Environmental Impact Statement

Stanislaus National Forest
Land and Resource Management Plan

Alpine, Calaveras, Mariposa and Tuolumne Counties, California

Appendix E
Wild and Scenic River Study
Eligibility/Suitability

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Abstract

This Wild and Scenic River Study is part of the Environmental Impact Statement (EIS) for the Stanislaus National Forest Land and Resource Management Plan that documents the results of a forestwide inventory of rivers that were studied for their eligibility and possible inclusion in the National Wild and Scenic Rivers System. The findings indicate that 299 miles of rivers and streams on the Stanislaus meet the criteria for Wild and Scenic River eligibility. The alternatives presented in this Study consider a range of recommendations, from all 299 miles to none. Based on the "preferred alternative", 113 miles of eligible segments will be recommended for addition to the National Wild and Scenic Rivers System. Final decisions on Wild and Scenic River designations have been reserved by the Congress to itself.

Summary

Stanislaus National Forest
Wild and Scenic River Study

Congress passed the Wild and Scenic Rivers Act in 1968.ts purpose was to preserve certain select rivers that possess outstandingly remarkable scenic, recreation, geologic, fish and wildlife, historic, cultural, or other similar values. These select rivers would be preserved in a free-flowing condition and their immediate environments would be protected and managed for the benefit and enjoyment of present and future generations.

This Wild and Scenic River Study (River Study) was conducted within the Forest Planning and NEPA processes, according to direction set forth in the Wild and Scenic Rivers Act, The National Wild and Scenic Rivers System; Final Guidelines for Eligibility, Classification and Management of River Areas of 1982 (1982 Final Guidelines), and Chapter 8 of the Forest Service Land and Resource Management Planning Handbook. This River Study includes a description of each river and identifies the values that merit Wild and Scenic River eligibility. It also includes discussions of the land status, potential uses and management considerations. In addition, alternatives are presented and environmental consequences are revealed. Rivers found eligible were considered for suitability as designated components of the National Wild and Scenic Rivers System within the framework of each alternative.

Background

The 1985 Draft Environmental Impact Statement and Proposed Land and Resource Management Plan (DEIS) for the Stanislaus National Forest included a Draft Wild and Scenic River Study (Draft River Study) that evaluated the 115 miles of rivers, on the Stanislaus, identified in the Nationwide Rivers Inventory. 78 miles were found eligible for Wild and Scenic River designation and the preferred alternative proposed to recommend 19 miles of the North Fork Mokelumne River. The subsequent 1990 DEIS included a Draft River Study that evaluated 900 miles of rivers and streams. 300 miles were found eligible for Wild and Scenic River designation and the preferred alternative proposed to recommend 120 miles.

This River Study considers all Wild and Scenic River issues raised by the public during the land management planning process. The Stanislaus received both written and verbal comments; the latter from a series of meetings held with the public in several surrounding communities, with interest groups, and with government bodies. Several hundred Wild and Scenic River comments were received. Copies of the comments are available for review at the Stanislaus National Forest Supervisor's Office in Sonora, California.

Study Area

The Stanislaus National Forest is located in California, on the western slope of the central Sierra Nevada. The Forest's topography is a series of broad sloping benches separated by river canyons and numerous tributary drainages. Elevation varies from 1,100 feet in the Tuolumne River canyon to 11,575 feet at Leavitt Peak along the Sierra crest.

Four major rivers (Mokelumne, Stanislaus, Tuolumne, and Merced) occupy deep canyons that drain west into the Central Valley. A fifth river, the Clavey, flows southward into the Tuolumne. The mountain scenery of the Forest attracts thousands of visitors each year. The high peaks and glacially carved canyons of the high country are major attractions. Nearly 50 percent of the recreation on the Forest is associated with its lakes, reservoirs and streams. Human use of the Forest dates back 8,000 years or more. The watersheds of the Mokelumne, Tuolumne, Stanislaus and Merced Rivers have long been important for the production of water for domestic, agricultural, industrial, in-stream and other uses. Eight major hydro-electric facilities

are located on the Forest. In addition, four major hydro-electric projects are in the proposal stages. 850 miles of streams and 5300 acres of lakes and reservoirs on the Forest contain fish. The Forest's waterways and large river canyons form important wildlife corridors between the lower and higher elevations. More wildlife species use riparian habitat than any other habitat on the Forest.

Process and Findings

The Forest Plan, through this Wild and Scenic River Study, includes the first set of steps in the Wild and Scenic River designation process:

Inventory: On the Stanislaus National Forest, all rivers and streams with sustainable flows (909 miles) were studied for their eligibility and possible inclusion in the National Wild and Scenic Rivers System. All lands, including private and State Park, within the Stanislaus National Forest boundary were assessed in this River Study.

Eligibility: Once a river or segment has been identified for consideration, its eligibility must be determined by applying the criteria in Sections 1(b) and 2(b) of the Wild and Scenic Rivers Act. To be eligible, a river must be free-flowing and, with its adjacent land area, must possess one or more outstandingly remarkable values. The 1982 Final Guidelines provide further direction for determining free-flowing conditions and outstandingly remarkable values. The Forest identified segments for each river and stream. This process considered items such as major confluences, impoundments, road crossings, potential classifications, and ease of management. The findings indicate that 299 miles of rivers and streams on the Stanislaus meet the eligibility criteria set forth in the Act and Guidelines.

Classification: After river segments have been found eligible for inclusion in the Wild and Scenic Rivers System, the classifications of the river segments are determined. The Act provides for three classifications (Wild, Scenic and Recreational) which are based on the condition of the river and adjacent lands at the time of the study. This Wild and Scenic River Study recommends classifications that are most appropriate for each eligible segment. The findings indicate the following recommended classifications: 212 miles Wild; 35 miles Scenic; and, 52 miles Recreational.

Suitability/Alternatives: The final step in the Forest planning process is to determine the river's suitability for inclusion in the National Wild and Scenic Rivers System. The Act requires consideration of the following: the need for and applicability of protection for outstanding values afforded by designation; the current status of landownership; the reasonably foreseeable potential uses of the land and water in the study area that would be enhanced, foreclosed, or curtailed if the area were or were not included in the System; public, State, and local interest in or opposition to designation of the river; the estimated costs of acquiring any necessary lands and administering the area; and other public issues or concerns. Suitability was considered through the application of the alternatives. According to the direction in the Wild and Scenic Rivers Act and the 1982 Final Guidelines, the alternatives show the required range of options with each individual eligible segment considered for: "No Action"; "Designation"; "Non-designation"; and, "Alternate Management".

Alternative A: the Forest Service "Preferred Alternative" proposes that 113 miles of suitable segments will be recommended for addition to the National Wild and Scenic Rivers System. All other eligible segments are unsuitable; however, their values will be protected through 163 miles of Alternate Management.

Alternative B: the "No Action" Alternative which would continue current management. All eligible segments would be unsuitable and not recommended for Wild and Scenic River designation. However, existing management protects the values on 185 miles of eligible segments, meeting the criteria for Alternate Management.

Alternative C: includes 55 miles of suitable segments which would be recommended for addition to the National Wild and Scenic Rivers System. All other eligible segments would be unsuitable; however, the values on 205 miles would be protected through Alternate Management.

Alternative D: all eligible segments would be unsuitable and not recommended for Wild and Scenic River designation. 125 miles of eligible segments are within designated Wilderness and only those would be protected through Alternate Management.

Alternative E: all 299 miles of eligible segments would be suitable and recommended for Wild and Scenic River designation.

Recommendations

Based on the "Preferred Alternative", 113 miles of eligible segments will be recommended for addition to the National Wild and Scenic Rivers System. This includes all eligible portions of the North Fork Mokelumne above Salt Springs Reservoir, North Fork Stanislaus, Stanislaus, Clark Fork, Niagara Creek and South Fork Tuolumne. It also includes five of the eight eligible segments of the Middle Fork Stanislaus.

These Wild and Scenic River recommendations are subject to further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. The unsuitable segments of the Middle Fork Stanislaus River will also be reviewed and possibly modified by the Chief of the Forest Service and the Secretary of Agriculture. Final decisions on Wild and Scenic River designations have been reserved by the Congress to itself. Once a Wild and Scenic River is designated by Congress, river boundaries must be established and a management plan must be prepared. According to the Wild and Scenic Rivers Act, the management plan for the river and its corridor, must include direction to protect and enhance the Wild and Scenic River values.

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1. Purpose and Need

Congress passed the Wild and Scenic Rivers Act in 1968.ts purpose was to preserve certain select rivers that possess outstandingly remarkable scenic, recreation, geologic, fish and wildlife, historic, cultural, or other similar values. These select rivers would be preserved in a free-flowing condition and their immediate environments would be protected and managed for the benefit and enjoyment of present and future generations. Section 2(b) of the Wild and Scenic Rivers Act (1968 as amended) states that a river must be free-flowing and possess one or more outstandingly remarkable values in order to be eligible for inclusion to the National Wild and Scenic Rivers System. The National Wild and Scenic Rivers System; Final Guidelines for Eligibility, Classification and Management of River Areas of 1982 (1982 Final Guidelines) provide further direction for determining free-flowing conditions and outstandingly remarkable values.

This Wild and Scenic River Study (River Study) was conducted within the Forest Planning and NEPA processes, according to direction set forth in the Wild and Scenic Rivers Act, the 1982 Final Guidelines and Chapter 8 of the Forest Service Land and Resource Management Planning Handbook. It is part of the Environmental Impact Statement (EIS) for the Stanislaus National Forest Land and Resources Management Plan. This River Study evaluates 909 miles of rivers and streams on the Stanislaus National Forest to determine their eligibility and suitability for designation as components of the National Wild and Scenic Rivers System.

Background

Section 1(b) of the Wild and Scenic Rivers Act (1968 as amended) states that: "...selected rivers of the Nation... shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes."

In October 1979, the President's Environmental Message directed the Department of Interior to inventory all rivers with potential as Wild and Scenic Rivers and each Federal land management agency to assess the rivers suitability for designation. The Heritage, Conservation, and Recreation Service (HCRS), a branch of the U. S. Department of the Interior, published a Nationwide Rivers Inventory (NRI) Phase in March 1980. The NRI list was revised in January 1982 (Phase 1), to include what that agency considers the best remaining relatively natural and free-flowing stream segments in California, Nevada, and Arizona. All or portions of the North Fork Mokelumne, North Fork Stanislaus, Clavey, Middle Fork Tuolumne, South Fork Tuolumne and Merced Rivers on the Stanislaus National Forest were included.

On the Stanislaus, Congress has designated 29 miles of the Tuolumne River and 11 miles of the Merced River as Wild and Scenic Rivers, since the NRI was issued. The 1985 Draft Environmental Impact Statement and Proposed Land and Resource Management Plan (DEIS) for the Stanislaus National Forest included a Draft Wild and Scenic River Study (Draft River Study) that evaluated the 115 miles of rivers, on the Stanislaus, identified in the NRI. 78 miles were found eligible for Wild and Scenic River designation and the preferred alternative proposed to recommend 19 miles of the North Fork Mokelumne River. The subsequent 1990 DEIS included a Draft River Study that evaluated 900 miles of rivers and streams. 300 miles were found eligible for Wild and Scenic River designation and the preferred alternative proposed to recommend 120 miles.

This River Study evaluates the remaining NRI segments, as well as all other rivers and streams with sustainable flows, for their eligibility and possible inclusion in the National Wild and Scenic Rivers System. All lands, including private and State Park, within the Stanislaus National Forest boundary are assessed in

this River Study. By agreement with the Eldorado National Forest, the Stanislaus National Forest is responsible for studies and recommendations for the portion of the North Fork Mokelumne River above Salt Springs Reservoir, while the Eldorado is responsible for the area below. Therefore, this River Study does not include the portion of that river below Salt Springs.

The Designation Process

To qualify for designation as a Wild and Scenic River, a river or river segment must: (1) be identified as a potential candidate for inclusion; (2) be found eligible for inclusion in the Wild and Scenic Rivers System; and (3) be found suitable for inclusion.

Identification of candidate rivers or river segments for potential inclusion into the System may be accomplished in several ways. Some rivers were specifically named for study pursuant to Section 5(a) of the Act. Others were identified in the NRI. Others are identified during the National Forest land management planning process.

Once a river or segment has been identified for consideration, its eligibility must be determined by applying the criteria in Sections 1(b) and 2(b) of the Act. To be eligible, a river must be free-flowing and, with its adjacent land area, must possess one or more outstandingly remarkable values. The Act defines "free-flowing" as existing or flowing in a natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The 1982 Final Guidelines provide further direction for determining free-flowing conditions and "outstandingly remarkable" values. River Study Teams can evaluate and determine outstandingly remarkable scenic, recreation, geologic, fish, wildlife, historic, cultural, or other values on each river. After a river or segment has been found eligible for inclusion in the Wild and Scenic Rivers System, its classification is determined. The Act provides for three classifications (Wild, Scenic and Recreational) which are based on the condition of the river and adjacent lands at the time of the study.

The final step, in this process, is to determine the river's suitability for inclusion in the System. Forest Service direction requires consideration of the following: the need for and applicability of protection for outstanding values afforded by designation; the current status of landownership; the reasonably foreseeable potential uses of the land and water in the study area that would be enhanced, foreclosed, or curtailed if the area were or were not included in the System; public, State, and local interest in or opposition to designation of the river; the estimated costs of acquiring any necessary lands and administering the area; and other public issues or concerns.

Recommendations

The Forest Service may recommend designation of all, part or none of the study rivers. The principal purpose of a recommendation would be to protect the river and its outstandingly remarkable values.

Wild and Scenic River suitability is not an endorsement for or against any specific water resource development project. The projects addressed in this River Study are "foreseeable potential developments" that can be affected by Wild and Scenic River designations.

Those rivers not recommended would be managed according to the Riparian or Streamside Management Zone standards and guidelines for the areas they flow through, and would be open to applications for water or hydro-electric development. If an application was received, the Forest Service would review the application and accompanying site-specific information provided by the project proponents and would allow for full public involvement in that review process. Potential projects involving hydro-electric development of waterways are subject to Federal Energy Regulatory Commission (FERC) environmental analysis and permitting requirements. To the extent of Forest Service authority, no water or hydro-electric development would be permitted on river segments that are determined suitable and recommended for Wild and Scenic River designation.

Once the Forest Plan is approved, any Wild and Scenic River recommendations are subject to further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. Final decisions on Wild and Scenic River designations have been reserved by the Congress to itself.

Congress has designated 11 Wild and Scenic Rivers or river systems (1,000 miles) on National Forest land within California.19 other rivers or river systems (500 miles) on National Forest land in California have been recommended for designation. Other National Forests, such as the Stanislaus, have not yet reached the point of recommendations.

Once a Wild and Scenic River is designated by Congress, river boundaries must be established and a management plan must be prepared. According to the Wild and Scenic Rivers Act, the management plan for the river and its corridor, must include direction to protect and enhance the Wild and Scenic River values.

Issues and Concerns

This River Study considers all Wild and Scenic River issues raised by the public during the land management planning process. The Stanislaus received both written and verbal comments; the latter from a series of meetings held with the public in several surrounding communities, with interest groups, and with government bodies. Several hundred Wild and Scenic River comments were received. Copies of the comments are available for review at the Stanislaus National Forest Supervisor's Office in Sonora, California. Similar comments were combined into the 37 separate Wild and Scenic River comments shown in Chapter 10 of this River Study. Many comments specifically addressed either the Clavey River or the North Fork Stanislaus River. Common key issues and concerns were:

1. The effects of Wild and Scenic River designations on future water supplies and hydro-electric development.
2. The need to protect natural and cultural resources by preserving some rivers in a free-flowing state.
3. Opposition to proposed hydro-electric projects that would construct dams on the Clavey River and the North Fork Stanislaus River.

Organization of the Study

This Wild and Scenic River Study is organized to comply with the format specified in the 1982 Final Guidelines and Chapter 8 of the Forest Service Land and Resource Management Planning Handbook:

Chapter 1 shows the purpose and need for this Study.

Chapter 2 describes the river study areas and the environment affected by Wild and Scenic River designations.

Chapter 3 shows the findings of eligibility and classification. Chapter 4 describes and compares the alternatives.

Chapter 5 discloses the potential environmental consequences of each alternative.

Chapter 6 shows the distribution of the Draft River Study.

Chapter 7 contains the list of preparers.

Chapter 8 is a glossary of abbreviations used throughout this River Study.

Chapter 9 lists the references cited in this River Study.

Chapter 10 shows the public comments on the Draft River Study and the Forest Service response to each.

2. Descriptions of River Areas

This Chapter describes the river study areas and the environment affected by Wild and Scenic River designations on the Stanislaus National Forest. It includes descriptions of the regional setting, the Forest setting and the individual study rivers.

The regional setting provides a basis for determining the "outstandingly remarkable" values that are shown in Chapter 3.

The Forest setting provides a local frame of reference.

