*Chapter 3*

# Findings of Eligibility and Classification

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## 3.1 PURPOSE

The purpose of this chapter is to present the findings and summarize the methods and results of the eligibility and classification determinations that are described in detail in Appendix D. The goal of these analyses was to determine whether the study rivers met the minimum requirements to be eligible for inclusion in the National Wild and Scenic Rivers System and, if so, to determine their highest inventoried classification as *wild*, *scenic*, or *recreational*.

## 3.2 SEGMENTS STUDIED

The area studied for potential eligibility includes 26.8 miles of the South Platte River from Elevenmile Dam to Cheesman Reservoir, 22.6 miles of the South Platte River from Cheesman Dam to Strontia Springs Reservoir, and the entire 50.1-mile North Fork of the South Platte River. The rivers have been further divided into segments for analytical purposes. These segments are shown on map 3-1 and described below.

**Segment A -** The South Platte River from Elevenmile Dam (downstream from fence on the Denver Board of Water Commissioners' (Denver Water's) special-use permit area) downstream to the southernmost boundary of private lands in the vicinity of Lake George (8.7 miles rather than the 8.0 miles listed in the *Land and Resource Management Plan for the Pike and San Isabel National Forests, Comanche and Cimarron National Grasslands* (Forest Plan), from SW¼SW¼ sec. 20, T. 13 S., R. 72 W. to SW¼NE¼ sec. 31, T. 12 S., R. 71 W.).

**Segment B -** The South Platte River from the southernmost boundary of private lands in the vicinity of Lake George downstream to the northernmost boundary of private lands near Beaver Creek (7.7 miles rather than the 6.0 miles listed in the Forest Plan, from SW¼NE¼ sec. 31, T. 12 S., R. 71 W. to SW¼SW¼ sec. 33, T. 11 S., R. 71 W.).

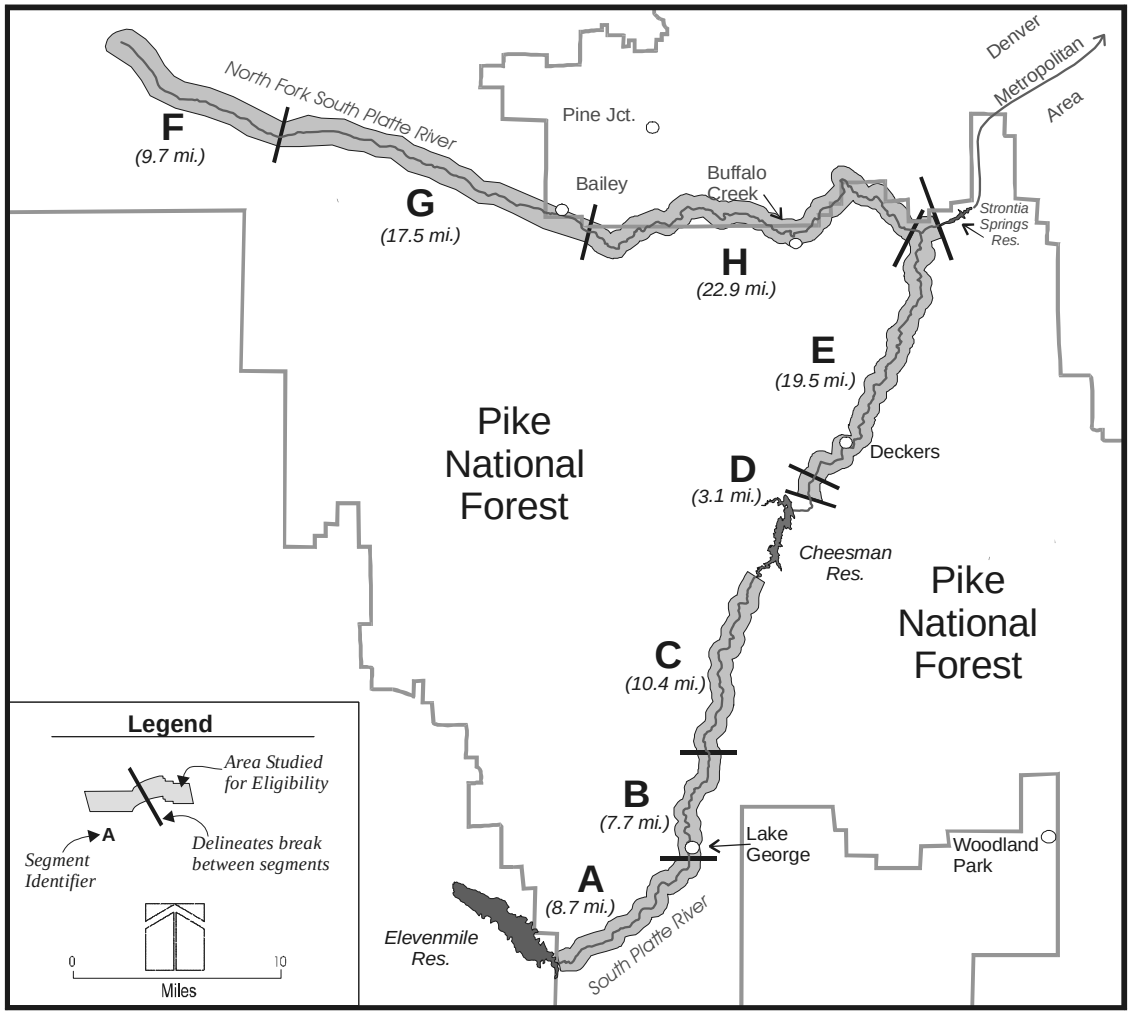
**Segment C -** The South Platte River from the southernmost boundary of private lands near Beaver Creek downstream to the upstream end of the stream gage above Cheesman Reservoir (10.4 miles rather than the 9.4 miles listed in the Forest Plan, from SW¼SW¼ sec. 33, T. 11 S., R. 71 W. to SE¼NW¼ sec. 23, T. 10 S., R. 71 W.).

For classification purposes, Segment C has been further divided into three subsections. These are:

**Segment C1** - From Beaver Creek downstream to ¼ mile upstream of Hackett Gulch (2.9 miles).

**Segment C2 –** From ¼ mile upstream of Hackett Gulch downstream to ¼ mile downstream of Corral Creek (3.0 miles).

**Segment C3 -** From ¼ mile downstream of Corral Creek to high-water line of Cheesman Reservoir (upstream of the stream gage) (4.5 miles).




***Map 3-1.—River Segments Studied for Eligibility; South Platte River and North Fork of the South Platte River Wild and Scenic River Study.***

**Segment D -** The 3.1-mile section of the South Platte River downstream from the stream gage below Cheesman Dam downstream to the upstream boundary of the Wigwam Club property (from NW¼NW¼ sec. 6, T. 10 S., R. 70 W. to SW¼NW¼ sec. 29, T. 9 S., R. 70 W.).

**Segment E -** The South Platte River from the upstream boundary of the Wigwam Club property downstream to the high-water line of Strontia Springs Reservoir (6029-foot contour) (19.5 miles from SW¼NW¼ sec. 29, T. 9 S., R. 70 W. to SW¼NW¼ sec. 29, T. 7 S., R. 69 W.).

**Segment F -** The North Fork of the South Platte River from the headwaters downstream to its confluence with Kenosha Gulch (9.7 miles).

**Segment G -** The North Fork of the South Platte River from its confluence with Kenosha Gulch downstream to the upstream boundary of the Berger property (NW¼SW¼ sec. 4, T. 7 S., R. 2 W.) near Insmont (17.5 miles).

**Segment H -** The North Fork of the South Platte River from the upstream boundary of the Berger property near Insmont downstream to within a quarter mile of its confluence with the

South Platte River (22.9 miles from SW¼SE¼ sec. 33, T. 7 S., R. 72 W. to SE¼SW¼ sec. 25, T. 7 S., R. 70 W.).

For classification purposes, Segment H has been further divided into three subsections. These are:

**Segment H1 -** From Insmont (upstream end of Berger property) downstream to Estabrook (downstream side of old stone house) (1.5 miles).

**Segment H2 -** From Estabrook (downstream side of old stone house) to east of Cliffdale (section line between sections 29 and 30) (4.9 miles).

**Segment H3 -** From east of Cliffdale (section line between sections 29 and 30) to within a quarter mile of the confluence with the South Platte River (16.5 miles).

## 3.3 HISTORY

In 1931, the Secretary of the Interior issued a right-of-way to the Denver Board of Water Commissioners for a water storage reservoir (D-032121) along the mainstem and North Fork of the South Platte River pursuant to the provisions of the Transfer Act of February 1, 1905 (33 Statute [Stat.] 628). The right-of-way runs from ½ mile below the confluence of the South Platte and the North Fork to 1 mile below Deckers on the South Platte and from ½ mile below the confluence to just below Riverview on the North Fork. If constructed within the right-of-way, this 345,000-acre-foot reservoir would inundate approximately 17 miles of the South Platte River and 6 miles of the North Fork.

In 1972, the *Western U.S. Water Plan, Streams and Stream Systems, Working Document*, a multi-agency report, said that the South Platte River has "free-flowing values" and "should be appropriately considered and evaluated in Federal planning." (U.S. Bureau of Outdoor Recreation, 1972)

In 1974, *A Conceptual Proposal for a South Platte Canyons Free-Flowing Recreational River,* published by the U.S. Department of the Interior (USDI), Bureau of Outdoor Recreation found that the river possessed attributes that would make it eligible for Wild and Scenic River protection. This was not, however, an eligibility determination (U.S. Bureau of Outdoor Recreation, 1974).

In 1977, the Bureau of Outdoor Recreation's Water and Land Resources Management Study for Metropolitan Denver and South Platte River and Tributaries, Colorado, Wyoming, and Nebraska lists the South Platte as "free-flowing" and "potential regional park," "general park," or "recreation area" (U.S. Bureau of Outdoor Recreation, 1977).

The Heritage Conservation and Recreation Service (HCRS), the former agency of the USDI that was responsible for developing the Nationwide Rivers Inventory (NRI), examined the entire South Platte River during the late 1970s. Following the dissolution of the HCRS, the National Park Service published the NRI in 1982. It is a list of rivers potentially eligible for Wild and Scenic River designation. It included the South Platte River from below Elevenmile Dam to the high-water line of Cheesman Reservoir. The Park Service concluded that these segments (A, B, and C) have outstandingly remarkable values which might make them eligible for addition into the National Wild and Scenic Rivers System.

On June 1, 1983, the Chief of the USDA Forest Service (Forest Service) approved the Regional Guide for the Rocky Mountain Region (Regional Guide). The guide confirmed the decision made previously by the HCRS and committed the Forest Service to study the eligibility of the South Platte River between Cheesman Reservoir and Elevenmile Dam.

On October 18, 1984, the Regional Forester approved the Forest Plan. The Forest Plan was developed in compliance with the National Forest Management Act (36 Code of Federal Regulations 219) and the National Environmental Policy Act. The Forest Plan included an eligibility determination for the South Platte River between Cheesman Reservoir and Elevenmile Dam (see Appendix D). The eligibility determination concluded that this section was eligible for inclusion in the Wild and Scenic Rivers System with a classification of *wild* between Cheesman Reservoir and Beaver Creek (Segment C) and *recreational* from Beaver Creek to Elevenmile Dam (Segments A and B). This reconfirmed the recommendations previously made by the HCRS and the Regional Guide and committed the Forest Service to do a suitability study for these three eligible segments for potential inclusion in the Wild and Scenic Rivers System. Because these river segments were identified through the forest planning process, they are recognized as study rivers under the provisions of Section 5(d)(1) of the Wild and Scenic Rivers Act (WSRA) (Public Law 90-542 et seq.).

In March 1988, the final environmental impact statement (EIS) for the Metropolitan Denver Water Supply, issued by the U.S. Army Corps of Engineers, disclosed that the segment of the South Platte from Cheesman Reservoir to Elevenmile Dam was eligible for study under the WSRA. No comments were received on the draft EIS concerning the question of eligibility below Cheesman Dam. The final EIS, supported by the Governor, Colorado Water Quality Control Commission, and 41 cities and utilities in the Denver metropolitan area, recommended construction of a dam for water storage just below the confluence of the mainstem and North Fork of the South Platte River. If constructed, this 1.1-million-acre-foot Two Forks Reservoir would provide a dependable future water supply for the Denver metropolitan area but would flood approximately 21 miles of the South Platte River, from 1 mile below the confluence with the North Fork to ½ mile below Cheesman Dam, and 9 miles of the North Fork from the confluence to just below Riverview.

In May 1988, the Rocky Mountain Regional Office of the National Park Service evaluated the South Platte River from below Cheesman Dam to its confluence with the North Fork (Segments D and E) for possible inclusion in the NRI. In their letter to the Director of the National Park Service, the Regional Office's investigators wrote that the river "possesses outstandingly remarkable recreational, fish, historic, and other (endangered species) values." Furthermore, their field inspection "disclosed no characteristics which would cause the stream to be considered ineligible as a Recreational component of the Wild and Scenic Rivers System." It is important to note that this was an opinion and not an eligibility determination.

On April 7, 1988, Regional Forester Gary Cargill, in a letter to the Regional Director of the National Park Service, stated that the Forest Service did not believe that the South Platte below Cheesman (Segments D and E) should be added to the NRI. On June 9, 1988, the Director of the National Park Service accepted Cargill's recommendation and withdrew the Park Service's earlier recommendation for listing Segments D and E in the Nationwide Rivers Inventory.

In 1989, the Environmental Protection Agency (EPA) rejected the Two Forks Dam project as proposed in the March 1988, final EIS for the Metropolitan Denver Water Supply. EPA concluded that the proposal was "the most environmentally damaging of the alternatives considered" and concluded "construction and operation of the dam would have unacceptable adverse effects on fishery, wildlife, and recreation areas."

In 1989, Congress appropriated $75,000 to study the recreation potential of the South Platte River. The Forest Service felt that a Wild and Scenic River eligibility determination was the best way to accomplish this and began the study, which included the South Platte River below Cheesman Dam (Segments D and E) and

the entire North Fork of the South Platte River (Segments F, G, and H). A draft of this document was made available for public review on August 7, 1995. Following receipt of comments, the document was revised. Since the study found that Segments D, E, and H were eligible for potential Wild and Scenic River designation, the Forest Service decided to continue with a suitability study for these segments and Segments A, B, and C of the South Platte River, which had been found eligible by the Forest Plan in 1984. On November 16, 1995, a notice of intent to prepare a Wild and Scenic River Study Report and legislative environmental impact statement (LEIS) for the South Platte River and North Fork of the South Platte River was published in the *Federal Register* (vol. 60, No. 221, p. 57571). This marked the start of the public scoping period and of the Forest Service's preparation of the suitability study. The 1995 Draft Eligibility Determination and the 1984 Forest Plan Eligibility Determination were then incorporated in the Wild and Scenic River Study Report and the draft EIS for the South Platte and the North Fork of the South Platte Rivers.

On November 23, 1990, EPA's Assistant Administrator for Water issued a Final Determination vetoing Two Forks. That decision prevented the U.S. Army Corps of Engineers from issuing a permit for the construction of the 1.1-million-acre-foot project. The Final Determination also vetoed a 400,000-acre-foot version of Two Forks and the 450,000-acre-foot reservoir in the Corrective Action Proposal proposed by the applicants. EPA based its decision on findings that any of the Two Forks projects would result in unacceptable adverse effects on fishery areas and recreational areas and that those losses would be avoidable because there were less environmentally damaging practical alternatives to Two Forks. Moreover, EPA found that the resources that would be lost were so valuable that the project's impacts, even factoring in the proposed mitigation, were unacceptable. EPA's Final Determination concluded that each of the Two Forks projects "would inundate the South Platte corridor, which supports a vital aquatic ecosystem offering unmatched fishery and recreation values within a single location easily accessible to major metropolitan areas."

In 1991, EPA's decision not to allow construction of the Two Forks project was appealed by eight suburban water districts. On June 5, 1996, U.S. District Judge Richard Matsch dismissed the appeal, upholding the EPA's 1990 Final Determination. The judge ruled that EPA had not "acted capriciously and arbitrarily" in blocking construction of the dam because of its impact on the environment. The judge also ruled that the eight suburban water districts did not have legal standing to proceed with the case without support of the Denver Water Board.

## 3.4 ELIGIBILITY DETERMINATION

This eligibility determination is a summary of the two eligibility and classification determinations that are described in detail in Appendices C and D. These include:

1. The Elevenmile Dam to Cheesman Reservoir Eligibility Report (Segments A, B, and C), as presented in Volume II, Appendix F, of the 1984 Forest Plan; and
2. The Eligibility and Classification Determination for the South Platte and North Fork of the South Platte River (Segments D-H), released as a draft in August 1995, and finalized in June 1996, following scoping, for inclusion in the draft LEIS.

Portions of the latter have been summarized, and the former has been updated to show specific outstandingly remarkable values (ORVs) by segment. These changes are documented in the following sections.

## ELIGIBILITY

To be eligible, a river must meet both of the following criteria:

1. It must be free-flowing, and
2. It must possess one or more ORVs.

### Free-Flowing Character

The WSRA (Section 16b) defines free-flowing as:

> ". . .existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures. . .shall not automatically bar its consideration for inclusion: Provided, that this shall not be construed to authorize, intend, or encourage future construction of such structures within components of the National Wild and Scenic Rivers System."

The free-flowing analysis of Segments D-F is well documented in the Eligibility and Classification Determination (Appendix D). Segments A-C were determined to be free-flowing in the Forest Plan; however, some additional comments are warranted for Segments A and B. Segment A has a small 5-foot dam, located on National Forest System lands just upstream from Lake George. The original intent of the dam was to raise the water level slightly to provide water for irrigation via an aqueduct to the Lake George area. More recently, the floodgates have been removed and the dam has not been used in years. The permittee has asked to abandon the permit and a special-use permit has not been reissued for the dam. Segment B includes the 10-foot-high, 1,100-foot-long earthen Lake George Dam and 85-acre Lake George, which was built for ice production in 1890. At that time, a small, 3- to 5-foot earthen dike was built up on the southern end of the lake, and the mainstem of the South Platte was channeled around the eastside of the lake for about 0.8 mile. The dam washed out in the 1930s but was rebuilt and used for irrigation and recreation purposes. There is also a small 1-acre lake with a 3- to 5-foot earthen dike immediately below Lake George. Segment B also includes both this channelized portion and the 3- to 5-foot earthen dike. Even though portions of this segment are channelized or behind a low dam, this 0.8-mile section is still considered free-flowing since the dam is small and the diverted portion has taken on a natural riverine appearance over the past 100 years.

All of the study segments are below major dams or diversions, and releases are controlled. Seven of the eight study segments were found to be free-flowing. Only Segment G, from the Roberts Tunnel to the upstream portion of the Berger property near Insmont was found not to be free-flowing. While some minor channel modifications and diversions are present, particularly on Segment H and the lower portion of Segment D, they are not considered significant enough to affect the free-flowing nature of the river. Segment G, downstream from the Roberts Tunnel, has been altered extensively and includes more than 20 diversion dams, numerous check dams, the outlet from the Roberts Tunnel, channel relocations, and countless other human-made intrusions and modifications to the river bed, channel, banks, and vegetation, leaving a majority of the segment no longer in a natural riverine appearance.

### Outstandingly Remarkable Values Analysis

The goal of this analysis was to identify "outstandingly remarkable values" or, more simply, outstanding values on the eight study river segments. This analysis was carried out in the 1984 Forest Plan for areas above Cheesman Reservoir and in the Eligibility and Classification Determination of June 1996 (Appendix D) for the segments below Cheesman Dam and on the North Fork. These

assessments document the determination of which river-related values or features are outstandingly remarkable.

Since seven of the eight study segments and a portion of Segment G (from the Roberts Tunnel upstream to Kenosha Gulch) were found to be free-flowing, their ORVs were studied and identified as described in Appendices C and D and in the 1984 Forest Plan. The outstandingly remarkable values studied include: scenic, recreational, geologic, vegetation/ecological, fisheries, wildlife, cultural (historic and prehistoric), traditional use/cultural values, and other resources. The determined ORVs for each river segment are listed in table 3-1 (later in this chapter) and are also summarized briefly in the next section.

***South Platte River (Upstream from Cheesman Reservoir - Segments A, B, and C).—***The 1984 Forest Plan documented that Segments A, B, and C contained five outstandingly remarkable values: scenery, recreation, geology, fisheries, and wildlife. The Forest Plan, however, did not specify which values were found in each segment. This is clarified here for each of the three segments. This section of the South Platte River flows through a canyon that is approximately 700 feet high and ½ mile wide; it is known as Elevenmile Canyon in Segment A and as Wildcat Canyon in Segment C. The terrain consists of a rocky canyon with steep side walls, interspersed forest cover, and scattered meadows. The central portion (Segment B), around Lake George, consists of a wide, flat canyon bottom. River elevations range from 8450 feet below Elevenmile Dam to 6860 feet near Cheesman Reservoir.

***Segment A —*** Segment A is the 8.7-mile section of the South Platte River from Elevenmile Dam (downstream from fence on Denver Water's special-use area) downstream to the southern end of the private lands south of Lake George. The area is almost entirely National Forest System land except for a few acres owned by the Boy Scouts of America in Camp Alexander. This portion contains several National Forest System developed campgrounds and picnic areas and receives heavy developed and dispersed recreation use. A gravel road that was the location of the old Colorado Midland Railroad from Colorado Springs to Leadville, of which only the grade and tunnels remain, parallels this segment. It is the finding of the 1984 Forest Plan that Segment A possesses the following ORVs:

— **Scenery –** The quarter-mile study corridor is located between 8450 and 9200 feet on either side and possesses a great deal of diversity in landform, water, color, and vegetation, notable in the geographic region. This includes the granitic rock formations, the steep forested canyon with several small waterfalls, and the old railroad tunnels one passes through along the gravel road that parallels the river. In addition, there is the diversity of vegetation, including meadows, aspen, willows, Douglas fir, and ponderosa pine forests. The corridor draws people from all over the region because of the area's ruggedness, remoteness, and scenic beauty. A forest-wide visual resource inventory classified the entire canyon as "Class A–Distinctive" due to the highly scenic features found in the area.

— **Recreational -** This segment in Elevenmile Canyon is one of the most popular destination sites in the Pike National Forest and attracts people from all over the region. Because of the accessibility, scenic beauty, and facilities provided, this area receives heavy year-round use. To control use and limit environmental damage, a parking fee system has been implemented here. Rock climbing, camping, picnicking, fishing, water recreation (floating and tubing), hiking, and sightseeing are the primary recreation activities. User density is high from early spring through late fall.

— **Geology -** The area is known for its variety of rare and exemplary geologic features. The segment lies in an area of relatively young topography, with north-south-trending complex mountains cut by deep, rugged canyons. The entire area is underlain by Precambrian granite, which forms rocky outcrops throughout the segment. Massive rock outcrops are exposed in the canyon walls, except where the bedrock has been covered by talus and soil.

— **Fisheries -** This segment contains nationally renowned brown and rainbow trout populations and habitat. This segment and Segment B contain some of the most diverse habitat conditions of any of the study areas, and the Colorado Division of Wildlife recognizes the two segments together as an important, high-quality trout fishery. Along with other study segments of the South Platte, this segment is a nationally important producer of brown and rainbow trout and draws people from all over the region. The upper 3 miles of the segment is a designated quality fisheries area with special fishing regulations in effect.

***Segment B —*** This 7.7-mile segment of the South Platte River, from the southern end of the private lands south of Lake George to the north end of the private lands near Beaver Creek, flows through subdivided private lands that are used as year-round and seasonal recreational property. The area is paralleled, crossed, and otherwise heavily influenced by subdivision roads. U.S. Highway 24 crosses the river at Lake George. About 1½ miles of undeveloped stream occurs on National Forest System land, and a mile or so of the stream frontage is private land used for grazing and hay pastures. It is the finding of the 1984 Forest Plan that Segment B possesses the following outstandingly remarkable value:

— **Fisheries -** This segment contains nationally renowned brown and rainbow trout populations and habitat. This segment and Segment A contain some of the most diverse habitat conditions of any of the study areas, and the Colorado Division of Wildlife recognizes the two segments together as an important, high-quality trout fishery. Along with other study segments of the South Platte, this segment is a nationally important producer of brown and rainbow trout and draws people from all over the region.

***Segment C —*** This 10.4-mile segment of the South Platte River, from the north end of the private lands near Beaver Creek to the high water line of Cheesman Reservoir (upstream of the stream gage), flows through undeveloped National Forest System lands that are inaccessible except by trails and a few four-wheel-drive roads. Smooth water alternates with boulder-filled channels. The area is within 2-5 miles of the Lost Creek Wilderness, is essentially undeveloped, and presents a vestige of primitive America. Its primary use is for dispersed recreation, which includes fishing, hiking, and off-highway vehicle use. A high-voltage powerline crosses the river just upstream from Corral Creek. Denver Water owns several acres in the extreme lower portion of the segment. It is the finding of this analysis that Segment C possesses the following outstandingly remarkable values:

— **Scenery -** The study corridor, located between 8500 and 6860 feet, possesses great diversity in landform, water, color, and vegetation, notable in the geographic region. It includes large outcrops of granitic rock and a steep, forested canyon with several small waterfalls. In addition, it contains a diversity of vegetation, including meadows, aspen, willows, Douglas fir, and ponderosa pine forests. The area lies within an undeveloped canyon that is a vestige of primitive America and draws people from all over the region because of its ruggedness, remoteness, and scenic

beauty. A Pike National Forest visual resource inventory classified the entire canyon as "Class A–Distinctive" due to the highly scenic features found in the area.

— **Geology -** The area is known for its variety of rare and exemplary geologic features. The segment lies in an area of relatively young topography, with north-south-trending complex mountains cut by deep, rugged canyons. As in Segment A, the entire area is underlain by Precambrian granite, which forms rocky outcrops throughout the segment. Massive rock outcrops are exposed in the canyon walls, except where the bedrock is covered by talus and soil. However, the outcrops in this segment are more numerous and much more vertical and dominant than those in Segment A, and they form massive granite cliffs that tower over the river.

— **Fisheries -** This segment contains nationally renowned brown and rainbow trout populations and habitat. The fishery in this segment is solely supported by self-reproducing rainbow and brown trout, and, as such, is designated as "wild trout water" by the Colorado Division of Wildlife. This section of the river contains the second highest amount of suitable trout habitat of the study segments (next to Segment D). The area is recognized by the Colorado Division of Wildlife as an important high-quality trout fishery. Along with other study segments of the South Platte, this segment is a nationally important producer of brown and rainbow trout and draws people from all over the region. Although the size of the trout caught here is not exceptional, as in other segments, the catch rates are quite high due to the abundance of fish present.

— **Wildlife -** This segment contains Pawnee montane skipper butterfly populations and habitat. The Pawnee montane skipper qualifies under the wildlife population ORV defined for this analysis. The montane skipper is a globally rare subspecies found only in the area of Platte Canyon from near the unincorporated community of South Platte up to approximately 7400 feet in elevation. To add to the significance of this value, this sub-species of the skipper is listed in the *Federal Register* (52 FR 36176) as a threatened species under the Endangered Species Act. Populations occur in this segment upstream to the Corral Creek area. The river, over time, has created the rugged canyon topography that is now the butterfly's preferred habitat.

***South Platte River (Downstream from Cheesman Reservoir - Segments D and E).—*** From the base of Cheesman Dam to the high-water line of Strontia Springs Reservoir, the South Platte River canyon drops approximately 700 feet in elevation (from 6700 feet to 6000 feet). The narrowest canyon and steepest gradient on the South Platte lies between the base of Cheesman Dam and the Wigwam property boundary. The river drops approximately 300 feet within this 3-mile stretch (Segment D). Between the Wigwam property and the community of Nighthawk, the canyon is much broader and more open, with an approximate drop of 200 feet in elevation within a 14-mile stretch (upper end of Segment E). The gradient steepens, and the canyon again narrows from this point, dropping approximately 300 feet between Nighthawk and the Strontia impoundment waters, a distance of almost 6 miles (lower end of Segment E).

Several creeks and gulches drain into the South Platte between Cheesman and Strontia Springs Reservoirs. Many, like Jenny Gulch and Saloon Gulch, are of low volume or are intermittent in nature. Others, such as Horse Creek, Sugar Creek, and Pine Creek, are permanent but also of low volume.

***Segment D —*** Segment D is the 3.1-mile section of the South Platte River from below Cheesman Dam downstream to the upstream boundary of the Wigwam Club property (in the NW¼NW¼ sec. 29, T. 9 S., R. 70 W.). The city and county of Denver owns the first mile below Cheesman Dam, and the next 2 miles are National Forest System lands. It is the finding of this eligibility and classification document that Segment D possesses the following ORVs:

— **Recreational -** Outstanding fishing and dispersed recreation opportunities such as hiking and sightseeing are present. This segment in Cheesman Canyon attracts people from all over the region for hiking, fly fishing, and sightseeing in its rugged, boulder-strewn canyon. The canyon is one of the most heavily fished sections in the State of Colorado and receives the heaviest fishing use in the Front Range. Anglers, hikers, nature observers, and photographers heavily use the Gill Trail, which parallels the river. Outfitters and guides, permitted by the South Platte Ranger District, cater to local, national, and international clients. This area is also the site of the annual Masterfly Tournament, sponsored by Trout Unlimited and used as a fundraiser to enhance the South Platte River corridor.

— **Fisheries -** Segment D contains nationally renowned brown and rainbow trout populations and habitat. This segment contains exceptionally abundant fish habitat and is a nationally important producer of wild brown and rainbow trout. According to the Colorado Division of Wildlife, there are more than 9,000 miles of trout streams in Colorado, of which 112.5 miles are designated wild trout streams and 167.8 miles are "Gold Medal" trout streams. This 3-mile stretch carries both designations. Wild trout waters contain fish raised entirely within the natural environment; they are not stocked with hatchery fish. Gold Medal waters provide outstanding angling opportunities for large trout. Cheesman Canyon is considered the "crown jewel" with more than 500 pounds of fish over a 14-square-foot surface area. The Colorado Division of Wildlife ranks this among the most productive trout streams in the State, if not the country. The U.S. Fish and Wildlife Service has designated this section, down to Scraggy View in Section E, as Resource Category 1. Resource Category 1 waters are unique on a national basis and are considered irreplaceable.

— **Wildlife -** Segment D contains Pawnee montane skipper butterfly populations and habitat. The Pawnee montane skipper qualifies under the wildlife population ORV defined for this analysis. The montane skipper is a globally rare subspecies found only in the area of Platte Canyon from near South Platte up to approximately 7400 feet in elevation. To add to the significance of this value, this subspecies of the skipper is listed in the *Federal Register* (52 FR 36176) as a threatened species under the Endangered Species Act. The river, over time, has created the rugged canyon topography that is now the butterfly's preferred habitat.

***Segment E —*** Segment E is the section of the South Platte River from the upstream boundary of the Wigwam Club property downstream to the high-water line of Strontia Springs Reservoir (19.5 miles). Approximately 50 percent of the land is National Forest System land, 45 percent is owned by the city and county of Denver, and 5 percent is privately owned. It is the finding of this eligibility and classification document that Segment E possesses the following ORVs:

— **Recreational -** This segment provides outstanding dispersed and developed recreational opportunities such as

camping, picnicking, hiking, fishing, scenic driving, and other day-use activities.

The quality and diversity of developed and dispersed recreation opportunities in this segment and the accessibility and proximity of the area to major metropolitan areas provide an excellent year-round recreation resource. The recreational study for the Two Forks EIS indicated that recreational use of public land in the project area exceeds 304,000 recreational visitor-days per year. (This includes an area larger than the river corridor, but most of the visitor use was projected to occur along the river, including the North Fork.) A survey conducted by the South Platte Ranger District in 1993 lists the wide range of activities that occur within Segments E and H. In addition to the premier fly fishing activity that occurs in the upper portion (upper 60 percent) of this segment, the Paralyzed Veterans of America hosts an annual 3-day fishing derby and outing for more than 750 people with disabilities, their families, senior citizens, and developmentally disabled youths. This event occurs near the historic site of Twin Cedars at the lower end of the segment. The area is also popular for waterfowl hunting. This segment is considered the best recreational river within the region of analysis, primarily because of the amount and diversity of opportunities presented to such a large population base.

— **Fisheries -** Segment E contains nationally renowned brown and rainbow trout populations and habitat. The Colorado Division of Wildlife lists the South Platte from the Wigwam Club to the confluence with the North Fork—approximately 85 percent of this segment's length—as Gold Medal waters. The U.S. Fish and Wildlife Service Resource Category 1 rating extends from the Wigwam Club to Scraggy View Picnic Grounds, approximately 45 percent of the segment, and Resource Category 2 extends from Scraggy View to Strontia Springs Reservoir. Gold Medal and Resource Category 1 waters were previously described under Segment D. Resource Category 2 waters are also outstandingly remarkable in that they represent aquatic habitat that, if impacted by development, must be mitigated in kind for no net loss.

— **Wildlife -** Pawnee montane skipper butterfly and habitat. (See description in Segment D)

***North Fork of the South Platte River – Segments F, G, and H.—***Headwater tributaries for the North Fork are located high on the eastern slope of the Continental Divide at 12,500 feet in elevation. The tributaries combine to form the mainstem of the fork at approximately 11,300 feet. The North Fork flows eastward for approximately 51 miles before reaching the South Platte River at an elevation of 6050 feet. Many small intermittent and perennial streams contribute to the flow.

The North Fork has three distinct segments. Segment F is from the headwaters to Kenosha Gulch near the town of Webster. This segment is known as Hall Valley. The landscape is a result of alpine glaciation, with a primary geologic substrate composed of the granitic Kenosha batholith. The elevation changes approximately 3,500 feet within the 9.7-mile segment. The overall topography is representative of a typical high mountain glacial valley, with narrow and steep tributary canyons, open vistas interrupted by glacial ridges, and alpine to subalpine vegetation.

Segment G, from Kenosha Gulch near Webster to Insmont, includes the community of Bailey. The underlying geology changes from the granitic batholith to a schist-gneiss complex, and the valley is much broader with fewer gradients. The river parallels an ancient fault, and the elevation drops 1,520 feet in

approximately 17.5 miles. Glacial and river gravels form flat terraces along the river. U.S. Highway 285 parallels most of the river. Many ranches, communities, and houses are found in this section, taking advantage of the open topography and transportation network. The water from Roberts Tunnel enters the river in this section, 3 miles downstream from the community of Webster.

Segment H is from Insmont to the confluence with the South Platte River. The North Fork canyon takes on different characteristics within this 22.9-mile segment. The overall effect is a narrow and confined river canyon. The river rapidly drops 800 feet within the first 7 miles. Near the town of Pine, the gradient moderates; and river drops only 150 feet in the next 5 miles. Near the community of Riverview, the canyon again becomes narrower and steeper, dropping 1,500 feet in the next 11 miles before reaching the confluence. Population density within this segment is low, as there are only a few small communities in this area and many of the dwellings are occupied on a seasonal basis. The channel has been modified in spots, and the banks have been stabilized in places during the construction of the historic railroad grade and, more recently, by county road work. The Forest Service maintains a work center at Buffalo Creek.

The entire length of Segment H is paralleled by roads, trails, or the historic (abandoned) railroad grade. Access to the river is restricted in places by private lands, but the majority is accessible to the general public. Jefferson County maintains the Pine Valley Ranch near Pine as a day-use open-space park. Lands managed by Denver Water and the U.S. Forest Service, from near Buffalo Creek to the confluence, are also restricted to day use only. National Forest System land in the Crossons area is open for dispersed recreational use. A portion of the land at Crossons is privately owned, and only nonmotorized access is allowed in that area.

***Segment F —*** Segment F of the North Fork extends from the headwaters downstream to its confluence with Kenosha Gulch (9.7 miles). Approximately 65 percent of the lands are National Forest System lands, and the rest are in private ownership. Also included in this analysis is the upper 2.3-mile portion of Segment G above the Roberts Tunnel. It is the finding of this eligibility and classification document that Segment F and the upper 2.2-mile section of Segment G possess no ORVs.

***Segment G —*** Segment G of the North Fork extends from its confluence with Kenosha Gulch downstream 17.5 miles to the upstream boundary of the Berger property (in the NW¼SW¼ sec. 34, T. 7 S., R. 72 W.) near Insmont. Approximately 14.5 miles of Segment G are private lands, and approximately 3 miles are National Forest System lands.

This segment was not examined for ORVs downstream from the Roberts Tunnel because it did not meet the basic free-flowing eligibility criteria. In the short stretch above the Roberts Tunnel, it was evaluated and found to be similar to Segment F; no ORVs were identified. Consequently, Segment G is considered ineligible for designation as a component of the National Wild and Scenic Rivers System.

***Segment H —*** Segment H of the North Fork extends from the upstream boundary of the Berger property near Insmont, downstream to within ¼ mile of its confluence with the South Platte River (22.9 miles). It is the finding of this eligibility and classification document that Segment H possesses the following ORVs:

— **Recreational -** The quality and diversity of dispersed recreation opportunities along this segment and the accessibility and proximity of the area to major metropolitan areas provide an outstanding year-round recreation resource. Kayaking and dispersed recreation such as picnicking, fishing, hiking, riding, scenic driving, and other day uses are very popular in this area.

The upper portion of this segment, above Buffalo Creek, contains Class IV and V whitewater rapids and is considered to be one of the premier kayaking waters within the region due to the presence of the rapids and the artificial lengthening of the kayaking season. Its unique value is attributed to its level of difficulty, as well as sustained seasonal flows. The importation of water through the Roberts Tunnel makes it possible for kayakers to run the North Fork after other rivers in the region have passed their peak flows. Kayakers who use the area are accustomed to frequent changes in flow volumes that result from the operation of Denver Water's delivery system.

The lower portion of the North Fork, between Buffalo Creek and the confluence, is important to all levels of kayakers and is one of the few areas in the region most suitable for teaching entry-level kayaking.

Summer home residents, some year-round residents, and the general public heavily use the portion between Buffalo Creek and the confluence. The majority of the land in that stretch is owned by the city and county of Denver and is currently managed by Denver Water as a day-use area.

This segment also includes part of the Pine Valley Ranch, a Jefferson County open-space park that contains group picnic sites, an amphitheater, several trails, and striking rock outcrops. The park is very popular regionally for picnicking and hiking.

— **Wildlife -**This segment contains Pawnee montane skipper butterfly populations and habitat and peregrine falcon habitat. The significance of the skipper butterfly has been described under Segment D. There is a peregrine nest site immediately adjacent to the corridor on Cathedral Spires. The nest is outside the study corridor, but the 1-mile protective management buffer around the nesting site overlaps the river corridor. The study corridor provides important foraging habitat for the falcon. The nesting site and associated foraging habitat are considered to be of regional importance. The site was the last site to be abandoned during the peregrine decline of the 1960s; and, thus, the habitat in this segment is considered to be outstandingly remarkable.

— **Cultural -** The Estabrook Historic District and the North Fork Historic District, including the Denver South Park and Pacific Railroad grade, are outstanding heritage resources in this segment. The State Historical Preservation Office provided input on whether the two river corridors contained outstandingly remarkable cultural values. That office examined all the known *National Register of Historic Places* (National Register) sites in the corridor and determined that within the North Fork corridor between the Berger property and the confluence that there are two outstandingly remarkable historic sites. These two sites are listed on the National Register because of their association with the transportation, entertainment, and recreation elements of Colorado history.

The two outstandingly remarkable cultural sites are the Estabrook Historic District (occupying approximately ½ mile of the river corridor on either side of the community of Estabrook) and the North Fork Historic District, which includes the North Fork corridor from ¼ mile west of Pine to 100 feet east of the South Platte Hotel. Included within the North Fork Historic District, but separate from the district designation, are several other historic sites that are also considered outstandingly remarkable on a regional level. The Denver, South Park and Pacific Railroad grade between South

Platte and Pine is included as one of these sites. (NOTE: A segment of this railroad grade, between the North Fork and Estabrook Historic Districts, has not been officially assessed for the National Register but may present a better physical representation of this historic period than the segments currently listed.)

Other values for this segment were evaluated, including scenic, geologic, and fisheries, and were found to be significant but not outstandingly remarkable. Vegetation and ecological values were not considered significant.

### ELIGIBILITY DETERMINATION

Six of the eight study segments meet the minimum eligibility requirements as specified by the WSRA. They are all found to be free-flowing and to have at least one ORV. These ORVs are listed in table 3-1.

## 3.5 CLASSIFICATION

River segments found eligible were classified as to their most restrictive potential classifications as *wild*, *scenic*, or *recreational*, based upon the level of development and degree of naturalness present in the river corridor.

