscapes	3,400
8E1	Ruffed Grouse Habitat Management Area	700
8E4a	Indiana Bat Primary Cave Protection Area	400
8E4b	Indiana Bat Secondary Cave Protection Area	3,300
9A1	Source Water Protection Watersheds	300
9F	Rare Communities	100



This management area is located in the "coalfields region" of southwestern Virginia, which has a history of resource extraction and exploitation. In the late 19th and early 20th century, exploitive logging and farming of mountainsides threatened the watersheds of the major rivers originating in this region, and the Jefferson National Forest was established to protect watersheds. Starting during World War I, the production of coal and the pressure of that demand on the coal reserves in southwest Virginia continued the exploitation of non-National Forest lands in the area. Due to the past history of the area, the Forest is considered a "forest oasis" amongst all of this activity by the local publics.

Over the last twenty years timber markets have been strong and wood products industries have provided stable employment and income. Due to high site productivity, longer rotations, and sound, sustainable forest management practices, National Forest lands have been looked to as a primary source for high quality sawlogs in this area.

The majority of the mineral ownership in this management area is in reserved or outstanding rights.

Watersheds

There is one 5<sup>th</sup> level watershed in the Powell River/Stone Mountain Management Area: Powell River.

**POWELL RIVER**

Five 6<sup>th</sup> level watersheds in the Powell River basin contain National Forest System lands. Two of these watersheds have National Forest ownership that comprises 10 percent or more of the watershed, South Fork Powell River and North Fork Powell River.

Strip mines are abundant in these watersheds and one above the South Fork Powell River. South Fork Powell River watershed also has the highest road density on the Forest, but there is not much National Forest land in the watershed. The entire Powell River from Big Stone Gap to Pennington Gap is impaired.

6th Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
South Fork Powell River 06010206010-P18	26,143	16%	Low	Medium
North Fork Powell River 06010206010-P20	56,975	10%	High	Low

Desired Conditions

Most of this Management Area emphasizes dispersed or remote recreation with the Cave Springs wilderness study and Roaring Fork Wild and Scenic Study areas along with the existing Keokee Land and Cave Springs recreation areas.

The aquatic diversity of fish and mussels are maintained, enhanced and restored into previously occupied habitat where suitable. Beneficial uses are maintained or improved while recreation use continues and while natural gas exploration and development proceed. Roads are located and maintained so as to maintain slope stability. Road maintenance and watershed improvement funding are emphasized due to high road density in combination with high aquatic diversity. Forest Service activities will not contribute to impaired water segments.

**PINE MOUNTAIN** Objectives

There are no objectives specific to this area.

**MANAGEMENT AREA 11. PINE MOUNTAIN**

This management area contains the northernmost portion of the Clinch Ranger District. It lies in the Eastern Coal Fields Ecological Subsection of the Northern Cumberland Mountain Section. The 800-acre National Forest Butler tract (in Kentucky) is also included in this management area and is located on the far southwest side within the Cumberland River watershed.

Physical and Biological Profile

The geology of Pine Mountain is unique, since it is a single, long (125 miles) mountain ridge resulting from geologic events, which have exposed rock formations that normally are 2,000 feet or more below the surface. Although considered part of the Northern Cumberland Mountain Section, the mountain ridge's vegetation is more typical of that found in the Ridge and Valley Section. There are no Congressionally designated areas.

The two most dominant water features are North Fork of Pound Lake and Flannigan Lake. North Fork of the Pound is on national forest and Flannigan is a U.S. Army Corp of Engineers impoundment.

Rare communities and special biological areas include a rocky bar and shore community at Chimney Cliffs and Russell Fork, low elevation acidic outcrop barrens at Skegg Woodlands and Bryant Gap, an oak-hickory woodland/savanna, a montane basic woodland, a pine oak/heath woodland, a seepage marsh.wet meadow at Indian Grave Gap, Pound River, a Southern Appalachian high-elevation boulderfield forest, and a population of the eastern small-footed bat in Pine Mountain Tunnel. Poor Fork (Butler Tract) is a headwater system for the Cumberland River and supports trout and blackside dace, a listed threatened and endangered fish species.