Regional Setting

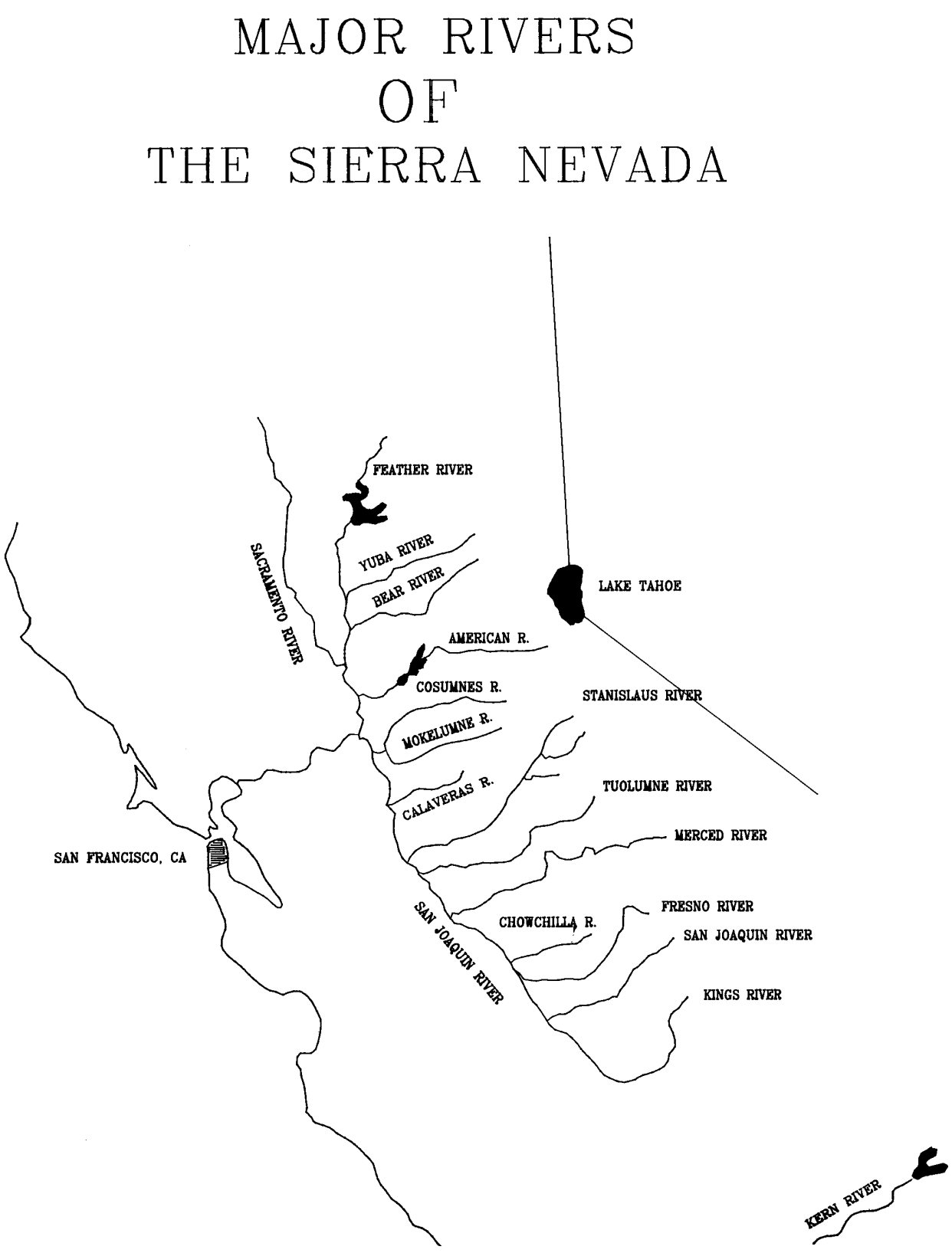
The Sierra Nevada is a singular, tilted fault-block range of great magnitude presenting a high, steep multiple scarp face on the eastern front, in contrast to the gentle western slope which disappears under the sediments of the Central Valley. It is 50 to 80 miles wide, running west of north through eastern California for over 400 miles. The Sierra terminates at the Mojave Desert to the south, while to the north, it disappears under the volcanic cover of the Cascade Range.

Granitic rocks of the Sierra Nevada batholith compose most of the southern half and the eastern part of the northern half of the Sierra. The northern half of the batholith is flanked on the west by metamorphosed sedimentary and volcanic rock. The famed Mother Lode gold belt passes through this metamorphic region.

The gentle western slope of the Sierra contains many deep, rugged river-cut canyons (See Map E-2.1) famous for their scenic qualities: Feather, Yuba, American, Mokelumne, Stanislaus, Tuolumne, Merced, San Joaquin, Kings, and Kern Rivers. The upper reaches of many of these rivers, especially in the massive granites of the high Sierra, are extensively modified by glacial sculpturing creating many classic, deep U-shaped canyons. The middle reaches of many of these rivers cut deep V-shaped canyons, often several thousand feet deep, before running out into the gentle foothills and the central valley of California.

The Sierra forms a tremendous physical barrier to the passage of moisture eastward from the Pacific Ocean. As the warm, moist winter storms rise, they cool rapidly, precipitating heavy snows at the high elevations of the western slope. Water from the heavy snowpack is extremely important to the people and economy of the dry central valley. As a result, nearly all of the rivers on the western flank of the Sierra have been heavily developed for water storage and hydro-electric power. Portions of several west slope rivers have already been included into the Wild and Scenic Rivers System: North Fork and South Fork Kern; South Fork, Middle Fork and main stem Kings; South Fork and main stem Merced; Tuolumne; Middle Fork Feather; and, North Fork American. The outstandingly remarkable values of these rivers include: unique geologic formations; historic and prehistoric sites; glaciated canyons; pristine fisheries; waterfalls; deep gorges; diversity of recreational opportunities; and, whitewater boating.

Map E-2.1 **Regional Setting**



Forest Setting

The Stanislaus National Forest is located in California on the western slope of the central Sierra Nevada. The Forest's topography is a series of broad sloping benches separated by river canyons and numerous tributary drainages (See Map E-2.2). Elevation varies from 1,100 feet in the Tuolumne River canyon to 11,575 feet at Leavitt Peak along the Sierra crest.

Four major rivers (Mokelumne, Stanislaus, Tuolumne, and Merced) occupy deep canyons that drain west into the Central Valley. A fifth river, the Clavey, flows southward into the Tuolumne. Elevation differences in these canyons can range from 1,000 to 2,000 feet in a half-mile or less. Slopes along the river canyons are steep with gradients of 60-100 percent. Slopes on areas between major river canyons are moderately steep with 30-60 percent gradients.

Granitic rocks of the Sierra Nevada batholith underlie most of the Forest. Granite, the most common rock type on the Forest, is especially evident at the higher elevations in and around the Emigrant Wilderness. Volcanic rocks, once covering much of the Forest, have been eroded by glacial activity. Metamorphic rock is found on the western portion of the Forest. Glacial and alluvial deposits also can be found.

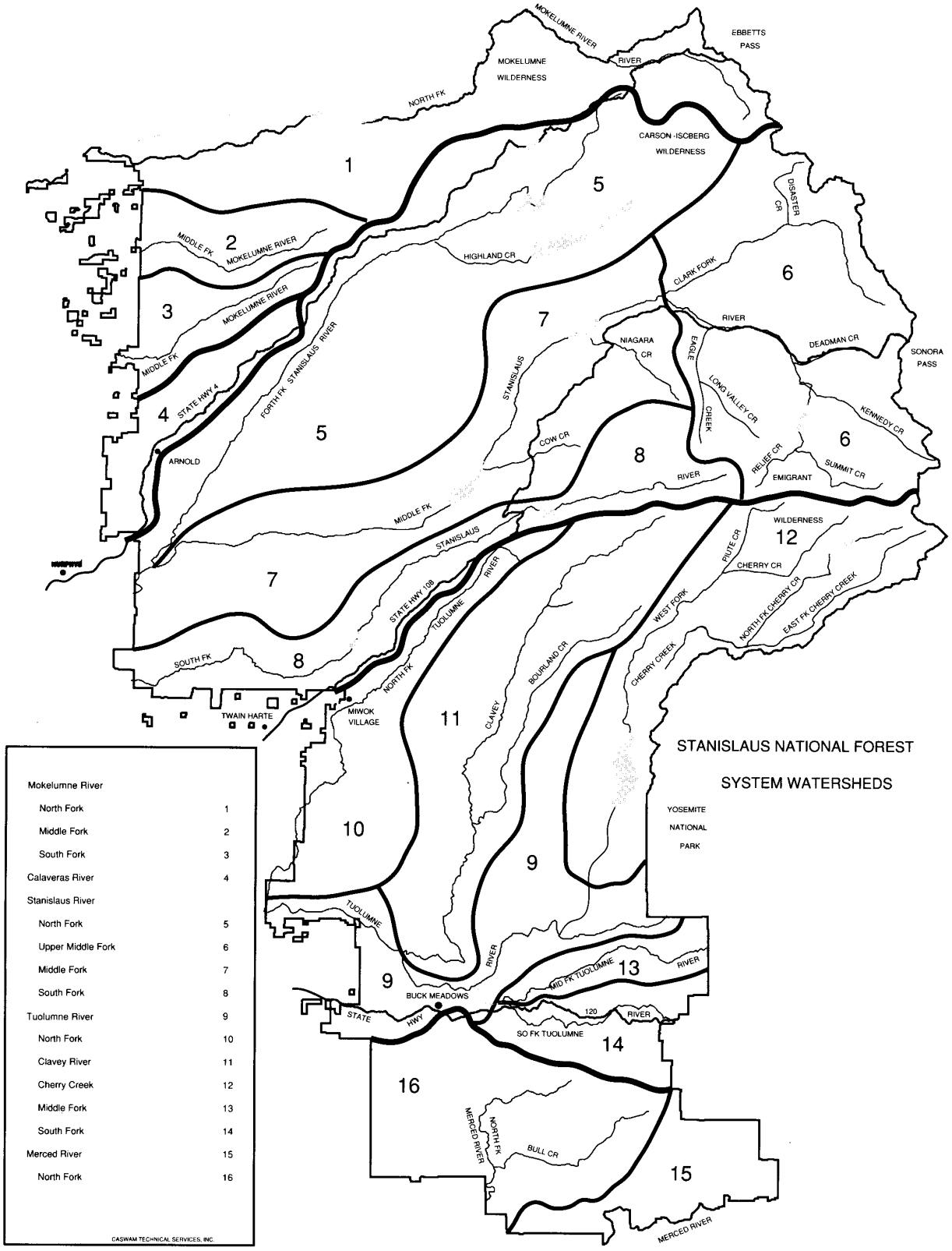
The annual grass/oak woodland/digger pine vegetation type is found up to an elevation of 3,000 feet. Most of this type occurs along the steep sides of the major river canyons, primarily on south-facing slopes. The chaparral vegetation type occurs higher, from 1,500 to 3,500 feet. The mixed conifer forest occurs between 3,500 to 6,000 feet, while the red fir forest occurs between 6,000 and 8,500 feet. The sub-alpine zone, with a mixture of conifers and low growing shrubs, lies above 7,500 feet.

The mountain scenery of the Forest attracts thousands of visitors each year. The high peaks and glacially carved canyons of the high country are major scenic attractions. The glacial-cut canyons move down from the high country to the mid-elevations where they carve through the broad, gentle western slope of the Sierra. Waterfalls, hundreds of feet high, drop into the canyons. Below 5,500 feet, the canyons change from glacial-cut to river-cut with gorges over 2,000 feet deep. Limestone outcroppings and caves can be found in the lower canyons.

Nearly 50% of the recreation use on the Forest is associated with its lakes, reservoirs and streams. Camping, picnicking, swimming, boating, fishing and scenic viewing are the popular activities. Most of the Forest's campgrounds are along its waters. Whitewater boating (rafting and kayaking) is popular on the Tuolumne River. Expert kayakers have floated the Clavey River.

Human use of the Forest dates back 8,000 years or more. About two-thirds of the known sites on the Forest are prehistoric, including large winter villages, seasonal settlements, camps, food processing stations and quarries. Most are located on terraces of major rivers, on ridges between river canyons, on flats and knolls near streams, at stream confluences and at springs, meadows and lakes. The remaining sites are historic properties from 140 years of relatively intensive use of the forest resources by Euro-Americans. Historic properties include dam sites, stream diversions, flumes, ditches, streamflow maintenance dams, railroad trestles, camps and cabins.

Map E-2.2 **Forest Setting**



The watersheds of the Mokelumne, Tuolumne, Stanislaus, and Merced Rivers have long been important for the production of water for domestic, agricultural, industrial, in-stream and other uses. The estimated annual output of water on the Forest is 1.97 million acre-feet, most of which is high quality. The Tuolumne River and Cherry Creek provide water to the City and County of San Francisco, while the Mokelumne River provides water to Pacific Gas and Electric (PG&E) and the East Bay Municipal Utilities District. The South Fork Stanislaus River is the principal water supply source for Tuolumne County.

Eight major hydro-electric facilities are located on the Forest. The total installed capacity is 634 megawatts. In addition, four major hydro-electric projects (Devil's Nose on the North Fork Mokelumne below Salt Springs (being evaluated by the Eldorado National Forest); Ramsey/French Meadow on the North Fork Stanislaus; Griswold with alternatives on the North and Middle Forks Stanislaus; and, Clavey on the Clavey River and several of its tributaries) are in the proposal stages. The Forest has 11 small to medium-sized reservoirs. Cherry Lake (1,800 acres) is the largest. Pinecrest Lake (300 acres) and Lake Alpine (180 acres) are the most popular recreation areas on the Forest.

On the Stanislaus, 850 miles of streams and 5300 acres of lakes and reservoirs contain fish. Natural lakes occur at the higher elevations, mostly in Wilderness. 18 fish species are present; rainbow, brook and brown trout are the most important for recreation. Lahontan cutthroat trout, a Federal listed threatened species, can be found in two streams. The large rivers and many lakes and reservoirs receive supplemental stocking. The California Department of Fish and Game has designated the Clavey and a portion of the Middle Fork Stanislaus as Wild Trout Streams, to protect and enhance the aquatic habitat and to provide quality angling without supplemental stocking. The Clark Fork, North Fork Stanislaus and other portions of the Middle Fork Stanislaus are potential additions to the Wild Trout Stream system.

The Forest's waterways are also important for wildlife. The large river canyons form important wildlife corridors between the lower and higher elevations. The North Fork Stanislaus and Clavey Rivers both contain large amounts of spotted owl and furbearer habitat at mid-elevations, forming important links to habitat blocks at higher elevations. The Federal listed endangered bald eagle and peregrine falcon are found along the larger river canyons and reservoirs. Riparian areas provide an important wildlife habitat, representing a transition zone between the stream and the adjacent upland areas. More wildlife species use riparian habitat than any other wildlife habitat on the Forest.

River Descriptions

On the Stanislaus, 909 miles of rivers and streams were evaluated for inclusion to the National Wild and Scenic Rivers System. All of the named perennial streams (See Table E-3.1) on the Forest are included. They represent a variety of stream types, ranging from small headwater streams to some of the major rivers of the Sierra Nevada. This Section lists only the study rivers where all or portions were found eligible for Wild and Scenic River designation (See Chapter 3 for descriptions of the outstandingly remarkable values). The values on all other streams were found common to the Sierra Nevada. Those streams are described in the Stanislaus National Forest Fisheries Habitat Management Plan (1971).

The following river descriptions list only the resources and uses that may be affected by Wild and Scenic River designations on the Stanislaus National Forest. Additional information is contained in Chapter 2 of the Forest Plan which describes, in detail, the affected environment of the Stanislaus National Forest. Some resources and values are considered sensitive because they are fragile or nonrenewable. They are indicated throughout this River Study as Other or OTHR. Information about them can be found in the Stanislaus National Forest Land and Resource Management Planning Records (Planning Records), on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

North Fork Mokelumne

Highland Lake - Salt Springs Reservoir (31 miles)

Land Status 31 miles National Forest.

Location northeast corner of the Forest; Calaveras District. Upstream portion is closely paralleled by State Highway 4 and local roads; downstream portion, inside the Mokelumne Wilderness, has only trail access.

Cultural Resources one unique site known.

Facilities three campgrounds outside of Wilderness; low standard trails access the Mokelumne Wilderness. Salt Springs Reservoir, operated by Pacific Gas and Electric (PG&E), is located just below the Wilderness.

Fish and Wildlife good fishing outside Wilderness based on stocking; fishery in Wilderness is excellent with a good wild trout population. Portion in Wilderness bisects travel zone to Eldorado National Forest for fisher, pine marten and spotted owl.

Recreation variety of developed and dispersed activities outside Wilderness; hiking and fishing within the Wilderness.

Timber 830 acres suitable (outside Wilderness), 16.6 mmbf standing volume with a potential yield of .16 mmbf/year.

Vegetation mixed conifer, true fir, and sub-alpine types are represented in different ranges of elevation.

Water large perennial, high quality.

Geology glaciated granitic and volcanic geology above the Wilderness. In the Wilderness the canyon is deeply river-cut (to 4,000 feet deep) through granitics.

Potential Developments two potential hydro-electric sites (25,000 acre feet (AF) and 18 megawatts (MW); 35,000 AF and 38 MW) in the Wilderness above Salt Springs; identified in the early 1960's, no current proposals.

Scenic crest zone with high peaks of volcanic origin and a broad valley with a meadow stream; after the river enters the Wilderness it starts a rapid decent into a deeply incised canyon; several waterfalls and the canyon is very rugged.

Management Considerations Wild and Scenic River designation would result in suitable timber tradeoffs. Heavy dispersed recreation use; and, potential for developed recreation construction could conflict with Wild and Scenic River designation outside Wilderness. Wild and Scenic River planning would need to be coordinated with Wilderness planning.

North Fork Stanislaus

Mosquito Lake - Middle Fork Stanislaus (39 miles)

Land Status 35 miles National Forest; 4 miles other.

Location western portion of the Forest; Calaveras District. Roads access the river at several points; portions have only trail access.

Facilities four campgrounds and one organization camp; 4WD routes at Ramsey and Sourgrass. Several water developments: Union Reservoir, Utica Reservoir and the North Fork Diversion (Spicer Project) are just below the Carson-Iceberg Wilderness; McKays Reservoir, just below Calaveras Big Trees State Park, diverts water to a powerhouse at Clark Flat.

Fish and Wildlife portions above McKays Reservoir are within travel corridors considered essential for the population viability of fisher and spotted owl. Most of the area between Sand Flat and Sourgrass provides fisher and spotted owl habitat. Fishing pressure is heavy between Sourgrass and Board's Crossing and the river receives supplemental stocking.

Mineral Potential Moderate potential from Clark Flat to Cone Hill.

Recreation variety of developed and dispersed activities, including off-highway vehicle use, fishing, hiking, swimming, and camping on the National Forest; Calaveras Big Trees State Park is another popular attraction. The Wilderness portion of the river receives light use compared to the Emigrant Wilderness.

Timber 2,025 acres suitable; 40.5 mmbf standing volume with a potential yield of .4 mmbf/year.

Vegetation oak/digger pine, ponderosa pine, mixed conifer and true fir types are represented in different ranges of elevation.

Water large perennial, high quality.