### CLASSIFICATION METHODS

The Wild and Scenic Rivers Act requires that eligible rivers be classified as one of the following:

1. **Wild river areas -** Those rivers or sections of river that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
2. **Scenic river areas -** Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
3. **Recreational river areas -** Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The overriding determinant for classification decisions is the degree of naturalness or, inversely, the degree of evidence of human activity in the river area. A determination is based upon the four major topics addressed in the classification definitions of wild, scenic, and recreational rivers. These topics are:

1. Water Resources Development
2. Shoreline Development
3. Accessibility
4. Water Quality

The appropriate classification of the study segments was analyzed for each of these topics. Those individual determinations were then considered as a whole to determine whether the study segments should be classified as *wild*, *scenic*, or *recreational* in the event of inclusion within the National Wild and Scenic Rivers System. This analysis was conducted using the framework suggested by the 1982 joint guidelines developed by the Secretaries of Agriculture and Interior. This framework is best displayed in table 3-3, which is reproduced from the "National Wild and Scenic Rivers System; Final Revised Guidelines for Eligibility, Classification and Management of River Areas," published in the September 7, 1982, *Federal Register*. This table provides an excellent summary of the more lengthy narrative in the guidelines. It is not intended to stand alone and

**Table 3-1.—Outstandingly Remarkable Values for the Eight Segments Studied in This EIS**

| Study River | Segment | Outstandingly Remarkable Values | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Cultural Resources, Historic | Cultural Resources, Prehistoric | Fisheries | Geologic | Recrea-tional | Scenic | Wildlife | Vegetation/ Ecological | Water Volume and Quantity |
| **North Fork:** Confluence to Insmont | H | X | | | | X | | X | | |
| Insmont to Roberts Tunnel | G (lower part) | | | | | | | | | |
| Roberts Tunnel to headwaters | F and G (upper part) | | | | | | | | | |
| **South Platte:** Upstream from Cheesman Reservoir | A | | | X | X | X | X | | | |
| | B | | | X | | | | | | |
| | C | | | X | X | | X | X | | |
| Downstream from Cheesman Reservoir | D and E | | | X | | X | | X | | |

**Table 3-2.—Outstandingly Remarkable Values for Other Designated Wild and Scenic Rivers in Colorado**

| Study River | Outstandingly Remarkable Values | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Cultural Resources, Historic | Cultural Resources, Prehistoric | Fisheries | Geologic | Recrea-tional | Scenic | Wildlife | Vegetation/ Ecological | Water Volume and Quantity |
| Cache la Poudre | | | | | X | X | | | X |

**Table 3-3.—Classification Matrix**

| Attribute | Wild | Scenic | Recreational |
|---|---|---|---|
| Water Resource Development | Free of impoundment | Free of Impoundment | Some existing impoundment or diversion. |
| Shoreline Development | Essentially primitive. Little or no evidence of human activity. | Largely primitive and undeveloped. No substantial evidence of human activity. | Some development. Substantial evidence of human activity. |
| | The presence of a few inconspicuous structures, particularly those of historic or cultural values, is acceptable. | The presence of small communities of dispersed dwellings or farm structures is acceptable. | The presence of extensive residential development and a few commercial structures is acceptable. |
| | A limited amount of domestic livestock grazing or hay production is acceptable. | The presence of grazing, hay production, or row crops is acceptable. | Lands may have been developed for the full range of agricultural and forestry uses. |
| | Little or no evidence of past timber harvest. No ongoing timber harvest. | Evidence of past or ongoing timber harvest is acceptable, provided the forest appears natural from the riverbank. | May have shown evidence of past or ongoing timber harvest. |
| Accessibility | Generally inaccessible except by trail. | Accessible in places by road. | Readily accessible by road or railroad. |
| | No roads, railroads, or other provision for vehicular travel within the river area. A few existing roads leading to the boundary of the river area is acceptable. | Roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads or railroads is acceptable. | The existence of parallel roads or railroads on one or both banks as well as bridge crossings and other river access points is acceptable. |
| Water Quality | Meets or exceeds Federal criteria or federally approved State standards for aesthetics, for propagation of fish and wildlife normally adapted to the environment of the river, and for primary contact recreation (swimming) except where exceeded by natural conditions. | No criteria prescribed by the Wild and Scenic Rivers Act. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all waters of the United States be made fishable and swimmable. Therefore, rivers will not be precluded from scenic or recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is being developed in compliance with applicable Federal and State laws. | |

is applied in this analysis in the context of the longer narrative material and in context with applicable Wild and Scenic River legislation.

## 3.6 CLASSIFICATION SUMMARY

A detailed analysis of the classification of each study river segment was prepared as a part of the eligibility determination and classification document process (see Appendix D). If the rivers or river segments are designated, these are the *most restrictive* inventoried classifications that can be implemented. Less restrictive classifications can be recommended in any alternative selection. The classifications are listed in table 3-4 and are briefly summarized below:

**Table 3-4—Classifications of the Study Segments**

| Segment | Classification | Length in Miles |
|---|---|---|
| A | Recreational | 8.7 |
| B | Recreational | 7.7 |
| C1 | Wild | 2.9 |
| C2 | Scenic | 3.0 |
| C3 | Wild | 4.5 |
| D | Wild | 3.1 |
| E. | Recreational | 19.5 |
| H1 | Recreational | 1.5 |
| H2 | Scenic | 4.9 |
| H3 | Recreational | 16.5 |
| **Total** | **Wild** | **10.5** |
| | **Scenic** | **7.9** |
| | **Recreational** | **53.9** |
| **Total Miles** | | **72.3** |

campgrounds, parking areas, and several picnic areas. It is classified *recreational* (8.7 miles) due to the amount of road access and the amount of water resource shoreline development.

**Segment B:** This segment is paralleled by gravel county and National Forest System roads. It is also intersected by several other roads, including U.S. Highway 24. The segment includes the 150-acre Lake George, a low but long earthen dam that makes up at least half of the lake's shoreline, a cemetery, several bridges, a National Forest System campground and trailhead, several rural subdivisions, and the community of Lake George. Many user-created trails are evident along both riverbanks. It is classified as *recreational* (7.7 miles) because of the amount of road access and water resource and shoreline development.

**Segment C1:** This segment is entirely National Forest System lands and is undeveloped and primitive. This segment is classified as *wild* (2.9 miles) due to its undeveloped and primitive nature and lack of water resource and shoreline development.

**Segment C2:** Forest Development Trail #654 parallels the river for several miles, and several National Forest System four-wheel-drive roads bisect the corridor and cross the South Platte River near the mouths of Corral and Longwater Creeks. Because motorized access is allowed with crossings in the section from Hackett Gulch to the Corral Creek-Longwater Gulch crossing, this section of the segment is classified *scenic* (3.0 miles). This is a correction from the original eligibility determination conducted in 1984 in Segment C2. Classifications are intended to reflect current conditions and not anticipated conditions. If conditions change, for instance motorized travel in the canyon is prohibited, then the classification for this segment would be re-evaluated for a possible change to *wild* status.

**Segment C3: T**his segment is entirely National Forest System lands and is undeveloped and primitive. It does contain a very small amount of undeveloped land owned by Denver Water near Cheesman Reservoir and several abandoned cabins on National Forest System land. This segment is classified as *wild* (4.5 miles) due to its undeveloped and primitive nature and lack of water resource and shoreline development.

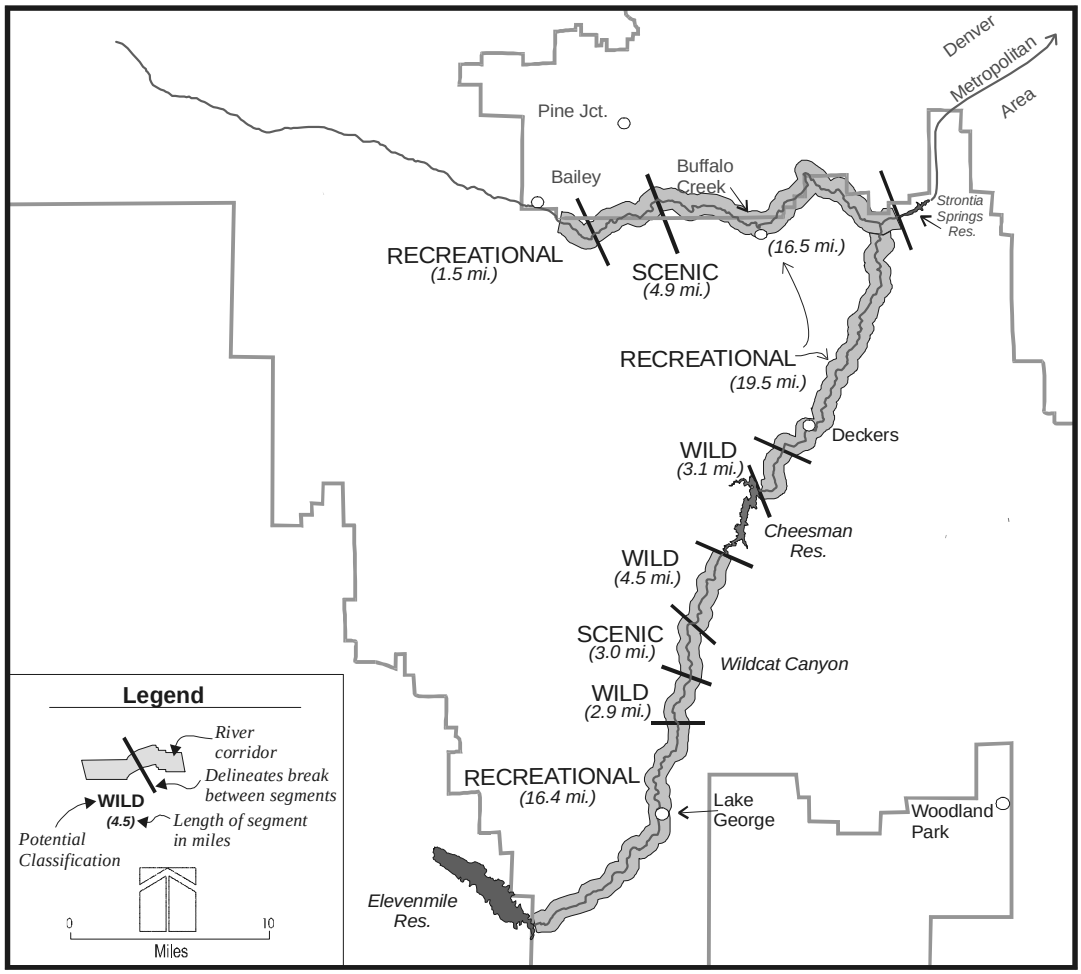
**Segment D:** This segment is accessible at either end by foot from the Gill Trail. Some cultural development has occurred in the past, primarily relating to mining and fishing activities. Many non-system trails are evident along both riverbanks. It is classified as *wild* due to the lack of road access and lack of water resource and shoreline development.

**Segment E:** This segment is paralleled by paved and gravel roads. Several small communities and isolated houses are located along the river, and there are several bridges and developed picnic and campsites. Many parking areas that accommodate the large number of

day-users and anglers are located in this segment. Several resorts and private camps are also located in this segment. This segment is classified as *recreational* due to road access and the amount of water resource and shoreline development.

**Segments H1 and H3:** Segment H1, on the North Fork from Estabrook to the upstream end of the Berger property, and Segment H3, on the North Fork from the confluence with the South Platte River to Cliffdale, are classified as *recreational* because they are paralleled by an historic railroad grade and graveled county roads, and they contain several residential communities, a highly developed recreation area (Jefferson County's Pine Valley Ranch), many bridges and dwellings, and minor diversions and channel work.

**Segment H2:** This 4.9-mile segment, located within Segment H, extends from the downstream side of the old stone house downstream of Estabrook to the section line between sections 29 and 30 downstream of Cliffdale. It is classified as *scenic* since the area is predominately undeveloped National Forest System lands with very limited access. There is an old abandoned railroad grade though the area, a footbridge, some small check dams, and a few dwellings at Crossons, but the area remains largely primitive and undeveloped.




***Map 3-2.—Eligible Segments with Potential Classification; South Platte River and North Fork of the South Platte River Wild and Scenic River Study.***

## 3.7 ELIGIBILITY SUMMARY

The South Platte River from Elevenmile Dam (downstream from the fence on the Denver Water special-use area) downstream to the high-water line of Cheesman Reservoir (upstream of the stream gage) meets the minimum eligibility requirements as specified by the WSRA. Thus, Segments A, B, and C are found to be free-flowing and to contain the following ORVs: scenic (Segments A and C), recreation (Segment A), geologic (Segments A and C), fish (Segments A, B, and C), and wildlife (Segment C).

The South Platte River, from downstream of the stream gage weir below Cheesman Reservoir to the backwaters of Strontia Springs Reservoir (6029-foot contour), also meets the minimum eligibility requirements as specified by the WSRA. Thus, Segments D and E are found to be free-flowing and to contain outstandingly remarkable recreation, fish, and wildlife values.

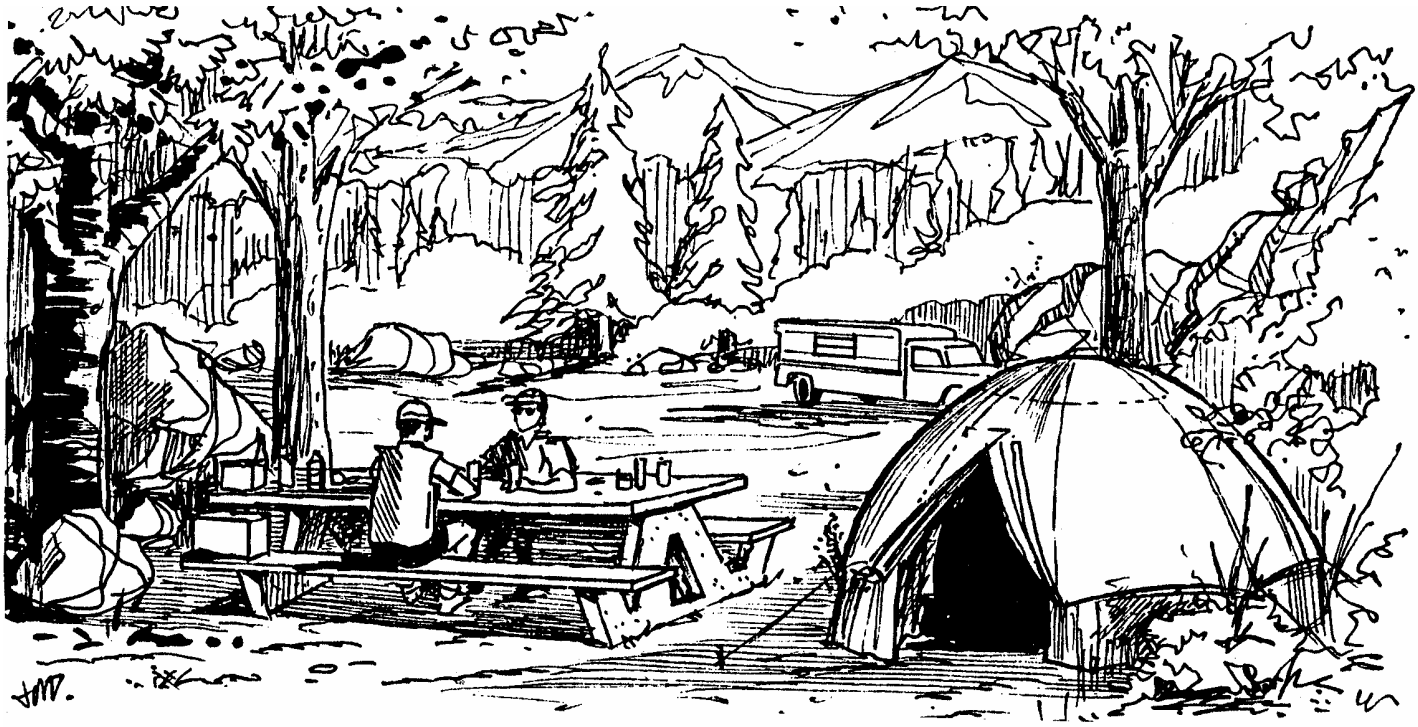
The North Fork of the South Platte River, from the upstream boundary of the Berger property near Insmont to the confluence with the South Platte, also meets the minimum eligibility requirements as specified by the WSRA. Segment H is found to be free-flowing and to contain outstandingly remarkable recreation, wildlife, and cultural values.

The North Fork of the South Platte River, from its headwaters to its confluence with Kenosha Gulch near Webster, is found to be free-flowing but possesses no ORVs. As a result, this segment (Segment F) is ineligible for inclusion into the National Wild and Scenic River System.

The North Fork of the South Platte River, from its confluence with Kenosha Gulch near Webster to the upstream boundary of the Berger property near Insmont (Segment G), is found not to be free-flowing and is, therefore, ineligible for inclusion into the National Wild and Scenic River System.

*Chapter 4*

# Issues and Alternatives



CHAPTER 4

# Issues and Alternatives Including the Preferred Alternative

## 4.1 PURPOSE OF THIS CHAPTER

This chapter introduces the issues and alternatives developed during the study process. The study analyzed each of the study rivers for their suitability for designation as a component of the National Wild and Scenic Rivers System (National System). The issues listed in this document were raised during the scoping process. Others were raised regarding the A2 local alternative when it was submitted to the USDA Forest Service (Forest Service) for further consideration. The A2 alternative is entitled the "South Platte Protection Plan" (SPPP).

For this study, 10 alternatives were developed and evaluated by an interdisciplinary group of Forest Service resource specialists (ID Team). The preferred alternative is a modified version of Alternative A3.

Alternative A1, the "no action" alternative required by NEPA, describes the current management of the study river corridors under the *Land and Resource Management Plan for the Pike and San Isabel National Forests, Comanche and Cimarron National Grasslands* (Forest Plan). This best addresses the concerns of potential water storage, continued water delivery, current water operations, channel maintenance, and potential and/or perceived impacts to private landowners.

Alternative A2 (the SPPP) is summarized in this chapter and reprinted in full in Appendix A. It is a "no action with outstandingly remarkable values protected" alternative. This alternative addresses the concerns of potential water storage, continued water delivery, current water operations, channel maintenance, potential and/or perceived impacts to private landowners, and protection of the river's "outstandingly remarkable values" (ORVs). Because Alternative A2 would be a form of cooperative management by local governments, water resource agencies, and other entities, it includes a variety of mechanisms to afford protection to the river's ORVs. Detailed information about these mechanisms and their effect on river values and the uses of lands and waters is found in the SPPP.

Alternative A3 (the "Modified South Platte Protection Plan") was developed by the Forest Service in response to issues and concerns raised about Alternative A2 and is fully described in this chapter.

The preferred alternative is Alternative A3 modified to exclude a decision on suitability. Under this alternative, the Forest Service will defer a decision on suitability, implement the South Platte Protection Plan, and amend the Forest Plan to protect the outstandingly remarkable values, free-flow, and water quality

Alternative B recommends the designation of the study rivers at their most protective inventoried classifications. This maximizes the protection and enhancement of free-flow, water quality, and the ORVs in the study area.

Alternatives C, D, F, G, I, and J present differing combinations or classifications of rivers or river segments that also protect and enhance the free-flow, water quality, and ORVs on the segments recommended for designation.

Alternatives E and H were considered but eliminated from detailed study (see section 4.5).

Alternative C recommends the designation of the same rivers as Alternative B but at a less protective classification than inventoried from Beaver Creek to Hackett Gulch and from Corral Creek to Cheesman Reservoir. This alternative better addresses concerns related to continued off-highway vehicle use in the area. It also provides additional river protection compared to non-designation while allowing a wider range of natural resource management than with a more protective classification.

Alternative D recommends the same segments and classifications of the South Platte River as Alternative B but finds the North Fork not suitable for designation. This protects and enhances the South Platte River at the most protective inventoried classification while addressing the concerns of potential water storage, continued water delivery, current water operations, channel maintenance, and potential and/or perceived impacts to private landowners in the North Fork study corridor.

The emphasis of Alternative F is to protect and enhance the ORVs while minimizing restrictions on private landowners and avoiding interference with Denver Board of Water Commissioners' (Denver Water's) right-of-way for a reservoir from the confluence of the North Fork and the South Platte to Deckers (as granted by the Department of the Interior in 1931). The alternative recommends the designation of one segment of the North Fork and four segments on the South Platte River that are entirely on National Forest System land and free of encumbrances. This protects and enhances the study rivers at the most protective inventoried classification on National Forest System land.

Alternative G recommends the designation of the South Platte upstream from Cheesman Reservoir with the same classifications as Alternative B. It finds the North Fork not suitable for designation. This alternative protects and enhances the ORVs at the most protective inventoried classification above Cheesman Reservoir while addressing the concerns of potential water storage, continued water delivery, current water operations, channel maintenance, and potential and/or perceived impacts to private landowners on the North Fork and the South Platte downstream from Cheesman Reservoir.

Alternative I recommends the designation of the South Platte upstream from Corral Creek to Beaver Creek with a scenic classification and from Beaver Creek to Elevenmile Dam with a recreational classification. It finds the North Fork not suitable for designation. This alternative protects and enhances the ORVs above Cheesman Reservoir but at a less protective classification than inventoried from Beaver Creek to Hackett Gulch. It addresses off-highway use in the area, the concerns of additional potential water storage, continued water delivery, current water operations, channel maintenance, and potential and/or perceived impacts to private landowners on the North Fork and the South Platte downstream from Cheesman Reservoir.

Alternative J recommends segments similar to Alternative D but finds the portion of the South Platte from the North Fork confluence to Strontia Springs Reservoir not suitable for designation. It also finds the North Fork not suitable for designation. Classifications are the same as Alternative D. This protects and enhances the ORVs in the South Platte study corridor; addresses the off-highway vehicle use in the area; and addresses the concerns of potential water storage, continued water delivery, current water operations, channel maintenance, and potential and/or perceived impacts to private landowners in the North Fork study corridor.

Section 4.2 discusses the key study issues that formed the basis for developing the alternatives. Section 4.3 gives fuller descriptions of the alternatives considered. Section 4.4

describes alternatives that were not considered in detail and explains why they were not considered further.

Factors that were considered in determining the rivers' suitability include:

- The characteristics that make the river a worthy addition to the National System (i.e., its ORVs—scenery, recreation, geologic, vegetation/ecologic, fisheries, wildlife, historic cultural, prehistoric cultural, and traditional use cultural values).
- The amount of private land within the study corridors and the land's present use
- All present and reasonable foreseeable potential uses of the land and waters within the river corridors that would be enhanced, foreclosed, or curtailed if they were included in the National System.
- Public, State and local government interest in designation of the rivers.
- The estimated cost of land acquisition, if necessary.
- Ability of the Forest Service to manage the river under a Wild and Scenic River designation
- Historical or existing rights which could be adversely affected. In determining suitability, consideration of any valid existing rights must be afforded under applicable laws (including the Wild and Scenic Rivers Act [WSRA]), regulations, and/or policies
- Key issues and any other issues and concerns identified by the public or the ID Team.

In developing alternatives, the Forest Service has considered all relevant issues that the public raised during the scoping process. The alternatives that are considered in detail in this chapter reflect pertinent issues, concerns, current conditions, and provide for a full range of reasonable management options for the study rivers as required by NEPA.

## 4.2 KEY STUDY ISSUES

Several key issues guided the development and evaluation of the suitability of the study rivers. All of these issues were identified through the public involvement process. In addition, the ID Team identified these same issues. The issues also encompass the suitability factors specified in Forest Service guidelines on Wild and Scenic River evaluation.

The A2 local alternative, the SPPP was developed by a wide variety of interest groups and local governmental agencies. At the time it was submitted to the Forest Service for further consideration in the Wild and Scenic River Study, all the participating groups were asked to submit letters of support to the Forest Service. The letters received were of mixed support, with some groups or individuals in full support of the A2 alternative as presented, some groups supportive of the A2 alternative but listing issues and concerns about the alternative as presented, and some groups listing issues and concerns and stating a preference for designation of the river corridor.

The Forest Service ID Team reviewed the A2 alternative to determine whether it met the standards listed in the draft legislative environmental impact statement (DLEIS) and, therefore, was a viable alternative to be considered further in a supplemental DLEIS (SDLEIS). The DLEIS standards applied to A2 were that a wide spectrum of interests be represented and the ORVs be protected. The ID Team determined that the A2 alternative met these requirements, and it was included in the SDLEIS. After release of the SDLEIS, the groups who developed the A2 alternative submitted supplemental material to the Forest Service. The new material addressed the concerns noted above. Additional letters were submitted by some of the groups who had

expressed concerns earlier, with some expressing full support and others expressing conditional support.

The issues listed below were the result of the public comments received from the DLEIS and SDLEIS, public meetings, recent concerns expressed as a result of the Hayman and Schoonover Fires, and the ID Team's review of all alternatives to determine whether the ORVs would be protected.

## WATER DEVELOPMENTS (CONSTRUCTION OF DAMS OR DIVERSIONS FOR WATER STORAGE)

Increased water supply needs for the Denver metropolitan area and other Front Range communities are inevitable. Changes in how the rivers are managed may affect opportunities for water storage, diversions, and dam construction.

### Specific Concerns

— Ability to construct water storage to meet the growing residential, industrial, and agricultural needs of the Denver metropolitan area.

— Ability to implement current and planned water developments and channel maintenance in the study corridors. This includes providing for (1) continued high flows on the North Fork due to releases from the Roberts Tunnel, (2) increased flows in the South Platte due to additional storage or water brought in from outside the drainage, and (3) flow changes and reservoir drawdowns for conjunctive use.

— Ability to maintain flexibility of a high-quality, reliable, economic, raw-water delivery system, including operations, flows, timing of releases, storage, off-channel reservoirs, diversion, channelization, and exchanges. This also includes the management of these flows to protect resource values, recreational concerns, property protection, and other considerations.

— Flexibility for stream improvement work to manage flows and protect riverine environment.

— The desire of some communities to reduce their dependence on nonrenewable ground water by acquiring additional surface supplies or recharging the aquifers with excess surface water.

— Loss of agricultural production by conversion of agricultural water rights for municipal use.

— Concerns that designation would cause metropolitan water needs to come from other sources that may cause more negative impacts elsewhere.

— Threat of loss of ORVs by inundation.

— Threat of damage to or inundation of private property.

— Possible prohibition, due to designation, of potential dam construction, diversions, and water storage.

### Concerns Related to South Platte Protection Plan

— The 20-year moratorium and relinquishment of Denver Water's right-of-way are only voluntary, so dam and reservoir development are still possible.

— Segments B and C are not protected from future development.

— The river corridor is not protected from future growth pressures.

— Diversions, modifications, or other project construction are still allowed.

— "Off-channel diversion structures" and "sediment ponds" may not meet free-

flowing character limitations for water resource development.

— Water providers need flexibility in river corridor management to expand existing reservoirs, replace existing dams, or construct off-channel diversion structures to meet future water supply operation needs.

— Method of evaluation of future project proposals for potential impacts to the rivers' ORVs and free-flowing character?

The issue is: How best to ensure the protection and enhancement of ORVs while minimizing effects on current and future water supply of the Denver and Colorado Springs areas.

## LANDOWNER RIGHTS

Changes in how the rivers are managed may affect landowners' latitude in managing and/or developing their property.

### Specific Concerns

— Ability of Denver Water to exercise its 1931 right-of-way to build a reservoir from just below the confluence of the North Fork and the South Platte Rivers (Two Forks site) to just above the community of Deckers.

— Effect of possible Wild and Scenic River designation on the value of Denver Water's right-of-way and its other property in the corridor.

— Protection of Estabrook and Cheesman expansion dam and reservoir sites for future water storage.

— Effect on water and storage rights and the ability to operate and develop the two rivers to fully use existing and future water rights (those approved but not in use and those in the planning stages).

— Protection of private landowners' property from fee-title condemnation for construction of water developments or reservoirs.

— Impact upon private land by recreationists.

— Limitations on economic activities.

— Limitations on activities that change the appearance of river corridors.

— Loss of self-determination in land management decisions and associated feelings.

— Fear of additional interference, regulation, or review processes by a government agency (i.e., threat of scenic easement condemnation).

— Increasing levels/layers of bureaucracies.

— Landowner liability.

— Potential increase or reduction in land management costs.

— Potential increase or reduction in revenue of the land to the landowner.

— Changes in desirability of owning the land.

— Potential effects of local zoning.

The issue is: How to protect and enhance the ORVs while minimizing the effects on private and municipal landowners.

## FISHERIES

Changes in river management could affect resident fish species, primarily spawning and rearing areas for resident fish. Both study corridors contain important fisheries populations that include wild brown and rainbow trout.

Clean, cool water is required to support healthy trout populations. It is important to recognize that many other activities within the drainage

basin, outside of this river segment, have an impact on both water quality and resident fish populations.

The Streamflow Management Plan (SFMP) of Alternative A2 includes alterations to water supply operations to protect or enhance fisheries. The SFMP was amended to respond to (1) concerns about impacts to the stream channel, aquatic habitats, and riparian areas from anticipated increased flows and unnaturally long duration flows and (2) the need for a full ecosystem design rather than one that focuses on recreational trout species. In response to concerns raised on the original proposed plan, the supplemental material submitted by the groups who developed the SPPP included enforcement procedures for the SFMP and is included in Appendix A.

### Specific Concerns

- Protection of a remarkable wild-trout fishery so close to a major metropolitan area. This includes, but is not limited to, (1) the maintenance and enhancement of fish populations and habitats and (2) the direct, indirect, and cumulative effects on fish populations.
- Maintenance and enhancement of riparian habitat and stream structure.
- Maintenance and enhancement of water quality and flow rates.
- The possibility of implementing projects that are beneficial over the long term but may have detrimental short-term impacts (e.g., road improvements that cause short-term siltation but reduce siltation over the long term, or channel improvements that also produce short-term siltation but ultimately improve fisheries habitat).

The issue is: How to best protect and enhance the wild resident trout populations in the corridors.

## WILDLIFE

Changes in river management could affect options for management of many game and nongame species. Of particular interest are big game species—primarily mule deer, bighorn sheep, and Rocky Mountain elk—and their respective wintering habitats. Additionally, several fur-bearing species (e.g., mink, otter, raccoon) and nongame mammals and birds inhabit the areas year-round. The corridors contain portions of the sole remaining habitat of the Pawnee montane skipper butterfly and have been found to be suitable habitat for the Prebles jumping mouse. The corridors also provide wintering habitat for bald eagles, and peregrine falcons nest just outside the North Fork corridor. These raptors hunt extensively in the corridor. The Pawnee montane skipper, Prebles jumping mouse, and bald eagle are listed as threatened under the Federal Endangered Species Act. Peregrine falcons are a Forest Service Region 2 Management Indicator Species (MIS). Additionally, any loss of riparian cover could have an adverse effect on a wide variety of game and nongame animal species.

The "Recreation, Wildlife, Scenery, and Other Values Plan" in Alternative A2 establishes a management structure and identifies concerns to be addressed in a future "Comprehensive Recreation Management Plan." Issues raised in the review process were:

- Recreation values are emphasized over wildlife values, particularly in the important wildlife corridor in Wildcat Canyon.
- The Pawnee montane skipper needs management protection even if it is delisted by the U.S. Fish and Wildlife Service.

#### Specific Concerns

- Protection of endangered and threatened species and their habitat.
- Protection of migration routes and connecting corridors.
- Winter range for bighorn sheep, elk, and deer.
- Nongame species populations and habitat.
- Effects of protection of wildlife ORVs on rights of adjacent private property owners.
- Accessibility (e.g., access of wildlife to habitat and protection of wildlife from various human-caused pressures).

The issue is: How to best protect and enhance the game and nongame species in the corridors.

### RECREATION

Changes in river management could affect recreational use of the river. Recreation use in the river corridor influences the local counties economically, socially, and biologically.

The "Recreation, Wildlife, Scenery, and Other Values Plan" outlined in Alternative A2 recommends a preferred management scenario of a Forest Service and Colorado State Parks partnership, working with Denver Water and the counties. The Denver Water lands would be managed for public recreation access in conjunction with other public lands in the river corridor. Issues raised in the review process were:

- How would the Forest Service–Colorado State Parks partnership be structured and funded?
- What would be the alternative if a Forest Service–Colorado State Parks partnership did not work out?
- Private landowners are concerned about impacts to their lands and county services from increased number of recreationists.
- Off-highway-vehicle enthusiasts want to maintain access to the challenging road network in Segment C, Wildcat Canyon.

However, given the current economy and the budget shortfall of the State of Colorado, the involvement of State parks in the foreseeable future appears unlikely. The recommendation, currently, is for an interim partnership among the Forest Service, Denver Water, Jefferson County, and Douglas County to cooperatively manage portions of the area.

#### Specific Concerns

- Motorized and nonmotorized use opportunities, especially the opportunity for continued motorized use between Cheesman Reservoir and Lake George.
- Conflicts between motorized and nonmotorized use in the area between Cheesman Reservoir and Lake George.
- Conflicts between other types of public recreational use (such as mountain bikes and hikers on the Gill Trail).
- How camping, fishing, hiking, driving, and boating for pleasure might affect the riverine environment.
- Level of recreation development (access points, campground development, etc.).
- Importance of preserving one of the best river-related recreation experiences (fishing, hiking, camping, wildlife viewing, driving for pleasure) in close proximity to the Denver metropolitan area.
- Importance of the area as a recreational safety valve for a natural recreation experience—i.e., solitude.
- Protection of primitive backcountry recreational opportunities in portions of the study area.
- Preserving the quality and recognizing the economic importance of this area's fly

fishing experience (most technically challenging in the State) and other family-oriented fishing activities.

- Prevention of overuse during peak seasonal periods.
- Maintaining a high-quality recreational experience.
- Possible overuse because of designation.

The issue is: How to best provide opportunities for a quality river-related recreation experience in the future.

## SCENERY AND GEOLOGY

Changes in river management could affect the scenic and geologic qualities of the study corridors. Steadily increasing recreational use is already having its effect.

### Specific Concerns

- Intentional and unintentional changes in scenic quality due to human disturbance.
- Changes in vegetation.
- Scenic impact of mineral-resource exploration and development.
- Scenic impact due to inundation by new or expanded reservoirs.

The issue is: How to protect and enhance the scenic and geologic qualities of the corridors.

## CULTURAL RESOURCES (INCLUDING ARCHAEOLOGICAL RESOURCES)

Changes in river management could affect cultural resource sites.

### Specific Concerns

- Protection of historic railroading and tourism sites.
- Interpretation of historic and prehistoric uses and peoples of the area.
- Identification of sites, where appropriate, with signs and brochures.

The issue is: How to protect the cultural resources in the corridors.

## SOCIAL AND ECONOMIC CONSIDERATIONS

Changes in how the river corridors are managed can alter the mix and the scope of economic opportunities as well as the mix and magnitude of impacts on social values.

### Specific Concerns (About Federal Wild and Scenic River Designation)

- Potential growth limitations, quality of life, and economic impacts to the Denver metropolitan area imposed by designation (i.e., flow regulation, storage limitations, takings, impairment of municipalities' water development plans, and potential cost of alternate water supply studies).
- Importance of recreation and tourism supported by the study rivers to local economies, and the possible impacts to these economies from designation or non-designation.
- Issues of equity (i.e., those who benefit from changes are rarely the same as those who are negatively affected).
- Protection of the quality of life in the Front Range through protection of its scenic and recreational treasures.
- Mistrust of Federal Government.
- Fear of more Federal control of citizens' lands and lives.
- Fear of the loss of a way of life.
- Additional costs to counties to help administer a Wild and Scenic corridor.

- Recognition that the amenities of the corridors may have a social and economic value in their own right.
- Unavailability of mineral resources or timber due to acts of government.
- Fear of another layer of bureaucracy and waste of taxpayer's money.

The issue is: How to manage the corridors to protect and enhance the ORVs while minimizing social and economic impacts to local private landowners and the water providers and water users in the Denver and Colorado Springs metropolitan areas.

### IMPLEMENTATION AND ENFORCEMENT

The South Platte Protection Plan would be implemented through a series of agreements between the governmental agencies making commitments. Private parties, companies, organizations, and other entities that are not parties to the agreements could make use of the Federal Administrative Procedures Act as an enforcement mechanism. The supplemental material to the A2 proposal submitted in June of 2001 included proposed language for an amendment to the Forest Plan to further protect river values. This was seen as a mechanism for third-party enforcement on National Forest lands. The following issues were raised in the review process:

- The Forest Service must retain the option to recommend designation in the future if a local alternative is selected but eventually is determined to not adequately protect the ORVs, water quality, or free-flow.
- Should the SPPP be accepted just because likelihood of a successful designation recommendation is low? How would acceptance of the SPPP affect the likelihood of a successful designation recommendation in the future?
- Memorandums of understanding (MOU) and Forest Land and Resource Management Plans do not provide the same permanent protection as congressional designation.
- The public needs to be involved in developing and enforcing the implementing agreements. There needs to be a third-party mechanism to enforce the agreement.
- The public needs to be involved in periodic reviews of the implementation of this decision.
- Can the finding of eligibility be maintained if the SPPP is implemented?
- Can the SPPP be implemented and the decision on suitability delayed to allow for evaluation of it's effectiveness?

## 4.3 DESCRIPTION OF ALTERNATIVES

This section presents the 10 alternatives considered in detail.

### ALTERNATIVE A1

This is the "no action" or "no change" alternative. It describes the existing situation and serves as a baseline to evaluate the other alternatives. Under this alternative, current management of the river corridors would continue under the Forest Plan, none of the eligible study segments would be found suitable for addition to the National Wild and Scenic Rivers System or for any other special Federal designation (see table 4-1). Adoption of this alternative would mean that no new programs, protection measures, or designations would be implemented. There would be no further efforts to coordinate management activities in the corridors beyond what currently exists. The

corridor boundaries for Alternative A1 are shown in map 4-1.

**Table 4-1.—Alternatives A1, A2, and A3 – Segments Recommended for Designation**

| Segment | Length | Classification | Description |
|---|---|---|---|
| None recommended | 0 | None | No river segments recommended for designation |

## ALTERNATIVE A2

This is the "no action with ORVs protected" alternative. It is an outgrowth of a concept originally posed as Alternative H during scoping (See section 4.5), and it responds to an expression of interest raised by the local community to find a local solution to the challenge of protecting the rivers' ORVs. The purpose of the South Platte Protection Plan is to protect the ORVs identified by the Forest Service and preserve water supply functions without designating the river under the Wild and Scenic Rivers Act. These values are historical, fishery, geological, recreational, scenic, and wildlife resources. The SPPP also recognizes that Colorado's Front Range communities rely heavily upon the South Platte for drinking water supply and other municipal and industrial uses and that agriculture throughout northeastern Colorado depends heavily on South Platte flows. The ORVs must be protected in the context of preserving these functions as well. The interests of all these communities can be maintained through common dialogue toward an approach in which the many values on the river—habitat, ecosystem, and human-based—can all be addressed in coordination and balance with one another. Mutual respect for the many important uses is central to the SPPP. It creates a cooperative management structure of local, State, and Federal agencies. The underlying principle is no loss of existing or future water supply.