Cultural and Economic Profile

The area includes the North Fork of the Pound inventoried roadless area, the North Fork of Pound Recreation Area complex consisting of Cane Patch Campground, Phillips Creek, Bee Bottom Picnic, Laurel Creek Primitive Campground, and Wise/Pound boat launches,

**Table 4-11. Pine Mountain Management Area Prescription Allocation**

Code	Description	Acres
0B	Custodial Management-Small Land Areas	500
4C1	Geologic and Paleontologic Areas-unsuitable	700
4D	Botanical and Zoological Areas	700
4K6	North Fork of Pound Special Area	5,500
5C	Designated Utility Corridors	100
6C	Old Growth Forest Communities-Disturbance Associated	300
7B	Scenic Corridors and Sensitive Viewsheds	100
7D	Concentrated Recreation Zones	<100
7E2	Dispersed Recreation Areas with Vegetation Management	4,100
8A1	Mix of Successional Habitats in Forested Landscapes	3,500
9A1	Source Water Protection Watersheds	3,400
9F	Rare Communities	1,100

and Cumberland Mountain Trail.

PINE MOUNTAIN

The North Fork of Pound roadless area currently is under a lease for natural gas. The lease predates the roadless determination and development of the lease is likely.

This management area is located in the "coalfields region" of southwestern Virginia, which has a history of resource extraction and exploitation. In the late 19th and early 20th century, exploitive logging and farming of mountainsides threatened the watersheds of the major rivers originating in this region, and the Jefferson National Forest was established to protect watersheds. Starting during World War I, the production of coal and the pressure of that demand on the coal reserves in southwest Virginia continued the exploitation of non-National Forest lands in the area. Due to the past history of the area, the Forest is considered a "forest oasis" amongst all of this activity by the local citizens.

Over the last twenty years timber markets have been strong and wood products industries have provided stable employment and income. Due to high site productivity, longer rotations, and sound, sustainable forest management practices, National Forest lands have been looked to as a source for high quality sawtimber in this area.

The majority of the mineral ownership in this management area is Federal ownership the majority of which is currently under lease.

Watersheds

There is one 5<sup>th</sup> level watershed in the Pine Mountain Management Area: Upper Levisa River. However, the 800 acre National Forest Butler tract is also included in this area and is located on the far southwest side within the Cumberland River watershed; flowing into the Tennessee River system.

UPPER LEVISA

Two 6<sup>th</sup> level watersheds in the Upper Levisa basin contain National Forest System lands. Of these, only the Pound River has National Forest ownership that comprises 10 percent or more of the watershed

6th Level Watersheds	Total Acres	% National Forest	Non-Point Source Assessment	Natural Heritage Rank
Pound River 05070202050-Q13	86,551	20%	High	Medium

About 30 to 40 percent of the watershed is in strip mines. Segments of the North Fork of the Pound are impaired due to urban and acid mine drainage. Two flood control dams are located in the watershed, Flannagan and North Fork of Pound. Russell Fork is eligible as a "recreational river."

Desired Conditions

This Management Area is generally managed for dispersed recreation. The North Fork of Pound is managed to maintain its remote characteristics to the extent possible while allowing the development of a natural gas lease for the area. A portion of Pine Mountain is managed to create a mix of wildlife habitat. The rest of the Management Area is managed for municipal watershed management and management of rare communities, biological areas and geological areas.

Beneficial uses of potable water in the municipal watershed are maintained or improved

**PINE MOUNTAIN**

while recreation use around North Fork of Pound Reservoir meets demand and contributes to the economic health of the community. Beneficial uses of potable water in the municipal watershed are maintained or improved while natural gas exploration and development proceed. New road construction is designed with future recreation trail use in mind to minimize disturbance from access.

Within the North Fork Pound roadless area, access is provided for intermittent minerals management activities and primarily maintained for non-motorized recreation in the long-term. Manage horse use to meet the recreational needs of the horseback riders while maintaining the resource needs of sensitive areas.

**Objectives**

There are no objectives specific to this area.

**Management Area Standards**

MA11-001 Allow horses and pack stock only on open and closed classified roads (unless otherwise posted) and designated trails. Horses and pack stock are allowed immediately adjacent to these trails and roads for the purpose of camping, resting, picnicking, watering, etc. (within a corridor of 300 feet on either side of the designated routes.)



Natural gas well on Clinch Ranger District