Geology glaciated granitics from Mosquito Lake to Stanislaus Campground. From Sand Flat to 5000 feet elevation the canyon is deep, U-shaped, and glacially carved through granitics with some glacial moraines. Below 5000 feet the canyon is river-cut; canyon walls are granitic while volcanic rocks are found on the rim

Potential Developments Ramsey/French Meadow addition to the North Fork Stanislaus Project would divert water out of Spicer Reservoir and add two powerhouses (5.8 MW and 5.3 MW) and an afterbay structure (10,000 AF) on the North Fork; preliminary permit application filed with FERC on 10/3/90; field study investigation Special Use Permit issued 8/91. The Griswold Creek Project includes an alternative with a powerhouse (10 MW) on the lower North Fork Stanislaus; project license application filed on 9/15/86 and accepted by FERC on 10/31/89; section 4(e) report on accepted application sent to FERC on 12/15/89.

Scenic above Highland Creek, the river flows over a broad glaciated plain with scattered forest; below Highland, it flows through a deeply cut glacial canyon with steep, granitic walls. Below 5000 feet, the canyon is rugged, deep, and heavily forested with old-growth trees. The lower canyon is deep cut through scattered Ponderosa pine and oak woodland.

Management Considerations existing 4WD use on private property at Ramsey could conflict with Wild classification; Sourgrass Campground may be expanded and new trails may be constructed throughout the river corridor; Wild and Scenic River planning would need to be coordinated with State and other private lands which are concentrated in the lower reaches. Wild and Scenic River designation would result in some suitable timber tradeoffs; and, would affect the North Fork and Griswold Creek power projects which have proposed facilities on the river. Additional costs would be incurred by managing this as a Wild and Scenic River.

Other considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

Stanislaus

North/Middle Fork Stanislaus - Clark Flat (1.5 miles)

Land Status 1.5 miles National Forest.

Location western portion of the Forest; Calaveras District. Clark Flat is accessed by road.

Cultural Resources several known sites.

Mineral Potential Moderate to low potential.

Recreation non-motorized recreation opportunities.

Vegetation annual grass/oak woodland/digger pine.

Water large perennial, high quality.

Geology deep river canyon in granitics.

Scenic deep, rugged river canyon.

Management Considerations Wild and Scenic River designation and planning must consider that two hydro-electric powerhouses are located below the study area in Clark Flat; New Melones Reservoir backs up to Clark Flat; and, the scenic and recreation values are similar to those of the lower North Fork and Middle Fork Stanislaus.

Middle Fork Stanislaus

Headwaters - North Fork Stanislaus (69.5 miles)
(including Deadman, Kennedy and Summit Creeks)

Land Status 67.5 miles National Forest; 2 miles other.

Location middle portion of the Forest; Summit, Mi-Wok and Calaveras Districts. Portions are paralleled by State Highway 108. Summit Creek, Kennedy Creek, and portions of the Middle Fork Stanislaus have only trail access.

Facilities two administrative sites, nine campgrounds, three vista points, two trailheads, one picnic area, one parking area, one interpretive site, nine recreation residence tracts, one organization camp, two resorts, several dispersed camping areas, and numerous trails. Several water developments: Relief Reservoir and dam on Summit Creek, just above Kennedy Meadow; Donnell Reservoir, just below the Clark Fork confluence, with a powerhouse just above Beardsley Reservoir; Beardsley dam, powerhouse and afterbay; PG&E powerhouse at Spring Gap utilizes water diverted from the South Fork Stanislaus; and, water diverted from Beardsley is used by Tri-Dam to operate its powerhouse at Sand Bar Flat.

Fish and Wildlife portion between Clark Fork confluence and Beardsley Reservoir provides habitat for bald eagle (winter) and peregrine falcon, and serves as a travel zone for fisher, spotted owl and other sensitive species. Portion below Beardsley is a State designated Wild Trout Stream.

Mineral Potential moderate to low potential; no reported occurrences.

Recreation variety of developed and dispersed activities occur at high levels in nearly all areas above the Clark Fork confluence, and at low to moderate levels in nearly all areas below the Clark Fork confluence.

Timber 3,900 acres suitable (outside Wilderness); 78.0 mmbf standing volume with a potential yield of .78 mmbf/year.

Vegetation ponderosa pine, mixed conifer, true fir and sub-alpine fir are represented in different ranges of elevation.

Water large perennial, high quality.

Geology several headwater streams flow down the deep canyons cut through volcanic andesitic mudflow material, the depth of the mudflow (3000 feet) at Nightcap Peak is the deepest mudflow in the Sierra Nevada. To the east of Summit Creek, the headwater streams flow out of the granite dome country of the Emigrant Wilderness. From Kennedy Meadow to Beardsley Reservoir, the canyon is glacially cut through granite domes; below Beardsley, it is river-cut through granitic rock, except for the lower 5 miles where meta-sedimentary rocks are exposed.

Potential Developments water storage reservoir at Kennedy Meadow (10,000 AF); no current proposal. Dardanelle Powerhouse (50 MW), above Donnell Reservoir, is listed in the 1976 California State Water Bulletin; no current proposal. Tuolumne County has identified a need to consider future diversions, from Donnell Reservoir and portions of the River below Donnell, to help meet its growing demand for domestic water supplies; no specific projects proposed. The Griswold Project includes an alternative on the lower river (see North Fork Stanislaus).

Scenic headwaters include deep canyons, alpine peaks, granite domes, and the deepest mudflow in the Sierra Nevada; middle portion includes the Column of the Giants basalt formation, vistas of the Dardanelles peaks, deep canyons, a "Yosemite" like valley at Donnell Reservoir, narrow inner-gorge areas, and cascading water; and, the lower canyon is broad, deep and rugged.

Management Considerations Wild and Scenic River designation would result in some suitable timber tradeoffs and could affect several major reservoirs and power project facilities; and, a power project site for the Griswold Project. Additional costs would be incurred by managing this as a Wild and Scenic River in some areas below the Clark Fork. Donnell Vista could be incorporated into the river area, providing outstanding opportunities for Wild and Scenic River viewing and interpretation.

Other considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

South Fork Stanislaus

Headwaters - New Melones Reservoir (43 miles)

Land Status 37 miles National Forest; 6 miles other.

Location central portion of the Forest; Summit and Mi-Wok Districts. Trails access the river above Pinecrest Lake; from Pinecrest to Lyons Reservoir, it is accessed by numerous roads, including State Highway 108; and, below Lyons it is crossed twice by Forest Road 2N63.

Facilities two campgrounds and one administrative site; numerous private developments within the town of Strawberry and Italian Bar. PG&E and Tuolumne County operate several water developments; Pinecrest Lake, Lyons Reservoir and a system of ditches deliver water for both hydro-electric and domestic uses.

Fish and Wildlife portion above Pinecrest Lake is important for movement fisher, marten, and wolverine. Spotted owl habitat exists below Pinecrest.

Mineral Potential gold mining on the lower river.

Recreation variety of developed and dispersed activities, including camping and fishing, occur below Pinecrest; hiking and fishing above Pinecrest. Recreation use, below Lyons, is low.

Timber 3,840 acres suitable; 76.8 mmbf standing volume with potential yield of .8 mmbf/year.

Vegetation oak woodland/digger pine, ponderosa pine, mixed conifer, true fir and sub-alpine fir are represented in different ranges of elevation.

Water large perennial, high quality.

Geology glaciated granitics and granite domes, to Pinecrest Lake; from Pinecrest to Lyons, the river flows through a shallow canyon with granitic walls and volcanic rock on the rim; and, the canyon becomes deeper below Lyons Reservoir as it downcuts through meta-sedimentary rock.

Potential Developments Granite Basin Project potential water storage site (16,000 AF) in the Emigrant Wilderness above Pinecrest Lake; location of abandoned reservoir site, no current proposal. Several other abandoned reservoir sites below the Wilderness boundary and above Pinecrest; identified by Tuolumne County to provide water storage, no specific projects proposed. Lyons Reservoir, on the lower River, may be expanded to provide increased water storage (63,000 AF) for Tuolumne County; no specific project proposed.

Scenic glacial canyon and granite domes above Pinecrest Lake; from Pinecrest to Lyons, the river flows through a shallow, forested canyon; and, the lower river canyon is deep and rugged.

Management Considerations Wild and Scenic River designation could conflict with heavy day use originating from the lake; several historic log dams; and, Dodge Ridge Ski Area expansion into a portion of the drainage. Wild and Scenic River designation below Pinecrest would result in some suitable timber tradeoffs, and conflicts with concentrated private developments and streamflow releases below Lyons Dam which are minimal throughout most of the year. Additional costs would be incurred by managing this as a Wild and Scenic River.

Other considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

Clark Fork

Headwaters - Middle Fork Stanislaus (17 miles)

Land Status 17 miles National Forest.

Location north-central portion of the Forest; Summit District. The headwaters, inside the Carson-Iceberg Wilderness, are accessed only by trail. The lower portion, from the Wilderness to the Middle Fork Stanislaus River, is closely paralleled by the Clark Fork Road.

Cultural Resources most unsurveyed; an emigrant trail route.

Facilities four Forest Service campgrounds and two organization camps; popular maintained trail in the Wilderness.

Fish and Wildlife excellent wild trout fishery in the Wilderness.

Mineral Potential moderate to low potential from Clark Fork campground to Boulder Creek; no known occurrences.

Recreation variety of developed and dispersed activities outside Wilderness; camping and hiking within Wilderness.

Timber 1,500 acres suitable (outside Wilderness); 30.0 mmbf standing volume with a potential yield of .15 mmbf/year.

Vegetation mixed conifer, true fir, and sub-alpine fir are represented in different ranges of elevation.

Water medium perennial, high quality.

Geology classic glaciated canyon; rim is volcanic andesitic mudflow material; and, inner canyon is granitic with significant amounts of glacial alluvial material.

Scenic deep U-shaped canyon, sub-alpine forests, medium-size perennial river.

Management Considerations highly developed for recreation use outside Wilderness; campgrounds and trailheads may be developed; potential Research Natural Area near Clark Fork Campground would have more restrictions than Recreational classification. Wild and Scenic River designation would result in some suitable timber tradeoffs. The river corridor could be expanded to include the Arnot Creek roadless area, putting the corridor between the Wilderness boundary all under one type of management.

Clavey

Headwaters - Tuolumne (47 miles)
(including Bell and Lily Creeks)

Land Status 46.5 miles National Forest, 0.5 miles other.

Location south-central portion of the Forest; Groveland and Mi-Wok Districts. Above the 3N01 crossing, several forest roads access the Clavey; between Cottonwood Road (1N04) and the Tuolumne River, road access is limited to the crossings of 1N04 and 1N01. Bell Creek is accessed by road near its headwaters. Lily

Creek is accessed by road 3N29.

Cultural Resources most unsurveyed; a few sites known.

Facilities trailhead adjacent to Bell Creek and administrative structures at Camp Clavey.

Fish and Wildlife northern portion of the Clavey is in, or adjacent to, two spotted owl areas and one fisher area; important for travel up canyon. The Clavey is a native trout fishery, and a State designated Wild Trout Stream. The lower portion has rugged cliffs providing potential limestone keeled snail and peregrine falcon habitat.

Mineral Potential moderate to low potential; no known occurrences.

Recreation hiking and fishing near Crabtree Trailhead and Bell Meadow; hiking and swimming near the confluence of the Tuolumne River; and opportunities for solitude and non-motorized activities on the lower portions.

Timber 3,840 acres suitable; 76.8 mmbf of standing volume with a potential yield of 1.5 mmbf/year (Clavey). 885 acres suitable; 17.7 mmbf standing volume with a potential yield of .4 mmbf/year (Bell). 640 acres suitable; 12.8 mmbf standing volume with a potential yield of .1 mmbf/year (Lily).

Vegetation digger pine/oak/grassland, ponderosa pine and mixed conifer

Water medium perennial, good quality.

Geology glacial shaping on volcanic and granitics to Hull Creek, then the river flows through a deep, V-shaped gorge in meta-sedimentary rock.

Potential Developments proposed Clavey hydro-electric project storage reservoir (90,000 AF) on the Clavey above 1N04 and powerhouse (120 MW) with a re-regulating dam (400 AF) below 1N01; preliminary permit application filed with FERC on 9/12/86; license application accepted by FERC on 6/12/90; interim section 4(e) comments sent to FERC on 3/26/91. Potential water storage reservoir (300 acres and 12,000 AF) on Bell Creek at Bell Meadow; identified in early 1960's, no current proposal.

Scenic upper portions flow through a shallow, forested drainage of undulating ridges; lower portions flow through a deeply incised, rugged canyon which is similar to the lower Tuolumne River canyon.

Management Considerations river values can be protected in a potential Research Natural Area, at Bell Meadow, which would have more restrictions than Scenic classification of Bell Creek. Wild and Scenic River designation would result in some suitable timber tradeoffs and would affect the proposed Clavey Project. Additional costs would be incurred by managing this as a Wild and Scenic River.

South Fork Tuolumne

Yosemite National Park - Tuolumne (12 miles)

Land Status 10.75 miles National Forest; 1.25 miles other.

Location south-central portion of the Forest; Groveland District. The only road access on the lower portion is at South Fork Campground. Roads to Harden Flat and Carlon Campground access the upper portions

Facilities one vista point, a swimming site, several campgrounds (both public and private), one organization camp; and, small impoundments for swimming at Harden Flat and Rainbow Pool.

Fish and Wildlife potential peregrine falcon habitat.

Recreation scenic viewing, from Rim of the World Vista; camping, fishing and whitewater boating near the Tuolumne confluence; and, hiking, swimming and fishing around the campgrounds and organization camp.

Timber 2,560 acres suitable; 51.2 mmbf standing volume with a potential yield of .4 mmbf/year.

Vegetation digger pine/oak/grassland, ponderosa pine and mixed conifer.

Water medium perennial, good quality.

Geology granitic bedrock in the upper and lower portions of the drainage; meta-sedimentary rock in the middle.

Potential Developments powerhouse location on the lower South Fork Tuolumne, below Highway 120; identified in early 1980's, no current proposal. Several water storage sites above the Highway; identified to increase domestic water supply, no specific proposals.

Scenic above State Highway 120, the terrain is generally rolling, forested hills which were heavily burned in the 1987 Complex Fire; below the highway, the river begins a rapid descent through a deep canyon to the Tuolumne River.

Management Wild and Scenic River corridor could include Rim of the World Vista, providing outstanding opportunities for

Considerations scenic viewing and Wild and Scenic River interpretation; corridor could easily be incorporated into the Tuolumne Wild and Scenic River corridor. Wild and Scenic River designation and planning must consider that the Hetch Hetchy tunnel goes under the river downstream from Rainbow Pool and maintenance roads for the tunnel access the river; and, Berkeley Tuolumne Camp and Hardin Flat private campgrounds are on the river. Wild and Scenic River designation, above Highway 120, would result in some suitable timber tradeoffs.

Other considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

Cherry Creek

Headwaters - Tuolumne (65 miles)
(including North, East and West Forks of Cherry Creek)

Land Status 64.75 miles National Forest, 0.25 miles other.

Location east portion of the Forest; Summit and Groveland Districts. Cottonwood Road and Cherry Oil Road access the lower portions. Trails access the upper portions, within the Emigrant Wilderness, near Yosemite National Park.

Cultural Resources several known below Cherry Lake.

Facilities several small streamflow maintenance dams inside Wilderness; one campground at Cherry Lake, which is a City and County of San Francisco reservoir and part of its Hetch Hetchy water system. The Hetch Hetchy system also includes a diversion canal along Cherry Creek, below the Lake, and a powerhouse on the lower river.

Fish and Wildlife high potential for peregrine falcon nesting in the "Cherry Bluffs", just above Cherry Lake; and, bald eagle winter habitat at Cherry Lake.

Mineral Potential high potential for tungsten along the East Fork Cherry Creek from Sachse Monument to the Wilderness boundary.

Recreation hiking, horseback riding, fishing and camping inside Wilderness; boating, fishing and camping at Cherry Lake; and recreation use is low, in areas below Cherry Lake.

Timber 1,920 acres suitable (outside Wilderness); 38.4 mmbf standing volume with a potential yield of .4 mmbf/year.

Vegetation ponderosa pine, mixed conifer, true fir and sub-alpine types are represented in different ranges of elevation.

Water medium perennial, high quality.

Geology granite domes, extensively glaciated above Cherry Lake; the river flows through a deep granitic canyon, below Cherry Lake.

Scenic granite domes, small lakes and streams cascading over the polished granite; and, below Cherry Lake, the river flows through a deep canyon that is forested on its upper reaches.

Management Considerations Wild and Scenic River designation would attract additional heavy recreation use, affecting river values. Designation may affect future management of several small streamflow maintenance dams in Wilderness. Wild and Scenic River designation, below Cherry Lake, would result in suitable timber tradeoffs.

Buck Meadow Creek

Headwaters - West Fork Cherry Creek (8 miles)

Land Status 8 miles National Forest.

Location east portion of the Forest; Summit District. Trails access the creek, within the Emigrant Wilderness, near Yosemite National Park.

Facilities popular maintained trail; and, two small streamflow maintenance dams.

Recreation hiking, horseback riding, and camping.

Vegetation mixed conifer, true fir, and sub-alpine fir are represented in different ranges of elevation.

Water small perennial, high quality.

Geology heavily glaciated granite domes.

Scenic granite domes, small lakes, and a cascading stream.