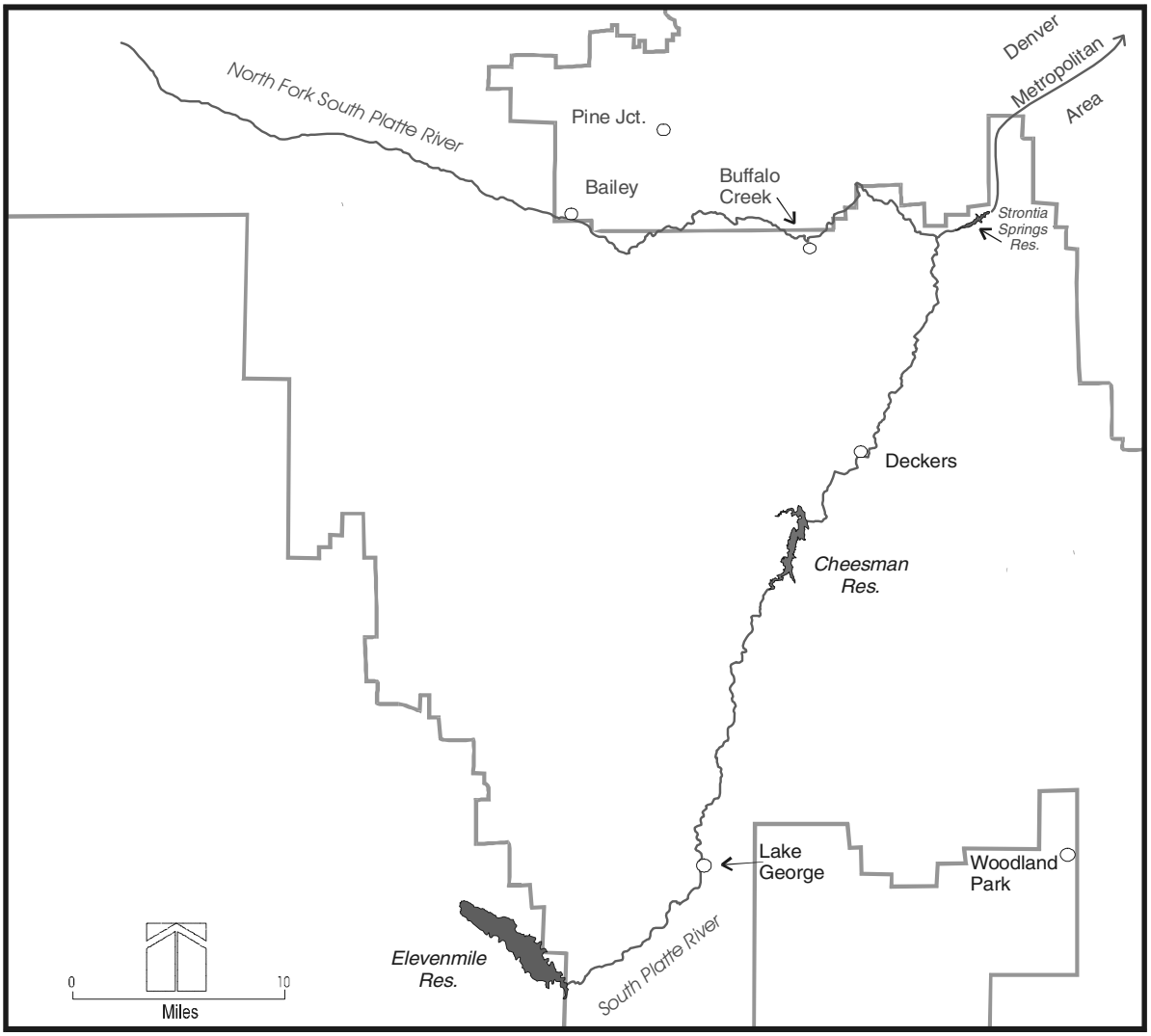
The entire text of the SPPP is in Appendix A of this document. Its major components are summarized below.

1. **Protect Canyons.** A commitment not to build any water works facilities in Cheesman Canyon or Elevenmile Canyon.

2. **Streamflow Management Plan.** A series of commitments and goals to alter current water facility operations to protect and enhance fisheries. The following are obligations to be met by the responsible parties:

   a. No loss of existing or future water supply.

   b. Minimum outflows from Spinney Mountain, Elevenmile, and Cheesman Reservoirs. The minimum streamflow will be measured at the streamflow gage directly below the reservoirs. Aurora's and Denver's operating streamflow records will be the official record of the reservoir and tunnel releases for the Streamflow Plan. These records will be available upon request. Denver's releases for minimum streamflows will be calculated by averaging the 24 "top-of-the-hour" readings 8:00 a.m. one day through 7:00 a.m. the nest day. All top-of-the-hour gage readings must be no less than 80 percent of the minimum streamflow. Any daily or hourly violation will result in a penalty of $10,000 per violation to be paid to the Endowment Fund (see number 5 below). This is the maximum penalty per daily period. The penalty will be indexed to the




***Map 4-1.—South Platte River and North Fork of the South Platte River Wild and Scenic River Study—Alternatives A1, A2, and A3.***

No action — No segments are recommended for designation under these alternatives. See text for further details.

Consumer Price Index and adjusted each year at the annual operating meeting. Any known failure to meet the minimum streamflow commitment will be reported to the Forest Service and the Colorado Division of Wildlife within 1 week of occurrence. Exemptions to this are:

- Minimum streamflows that are due to emergencies where public safety or dam safety are concerned and will be reported to the Forest Service.
- Severe drought conditions when Aurora's or Denver Water's customers are on mandatory water use restrictions and the combined contents of Aurora's or Denver Water's major storage reservoirs are less than 40 percent full, the minimum outflow requirement at Spinney Mountain, Elevenmile, and Cheesman reservoirs (as appropriate) will be 20 cubic feet per second.
- The hourly minimum will not apply when reservoirs are spilling (the daily minimum still applies). Reservoir outflows may be reduced below the hourly minimum for up to 2 hours to rate, clean, and maintain the streamflow gaging stations below the reservoirs.

c. Ramping (changing gradually) outflow changes from Elevenmile and Cheesman Reservoirs and the Roberts Tunnel.

d. New valves, monitors, gages.

e. Channel work on North Fork to be coordinated with Colorado Division of Wildlife.

f. Public input to annual operating plans.

g. Stream channel maintenance and improvement: the Forest Service, Division of Wildlife, water users, and other interested parties work together to identify degraded stream channel areas and sedimentation sources and develop instream channel improvement projects. Develop a stream habitat improvement plan.

h. The following represent desirable outcomes and goals for water suppliers to use as guidance in their operating decisions.

- Operate Spinney Mountain, Elevenmile, and Cheesman Reservoirs to release stored water to maintain minimum outflow when inflow is low.
- Operate Spinney Mountain, Elevenmile, and Cheesman Reservoirs for outflows in an optimum range the remainder of the year.
- Operate Elevenmile and Cheesman outflow for optimal temperatures and ramping of daily temperature fluctuations to benefit fisheries below the dams.
- Consideration of whitewater and fisheries in Roberts Tunnel discharges, within the limitations described in the Streamflow Management Plan.
- Revise annual operating plans to limit fluctuations when the potential exists to harm vulnerable life stages of brown or rainbow trout.

Future water projects, especially those that would significantly extend bank-full stream conditions, would require an

analysis by the project proponent of channel capacity related to adequate protection of fisheries habitat and populations, channel stability, and maintenance of the ecosystem. The new project proponent is responsible for any necessary analysis and channel reconstruction. Changes to channel capacity should be accomplished by physically reconstructing the channel where necessary. These alterations should be achieved by means other than flow manipulation in order to maintain the ORVs in the river corridor. Proposals for flow and channel modification for new projects would be reviewed by the annual operations meeting participants.

3. **Partnership for Recreation, Wildlife, Scenery, and Other Values.** A management partnership between a qualified recreation management agency and the Forest Service is proposed for the mainstem of the river—from Elevenmile Reservoir to Chatfield Reservoir. Until the partnership is in place, the Forest Service, Denver Water, Jefferson County, and Douglas County would cooperatively manage portions of the area. The SPPP proposes recreation management by Jefferson County Open Space along portions of the North Fork, where the river flows through the park, and a special recreation area at Bailey Canyon to be managed by the Forest Service. (NOTE: The qualified recreation management agency in the SDLEIS was identified as Colorado State Parks. However, given the current economy and the budget shortfall of the State of Colorado, the involvement of State Parks in the foreseeable future appears unlikely.)

4. **Cooperative Water Quality Initiatives** would be implemented through the Coalition for the Upper South Platte (CUSP), which is composed of interested local governments, agencies, and parties in the basin. This coalition (originally the Upper South Platte Watershed Protection Association) was triggered by this proposal but is expected to continue independent of the SPPP.

5. **Endowment Fund.** Front Range local governments and water suppliers would contribute at least $1 million to be spent on the values identified by the Forest Service. A board would be convened within 90 days following a decision by the Forest Service to adopt the SPPP in lieu of designation. The fund would be fully financed within 3 ½ years.

6. **Enhancement Board.** A coordinating forum, possibly named the Friends of the South Platte River, Inc., would provide comments and responses on activities such as land use or land management planning decisions, as well as deciding expenditures from the endowment.

7. **Withdrawal of 1986 Applications for Conditional Storage Rights.** Both Denver Water and the Metropolitan Denver Water Authority would withdraw Water Court applications for 780,000 acre-feet of additional storage at the Two Forks reservoir site.

8. **Alternative to Development of Denver's Right-of-Way.** Denver Water and environmental groups have proposed a working relationship that could lead to alternative projects and allow Denver Water later to relinquish its 1931 right-of-way on the South Platte at the Two Forks site. As a demonstration of good faith in pursuing alternative projects, Denver Water would voluntarily impose a moratorium on applications for development of the right-of-way for a period of 20 years from formal acceptance of the SPPP.

9. **Provision for Limited Development.** In addition, Denver Water and other present and future water suppliers would continue to have access to the river for operational and maintenance purposes, such as channel repair and stabilization, construction of sedimentation ponds and removal of sediment, and construction of diversion dams for off-channel reservoirs. It is expected that such projects, if any, would demonstrate, after mitigation, the lack of significant long-term adverse effects on the resource values identified and protected by the Plan (Attachment F).

Enforcement of the SPPP would be provided by a written agreement between the Forest Service and those entities making commitments within the SPPP. The agreement shall be written in a manner to provide for enforcement through the Administrative Procedures Act by citizens or groups with standing, using remedies similar to those that would be available if a river were designated under the WSRA. The agreement should provide for public participation in the event of (1) significant changes to the written agreement, (2) leases to Colorado State Parks or other major concessionaires, (3) adoption of a recreation management plan, or (4) changes to any existing recreation management plan. In all such cases, the public should have the opportunity to ascertain and comment on consistency of the proposed changes with the SPPP. Further enforcement would be provided through an amendment to the Forest Plan, which would provide protection for the ORVs and related resources on National Forest System lands within the river corridor. For forest lands, this could include providing special management area status in the study corridor similar to what exists for the Elevenmile Canyon area.

This alternative is silent on a finding of suitability. By remaining silent, the Forest Service would continue to protect the ORVs, water quality, and free-flow on eligible segments.

Additional measures that might be employed under this alternative to further protect the ORVs would include:

- Purchase of scenic easements, exchange agreements, water rights, or rights-of-way from willing sellers, where needed, to better protect the area.
- Acquisition of properties in the study corridor from willing sellers, through purchase or exchange, to ensure better resource protection.
- County or other local government acquisition of additional properties for park or open space from willing sellers in the study corridor.

## ALTERNATIVE A3: MODIFIED SOUTH PLATTE PROTECTION PLAN

As described above, both the public and the Forest Service raised issues and concerns about the South Platte Protection Plan. The Modified South Platte Protection Plan, Alternative A3, was developed to respond to those issues and concerns. Alternative A3 builds on A2 by adding provisions directly related to the issues listed above. It recognizes water supply as a use of the river corridor to be continued while protecting the ORVs, water quality, and free-flow. The basic principle of no effect on water yield or supply and the multi-agency management framework are maintained. Alternative A3 is designed to more closely emulate the protection measures that would apply under a Wild and Scenic River designation utilizing existing Forest Service legal authorities. The protection measures would be effective only on National Forest lands. Non-National Forest lands would continue to be managed under the existing legal authorities implemented by other Federal, State, and local government agencies.

Major components of Alternative A3 are listed below.

1. All new dams or impoundments in the river corridor on Federal land are prohibited.

2. Any proposals for limited water development projects in the river corridor would be evaluated for potential effects to ORVs, free-flow, and water quality. The standard of review and resultant degree to which eligibility is protected would depend on which variation of A3 is assumed for analysis. See the following section on "Variations."

3. The Forest Service would work with Denver Water and the Colorado Division of Wildlife on stream reconstruction and habitat improvement projects on the North Fork and mainstem of the South Platte River.

4. The Forest Service would work with Denver Water, the Coalition for the Upper South Platte (formerly the Upper South Platte Protection Association), and other interest groups to conduct water quality restoration projects for sediment reduction and control, addressing problems caused by road maintenance, travel management, stream crossings, and degraded areas (e.g., Buffalo Creek and Hayman Fires).

5. The alternative would be implemented through a MOU between the Forest Service and other concerned agencies, listing the commitments of all involved parties. Citizen groups shall be involved with development of the MOU.

6. The potential interim cooperative recreation management agreement to include Forest Service, Denver Water, Jefferson County, and Douglas County would be addressed in the implementation of this decision, as part of the MOU development process.

7. All parties to the MOU, with extensive public involvement, shall coordinate management planning activities to address all river resources in an ecosystem management framework. The Forest Plan shall be used for management guidance on forest lands. Private landowner concerns about impacts from recreation users would be addressed in this planning effort.

8. The North Fork would be managed consistently with the Forest Plan, emphasizing big game species' winter range. Summer season dispersed recreation activities, with no road or facility development, are compatible with this management scheme.

9. The special emphasis on managing forest lands for the benefit of the Pawnee montane skipper would continue even if the skipper's "endangered" status is downgraded to "sensitive."

10. The Forest Service would work with interest groups to develop a management plan for Wildcat Canyon (Segment C) that addresses recreation use, wildlife corridors, ORVs, and water quality protection needs.

11. For any individual projects implementing the cooperative management plan, the Forest Service shall develop an agreement with the project proponent, whether the project is conducted by the project proponent alone or cooperatively with the Forest Service.

12. Any project funded by the Friends of the South Platte River, Inc., to take place on Forest Service lands, must first be analyzed and approved by the Forest Service.

13. Third party access to enforce the finding of eligibility will be through the Forest Plan.

14. The MOU shall include provisions for citizen group involvement in periodic management reviews of the decision implementation.

15. The Record of Decision shall include indicators to be used to measure changes to free-flow, ORVs, and water quality. Indications that these values are being threatened shall be sufficient cause for the Forest Service to initiate a suitability determination.

16. The Forest Service would apply to the Bureau of Land Management to withdraw the eligible river segments from mineral entry and development. This action, once approved, would prevent the filing of any new mining claims or location notices in this area. Existing claims would remain valid.

17. The Forest Plan would be amended as appropriate to reflect plan level aspects of Alternative A3.

#### Variations

The A2 process did not clearly identify whether the eligible segments were suitable for inclusion in the Wild and Scenic Rivers System. Suitability is a controversial topic because of its implications regarding long-term protection of ORVs and the rigidity of protection standards to be applied. In its review of the SPPP, the Forest Service found that it could not analyze the SPPP's long-term protective merits adequately without introducing the matter of suitability into the analysis. Accordingly, two variations of A3 were developed to represent a full range of suitability-related concepts for managing the South Platte and North Fork river corridors.

***A3-Suitable.—***Under this variation, eligible river segments are found suitable for inclusion in the Wild and Scenic River System, but they are not recommended for designation at this time. The river corridor ORVs, free-flow, and water quality would be managed under a Federal/State/local government partnership using existing legal authorities to protect eligibility. River corridor management would be monitored and periodically reviewed to ensure continued protection. If partnership management is found to have failed—i.e., if the rivers' ORVs, free-flow, or water quality become threatened—the Forest Service would forward a designation recommendation for protection of the river corridor under the WSRA by an Act of Congress. A new dam proposal in the river corridor would trigger a designation recommendation, since the dam would be an imminent threat to the riverine character, ORVs, and free-flow.

Forest Service management standards for maintaining eligibility are in *Forest Service Handbook 1909.12*, Chapter 8, section 8.12 (see Appendix G):

1. To the extent the Forest Service is authorized under law (existing authorities only, not WSRA) to control stream impoundments and diversions, the free-flowing characteristics of the identified river cannot be modified.

2. ORVs of the identified river area must be protected and, to the extent practicable, enhanced.

3. Management and development of the identified river and its corridor cannot be modified to the degree that eligibility or classification would be affected (i.e., classification cannot be changed from wild to scenic or from scenic to recreational).

***A3-Not Suitable.—***Under this variation, eligible river segments are found not suitable at this time due to the need for flexibility to accommodate reasonably foreseeable future uses of the land and water which would be foreclosed or curtailed if the area were included,

or found suitable for inclusion, in the Wild and Scenic River System. The river corridor ORVs, free-flow, and water quality would be managed under a Federal/State/local government partnership using existing legal authorities to a standard that might be lower than one intended to maintain eligibility. River corridor resources would be monitored to ensure continued protection. If partnership management is found to have failed—i.e., if the rivers' ORVs, free-flow, or water quality become threatened unreasonably—the Forest Service could initiate a new suitability determination at that time and reconsider a designation recommendation for protection of the river corridor under the WSRA. A new dam proposal in the river corridor would trigger a new suitability determination since the dam would be an imminent threat to the riverine character, ORVs, and free-flow.

The management standards for maintaining river corridor ORVs, free-flow, and water quality would be used as goals rather than requirements. This variation would allow flexibility for limited project development that was deemed critical enough to allow limited effects to the ORVs or free-flow. Forest Service concerns for project proposals would be the same as under the A3-*Suitable* alternative, but there would be greater flexibility and range of considerations possible under A3-*Not Suitable*. Water quality would continue to be protected and enhanced to the standards provided in the Clean Water Act and the Safe Drinking Water Act.

Any proposals for limited developments would be evaluated using the procedures in *Forest Service Manual 2354* to analyze and document potential effects to ORVs, free-flow, or water quality. The full text of *Forest Service Manual 2354* is in Appendix G of this final environmental impact statement (FEIS). Project design and mitigation measures would be identified so that the project would meet the management standards above to the extent possible.

A major concern was raised about whether the Forest Service might forgo any further consideration of designation if a local alternative were selected but was not successful in protecting the river. Alternative A3, therefore, includes a provision addressing this concern by creating a bilevel decision statement, which could be included in the Record of Decision. The decision statement for each Alternative A3 variation is as follows.

— **A3-*Suitable*:** The study area is determined to be suitable for designation to the Wild and Scenic River System, but a recommendation for designation would not be forwarded at this time. A partnership of Federal, State, and local government agencies would manage eligible segments of the river corridor to maintain eligibility as required by the WSRA. If the partnership is not successful and the Forest Service finds that eligibility is threatened, the Forest Service would forward a designation recommendation at that time.

— **A3-*Not Suitable*:** The study area is determined to be not suitable for designation to the Wild and Scenic River System at this time, and the study area is released for multiple-use management. The area would be managed by a partnership of Federal, State, and local government agencies with the goal of protecting river values as much as possible. If eligibility were threatened beyond a limited or reasonable level, the Forest Service would begin a new study to reanalyze suitability and would determine at that time whether to recommend designation for threatened portions of the rivers.

### Summary of Public Involvement Features in Alternatives A2 and A3

Public involvement in management and oversight is a key element of the A2 and A3 alternatives. Alternative A2 includes:

- Citizen and nongovernmental group representation on the Enhancement Board,
- Open public meetings for the review of Denver Water's and Aurora's annual operating plans,
- Inclusion of area residents' concerns in the Recreation Management Plan process,
- Water-quality concerns addressed by the Upper South Platte Watershed Protection Association,
- Environmental group representation on Denver Water's water development task force,
- Public involvement whenever significant changes in written agreements or leases are proposed, or upon the adoption of a Recreation Management Plan, and
- Enforcement of agreements through the Administrative Procedures Act by citizens or groups with standing.

Alternative A3 adds several more opportunities for public involvement to the A2 alternative:

- Citizen and group involvement in developing an MOU for the implementing agencies,
- Citizen and group involvement in periodic reviews of selected alternative implementation, including consideration of pursuing a recommendation for designation, and
- Citizen and group involvement in development of the Wildcat Canyon Plan.

## ALTERNATIVE B

Alternative B finds all eligible river segments *suitable* and recommends them for designation at their most protective classifications. The goal of this alternative is to add all eligible river segments to the Wild and Scenic Rivers System; maximize protection and enhancement of ORVs, free-flow, and water quality; and maintain system integrity. This alternative was developed as a result of concerns about how to ensure the best protection of the rivers' natural environment and ORVs. In this alternative, all of the eligible segments of the two study rivers, totaling 72.3 miles, would be recommended for addition to the National Wild and Scenic Rivers System (see map 4-2). Classification would be in accordance with the potential classifications as listed in table 4-2 and would total 10.5 miles *wild*, 7.9 miles *scenic*, and 53.9 miles *recreational*.

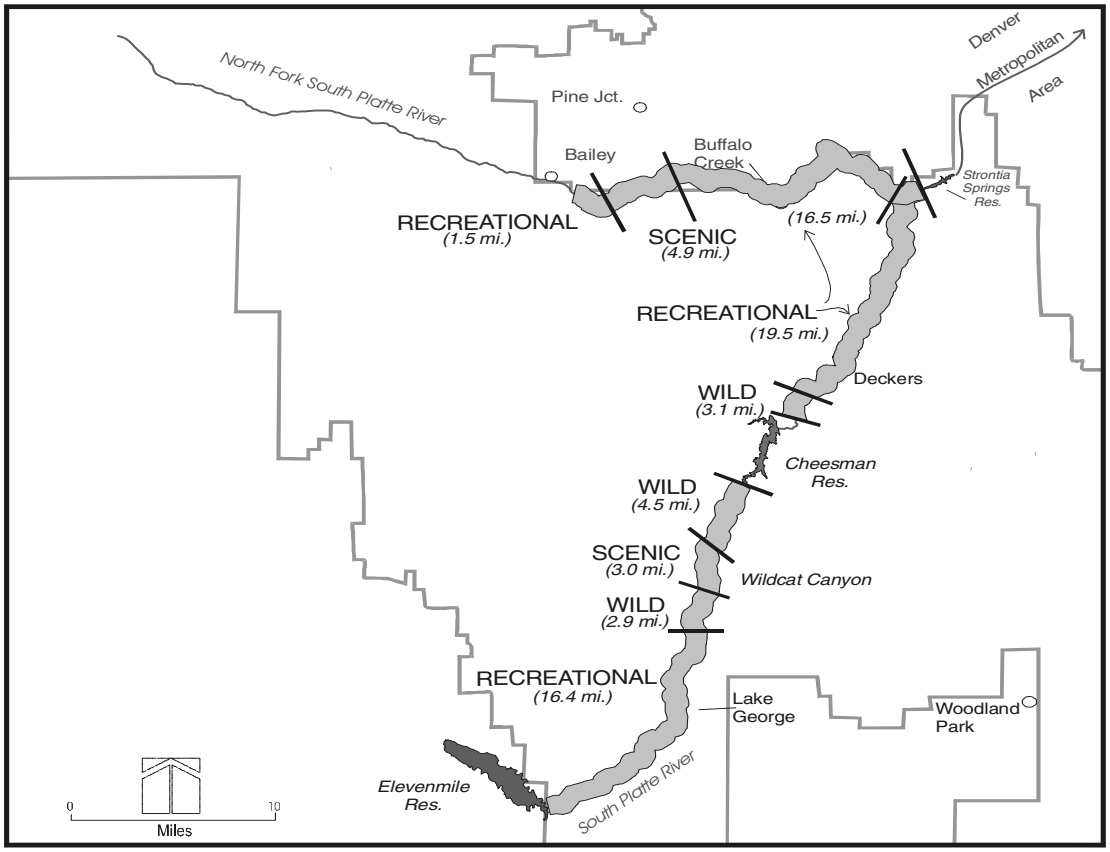
The corridor boundaries would average one-quarter mile from each riverbank; the exact boundary location would be determined as part of the management planning process after the river was designated.

## ALTERNATIVE C

Like Alternative B, Alternative C finds all eligible river segments suitable and recommends them for designation. All segments are recommended at their most protective classification, except that the classification of the 10.4-mile segment of the South Platte River from Cheesman Reservoir to Beaver Creek would be scenic for its entire length. The goal of this alternative is to add all eligible river segments to the Wild and Scenic Rivers System, provide protection and enhancement of the ORVs, maintain system integrity, and follow the current Forest Plan direction. This alternative was developed as a result of concerns expressed by some stakeholders who wished to ensure protection of the river's natural environment and ORVs while allowing a wider range of natural resource management, including continued off-highway-vehicle use between Beaver Creek and

**Table 4-2.—Alternative B – Segments Recommended for Designation**

| Segment | Length (miles) | Classification | Description |
|---|---|---|---|
| A and B - South Platte | 16.4 | Recreational | From Elevenmile Dam (downstream from fence on Denver Water's special-use area) downstream to Beaver Creek (northernmost boundary of private land). |
| C1 - South Platte | 2.9 | Wild | From Beaver Creek downstream to 1/4 mile upstream of Hackett Gulch. |
| C2 - South Platte | 3.0 | Scenic | From 1/4 mile upstream of Hackett Gulch downstream to 1/4 mile downstream of Corral Creek. |
| C3 - South Platte | 4.5 | Wild | From 1/4 mile downstream of Corral Creek to high-water line of Cheesman Reservoir (upstream of the stream gage). |
| D - South Platte | 3.1 | Wild | From Cheesman Dam (downstream of the stream gage weir) downstream to Wigwam property (southern end). |
| E - South Platte | 19.5 | Recreational | From the Wigwam property downstream to the high water line of Strontia Springs Reservoir (6029-foot contour). |
| H1 - North Fork | 1.5 | Recreational | From Insmont downstream to Estabrook (downstream side of stone house). |
| H2 - North Fork | 4.9 | Scenic | From Estabrook downstream to Cliffdale (the section line between sections 29 and 30 east of Cliffdale). |
| H3 - North Fork | 16.5 | Recreational | From Cliffdale downstream to within 1/4 mile of the confluence with the South Platte River. |
| **Total** | **72.3** | | |




***Map 4-2.—South Platte River and North Fork of the South Platte River Wild and Scenic River Study—Alternative B.***

Maximizes protection and enhancement of ORVs.

Cheesman Reservoir. In this alternative, all of the eligible segments of the two study rivers, totaling 72.3 miles, would be recommended for addition to the National Wild and Scenic Rivers System. Classification would be in accordance with potential classifications as listed in table 4-3 and would total 3.1 miles *wild*, 15.3 miles *scenic*, and 53.9 miles *recreational* (map 4-3).

The corridor boundaries would average one-quarter mile from each riverbank; the exact boundary location would be determined as part of the management planning process after the river was designated.

## ALTERNATIVE D

Alternative D finds all eligible South Platte River segments *suitable* and recommends them for designation at their most protective classification, but finds the North Fork *not suitable* for designation. The goal of this alternative is to add all eligible South Platte River segments to the Wild and Scenic Rivers System, maximizing protection and enhancement of the ORVs and maintaining system integrity. This alternative was developed as a result of concerns to ensure the best protection of the South Platte River's natural environment and ORVs. The chief assumptions underlying this alternative are that:

1. The current operations of the Roberts Tunnel might be affected by designation either on the North Fork; and
2. The influence of transbasin diversions is greater on the North Fork than on the South Platte.

In this alternative, all eligible segments on the South Platte River, totaling 49.4 miles, would be recommended for addition to the National Wild and Scenic Rivers System. Classification would be in accordance with potential classifications as listed in table 4-4 and would total 10.5 miles *wild*, 3.0 miles *scenic*, and 35.9 miles *recreational* (map 4-4).

The corridor boundaries would average one-quarter mile from each riverbank; the exact boundary location would be determined as part of the management planning process after the river was designated.

## ALTERNATIVE F

Alternative F recommends the designation of one small segment on the North Fork and four small segments on the South Platte that are entirely on National Forest System land and have no encumbrances. The goal of this alternative is to protect the ORVs while minimizing the potential and/or perceived effects of designation on private property rights and on Denver Water's ability to exercise its 1931 right-of-way for a reservoir from the confluence of the North Fork and the South Platte to Deckers.

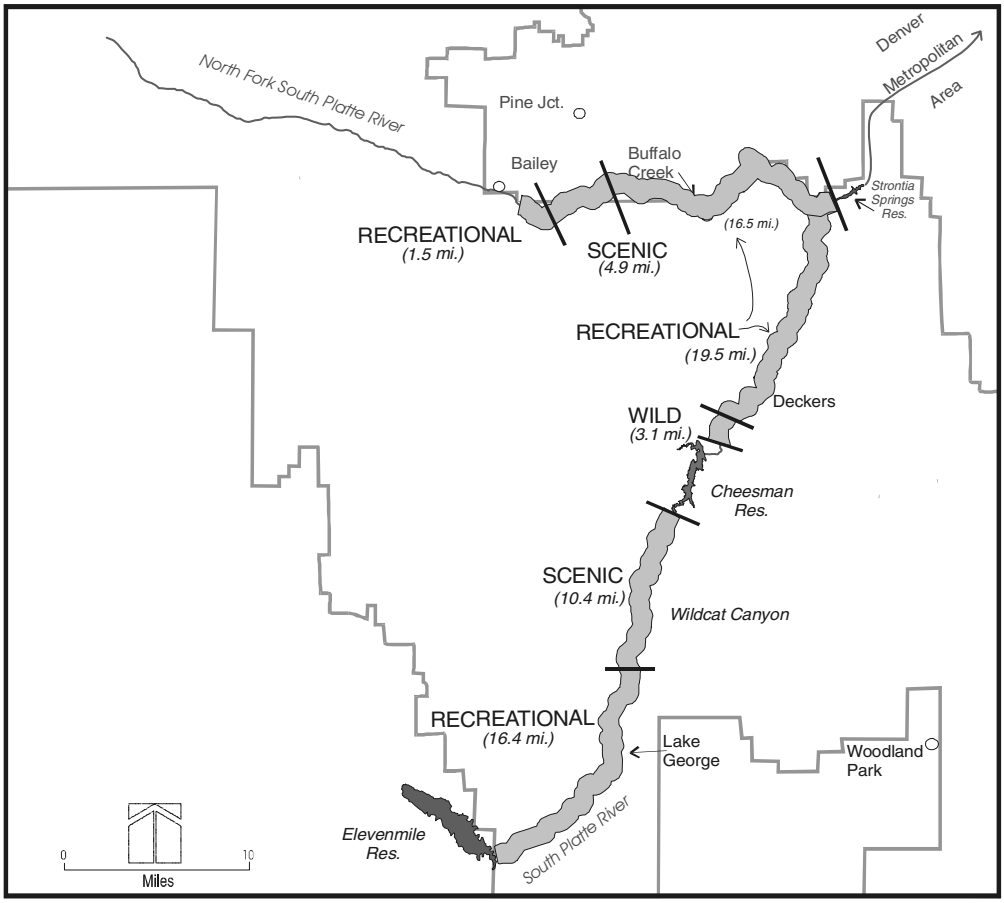
In this alternative, five segments of the two rivers, totaling 26.2 miles, would be recommended for addition to the National Wild and Scenic Rivers System. Only National Forest System lands within the following segments would be recommended for the classifications shown below:

- North Fork, Estabrook to Crossons — *Scenic*
- South Platte, Elevenmile Dam to Lake George — *Recreational*
- South Platte, Tappan Gulch to Vermillion Creek — *Recreational*
- South Platte, Beaver Creek and Cheesman Reservoir — *Wild*
- South Platte, Cheesman Dam to the Wigwam property — *Wild*

Classification would be in accordance with potential classifications as listed in table 4-5 and would total 10.5 miles *wild*, 5.6 miles *scenic*, and 10.1 miles *recreational* (map 4-5).

**Table 4-3.—Alternative C – Segments Recommended for Designation**

| Segment | Length (miles) | Classification | Description |
|---|---|---|---|
| A and B - South Platte | 16.4 | Recreational | From Elevenmile Dam (downstream from fence on Denver Water's special-use area) downstream to Beaver Creek (northernmost boundary of private land). |
| C - South Platte | 10.4 | Scenic | From Beaver Creek downstream to high-water line of Cheesman Reservoir (upstream of the stream gage). |
| D - South Platte | 3.1 | Wild | From Cheesman Dam (downstream of the stream gage weir) downstream to Wigwam property (southern end). |
| E - South Platte | 19.5 | Recreational | From the Wigwam property downstream to the high water line of Strontia Springs Reservoir (6029-foot contour). |
| H1 - North Fork | 1.5 | Recreational | From Insmont downstream to Estabrook (downstream side of stone house). |
| H2 - North Fork | 4.9 | Scenic | From Estabrook downstream to Cliffdale (the section line between sections 29 and 30 east of Cliffdale). |
| H3 - North Fork | 16.5 | Recreational | From Cliffdale downstream to within 1/4 mile of the confluence with the South Platte River. |
| **Total** | **72.3** | | |

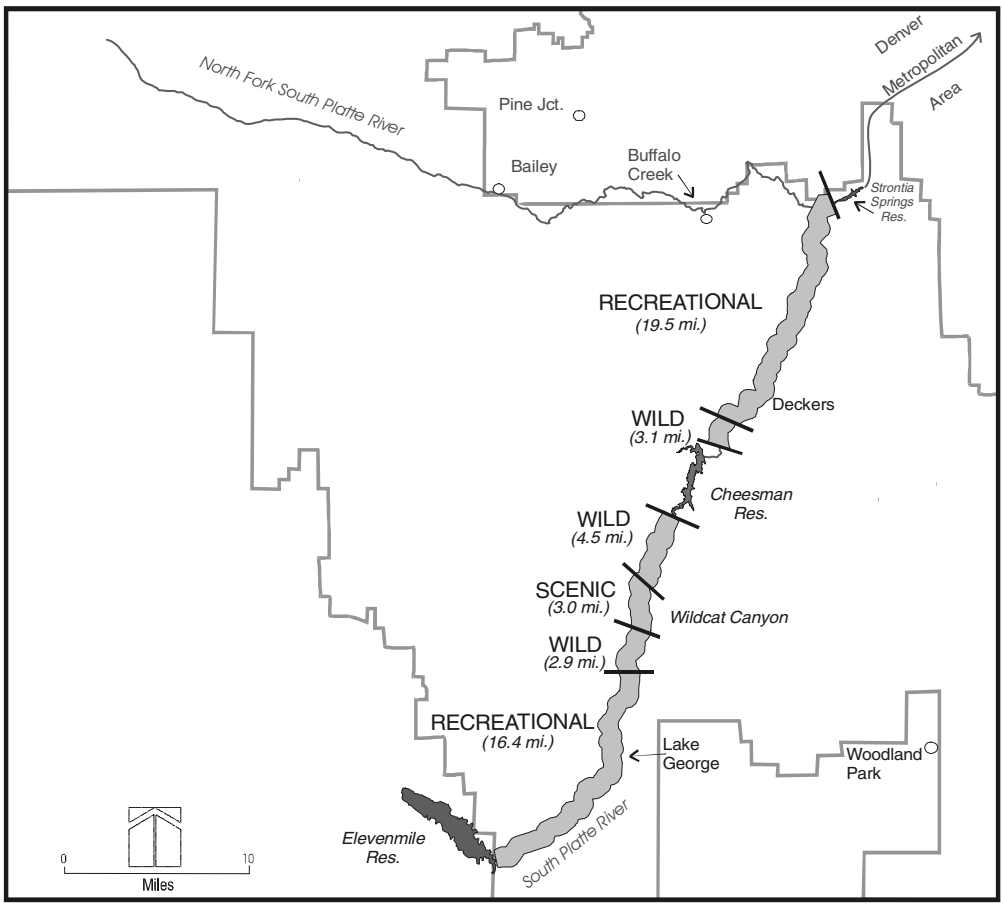



***Map 4-3.—South Platte River and North Fork of the South Platte River Wild and Scenic River Study—Alternative C.***

Protects and enhances ORVs while allowing for off-highway vehicle use in Wildcat Canyon south of Cheesman Reservoir.

**Table 4-4.—Alternative D – Segments Recommended for Designation**

| Segment | Length (miles) | Classification | Description |
|---|---|---|---|
| A and B - South Platte | 16.4 | Recreational | From Elevenmile Dam (downstream from fence on Denver Water's special-use area) downstream to Beaver Creek (northernmost boundary of private land). |
| C1 - South Platte | 2.9 | Wild | From Beaver Creek downstream to 1/4 mile upstream of Hackett Gulch. |
| C2 - South Platte | 3.0 | Scenic | From 1/4 mile upstream of Hackett Gulch downstream to 1/4 mile downstream of Corral Creek. |
| C3 - South Platte | 4.5 | Wild | From 1/4 mile downstream of Corral Creek to high-water line of Cheesman Reservoir (upstream of the stream gage). |
| D - South Platte | 3.1 | Wild | From Cheesman Dam (downstream of the stream gage weir) downstream to Wigwam property (southern end). |
| E - South Platte | 19.5 | Recreational | From the Wigwam property downstream to high-water line of Strontia Springs Reservoir (6029-foot contour). |
| **Total** | **49.4** | | |

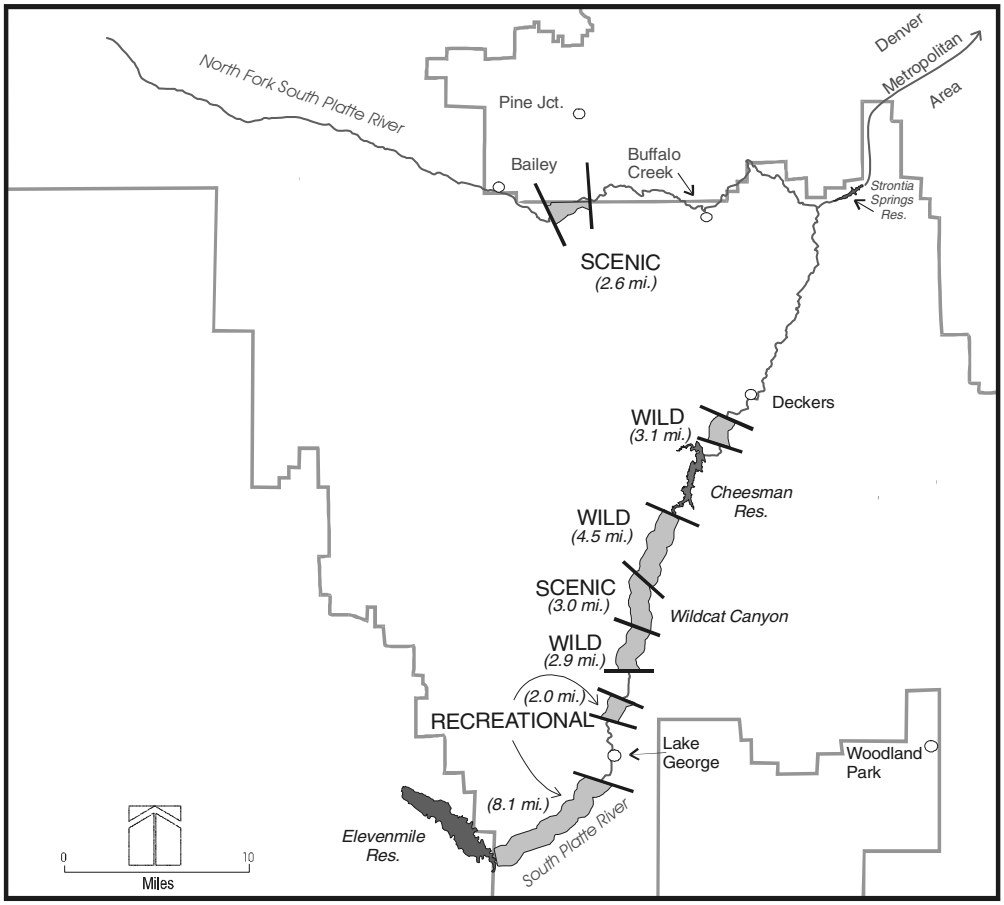



***Map 4-4.—South Platte River and North Fork of the South Platte River Wild and Scenic River Study—Alternative D.***

Provides for (protection and enhancement of ORVs and (2) water delivery, by recommending the South Platte for designation while not recommending the North Fork.

**Table 4-5.—Alternative F – Segments Recommended for Designation**

| Segment | Length (miles) | Classification | Description |
|---|---|---|---|
| A - South Platte | 8.1 | Recreational | From Elevenmile Dam (downstream from fence on Denver Water's special-use area) downstream to Lake George (southern boundary of private property upstream from Lake George, not including Boy Scout Camp Alexander). |
| B - South Platte | 2.0 | Recreational | National Forest System land between Tappan Gulch and Vermillion Creek. |
| C1 - South Platte | 2.9 | Wild | From Beaver Creek downstream to 1/4 mile upstream of Hackett Gulch. |
| C2 - South Platte | 3.0 | Scenic | From 1/4 mile upstream of Hackett Gulch downstream to 1/4 mile downstream of Corral Creek. |
| C3 - South Platte | 4.5 | Wild | From 1/4 mile downstream of Corral Creek to high-water line of Cheesman Reservoir (upstream of the stream gage). |
| D - South Platte | 3.1 | Wild | From Cheesman Dam (downstream of the stream gage weir) downstream to Wigwam property (southern end). |
| H - North Fork | 2.6 | Scenic | From National Forest System lands downstream from Estabrook, downstream to Pike National Forest Boundary. |
| **Total** | **26.1** | | |




***Map 4-5.—South Platte River and North Fork of the South Platte River Wild and Scenic River Study—Alternative F.***

Maximizes protection and enhancement of ORVs on Federal lands only.

The corridor boundaries would average one-quarter mile from each riverbank; the exact boundary location would be determined as part of the management planning process after the river was designated.

## ALTERNATIVE G

Alternative G finds all eligible segments of the South Platte upstream from the gaging station above Cheesman Reservoir (26.8 miles) *suitable* and recommends them for designation at their most protective classification. This alternative finds the North Fork and Segments D and E of the South Platte River *not suitable* for designation. The goal of this alternative is to provide protection for some of the ORVs while lessening the potential and/or perceived effects of designation on private property rights and on Denver Water's ability to exercise its 1931 right-of-way for a reservoir from the confluence of the North Fork and the South Platte to Deckers. It also allows for continued off-highway vehicle use between Beaver Creek and Cheesman Reservoir.

The chief assumptions underlying this alternative are that:

1. The current operations of the Roberts Tunnel might be affected by designation either on the North Fork or on the mainstem between the confluence and Strontia Springs Reservoir;
2. The influence of transbasin diversions is greater on the North Fork than on the South Platte; and
3. Potential storage sites downstream from Cheesman Reservoir would be foreclosed by designation.

Classification would be in accordance with potential classifications as listed in table 4-6 and would total 7.4 miles *wild*, 3.0 miles *scenic*, and 16.4 miles *recreational* (map 4-6).

## ALTERNATIVE I

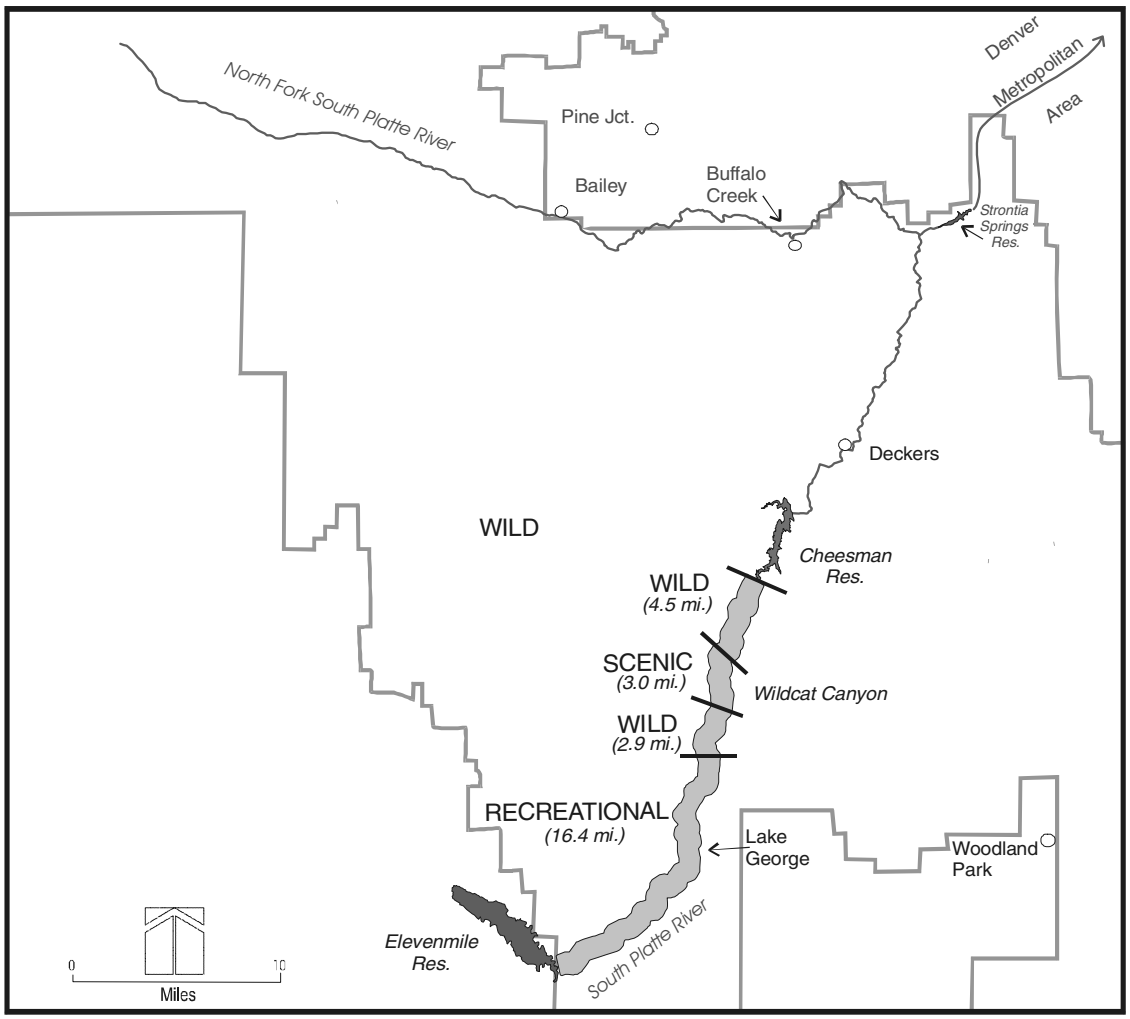
Alternative I recommends a *scenic* designation for the 6.0-mile stretch of the South Platte River from Corral Creek to Beaver Creek and a *recreational* designation for the 16.4-mile stretch of the South Platte from Beaver Creek to Elevenmile Dam. This alternative finds the North Fork and Segments C3, D, and E of the South Platte River *not suitable* for designation. The goal of this alternative is similar to that of Alternative G: to protect and enhance ORVs upstream from Corral Creek while lessening the potential and/or perceived effects of designation on private property rights and on Denver Water's ability to exercise its 1931 right-of-way for a reservoir from the confluence of the North Fork and South Platte to Deckers. This alternative also provides for the protection and enhancement of ORVs upstream from Corral Creek while allowing for the possibility of additional water storage (especially from a potential Cheesman expansion) and facilitates continued water delivery, current water operations, and channel maintenance. It also would allow the continued use of off-highway vehicles between Beaver Creek and Corral Creek.

The goal of this alternative is to designate only those South Platte River segments for which Wild and Scenic River designation would have the least potential adverse effect on water delivery and potential storage. The chief assumptions of this alternative are that:

1. The current operations of the Roberts Tunnel might be affected by designation either on the North Fork or on the mainstem between the confluence and Strontia Springs Reservoir;
2. The influence of transbasin diversions is greater on the North Fork than on the South Platte; and
3. Potential storage sites downstream from Corral Creek would be foreclosed by designation.

**Table 4-6.—Alternative G – Segments Recommended for Designation**

| Segment | Length (miles) | Classification | Description |
|---|---|---|---|
| A and B - South Platte | 16.4 | Recreational | From Elevenmile Dam (downstream from fence on Denver Water's special-use area) downstream to Beaver Creek (northernmost boundary of private land). |
| C1 - South Platte | 2.9 | Wild | From Beaver Creek downstream to 1/4 mile upstream of Hackett Gulch. |
| C2 - South Platte | 3.0 | Scenic | From 1/4 mile upstream of Hackett Gulch downstream to 1/4 mile downstream of Corral Creek. |
| C3 - South Platte | 4.5 | Wild | From 1/4 mile downstream of Corral Creek to high-water line of Cheesman Reservoir (upstream of the stream gage). |
| **Total** | **26.8** | | |




***Map 4-6.—South Platte River and North Fork of the South Platte River Wild and Scenic River Study—Alternative G.***

Maximizes protection and enhancement of ORVs on areas of the South Platte River upstream from Denver Water's reservoir right-of-way.

Classification would be in accordance with potential classifications as listed in table 4-7 and would total 6.0 miles *scenic* and 16.4 miles *recreational* (map 4-7).

The corridor boundaries would average one-quarter mile from each riverbank; the exact boundary location would be determined as part of the management planning process after the river was designated.

## ALTERNATIVE J

Alternative J finds the North Fork and 1.3 miles of the mainstem of the South Platte River from the confluence to Strontia Springs Reservoir *not suitable* for designation but finds portions of the South Platte River from the confluence of the North Fork to Elevenmile Dam *suitable* and recommends them for designation into the National Wild and Scenic Rivers System. Recommended classifications are:

- From North Fork confluence to the Wigwam Club property — *Recreational*
- From Wigwam Club property to Cheesman Dam — *Wild*
- From Cheesman Reservoir to one-quarter mile downstream of Corral Creek — *Wild*
- From one-quarter mile downstream of Corral Creek to one-quarter mile upstream of Hackett Gulch — *Scenic*
- From one-quarter mile upstream of Hackett Gulch to Beaver Creek confluence — *Wild*
- From Beaver Creek confluence to Elevenmile Dam — *Recreational*

The goal of this alternative is to provide protection and enhancement of the ORVs and maintain the integrity of the water-delivery system. This alternative was developed to balance the concerns for maintaining water delivery and storage capability with the protecttion of the area's natural environment and ORVs while still meeting present uses. The chief assumptions underlying this alternative are that:

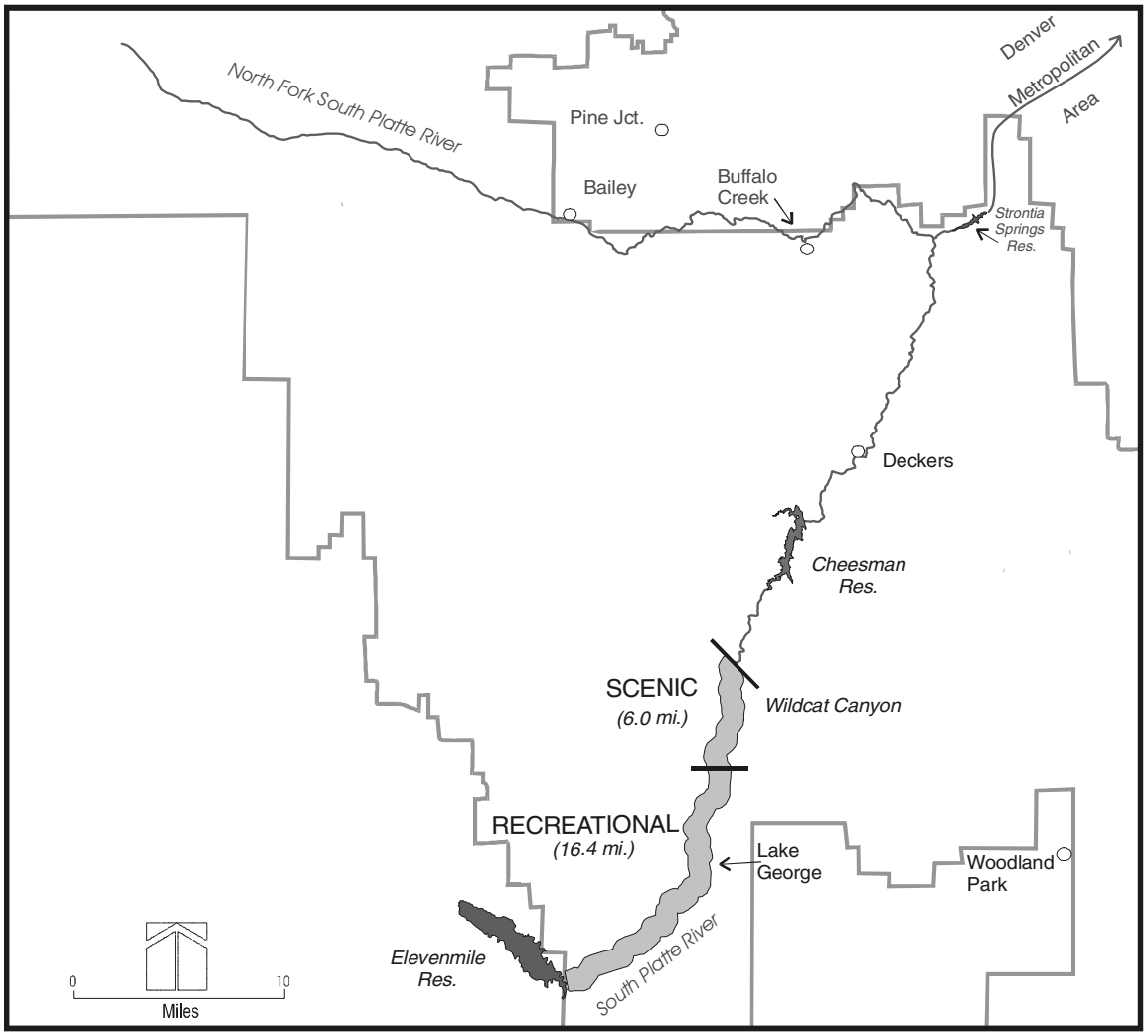
1. The current operations of the Roberts Tunnel might be affected by designation either on the North Fork or on the mainstem between the confluence and Strontia Springs Reservoir;
2. The influence of transbasin diversions is greater on the North Fork than on the South Platte; and
3. The ORVs identified in Segment E are not as prevalent in the section between the confluence with the North Fork and Strontia Springs Reservoir.

In this alternative, all eligible segments on the South Platte River, except from the confluence to Strontia Springs Reservoir, would be recommended for addition to the National Wild and Scenic Rivers System. Classification would be in accordance with potential classifications as listed in table 4-8 and would total 10.5 miles *wild*, 3.0 miles *scenic*, and 34.6 miles *recreational* (map 4-8).

The corridor boundaries would average one-quarter mile from each riverbank; the exact boundary location would be determined as part of the management planning process after the river was designated.

**Table 4-7.—Alternative I – Segments Recommended for Designation**

| Segment | Length (miles) | Classification | Description |
|---|---|---|---|
| A and B - South Platte | 16.4 | Recreational | From Elevenmile Dam (downstream from fence on Denver Water's special-use area) downstream to Beaver Creek (northernmost boundary of private land). |
| C - South Platte | 6.0 | Scenic | From Beaver Creek downstream to Corral Creek. |
| **Total** | **22.4** | | |

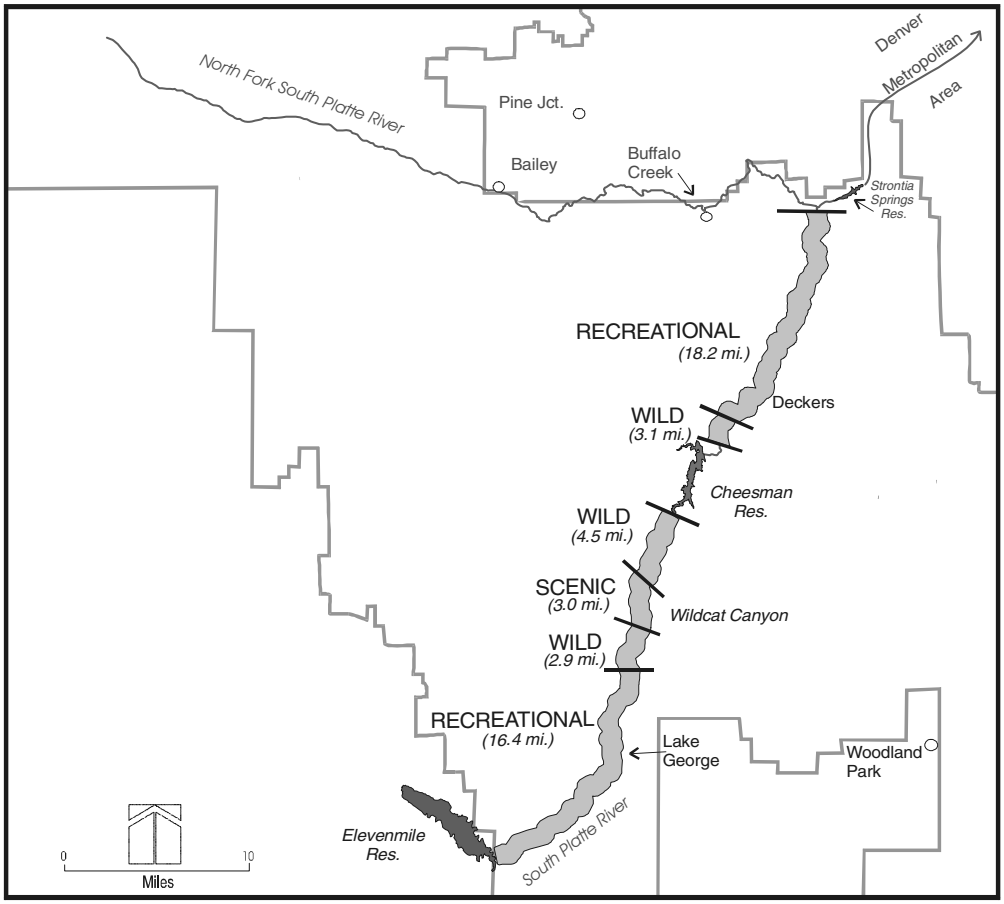



***Map 4-7.—South Platte River and North Fork of the South Platte River Wild and Scenic River Study—Alternative I.***

Protects and enhances ORVs on areas of the South Platte River upstream from potential expansion of Cheesman Reservoir, while allowing for off-highway vehicle use in Wildcat Canyon south of Cheesman Reservoir.

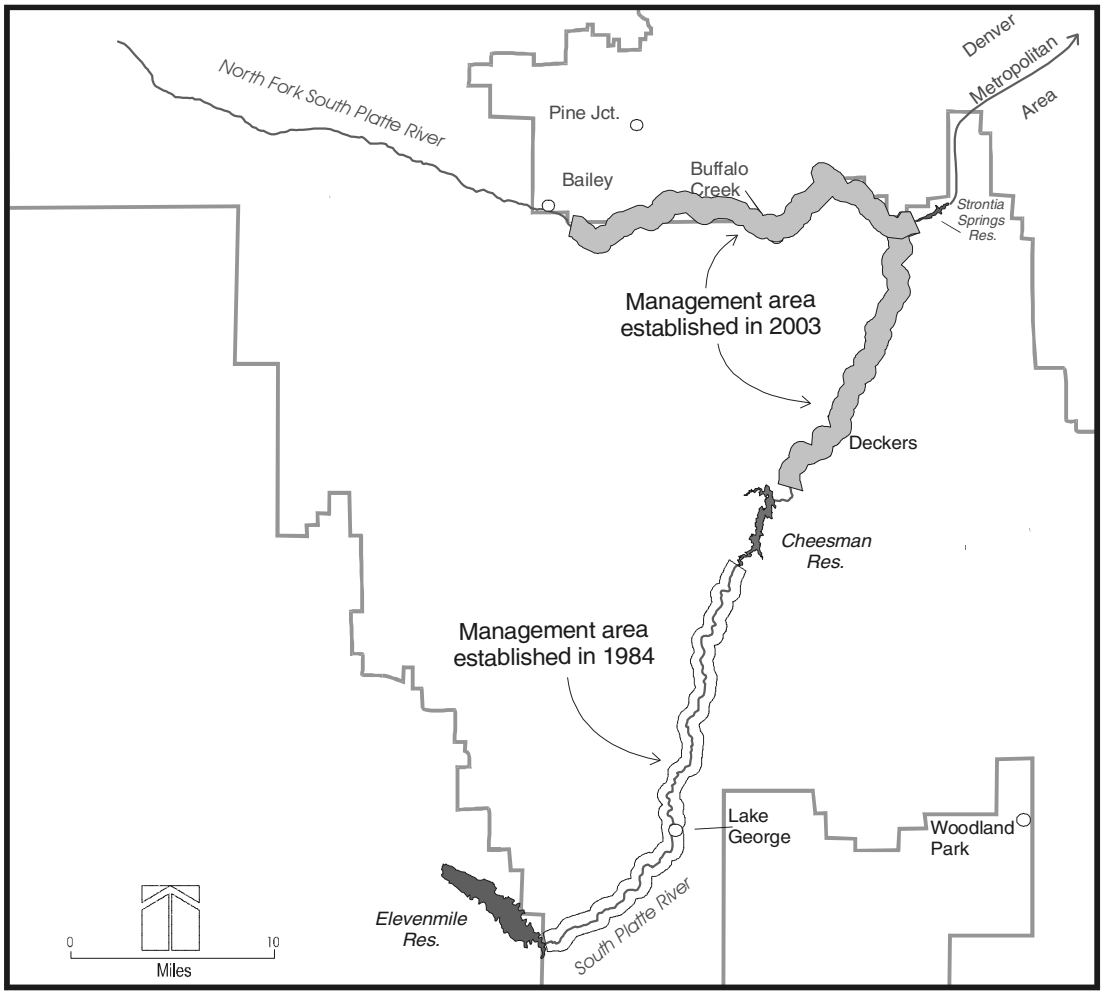
**Table 4-8.—Alternative J – Segments Recommended for Designation**

| Segment | Length (miles) | Classification | Description |
|---|---|---|---|
| A and B - South Platte | 16.4 | Recreational | From Elevenmile Dam (downstream from fence on Denver Water's special-use area) downstream to Beaver Creek (northernmost boundary of private land). |
| C1 - South Platte | 2.9 | Wild | From Beaver Creek downstream to 1/4 mile upstream of Hackett Gulch. |
| C2 - South Platte | 3.0 | Scenic | From 1/4 mile upstream of Hackett Gulch downstream to 1/4 mile downstream of Corral Creek. |
| C3 - South Platte | 4.5 | Wild | From 1/4 mile downstream of Corral Creek to high-water line of Cheesman Reservoir (upstream of the stream gage). |
| D - South Platte | 3.1 | Wild | From Cheesman Dam (downstream of the stream gage weir) downstream to Wigwam property (southern end). |
| E - South Platte | 18.2 | Recreational | From the Wigwam property downstream to confluence with the North Fork (excludes section from confluence to high-water line of Strontia Springs Reservoir). |
| **Total** | **48.1** | | |




***Map 4-8.—South Platte River and North Fork of the South Platte River Wild and Scenic River Study—Alternative J.***

Provides for (1) protection and enhancement of ORVs and (2) water delivery by recommending the South Platte for designation while not recommending designation on the North Fork. Also, allows for current off-highway vehicle use in Wildcat Canyon south of Cheesman Reservoir.




***Map 4-9.—South Platte River and North Fork of the South Platte River Wild and Scenic River Study—Preferred Alternative, Forest Plan Amendment.***

Amends the Forest Plan to establish a new management area designated to protect river values in eligible segments identified by this study. The amendment's direction applies to both the new management area and the one established in 1984.

## PREFERRED ALTERNATIVE

The Forest Service intends to protect the outstandingly remarkable values, free-flow and water quality of eligible segments of the South Platte River through the cooperative process described in Alternative A2 with Forest Service legal authorities added as described in Alternative A3. The river corridor's ORVs, free-flow, and water quality are to be managed under a Federal/State/local government partnership as outlined in the South Platte Protection Plan (Appendix A). See map 4-9.

The agency is not completing the Wild and Scenic River suitability study at this time to allow for a period of review of the adequacy of the SPPP. The Forest Service will, however, amend the Forest Plan (see below) to maintain the findings of eligibility and classification to the maximum extent possible under its existing authorities. Guidance for protection of an eligible river is found in *Forest Manual 1924.03* and *Forest Service Handbook 1909.12-92-1*, section 8.12 (see Appendix G of this document). River corridor management will be monitored and periodically reviewed to ensure continued protection of free-flow, ORVs, and water quality. The monitoring program will rely on current indicators and the standards and guidelines from the *Forest Plan*.

Both Alternatives A2 and A3 envision the development of agreements among participating interests as part of implementing the SPPP. However, under the Preferred Alternative such agreements are not considered mandatory, for these reasons: (1) As a matter of enforcement, the Forest Service is accountable to adhere to agency policy regarding protection of eligibility whether it enters into other agreements or not. (2) Such agreements are voluntary undertakings and signatories are able to withdraw if needed. (3) While the Forest Service needs early confirmation from entities contributing to the Endowment Fund that they intend to contribute to the Fund and support the SPPP, confirmation can be made in more ways than by entering into an agreement, such as passing corporate resolutions to that effect.

The Preferred Alternative also considers criteria for determining whether the SPPP is actually being implemented and working properly. At a minimum these criteria are:

1. Within 6 months of the Forest Service decision, potential contributors certify to the Forest Service that they intend to contribute to the Fund and support the SPPP.

2. The various periodic coordination meetings identified in the SPPP are being held. An example is the meetings under the Streamflow Management Plan.

3. Within 3½ years of the Forest Service decision, the Endowment Fund is fully funded, as outlined in the SPPP. (This is the period prescribed by the SPPP for reaching full financing.)

If these criteria are met, the Forest Service could conclude that the SPPP has been implemented. If not, it may have to conclude that the SPPP has too little local support to be a viable alternative, in which case, the agency will consider reopening the river study process and making a determination regarding suitability. Further, if monitoring over time indicates that the ORV's, free-flow or water quality are being threatened, the Forest Service may similarly find it necessary to reopen the river study and suitability determination process.

## BASIS FOR THE PREFERRED ALTERNATIVE

In the SDLEIS, the Forest Service analyzed the SPPP as a part of a Wild and Scenic River suitability determination. However, comments on the SDLEIS indicated it is not timely to conclude the Wild and Scenic River study, pending implementation and evaluation of the SPPP. Given that the South Platte Wild and Scenic River study was initiated by the Forest Service, there is no required timeframe for

completing the study. A decision on suitability is not being made at this time so that the SPPP can be given a chance to demonstrate whether it is a reasonable substitute to designation under the Wild and Scenic Rivers Act.

At this time, no activities are being proposed that might threaten ORVs, free-flow, or water quality (recognizing that unknowns exist as a result of the Hayman Fire). However, such a proposal remains a possibility; ir or when one is submitted, it will provide a meaningful test of the SPPP's effectiveness. Following review of the proposal under the SPPP's auspices, a conclusion will emerge whether the proposal is consistent with the SPPP's goals. The Forest Service will then also need to review the proposal to determine whether it is consistent with the agency's policy (see above) of maintaining eligibility. If not, a decision regarding suitability may become necessary. In essence, that decision would establish the agency's position whether the merits of the proposal outweigh the values threatened by it or visa versa. If by that time this EIS has become stale, a new NEPA document may need to be developed and released. Until that time comes, a decision on suitability does not need to be made.

This approach was selected over the other alternatives because:

- It has the best prospect of success for protecting river values by striking a reasonable balance between strong proponents for finding all segments suitable and worthy of designation, and strong opponents of any designation at all. In this manner it maintains a broad base of support for cooperative management of the river corridor.
- To the extent of Forest Service authorities and cooperator participation, it ensures protection of the ORVs, free-flow, and water quality for which these segments were found eligible.
- The Forest Service can protect ORVs, free-flow and water quality under the auspices of the National Forest Management Act.
- It has very few conflicts with existing uses.
- Except as affected by the Hayman Fire, it ensures the protection of the South Platte's current fisheries population and habitat, and the current mix of dispersed and developed recreation use in the river corridor.
- By maintaining the finding of eligibility without making a finding on suitability at this time, all river interests are ensured involvement in the cooperative management and protection of the river corridor. Implementation of the Streamflow Protection Plan will further enhance fisheries habitat and the whitewater recreational experience. The additional costs of developing a comprehensive river management plan under designation would be avoided.

## DRAFT FOREST PLAN AMENDMENT

### MANAGEMENT REQUIREMENT: WILD AND SCENIC RIVER MANAGEMENT

The following replaces the direction in the current Forest Plan found on pages III-16 and III-17.

The following river segments have been determined eligible for a suitability evaluation for designation as a Wild and Scenic River:

- South Platte River from below Elevenmile Dam to the high water line of Cheesman Reservoir, and below Cheesman Dam to the high-water line of Strontia Springs Reservoir (49.4 total miles), and

— North Fork of the South Platte River from Insmont (upstream end of Berger property) to the confluence with the mainstem of the South Platte River (22.9 miles).

The boundaries extend one-fourth mile on each side of the river segments. Pending the suitability study and recommendation, the study area will be protected to preserve its characteristics, which make it eligible.

1. Protect river segments that have been determined eligible for potential addition to the National Wild and Scenic Rivers System from activities which could diminish or change the free-flowing character, water quality, or the scenic, recreational, fish and wildlife, and other values which make the river eligible for designation.

    a. Request that Federal lands which constitute the bed or bank, or which are within one-quarter mile of either bank, be temporarily withdrawn from appropriation and entry under the mining laws. Withdrawal should continue until the river segment is a) found to be ineligible; b) not recommended for inclusion in the National System; or c) added to the system by Act of Congress.

    b. Safeguard the values of the river area by appropriate conditions and stipulations in leases, permits, and licenses, including prospecting, issued under terms of the mineral leasing laws.

    c. Extraction of salable, common-variety minerals from the river or the study area shall not be authorized until the study is complete and recommended actions are enacted.

    d. Prohibit construction of roads within the river study area if it would have direct and adverse effects on the values which make the river eligible for potential inclusion into the National System.

    e. Maintain current motorized access character and avoid any changes to the potential Wild and Scenic River classification.

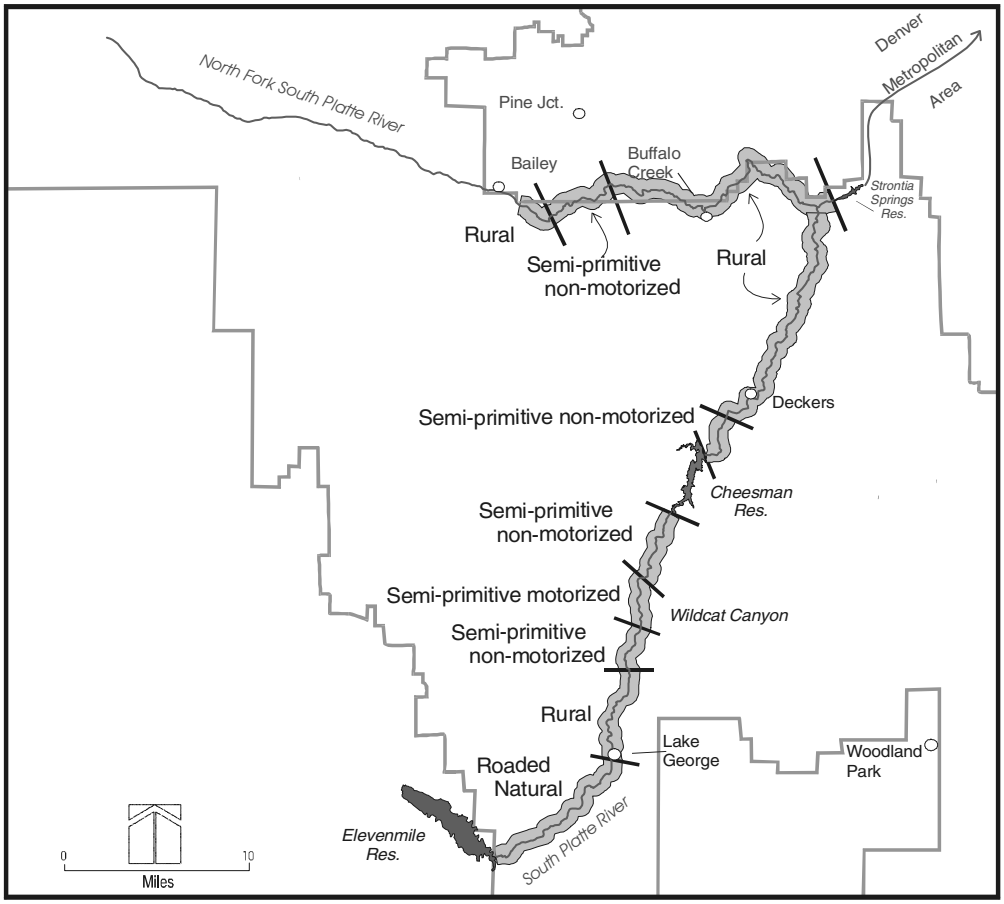
    f. Maintain free-flowing characteristics and water quality during the study and congressional review period.

    g. Manage tree stands within the study area to maintain or enhance potential Wild and Scenic River values. Protect scenic values by sizing and shaping timber harvest units to achieve a natural appearance and to harmonize with the surrounding landscape.

    h. Prohibit special uses or permitted land uses which degrade or have directly adverse effects on values which make the river segment eligible.

    i. None of this direction shall abrogate any existing privileges or contracts affecting National Forest System lands held by any private party without consent of said party. Activities affecting the applicability of the United States mining and mineral leasing laws are subject to valid existing rights.

2. Activities and facilities will be consistent with the adopted Recreation Opportunity Spectrum (ROS) and with potential river classification in eligible segments. See map 4-10.




***Map 4-10.—South Platte River and North Fork of the South Platte River Wild and Scenic River Study—ROS Objectives.***

Shows ROS Objectives for various segments of the study area.

3. In high-use Semi-primitive Motorized and Semi-primitive Non-motorized areas, consider designating backcountry camping sites and restricting use to those sites.

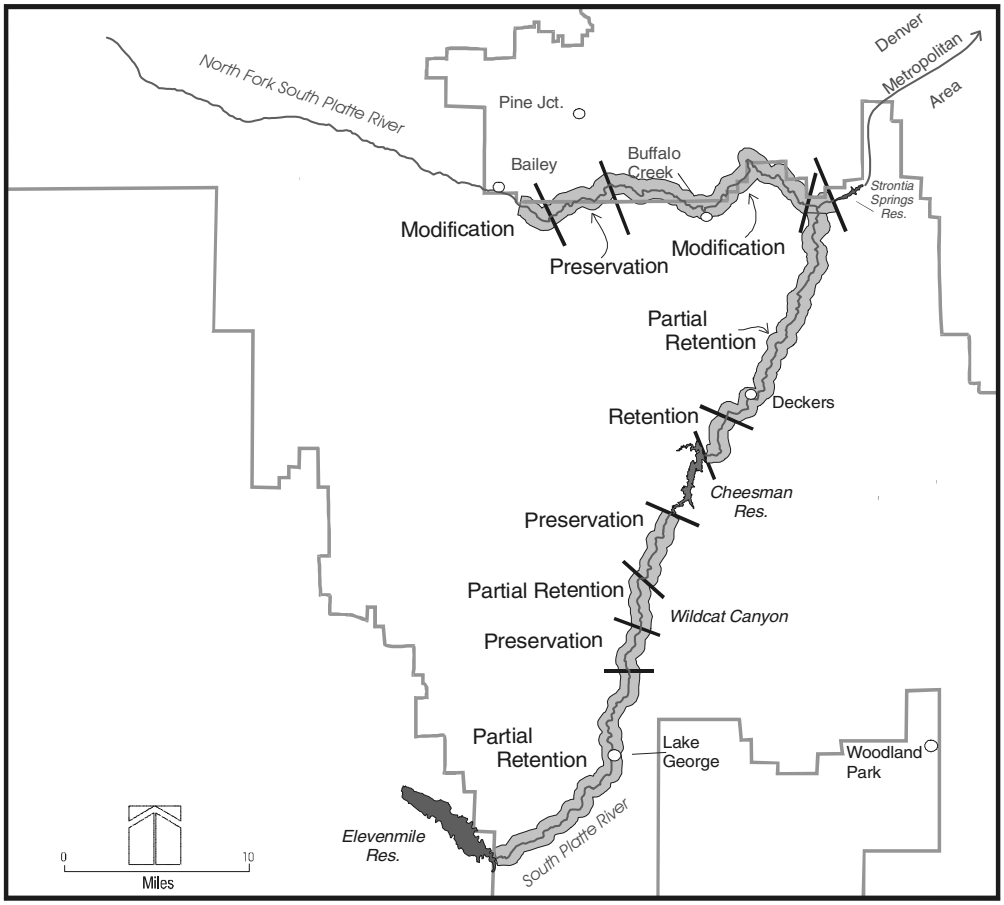
4. Activities and facilities will meet designated Visual Quality Objectives (VQOs). See map 4-11.

5. Integrate trail systems with other government entities, partners and private landowners adjacent to the forest.

6. Preserve and protect significant historic, archaeological, and paleontological resources for their association with events or persons, their distinctive architectural and engineering characteristics, or their intrinsic scientific data.

7. Fire lines should not be constructed with heavy equipment unless necessary to save lives or property or to prevent resource damage.

8. If the free-flowing character, water quality, or the scenic, recreational, fisheries, wildlife, and geological outstandingly remarkable values (ORVs) that make the river eligible for designation are found to decline or when significant action may impact




***Map 4-11.—South Platte River and North Fork of the South Platte River Wild and Scenic River Study—VQOs.***

Shows VQOs for various segments of the study area.

eligibility or potential classification in any of the eligible segments, the Forest Service with participating parties should cooperate to address the threat to the values.

## PROCESS AND PUBLIC REVIEW OF THE FEIS

After the public comment period for the SDLEIS, further analysis was incorporated into the document.

The finding by the Forest Supervisor for the Pike, San Isabel National Forests to protect the ORVs through a cooperative process will require a change in management planning for the river, so proposed language for an amendment to the Forest Plan is being included with this FEIS. The current language in the Forest Plan includes the finding of eligibility for the river segments above Cheesman Reservoir. The amendment will incorporate the finding of eligibility for the sections of the river:

— 22.7 miles of the South Platte from below Cheesman Dam to the high line of Strontia Springs Reservoir; and

— 29 miles of the North Fork from Insmont to the confluence with the South Platte.

The amendment will also incorporate a change in classification for a section of river above Cheesman Reservoir.

After the 30-day comment period, this FEIS and Plan Amendment may be revised, and a Record of Decision will be released. The Plan Amendment will revise the Forest Plan to complement the SPPP on National Forest System lands. The Forest Plan will be the vehicle to implement the preferred alternative, including development of final boundaries for the river corridors and a monitoring plan to ensure that the ORVs are protected.

### COMPARISON OF ALTERNATIVES

Appendix B offers a point-by-point comparison of the provisions of all the alternatives. This comparative format allows the reader to more easily identify the differences between the alternatives, including the key issues.

## 4.4 ALTERNATIVES NOT CONSIDERED IN DETAIL AND ELIMINATED FROM FURTHER STUDY

This section describes the alternatives that were identified during the study process but eliminated from further study.

### DESIGNATION WITH LEGISLATIVE LANGUAGE TO ALLOW FOR FLEXIBILITY FOR LIMITED WATER DEVELOPMENT

This alternative was identified in the SDLEIS as the Preferred Alternative. It involved a designation scenario that embraced the flexibility of Alternative A3-*Not Suitable* where needed for water supply purposes. The key feature here was some yet-to-be-developed legislative language, which would establish limitations on development to protect river values while addressing future development needs in the river corridor. This language, developed through public dialog, would have been included in a recommendation for designation under the WSRA. The intent of this alternative was to accomplish the following:

- Capture agreements that developed during the A2 process.
- Reduce uncertainty by resolving the suitability matter through legislation. Uncertainty would be reduced in these ways:
  - For Denver metropolitan area water providers, by defining where strict protection of ORVs would be applied and where greater flexibility would be available for limited development to meet water supply needs.
  - For environmental concerns, by providing for long-term protection of river values that can be enforced by all Federal agencies.
- Enable the Forest Service to implement the alternative much more efficiently than is possible under the A2, A3-*Suitable*, or A3-*Not Suitable* alternatives, because the authorities are clear and direct under the WSRA for cooperation with State and local government agencies.

This alternative received little or no support from the public and was found not to meet the intent of the WSRA.

### DESIGNATION WITH STATE ADMINISTRATION

Since the State of Colorado does not have any State Scenic Waterway or State Protected River System legislation and the Forest Service manages the majority of the lands in the study corridors, this alternative was eliminated from further study. Private lands make up about one-third of the study corridor, and some segments of the study corridor contain little or no private land. Even less acreage is under county management. The State and the counties were

not interested, at this time, in serving as the lead agency for managing or administering the study corridor under the WSRA.

### NATIONAL RECREATION AREA DESIGNATION

Designation of the study corridor and portions of adjacent lands as a National Recreation Area, instead of Wild and Scenic River designation, was considered but eliminated from further study. This concept received little or no support during public scoping. In addition, a National Recreation Area designation would impose even greater restrictions on private land usage than would a Wild and Scenic River designation.

### SPECIAL LEGISLATION TO PREVENT FEDERALLY APPROVED OR ASSISTED DAMS

The concept of special legislation addressing only the issue of dam construction was considered but not carried forward in the analysis process because its impacts would be similar to those of the alternatives recommending designation. With little or no public support during the scoping process, special legislation was determined to be an uncertain process, at this time, to recommend and carry through to implementation.

### SPECIAL MANAGEMENT AREA DESIGNATION ADMINISTERED BY THE FOREST SERVICE OR THE STATE OF COLORADO

Various alternatives seeking congressional approval for special area designation (National River, National Heritage River, etc.) or seeking State designation and administration of a special area (such as on the Arkansas River), in lieu of Wild and Scenic River designation, were considered but eliminated from detailed study because

1. All other action alternatives provided better resource protection,
2. No specific alternative was put forth by any government agency during scoping,
3. the general proposals that were presented received little public support,
4. State administration could result in extra costs and potential conflicts in an area that currently is managed mostly by the U.S. Forest Service, and
5. Some form of special area designation could be considered in more detail under Alternative A2.