Management Considerations	Wild and Scenic River designation would attract additional heavy recreation use, affecting river values. Designation may affect future management of several small streamflow maintenance dams in Wilderness

North Fork Merced

Headwater - National Forest Boundary (11 miles)

Land Status	11.0 miles National Forest.
Location	southern portion of the Forest; Groveland District. Roads provide access at three locations.
Facilities	administrative facilities adjacent to the river area. Fish and Wildlife: endemic amphipod in Bower Cave.
Mineral Potential	high potential with numerous lead and gold occurrences.
Recreation	hiking and fishing.
Timber	1,160 acres suitable; 2.3 mmbf standing volume with a potential yield of .1 mmbf/year.
Vegetation	ponderosa pine and mixed conifer.
Water	small perennial, fair quality.
Geology	meta-sedimentary rock with some limestone outcroppings. Bower Cave is a unique geologic feature.
Scenic	upper portion flows through forested hills, while the lower portion flows through a moderate canyon.
Management Considerations	river values can be protected by Special Interest Area management, without the additional costs of managing the entire river as a Wild and Scenic River.
Other	considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

Disaster Creek

Headwaters - Clark Fork (5 miles)

Land Status	5 miles National Forest.
Location	northeast-central portion of the Forest; Summit District. Clark Fork Road provides access near the Clark Fork confluence; only trail access within the Wilderness.
Facilities	maintained trail provides access to the Carson-Iceberg Wilderness
Recreation	hiking, fishing and camping.
Vegetation	mixed conifer, true fir and sub-alpine fir are represented in different ranges of elevation.
Water	small perennial, high quality.
Geology	glacially shaped volcanic andesitic mudflows on the upper canyon walls while the inner canyon area is granitic.
Scenic	sub-alpine forest and meadows.
Other	considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

Eagle Creek

Headwaters - Middle Fork Stanislaus (11 miles)
(including Long Valley Creek)

Land Status	10.5 miles National Forest; 0.5 miles other.
Location	central portion of the Forest; Summit District, between the Emigrant Wilderness and State Highway 108. Long Valley Creek is paralleled by a low-standard road. Portions of Eagle Creek have only trail access.
Facilities	one campground and several dispersed camping areas in the upper reaches; one campground, a recreation residence tract and a resort near the Middle Fork Stanislaus confluence.
Fish and Wildlife	core habitat for fisher, central to the entire network of fisher habitat on the Forest; pine marten and goshawk habitat.

Mineral Potential	low to moderate potential for uranium.
Recreation	fishing, scenic viewing, and camping.
Timber	1,120 acres suitable; 22.4 mmbf standing volume with a potential yield of .4 mmbf/year.
Vegetation	mixed conifer, true fir and sub-alpine types are represented in different ranges of elevation.
Water	small perennial, high quality.
Geology	granitic valley bottom with volcanic slopes; lower portion flows rapidly through massive boulders.
Scenic	large meadows and mountain peaks, massive boulders in lower reach.
Management Considerations	Wild and Scenic River designation would result in some suitable timber tradeoffs; system would be contiguous with the Middle Fork Stanislaus, but additional costs would be incurred by managing as a Wild and Scenic River.
Other	considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

Niagara Creek

Headwater - Donnell Reservoir (6 miles)

Land Status	6 miles National Forest.
Location	north-central portion of the Forest; Summit District. Road access, is extensive, including a crossing by State Highway 108.
Cultural Resources	some sites known.
Facilities	Donnell Vista, located outside the area, provides access; two campgrounds above State Highway 108.
Fish and Wildlife	potential for superior peregrine falcon habitat; spotted owl and furbearer habitat.
Mineral Potential	low to moderate potential for uranium
Recreation	hiking, camping and scenic viewing.
Timber	1920 acres suitable; 38.4 mmbf standing volume with a potential yield of .4 mmbf/year.
Vegetation	mixed conifer.
Water	small perennial, high quality.
Geology	granitic valley bottom with volcanic slopes; 1200 foot waterfall into Donnell Reservoir from hanging valley.
Potential Developments	potential hydro-electric project would utilize the falls by piping its water to a powerhouse below at Donnell Reservoir; identified in early 1980's, no current proposal.
Scenic	highly scenic waterfalls; upper watershed is heavily forested.
Management Considerations	Wild and Scenic River designation would result in suitable timber tradeoffs; planning should consider that interpretive trails and a vista may be developed near the falls.

Relief Creek

Headwater - Summit Creek (3 miles)

Land Status	3 miles National Forest.
Location	east-central portion of the Forest; Summit District. Trail access within the Emigrant Wilderness, southwest of Relief Reservoir.
Cultural Resources	major emigrant route.
Facilities	popular maintained trail.
Recreation	hiking, horseback riding and camping.

Vegetation mixed conifer and true fir.

Water small perennial, high quality.

Geology upper reaches are volcanic andesitic mudflows while the lower reaches are granitic.

Scenic high mountain peaks, valleys, granite domes and a cascading stream

Management Considerations Wild and Scenic River designation would attract additional heavy recreation use, affecting river values.

Bourland Creek

Headwater - Reed Creek (11 miles)

Land Status 10.75 miles National Forest; 0.25 miles other.

Location east portion of the Forest; Mi-Wok District. Portions extensively accessed by low standard roads.

Cultural Resources last standing railroad logging trestle on Forest.

Fish and Wildlife travel corridor and core zone for fisher, pine marten and wolverine.

Mineral Potential moderate; no known occurrences.

Recreation OHV use, hiking and fishing.

Timber 2,710 acres suitable; 54.2 mmbf standing volume with a potential yield of 1.1 mmbf/year.

Vegetation mixed conifer and true fir; bogs at Bourland Meadow.

Water small perennial, good quality.

Geology glacial tills at Bourland Meadow; volcanics and granitics in upper reaches; and, lower reach is river-cut through granite.

Scenic Bourland Meadow has a variety of vegetation; completely standing railroad trestle is a scenic attraction.

Management Considerations Wild and Scenic River designation would result in suitable timber tradeoffs. River values can be protected under other management: the railroad trestle as a Special Interest Area; and, Bourland Meadow as a Research Natural Area. Additional costs would be incurred by managing the entire creek as a Wild and Scenic River.

Pacific Creek

Headwaters - North Fork Mokelumne (6 miles)

Land Status 6 miles National Forest.

Location northeast corner of the Forest; Calaveras District. State Highway 4 and a forest road access the lower portion. Upper portion is within the Pacific Valley Further Planning Area.

Facilities one campground and a Wilderness trailhead.

Recreation hiking, scenic viewing, hunting and camping.

Timber 1,280 acres suitable; 25.6 mmbf standing volume with a potential yield of .2 mmbf/year within the Further Planning Area and .3 mmbf/year outside of it.

Vegetation true fir and lodgepole pine.

Water small perennial, high quality.

Geology glaciated granitics.

Scenic crest zone with high peaks of volcanic origin; broad valley with meadows; granite domes, cirques and a cascading stream.

Other considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

3. Findings of Eligibility and Classification

This Chapter presents a summary of the process used to conduct the Wild and Scenic River Study. It also shows the Stanislaus National Forest's findings of Wild and Scenic River eligibility and classification for the study rivers identified in Chapter 2.

Process

This Wild and Scenic River Study (River Study) followed a four step process, to determine Wild and Scenic River eligibility and classification.

First, the study rivers were identified. On the Stanislaus National Forest, all rivers and streams with sustainable flows (909 miles) were studied for their eligibility and possible inclusion in the National Wild and Scenic Rivers System. All lands, including private and State Park, within the Stanislaus National Forest boundary were assessed in this River Study.

Second, the study rivers were divided into segments for ease of determining eligibility and classification. The National Wild and Scenic Rivers System; Final Guidelines for Eligibility, Classification and Management of River Areas of 1982 (1982 Final Guidelines) state that: "For the purpose of study and determining eligibility and classification, the river area may be divided into segments." It goes on to say that: "There are no specific requirements concerning the length or the flow of an eligible river segment. A river segment is of sufficient length if, when managed as a wild, scenic or recreational river, the outstandingly remarkable values are protected. Flows are sufficient if they sustain or complement the outstandingly remarkable values for which the river would be designated." The Forest identified segments for each river and stream. This process considered items such as major confluences, impoundments, significant changes in development, road crossings, potential classifications, or the presence of important resource values. Table E-3.1 lists the study segments.

Third, Wild and Scenic River eligibility is determined. Once a river or segment has been identified for consideration, its eligibility must be determined by applying the criteria in Sections 1(b) and 2(b) of the Wild and Scenic Rivers Act. To be eligible, a river must be free-flowing and, with its adjacent land area, must possess one or more outstandingly remarkable values. The 1982 Final Guidelines provide further direction for determining free-flowing conditions and outstandingly remarkable values.

The 1982 Final Guidelines state that: "The determination of outstandingly remarkable values is a professional judgment on the part of the study team". Webster's dictionary defines remarkable as "worthy of being or likely to be noticed, especially as being uncommon or extraordinary; synonym, noticeable". Outstanding is defined as "standing out from a group, i.e., conspicuous; marked by eminence and distinction; synonym, noticeable; antonym, commonplace". Therefore, an outstandingly remarkable value would be one that was a conspicuous example of a value from a population of similar values that are themselves uncommon or extraordinary. The River Study Team identified the special values present within the study segment corridors that are not commonly found elsewhere in the Sierra Nevada (See Chapter 2). The special features or values were individually assessed for uniqueness in, or significance to, the region or the Nation. Those noticeable or distinctive in the context of the region, or the Nation, were considered "outstandingly remarkable" values. They are listed in Table E-3.1 and described in the Findings section of this Chapter.

Fourth and finally, after river segments were found eligible for inclusion in the Wild and Scenic Rivers System, recommended classifications were determined. The Wild and Scenic Rivers Act provides for three classifications which are based on the condition of the river and adjacent lands at the time of the study:

Wild: free of impoundments; vestiges of primitive America with little or no evidence of human activity; and, generally inaccessible except by trail with no roads, railroads or provisions for vehicular travel.

Scenic: free of impoundments; largely primitive and undeveloped with no substantial evidence of human activity; and, accessible in places by roads which may occasionally reach or bridge the river.

Recreational: normally free of impoundment, but may have some existing impoundment or diversion providing that the waterway remains generally natural or riverine in appearance; developed; and, readily accessible by road.

Existing improvements are allowed under all three classifications. This Wild and Scenic River Study recommends classifications that are most appropriate for each eligible segment. They are shown in the Findings section of this Chapter and listed in Table E-3.1.n accordance with the Wild and Scenic Rivers Act and depending on whether Congress legislates the classifications, they may be given further consideration, following inclusion of the rivers into the National Wild and Scenic River System. The individual Wild and Scenic River management plans will identify and provide direction for the site specific uses and improvements allowed on each river.

Findings

This Section presents the Forest's findings of eligibility and classification. Some values are considered sensitive because they are fragile or nonrenewable (shown as Other or OTHR). Information on those values can be found in the Stanislaus National Forest Land and Resource Management Planning Records (Planning Records), on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

First, Table E-3.1 lists the study rivers and streams, segment descriptions, miles, outstandingly remarkable values, free-flowing characteristics and, if eligible, the miles of each recommended classification.

Next, each eligible segment is listed with its recommended classification; a description of its "outstandingly remarkable" Wild and Scenic River values; and, a map showing its location.

Finally, Map E-3.27, included at the end of this Chapter, shows all of the rivers and streams, on the Stanislaus National Forest, that are eligible for inclusion to the National Wild and Scenic Rivers System. It also shows the recommended classifications (Wild, Scenic, or Recreational) for each eligible segment.

Table E-3.1 **Findings of Eligibility and Classification**

River/Stream	Segment	mi.	Outstandingly Remarkable Values							Free Flow	Eligible Miles		
			SCEN	RECR	GEOL	FISH	WDLF	H/CR	OTHR		WILD	SCEN	REC
NF Mokelumne	1 Highland Lake - Wilderness	9	SCEN	RECR						YES			9
	2 Wilderness - Salt Springs	18w	SCEN	RECR	GEOL	FISH				YES	18		
	3 Salt Springs Reservoir	4								NO			
NF Stanislaus	1 Mosquito Lake - Union Reservoir	7p								YES			
	2 Union/Utica - NF Diversion	3								NO			
	3 NF Diversion - Highland Creek	5								YES			
	4 Highland Creek - McKays Res	16	SCEN	RECR			WDLF		OTHR	YES	13		3
	5 McKays Reservoir	1								NO			
	6 McKays Res - MF Stanislaus	7	SCEN	RECR						YES	7		
Stanislaus	NF/MF Stanislaus - Clark Flat	1.5	SCEN	RECR						YES	1.5		
MF Stanislaus	1 Deadman Creek	8	SCEN	RECR	GEOL			H/CR		YES			8
	2 Kennedy Creek	8w	SCEN							YES	8		
	3 Summit Creek Headwaters-Relief	7w	SCEN						OTHR	YES	7		
	4 Relief Reservoir	2								NO			
	5 Relief Res - Clark Fork	12	SCEN	RECR	GEOL				OTHR	YES			12
	6 Clark Fork - Donnell Reservoir	3	SCEN							YES	3		
	7 Donnell Reservoir	2								NO			
	8 Donnell Res - Hells Half Acre	8	SCEN				WDLF			YES	4	4	
	9 Beardsley Reservoir/Afterbay	5								NO			
	10 Beardsley Afterbay - Sand Bar	3				FISH	WDLF	H/CR		YES		3	
	11 Sand Bar	1								NO			
	12 Sand Bar - NF Stanislaus	10.5	SCEN	RECR			WDLF			YES	10.5		
SF Stanislaus	1 Headwaters - Pinecrest Lake	14p	SCEN	RECR	GEOL				OTHR	YES	14		
	2 Pinecrest Lake	1								NO			
	3 Pinecrest Lake - Lyons Reservoir	8								YES			
	4 Lyons Reservoir	5								NO			
	5 Lyons Reservoir - New Melones	15								YES			
Clark Fork	1 Headwaters - Wilderness	8w	SCEN					H/CR		YES	8		
	2 Wilderness - MF Stanislaus	9	SCEN	RECR						YES			9
Clavey	1 Bell Creek	7p	SCEN					H/CR	ECOL	YES	6	1	
	2 Lily Creek	11p							ECOL	YES	9	2	
	3 Bell/Lily - 3N01	5				FISH			ECOL	YES		5	
	4 3N01 - Cottonwood Road	8				FISH	WDLF		ECOL	YES	4	4	
	5 Cottonwood Road - Tuolumne	16	SCEN	RECR		FISH	WDLF		ECOL	YES	14	2	
SF Tuolumne	1 Yosemite - MF Tuolumne	10								YES			
	2 MF Tuolumne - Tuolumne	2	SCEN						OTHR	YES		2	
Cherry Creek	1 West Fork Cherry Creek	15w	SCEN							YES	15		
	2 North Fork Cherry Creek	13w	SCEN							YES	13		
	3 East Fork Cherry Creek	14w	SCEN							YES	14		
	4 East/North Conf - Cherry Lake	10w	SCEN		GEOL					YES	10		
	5 Cherry Lake	4								NO			
	6 Cherry Lake - Cherry Road	7								YES			
	7 Cherry Road - Tuolumne	2								YES			
Buck Meadow Creek	Headwater - WF Cherry Creek	8w	SCEN							YES	8		
NF Merced	Headwater - Forest Boundary	11			GEOL			H/CR	OTHR	YES	6	5	
Disaster Creek	Headwater - Clark Fork	5w							OTHR	YES	5		
Eagle Creek	1 Headwater - MF Stanislaus	7							OTHR	YES	5	2	
	2 Long Valley Creek	4							OTHR	YES		4	
Niagara Creek	1 Headwater - Hwy 108	5								YES			
	2 Hwy 108 - Donnell Reservoir	1	SCEN		GEOL					YES		1	
Relief Creek	Headwater - Summit Creek	3w	SCEN							YES	3		
Bourland Creek	Headwater - Reed Creek	11						H/CR	ECOL	YES	2		9
Pacific Creek	Headwater - NF Mokelumne	6	SCEN						OTHR	YES	4		2
										Subtotal	**212**	**35**	**52**

River/Stream	Segment	mi.	Outstandingly Remarkable Values							Free	Eligible Miles		
			SCEN	RECR	GEOL	FISH	WDLF	H/CR	OTHR	Flow	WILD	SCEN	REC
Sandy Meadow Creek	Headwater - NF Mokelumne	2w								YES			
Jelmini Creek	Headwater - NF Mokelumne	3pl								YES			
Grouse Creek	Headwater - NF Mokelumne	4pl								YES			
Mattley Creek	Headwater - NF Mokelumne	3pl								YES			
Moore Creek	Headwater - NF Mokelumne	7								YES			
Blue Creek	Headwater - NF Mokelumne	14								YES			
MF Mokelumne	Headwater - Schaads	15								YES			
Forest Creek	Headwater - Forest Boundary	10								YES			
SF Mokelumne	1 Headwater - Forest Boundary	15								YES			
	2 Little Mokelumne	4								YES			
Bloods Creek	Headwater - NF Stanislaus	6								YES			
Duck Creek	Duck Lake - Utica Reservoir	4w								YES			
Highland Creek	1 Highland Lakes - New Spicer	7w								YES			
	2 New Spicer Meadow Reservoir	7								NO			
	3 New Spicer - NF Stanislaus	6								YES			
Wilderness Creek	Headwater - New Spicer Res	5w								YES			
Bull Run Creek	Headwater - Highland Creek	3w								YES			
Weiser Creek	Headwater - Highland Creek	4w								YES			
Big Rattlesnake	Headwater - NF Stanislaus	5								YES			
Little Rattlesnake	Headwater - NF Stanislaus	5								YES			
Beaver Creek	Headwater - NF Stanislaus	18								YES			
Griswold Creek	Headwater - NF Stanislaus	17								YES			
Skull Creek	Headwater - Griswold Creek	10								YES			
McCormick Creek	Headwater - Griswold Creek	3								YES			
San Antonio Creek	Headwater - Forest Boundary	12								YES			
Grouse Creek	Headwater - Relief Reservoir	2w								YES			
Douglas Creek	Headwater - MF Stanislaus	3								YES			
Arnot Creek	Headwater - Clark Fork	7p								YES			
Fence Creek	Headwater - Clark Fork	2p								YES			
Cloudburst Creek	Headwater - Clark Fork	2p								YES			
Little Teton Creek	Headwater - Clark Fork	2p								YES			
Cottonwood Creek	Headwater - Clark Fork	2p								YES			
Boulder Creek	Headwater - Clark Fork	2w								YES			
Dardanelles Creek	Headwater - Donnell Reservoir	4w								YES			
Wheats Mdw Creek	Headwater - Dardanelles Creek	4w								YES			
McCormick Creek	Headwater - MF Stanislaus	4p								YES			
Drew Creek	Headwater - MF Stanislaus	4p								YES			
Smoothwire Creek	Headwater - MF Stanislaus	2								YES			
Campoodle Creek	Headwater - Smoothwire Creek	5								YES			
Shoofly Creek	Headwater - MF Stanislaus	6								YES			
Lion Creek	Headwater - MF Stanislaus	5								YES			
Mill Creek	Headwater - MF Stanislaus	7								YES			
Cascade Creek	Headwater - MF Stanislaus	5								YES			
Cow Creek	Headwater - Beardsley Reservoir	6								YES			
Bumblebee Creek	Headwater - Cow Creek	3								YES			
Herring Creek	1 Willow Creek	4								YES			
	2 Bloomer Lake - Herring Cr Res	4								YES			
	3 Herring Creek Reservoir									NO			
	4 Herring Cr Res - SF Stanislaus	6								YES			
Deer Creek	Headwater - SF Stanislaus	7								YES			
Fivemile Creek	Headwater - SF Stanislaus	5								YES			
Eagle Creek	Headwater - Rose Creek	9								YES			
Rose Creek	Headwater - New Melones	14								YES			
Knight Creek	Headwater - New Melones	10								YES			
Piute Creek	Headwater - WF Cherry Creek	5w								YES			
Spring Creek	Headwater - WF Cherry Creek	4w								YES			
Granite Creek	NF Lands - Cherry Creek	3								YES			
Jawbone Creek	1 Headwater - 3N01	8								YES			
	2 3N01 - Tuolumne	6								YES			
Corral Creek	Femmons Meadow - Tuolumne	5								YES			
MF Tuolumne	Yosemite - SF Tuolumne	13								YES			