### DEVELOPMENT OF AN ADVISORY OR RIVER MANAGEMENT BOARD

An alternative based solely on the development of a formal advisory board to better manage and protect the river and the associated corridor by improving coordination of those involved in the use of the area was considered but eliminated from detailed study. Under this alternative, the study corridor would not be added to the National Wild and Scenic Rivers System but, instead, a formal advisory board or River Management Board would be established to better protect the area in addition to the existing mechanisms and management plans currently in place. The board would develop a management plan and provide an ongoing forum for coordination and oversight of river management activities.

Development of a river management board as the primary emphasis of an alternative was eliminated from further detailed study because:

1. The Board, by itself, would have little, if any, authority to implement its recommendations and, thus, could not ensure protection of the ORVs.
2. Additional advisory board or management direction, without other

agreements, would not prevent inundation by reservoirs.

3. A River Management Board, along with other protective measures, could be incorporated into Alternative A2 or other alternatives.

## OTHER COMBINATIONS OF RIVER CLASSIFICATIONS

All river segments were considered at their most protective classifications in Alternative B and at less protective classifications in other alternatives, based on public scoping. Several other combinations of potential river classifications were also considered for designation but were eliminated from detailed study because:

1. Most of the potential classifications were already covered by Alternatives B, C, D, F, G, I, and J.

2. No comments or key issues identified the need to reduce the protection of other potential classifications.

### Alternative E

This alternative recommended the addition of two segments of the South Platte River to the National Wild and Scenic Rivers System:

1. A segment from downstream Cheesman Dam to the Wigwam property, classified as *wild*, and

2. A segment between the Wigwam property and Scraggy View classified *recreational*. Its purpose was to recommend designation of the portions of the study rivers that contain the most outstanding trout populations.

This alternative was included in the preliminary alternatives that were mailed to the public in February 1996. It was eliminated from detailed study because it received few if any favorable responses during the public comment period. Most people favored either designation or non-designation of the entire South Platte study corridor. Alternatives B, C, D, and J already include all of the area described in Alternative E, and there were no public concerns about the area between Strontia Springs Reservoir and Cheesman Dam that were not already addressed in other alternatives.

### Alternative H

This "cooperative management" alternative was listed early in the analysis process. It arose in direct response to an instruction in the WSRA to consider measures to protect the area's ORVs without Wild and Scenic River designation. The Forest Service felt that Alternative H, as described, was insufficiently detailed to evaluate its ability to ensure the protection of the area's ORVs. The general concept of this alternative is embodied in Alternative A2.

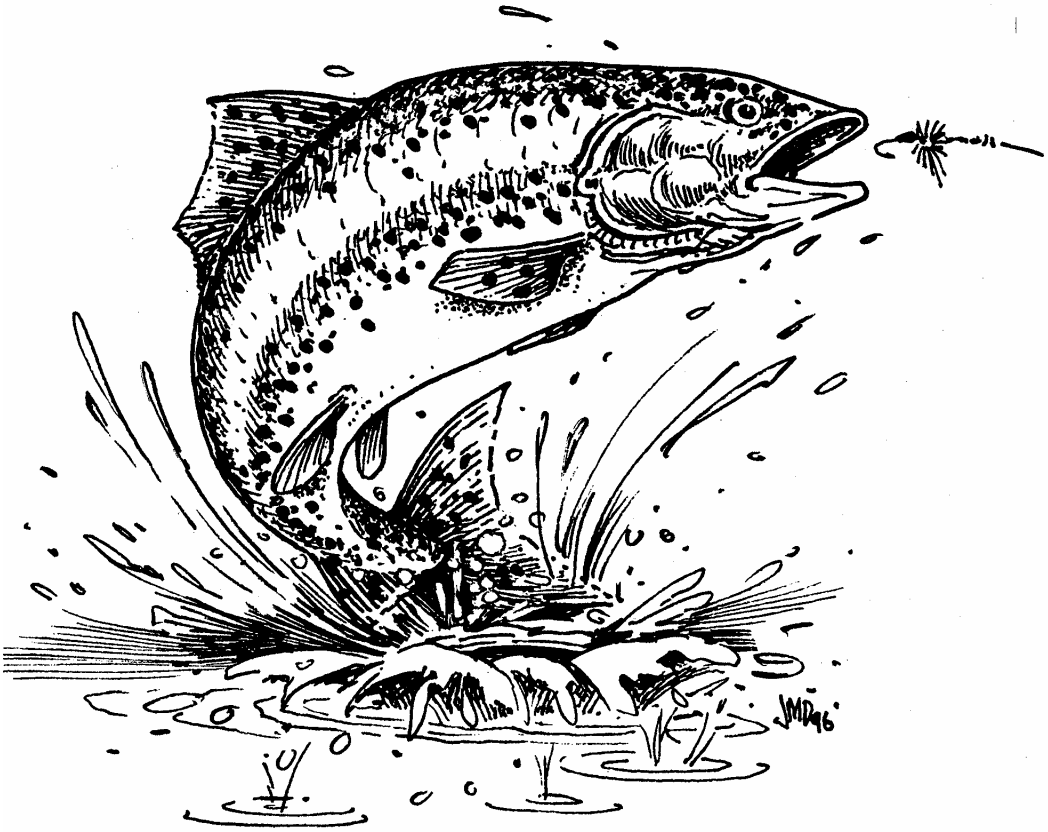
## THE SOUTH PLATTE PROTECTION PLAN'S VERSION OF THE FOREST PLAN AMENDMENT

The South Platte Protection Plan contains a proposed amendment to the Forest Plan (Attachment G to Appendix A). Most of the items in the amendment came from a menu being used by Forests in Region Two that are going through the Plan revision process. SPPP participants developed the proposed amendment independent of Forest Service review and comment.

After reviewing the amendment following its submission the Forest Service concluded that, while it addressed protection of values adequately, it did so at a greater level of detail than necessary. As a result, the agency elected to base the amendment primarily on language in the current Forest Plan, adding only selected items from the proposal. The result is less specific than the proposal but nonetheless clearly requires the protection of values. The Forest Service appreciates the effort put into the proposed amendment.

*Chapter 5*

# Environmental Consequences



CHAPTER 5

# Environmental Consequences

## 5.1 PURPOSE OF THIS CHAPTER

This chapter describes the effects of each alternative on the environment, and how these effects relate to the key issues identified in section 4.2.

In each of the following sections, the impacts on issues and resources that would occur if no additional actions were taken are described under Alternative A1, the "no action" alternative. The impacts of all the other alternatives on issues and resources are estimated based upon further actions undertaken in each alternative.

The scope of this analysis includes three types of effects (see 40 Code of Federal Regulations (CFR) 1508.7 and 1508.8):

> **Direct effects.** These effects are caused by the action and occur at the same time and place. Direct effects on resources were analyzed for all the alternatives and are described in this chapter.
>
> **Indirect effects.** These effects are caused by the action and are later in time or farther in distance but are still reasonably foreseeable. Indirect effects on resources were analyzed for all the alternatives and are described in this chapter.
>
> **Cumulative effects.** These effects result from incremental and collective impacts of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what person or agency (Federal or non-Federal) undertakes those actions. Cumulative effects on resources were analyzed for all alternatives in this chapter.

The area of influence, or area of potential cumulative effect, is different for each resource. The effects of all past, present, and reasonably foreseeable actions occurring on all lands, regardless of ownership, in the corridor and, in some cases, near the corridor are considered in the effects analysis.

The effects analyzed in this chapter relate only to alternatives developed in analyzing the suitability of the study rivers for inclusion in the National Wild and Scenic River System (National System). Detailed effects of other proposals, such as construction of a reservoir, are beyond the scope of this final environmental impact statement (FEIS).

Effects described for the designation alternatives are based on a strict interpretation and implementation of the Wild and Scenic Rivers Act (WSRA). Rivers are added to the National System through amendments to the WSRA. Oftentimes, the legislative language of the final designation is negotiated so that a particular use of the river corridor can be accommodated under designation.

River segments not recommended for designation in any of the alternatives would be managed under the appropriate management directive contained in the *Forest Land and Resource Management Plan*.

The summary of environmental impacts of each alternative on key study issues can be found in

Appendix B, Comparison of Alternatives Including Key Study Issues. The table in section 5.20 lists the additional Federal costs for implementing each of the alternatives. Refer to Chapter 4 for a full description of the alternatives.

## 5.2 Environmental Components Not Affected Under All Alternatives

Analysis of the alternatives revealed no effects on the environment that would represent a significant change from the present situation for the following factors: air quality, chemical water quality, climate, upland geomorphology, geology, grazing, landforms, and soils.

## 5.3 Minerals

Designation as a Wild and Scenic River could directly impact the potential development of locatable minerals (hardrock forms such as gold, silver, feldspar, and mica), leasable minerals (oil, gas, coal), and salable minerals (sand, gravel, stone) in the area. Under the *Land and Resource Management Plan for the Pike and San Isabel National Forests, Comanche and Cimarron National Grasslands* (Forest Plan) for the Pike National Forest, the South Platte has a discretionary "No Lease" status (i.e., the Forest Service has discretionary authority to remove sensitive resource lands from oil and gas leasing). That status would remain unchanged regardless of whether or not the river is designated. The North Fork is under a "No Surface Occupancy" stipulation (i.e., the surface cannot be occupied in order to drill for or extract minerals). Any access would have to be by subsurface directional drilling from an adjacent private property. This condition would remain the same with or without designation. However, designation would impact potential future mineral entries in segments classified as wild. (See the following discussion.)

### Alternative A1 (No Action) and A2 (South Platte Protection Plan)

Neither of these alternatives would have any effect on current or potential mineral claims within the study corridors. Only the developed recreation areas are currently permanently withdrawn from future mineral entry.

### Alternative A3 and Preferred Alternative

Under the Preferred Alternative and Alternative A3, the Forest Service would process a mineral withdrawal of the river corridor for final approval by the Bureau of Land Management (BLM) under existing administrative processes and legal authorities. After the withdrawal is approved, no mining activity would be allowed except for any grandfathered rights to claimants, located prior to the date of the withdrawal, where discovery is proven.

### Alternatives B, C, D, F, G, and J

Under these alternatives, all *wild* portions of the eligible segments would be withdrawn from future mineral entry. Although the mineral potential of these segments is low, new discoveries are possible, and some currently uneconomic minerals could become commercially viable.

Existing claims in the *wild* segments would still be valid and could still be worked under approved operating plans. In all designated segments, existing mineral activity would be conducted in a manner that minimizes surface disturbance, sedimentation, pollution, and visual impairment, which could add additional protections to revised operating plans.

### ALTERNATIVE I

Since none of the river segments would be classified as *wild* under this alternative, no areas would be withdrawn from mineral entry. In all designated segments, existing mineral activity would be conducted in a manner that minimizes surface disturbance, sedimentation, pollution, and visual impairment, which could add additional protections to revised operating plans.

## 5.4 LAND USE AND OWNERSHIP

Changes in how the rivers are managed may affect landowners' latitude in managing and/or developing their property. Some of the landowners' concerns are perceived rather than actual, since designation has little effect on private land. It could, however, have a definite effect on some water and storage rights.

### EFFECTS COMMON TO ALL ALTERNATIVES

None of the alternatives affect the ability of a landowner to prevent trespass or reduce impacts from recreationists, and none of them alter a landowner's liability in the event a recreationist is hurt while on private land. Private landowners would not be required to allow members of the public to use their lands under any of the alternatives. Recreational use of National Forest System lands and, hence, potential trespassing on adjacent private lands are expected to increase with or without designation. It is possible that the increase could be slightly greater under designation, since rivers receive more publicity through designation. The USDA Forest Service (Forest Service) would monitor any increases in use and would take appropriate measures to mitigate any impacts to private lands and outstanding remarkable values (ORVs) as determined by the management plan implemented after a decision on this study is made. If necessary, these effects could be mitigated by increasing partnerships, signage, and Federal funding in the designated area or by limiting dispersed camping sites, access, parking, or user numbers.

Effects to local zoning are the same for all alternatives but may vary among the counties. In Colorado, counties have a substantial degree of latitude in developing their land use planning programs but are subject to overall State zoning direction. Designation does not give the Federal Government any authority to change local zoning, but the Forest Service, under all alternatives except A1, may work with the counties to try to influence zoning in areas where the identified ORVs are threatened.

Because more than 50 percent of the lands in the corridor are publicly owned, there would be no possibility for condemnation of private lands for fee-title or for scenic easements under the designation alternatives. Under a designation alternative, the Forest Service would work with landowners willing to negotiate scenic easements or sell their land.

The Forest Plan encourages coordination of land use activities and cooperation in developing mutually needed road systems with landowners who have inholdings within the forest. There is no legal authority, however, for extending that cooperation to areas (such as approximately one-third of the North Fork corridor) that lie outside the Pike National Forest . The plan also stresses the importance of providing reasonable access across National Forest to private parcels surrounded by public land. The Forest Service has no authority to regulate construction, road building, economic activity, or zoning on private land.

The Forest Plan encourages land exchanges with willing landowners to acquire private parcels in areas where water quality, wildlife, fisheries, recreation, geologic, scenic, or cultural values are of high importance, as well as in those areas where resource values may benefit.

Under all alternatives, timber harvesting on private lands would continue to be regulated under State law. Under the Federal Land Management Policy Act, the Forest Service recognizes that the designated utility corridors identified in the Forest Plan (see "Land Use, Utilities" under "Affected Environment") would be given first consideration for the location of future electric, gas, oil, and communication facilities, regardless of potential for Wild and Scenic River designation.

### ALTERNATIVE A1 – NO ACTION

For those landowners who place a high value upon stability of land use, the continuance of current management maintains their sense of self-determination, whereas the other alternatives are perceived to add more regulation and bureaucracy. The likelihood that incompatible uses on adjacent lands would affect their own property is lowest under this alternative. It also creates no additional need for landowner contact with any additional local, State, or Federal agencies.

### ALTERNATIVES A2, A3, AND THE PREFERRED ALTERNATIVE

Property rights for both private landowners and water rights holders under Alternatives A2, A3, and the Preferred Alternative are the same. Private landowner concerns about increased recreation use, firefighting, and road use would be incorporated into a management plan complemented by the Forest Plan completed after this study decision. Private landowners would be encouraged and recruited to participate in all of the public involvement opportunities these alternatives provide. County Commissioners would be involved in river corridor management and would represent the interests of private landowners. The Federal Government would gain no authority over private land under any of the alternatives considered. Landowners would continue to follow county zoning and other regulations.

Alternatives A2, A3, and the Preferred Alternative include voluntary provisions for water rights and storage rights to be managed to enhance the ORVs as much as possible within existing constraints. New development proposals for water resources facilities in the river corridor would be evaluated in a public planning process, and their potential effects to ORVs, free-flow, and water quality would be analyzed and documented. Under the Preferred Alternative and A3-*Suitable*, the Forest Service would not approve any project that threatened eligibility of the river on National Forest lands. Under A3-*Not Suitable*, the Forest Service would consider maintaining eligibility a goal rather than a requirement and, therefore, would consider limited or reasonable effects if the proposal was deemed critical enough in the public planning process.

These partnership alternatives are designed to be accomplished through voluntary alterations to water system operations and would require no further controls or oversight of operations by the Forest Service. The partnership agencies would work together to minimize future impacts and manage existing impacts of water system operations.

### ALTERNATIVE B

This alternative adds all eligible study segments of the study rivers to the National Wild and Scenic Rivers System. The Federal lands in the corridors would be managed by the Forest Service to protect free-flow and to protect and enhance the ORVs of each river segment. The effects on private land would be identical to those of Alternatives A1, A2, A3, and the Preferred Alternative. The Forest Service would have no authority to determine zoning or set other restrictions on private lands.

Under any of the designation alternatives, the Forest Service would gain authority over private lands in only one situation—if a landowner wanted to construct something in the bed or bank of the designated river and needed Federal assistance or approval, the Forest Service could

invoke section 7(a) of the WSRA and review the project for effects on the ORVs, free-flow, and water quality. If a private landowner's project was found to have any direct or adverse effects, the Forest Service would work with the landowner to redesign the project to be consistent with designation. Under section 11 of the WSRA, the Forest Service can provide technical and financial assistance directly to private landowners for any needed projects in the bed or bank of a designated river.

Potential limitations on economically productive activities would remain the same as in Alternatives A1, A2, A3, and the Preferred Alternative, except to lands acquired by the Forest Service from willing sellers. Such purchases could potentially benefit landowners who wish to sell but cannot find other buyers. Willing sellers might also have the opportunity to be compensated through the sale of easements, yet retain ownership of their land. In addition, Federal administrators could assist willing landowners through cooperative projects and technical assistance.

Some landowners might feel a loss of self-determination under this alternative. This mostly would be perceived, since the Federal Government would have little, if any, authority over private lands. Nevertheless, because this alternative would be seen as increasing the presence of the Federal Government, it would be perceived negatively by many as an additional layer of bureaucracy and as an additional threat to the autonomy of the residents of the counties. Other landowners, however, would have a positive perception about the increased market that this alternative may generate for their property. To the extent that land use is stabilized and impoundments precluded, landowners also may find owning land within the river corridor more desirable.

Community members and corridor users would find their feelings of self-determination largely governed by whether they agree or disagree with the management strategy achieved by each individual easement or Federal purchase. Most local landowners favor designation except in the portions of the North Fork upstream from Buffalo Creek.

For individual landowners, the actual impacts of dealing with the Forest Service should not change from Alternatives A1, A2, A3, and the Preferred Alternative except that landowners would be assured that no dams would be built. The Forest Service would work with landowners willing to negotiate conservation easements or sell their land, allowing the Forest Service to more effectively manage the river corridor.

### ALTERNATIVE C

The effects of this alternative would be the same as those of Alternative B.

### ALTERNATIVE D

The effects of this alternative are the same as those of Alternative B for the South Platte corridor and Alternative A1 for the North Fork corridor.

### ALTERNATIVE F

The effects of the alternative would be the same as those of Alternative A1, since there are no private lands in the corridor recommended for designation.

### ALTERNATIVE G

The effects of this alternative are the same as those of Alternative B on the South Platte corridor upstream from Cheesman Reservoir. They are the same as those of Alternative A1 for the South Platte corridor downstream from Cheesman Reservoir and for the entire North Fork corridor.

### ALTERNATIVE I

The effects of this alternative are the same as those of Alternative B on the South Platte

corridor upstream from Corral Creek. They are the same as those of Alternative A1 for the South Platte corridor downstream from Corral Creek and for the entire North Fork corridor.

### ALTERNATIVE J

The effects of the alternative would be the same as those of Alternative D except in a 1.3-mile section of the South Platte downstream from the confluence, where the effects would be the same as those of Alternative A1.

## 5.5 GRAZING

Grazing practices allowed inside the river corridor are dependent on the type of classification (*wild*, *scenic,* or *recreational*), the values for which the river was designated, and land use management objectives. The level of protection should be commensurate with the identified river values.

### EFFECTS COMMON TO ALL ALTERNATIVES

None of the alternatives would effect current grazing allotments or practices, since grazing allotments are not expected to increase in the foreseeable future and the probability of vacant allotments being restocked is very low due to increasing urban growth close to the forest. As noted under "Affected Environment," there currently are four active allotments along the South Platte River corridor and no active allotments along the North Fork corridor. The Wigwam allotment is the only allotment where cattle actively use the South Platte River. Accessibility is limited by terrain and, to some extent, recreational use. Part of this allotment is in Segments C2 (most protective classification is *scenic*) and C3 (most protective classification is *wild*). A limited amount of domestic livestock grazing is acceptable in a wild corridor (see table 3-3). There are no plans to increase the number of cattle on this or any allotment along the river corridor.

## 5.6 FOREST ECOLOGY

### VEGETATION

Changes in river management could affect the vegetation and the ecosystem in the river corridors. The alternatives, ranked in order of the amount of protection they provide to vegetation (most protective to least), are B, C, D, J, F, G, I, A3 (as well as the Preferred Alternative), A2, and A1.

### TIMBER

Changes in river management resulting from designation have the potential to limit timber management options and opportunities. Additionally, management actions taken in the corridor would have either a positive or a negative impact upon the health of adjoining timberlands.

There has been no commercial harvest on Federal lands in the corridors in the past 50 years. It is likely, though, that some timber would need to be removed from these corridors in the future to improve forest health by reducing forest susceptibility to insects, disease, and wildfire. Although the actual amount of timber harvested is relatively low, continued withdrawal of additional suitable acres from the timber base has a cumulative impact on the overall timber supply in the local market area.

A major watershed restoration project, the Upper South Platte Watershed Protection and Restoration Project, is currently underway in the Pike and San Isabel National Forests to address concerns of wildfire hazards and water quality degradation following the Buffalo Creek Fire of 1996 (Forest Service, 2000a). As part of the project, a landscape assessment was conducted

to identify high-risk fire and erosion areas. All treatments undertaken to correct these problems would be designed to be compatible with the river corridor protection goals. Further analysis and fuel treatments will be implemented as a result of the Hayman Fire that burned through the study area in 2002.

None of the alternatives would have any effect on private landowners' potential income from timber management on private lands. Under a designation, the Forest Service may encourage landowners to lessen timber harvest on private lands within designated Wild and Scenic River corridors. All current land use practices on private land—such as timber harvest, home construction, mining, grazing, and farming—would continue. In terms of their impact on the availability of timber resources (from lowest to highest) and the opportunity they provide to improve forest health (from best to poorest), the alternatives rank as follows: A1, A2, A3 (as well as the Preferred Alternative), I, C, G, J, D, F, and B.

### ALTERNATIVE A1 – NO ACTION

The "no action" alternative would have no direct effects on forest health. The existing management direction under the Forest Plan provides for vegetative management to maintain and improve forest health. Where allowed by the Forest Plan, a full range of timber management practices would be available. Stands could be thinned to improve health of individual trees, which would provide resistance to various insects and pathogens. Defoliated trees could be removed through sanitation and salvage harvests. Stands could also be regenerated using clear-cut, seed tree, or shelterwood harvests.

Most of the corridor falls under the Forest Plan's Management Prescription 2B, in which roaded natural recreation opportunities are emphasized. In this prescription, vegetation management has to be compatible with the recreation emphasis, but some timber harvest could be allowed. Road construction and recreational facilities construction within vegetated areas would be allowed. Smaller portions of Segments E, H2, and H3 are under Management Prescription 7A, in which timber production is the management emphasis.

Approximately 500 acres is scheduled to receive vegetation treatments as part of the Upper South Platte Watershed Protection and Restoration Project. These treatments consist of thinning and creating openings in order to reduce the risk of catastrophic wildfire and subsequent erosion and to improve habitat for the Pawnee montane skipper.

Segment H2 also contains some acreage under Management Prescription 5B, in which big game winter range is emphasized. Any vegetation management in that area has to be compatible with the needs of big game. The Forest Plan and regional policy would continue to provide protection for threatened, endangered, and sensitive plant species during any project action.

### ALTERNATIVES A2, A3, AND THE PREFERRED ALTERNATIVE

Changes in river management under Alternative A2, A3 and the Preferred Alternative have the potential to limit timber management opportunities and options, thereby affecting management for forest health in the river corridors.

Under the A2 and A3-*Not Suitable* alternatives, some limited effect may occur in the future if a development project is approved that would have limited impact on the ORVs or free-flow. Effects under the A3-*Not Suitable* alternative would be similar to those under A1: any potential effects to vegetation for big game or to habitat for threatened, endangered, and sensitive species would be mitigated and approved through a public planning process. Vegetation treatment costs would be higher than under Alternative A1, but less than under the Proposed Alternative, Alternative A3-*Suitable,* or B.

The effects on vegetation and timber under Alternative A3-*Suitable* and the Preferred Alternative would be similar to those for Alternative B, because eligibility for designation would be maintained for the future. The river corridor segments classified *wild* would be removed from the suitable timber base, and so vegetation management activities to improve forest health could be done in these segments only on an emergency basis. Tree stands could not be thinned commercially to improve health of individual trees, nor could species diversity be treated. The stand health would be the result of natural events over the long term. Road construction would be precluded in *wild* segments, increasing the cost of managing forest health. The effects on forest health in the segments classified *recreational* or *scenic* would be generally similar to those of Alternative A1. There would, however, be some indirect adverse effect on forest health since new road construction and bridge crossings would be more limited than under A1, and increased ORV protection would place more limitations on harvest methods and amounts. Overall opportunities to protect forest health would be more costly under this alternative than all others except B.

Additional emphasis would be placed on the inventory and protection of diverse plant communities along the river corridors. Any vegetation treatment conducted would be compatible with the ORVs, protect water quality, and manage for overall forest and ecosystem health.

## ALTERNATIVE B

The 3.1-mile *wild* section of Segment D in Cheesman Canyon and Sections C1 and C3 (totaling 7.4 miles) in Wildcat Canyon would be removed from the suitable timber base. This would reduce the suitable acres in the corridors by 616 acres to 4,279 acres. The corridors could produce approximately 49,634 cubic feet per year.

Timber management, road construction, and other ground-disturbing activities outside the designated river corridors could not diminish the ORVs within the corridors. This provision could pose some limitations on silvicultural techniques, which may result in higher cost or reduced volume of harvest in the drainage outside the corridors. Overall opportunities to protect forest health would be more costly under this alternative than under any of the others.

In those portions of the recommended eligible segments with a *wild* classification, opportunities for vegetative management to maintain and improve forest health would be allowed only under emergency conditions for insect and disease control, fire, natural catastrophe, or public safety. A *wild* classification would also preclude road construction and, thus, increase the cost of managing forest health. In these areas, tree stands could not be thinned commercially to improve the health of individual trees; and this restriction could lead to increased susceptibility to various insects and pathogens. Species diversity would not be encouraged, and stand health would depend on the course of natural events over the long term.

The effects on forest health in the segments classified *recreational* or *scenic* would be generally similar to those of Alternative A1. There would, however, be some indirect adverse effects on forest health since new road construction and bridge crossings would be more limited than under A1, and increased ORV protection would place more limitations on harvest methods and amounts. The amount of actively managed forest vegetation could be somewhat less, because timber sales conducted primarily for the purpose of maintaining forest health would likely have a lower economic value than a traditional timber sale.

Additional emphasis would be placed on the inventory and protection of diverse plant communities along all the recommended river corridors. In addition, the Federal dam prohibitions would ensure the protection of all

designated areas from inundation. The Forest Service would prepare a river management plan and administer the recommended rivers under the WSRA, which would protect and enhance the ORVs in the corridor, leading to more protection of the area's ecosystems.

The planned vegetation treatments under the guidelines of the Upper South Platte Watershed Protection and Restoration would be consistent with this and any other action alternative, since the objective of that project is not timber production.

### ALTERNATIVE C

This alternative is similar to Alternative B, except for the classification of *scenic* rather than *wild* for Segments C1 and C3 in Wildcat Canyon. Effects in this section are the same as those described for *scenic* and *recreational* sections under Alternative B. Existing off-highway vehicle use (OHV) would continue, and the development of unofficial routes could impact both riparian and upland vegetation. This type of damage could be mitigated through partnerships, but previous experience has indicated that law enforcement would continue to be needed in the area. Mineral leasing could also occur, causing some impact on vegetation, but this use is very unlikely in the area.

The 3.1-mile *wild* section in Cheesman Canyon (Segment D) would be removed from the suitable timber base. This would reduce the suitable acres in the corridors by 25 acres to 4,870 acres. The corridors would produce approximately 56,492 cubic feet per year.

Constraints imposed by designation would slightly reduce potential timber production on suitable Federal land in the corridors, as compared to Alternative A1, but not as much as under Alternative B. Constraints include more restrictive road and bridge access, higher Visual Quality Objectives (VQOs), and additional measures to ensure the protection and enhancement of ORVs.

Overall opportunities to protect forest health would be less under this alternative than under Alternatives A1, A2, A3, the Preferred Alternative, and I.

### ALTERNATIVE D

The effects of this alternative would be similar to those of Alternative B for the South Platte segments and Alternative A1 for the North Fork segments.

The 3.1-mile *wild* section of Segment D in Cheesman Canyon and Sections C1 and C3 (totaling 7.4 miles) in Wildcat Canyon would be removed from the suitable timber base. This would reduce the suitable acres in the corridors by 616 acres to 4,279 acres. The corridors could produce approximately 49,634 cubic feet per year.

Overall opportunities to protect forest health would be less under this alternative than with Alternatives A1, A2, A3, the Preferred Alternative, I, C, G, and J.

### ALTERNATIVE F

The effects of this alternative would be similar to those of Alternative D except that an additional 2.6-mile area on the North Fork would be recommended for designation (Segment H2), a 19.5-mile segment of the South Platte downstream from the Wigwam Club property (Segment E) would not be designated, and two sections totaling 6.3 miles around Lake George would not be designated.

The 3.1-mile *wild* section of Segment D in Cheesman Canyon and Sections C1 and C3 (totaling 7.4 miles) in Wildcat Canyon would be removed from the suitable timber base. This would reduce the suitable acres in the corridors by 616 acres to 4,279 acres. The corridors could produce approximately 49,634 cubic feet per year.

The adverse effects of designation on the opportunity to manage forest health would be

similar to those of Alternative B for those segments designated. Overall opportunities to protect forest health would be less under this alternative than under all other alternatives except Alternative B.

### ALTERNATIVE G

The effects under this alternative would be similar to those of Alternative B on the South Platte upstream from Cheesman Reservoir and similar to those of Alternative A1 on the North Fork and on the South Platte downstream from Cheesman Reservoir.

Sections C1 and C3 (totaling 7.4 miles) in Wildcat Canyon would be removed from the suitable timber base. This would reduce the suitable acres in the corridors by 591 acres to 4,304 acres. The corridors could produce approximately 49,659 cubic feet per year.

Adverse effects on the opportunity to manage forest health in the designated segments are similar to those of Alternative B. Overall opportunities to protect forest health would be greater under this alternative than under D, F, or J; but they would be less than under Alternatives A1, A2, A3, the Preferred Alternative, I, and C.

### ALTERNATIVE I

The effects under this alternative would be similar to those of Alternative C upstream from Corral Creek and similar to those of Alternative A1 downstream from Corral Creek. Overall opportunities to protect forest health would be greater under this alternative than under all other alternatives except A1, A2, A3, and the Preferred Alternative.

Under this alternative, no acres would be removed from the suitable timber base. The study corridors would contain 4,895 suitable acres, which are capable of producing approximately 56,782 cubic feet of wood annually.

### ALTERNATIVE J

The effects under this alternative would be similar to those of Alternative D, except for the 3.0-mile section of Segment C where the effects would be similar to those of Alternative C.

The 3.1-mile *wild* section of Segment D in Cheesman Canyon and Sections C1 and C3 (totaling 7.4 miles) in Wildcat Canyon would be removed from the suitable timber base. This would reduce the suitable acres in the corridors by 616 to 4,279 acres. The corridors could produce approximately 49,634 cubic feet per year.

Adverse effects on the opportunities to manage forest health would be similar to those of Alternative B. Overall opportunities to protect forest health under this alternative would be greater than under Alternatives D or F but less than under Alternatives A1, A2, A3, the Preferred Alternative, C, G, or I.

## 5.7 FISHERIES, WATER RESOURCES, AND WATER DEVELOPMENT

This section describes impacts to fisheries and water quality of each alternative in five topic areas: channel integrity and aquatic habitat, fishery management, angler use, water development and flow regime, and water quality. The topics of channel integrity and aquatic habitat, water development and flow regime, and water quality were added as a result of issues raised concerning Alternative A2, the South Platte Protection Plan (SPPP).

Maintenance of free-flow, the protection of water quality, and the protection and enhancement of the area's ORVs (section 1(b) of the WSRA) are of primary concern when considering streams for inclusion into the National System. The most serious potential

impacts to the natural resources of the study segments include:

1. Inundation of the area by the construction of dams and
2. Diversions that would deplete the flows.

It is important to recognize that many other activities within the drainage basin, outside of this river segment, have an impact on water quality and the ORVs, including dams, diversions, augmented flows, regulated flows, recreational activities, land management (road grading, prescribed fire, timber harvest), private land uses, and other off-site water developments.

Changes in river management could impact resident fish species, primarily their spawning and rearing areas. Clean, cool water and appropriate flows at the right season are required to support the habitat necessary for healthy fish populations. On the other hand, an increased water supply need for the Denver metropolitan area and other Front Range communities is forecast. Changes in how the rivers are managed would affect opportunities for water storage, diversions, and dam construction.

As the alternatives in this document deal with resource conservation rather than resource development activities, none of them would have any effect on Denver Board of Water Commissioners' (Denver Water's) approved right-of-way for a 345,000-acre-foot reservoir near the confluence of the North Fork and the South Platte.

## BACKGROUND ON ASSUMPTIONS

Analyzing the consequences of this study's alternatives involves a number of assumptions described below. These assumptions are necessary to explain the relationship of the alternatives to actions of the Forest Service and other entities that are not bound by Forest Service policies and authorities.

### Water Development on a Designated Wild and Scenic River

Designation prevents development of water resource projects that adversely impact free-flow or the values for which the river was designated. Projects certain to be precluded include water storage facilities and any lesser water developments, such as diversion structures or sediment traps that interfere with free-flow.

### Designation of the South Platte as a National Wild and Scenic River

Just because an agency recommends designation does not mean that Congress will consider the proposal to add the river to the National System. The ensuing legislative process is the final determining factor. In the case of the South Platte River, the various interests involved hold strong differences of opinion regarding whether the river should be designated. Without a broad base of local support, prospects for designation of the river are doubtful. However, to allow meaningful comparison between alternatives, the analysis assumes the river has been added to the National System in designation alternatives.

### Water Development on an Eligible River

Agency identified study rivers (rivers identified under section (5) (d) (1) of the WSRA), are not protected by the WSRA from the harmful effects of water resource projects. The Forest Service would, to the extent of other authorities, protect the river's free-flow and ORVs on National Forest lands, as outlined in the *Forest Service Handbook* 1909.12-92-1, section 8.12. (See Appendix G of this document.) Other entities, however, are not bound by this agency policy, which means that water resource projects could be constructed on non-National Forest lands; this means that an eligible river provides more opportunities for water development than does a designated river on non-National Forest land. A facility might be placed on private land, for example. However,

whether such a development would be proposed or approved is subject to the same uncertainties described in the following paragraph.

#### Water Development on a River Found Not Suitable for Inclusion in the National Wild and Scenic Rivers System

Alternative A3-*Not Suitable* covers this situation. In this alternative, the Forest Service would continue to protect the river's free-flow and other values through its statutory authorities. The Forest Plan could be amended to reflect this intent. However, in this situation, there is no assurance that a water development project would be either proposed or approved, for two reasons.

First, the Forest Plan Amendment being prepared will operate to prohibit water developments other than possibly minor ones for diversion or sediment-removal purposes. Even though these prohibitions could be removed by the Forest Service at some point in the future, at this time, there is no way to assess the likelihood of a revocation.

Second, setting the Forest Plan Amendment aside for the moment, it cannot be known whether anyone would even propose any water development within the study area, particularly for water storage. At this time no such proposals have been made, nor did any specific possibilities emerge during the development of the SPPP. While some water providers do not wish to foreclose any possibilities that might help with their water supply needs, others show little interest in the potential for additional storage within the study area. This is because the traditional water supply practice of onsite storage has been joined by alternate practices—such as conjunctive use, conservation, or off-channel storage—that appear to entail lower levels of public controversy. In addition, the past experience with the Two Forks project suggests that any future proposal for a storage facility in the study area could expect severe opposition, high cost, and no assurance of success. Any such proposal would require approval from a large number of governmental and other entities, and there is no assurance today that all of the requisite approvals would be obtained. For all of these reasons, it is not possible to predict whether a water storage project would ever be proposed or built in the study area.

### CUMULATIVE EFFECTS

Past land and water uses in the project area have caused long-term major modifications of the forest landscape, original stream channel, and riparian vegetation, thus altering channel characteristics and water quality in the affected study area. These modifications are a result of dams, water diversions, bridges, roads, trails, logging, grazing, fire suppression, and homesteading. Dams alter streamflows and temperatures, trap and reduce sediment transport, and block fish passage. Existing impacts from roads, trails, and other development include loss of riparian vegetation, accelerated erosion, and increased sedimentation. Riparian land use and associated sediment runoff have been shown to reduce stream production potential for aquatic organisms. Although past actions resulted in more river sediment, the reservoirs trap sediment reducing downstream concentrations.

Sedimentation from past and existing land uses has resulted in the listing of river Segments A, B, and C as impaired under section 303(d) of the Clean Water Act. The Clean Water Act requires all parties with responsibility for managing the resource, including managers of public lands and private landowners, to identify and treat sediment sources and to develop a "Total Maximum Daily Load" (TMDL) assessment for these segments. The Forest Service worked with the Colorado Department of Public Health and Environment (CDPHE) on the assessment, which was completed in the spring of 2002 (Colorado Department of Public Health and Environment [CDPHE], 2002).

The cumulative effects of past logging, grazing, and fire suppression have indirectly increased the risk of catastrophic fires, which result in severe erosion. The Buffalo Creek, Hi Meadow (Forest Service, 2000a), and Hayman Fires and subsequent storm events washed large quantities of sand and gravel from fire-exposed soils into the affected river corridor. Extreme sediment loading has caused channel instability and shifting, increased bank erosion, and increased bed deposition. Long after the occurrences of these fires, sediments from the burned areas will continue to erode into the river and are expected to adversely affect aquatic resources for many years. The action alternatives and other restoration efforts, such as the Upper South Platte Protection and Restoration Project, can help reduce the risk of large-scale fire and the potential for erosion and major sediment influx. These efforts would have long-term beneficial cumulative effects, with increased aquatic organism production and decreased sedimentation of downstream reservoirs.

The action alternatives were designed to protect the eligible river segments and mitigate impacts caused by other actions. Therefore, each action alternative would have positive cumulative impacts on fisheries and water resources and help meet Clean Water Act requirements.

The action alternatives reflect changes in how water supply planning takes place. For many decades, water supply needs were addressed primarily by constructing new reservoirs because, at the time, that appeared to be the most efficient method. Then, as societal values changed, more effort was devoted to finding alternative methods of meeting water supply demands, such as conservation and aquifer storage, for instance. The cumulative effect has been that building a new reservoir is no longer presumed to be the best method available, and other methods now play a much larger role in water supply than earlier (Nichols et al., 2001) This change in attitude was clearly evident in the denial of the Two Forks reservoir proposal, and it is also reflected in the action alternatives analyzed in this study.

## EFFECTS COMMON TO ALL ALTERNATIVES

Segments found not suitable under any alternative would be managed under the Forest Plan. Protective standards under the plan would remain in effect, and there is no guarantee that water development projects would be proposed on these segments.

The Forest Service, the State, water providers, and other interested groups would cooperate in the development of a water quality restoration plan to treat sediment sources that impact the eligible segments. These sources would be identified in the Source Water Assessment required under the Safe Drinking Water Act. The Coalition for the Upper South Platte (CUSP, formerly known as the Upper South Platte Watershed Protection Association) would coordinate the restoration effort. This cooperative arrangement would not apply to private lands unless the landowners voluntarily agreed to participate.

As noted above under "Cumulative Effects," section 303(d) of the Clean Water Act requires all parties with responsibility for managing the resource, including managers of public lands and private landowners, to identify and treat sediment sources and develop a TMDL assessment for Segments A, B, and C. The results of this assessment (CDPHE (b), 2002) will likely heighten the priority for water quality protection and restoration by the Forest Service and the State, much as designation would.

## ALTERNATIVE A1 – NO ACTION

### Aquatic Habitat and Channel Integrity

There is no Federal prohibition of major dams, diversions, or water development projects under this alternative. Any such projects undertaken within the corridors could have direct adverse effects on the flow regimes and existing habitat for wild trout populations. There would be greater potential in this alternative for

operational changes at existing water developments, which could result in a considerable change in habitat and a subsequent decrease in trout production. Although changes in flows at certain times of the year could be beneficial to trout habitat, they would most likely be detrimental to the populations. Any new diversion or other water developments could potentially affect the amount and timing of flows and, thus, aquatic habitat.

Sedimentation would continue to result from the development of visitor facilities, such as campgrounds, picnic grounds, parking areas, trails, and trailheads, and from increased private development. Human activity in the area could result in an increase in sedimentation which would have a direct effect on fisheries habitat. However, attempts are being made to manage use in a way that reduces the amount of sediment that reaches the stream channel. There is no requirement to mitigate erosion from adjacent roads under this alternative, so sedimentation into the stream channels would continue, restricting fish habitat. The Forest Service would continue to use current management practices and authorities to reduce road sedimentation. Compared to the other alternatives, this one offers less potential for funding activities to enhance fish habitat or reduce sedimentation, as well as less potential for Federal funding for easement and/or fee-title acquisition of fish habitat and riparian areas from willing sellers. The Forest Service would have full authority to perform channel restoration on Federal lands and could seek to work cooperatively with local landowners to restore channel integrity on non-Federal lands.