River/Stream	Segment	mi.	Outstandingly Remarkable Values							Free	Eligible Miles		
			SCEN	RECR	GEOL	FISH	WDLF	H/CR	OTHR	Flow	WILD	SCEN	REC
Big Creek	Big Creek Basin - SF Tuolumne	4								YES			
Lily Creek	Headwater - Hull Creek	4								YES			
Rush Creek	Headwater - Hull Creek	2								YES			
Hull Creek	Headwater - Clavey	12								YES			
Looney Creek	Headwater - Bourland Creek	5								YES			
Little Reynolds	Headwater - Reynolds Creek	4								YES			
Reynolds Creek	Headwater - Reed Creek	8								YES			
Niagara Creek	2N08Y - Reed Creek	2								YES			
Reed Creek	Bourland Creek - Clavey	5								YES			
Twomile Creek	Headwater - Clavey	6								YES			
Trout Creek	Headwater - Clavey	6								YES			
Thirteenmile Creek	Headwater - Cottonwood Creek	2								YES			
Cottonwood Creek	Headwater - Clavey	6								YES			
Rock Creek	Headwater - Clavey	5								YES			
Basin Creek	1N04 - NF Tuolumne	4								YES			
Wrights Creek	Headwater - NF Tuolumne	7								YES			
Hunter Creek	2N11 - NF Tuolumne	5								YES			
NF Tuolumne	1 Dodge Ridge - 3N01	12								YES			
	2 3N01 - Cottonwood Road	10								YES			
	3 Cottonwood Road - Tuolumne	9								YES			
Deer Lick Creek	Headwaters - Moore Creek	3								YES			
Jordan Creek	Pond - Moore Creek	2								YES			
Moore Creek	Deer Lick Creek - NF Merced	1								YES			
Bull Creek	Anderson Flat - NF Merced	10								YES			
Little Crane	Headwater - Merced	6								YES			
Moss Creek	1S12 - Merced	5								YES			
Ned Gulch	1S12 - Merced	7								YES			
	Subtotals												
	Wild	212											
	Scenic	35											
	Recreational	52											
	Eligible	299											
	Not Eligible	610											
	Total Inventory	**909**									**212**	**35**	**52**

Legend

Classifications

WILD	Wild
SCEN	Scenic
REC	Recreational

Values

SCEN	Scenic
GEOL	Geologic
WDLF	Wildlife
OTHR	Other
RECR	Recreation
FISH	Fish
H/CR	Historic/Cultural
ECOL	Ecologic

Wilderness

w	within
p	portion within

North Fork Mokelumne

Segment: **1 Highland Lake - Mokelumne Wilderness Boundary** (9 miles)
Outstandingly Remarkable Values: **Scenic Recreation**
Classification: **Recreational**

Scenic: outstanding Variety Class A landscape includes high peaks of volcanic origin, a broad valley with a meadow stream and strongly defined patterns of red fir, sub-alpine and riparian vegetation. The high mountain scenery attracts thousands of visitors each year, with the high peaks and glacially carved canyons of the high country as major attractions for scenic viewing and camping.

Recreation: variety of both developed and dispersed, motorized and non-motorized activities occur. The Forest Road to Highland Lakes provides a rare opportunity for motorized access to the headwaters of a high Sierra river. The portion within the Pacific Valley Further Planning Area offers a rare opportunity for solitude and non-motorized recreation outside of designated Wilderness.

Map E-3.1 **North Fork Mokelumne**
Segment 1

North Fork Mokelumne

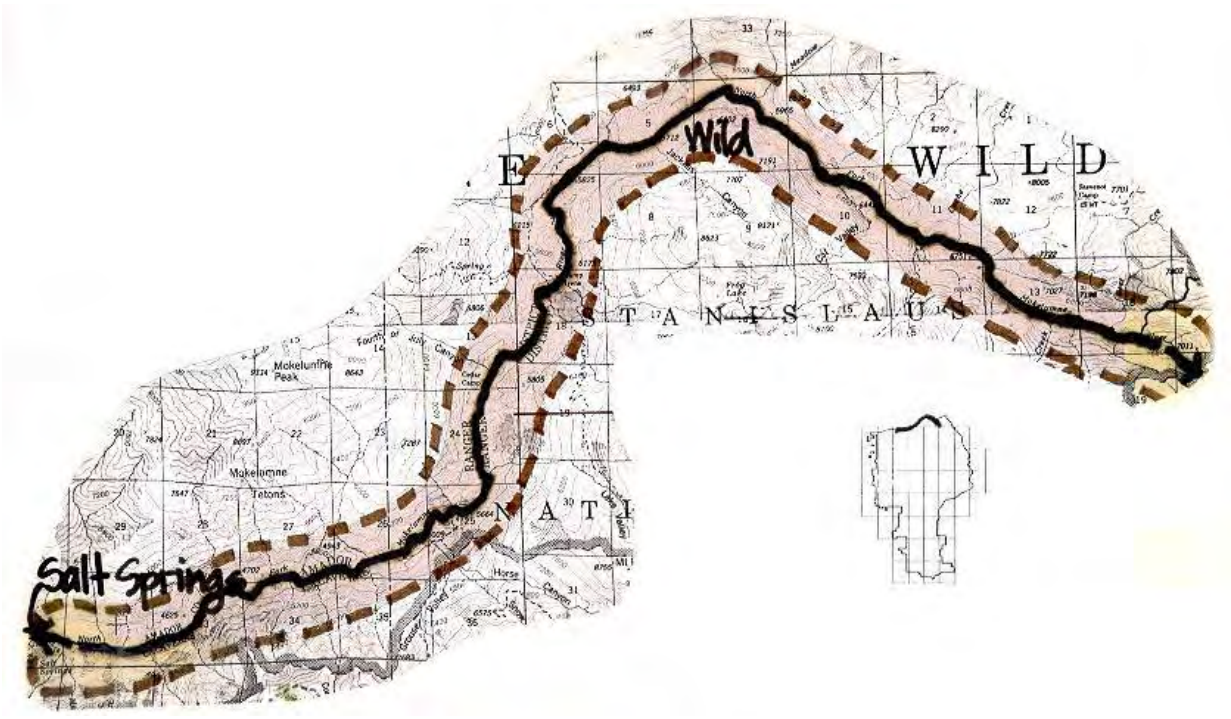
Segment: **2 Mokelumne Wilderness Boundary - Salt Springs Reservoir** (18 miles)
Outstandingly Remarkable Values: **Scenic Recreation Geologic Fish**
Classification: **Wild**

Scenic: after the river enters the Mokelumne Wilderness it starts a rapid decent into a deeply incised canyon which is over 4,000 feet deep in places. The river has several waterfalls and the canyon is very rugged. Outstanding Variety Class A landscape is famous, recognized by designation of the Mokelumne Wilderness. The upper reaches have been modified by glacial sculpturing, while the lower reaches exhibit a deep V-shaped canyon.

Recreation: hiking and fishing are the popular dispersed activities within the Mokelumne Wilderness. It is extremely wild and primitive. Access is limited, resulting in outstanding opportunities for solitude and primitive Wilderness recreation experiences.

Geologic: contains an outstanding example of a deep glaciated river canyon. For more than ten miles, the river runs as much as 4,000 feet below surrounding peaks. The canyon wall is sheerest and highest below Mokelumne Peak where it climbs straight and steep from about 4,500 feet along the river to 9,300 feet at the Peak. Canyon walls are glaciated granite scoured to bedrock in most places. The view into this geologic abyss is spectacular as the river carves its way downstream, thousands of feet below the canyon rim. The canyon's exposed granite is outstanding, showing the awesome geologic forces that created it.

Fish: provides an excellent fishery for wild rainbow and brown trout. Rainbow trout are the predominate species. While the overall productivity of the river is not high, the very low angling pressure and low harvest, results in a high catch rate. The low harvest rate allows for larger fish to survive, and rainbow trout over 12 inches are reported. The steep, rugged nature of the canyon makes access difficult, and a high quality fishery and angling experience are available to those willing to make the effort to fish here.



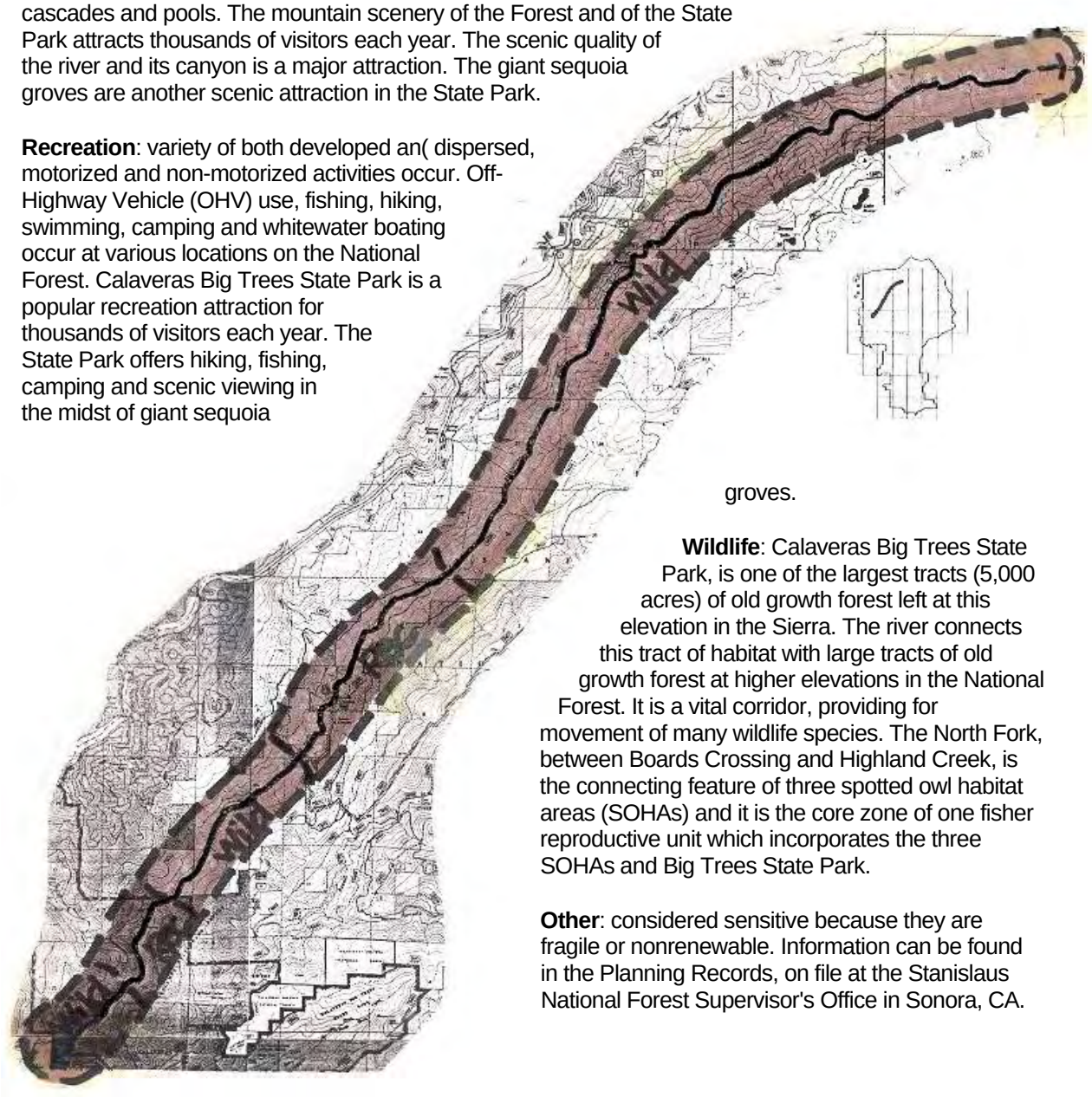
Map E-3.2 **North Fork Mokelumne**
Segment 2

North Fork Stanislaus

Segment: 4 **Highland Creek - McKays Reservoir** (16 miles)
Outstandingly Remarkable Values: **Scenic Recreation Wildlife Other**
Classification: **13 Wild and 3 Recreational**

Scenic: outstanding Variety Class A landscape includes a deep, U-shaped, glacially carved canyon through granitics with some glacial moraines. The river provides a variety of water forms including rapids, cascades and pools. The mountain scenery of the Forest and of the State Park attracts thousands of visitors each year. The scenic quality of the river and its canyon is a major attraction. The giant sequoia groves are another scenic attraction in the State Park.

Recreation: variety of both developed an(dispersed, motorized and non-motorized activities occur. Off-Highway Vehicle (OHV) use, fishing, hiking, swimming, camping and whitewater boating occur at various locations on the National Forest. Calaveras Big Trees State Park is a popular recreation attraction for thousands of visitors each year. The State Park offers hiking, fishing, camping and scenic viewing in the midst of giant sequoia groves.



Wildlife: Calaveras Big Trees State Park, is one of the largest tracts (5,000 acres) of old growth forest left at this elevation in the Sierra. The river connects this tract of habitat with large tracts of old growth forest at higher elevations in the National Forest. It is a vital corridor, providing for movement of many wildlife species. The North Fork, between Boards Crossing and Highland Creek, is the connecting feature of three spotted owl habitat areas (SOHAs) and it is the core zone of one fisher reproductive unit which incorporates the three SOHAs and Big Trees State Park.

Other: considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

Map E-3.3 **North Fork Stanislaus**
Segment 4

North Fork Stanislaus

Segment: **6 McKays Reservoir - Middle Fork Stanislaus** (7 miles)
Outstandingly Remarkable Values: **Scenic Recreation**
Classification: **Wild**

Scenic: outstanding Variety Class A landscape includes a deep, V-shaped, river-cut canyon through granitics with some volcanics on the rim. The river provides a variety of water forms including rapids, cascades and pools. Vegetation patterns include scattered ponderosa pine and oak woodland.

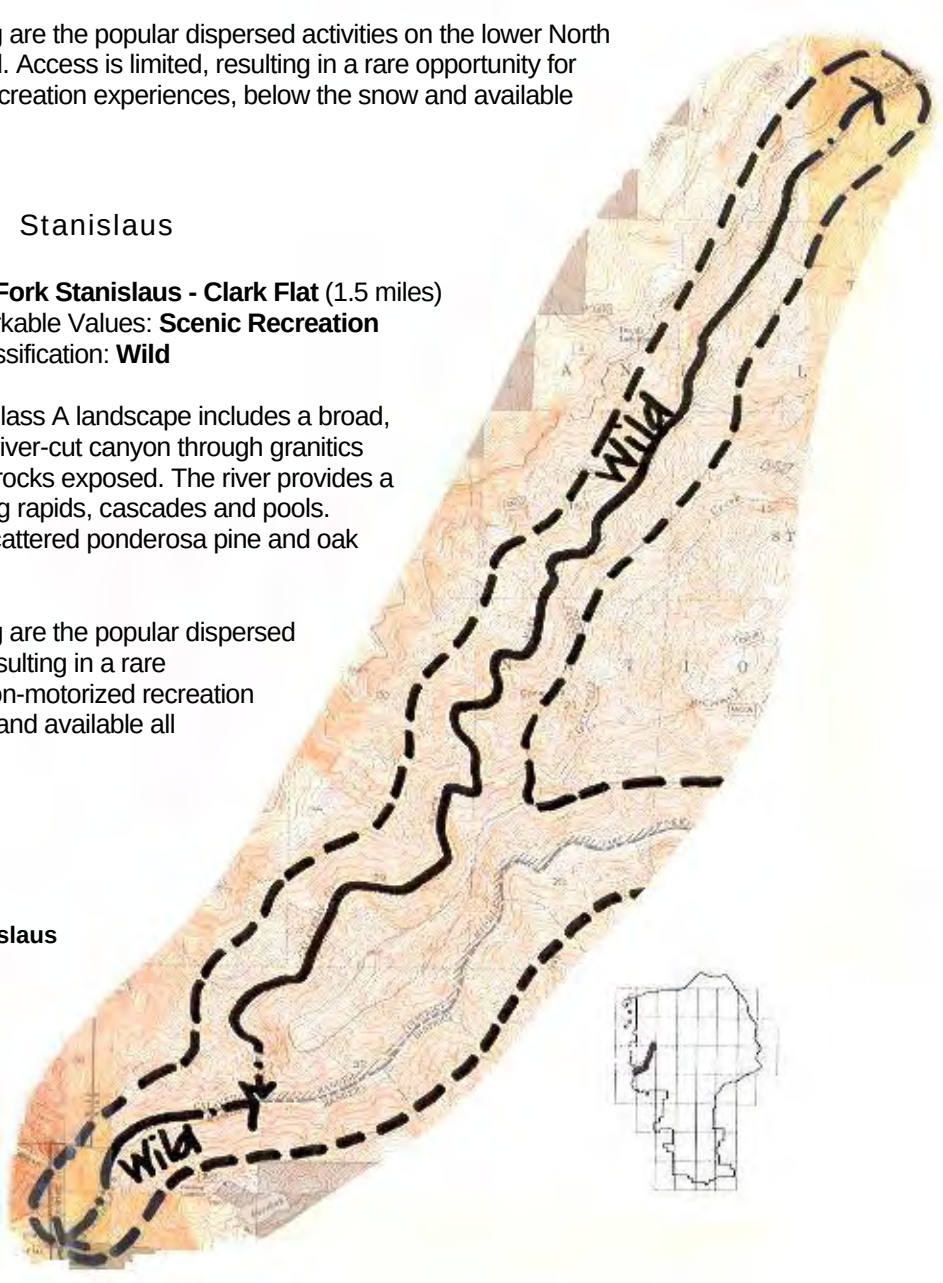
Recreation: hiking and fishing are the popular dispersed activities on the lower North Fork, which is remote and wild. Access is limited, resulting in a rare opportunity for solitude and non-motorized recreation experiences, below the snow and available all year.