#### Fishery Management

Segments of the South Platte River are currently managed under a variety of regulations. Special management areas would continue, with stocking and normal regulations maintained in most areas. Stocking of catchable fish would continue in normal regulation areas, while a variety of management options would be considered to produce quality fisheries in the special regulation areas.

#### Angler Use

Angler use is highly variable in the study area. With the population of the Front Range increasing dramatically, angler use would most likely increase in all segments. As the population in the State increases and subsequent development encroaches on the area, angler use would also increase. Access could also increase as roads and trails are improved and/or developed in sections of the study area that now have limited access.

#### Water Development and Flow Regime

Under this alternative, neither designation nor cooperative arrangement would be achieved to protect the free-flowing condition, ORVs, or water quality of eligible segments in concert with the goals of the WSRA or any other water protection strategy. On non-Federal lands, there would be no effect on the operation of existing water projects. On Federal lands, existing and new water developments, as well as flow regimes, would be subject to terms and conditions that protect public resource values under applicable Federal law and the existing Forest Plan. This alternative provides the most flexibility for the water providers to expand existing reservoirs, replace existing dams, construct diversions, and meet future water supply demands. Existing water rights and interstate compacts would be completely unaffected.

Natural resources, including some of the area's ORVs, would continue to be subject to the potential effects of inundation by reservoirs or to altered flow regimes resulting from the construction of dams or diversions to help meet the growing residential and industrial needs of the Denver metropolitan area, provide a more efficient water delivery system, provide additional reservoir-based recreation, provide additional flood control, provide ground water

recharge through the conjunctive use concept, and provide additional hydropower generation, which would contribute to local and regional power supplies. Inundation could also displace private landowners within the study corridors.

Because the river is not recommended as a Wild and Scenic River and no other protection strategy is afforded under this alternative, current and planned water developments, such as channel straightening, bank stabilization, diversions, and other modifications of the waterway, would not be subject to mitigation review beyond what is required in the existing Forest Plan on National Forest System lands and regulatory authorities of other agencies on other lands.

Current water operations, releases, flows, timing, storage, importation of water, exchanges, and the management of the current and future water delivery system would not be affected by the restrictions that would be imposed by Wild and Scenic River designation. Costs to water suppliers in the Denver metropolitan area would not increase as a result of restrictions imposed under the WSRA, and potential water development projects would be unaffected by any protection strategy. Current water quality standards and flow management practices would apply, and any changes to current standards would result from the recently completed assessment to determine TMDL under section 303(d) of the Clean Water Act and would not be imposed under the WSRA. Thus, the ability of water providers to operate, develop, and fully use existing and future water rights on the North Fork and the South Platte River would not be affected by the WSRA.

Opportunities to replace portions of communities' dependence on ground water with surface supplies or potentially recharging aquifers with excess surface water in the South Platte basin would not be foreclosed under this alternative as they might under the WSRA. The demand for conversion of existing agricultural water supplies to municipal and industrial use may be reduced under the designation alternatives since new supplies could be diverted from the study corridors.

Existing and new water developments on non-federal lands could affect flow regimes unabated in the study corridor unless voluntary cooperative arrangements were made with water providers. There are numerous indirect effects which could result from significant change in flow regimes. Extended bank-full (1.5-year flood) or above-bank-full conditions, changes in timing of reservoir releases, or extreme changes in flow regimes can result in excessive bank erosion and sediment transport, degradation of aquatic and riparian habitat, and reduction of aquatic food sources. If the river does not receive normal flood flows, the channel capacity could be reduced. If the base flow is reduced, water temperatures could exceed water quality standards and degrade aquatic habitat. On federal lands, flow regimes would be protected by terms and conditions that protect public resource values under applicable federal law, as on any federal lands.

#### Water Quality

Water quality protection and restoration would be subject to Federal and State requirements, just as on all other lands. The heightened priority for water quality protection and restoration associated with designation would not exist under this alternative. However, efforts to reduce erosion and subsequent sedimentation in the river would continue utilizing the assessment of TMDL.

### ALTERNATIVE A2 – SOUTH PLATTE PROTECTION PLAN

The South Platte Protection Plan was developed through negotiations among representatives from a broad range of interest groups, in an attempt to preserve flexibility for future water development but still protect the corridors without recommending Federal designation under the WSRA. Free-flow, water quality, and

ORVs on non-Federal lands would not be protected under the WSRA.

### Aquatic Habitat and Channel Integrity

The section of the SPPP entitled "Streamflow Management Plan for the Upper South Platte River" (Attachment B to Appendix A of this report) addresses stream habitat concerns regarding river sedimentation and areas needing channel habitat improvement projects. The Forest Service, the State, water providers, and other interested groups would cooperate in channel reconstruction of the eligible segments to improve degraded conditions and to withstand increased high flows while protecting ORVs. The parties would also cooperate in habitat restoration of the eligible segments to improve existing conditions for aquatic life. To minimize sedimentation and bank erosion and to improve aquatic habitat conditions, the Forest Service, Colorado Division of Wildlife, water providers, and other participants would develop a stream habitat monitoring and improvement plan. The improvement plan would:

1. Identify degraded areas of stream channel habitat,
2. Identify stream bank erosion and river sedimentation sources,
3. Quantify changes in channel integrity and aquatic habitat associated with management actions, and
4. Develop instream channel habitat improvement projects to improve stream channel habitat, including bank stabilization and erosion control, which would not be allowed under the WSRA and may affect free-flow.

Improvements would be designed to produce long-term benefits for channel integrity and aquatic habitat, as well as indirectly improving water quality. One potential funding source for this improvement plan is the $1-million endowment fund established under the SPPP. (See Attachment D of Appendix A.) The arrangement would likely heighten the priority for water quality protection and restoration by the Forest Service and the State, much as designation would. Under a designation alternative, this fund would not be available for mitigation work; therefore, Alternative A2 provides the greatest potential for restoration.

### Fishery Management and Angler Use

The effects of this alternative on fishery management and angler use would be similar to those of the A1 alternative. Implementation of the streamflow management plan may improve habitat for fish species residing in the river. Resultant benefits to the fish populations might lead to better catches and, hence, to greater angler use in those sections directly downstream from the Elevenmile and Cheesman impoundments.

### Water Development and Flow Regimes

Under this alternative, existing Federal authorities would be used, together with local cooperative arrangements, to protect the river corridor from actions that could diminish the free-flowing condition, ORVs, or water quality in some of the eligible segments. Parties to this agreement would state that no new water developments projects would be built in Segments A or D, thus protecting 11.8 miles of the South Platte from impoundment. Water developments could be built in the other eligible segments subject to existing Federal, State, and local authorities. On Federal lands, existing and new water developments in these other segments would be subject to terms and conditions that protect public resource values under applicable Federal law, as on any Federal lands. Effects on existing or new water developments and their operations on non-Federal lands upstream from eligible segments would be under the auspices of the SPPP and subject to other Federal, State, and local regulations. This alternative does not protect

eligible segments from future water developments as effectively as designation. Administration of existing water rights and interstate compacts would be unaffected.

Denver Water and the Metropolitan Denver Water Authority would withdraw their applications for 780,000 acre-feet of conditional storage rights at the Two Forks reservoir site. Denver Water would also self-impose a 20-year voluntary moratorium on developing its right-of-way for a 345,000-acre-foot reservoir. (See Attachment F in Appendix A of this document.) This commitment would ensure that no substantial water development would invade Segments E or H for 20 years. Denver Water would invite environmental interests to cooperate to seek alternate projects that would allow permanent relinquishment of the right-of-way at some later date. The long-term effect of this proposal is unknown. If no alternate projects were identified, the right-of-way could be developed after the 20-year moratorium expires. Such a project would invade portions of Segments E and H, which would impair their free-flowing condition and ORVs.

In coming decades, water system improvements and future importation of water to the Upper South Platte Basin could alter the hydrologic basis of the SPPP. This plan is not intended to promote or restrict new water from future projects but to provide goals for protection of the existing trout fishery values present in the South Platte River. Additional water or prolonged high-flow periods due to new project water would be subject to the requirements of the Streamflow Management Plan. Even under these requirements, future flow regime changes caused by importation may require a larger stream channel to adequately protect water quality, fisheries habitat and populations, channel stability, and maintenance of the ecosystem. Future water projects, especially those that would significantly prolong bank-full stream conditions, would require the project proponent to prepare an analysis of channel capacity related to these issues. The new project proponent would be responsible for any necessary analysis and channel reconstruction. Under the guidance of the SPPP, in order to maintain ORVs in the river corridor, any necessary alterations to channel capacity should be achieved by means other than flow manipulation, such as physically reconstructing the channel. Any proposals for flow and channel modification for new projects would be reviewed by participants at an annual operations meeting established under the SPPP. (See Appendix A, Attachment B, p. B-5.) This mitigation measure voluntarily addresses some of the protections that designation would impose on new upstream, downstream, or tributary projects under section 7(a) of the WSRA. However, potential protection for ORVs and free-flow would be guided by the tenets of the SPPP and not the WSRA.

Under the Streamflow Management Plan, the reservoirs would be operated to benefit aquatic life and habitats. The first goal of the A2 alternative related to the fisheries ORV is to maintain minimum streamflows downstream of reservoirs. Denver Water would self-impose minimum flow releases of 32 cubic feet per second (cfs) from Elevenmile Reservoir and 35-40 cfs from Cheesman Reservoir. Aurora would self-impose minimum flow releases of 32 cfs from Spinney Mountain Reservoir. These flows would provide relatively stable habitat conditions during the fall, winter, and early spring months. A provision is included for exceptions during drought. The second goal of the A2 plan is to provide transition flows that would reduce environmental stress as discharge levels vary. Reservoir outflow changes would be "ramped"—or changed gradually—in order to reduce stress on fish. Particular emphasis would be placed on limiting fluctuations that could adversely affect the various life stages of brown and rainbow trout. The proposed flow regime can also have the indirect beneficial effects of maintaining riparian/wetland vegetation and maintaining the aquatic food web. The Streamflow Management Plan section of the SPPP offers advantages over designation by addressing minimum streamflows, ramping, and channel maintenance flows.

Another goal of the Streamflow Management Plan is peak-flow management. Although high flows occur naturally, they may impede the recruitment of young fish into the population if flows increase greatly in a short amount of time. However, high streamflows are also periodically necessary in order to maintain channel stability and capacity and to transport sediment through the channel. Due to limited storage capacity, water rights and other constraints, managing peak flows is the least attainable of the fishery management goals in Alternative A2. The plan provides a mechanism for monitoring fish recruitment and channel conditions and for deciding whether the balance between these conflicting purposes needs to be adjusted. As part of the annual operating plan, the participants would determine whether to attempt to provide a channel maintenance flow during spring runoff or to attenuate peak flows to enhance fishery recruitment. The goal would be to maintain successful "year-class recruitment" for brown and rainbow trout populations at least once every 3 years. This would mean that fish born within a certain year would survive their first winter and become part of the population the next year. A successful recruitment would replace all older fish, 2 or more years old, that have left the population as a result of natural or human-related causes.

#### Water Quality

Currently, water released from Elevenmile Reservoir is drawn from the surface. The surface water exhibits the greatest degree of temperature fluctuation, as it is exposed to the warming effects of the sun and the surrounding air. Water released from the surface of reservoirs such as Elevenmile is commonly warmer than is desirable for the aquatic species downstream. Within 5 years of selecting this alternative as the final decision, new outlet valves would be installed at Elevenmile Dam. Denver Water and the city of Aurora would decide the precise operations of reservoir releases following annual operations meetings conducted with the public and any interested parties. These proposed reservoir operations would be targeted to benefit aquatic life and habitats and could not be realized in any designation alternative unless voluntary cooperative arrangements were made. The installation of the new outlet valve would allow the dam operators to withdraw water at various depths in order to maintain the optimal temperature for sustaining and enhancing the rainbow and brown trout fishery and to meet State water quality temperature standards.

Denver Water would self-impose a mixing of top and bottom releases from Elevenmile Reservoir and Cheesman Reservoir from July through September to achieve water temperatures that benefit aquatic life. Changes in water temperature would be held to less than 10 degrees Fahrenheit (°F) per day when possible. When Denver Water has filled the surcharge pool at Elevenmile Reservoir, which typically occurs in July, bottom releases would be made to meet target temperatures through September. Starting no later than October 1, bottom releases would be discontinued to allow the surcharge pool to fill. In the future, bottom releases for moderating wintertime stream temperatures would be considered. At Cheesman, Denver Water would install temperature gages in the spillway, the valve manifold, and the streamflow gage downstream of the dam to monitor downstream water temperature. When possible, Denver Water would adjust the proportion of spillway discharge and bottom releases to:

1. Keep the downstream temperature below 60 °F during spilling and
2. Provide a temperature gradient of less than 10 °F per day while making the transition into and out of spilling.

Resources made available through implementation of the SPPP may be used for habitat restoration projects.

## ALTERNATIVE A3 AND THE PREFERRED ALTERNATIVE

Alternative A3 and the Preferred Alternative were prepared by the Forest Service as modifications of Alternative A2 in order to address certain administrative and other requirements of the Forest Service, including an amendment to the Forest Plan. The *Suitable* and *Not Suitable* options of A3 differ based on how the issue of suitability is handled. A3-*Suitable* requires adherence to Forest Service policy that requires protection of the values for which the river was eligible and suitable, within the limits of Forest Service legal authorities, until Congress either enacts or rejects legislation to designate all or portions of the river. A3-*Not Suitable* allows evaluation and consideration of proposed development projects that might adversely affect the values that have been identified. Stated differently, A3-*Suitable* protects eligibility as a hard requirement, whereas A3-*Not Suitable* seeks to protect identified values as a management goal. The Preferred Alternative is silent on suitability but necessarily protects eligibility as a hard requirement, similar to A3-*Suitable*.

For each of the following, the effects of Alternative A3-*Not Suitable* would be similar to Alternative A2 unless otherwise noted. The effects of Alternative A3-*Suitable* would be similar to Alternative A2 subject to review for effects on eligibility and suitability. The effects of the Preferred Alternative would be similar to Alternative A2 subject to review for effects on eligibility.

### Aquatic Habitat and Channel Integrity

The Forest Service, the State, water providers, and other interested groups would cooperate in channel reconstruction and habitat restoration of the eligible segments, just as in Alternative A2, with the same benefits to channel and habitat integrity, riparian vegetation, wetlands, and water quality. These benefits could not be realized in any designation alternative except through subsequent voluntary cooperative arrangements.

### Fishery Management and Angler Use

Fishery management and angler use under this alternative would be similar to those of the A2 alternative.

### Water Development and Flow Regime

Under either the Preferred Alternative, Alternative A3-*Suitable,* or Alternative A3-*Not Suitable*, existing Federal authorities would be used, together with local cooperative arrangements, to protect the river corridor from actions that could diminish the free-flowing condition, ORVs, or water quality. To the extent of Forest Service authority, no new dams or impoundments would be allowed on National Forest lands. On non-Federal lands upstream from eligible segments, effects of existing or new water developments and their operations would be reviewed under the auspices of the SPPP and would be subject to other Federal, State, and local regulations. Under the Preferred Alternative and Alternative A3-*Suitable*, proposed water development projects would be reviewed for effects on eligible segments. Alternative A3-*Not Suitable* would not protect eligible segments from future water developments as effectively as the Preferred Alternative, A3-*Suitable*, or designation. Administration of existing water rights and interstate compacts would be unaffected under either the A3 alternative or the Preferred Alternative.

As in Alternative A2, Denver Water and the Metropolitan Denver Water Authority would withdraw their applications for 780,000 acre-feet of conditional storage rights at the Two Forks reservoir site. Denver Water would also adopt a 20-year voluntary moratorium on developing its right-of-way for 345,000 acre-feet. This commitment would ensure that no substantial water development would invade Segments E and H for 20 years. Denver Water would invite environmental interests

to cooperate to seek alternate projects that would allow permanent relinquishment of the right-of-way at some later date. Effects of this action under the Preferred Alternative or either A3 alternative would be similar to Alternative A2.

As in Alternative A2, flow regimes would be subject to the tenets of the Streamflow Management Plan for both A3 alternatives and the Preferred Alternative.

Under A3-*Suitable*, the Forest Service would use existing authorities to protect the rivers' ORVs, free-flow, or water quality until Congress determines whether to add any or all segments found suitable to the National System and authority under the WSRA, particularly section 7(a), begins. As a result, no appreciable change in these resources would occur on National Forest lands in the interim. If Congress were to designate any or all of the segments at a later date, then all lands in the designated corridor would be subject to the guidelines of the WSRA. Similarly, under the Preferred Alternative, the Forest Service would use existing authorities to protect the rivers' ORVs, free-flow, and water quality for which they were found eligible, until such time as the agency finds it necessary to make a final decision on suitability. As with A3-*Suitable*, no appreciable change in these resources would occur on National Forest lands in the interim. Under A3-*Not Suitable*, however, the Forest Service could approve projects that have some effects on these resources, such as structures for diversion or sediment removal. Over time, depending upon the nature and extent of development allowed, the cumulative effects of such projects could degrade, somewhat, the ORVs, free-flow, or water quality. However, the magnitude of individual projects that might be approved would be limited because, even under Alternative A3-*Not Suitable*, the Forest Service would not approve any water storage structures within segments of the river corridors that had been identified as eligible during the present study. Therefore, there would be no inundation of large areas beyond ordinary high water lines. Nor, for lesser projects such as structures for diversion or sediment removal, would a complete disruption of free-flow be expected.

#### Water Quality

The effects to water quality would be similar to those under Alternative A2. Effects on water quality would be subject to review under Alternative A3-*Suitable* to ensure no degradation to level of quality from the time the segments were found suitable. Similarly, effects on water quality would be subject to review under the Preferred Alternative to ensure no degradation to level of quality from the time the segments were found eligible.

### ALTERNATIVE B

This alternative would recommend designation of 72.3 miles of river at their inventoried classifications. It would provide substantial potential to protect and enhance fish populations and their respective habitats within the designated corridors for enjoyment by future generations. This result is due primarily to three factors:

1. Designation would prohibit authorized water projects which could adversely affect free-flow, water quality, or the ORVS;
2. Designation would confer a recommendation of additional monitoring and the protection and enhancement of both water quality and fisheries ORVs in all eligible segments although funding for such an activity is not guaranteed under the WSRA; and
3. Designation creates a greater potential for additional Federal funding for easement and/or fee-title acquisition of fish habitat and riparian areas from willing sellers.

This alternative provides additional Wild and Scenic River direction to the Forest Service to

manage other river-related resources such as recreation and transportation to protect and enhance the fishery. Protection of water quality, flows, and riparian would be similar to that afforded under the Streamflow Management Plan under Alternatives A2, A3, and the Preferred Alternative. Alternative B would include the development of a management plan, increased emphasis on partnerships to improve fisheries, and fisheries habitat and monitoring of water quality and flows as under Alternatives A2, A3, and the Preferred Alternative. It would also include Federal financial and technical assistance not provided under Alternatives A2, A3 or the Preferred Alternative which instead offer local financial assistance through an endowment fund.

Development of a comprehensive river management plan would identify direction and possible management actions to protect and enhance river values. Monitoring of water quality and flows would provide information needed to measure progress toward attaining goals to protect fisheries. The construction of minor structures for improvement of fish habitat would be considered compatible in all segments, provided they protect or enhance ORVs and do not affect free-flow. Limited Federal financial and technical assistance, both inside and outside the corridor, would be available for projects such as fencing and riparian restoration that could result in water quality improvements.

#### Channel Integrity and Aquatic Habitat

This alternative would provide protection for all eligible segments in the study area, similar to that afforded by the Streamflow Management Plan under Alternatives A2, A3, and the Preferred Alternative, without the guarantee of funding. Although the potential would exist for increased Federal funding for habitat restoration and enhancement, appropriation or allocation of such funding would not be guaranteed. Under this alternative, the Forest Service would pursue voluntary cooperative arrangements with water providers to adjust outflows from existing facilities in order to benefit ORVs. Through an amendment to the Forest Plan, road maintenance and associated impacts would be more restrictive in this alternative than in Alternative A1; and this could help reduce sedimentation in most segments. However, because of the designation, attraction to a National System river could increase use in more accessible segments.

Designation would protect the existing channel integrity and aquatic habitat of each designated river segment. Designation could not force improvement of existing channel integrity, but voluntary cooperative arrangements could be made with landowners to perform such restoration.

No new water development or other action that might have a direct and adverse effect on channel integrity or aquatic habitat could occur in any designated river segment, because of the accompanying impact to free-flow, water quality, or the ORVs. Moreover, actions that occur upstream or on a tributary of a designated river segment, if they require Federal assistance and/or permit, would need to incorporate mitigation measures to bring any adverse effects within acceptable limits (section 7(a) of the WSRA). Any actions upstream that do not meet this requirement would not be allowed. Mitigation measures resulting from these upstream actions might include adjusted outflows from the facility, channel reconstruction to sustain channel integrity and protect ORVs, or some combination of the two. However, there would be a consistent process to analyze whether these measures meet the limits of section 7(a) of the WSRA. These limits are defined by the processes in *Forest Manual* 2345.7 (Appendix G) on the amount and type of reconstruction that would be allowable on a designated river. If those limits were exceeded by some proposed future project, then an alternate method of delivery of water to the metropolitan area would have to be developed. Such a scenario was envisioned in a letter to the city of Aurora in which a

$425-million pipeline would be constructed from Antero Reservoir to Chatfield Reservoir following U.S. 285 (Mulhern, 1996).

Various measures, such as closing or improving roads in poor condition, revegetating disturbed areas, and restricting access to sensitive areas would be carried out to meet the intent of designation. These measures could also be implemented under Alternatives A2, A3, or the Preferred Alternative as part of habitat restoration projects funded through the endowment fund. These measures would help reduce sedimentation in the designated segments. At a minimum, these measures would prevent any degradation of habitat conditions throughout the South Platte study area, though they might be less effective in the North Fork study area.

#### Fishery Management

Special management areas would continue, with stocking and normal regulations maintained in most areas. Stocking of catchable fish would continue in normal regulation areas, while a variety of management options would be considered to produce quality fisheries in the special regulation areas. The designation of some segments to more restrictive use, and possibly improved habitat conditions, may warrant a change in regulation to reflect the increased fishery potential.

Management practices that reduce erosion and subsequent sedimentation in the river would probably be adopted. Habitat improvement techniques may be used to improve riparian and stream channel conditions.

#### Angler Use

Angler use is already high in this area, and any increase would result from addition to the National System and increased public awareness of the area. Additionally, angler use may increase in the entire study area as the population of Colorado increases. Access is restricted currently to foot traffic in the sections classified as *wild* by lack of roads. This condition would not change under this alternative. (See section 5.9, "Recreation.") However, improvements in habitat conditions could result in a higher quality fishing experience.

#### Water Development and Flow Regime

The inclusion of all eligible segments into the National System would prevent the Federal Energy Regulatory Commission from licensing the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act. In addition, no department or agency of the United States could assist by loan, grant, license, or otherwise in the construction of any water resources project within the river corridor that would have a direct and adverse effect on the values for which the river was designated. The most significant effect of designation under the WSRA would be to prohibit future impoundment of these rivers (subject to prior existing rights). Other water resource projects, such as structures for water diversion or sediment removal, would require review under the WSRA and may not be approved.

Designation would also require that any activities undertaken on areas or tributaries above or below designated reaches be evaluated to determine if they ". . .invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present. . .as of the date of designation. . .." (section 7, WSRA). If a determination is made that the area will be invaded or values will be unreasonably diminished, then the Forest Service would work with the project proponent to identify recommendations to reduce adverse effects to within acceptable levels (Diedrich, 1997).

Designation would not affect the operation of existing water development projects or existing flow regimes on the South Platte or North Fork. Designation would not affect any modified operation of existing water developments as long as there is not a

direct and adverse effect on the values for which the river was designated. However, the Forest Service would pursue voluntary cooperative arrangements with water providers to adjust outflows from existing facilities in order to benefit ORVs similar to those outlined for the Streamflow Management Plan in Alternatives A2, A3, or the Preferred Alternative.

For example, while natural ranges of flows, including high flows, are needed to maintain stream channels, increasing the duration of high flows (at or near bank-full discharge) well beyond natural ranges has been shown to damage streambanks in some cases. However, under the WSRA, (see Appendix F, sections 10(e) and 11(b) (1)), the Forest Service would pursue cooperative agreements with operators of water resource facilities to limit the artificially extended durations of high flows. These agreements would seek to provide better protection to the streambanks and aquatic resources but could limit timing and flow options for water delivery and storage.

Conversely, low flows within the study corridors have, for the most part, been favorably affected by releases from upstream impoundments, because the resulting flows are above the historic low-flow levels. These higher-than-normal low flows are beneficial to the aquatic resources of the river. However, if the volume of releases were to drop below historic low-flow levels, there could be an adverse impact to aquatic resources. If such operational changes were to occur on a designated Wild and Scenic River, then the Forest Service would, again, seek cooperative agreements that would ensure aquatic resource protection. These agreements could also affect timing and quantity of flow options available for water delivery and storage.

Designation might affect future flow regimes tied to a *new* water development structure; and any efforts to implement ongoing and planned water delivery improvements, such as channel modification, bank stabilization, diversions, and other modifications of the waterway, would have to be evaluated for their effects on the river's free-flowing condition, water quality, and ORVs. New water resource projects could not be implemented if judged to have an adverse effect on the river's free-flow, water quality, and ORVs. On the North Fork, this could lead to impacts on the management of any planned delivery system for the future, increased costs, and additional Federal agency review of maintenance projects. On the South Platte, since there are few, if any, current or planned water delivery improvements necessary to maintain the system, there would be little or no impact to the system's operations.

Alternative B would have no effect on Denver Water's approved right-of-way for a 345,000-acre-foot reservoir near the confluence of the North Fork and the South Platte, because the Wild and Scenic River designation would be subject to that reservation. However, if additional discretionary Federal approvals were required to permit a resources project, Denver Water would not be able to obtain these approvals if the project were determined to have "direct and adverse" effects on the values for which the segment was designated.

Water suppliers in the Denver metropolitan area would have to plan for any new water storage, diversion and transmission facilities to be located outside the designated corridor. Communities now dependent on ground water would be precluded from constructing new reservoirs in designated corridors in order to develop surface supplies or to recharge their aquifers with surface water. The impetus to convert agricultural water supplies to municipal and industrial use may be greater under this alternative than under the others because no new dams could be built in the designated corridor to increase water storage. The greatest pressure on alternative sources of water supply would arise under this alternative. Disagreement exists whether implementation of this alternative would cause future water shortages in the Denver metropolitan area. Based on the SPPP's contemplation of a

possible future wherein no new reservoirs are constructed, it can be reasonably concluded that other sources of water might be sufficient to meet future demand. Others, however, remain unconvinced that those alternatives will prove sufficient and, instead, argue that no options should be foregone at this time (Douglas County Commissioners and Douglas County Water Resource Authority, 2000).

The effect on land values and private development in the study corridors is highly speculative. If Denver Water determined it was not able to construct a reservoir, then its extensive land holdings in the corridors might be considered excess and sold or exchanged with another entity. If these lands did go into private ownership, it is likely that the resulting development of additional homes, private recreation businesses, and commercial enterprises on what is now vacant land would change the current recreation and visual characteristics of the river corridor. If the lands were exchanged into Federal ownership, future development would be limited. Part of the corridor lies in Douglas County, one of the fastest growing counties in the United States. The value of private lands might increase under designation if potential purchasers and developers were less concerned about future inundation.

Generally speaking, existing water rights are not affected by designation. The WSRA states that designation shall not be construed as a reservation of the waters of such streams for purposes other than those specified in the WSRA or in quantities greater than necessary to accomplish these purposes. The Forest Service would be able to acquire water rights under State law. However, these would be junior to existing rights. The Forest Service would likely ask the Colorado Water Conservation Board to file for an instream flow water right on unappropriated flows to protect the ORVs from diversions by other parties. This action would not impact existing uses of water rights but would prohibit future water development. However, there is debate on whether unappropriated flows exist except perhaps in years of high runoff.

One difference between all of the designation alternatives (B, C, D, F, G, I, and J) and those alternatives that include the SPPP (A2, A3, and the Preferred Alternative) is longevity. The SPPP alternatives offer protections for a 20-year time period. The SPPP would be evaluated for its overall effectiveness each time a water resources project was proposed. On the other hand, designation would provide permanent protection, with each proposed water resources project evaluated under section 7(a) of the WSRA.

#### Water Quality

One overall purpose of designation under the WSRA is to protect water quality (section 1(b)). The WSRA directs the Forest Service to cooperate with the Environmental Protection Agency and the State to protect and maintain water quality in designated river segments (section 12(c)) as well as reduce or eliminate sources of contamination. Designation by itself does not mandate higher water quality requirements but would likely heighten the priority for water quality protection and restoration by the Forest Service and the State, especially those sections conferred 303(d) status, due to the recognition of significant river resources.

The Clean Water Act provides authority for States to classify streams as to beneficial use and describe the water quality parameters that will be tested to monitor that classification quality. It is State of Colorado policy to classify waters in designated *wild* rivers as constituting an outstanding natural resource and, therefore, subject to anti-degradation rules CDPHE, 2001, section 31.8 (2) (a) (ii)). However, such an action is extremely unlikely given the problems with erosion control, especially in those segments with 303(d) status, and other impacts that exist in each eligible segment. (See "Channel Characteristics" under Chapter 2, "Affected Environment," section 2.12.)

If the waters within the designated reach classified as *scenic* or *recreational* do not meet State standards for the beneficial use classification of the stream, corrective action would be required (segments classified as *wild* must meet Federal and State standards to meet classification requirements). This would be the case for those segments conferred 303(d) status. This would lead to definite water quality improvements but would mean additional costs for the owners of any lands found to be sources of sedimentation. If the quality of imported water is below current standards, some additional treatment could be required before importation, which could also limit management options and increase costs.

Corridor designation would not affect land uses on non-Federal lands, where State and local land use regulations would prevail. However, voluntary cooperative arrangements could be made with landowners to emphasize water quality restoration. As in Alternatives A2, A3, and the Preferred Alternative, designation would heighten Forest Service priority for water quality protection and restoration measures on Federal lands.

## ALTERNATIVE C

Designation under this alternative would be similar to Alternative B, except that the entire 10.4 miles of Segment C (Wildcat Canyon) would be designated as *scenic* instead of Segment C2 only.

### Channel Integrity and Aquatic Environment

The effects of Alternative C would be similar to Alternative B for all sections except Segments C1 and C3 (10.4 miles), which would have a lower degree of protection because of the slightly higher potential for shoreline development and roads under a *scenic* classification. (See table 3-3, the classification matrix.)

This alternative would provide the highest level of protection for all eligible segments in the study area other than Segment C (Wildcat Canyon). In that segment, the amount of protection would be slightly less than that provided by Alternatives B, D, F, G, and J but much more than that of Alternatives A1, A2, I, and possibly A3 or the Preferred Alternative. The construction of additional roads and trails in the Wildcat Canyon area is possible under this alternative but less probable than under Alternative A1 or I. Segments designated as *wild* would be managed for little or no evidence of human activity. Therefore, various measures would be implemented in these segments to reduce or restore existing disturbed areas, resulting in decreased sedimentation. The increased possibility of additional access into the Wildcat Canyon area, as compared to Alternatives B, D, F, G, and J, could result in increased sedimentation. Any existing or new access would be managed so as not to affect the *scenic* classification. Therefore, at a minimum, habitat conditions would remain constant throughout the study area.

### Fishery Management

Fishery management would be similar to Alternative B.

Management practices that reduce erosion, and subsequent sedimentation in the river would probably be adopted. The potential to adopt management practices that reduce erosion and subsequent sedimentation in the river would be high, but not as high as in Alternative B in Segment C.

### Water Development and Flow Regime

The effects of Alternative C would be the same as those of Alternative B.

### Water Quality

The effects of Alternative C would be similar to those of Alternative B. Although the 1982 guidelines (U.S. Department of the Interior ([DOI] and U.S. Department of Agriculture [USDA], 1982) for the WSRA state that water quality in *wild* waters must "meet or exceed

Federal criteria . . .," *scenic* and *recreational* waters would still be subject to the criteria of the Federal Pollution Control Act of 1972, under which a water quality improvement plan must exist or be developed for any waters considered to be of poor quality. Therefore, the *scenic* classification assigned to the entire length of Segment C in this alternative does not necessarily mean protection of water quality would be any less than under the Alternative B *wild* classification for Sections C2 and C3.

## ALTERNATIVE D

This alternative would designate none of the segments on the North Fork but would designate all segments on the mainstem at their most protective classifications (49.4 miles). Effects of designation on the mainstem would be similar to Alternative B and on the North Fork, similar to Alternative A1.

### Channel Integrity and Aquatic Environment

Like Alternative B, this alternative would provide the best protection for all eligible segments on the mainstem of the South Platte River in the study area. Management of the North Fork corridor would be the same as under Alternative A1. This alternative would provide more area of habitat protection than Alternative A1, F, G, I, or J but less than Alternative B or C. The potential exists for more area protection on the North Fork under Alternatives A2, A3, and the Preferred Alternative. However, comparison between Alternatives A2, A3, the Preferred Alternative, and Alternative D is difficult with the information currently in hand. The potential for water development projects being proposed and approved under Alternatives A2, A3, and the Preferred Alternative may decrease protection in some segments of the study area. There is no Federal prohibition of dams or diversions for the eligible segments on the North Fork under Alternative D. Management of the eligible South Platte corridors would be the same as under Alternative B.

### Fishery Management

Fishery management on the South Platte, Segments A, B, C, D, and E, would be similar to Alternative B.

Effects on the North Fork, Segment H, would be similar to Alternative A1 with higher potential for water development projects that could significantly affect fish populations. This includes reduced potential for changes in management practices to reduce erosion and subsequent sedimentation in the North Fork.

### Angler Use

The effects of angler use on the mainstem of the South Platte would be similar to Alternative B. Effects on the North Fork would be similar to Alternative A1.

### Water Development and Flow Regime; Water Quality

The effects of this alternative on water development, flow regime, and water quality would be the same as those of Alternative B for the South Platte. For the North Fork, they would be the same as Alternative A1, with the following exceptions. Since the extreme lowest quarter-mile of the North Fork would lie within the designated corridor, it would be subject to the same potential restrictions on water quality, timing, and flows as under Alternative B. These restrictions could indirectly impact the operation of the Roberts Tunnel and of the entire river, just as if the entire North Fork corridor were designated. Under this alternative, the Forest Service would pursue voluntary cooperative arrangements with water providers to adjust outflows from existing facilities in order to benefit ORVs.

## ALTERNATIVE F

This alternative would designate four segments on the South Platte River and one segment on the North Fork that fall entirely on National Forest land (total of 26.2 miles). Effects of

designation on these segments would be similar to Alternative B. Effects on the other segments would be similar to Alternative A1.

### Channel Integrity and Aquatic Environment

Designating five segments of National Forest System lands within the study areas would have effects similar to those of Alternative B, but only on those lands. One of the most important areas in the study corridors for fish habitat and fish populations, from above Deckers to Scraggy View on the South Platte, would not be protected under this alternative.

This alternative would prohibit major dams and diversions in most of the aquatic habitats administered by the Forest Service in the study area. This would provide more area of habitat protection than Alternative A1, G, or I but less than any of the other alternatives. Under this alternative, habitats influenced by flow levels would be maintained to meet the appropriate designations. This alternative includes no Federal prohibition of dams or diversions for eligible North Fork Segments H1 and H3, nor for the areas of the South Platte in Segment E and the private lands around Lake George.

Management of the designated corridors would be identical to that described for Alternative B. In these areas, habitats influenced by flow levels would be maintained to meet the intent of the WSRA. This may result in protection of free-flows similar to that of Alternative B since both study rivers include segments recommended for designation. Various remedial measures—such as closing or improving roads in poor condition, revegetating disturbed areas, and restricting access to areas sensitive to surface-disturbing activities—would be carried out to meet the intent of designation. These measures would help reduce river sedimentation on federally administered lands. However, no such remediation would be required on non-Federal lands, even where they are intermingled with the Federal lands. Recreational impacts would have to be mitigated in Wildcat Canyon in order to meet the *wild* designation in Sections C1 and C3. This would shift off-road-vehicle use outside the designated areas. As a result, habitat conditions would, at a minimum, remain constant throughout the designated portions of Federal lands in the study area, but could possibly degrade on the areas not recommended for designation.

### Fishery Management

Fishery management under this alternative would be similar to that of Alternative B for the five segments of National Forest Land in the study area. The designation of some segments to more restrictive use, and possibly improved habitat conditions, may warrant a change in regulation to reflect the increased fishery potential. The fragmented nature of the designated segments may make regulation more difficult.

Attempts would continue to reduce erosion and subsequent sedimentation in the river. Habitat improvement techniques may be used to improve riparian and stream channel conditions on the designated areas to provide a higher quality habitat.

### Angler Use

The effects on angler use for the five segments of National Forest Land in the study area would be similar to Alternative B. Angler use may increase in all segments as the population of Colorado increases. However, the increased desirability of the designated segments to visitors that are interested in experiencing a higher quality and more pristine fishery would probably draw more people to the area.

### Water Development and Flow Regime

Designating five segments of National Forest System lands within the study corridors would have effects on water development and flow regime similar to those of Alternative B but only on those lands. No non-Federal lands would be involved, so many of Denver Water's current operations in the North Fork would not be

subject to review for compliance with the WSRA unless they inundated or unreasonably diminished the values for which the upstream or downstream *wild* and *scenic* river segments were designated. Potential water storage opportunities in the undesignated segments are not foreclosed.

#### Water Quality

The effects on water quality would be similar to those of Alternative B.

### ALTERNATIVE G

This alternative would designate the 30.8 miles of the South Platte River in the study area that are upstream from Cheesman Reservoir. Effects in the designated area would be similar to Alternative B. Effects in the non-designated segments would be similar to Alternative A1.

#### Channel Integrity and Aquatic Environment

This alternative would provide the same protection for the aquatic habitats in the study area upstream of Cheesman Reservoir as in Alternative B. The most important area in the study corridors for fish habitat and fish populations, from Cheesman Dam to Scraggy View on the South Platte, would not be protected.

This alternative would provide more area of habitat protection than Alternative A1 or I but less than any of the other alternatives. It includes no Federal prohibition of major dams, diversions, or water developments for the eligible North Fork segments or for the eligible South Platte segments downstream from Cheesman Dam. Management of the South Platte corridor upstream from Cheesman Reservoir would be identical to that described for Alternative B. In that area, habitats influenced by flow levels would be maintained to meet the appropriate designations. Road maintenance and construction near the mainstem from Cheesman Reservoir up through Elevenmile Canyon would be more restricted than under Alternative A1, in order to reduce their associated impacts. Various remedial measures—such as closing or improving roads in poor condition, revegetating disturbed areas, and restricting access to areas sensitive to surface-disturbing activities—would be carried out to meet the intent of designation. These measures would help reduce sedimentation in the designated segments. Recreational impacts would have to be mitigated in Wildcat Canyon in order to meet the *wild* designation. This would shift off-road-vehicle use outside the designated areas. Habitat conditions, at a minimum, would remain constant along the South Platte above Cheesman Reservoir. Effects on habitat conditions along segments found not suitable would be similar to those described under Alternative A1.

#### Fishery Management

Effects on fishery management would be similar to Alternative B for segments A, B, and C. Effects for all other segments would be similar to Alternative A1.

#### Angler Use

Effects on angler use would be similar to Alternative B for segments A, B, and C. Effects for all other segments would be similar to Alternative A1.

#### Water Development and Flow Regime; Water Quality

On the South Platte above Cheesman Reservoir, this alternative would have the same effects as Alternative B. Potential water storage opportunities in the undesignated segments are not foreclosed. Below Cheesman Reservoir and on the North Fork, effects would be similar to those of Alternative A1.

### ALTERNATIVE I

This alternative would designate the 22.4 miles of the South Platte within the study corridor

upstream from Corral Creek. Effects on Segment C1 would be similar to Alternative C, and effects on the other designated segments would be similar to Alternatives B or C. Effects on the non-designated segments would be similar to Alternative A1.

#### Channel Integrity and Aquatic Environment

On the South Platte above Beaver Creek, this alternative would have the same effects as Alternative B. The effects between Beaver Creek and Corral Creek would be the same as those of Alternative C. For the remaining segments, the effects would be the same as those of Alternative A1. This alternative would provide slightly more area of habitat protection than Alternative A1 but less than the other alternatives provide. The most important part of the study corridors for fish habitat and fish populations, from Cheesman Dam to Scraggy View on the South Platte, would not be protected under this alternative, and it provides no Federal prohibition of major dams, diversions, or water developments on the eligible North Fork segments, nor on the eligible South Platte segments downstream from Corral Creek. On the eligible segments upstream from Corral Creek, habitats influenced by flow levels would be maintained to meet the appropriate designations. Sedimentation would be reduced throughout the designated segments. There would be some potential for construction of additional roads and trails in the Wildcat Canyon area above Corral Creek. Construction of additional roads and trails in Wildcat Canyon below Corral Creek would be subject to current Forest Plan standards and guidelines. At a minimum, habitat conditions would remain constant in the designated areas upstream from Corral Creek; however, major habitat changes could occur in all the remaining segments.

#### Fishery Management

Effects on fishery management would be similar to Alternatives B and C for segments A, B, and C2. Effects on C1 would be similar to Alternative C. Effects for all other segments would be similar to Alternative A1.

#### Angler Use

Effects on angler use would be similar to Alternatives B and C for segments A, B, and C2. Effects on C1 would be similar to Alternative C. Effects for all other segments would be similar to Alternative A1.

#### Water Development and Flow Regime; Water Quality

On the South Platte above Beaver Creek, this alternative would have the same effects on water development, flow regime, and water quality as Alternative B. Between Beaver Creek and Corral Creek, it would have the same effects as Alternative C. Potential water storage sites in the undesignated segments are not foreclosed. Below Corral Creek and on the North Fork, the effects would be the same as those of Alternative A1.

### ALTERNATIVE J

The effects on the 48.1 miles of eligible segments along the South Platte above the North Fork confluence under Alternative J are described below. The effects on the entire North Fork and on the 1.4 miles of the South Platte below the North Fork confluence would be the same as those of Alternative A1.

#### Channel Integrity and Aquatic Habitat

Like Alternative D, this alternative would provide the best protection for all eligible segments on the South Platte in the study area, except that no protection would be provided for the 1.3-mile section of the South Platte River from the North Fork confluence to Strontia Springs Reservoir and for the entire

North Fork study corridor. Management of the North Fork corridor and the 1.3-mile non-designated South Platte segment would be the same as under Alternative A1.

On the South Platte, habitats influenced by flow levels would be maintained to meet the intent of the WSRA. This may result in protected flow levels on that river similar to those of Alternative B. Road maintenance and its associated impacts would be more restrictive in this alternative than they are at present. Sedimentation could be reduced along the South Platte but could increase along the North Fork. The same potential exists for construction of additional roads and trails in Segment C2 in Wildcat Canyon as under Alternative B, D, F, or G, which could lead to more sedimentation in this area. Also, recreational use of that segment could increase if access is improved into the area.

#### Fishery Management

Effects on fishery management would be similar to Alternative C except for the 1.3-mile section of the South Platte River from the North Fork confluence to Strontia Springs Reservoir and for the entire North Fork study corridor. Effects on these sections would be similar to Alternative A1.

#### Angler Use

Effects on angler use would be similar to Alternative C except for the 1.3-mile section of the South Platte River from the North Fork confluence to Strontia Springs Reservoir and for the entire North Fork study corridor. Effects on these sections would be similar to Alternative A1.

#### Water Development and Flow Regime

On the South Platte above the North Fork confluence, this alternative would have the same effects as Alternative D. On the North Fork and on the South Platte below the North Fork confluence, it would have the same effects as Alternative A1. Potential water storage sites in the undesignated segments are not foreclosed.

#### Water Quality

For the designated segments, this alternative would have the same effects as Alternative C. For the remaining segments, it would have the same effects as Alternative A1.

## 5.8 WILDLIFE

As described in the "Affected Environment" section (Chapter 2), the study area contains a diverse mix of vegetation from wetlands to upland forests. This mix of vegetation creates diverse habitat for wildlife that helps meet their feeding, cover, and breeding requirements. All of the acres within the study corridors are considered wildlife habitat except for the areas occupied by roads and facilities. Segments C, D, E, and H have been determined to possess ORVs for wildlife.

Designation of the study area, or lack of designation, would provide varying amounts of protection for wildlife habitat and would affect the management of the corridor for wildlife in the future.

A ranking of the alternatives based on the amount of protection they provide for wildlife habitat, from most protective to least protective, is as follows: Alternative B, C, D, J, F, G, I, A3-*Suitable*, Preferred Alternative, A3-*Not Suitable*, A2, and A1. This is based on the number of river miles that are protected, the significance of the protected habitat, the permanence of protection, and the activities allowed in each classification (*wild*, *scenic*, or *recreational*).

During scoping, the public raised the issue of the effects of designation on downstream threatened and endangered species such as the whooping crane, piping plover, and least tern and on associated habitat of the sandhill crane.

If the study area or segments of the study area were designated, the construction of a dam and reservoir on those segments would be precluded. Currently, the eligible segments are free-flowing. With designation, they would continue to be free-flowing. Wild and Scenic designation would not alter existing downstream water allocations or determine the quantity of water that eventually reaches habitats of downstream threatened and endangered species (Denver Water, 2002). Without Wild and Scenic designation, future dam and reservoir proposals could be considered. If one is proposed that would "cause a new depletion or facilitate the continued depletion" of the South Platte River, consultation with the U.S. Fish and Wildlife Service would be required under section 7 of the Endangered Species Act. The Fish and Wildlife Service would determine the effects of the proposed project on downstream species at that time.

## ALTERNATIVE A1 – NO ACTION

In this alternative, the current management activities that affect wildlife and its habitat would not change. The Forest Plan would continue to be the primary document guiding management of the study area, and recreation would continue to be the major management emphasis in the corridor. Fuel wood removal, prescribed fires, the treatment of noxious weeds, and cattle grazing are some of the management activities that would continue as they have in the past. The Forest Service, Colorado Division of Wildlife, and Denver Water would continue to work cooperatively to manage lands and enforce wildlife regulations. Any proposed project that may affect threatened, endangered, or proposed species would still be subject to the Endangered Species Act; and the project's effects on sensitive species and management indicator species would also be considered.

### Water Development

Alternative A1 would allow the potential for dam and reservoir development in the study area. While specific impacts would be addressed in detail at the time of such a proposal, the analysis of past inundation proposals in the study area (U.S. Army Corps of Engineers [USACE], 1988a) determined that there would have been habitat losses for wildlife which would have required costly replacement mitigation.

### Direct, Indirect, and Cumulative Effects

Given the expected population increase within Colorado, it is likely that incremental habitat losses would occur in the study area from the development of private lands and the development of visitor facilities on public lands. Increased human activity in the area could also reduce the effectiveness of the habitat. Secondary negative effects include the increased risk of wildfire and the introduction of non-native species, particularly noxious weeds. These effects are common to all alternatives and are considered to be part of the baseline conditions.

Based on the biological report (Appendix E), this alternative would not affect federally listed species, sensitive species, or management indicator species.

### ORV Protection

This alternative would not identify or provide additional protection for any ORVs in the study area.

## ALTERNATIVE A2

In the A2 proposal one of the stated goals is to "Provide resource and ecological protection or restoration for wildlife and plant species." (See Appendix A, Attachment C, p. C-2.) The details of how this would be accomplished are not stated but would be addressed in the future in a more detailed Recreation Management

Plan. Based on this stated goal, wildlife, and plant species may receive more emphasis on Denver Water and private lands in the future. Since this proposal extends from Elevenmile Reservoir to Chatfield State Park, this alternative provides an opportunity to cooperatively manage more acres for the benefit of wildlife than do any of the designation alternatives. Habitat improvement projects, such as prescribed burning, would be more effective with the coordinated effort of all land managers. Funding for wildlife habitat improvement projects may be available through the Endowment Fund. (See Appendix A, Attachment D.) Overall, wildlife habitat management under this alternative would not vary substantially from the existing condition. The Forest Plan would continue to be the primary document guiding wildlife habitat management on National Forest System lands. Recreation would continue to be the major management emphasis in the corridor. The Forest Service, Colorado Division of Wildlife, and Denver Water would continue to work cooperatively to manage lands and enforce regulations for wildlife. Any proposed project that may affect threatened, endangered, or proposed species would still be subject to the Endangered Species Act. Any proposed actions on National Forest System lands would also be evaluated for their effects on sensitive species and management indicator species.

The A2 proposal also specifically mentions developing Bailey Canyon as a special recreation area with emphasis on whitewater recreation (Appendix A, Attachment A). This area is currently managed as big game winter range, and developing it with a recreation emphasis would diminish its value for wildlife.

#### Water Development

Alternative A2 would allow water-supply-related improvements in Segments B, C, E, and H but would not impact the corridor's ORVs significantly during the 20-year moratorium on development of Denver Water's right-of-way. The A2 proposal commits to not build any waterworks facilities in Cheesman Canyon or Elevenmile Canyon and to withdraw the application for 780,000 acre-feet of additional storage at the Two Forks site.

#### Direct, Indirect, and Cumulative Effects

This alternative would protect 11.8 miles of the river corridor in Cheesman and Elevenmile Canyons from impoundment. The biological report determined that this alternative would benefit all federally listed, sensitive, and management indicator species in the study area for at least 20 years. Because of the complex implementation of the management plans and the 20-year time limit for protection, this alternative provides less protection than the designation alternatives and Alternative A3 or the Preferred Alternative, but more than the no action alternative (A1). Under Alternative A2, long-term protection of the ORVs is not a certainty, and more complex implementation measures may be required. After 20 years, wildlife habitat in the river corridor could be at risk of inundation.

#### ORV Protection

The Pawnee montane skipper population and habitat was determined to be an outstandingly remarkable wildlife value in Segments C, D, E, and H. The A2 alternative would protect this value primarily through its use of the Endangered Species Act. As stated in the A2 proposal (Attachment A of Appendix A), any lease of lands owned by Denver Water in Segments C, D, E, and H would specify that areas of skipper habitat be managed in a manner to protect the species. This commitment is subject to future critical habitat mapping, delisting of the species, or changes to the Endangered Species Act. The skipper was identified as an ORV based on its unique occurrence in the river corridor, not on its status as a listed species. Should the species be delisted or any other stated change take place, it is not clear how the A2 alternative would provide protective measures for this ORV.

Peregrine falcon habitat was determined to be an ORV in Segment H. The known nesting site is currently closed to human activity each nesting season. Alternative A2 would recommend additional road and trail construction restrictions for this site. These measures would provide full protection for this ORV for at least 20 years. Protective measures beyond 20 years were not identified.

## ALTERNATIVE A3 AND THE PREFERRED ALTERNATIVE

Alternatives A3-*Suitable*, A3-*Not Suitable,* and the Preferred Alternative would protect all ORVs for at least 20 years but would not recommend designation. These alternatives are not substantially different from A2 in terms of their effects on wildlife. One difference is that the Bailey Canyon area would continue to be managed as big game winter range, with low levels of recreation use, rather than as a special-emphasis whitewater recreation area. This would protect the winter range and riparian wildlife habitat of the canyon. The Wildcat Canyon area, Segment C, would have a focused planning effort to determine compatible and appropriate uses for the area. Wildlife is one of the issues of concern in this area.

### Water Development

In addition to the A2 commitments, the Preferred Alternative and Alternative A3-*Suitable* would protect eligibility on National Forest System lands, and A3-*Not Suitable* would allow critical development projects to have limited or reasonable effects on ORVs or free-flow.

### Direct, Indirect, and Cumulative Effects

The A3 alternatives and the Preferred Alternative would protect 11.8 miles of the river corridor in Cheesman and Elevenmile Canyons from impoundment. The biological report determined that this alternative would benefit all federally listed, sensitive, and management indicator species in the study area for at least 20 years. Because of the management changes stated above, the A3 alternatives and the Preferred Alternative would protect wildlife habitat more than Alternatives A1 or A2 but less than the designation alternatives. Additionally, under the Preferred Alternative and Alternative A3-*Suitable*, the ORVs on National Forest System lands would be protected; and as a consequence, wildlife habitat on those lands would also be protected. Since Alternative A3-*Not Suitable* would allow limited or reasonable effects on ORVs, it would not provide as much wildlife habitat protection as Alternative A3-*Suitable* or the Preferred Alternative.

### ORV Protection

The Pawnee montane skipper population and habitat was determined to be an ORV in Segments C, D, E, and H. The A3 alternatives and the Preferred Alternative would protect this value primarily through use of the Endangered Species Act and by committing to not build waterworks facilities in Segment D. Since Alternative A3-*Not Suitable* would allow limited or reasonable effects to this ORV, it would not provide as much protection as the Preferred Alternative or Alternative A3-*Suitable*. Should the skipper be delisted or any other stated change take place, this ORV would continue to be protected on National Forest System lands under the Preferred Alternative and Alternative A3-*Suitable* and, to a lesser extent, under A3-*Not Suitable*.

Peregrine falcon habitat was determined to be an ORV in Segment H. The known nesting site is currently closed to human activity each nesting season. The A3 alternatives and the Preferred Alternative would recommend additional road and trail construction restrictions for this site. These measures would provide full protection for this ORV for at least 20 years. Protection measures extending beyond 20 years were not identified. Additionally, under Alternative A3-*Suitable* and the Preferred Alternative, a small portion of the

site that is on National Forest System lands would be protected as an ORV. Since Alternative A3-*Not Suitable* would allow limited or reasonable effects to this ORV, it would not provide as much protection as the Preferred Alternative or A3-*Suitable*.

## ALTERNATIVE B

This alternative would protect 72.3 miles of the rivers at their most protective classifications.

### Water Development

Designation under the WSRA would prohibit future impoundments of the designated rivers by any major water resource project requiring Federal approvals, subject to prior existing rights. Any proposed improvements to the water delivery system—such as channel modification, bank stabilization, diversions, and other modifications of the waterway—would have to be evaluated for their effects on the river's free-flowing condition and ORVs.

### Direct, Indirect, and Cumulative Effects

This alternative could provide additional protection for wildlife and its habitat primarily due to the prohibition of future impoundments. Designation would also prohibit new roads and motorized use in *wild* segments and limit new construction and new river crossings in scenic segments, which would reduce disturbances to wildlife and riparian habitat. This alternative would allow less recreation development and road construction than any of the other alternatives. This restriction on development could result in favorable cumulative effects by providing habitat linkages and connectivity with other undeveloped drainages, particularly in Segment C, Wildcat Canyon. On the other hand, accessibility for future wildlife habitat improvements projects could be limited, especially in Segment C. Because this alternative protects the most river miles in the most protective classifications, the biological report determined that this alternative would benefit all federally listed, sensitive, and management indicator species in the study area more than any other alternative.

### ORV Protection

Under this alternative, wildlife ORVs would be protected under the guidance of the Wild and Scenic Rivers Act in all areas where they have been identified (Segments C, D, E, and H). All skipper habitat and peregrine falcon habitat in the study area would be protected.

## ALTERNATIVE C

### Water Development

The effects of water development on wildlife would be the same as under Alternative B.

### Direct, Indirect, and Cumulative Effects

The effects on wildlife under this alternative would be the same as those of Alternative B, except that the 10.4-mile section of Segment C would be managed as scenic and not wild. This would allow some roads and motorized use in Segment C that would not be allowed under Alternative B. In the past, motorized use of portions of Segment C has impacted riparian, wetland, and upland habitat. This alternative would create favorable cumulative effects by providing habitat linkages and connectivity with other undeveloped drainages, but it may not be as effective in this respect as Alternative B. The biological report determined that Alternative C would benefit all federally listed, sensitive, and management indicator species in the study area but would provide less benefit than Alternative B.

### ORV Protection

Under this alternative, wildlife ORVs would be protected under the guidance of the Wild and Scenic Rivers Act in all areas where they have been identified (Segments C, D, E, and H). All skipper habitat and peregrine falcon habitat in the study area would be protected.

## ALTERNATIVE D

### Water Development

The effects of water development on wildlife would be the same as under Alternative B for Segments A, B, C, D, and E and the same as Alternative A1 for Segment H.

### Direct, Indirect, and Cumulative Effects

The effects on wildlife under this alternative would be the same as those of Alternative B, except that Segment H of the North Fork would not be recommended for designation. This segment is 22.9 miles long. About 700 acres of riparian habitat, 140 acres of grassland habitat, and 5,400 acres of forested habitat in this segment would not be protected through designation. The biological report determined that this alternative would benefit most federally listed, sensitive, and management indicator species in the segments considered but would provide less benefit than Alternative C. Even though Segment H1 would not be protected, Alternative D would not impact the boreal toad. The effects on Segment H would be the same as Alternative A1.

### ORV Protection

Under this alternative, the wildlife ORVs would be protected under the guidance of the Wild and Scenic Rivers Act on Segments C, D, and E but not on Segment H. Approximately 60 percent of the skipper habitat in the study area would be protected.

## ALTERNATIVE F

### Water Development

The effects of water development on wildlife would be the same as under Alternative B on all National Forest System lands and the same as under Alternative A1 on other lands.

### Direct, Indirect, and Cumulative Effects

The effects on wildlife under this alternative would be similar to those of Alternative D, except that an additional 2.6-mile segment on the North Fork would be recommended for designation (Segment H2), a 19.5-mile segment of the South Platte downstream from the Wigwam Club property (Segment E) would not be designated, and two small sections totaling 6.3 miles around Lake George would not be designated. The effects would be the same as in Alternative B for the designated segments and the same as in Alternative A1 for the non-designated segments. The biological report determined that this alternative would benefit most federally listed, sensitive, and management indicator species in the segments considered but would provide less benefit than Alternative J. Even though Segments E and H3 would not be protected, Alternative F would not impact the Ute ladies tresses' orchid.

### ORV Protection

Under this alternative, the wildlife ORVs would be protected under the guidance of the Wild and Scenic Rivers Act on Segments C and D but not on Segments E and H. Approximately 5 percent of the skipper habitat in the study area would be protected.

## ALTERNATIVE G

### Water Development

The effects of water development on wildlife would be the same as under Alternative B for Segments A, B, and C. The effects for Segments D, E, and H would be similar to those of Alternative A1.

### Direct, Indirect, and Cumulative Effects

The effects on wildlife under this alternative would be the same as those of Alternative B on the South Platte upstream from Cheesman Reservoir, and the same as those of Alternative A1 on the North Fork and the

South Platte downstream from Cheesman Reservoir. The biological report determined that this alternative would benefit most federally listed, sensitive, and management indicator species in the segments considered but would provide less benefit than Alternative F. Even though Segments E, H1, and H3 would not be protected, Alternative G would not impact the Ute ladies tresses' orchid or the boreal toad.

#### ORV Protection

Under this alternative, the wildlife ORVs would be protected under the guidance of the Wild and Scenic River Act on Segment C but not on Segments D, E, or H. Approximately 1 percent of the skipper habitat in the study area would be protected.

### ALTERNATIVE I

#### Water Development

The effects of water development on wildlife would be the same as under Alternative C for Segments A and B and for the part of Segment C from Beaver Creek to Corral Creek. The effects for Segments D, E, and H and for Segment C downstream from Corral Creek would be similar to those of Alternative A1.

#### Direct, Indirect, and Cumulative Effects

The effects on wildlife under this alternative would be the same as those of Alternative C upstream from Corral Creek, and the same as Alternative A1 downstream from Corral Creek. The biological report determined that this alternative would benefit most federally listed, sensitive, and management indicator species in the segments considered but would provide less benefit than Alternative G. Even though Segments E, H1, and H3 would not be protected, this alternative would not impact the Ute ladies tresses' orchid or the boreal toad.

#### ORV Protection

Under this alternative, the wildlife ORVs would be protected under the guidance of the WSRA on Segment C upstream from Corral Creek but not on Segment C downstream from Corral Creek or on Segments D, E, or H. Less than 1 percent of the skipper habitat in the study area would be protected.

### ALTERNATIVE J

#### Water Development

The effects of water development on wildlife would be the same as under Alternative B for Segments A, B, C, D, and E above the confluence with the North Fork. The effects on Segment E downstream from the confluence with the North Fork and Segment H would be similar to those of Alternative A1.

#### Direct, Indirect, and Cumulative Effects

The effects on wildlife under this alternative would be the same as those of Alternative B, except that Segment H of the North Fork and a 1.3-mile section of Segment E would not be recommended for designation. About 700 acres of riparian habitat, 140 acres of grassland habitat, and 60 acres of shrubland, and 5,700 acres of forested habitat would not be protected through designation. The biological report determined that this alternative would benefit most federally listed, sensitive, and management indicator species in the segments considered but would provide less benefit than Alternative D. Even though Segments H1, would not be protected, this alternative would not impact the boreal toad.

#### ORV Protection

Under this alternative, the wildlife ORVs would be protected under the guidance of the WSRA on Segments C, D, and E but not on Segment H or 1.3 miles of Segment E. Approximately 60 percent of the skipper habitat in the study area would be protected.

## 5.9 RECREATION

This section discusses the effects of each alternative on recreation in terms of recreation use, recreation experience, facilities development, management, recreation partnerships, and protection of ORVs. Recreation use of the area has an economic and social influence on the local counties. It also affects their natural resources. The principal differences between the alternatives relate to the potential implementation of water resource development and on river protection scenarios.

### EFFECTS COMMON TO ALL ALTERNATIVES

In all alternatives, the State's authority over boating safety is unaffected. Laws and regulations regarding boating on rivers, including passage of watercraft through reaches bounded by private land, would be applicable in all alternatives. For Alternatives A2, A3, and the Preferred Alternative, the increase in total recreation use and visitation would be most similar to that of Alternative B, based on the geographic area included. However, Alternatives A2, A3, and the Preferred Alternative offer better opportunities for management partnerships, funding, and enforcement than any of the designation alternatives, which would likely have to rely more on Federal funding and personnel for implementation. In addition, some of the river flow and bank rehabilitation agreements in A2, A3, and the Preferred Alternative could enhance many recreation values by reducing the appearance of unnatural impacts, by improving fisheries, or by extending periods when flow is sufficient for boating.

The types of recreation experiences available under Alternatives A2, A3, and the Preferred Alternative would parallel those of Alternative B, since the SPPP would use the same guidelines as those used under WSRA designation for establishing and maintaining river classifications and Recreation Opportunity Spectrum (ROS) classes. In these alternatives, the potential for cooperative management and funding of recreation facilities is high, with a commitment by Denver Water to allow another agency to manage recreation use and development on its lands. In many parts of the corridor, Denver Water's lands offer better recreational opportunities than the National Forest System lands. Alternatives A2, A3, and the Preferred Alternative also provide a source of funding for projects that could include recreation facilities. The opportunity for management partnerships is very high in these alternatives, with several agencies and organizations committed in writing to providing funds or other resources.

Alternatives A2, A3, and the Preferred Alternative do not protect outstandingly remarkable recreation values as well as the designation alternatives, in that the SPPP does not prohibit dam construction. However, long-term protection is greater than in no action Alternative A1, because under the SPPP Denver Water voluntarily commits to not proposing a dam in their right-of-way at the confluence for an extended time period, and all water providers commit to constructing no new water works in Elevenmile and Cheesman Canyons.

Alternatives A2, A3, and the Preferred Alternative include a larger river corridor area than any of the other alternatives since the management area would extend downstream to include Strontia Springs Reservoir and Waterton Canyon to Chatfield State Park. This larger river management area and the cooperative commitments provide an opportunity for greater consistency in management and, therefore, a higher quality recreation experience and protection of ORVs, free-flow, and water quality. Alternatives A2, A3, and the Preferred Alternative probably provide a greater service to the recreating public than the other alternatives considered in this study.

## ALTERNATIVE A1 – NO ACTION

This alternative accommodates the current recreation use patterns as directed by the Forest Plan but allows for more recreation developments in the area. New recreational facilities would be analyzed on a case-by-case basis for consistency with the Forest Plan. Commercial outfitting and guiding would continue to be administered by special use permit. Additional operations may be permitted if consistent with the Forest Plan.

Recreation use is expected to continue to increase annually but would likely increase somewhat less rapidly than with the Wild and Scenic River designation proposed in Alternatives B through J. Designation may inherently attract more visitors to the river corridor. Road construction and timber harvest under the Forest Plan could reduce the opportunities for solitude and primitive recreation experiences in the potential *wild* and *scenic* segments of the study corridors. The ROS classes for the study corridors would remain *rural* for Segments A, B, E, and H; *semi-primitive motorized* for Segment C from Corral Creek to Vermillion Creek; and *semi-primitive nonmotorized* on Segment C from Corral Creek to Cheesman Reservoir and on Segment D

Motorized off-highway-vehicle recreation opportunities would continue to be available in the potential *wild* segments, especially in the areas of current OHV use such as Wildcat Canyon. Any new road construction in the study corridors would provide additional opportunities for motorized recreation, including sightseeing.

This alternative leaves open the potential for major dams, diversions, and water developments in the study corridors. If this should occur, those recreation opportunities, based on the free-flowing river as currently exists, could be irretrievably lost. Different types of recreation opportunities could become available, though, if a new reservoir were built.

If no additional water resource projects are built, recreation uses are expected to increase by 3-4 percent annually on National Forest System lands. Extensive partnership efforts with Denver Water, Colorado Division of Wildlife, four-wheel drive clubs, and other organizations would continue to provide quality recreation opportunities and additional resource protection in the area. Opportunities to provide additional recreation facilities along the study corridors would not be affected.

## ALTERNATIVE A2

Alternative A2 would allow water-supply-related improvements in Segments B, C, E, and H, although Denver Water has committed itself to not cause significant impacts to the recreation ORVs considering the river corridor as a whole. This ORV protection standard is greater than that provided in A1 but less than that provided in A3, the Preferred Alternative, or any of the designation alternatives.

## ALTERNATIVE A3 AND THE PREFERRED ALTERNATIVE

Alternatives A3-*Suitable* and A3-*Not Suitable* and the Preferred Alternative provide two development standards: A3-*Suitable* and the Preferred Alternative absolutely protect the eligibility of river segments on National Forest lands, whereas A3-*Not Suitable* has eligibility as a goal but allows some critical development projects that could have limited or reasonable effects to ORVs or free-flow. The Preferred Alternative and A3-*Suitable* protections of ORVs and free-flow are greater than those of Alternatives A1, A2, or A3-*Not Suitable* but are less than those of any of the designation alternatives. For example, under A3-*Not Suitable,* if a proposed diversion structure would create a small impoundment that would affect the kayaking, canoeing, or tubing experience, it nevertheless could be approved if a need for additional water supplies was determined to be critical enough to warrant limited or reasonable effects to the recreation ORV.

## ALTERNATIVE B

Annual recreation use on National Forest System lands would be expected to be slightly higher under this alternative than under A1, as rivers receive more publicity through designation. If designation does attract more users to the river corridor and no mitigation measures are taken, it could cause cumulative impacts such as habitat degradation and visible impacts such as vegetation loss at campsites and along foot trails, bank erosion, and increased litter.

A river management plan would be developed, which would include mitigating measures to protect the natural resources in the corridor from increasing recreation use. Any increases in use would be monitored, and measures would be taken to mitigate any impacts on private lands and ORVs as determined by the management plan. If necessary, these measures could include limiting dispersed camping sites, access, parking, or user numbers, or providing appropriate facilities compatible with the classification.

This alternative is likely to maintain the current recreation use patterns, except that motorized OHV use would not be allowed in Segments C1 and C3. This would not change current use appreciably since most motorized use in Wildcat Canyon is confined to Segment C2. Additional measures to protect current recreation values would be specified in a river management plan, which would include special measures to protect and enhance the recreation ORVs in Segments A, D, E, and H. This alternative generally limits developed recreation construction in the river corridors. It precludes the construction of major public use areas such as large developed campgrounds, administrative sites, and interpretive centers in the *wild* segments of the river corridors. Recreational development could occur in *scenic* segments if such structures were screened from the river. Recreational development in the *recreational* segments would allow major public use areas and campgrounds in close proximity to the river as long as the ORVs were protected. However, this classification does not require extensive recreation development. Disabled access would be increased as recreation sites are improved in the *recreational* and *scenic* segments.

The opportunities for solitude in the *wild* sections in Segments C and D would be enhanced and maximized under this alternative. The ROS would change from semi-primitive motorized to semi-primitive nonmotorized in Segments C1, C2, and D. Motorized recreation opportunities in these areas would be prohibited. This would ensure the protection of the high-quality nonmotorized dispersed recreation opportunities in these areas. The current OHV use would be allowed to continue in Segment C2. New roads and recreation development in this segment would be discouraged but not prohibited. The ROS would change from roaded natural to semi-primitive nonmotorized in Segment H2. This would lead to the protection of the area's backcountry nature. The ROS class would remain roaded natural for Segments A, B, E, H1, and H3.

Even more extensive partnership efforts with Denver Water, Colorado Division of Wildlife, four-wheel drive clubs, and other organizations would be pursued; and some additional Federal funding could be available to provide additional protection to the recreational ORV in the area.

This alternative provides no potential for approved dams, diversions, and water development projects in the river corridors. Recreation opportunities and activities dependent on the free-flowing river would be preserved.

## ALTERNATIVE C

The effects of Alternative C would be similar to those of Alternative B except that all of Segment C would remain *semi-primitive motorized*. This would allow the continuation of the area's current OHV use and backcountry nature and would discourage, but not prohibit, new roads

and recreation development in this segment. The opportunities for solitude in the *wild* section in Segment D would be enhanced and maximized under this alternative. The ROS would change from *semi-primitive motorized* to *semi-primitive nonmotorized* in this section, and motorized recreation would be prohibited. This would ensure the protection of high-quality nonmotorized dispersed recreation opportunities in Segment D. The ROS classifications for Segments A, B, E, H1, H2, and H3 would be the same as under Alternative B.

### ALTERNATIVE D

The effects of this alternative are the same as those of Alternative B on the South Platte corridor and those of Alternative A1 on the North Fork corridor.

### ALTERNATIVE F

The effects of the alternative would be similar to those of Alternative B for National Forest System lands, except that it would provide no protections from major dams, diversions, and water developments and no protections for recreation ORVs downstream from the Wigwam Club property on the South Platte and in Segments H3 and H1 on the North Fork.

### ALTERNATIVE G

The effects of this alternative are the same as those of Alternative B for the South Platte corridor upstream from Cheesman Reservoir, and the same as those of Alternative A1 for the South Platte corridor downstream from Cheesman Reservoir and for the entire North Fork corridor. This alternative would provide no protections from major dams, diversions, and water developments and no protections for recreation ORVs downstream from Cheesman Dam neither on the South Platte nor on the North Fork.

### ALTERNATIVE I

The effects of this alternative are the same as those of Alternative C for the South Platte corridor upstream from Corral Creek and the same as those of Alternative A1 for the South Platte corridor downstream from Corral Creek and for the entire North Fork corridor. This alternative would provide no protections from major dams, diversions, and water developments and no protections for recreation ORVs downstream from Corral Creek on the South Platte nor on the North Fork.

### ALTERNATIVE J

The effects of this alternative would be the same as those of Alternative D except in the following places:

1. The effects to a 1.3-mile section of the South Platte downstream from the confluence would be the same as Alternative A1.
2. Segment C2 would remain *semi-primitive motorized*.

This classification would allow the continuation of the area's current OHV use and backcountry nature and would discourage, but not prohibit, new roads and recreation development in these segments.

## 5.10 TRANSPORTATION

### EFFECTS COMMON TO ALL ALTERNATIVES

All roads in Segment C, Wildcat Canyon, are closed currently subsequent to the June 2002 Hayman Fire and pending a roads analysis. The following discussion addresses road status for all alternatives prior to the fire, and reference to keeping roads open is based on pre-fire conditions. The conclusions of this EIS transportation analysis may change

subsequent to the findings of the Hayman roads analysis. The analysis currently is underway, and a report should be available by the fall of 2003.

### ALTERNATIVE A1 – NO ACTION

This alternative does not affect existing transportation uses and systems within the study corridors. It is the current situation as specified in the Forest Plan and serves as the baseline to which other alternatives may be compared. Roads could be constructed into any portions of the river corridor but would require the preparation of a separate environmental analysis or environmental impact statement.

In most areas, the likelihood of new roads, except for access roads to housing developments, is considered low. Existing roads in Segment C (Wildcat Canyon) would remain open; and this includes, for instance, the OHV road that crosses the South Platte from Corral Creek (National Forest Service Road [NSFR] 540), turns south and parallels the west bank for a mile, then fords the South Platte, and climbs out of the canyon to the east near Longwater Gulch (NFSR 221). The Hackett Gulch Road (NFSR 220), which goes down to the river, would remain open, although the ford has been closed. Roads that are currently closed and would remain closed in all alternatives include the four-wheel-drive Northrup Gulch Road (NFSR 206), which was closed several years ago about a quarter-mile from the river to mitigate erosion and protect resource values, and the Metberry Creek Road (NFSR 205), which has been closed below Custer Cabins to reduce erosion on a quarter-mile steep section. The remaining open roads are very valuable to the motorized community as they represent a level of challenge in four-wheeling that is not abundant near the Front Range. Four-wheel-drive and OHV clubs would continue to work with the Forest Service to ensure the protection of resource values in this area. Additional routes in the area might be opened as long as resource values could be protected under the Forest Plan.

The Hayman Fire, started in June of 2002, resulted in a temporary closure of these roads pending a roads analysis to assess resource damage and develop recommendations for future use.

### ALTERNATIVES A2, A3, AND THE PREFERRED ALTERNATIVE

Changes in river management could have an impact on transportation use, road maintenance, and travel opportunities. The potential effects of Alternatives A2 and A3-*Not Suitable* are the same since, under both alternatives, limited or reasonable detractions from the Wild and Scenic River eligibility could be approved. The Preferred Alternative and Alternative A3-*Suitable* maintain full eligibility, thereby allowing only development projects that would not change or diminish the ORVs, free-flow, or water quality.

In most areas, the likelihood of new roads being constructed, except for access roads to housing, is considered low. Existing roads in the Wildcat Canyon area are closed currently pending a roads analysis subsequent to the Hayman Fire in June of 2002. Results of the roads analysis and comprehensive public planning effort might be to close some of the OHV roads due to the high risk of sedimentation and unacceptable resource damage and an inability to mitigate the damages. Four-wheel-drive and OHV clubs would be specifically included in the planning process to assure a full understanding of the recreational use of the area. Additional issues to be considered are impacts to wildlife travel corridors and habitat needs, private landowner concerns when developing solutions for resource, and water quality protection. The Forest Service would continue to work with four-wheel drive and OHV groups to address resource issues, user education, and enforcement. No roads would be constructed

in the *wild* classification area. To do so would negate the classification definition for *wild*.

Sediment loads from road maintenance and road use would be addressed to reduce impacts to the river water quality. Road maintenance activities of all agencies would be reviewed and revised to meet water quality "best management practices" and reduce the sediment loads. New practices for all agencies may be developed and implemented by all parties that participate in the memorandum of understanding that would be required to establish either of these alternatives. Road paving may occur in the *recreational* classification areas. Under the Elevenmile Ecosystem Management Project approved in 1995, the upper 2.7 miles of Elevenmile Canyon road would have been closed to public use, and the remainder of the road would have been paved to reduce sediment from road maintenance activities. However, this project will not be implemented due to the high cost and lack of available resources.

No new roads would be constructed on National Forest land along the North Fork in Bailey Canyon to manage for big game winter range and summer dispersed recreation activities. No roads would be constructed in Cheesman Canyon to maintain its *wild* classification. Road construction limitations in these areas would constrain access for future natural resource management to existing roads.

### ALTERNATIVE B

Under Alternative B, all 10.5 miles of *wild* segments would be closed to motorized vehicles, and no road construction would be allowed. Protection of the area's primitive characteristics would be ensured. Future access for natural resource management in these areas would be severely limited. This alternative would have little effect on current access in Cheesman Canyon (Segment D), but it would eliminate any OHV use in Segments C1 and C3 in Wildcat Canyon. OHV use in Segment C2 (Hackett Gulch to Corral Creek), primary recreation activity in this area, would be unaffected by this alternative. The Forest Service would work with four-wheel-drive and OHV clubs to develop partnerships and ensure the protection of resource values in Wildcat Canyon. Additional mitigation measures would be added to protect ORVs in the *recreational* segments upstream from Wildcat Canyon. A management plan would be written that would minimize river crossings in all designated segments and add additional protections to limit impacts of roads on the ORVs. These road construction mitigation measures might reduce some future road construction in the *scenic* and *recreational* segments.

### ALTERNATIVE C

The effects of this alternative would be the same as those of Alternative B, except that no motorized vehicle roads or OHV areas would be closed in Wildcat Canyon (Segment C). River crossings in designated segments would be minimized, and additional constraints on road building would limit its impacts on the ORVs. These road construction mitigation measures might reduce some future road construction in the *scenic* and *recreational* segments. The Forest Service would continue working with four-wheel-drive and OHV clubs to develop partnerships and ensure the protection of resource values in Wildcat Canyon. Additional routes in the area might be opened as long as the ORVs were protected and enhanced.

### ALTERNATIVE D

The effects of this alternative would be the same as those of Alternative B on the South Platte corridor. The effects on the North Fork would be the same as under Alternative A1. No additional road construction mitigation measures to minimize effects of roads on ORVs would occur on the North Fork.

### ALTERNATIVE F

The effects of this alternative on National Forest System lands in Segments A, B, C, D, and H2 would be the same as those of Alternative B. The effects would be similar to those of Alternative A1 in Segment E on the South Platte and in Segments H1 and H3 on the North Fork, as no additional mitigation measures on road construction would occur in those segments.

### ALTERNATIVE G

The effects of this alternative upstream from Cheesman Reservoir would be similar to those of Alternative B. Effects in Segments D and E on the South Platte and in Segment H2 on the North Fork would be similar to those of Alternative A1, as no additional road construction mitigation measures would be imposed on National Forest System lands in those segments.

### ALTERNATIVE I

The effects of this alternative would be the same as those of Alternative C on the South Platte upstream from Corral Creek and the same as those of Alternative A1 on the North Fork and on the South Platte downstream from Corral Creek.

### ALTERNATIVE J

The effects of this alternative would be similar to those of Alternative B on the South Platte, except for the 1.3 miles from the confluence with the North Fork to Strontia Springs Reservoir. The effects on the North Fork and on that 1.3-mile section of the main stem would be the same as Alternative A1.

## 5.11 SCENERY

While all of the alternatives afford scenery protection, the level of protection differs between Alternative A1, Alternatives A2 and A3, the Preferred Alternative, and designation. Changes in river management could affect the scenic qualities of the river corridor.

### ALTERNATIVE A1 – NO ACTION

Under Alternative A1, the scenic quality of National Forest System lands along the river would be protected through the Forest Plan standards and guidelines. Scenic quality on private lands is protected through application of the counties' comprehensive plans or zoning guidelines.

The Existing Visual Condition categories under Alternative A1 would maintain the current conditions in the study corridors as specified in the Forest Plan. (See section 2.14, "Scenery," in Chapter 2.) The Existing Visual Conditions for the area along the river in the study corridors range from II to V, with Type II predominating. In Type II areas, changes in the landscape are not visually evident to the average person unless pointed out. Type IV represents areas in which the average forest visitor easily notices changes in the landscape (as defined in Chapter 2). The area along the river in Elevenmile Canyon (Segment A), the South Platte downstream from the Wigwam Club (Segment E), and the North Fork downstream from Ferndale to the confluence (most of Segment H3) fall in this category. Type V represents areas in which changes in the landscape are strong and would be obvious to the average visitor. The South Platte around Lake George (Segment B) and the North Fork upstream from Ferndale (Segments H1 and H2) generally qualify for this category.

What this means is that the visual qualities of the National Forest System lands already are high. In addition, Denver Water manages most of its lands in the area to protect the water

quality in its water delivery system, to provide recreation, and to protect other natural resources in the area; and this approach also results in protection of the area's scenic qualities. Current county zoning has also been effective in limiting development in most segments. The potential for future water resource developments would not be foreclosed under this alternative. In the event a dam was constructed, the resulting reservoir would result in an irretrievable loss of the free-flowing nature and the existing scenic character of the rivers.

The Visual Quality Objectives for the study corridors, as described in section 2.16, would not change under this alternative. These are described in Chapter 2, "Affected Environment." All segments would remain at Foreground Retention or Middleground Partial Retention in parts of Segment H.

This no action alternative provides no additional funding to manage scenery in the corridors and no Federal technical assistance to landowners. Federal easement and/or land exchange from willing sellers to protect scenery would be unlikely.