Stanislaus

Segment: **North/Middle Fork Stanislaus - Clark Flat** (1.5 miles)
Outstandingly Remarkable Values: **Scenic Recreation**
Classification: **Wild**

Scenic: outstanding Variety Class A landscape includes a broad, deep and rugged, V-shaped, river-cut canyon through granitics with some meta-sedimentary rocks exposed. The river provides a variety of water forms including rapids, cascades and pools. Vegetation patterns include scattered ponderosa pine and oak woodland.

Recreation: hiking and fishing are the popular dispersed activities. Access is limited, resulting in a rare opportunity for solitude and non-motorized recreation experiences, below the snow and available all year.



Map E-3.4 **North Fork Stanislaus**
Segment 6;
Stanislaus

Middle Fork Stanislaus

Segment: **1 Deadman Creek** (8 miles)
Outstandingly Remarkable Values: **Scenic Recreation Geologic Historic/Cultural**
Classification: **Recreational**

Scenic: outstanding Variety Class A landscape includes high peaks of volcanic and granitic origin, and strongly defined patterns of red fir, sub-alpine and riparian vegetation with dramatic displays of seasonal colors. Deadman provides a variety of water forms including rapids, cascades and pools. Several waterfalls drop into the Creek. Scenic driving on Highway 108 is one of the most popular recreation activities in the high country.

Recreation: variety of motorized and non-motorized activities occur. Highway 108 to Sonora Pass provides a rare opportunity for an outstanding scenic drive on a high standard road, to the headwaters of a high Sierra stream.

Geologic: at the 9,000 foot level, it has carved a path along a unique contact between granite walls and volcanic flows. A dark gray-brown lava flow, over 2,000 feet thick and one of the deepest in the Sierra, is exposed to view; further downstream, a number of spectacular avalanche paths are exposed to view.

Historic/Cultural: elements of two relatively undisturbed historic trans-Sierra travel routes: the 1853 Emigrant Route was used by California gold seekers; and, the Sierra-Mono Toll road (circa. 1864) was used to deliver people and provisions to the Nevada gold fields from California.

Middle Fork Stanislaus

Segment: **2 Kennedy Creek** (8 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Scenic: outstanding Variety Class A landscape includes a deep, U-shaped, glacially carved canyon which is over 3,000 feet deep in places. Kennedy Creek provides a variety of water forms including cascades, pools and a lake.

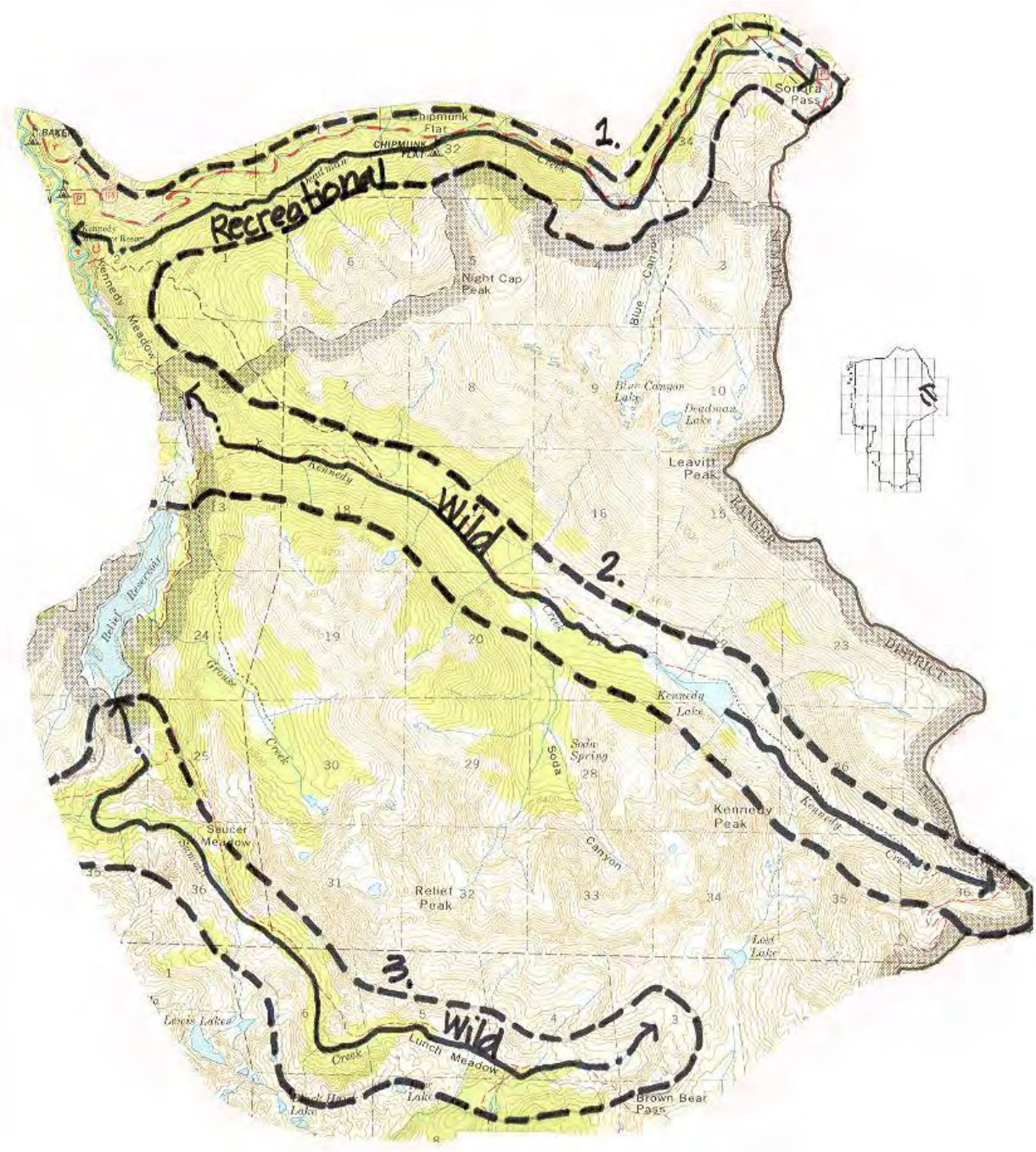
Middle Fork Stanislaus

Segment: **3 Summit Creek Headwaters - Relief Reservoir** (7 miles)
Outstandingly Remarkable Values: **Scenic Other**
Classification: **Wild**

Scenic: outstanding Variety Class A landscape includes a deep, U-shaped, glacially carved canyon with a variety of sub-alpine, riparian and meadow vegetation. Summit Creek provides a variety of water forms including cascades and pools.

Other: considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

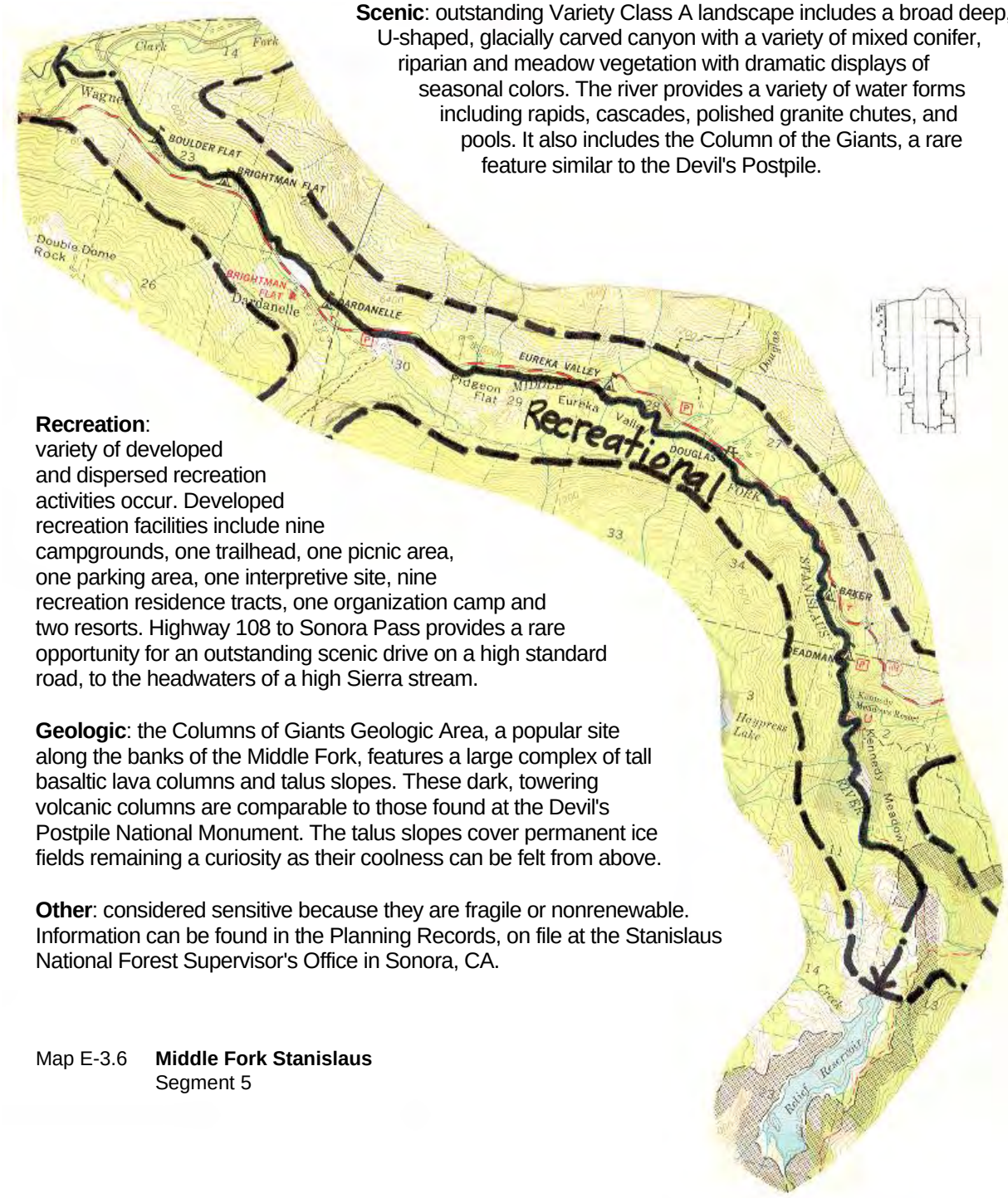
Map E-3.5 **Middle Fork Stanislaus**
Segments 1-3



Middle Fork Stanislaus

Segment: **5 Relief Reservoir - Clark Fork** (12 miles)
Outstandingly Remarkable Values: **Scenic Recreation Geologic Other**
Classification: **Recreational**

Scenic: outstanding Variety Class A landscape includes a broad deep, U-shaped, glacially carved canyon with a variety of mixed conifer, riparian and meadow vegetation with dramatic displays of seasonal colors. The river provides a variety of water forms including rapids, cascades, polished granite chutes, and pools. It also includes the Column of the Giants, a rare feature similar to the Devil's Postpile.



Recreation:
variety of developed and dispersed recreation activities occur. Developed recreation facilities include nine campgrounds, one trailhead, one picnic area, one parking area, one interpretive site, nine recreation residence tracts, one organization camp and two resorts. Highway 108 to Sonora Pass provides a rare opportunity for an outstanding scenic drive on a high standard road, to the headwaters of a high Sierra stream.

Geologic: the Columns of Giants Geologic Area, a popular site along the banks of the Middle Fork, features a large complex of tall basaltic lava columns and talus slopes. These dark, towering volcanic columns are comparable to those found at the Devil's Postpile National Monument. The talus slopes cover permanent ice fields remaining a curiosity as their coolness can be felt from above.

Other: considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

Map E-3.6 **Middle Fork Stanislaus**
Segment 5

Middle Fork Stanislaus

Segment: **6 Clark Fork Confluence - Donnell Reservoir (3 miles)**
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Scenic: outstanding Variety Class A landscape includes a deep, glacially carved canyon with a variety of mixed conifer and riparian vegetation. The river provides a variety of water forms including rapids, cascades, polished granite chutes, and pools. Donnell Vista, located above the river area, provides outstanding scenic views of the Dardanelles peaks, the deep river canyon with cascading water, and a "Yosemite" like valley at Donnell Reservoir.

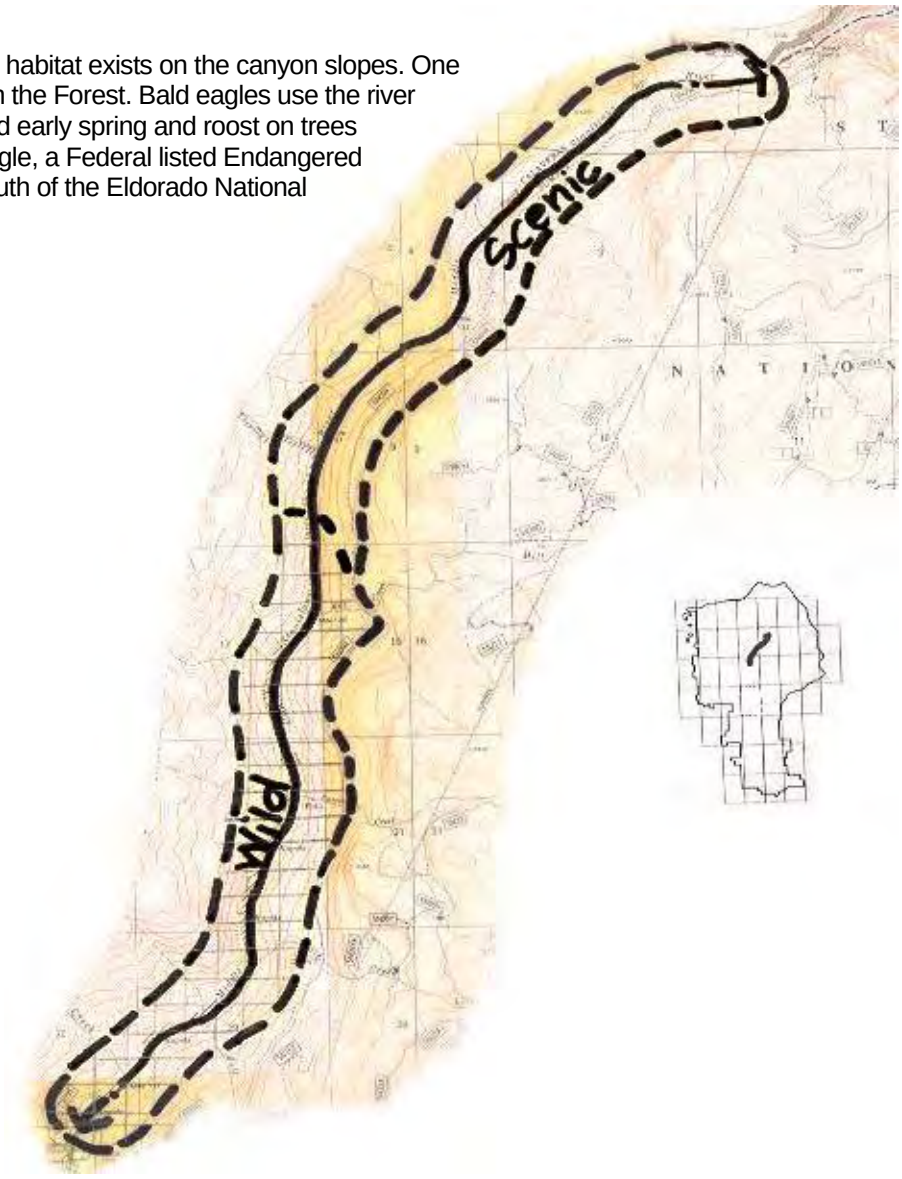
Map E-3.7 **Middle Fork Stanislaus**
Segment 6

Middle Fork Stanislaus

Segment: **8 Donnell Reservoir - Hells Half Acre** (8 miles)
Outstandingly Remarkable Values: **Scenic Wildlife**
Classification **4 Wild and 4 Scenic**

Scenic: outstanding Variety Class A landscape includes a deep, glacially carved canyon with a variety of mixed conifer and riparian vegetation. The river provides a variety of water forms including rapids, cascades and pools.

Wildlife: bald eagle nesting habitat exists on the canyon slopes. One of the four nest territories on the Forest. Bald eagles use the river for feeding during winter and early spring and roost on trees along the river. The bald eagle, a Federal listed Endangered Species, has not nested south of the Eldorado National Forest in recent times.



Map E-3.8 **Middle Fork Stanislaus**
Segment 8

Middle Fork Stanislaus

Segment: **10 Beardsley Reservoir and Afterbay - Sand Bar** (3 miles)
Outstandingly Remarkable Values: **Fish Wildlife Historic/Cultural**
Classification: **Scenic**

Fish: designated as a Wild Trout stream, by California Department of Fish and Game, the river is capable of providing an excellent trout fishery, not artificially supported by the planting of hatchery "catchable" trout. It contains brown trout and rainbow trout; one sampling produced the highest number of trout per mile (10,634) on the Forest; and, provides an outstanding angling experience.

Wildlife: bald eagle nesting habitat between the river and the rim of the canyon. One of the four nest territories on the Forest. Bald eagles use the river for feeding during winter and early spring and roost on trees along the river. The bald eagle, a Federal listed Endangered Species, has not nested south of the Eldorado National Forest in recent times.

Historic/Cultural: unique in the Sierra, the Historic Spring Gap Powerhouse and tramway were constructed between 1919 and 1921 by Tuolumne County Water and Electric Power Company. The powerhouse has been operating since September, 1921.

Map E-3.9 **Middle Fork Stanislaus**
Segment 10

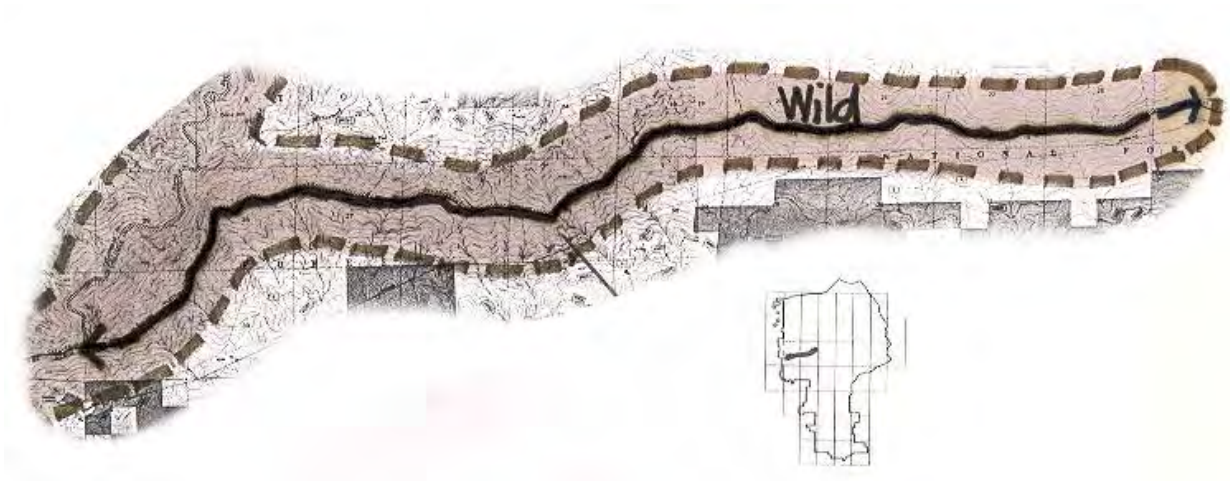
Middle Fork Stanislaus

Segment: **12 Sand Bar - North Fork Stanislaus** (10.5 miles)
Outstandingly Remarkable Values: **Scenic Recreation Wildlife**
Classification: **Wild**

Scenic: outstanding Variety Class A landscape includes a broad, deep and rugged, V-shaped, river-cut canyon through granitics with some volcanics and meta-sedimentary rocks. The river provides a variety of water forms including rapids, cascades and pools. Vegetation patterns are varied, including scattered ponderosa pine and oak woodland.

Recreation: hiking and fishing are the popular dispersed activities on this remote and wild segment. Access is limited, resulting in a rare opportunity for solitude and non-motorized recreation experiences, below the snow and available all year.

Wildlife: bald eagle winter and potential nesting habitat exists between the river and the rim of the canyon. One of the four nest territories on the Forest. Bald eagles use the river for feeding during winter and early spring and roost on trees along the river. The bald eagle, a Federal listed Endangered Species, has not nested south of the Eldorado National Forest in recent times.



Map E-3.10 **Middle Fork Stanislaus**
Segment 12

South Fork Stanislaus

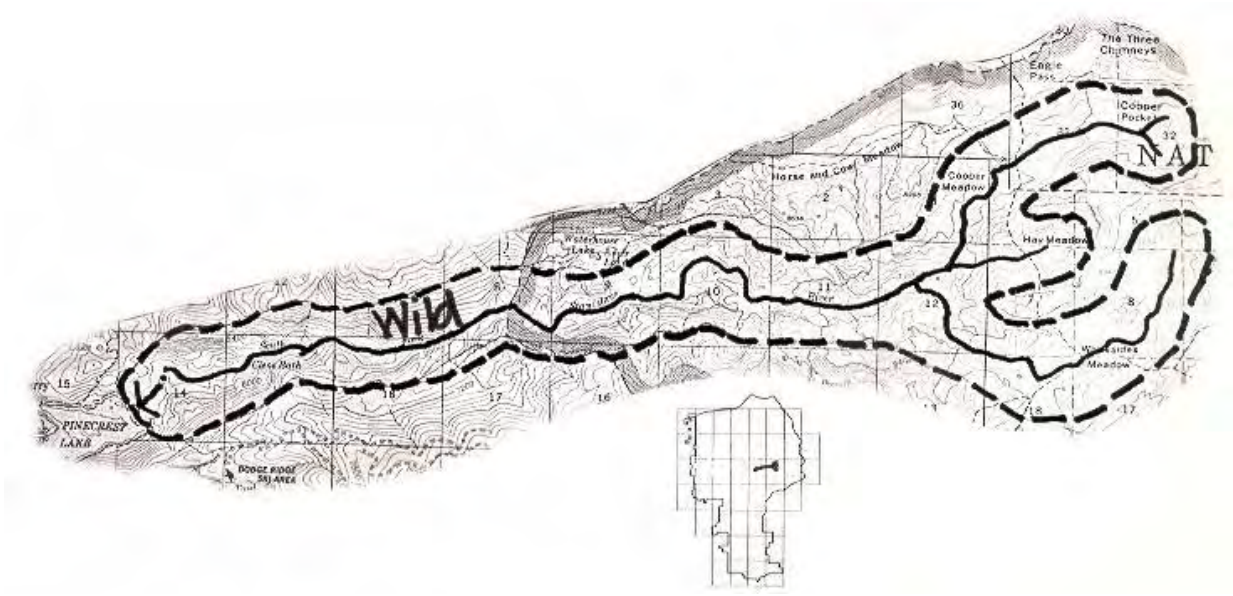
Segment: **1 Headwaters - Pinecrest Lake** (14 miles)
Outstandingly Remarkable Values: **Scenic Recreation Geologic Other**
Classification: **Wild**

Scenic: outstanding Variety Class A landscape includes a deep, classic U-shaped, glacially carved canyon through granitics and granite domes. The river provides a variety of water forms including cascades and pools. Mixed conifer, true fir and sub-alpine fir, are represented in different ranges of elevation. Much of the river and its canyon is highly visible from Highway 108 and Pinecrest Lake. The mountain scenery helps attract thousands of visitors each year to Pinecrest, one of the most heavily used recreation areas in the National Forest System.

Recreation: variety of dispersed non-motorized activities occur. The upper reaches are within the Emigrant Wilderness. The lower portion, within the Waterhouse Roadless Area, offers a rare opportunity for solitude and non-motorized recreation outside of designated Wilderness, but within easy access to large numbers of visitors at Pinecrest Lake.

Geologic: combination of unique volcanic and granitic geology. Three Chimneys, a set of spires rising from a volcanic ridge near the headwaters, is a landmark visible for miles. The largest spire has a needle eye which can be viewed directly through. Further downstream, the South Fork runs in a distinct glaciated granitic canyon whose walls are scoured to bedrock for several miles. A lateral moraine is spread along the south side of the canyon, with huge boulders sitting on the bare granite slopes.

Other: considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.



Map E-3.11 **South Fork Stanislaus**
Segment 1

Clark Fork

Segment: **1 Headwaters - Carson-Iceberg Wilderness** (8 miles)
Outstandingly Remarkable Values: **Scenic Historic/Cultural**
Classification: **Wild**

Scenic: outstanding Variety Class A landscape includes a deep, classic U-shaped, glacially carved canyon through granitics and volcanic mudflows. The Clark Fork provides a variety of water forms including cascades and pools. Mixed conifer, true fir, sub-alpine fir, riparian and meadow vegetation with dramatic displays of seasonal colors are represented in different ranges of elevation.

Historic/Cultural: Jedediah Smith ascended the Clark Fork in 1826, traveling east out of California. The Bartleson-Bidwell party crossed the Sierra crest and descended into the river corridor, in 1841, traveling west. A relatively undisturbed section of the 1853 Emigrant Route, used by miners crossing the Sierra crest into California, is present.

Map E-3.12 **Clark Fork**
Segment 1

Clark Fork

Segment: **2 Wilderness - Middle Fork Stanislaus** (9 miles)
Outstandingly Remarkable Values: **Scenic Recreation**
Classification: **Recreational**

Scenic: outstanding Variety Class A landscape includes a broad deep, U-shaped, glacially carved canyon and, a variety of mixed conifer and riparian vegetation with dramatic displays of seasonal colors. The Clark Fork provides a variety of water forms including rapids, cascades, polished granite chutes, and pools. Outstanding scenic views of the Sierra crest within the Carson-Iceberg Wilderness are available. The high mountain river scenery attracts thousands of visitors each year, with its water, vegetation and glacially carved canyon as major attractions for scenic driving, fishing, hiking and camping.

Recreation: variety of developed and dispersed recreation activities occur. Developed recreation facilities include four campgrounds and two organization camps. The Clark Fork Road provides a rare opportunity for an outstanding scenic drive on a high standard road, to a Wilderness boundary (the Carson-Iceberg).

Map E-3.13 **Clark Fork**
Segment 2

Clavey

Segment: **1 Bell Creek** (7 miles)
Outstandingly Remarkable Values: **Scenic Historic/Cultural Ecologic**
Classification: **6 Wild and 1 Scenic**

Scenic: outstanding Variety Class A landscape at Bell Meadow. The strongly defined patterns of mixed conifer, aspen, riparian and meadow vegetation provide one of the most dramatic displays of seasonal colors in the entire Sierra. Historic/Cultural: relatively undisturbed section of the 1853 Emigrant Route, used during the early mining period of California.

Ecologic (a): the largest stand of aspen (Populus tremuloides) on the Forest is located at Bell Meadow. It is the largest stand of aspen in the Sierra, south of the Eldorado National Forest. The meadow also has a rich variety of habitats including wet and dry meadow, meadow shrub (Salix) and conifer forest.

Ecologic (b): the Clavey River (including Bell and Lily Creeks) has a combination of landscape ecology features making it distinct within the Sierra Nevada:

1. free-flowing characteristics;
2. abundance and quality of life zones and vegetation; 3. elevation range; and,
3. relative remoteness and lack of development.

The Clavey River is one of the longest remaining free-flowing streams in the Sierra Nevada. It is 47 miles from source to mouth, including both headwater forks, Bell and Lily Creeks. Free-flowing condition is an important value because little remains in the Sierra Nevada. From the Feather River on the north to the Kern River on the south, all but one (the Consumnes) of the 15 major rivers in the Sierra, are impounded. Of 90 major tributaries, only four streams greater than 40 miles are free-flowing with no impoundments or diversions from headwaters to mouth. The Clavey River contains all but one Sierra Nevada life zone within its watershed. Elevation ranges from 1,200 feet at its mouth to 9,200 feet at its headwaters, allowing for all life zones except true alpine. At its headwaters, sub-alpine forests of red fir, lodgepole, western white pine and mountain hemlock combine with mountain meadows and granite-bound lakes. All forest habitats are found as elevation decreases, ending with the California chaparral type at the mouth of the river. Within the Clavey's wide variety of high to low elevation vegetative types, one is truly unique: Bell Meadow, at 6,500 feet along Bell Creek, contains the largest stand of quaking aspen (110 acres) in the southern half of the Sierra Nevada.

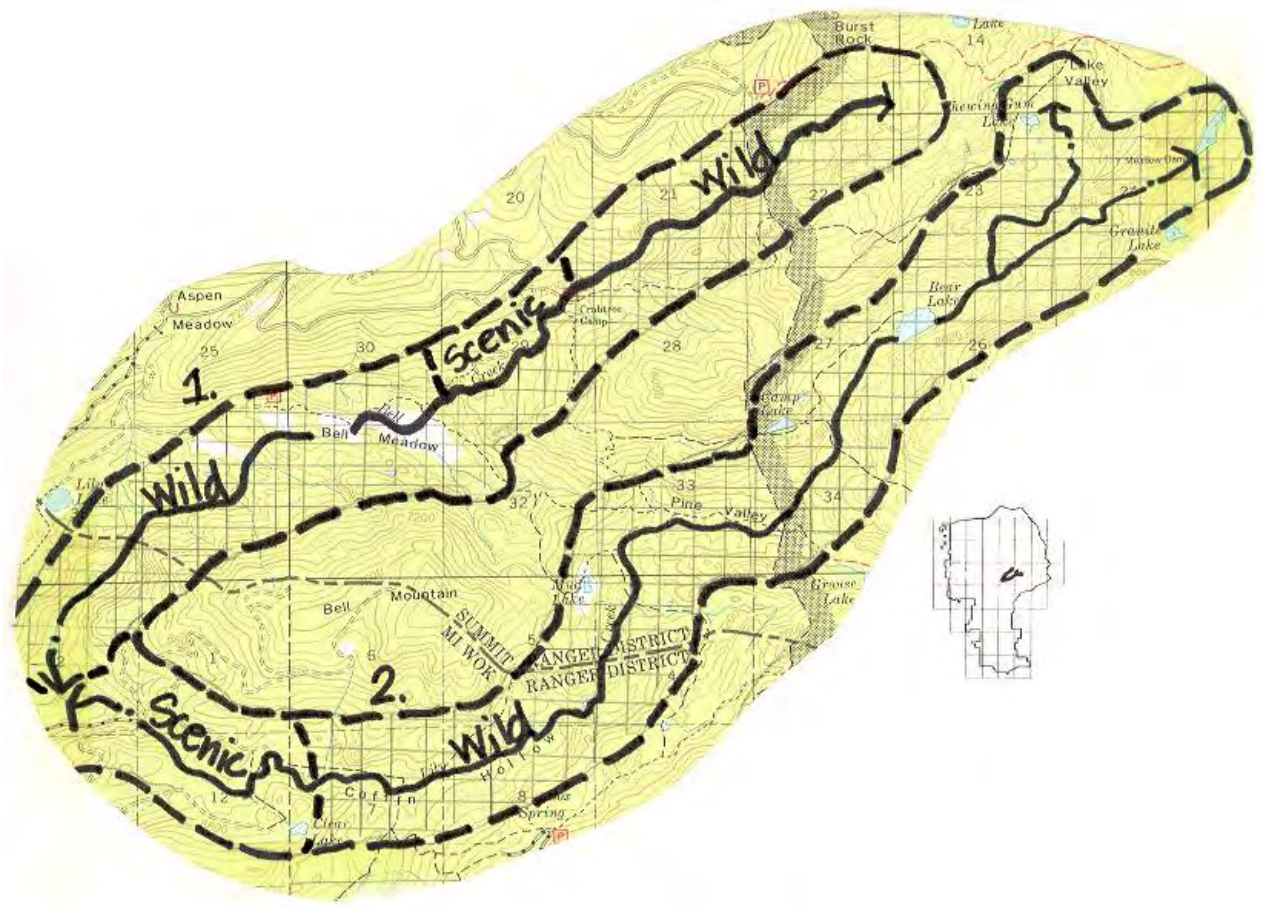
Another feature of the Clavey River is its minimal development. It is almost entirely under federal ownership; even the portions outside of Wilderness are relatively undisturbed and remote. Private lands and developments such as towns and roads line portions of most other rivers in the Sierra. The Clavey, although crossed by several roads, has remained relatively undisturbed because of its remoteness, rugged nature and its north-south geographic orientation. For much of its length, the Clavey runs perpendicular to the east-west trend of major roadways in its watershed.

Clavey

Segment: **2 Lily Creek** (11 miles)
Outstandingly Remarkable Values: **Ecologic**
Classification: **9 Wild and 2 Scenic**

Ecologic: same as Clavey Segment 1, Ecologic (b).

Map E-3.14 **Clavey**
Segments 1 and 2



Clavey

Segment: **3 Bell Creek/Lily Creek - 3N01** (5 miles)
Outstandingly Remarkable Values: **Fish Ecologic**
Classification: **Scenic**

Fish: one of the first streams in California to be designated as a Wild Trout Stream, representing a mid to low elevation trout stream in a remote location. Wild Trout streams provide self-sustaining trout fisheries which are not supplemented by hatchery stocking. It is believed that almost the entire basin contains only fish "native" to this portion of the Sierra Nevada. About 95% of the basin has an original fish assemblage. Rainbow trout is the only trout species in the basin (Lily Creek is reported to have some brook trout and brown trout may spawn at the confluence with the Tuolumne River). Rainbow trout are found in all of the Clavey and its tributaries capable of supporting coldwater fish. The lower portion of the Clavey also contains a native assemblage of warm water fish including Sacramento suckers, Sacramento squawfish and hardhead.

Due to extensive planting of non-native trout species and the illegal introductions of non-native warm water fish species, few other streams in the Sierra contain only the original assemblage of fish species. The Clavey River may be the only "rainbow trout" river left, in the Sierra Nevada, with its original fish assemblage still intact and relatively unaffected by introduced species.

Ecologic: same as Clavey Segment 1, Ecologic (b).