## ALTERNATIVES A2, A3, AND THE PREFERRED ALTERNATIVE

The Preferred Alternative, Alternatives A2, and A3 also protect National Forest System lands through the Forest Plan's standards and guidelines. Protection under these alternatives, however, would be greater than it is under A1 as a result of the greater emphasis placed on scenery protection to comply with the SPPP or to maintain Wild and Scenic River designation eligibility, either as a requirement or as a goal. VQOs might be more restrictive. Any changes to further restrict VQOs would be made during the management planning process.

The Jefferson, Park, and Douglas County comprehensive plans would still protect private lands and other non-Federal lands. In these cases also, the protection may be higher as a result of these counties being party to the cooperative management of the river corridor. Most notably, the Front Range Mountain Backdrop Project—an ongoing joint effort by the Colorado counties of El Paso, Douglas, Jefferson, Boulder, and Larimer—has

demonstrated the willingness and ability of Front Range counties to cooperate for the sake of protecting scenic resources.

## ALTERNATIVE B

Under this alternative, the Forest Service would prepare a management plan, which would review and modify the current Existing Visual Conditions, both inside and outside the study corridors, to ensure the protection and enhancement of ORVs. Special attention would be given to scenery on the South Platte in Segments A and C where it is an ORV. Federal funding and technical assistance may be earmarked for the corridor, in addition to funding already available under existing National Forest programs.

VQOs could be more restrictive than they would be under Alternative A1 and could move toward *preservation* in the *wild* areas, remain as *retention* in the foreground of the *scenic* segments, and change from partial retention to retention in the middleground of the *scenic* segments. ("Middleground" indicates areas outside the study corridors that are visible from within the corridor.) VQOs of the *recreational* segments would remain the same as they are under Alternative A1.

These changes would have an effect on the amount and type of potential timber harvest and type of facilities and recreational developments allowed both in the corridors and in the middleground areas outside the corridors. Under these more restrictive VQOs, vegetation management treatments, including timber removal, both within and adjacent to the corridors, would not be visible from roads and recreation areas within the corridors. No scheduled timber harvest would be allowed within the *wild* segments, and vegetation

treatments, including timber removal, within the other segments and in areas visible from the corridors would be limited by the VQO. Since future mining claims would be prohibited in *wild* segments and additional restrictions would be placed on timber harvest, roads, and recreational developments, this alternative would provide better protection of scenery over a greater area than any of the other alternatives.

Alternative B offers a greater likelihood of additional funding to improve scenery in the recommended river corridors and a greater likelihood of Federal technical assistance. It also could lead to Federal easements and/or land exchanges with willing sellers to protect scenery under the WSRA.

No approved dams could be constructed in the corridors, thus preventing the resultant irretrievable loss of the existing scenic character of the rivers.

### ALTERNATIVE C

The effects of this alternative would be similar to those of Alternative B, except that all Segments C1 and C3 (totaling 7.4 miles) would be classified as *scenic* rather than *wild*. This alternative still provides greater protection of scenery than any of the other alternatives except Alternative B.

### ALTERNATIVE D

The effects of this alternative would be similar to those of Alternative B for the South Platte and similar to those of Alternative A1 for the North Fork. This alternative provides greater protection of scenery than Alternatives A1, F, G, I, and J.

### ALTERNATIVE F

The effects of this alternative would be similar to those of Alternative B upstream from the Wigwam Club property and similar to those of Alternative A1 for the North Fork and the South Platte downstream from the Wigwam Club property. This alternative provides greater protection of scenery than Alternatives A1, G, and I.

### ALTERNATIVE G

The effects of this alternative would be similar to those of Alternative B upstream from Cheesman Reservoir and similar to those of Alternative A1 for the North Fork and the South Platte downstream from Cheesman Dam. This alternative provides greater protection of scenery than Alternatives A1 and I.

### ALTERNATIVE I

The effects of this alternative would be similar to those of Alternative B upstream from the Wigwam Club property and similar to those of Alternative A1 for the North Fork and the South Platte downstream from the Wigwam Club property. This alternative provides less protection of scenery than any of the other alternatives except Alternative A1.

### ALTERNATIVE J

The effects of this alternative would be similar to those of Alternative D, except that a 0.3-mile portion of the South Platte below the confluence would not be included in the designation. This alternative provides greater protection of scenery than Alternatives A1, F, G, and I.

## 5.12 CULTURAL RESOURCES

Cultural resources have been identified within or adjacent to all segments and corridors of the North Fork and the mainstem of the South Platte considered during this analysis. The North Fork corridor (Segment H) contains the North Fork and Estabrook Historic Districts, which are identified as possessing ORVs. There are other important historic and prehistoric cultural properties within the study area, notably

the remains of two pioneering railroads. The grade, related features, and archeological deposits of the Midland Railroad are contained in Eleven Mile Canyon; similar remnants of the Denver, South Park, and Pacific Railroad are preserved on the lower portion of the North Fork between the confluence with the South Platte and Bailey. These railroad-related resources are not considered outstandingly remarkable in this analysis; however, the historic remains of both railroads are eligible to the *National Register of Historic Places* (National Register). None of the alternatives in this analysis include proposed actions that would affect any known historic or prehistoric cultural property. Implementation of some of the considered alternatives may lead to future actions that would provide additional protection for significant cultural sites. However, implementation of some other alternatives would not protect the known and potential significant cultural sites from inundation or other damage resulting from the construction and operation of water impoundments on either the mainstem or the North Fork.

### ALTERNATIVE A1 – NO ACTION

Alternative A1 would maintain the current conditions and management strategies without the protections afforded by Wild and Scenic designation. Implementation of this alternative would have no direct impacts on cultural resources. Significant cultural resources (National Register or State Register eligible cultural properties or "sites") would be protected on Federal or State lands, and sites on private lands would be unprotected. There would be no mandate for enhancement of significant sites (i.e., for site interpretation or other public use). However, government agencies and other interested parties could still form partnerships to ensure the interpretation and protection of cultural resources.

Implementation of this alternative could allow approved dam construction, diversions, or other water developments within the study corridors that, if constructed, could potentially affect significant cultural sites.

### ALTERNATIVE A2 – SOUTH PLATTE PROTECTION PLAN

Given appropriate planning and scheduling, implementation of Alternative A2 would have no direct effects on cultural properties. The withdrawal of the 1986 applications for water storage and the 20-year moratorium on right-of-way development would provide some protection for potentially threatened cultural sites. Cultural resource inventories for riverbank stabilization and restoration projects would be sufficient to identify potentially affected cultural sites; and protection measures, if appropriate, can be developed from survey results. Because the historical remains of the Denver, South Park, and Pacific Railroad and the Midland Railroad are near the river channel, it may be necessary to build in specific protection measures for these resources during the planning for riverbank stabilization and restoration. Implementation of partnerships to manage the river corridor and its significant resources would result in opportunities for protection, interpretation, and public use (if appropriate) of cultural sites. Also, the Endowment Fund proposed in this alternative could be used to repair and interpret significant historic sites. Thus, implementation of this alternative may result in increased protection and enhancement for cultural resources.

In terms of cultural resource protection, implementation of Alternative A2 may have advantages when considering cultural properties, such as historic railroads, that traverse the land holdings of multiple owners. A joint agency partnership could be effective in consolidating management and care of these properties under one entity.

Implementation of Alternative A2 may have beneficial indirect effects on significant cultural sites. If the proposed bank stabilization and restoration projects are implemented, they could be designed to retard or stop the loss to

archeological and historical sites resulting from current soil and bank erosion. Many parts of the Midland, Denver, South Park, and Pacific Railroad grades and related features are very close to the river channel and are currently vulnerable to damage from this source.

No cumulative effects are envisioned if Alternative A2 is implemented.

### ALTERNATIVE A3 AND THE PREFERRED ALTERNATIVE

The Preferred Alternative and Alternative A3 should have more beneficial effects than A2 for cultural resources. The stipulation regarding development of a cooperative management plan with a major cultural resources component should enhance cultural sites in general. No direct effects on cultural sites resulting from the implementation of A3 or the Preferred Alternative are forecast, assuming that the proposed channel work is preceded by appropriate cultural resources investigation and evaluation. The withdrawal of the 1986 Denver Water and Metropolitan Denver Water Authority application for conditional storage rights and the proposed 20-year moratorium on development of Denver Water's right-of-way would result in interim protection for significant cultural sites.

Under Alternative A3-*Not Suitable*, a project with potential effects to cultural resources could be evaluated, but any potential effects would be mitigated and approved through a public planning process.

Indirect effects seen from the implementation of the Preferred Alternative and Alternative A3 should be beneficial, given the development of a cooperative management plan by the non-Federal signatories to the Memorandum of Understanding (MOU) with a major cultural resources component. The cultural component would include provisions for condition monitoring, protection, interpretation, and appropriate public use of cultural sites. The plan should accommodate linear sites (primarily the Denver, South Park, and Pacific Railroad, the Midland Railroad, and the North Fork and Estabrook Historic Districts) with portions owned by multiple parties. Implementation of river channel restoration projects would have beneficial effects on cultural sites currently threatened by river flows and bank erosion.

No cumulative effects are forecast if the Preferred Alternative or Alternative A3 are implemented.

### ALTERNATIVE B

Alternative B would designate the eligible and suitable portions of the study corridors at their most protective inventoried classifications. Management plans would be developed for each river corridor; the plans would include provisions for the protection and enhancement of outstandingly remarkable resources, including cultural properties. Implementation of Alternative B would have no direct effects on cultural resources. Indirect effects would be beneficial. Implementation of the management plans would mean more protection for cultural sites and could encourage interpretation of the outstandingly remarkable sites, such as the North Fork Historic District and the Estabrook Historic District. Cultural surveys implemented through the provisions of the corridor management plans would lead to the identification, protection, and interpretation, if warranted, of currently unknown significant sites. The prohibition of dams and additional limitations on roads, timber harvest, scenery intrusions, motorized use, and mining entry would further protect cultural sites.

### ALTERNATIVE C

Designation would be essentially the same as Alternative B, although the segment from Beaver Creek to Cheesman Reservoir would be classified as *scenic* rather than *wild*. The effects on cultural resources should be very similar to those described for Alternative B.

## ALTERNATIVE D

This alternative provides no additional protection for significant sites on the North Fork. All sites on the North Fork, whether on government or private lands, would be vulnerable to the effects of dam construction and inundation. In this eventuality, some cultural resource values could be preserved through mitigation. As none of the North Fork corridor is designated in this alternative, cultural sites there would not receive the added protection and interpretation that is provided under the WSRA. Indirect effects on cultural sites located within the South Platte mainstream corridor would be the same as described for Alternative B.

## ALTERNATIVE F

Selection of Alternative F would designate four segments on the South Platte and one segment on the North Fork; private lands and the stretch of the river contained in the Denver Water's 1931 right-of-way would not be designated. Selection of this alternative would create no direct effects to cultural resources. The potential for indirect effects would be increased because of the greater likelihood of dam construction and the resulting destruction and inundation of cultural sites. Fewer cultural sites would be protected, interpreted, or otherwise enhanced than under Alternatives B, C, D, or J. The cultural sites in the segments of the South Platte corridor upstream from Cheesman Reservoir, including the Midland Railroad grade, would be afforded the additional protection and enhancements inherent in designation.

## ALTERNATIVE G

Alternative G would designate the South Platte corridor upstream from Cheesman Reservoir. The effects of this alternative would be very similar to those projected for Alternative F. The only difference is that the cultural resources within the single segment on the North Fork designated in Alternative F, including the grade of the Denver, South Park, and Pacific Railroad and the Estabrook Historic District, would receive additional protection under Alternative F but not under this alternative.

## ALTERNATIVE I

Alternative I is very similar to Alternative G. The effects are the same as for that alternative, except that cultural properties in 4.4 additional miles of Wildcat Canyon (Segment C) would not benefit from the added protection afforded by Wild and Scenic River designation.

## ALTERNATIVE J

Alternative J is very similar to Alternative D. The effects are the same as for that alternative, except that the North Fork and 0.3 miles of the combined South Platte downstream from the North Fork confluence would not be protected. Thus, the entire North Fork, including the South Platte Hotel and other components of the outstandingly remarkable North Fork Historic District, would not be afforded additional protections under this alternative. On the South Fork, the prohibition of projects affecting flows within the designated corridors and the limitations on road construction, timber harvest, scenery intrusions, motorized use, and mining entry would further the protection of cultural sites. River management plans would be prepared for each designated corridor; the plans would include provisions for the protection and enhancement of outstandingly remarkable resources, including cultural sites. Implementation of this alternative would have no direct effects on historic or prehistoric sites because no ground-disturbing projects or other activities potentially affecting these resources are planned.

Indirect effects of this alternative would be beneficial for those cultural sites on the South Fork. Implementation of river management plans would result in added protection for them.

Resource inventories implemented through the provisions of the management plans would lead to the identification, protection, and interpretation (if appropriate) of currently unidentified significant resources. However, the significant resources of the North Fork, including the outstandingly remarkable North Fork and Estabrook Historic Districts, would not be additionally protected through implementation of this alternative, and indirect effects are possible. When compared to Alternatives A2, A3, and the Preferred Alternative, the indirect effects of this alternative may be less beneficial because designation would not necessarily lead to channel restoration work or the formation of an endowment fund.

No cumulative effects are forecast if this alternative is implemented.

## 5.13 SOCIOECONOMIC CONSIDERATIONS

The following discussion is based on a qualitative analysis of broad forces that might affect future social and economic matters. Generic terms such as 'higher' and 'lower' are used to depict relative differences between alternatives regarding economic and social outcomes. A qualitative analysis of this nature is appropriate given the uncertainties discussed under "Fisheries, Water Resources, and Water Development" in this chapter. For example, to calculate the costs and other impacts of precluding water developments under the various action alternatives would require speculation on the details of projects being precluded. Since no applications have been submitted, such details are not available. During development of the South Platte Protection Plan, the participating water provider representatives were asked if they would identify the types and locations of water developments that they might wish to construct one day. Due to the uncertainties of the future, they were unable to provide such information. Because the Forest Service is not required to speculate on the kind of water development that might be proposed—particularly to a degree of detail that would lend itself to a quantitative analysis of costs, revenues, and associated economic and social impacts—the analysis that follows is appropriately qualitative in nature.

In qualitative terms, the economic efficiencies of the alternatives are presumed to follow an inverse relationship with costs. That is, an alternative with relatively low costs would have a relatively high economic efficiency, and vice versa. As this is a programmatic undertaking rather than a discrete project, known Forest Service and other Federal costs are limited largely to document preparation and general analysis and planning, with no resultant revenues that can be clearly identified.

The ORVs and other natural resource-based activities (water development, timber, minerals, land use, etc.) were discussed in Chapter 2. The Two Forks EIS (U.S. Army Corps of Engineers, 1988, vol. I, pp. 5-1 to 5-236) used a quantitative approach to some values, such as fisheries and recreational activities, based on usage figures. Maguire and Alden (1994) also measured recreational use in the study corridors. Their study did not measure the impact of that use on the local economies. Similarly, the National Forest Recreation Survey, conducted every 4 years, (USDA, 2002), focuses on use and not on economic benefit to the region. Additionally, the survey was designed to be statistically significant at the forest level, and sample sizes in the river corridor are not large enough to be statistically significant at the local level. Information exists on the value of fisheries statewide (DOI and U.S. Department of Commerce, 2001) but not at the local level. Too many unknowns and uncertainties are attached to this study to warrant quantitative analysis at this stage. Some future proposal for more tangible actions could create the need for a quantified analysis of economic efficiency and

the relative economic value of scenic, geologic, recreational, wildlife, fisheries, and cultural resources.

The relationship between water development and local economic growth was reviewed in section 2.18 under the heading 'Projecting Future Population Growth for the Area of Influence." That discussion pointed out that any causal relationship between the two appears difficult to establish. That is, the absence of a new reservoir in the study corridors would not necessarily prevent, or even impede, growth in the Front Range. Nor, from the reverse viewpoint, would the presence of a new reservoir in that area necessarily stimulate growth. The mechanisms of growth are far too complex to support compelling conclusions of that nature. In large part, this is because of the increasingly important role being played by alternative sources for water, such as conservation and others. (See "Future Demands for Water" in section 2.12.) Disagreement on this matter is largely due to the wide range of viewpoints and associated reasonable assumptions that can be made and to the complex nature of the analyses involved. One viewpoint argues that the absence of a reservoir obviously constrains growth because all of the other possibilities involve greater costs. In contrast, another viewpoint argues that plenty of agricultural water is already available that could be converted to growth-supporting uses—if only efficient pricing mechanisms were allowed to operate free of political policies driven by social issues. A third viewpoint argues that, if the full social and economic cost of a reservoir is taken into account, then non-reservoir scenarios are clearly preferable. As this debate has been going on for many years, it appears that no amount of study will be able to produce a single answer that reconciles the issue to the satisfaction of all interests.

## EFFECTS COMMON TO ALL ALTERNATIVES

Local communities would continue to see a 3- to 4-percent growth in recreation and associated expenditures at local businesses. Production of timber and minerals from the study area and the number of jobs resulting from such production would be negligible. For these reasons, local communities near the study corridors should expect the same changes in business employment and income regardless of the alternative selected.

Because recreation use is not expected to change dramatically with any level of designation, counties should not expect significant differences between the alternatives in road or law enforcement costs associated with each alternative. Counties may decide that some zoning changes would be necessary with designation; the costs to make and maintain these changes were not estimated but are not expected to be significant.

Forest Service receipts from sales of timber or recreation use fees over the foreseeable future are expected to be very small. Consequently, counties that share in Forest Service receipts, receive payments in lieu of taxes (PILT), or receive sales tax receipts from concession-operated Forest Service recreation sites should expect the same negligible changes regardless of the alternative selected.

Many amenity values contribute to the real social and economic values of the alternatives. However, they are difficult to quantify and must be inferred from other resource effects discussed in this document. Examples of these effects include projected changes to wildlife habitat, the range of recreation opportunities, the quality of the river for fisheries, and the scenic beauty of the river corridor. Demands on the river for downstream uses (such as maintenance of whooping crane habitat in Nebraska) would not change under any of the alternatives and would not have an appreciable effect on costs to the water users.

### ALTERNATIVE A1 – NO ACTION

The Colorado Department of Local Affairs (2001) has incorporated reasonably foreseeable actions in their projections of population growth in the area of influence. For this reason, cumulative socio-economic effects have been incorporated into this alternative. Projected population changes to 2025 of about 1.5 percent annually and associated effects (e.g., water supply needs) are expected. This determination is made when considering very high growth rates of the late 1970s or early 1990s and their associated effects. Effects described under other alternatives are incremental changes.

This alternative would not preclude any opportunities for developing and managing additional surface water supplies to meet the projected increased demand through the construction of dams and reservoirs. With all opportunities retained, costs to water providers (which are passed on to metropolitan area residents and businesses) would be the lowest possible. Even though the South Platte is highly regulated, community uses of water in the South Platte would be most readily accommodated under this alternative.

The no action alternative in the Two Forks EIS bears certain similarities to Alternative A1 in this EIS. While analyzing distinctly different proposals (i.e., reservoir construction versus protection under the WSRA), in both cases the no action alternative attempts to describe the effects of going forward without implementation of the proposal being analyzed. Because the Two Forks proposal involved a large investment of capital, its EIS delved deeply into the costs likely to be incurred by various water providers and their customers and communities under its various alternatives, including no action (U.S. Army Corps of Engineers, vol. VIII, pp. 5-175; Technical Appendix 4C, vol. 9). The Two Forks EIS also made water demand and supply projections based on a variety of detailed assumptions. In contrast, because of the uncertainties involved, this EIS does not go to the same lengths to describe the future under No Action. Various organizations, however, are regularly assessing the situation regarding water supply, demand, and cost. For example, see Hydrosphere Resource Consultants, Inc. (1999 and 2001). The assumptions and analyses underlying such publications sufficiently reflect the no action future.

### ALTERNATIVE A2

This alternative allows less flexibility than Alternative A1 to consider water development projects that may affect the ORVs. Opportunities for developing and managing additional large surface water projects such as federally authorized dams and reservoirs in the study corridors would be voluntarily forgone in Cheesman and Elevenmile Canyons and in the Two Forks right-of-way for 20 years. Consequently, future costs to water providers and their customers would likely be slightly higher than under Alternative A1 but lower than in the Preferred Alternative or Alternative A3. New sources would have to be realized, or a greater emphasis on conservation would be needed to meet the projected increases in demand.

### ALTERNATIVE A3 AND THE PREFERRED ALTERNATIVE

Under the Preferred Alternative and A3-*Suitable*, opportunities for developing and managing new surface water supplies through Forest Service authorized facilities in the study corridors would be limited to facilities that would not threaten eligibility. With such opportunities limited, future costs to water providers and their customers may be among the highest of the alternatives analyzed, along with Alternatives B and C. Because the South Platte is highly regulated, community and other uses of water in the South Platte would likely be limited.

Alternative A3-*Not Suitable* would provide some flexibility in considering water development

projects that may affect the ORVs. Future costs to water providers and their customers would likely be lower than under the Preferred Alternative or Alternative A3-*Suitable* but higher than in Alternative A2.

### ALTERNATIVES B AND C

Designation of river segments under the WSRA could affect the metropolitan areas of Denver and Colorado Springs and local communities near the corridors. These effects could include the cost and availability of water supplies, recreation-generated jobs and income, production of forest commodities such as timber and minerals, revenues to local governments, and the cost of providing government services.

These alternatives would preclude opportunities for developing and managing additional surface water supplies through federally authorized dams, reservoirs, and other water development projects in the study corridors. As a result, future costs to water providers and their customers may be the highest of the alternatives analyzed, given the projected increase in demand for new water supplies. Because the South Platte is highly regulated, community and other uses of water in the South Platte would likely be more limited than under Alternative A. Cumulatively, these effects may be significant. Designation could affect how future water obligations can be met. For example, as mentioned above under "Channel Integrity and Aquatic Habitat," a scenario of alternate water delivery from South Park was prepared for the city of Aurora. Although the $425-million cost for this project was not verified, it is an indication of the type of additional cost that could result from a designation scenario.

### ALTERNATIVES D AND F

Opportunities for developing and managing additional surface water supplies through dams and reservoirs in the study corridors would be limited but not precluded in all segments. Flow management in the North Fork could be affected. With some opportunities precluded and projected demand for water supplies expected to increase, costs to water providers and their customers would be higher than under Alternatives A1, A2, A3, or the Preferred Alternative but lower than in Alternatives B or C.

### ALTERNATIVES G AND J

Opportunities for developing and managing additional surface water supplies through dams and reservoirs in the study corridors would be limited but not precluded in all segments. Flow management in the North Fork would not be affected. With some opportunities precluded, costs to water providers and their customers would be higher than under Alternatives A1, A2, A3, and the Preferred Alternative but lower than costs under Alternatives B through F.

Because the South Platte is one of the most regulated rivers in the county, community and other uses of water in the South Platte may be limited. Additional costs to water users in the Denver metropolitan area would not be likely because of these obligations.

### ALTERNATIVE I

Nearly all opportunities for developing and managing additional surface water supplies through dams and reservoirs would remain available. Impacts are similar to those of Alternative A1 except from Corral Creek through Elevenmile Canyon, where minimal attention has been given to development of future water supplies. With nearly all opportunities retained, future costs to water providers and their customers would be the lowest of all the alternatives except for Alternatives A1, A2, and A3, and the Preferred Alternative. Even though the South Platte is highly regulated, community uses of water in the South Platte would be feasible. Additional costs to water users in the metro area would not be likely because of these obligations.

## 5.14 IMPLEMENTATION AND ENFORCEMENT

Environmental and recreational user groups raised implementation and enforcement issues for the A2 Alternative, the SPPP. The SPPP was developed through a public planning process that involved interested local government agencies and interest groups. The Forest Service participated only as an observer and provided information about the resources and related Forest Service policy and regulations. Many questions about SPPP implementation and enforcement could not be answered until the Forest Service, as the administering Federal agency, was made a full participant, along with the local government agencies, in the new management structure for the river corridor established by the SPPP. Alternative A3 and the Preferred Alternative add the Forest Service to the management scheme, responding to issues raised concerning A2. In general, if Alternative A2 were selected for the decision in this study, it would be implemented through the mechanisms identified in Alternative A3.

### FUTURE RECOMMENDATION FOR DESIGNATION

The Forest Service can reconsider or reopen a decision made in a National Environmental Policy Act (NEPA) analysis whenever circumstances change significantly. In order to reconsider a decision, another NEPA review and analysis would be required to evaluate the changed conditions. Under current NEPA planning processes in the Forest Service, decisions are generally considered effective until the resource and social conditions have significantly changed. The non-binding "rule of thumb" is 5 years. Generally, after 5 years' time, resource and social conditions change enough to warrant new review and analysis.

The bi-level decision statement of Alternative A3 or the Preferred Alternative (whereby the Forest Service may revisit the question of designation if a selected local alternative is determined to have failed) is new and has not been tested in court. Therefore, it is unclear how long this NEPA analysis would remain usable without requiring renewed analysis and study. If the determination that a local alternative has failed comes after sufficient time for resource and social conditions to have significantly changed, then a new review and analysis may have to be conducted to determine the suitability of the river corridor for designation.

Alternative A3-*Not Suitable* would (1) find the river corridor not suitable for designation;,(2) release the corridor from further consideration for designation to the Wild and Scenic River System, and (3) manage the river corridor under the partnership of Federal, State, and local government agencies. This alternative is comparatively flexible regarding development projects in the river corridor for water resources, roads, recreation facilities, or some other purpose. If this alternative were to fail, the Forest Service could consider a new NEPA process and suitability determination. A finding that a selected alternative had failed would create a changed condition for the river corridor and warrant reconsideration of the original decision.

Under A3-*Suitable* and the Preferred Alternative, Forest Service policy, rather than the WSRA, would legally bind the Forest Service to protect the eligibility of the river corridor for designation. The development standard for maintaining eligibility under these alternatives is comparatively strict.

## LIKELIHOOD OF SUCCESSFUL DESIGNATION RECOMMENDATION

Since 1992 (when 27 river segments were designated in Michigan, Arkansas, Pennsylvania, and California), only 15 new river designations and 3 additional river segments on previously designated rivers have been added to the National System. Five of the most recent river or river segment designations were done by the Secretary of the Interior at the request of a State Governor.

One of the most recent congressional designations was the Sudbury-Assabet-Concord (SuAsCo) River in Massachusetts in April 1999. The SuAsCo River is a 29-mile segment having *scenic* and *recreational* classifications. The National Park Service conducted the eligibility and suitability determinations at the request of a coalition of local government agencies and groups. The coalition prepared a river management plan, took it to the State's congressional delegation, and, after 5 years, succeeded in getting the river designated by Congress to the National System.

The Forest Service currently has about 15 to 20 designation recommendations from across the country awaiting action by the Administration or Congress. Current Forest Service policy is to forward recommendations for designation to the President and Congress only if those recommendations have full local support, including support from interest groups, State and local government agencies, and the State's congressional delegation. If a designation alternative were the selected alternative in this study, section 5(d) (1) of the WSRA would require the Forest Service to manage the river corridor as a "study river" using existing forest management legal authorities. Authorities provided in the WSRA would not be applicable to this study area until such time as the river is actually designated by Congress or the Secretary of the Interior to the National System. Congress can designate a river without Federal agency action; however it is highly unlikely that the South Platte would be designated without the unified support of local governments, agencies and groups.

The current political climate in Colorado most likely would not support designation because of concerns about securing adequate water supplies for the rapidly expanding metropolitan population in the State. It is possible to develop a management plan for a river tailored to meet the specific needs in a river corridor and get a designation by Congress, as was done for the SuAsCo River in Massachusetts. However, that designation effort took 5 years and had the full support of all agencies and groups. A designation recommendation could be prepared to meet the specific needs of the South Platte River corridor, as is typically done for other river designations. This approach was recommended as the Preferred Alternative in the Supplemental DLEIS. It did not receive the public support needed for legislation and was not pursued further. It is described further in Chapter 4 under Alternatives Not Considered in Detail and Eliminated from Further Study

## PERMANENT PROTECTION FROM NEW DAMS

### Potential for New Dams

During the A2 process, there was occasional discussion of the potential for new dams on the South Platte River system within the study area, particularly on the mainstem of the South Platte. Potential dam sites on both rivers were included in alternatives analyzed during the Two Forks study. It is uncertain whether any of those sites are feasible today.

One view is that, because the Two Forks dam failed to gain approval, it is unlikely that any other storage projects in the study area would be approved (or even proposed). Any other waters that might be obtainable today for use along the Front Range would have to be imported from other basins. Water would be stored in these other basins, not in the South Platte basin, and the only storage needed on the

east slope might be for regulation of delivery. But since regulatory facilities already exist, there may be no need for additional storage. Under this view, then, the potential for a new dam in the study area is relatively low.

An alternate view holds that, because current water supplies for the Denver metropolitan area are not adequate for projected growth, no options for future supplies should be foregone under any circumstance. Even waters generated in the South Platte basin should not be entirely discounted. According to this viewpoint, the thinking expressed in the preceding paragraph is based on too many assumptions that are too tenuous, given the critical nature of future water needs.

#### Permanence of Protection

Concern was raised about the level of protection provided to the river corridor from new dams by the various mechanisms being considered in the alternatives. The WSRA clearly prohibits approval of any new impoundment structure in a designated river, or above or below a designated river, if it invades or unreasonably diminishes the recreation, scenic, or fish and wildlife ORVs or free-flow. However, once a river is designated to the National System by Congress or the Secretary of the Interior, a new dam in the river can be approved by congressional action regardless of designation protections.

A designation recommendation by a Federal agency under section 5(d)(1) does not invoke a section 7 analysis process and the prohibition of projects as is the case with congressional study rivers; other Federal agencies are required to deny Federal assistance or permits for any projects on congressional study rivers but not on agency study rivers. If a dam project were proposed under any of the alternatives considered in this Wild and Scenic River study, the Forest Service would request the approving Federal agency to allow a project review for potential impacts to ORVs, free-flow, and water quality; but the Federal agencies would not be legally bound to comply with the Forest Service request to withhold their approval.

The decision mechanism for Alternative A3 and the Preferred Alternative is the Forest Plan, which prohibits any new dams or other developments that would threaten free-flow, ORVs, and water quality on forest lands. This mechanism has limitations because the Forest Plan can be amended. Alternative A2 provides a lower level of protection from new dams. The SPPP includes a 20-year moratorium on construction in Denver Water's right-of-way at the Two Forks site and a commitment for no water works in Cheesman and Elevenmile Canyons. But dams are not excluded from other portions of the river or after 20 years in the right-of-way. A dam could be proposed off National Forest lands and be approved by whatever government authorities have jurisdiction. However, any project proposed in this particular river corridor is highly likely to affect National Forest lands due to the land ownership configuration.

MOUs are authorized under several existing forest management legal authorities. MOUs are legally limited to a 10-year period. Forest Service policy (*Forest Service Manual* 1586) recommends review and renewal of MOUs every 5 years and reissuance every 10 years. Changes in personnel, resources, or social and economic conditions could lead to a need to revise an MOU.

Designation to the National System would provide the strongest protection of the mainstem and North Fork of the South Platte River from any future dam development. A designation recommendation for an agency study river would provide protection under legal authorities until such time that the river were included into the National System through congressional legislation. Local Alternative A3 and the Preferred Alternative would utilize the same legal authorities to protect the river corridor from water development on National Forest System lands as well as retain eligibility.

### NEEDS FOR PUBLIC INVOLVEMENT IN RIVER MANAGEMENT

Alternatives A2, A3, and the Preferred Alternative are built on the concept of local management with extensive public involvement. See the summary list of public involvement provisions under "Summary of Public Involvement Features in Alternatives A2 and A3" in Chapter 4, section 4.3.

Alternative A2 provides public interest groups with representation on the Enhancement Board and on the Denver Water water development task force. Public interest groups and the general public are involved at several points:

1. In any significant changes in the implementing management agreements;
2. During the Recreation Management Plan development process;
3. Through the Coalition for the Upper South Platte; and
4. At the Denver Water/city of Aurora water systems' annual operating plan review meetings.

For the Forest Service, a legal enforcement mechanism is provided through the Administrative Procedures Act, a Federal law that prohibits "arbitrary and capricious" actions by Federal officials. To successfully file under the Administrative Procedures Act, a group or individual must have legal standing, which is granted only to parties of agreements with Federal agencies. In addition, the Act sets a high standard of proof, making it difficult for plaintiffs to prove and win judgment.

Alternative A3 and the Preferred Alternative provide for public and interest group involvement in several additional ways:

1. In developing an MOU among the implementing agencies;
2. During periodic review of all agencies' implementation; and
3. During any future consideration of forwarding a designation recommendation.

In addition, Alternative A3 considers a provision for "citizen suits" or some kind of mechanism for more direct enforcement action by citizens when dealing with implementing agencies other than the Forest Service. Those agencies, however, have raised several concerns about this provision. Such a provision could increase the agencies' legal liability for lawsuits, including the possibility of frivolous lawsuits that would take agency budgets and focus away from managing the river corridor. As a result, the "citizen suit" mechanism does not appear to be feasible.

Alternative A3 contemplates the option of establishing a Citizens Advisory Group under the Federal Advisory Committee Act (FACA) in order to give the public a formal mechanism by which to participate in river corridor management. The Secretary of Agriculture or Congress appoints a FACA Advisory Group, to be administered by the Forest Service. Establishing a FACA Advisory Group is a lengthy process, and the establishment of such a group requires the administering agency to follow specific guidelines . However, President Clinton issued a policy during his tenure to limit the number of citizen advisory groups for each Federal agency due to concerns about unnecessary agency expense to administer the groups. In light of this, the approach is unlikely to be adopted despite its merits.

## 5.15 ADVERSE ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

None of the alternatives include management direction that would directly create unavoidable adverse environmental effects. It is conceivable that the lack of additional action under Alternative A1 could lead to adverse effects on

river corridor resources at some time in the future, but this would depend on the nature of the threat and the ability of existing resource protection mechanisms to address it. For example, a major or minor dam or water diversion project in the study area could adversely affect all the natural resources mentioned in this report, as well as create a decisive level of conflict. Alternatives A2 and A3-*Not Suitable* allow for limited water development projects and possible effects to ORVs and free-flow.

## 5.16 Local Short-term Uses of the Environment and the Maintenance and Enhancement of Long-term Productivity

All of the alternatives except A1 contain measures designed to preclude, or at least delay, new dam construction, hydropower development, and other development projects that could adversely affect the ORVs. While the relative level of protection afforded against such dams and water projects varies between the alternatives and is subject to debate, the intent of each is consistent. None of the alternatives contains specific actions that require a substantial loss of short-term use in order to achieve long-term protection.

## 5.17 Irreversible and Irretrievable Commitments of Resources

This section is meant to articulate any resources that would be lost either temporarily (such as logging of a forest that will grow back) or permanently as a result of taking action. Since the alternatives in this document deal with resource conservation rather than resource development activities, no alternative calls for any irreversible or irretrievable commitments of resources. Alternative A1 and Alternative A3-*Not Suitable* do recognize the potential for decisions outside the scope of this document to make irreversible and irretrievable commitments of resources. Such potential effects would be evaluated on a case-by-case basis at the time a project is proposed.

## 5.18 Cumulative Effects

Cumulative effects have been previously addressed in this chapter under the specific resource headings such as fisheries, wildlife, recreation, and water development. The A1, A2, and A3-*Not Suitable* alternatives could allow for limited water developments that have some adverse effects to ORVs, free-flow, or water quality; and these effects could cumulatively erode eligibility depending on the exact nature and extent of the developments. Such potential effects would be evaluated on a case-by-case basis at the time a project is proposed.

The cooperative watershed, water quality improvement, and channel improvement projects identified in Alternatives A2, A3, and the Preferred Alternative combined with the Source Water Protection Plan, the TMDL determinations, and the Upper South Platte Watershed Restoration Project (Forest Service initiative) could cumulatively improve water quality, aquatic and riparian habitat, wetlands, and channel stability within the project areas and could reduce sedimentation at downstream water storage facilities. There are no other known cumulative effects.

## 5.19 National Forest Management Act and Other Findings

### Forest Plan Implications

The Forest Plan would be amended under all alternatives. Based on the information presented here, the amendment's geographic scope and effect on overall production of goods and services from the land governed by the Forest Plan appears to be non-significant, as defined under the National Forest Management Act. Therefore, a non-significant amendment is appropriate.

Amendment details will vary between alternatives. Under alternatives recommending designation under the WSRA, a new management area would be placed over river segments recommended as suitable for designation. This new management area would embrace the study corridors, which extend one-quarter mile from the river. Management direction and standards and guidelines affecting these areas would resemble those that already apply to the eligible corridor on the South Platte River between Cheesman Reservoir and Elevenmile Reservoir (Forest Plan, pages III-16 to III-17). Their purpose would be to protect eligibility until Congress resolves the issue of designation.

Alternative A1 would involve an amendment that would remove the special management area corridor between Elevenmile Reservoir and the Cheesman property. The corridor was established when the current Forest Plan was approved in 1984. Management area direction for lands currently within that corridor would be modified and made similar to that of adjoining lands.

Alternatives A2, A3, and the Preferred Alternative would also involve a Forest Plan amendment, the purpose of which would be to implement the alternative's intentions to the extent that Forest Service authorities allow. A new management corridor would be established along all segments identified for protection, with management direction and standards and guidelines established consistent with the selected alternative.

### Biodiversity

The issue of biodiversity was addressed by considering its major components such as wildlife, fisheries, and scenery (vegetation) as well as issues such as maintaining the free-flowing condition of the river and levels of naturalness within the river corridor.

### Consumers, Civil Rights, Minority Groups, and Women

None of the alternatives would have a significant impact upon these issues. Information on associated impacts is located in the discussions on socioeconomic impacts.

### Prime Farmlands

There are no prime farmlands within the study corridors.

### Threatened and Endangered Species

The anticipated effects to these species have previously been discussed in the "Vegetation," "Wildlife," and "Fisheries" sections of this chapter.

### Wetlands and Floodplains

Wetlands and floodplains are protected under the Clean Water Act. On Federal lands, wetlands and floodplains are also protected under Executive Order 11990 and Executive Order 11988, which allow for no net loss, regardless of the alternative selected. Under Alternative A2, it is possible that dam construction, diversions, hydropower development, or water diversion projects could occur after 20 years, which could have a definite

impact on wetlands and floodplains. Under Alternatives A1 and A3-*Not Suitable*, the effects of dam construction, diversions, hydropower development, and water diversion projects would be addressed in the public planning process for a specific project if the project received the necessary permits, licenses, and approval by the appropriate Federal agencies. The Streamflow Management Plan and the SPPP of Alternatives A2, A3, and the Preferred Alternative could provide an opportunity to enhance or protect existing wetlands and floodplains. Alternatives B, C, D, F, G, I, and J consider and protect wetlands and floodplains.

## 5.20 SUMMARY OF THE ENVIRONMENTAL IMPACTS OF EACH ALTERNATIVE ON THE KEY STUDY ISSUES

The summary of environmental impacts of each alternative on key study issues can be found in Appendix B, Comparison of Alternatives Including Key Study Issues.

## 5.21 ADDITIONAL FEDERAL IMPLEMENTATION COSTS FOR EACH ALTERNATIVE

Table 5-1 summarizes the additional cost to the Federal Government, above the current level, for implementing each alternative.

These costs are based on fiscal year 2002 dollar values and have been separated into three categories for each alternative. The three categories include costs associated with the management plan, land and easement acquisition, and administration

Annual administrative costs for Alternatives A2, A3 and the Preferred Alternative reflect the efforts needed to manage an area with multiple partners. Administrative costs may reduce in future years after the partnerships are well established. Administrative costs would also be driven up because of increased non-Federal capital investment in the river corridor. Projects funded through the Endowment Fund or through State or Federal grants would require Forest Service review and participation.

**Table 5-1.—Federal Implementation Costs**
**(2002 dollar values in thousands of dollars rounded to the nearest thousandth)**

| | Alternatives | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **A1** | **A2** | **A3-*Suitable*** | **A3-*Not Suitable*** | **PREFERRED ALTERNATIVE** | **B** | **C** | **D** | **F** | **G** | **I** | **J** |
| Management Plan (one-time cost) | N/A | N/A | N/A | N/A | N/A | 211 | 201 | 159 | 127 | 110 | 112 | 169 |
| Land and Easement Acquisition | No change | None | None | None | None | Costs may be incurred for potential exchanges and future easements, but are too speculative to be estimated at this time. | | | | | | |
| Administration (annual cost) | No change | 50 | 50 | 50 | 50 | 85 | 79 | 60 | 42 | 42 | 32 | 58 |