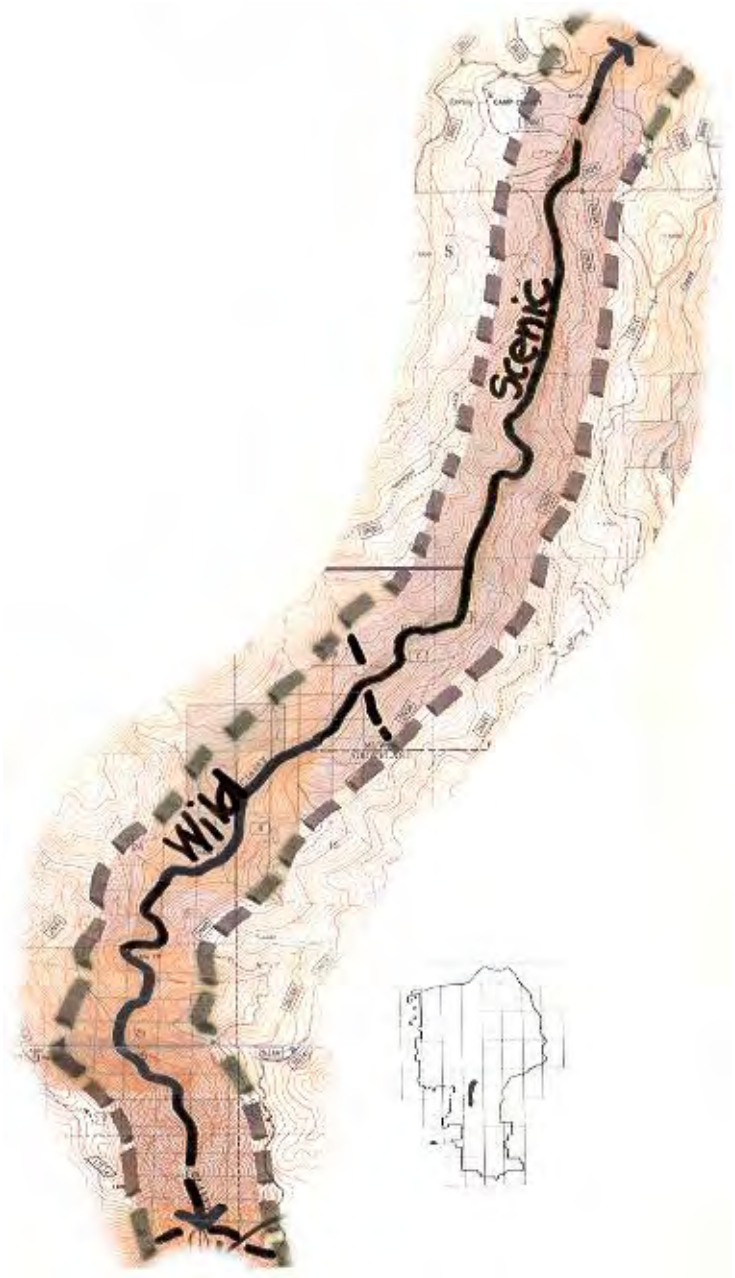
Map E-3.15 **Clavey**
Segment 3

Segment: **4 3NO1 - Cottonwood Road** (8 miles)
Outstandingly Remarkable Values: **Fish Wildlife Ecologic**
Classification: **4 Wild and 4 Scenic**

Fish: same as Clavey Segment 3.

Wildlife: a large tract of late seral stage forest habitat is centered on the Clavey River between Reed Creek and Road 3NO1. Five SOHAs and two fisher reproductive units are located on or adjacent to the river, within 8,000 acres of older mature forest habitat. It is unusual to have this much older mature forest habitat at this elevation in the Sierra.

Ecologic: same as Clavey Segment 1, Ecologic (b).



Map E-3.16 **Clavey**
Segment 4

Segment: **5 Cottonwood Road-Tuolumne** (16 miles)
Outstandingly Remarkable Values: **Scenic Recreation Fish Wildlife Ecologic**
Classification: **14 Wild and 2 Scenic**

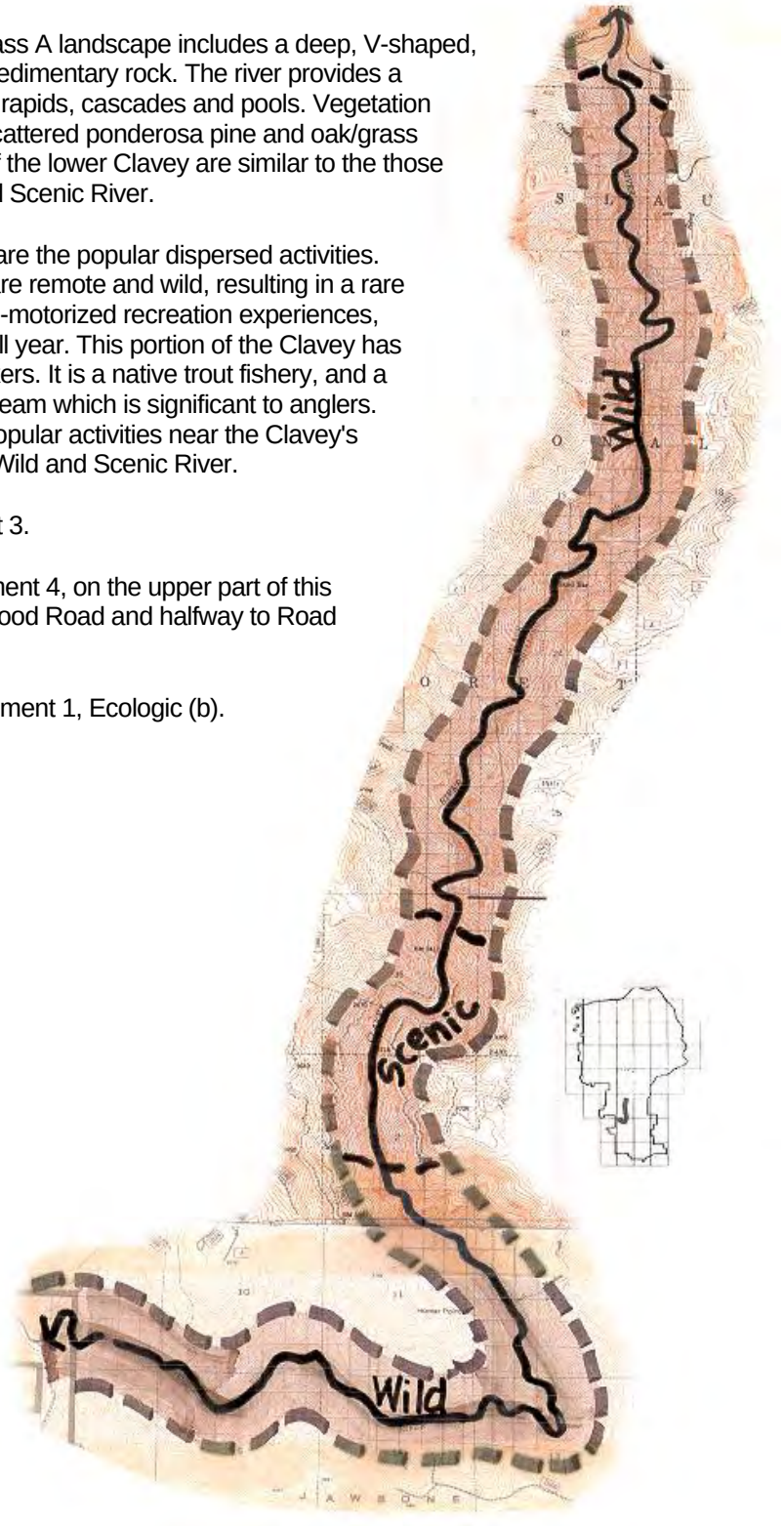
Scenic: outstanding Variety Class A landscape includes a deep, V-shaped, river-cut canyon through metasedimentary rock. The river provides a variety of water forms including rapids, cascades and pools. Vegetation patterns are varied, including scattered ponderosa pine and oak/grass woodland. The scenic values of the lower Clavey are similar to the those of the lower Tuolumne Wild and Scenic River.

Recreation: hiking and fishing are the popular dispersed activities. Access is limited and portions are remote and wild, resulting in a rare opportunity for solitude and non-motorized recreation experiences, below the snow and available all year. This portion of the Clavey has been traversed by expert kayakers. It is a native trout fishery, and a State designated Wild Trout Stream which is significant to anglers. Hiking and swimming are the popular activities near the Clavey's confluence with the Tuolumne Wild and Scenic River.

Fish: same as Clavey Segment 3.

Wildlife: same as Clavey Segment 4, on the upper part of this segment, between the Cottonwood Road and halfway to Road 1N01.

Ecologic: same as Clavey Segment 1, Ecologic (b).



Map E-3.17 **Clavey**
Segment 5

South Fork Tuolumne

Segment: **2 Middle Fork Tuolumne - Tuolumne** (2 miles)
Outstandingly Remarkable Values: **Scenic Other**
Classification: **Scenic**

Scenic: outstanding Variety Class A landscape includes a deep, rugged canyon. The river provides a variety of water forms including rapids, cascades, waterfalls, and pools. Rim of the World Vista, located above the river area on Highway 120 (Big Oak Flat route to Yosemite National Park), provides outstanding scenic views of the deep river canyon, all the way to its confluence with the Tuolumne Wild and Scenic River.

Other: considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

Map E-3.18 **South Fork Tuolumne**
Segment 2

Cherry Creek

Segment: **1 West Fork Cherry Creek** (15 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Scenic: outstanding Variety Class A landscape includes high peaks and a deep, U-shaped, glacially carved canyon which is over 2,000 feet deep in places. The creek provides a variety of water forms including cascades, pools, highly polished granite chutes and several small lakes.

Cherry Creek

Segment: **2 North Fork Cherry Creek** (13 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Scenic: Same as Cherry Creek Segment 1.

Cherry Creek

Segment: **3 East Fork Cherry Creek** (14 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Scenic: Same as Cherry Creek Segment 1.

Cherry Creek

Segment: **4 East/North Fork Cherry Creek - Cherry Lake** (10 miles)
Outstandingly Remarkable Values: **Scenic Geologic**
Classification: **Wild**

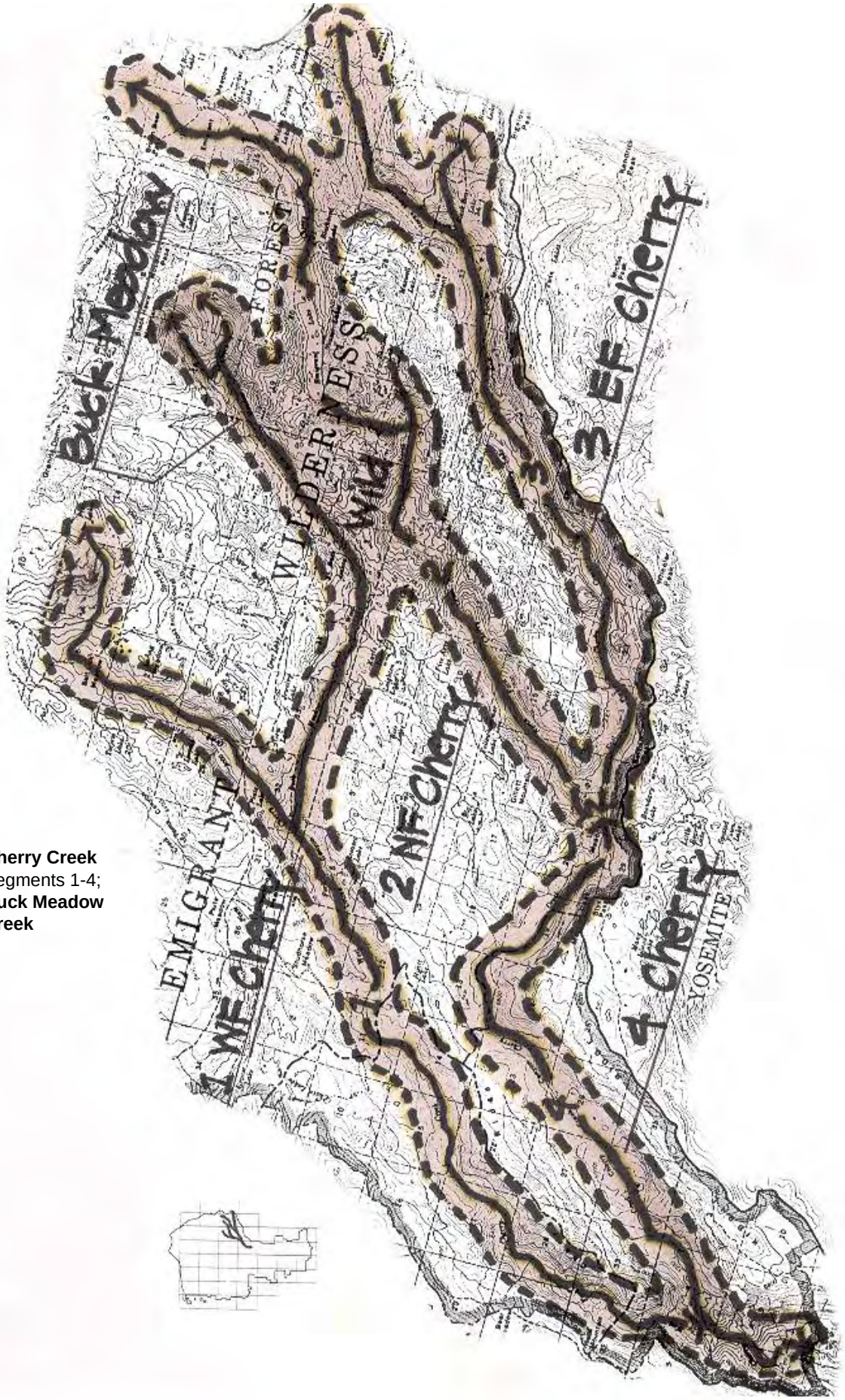
Scenic: Same as Cherry Creek Segment 1.

Geologic: glaciated and polished granite where gleaming white and pink granite is exposed in a combination of rolling ridges, domes and cliffs. The bareness is remarkable; the canyon appears as a smooth textured undulating rock mass. Cherry Creek spills through a series of tree-lined pools interspersed between sheeting flows over bare granite which in places have no confined channel. During low flows it is sometime difficult to see that a stream exists between the jewel-like pools.

Buck Meadow Creek

Segment: **Headwaters - West Fork Cherry Creek** (8 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Scenic: Same as Cherry Creek Segment 1.



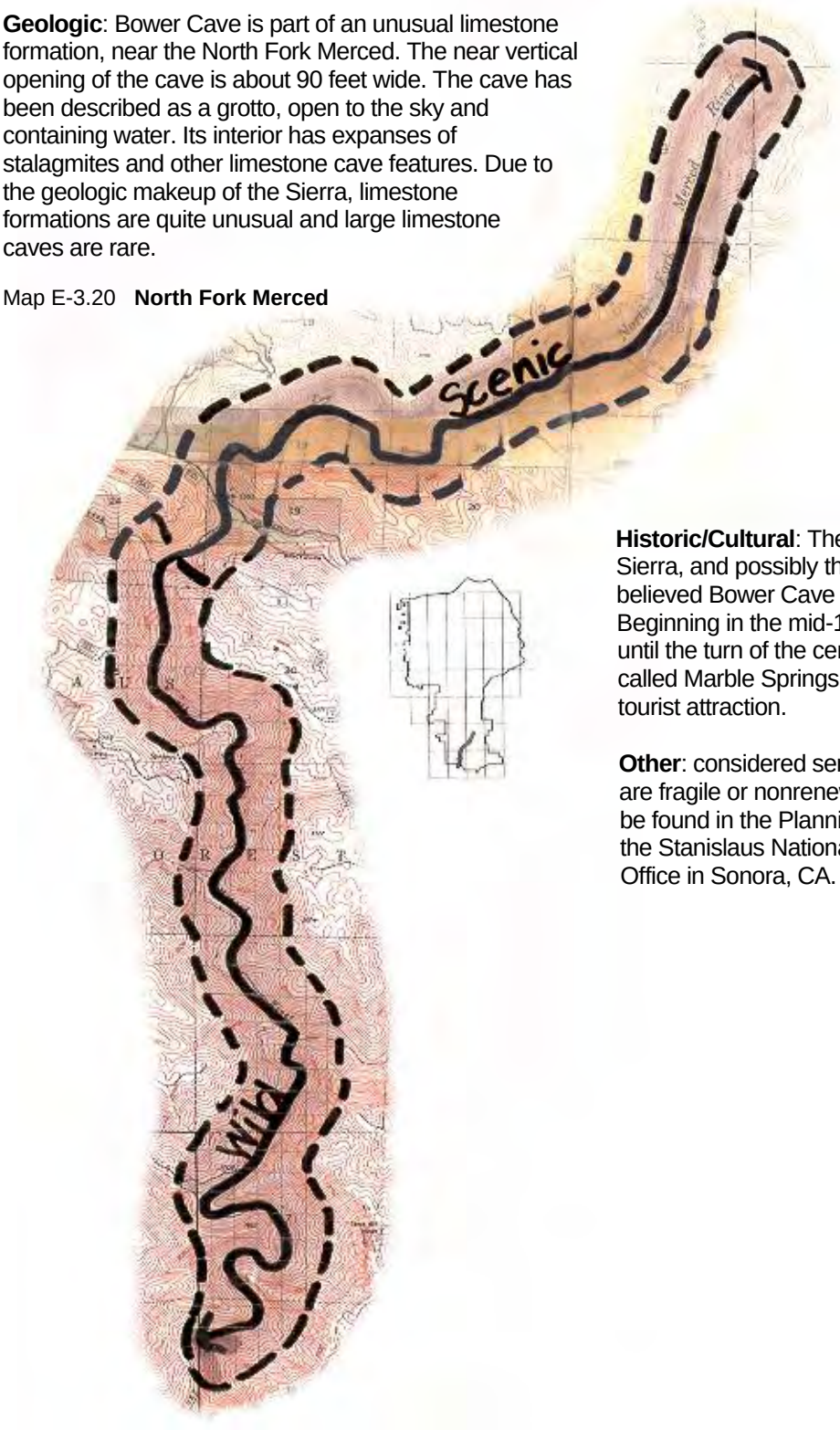
Map E-3.19 **Cherry Creek** Segments 1-4; **Buck Meadow Creek**

North Fork Merced

Segment: **Headwater - National Forest Boundary** (11 miles)
Outstandingly Remarkable Values: **Geologic Historic/Cultural Other**
Classification: **6 Wild and 5 Scenic**

Geologic: Bower Cave is part of an unusual limestone formation, near the North Fork Merced. The near vertical opening of the cave is about 90 feet wide. The cave has been described as a grotto, open to the sky and containing water. Its interior has expanses of stalagmites and other limestone cave features. Due to the geologic makeup of the Sierra, limestone formations are quite unusual and large limestone caves are rare.

Map E-3.20 **North Fork Merced**



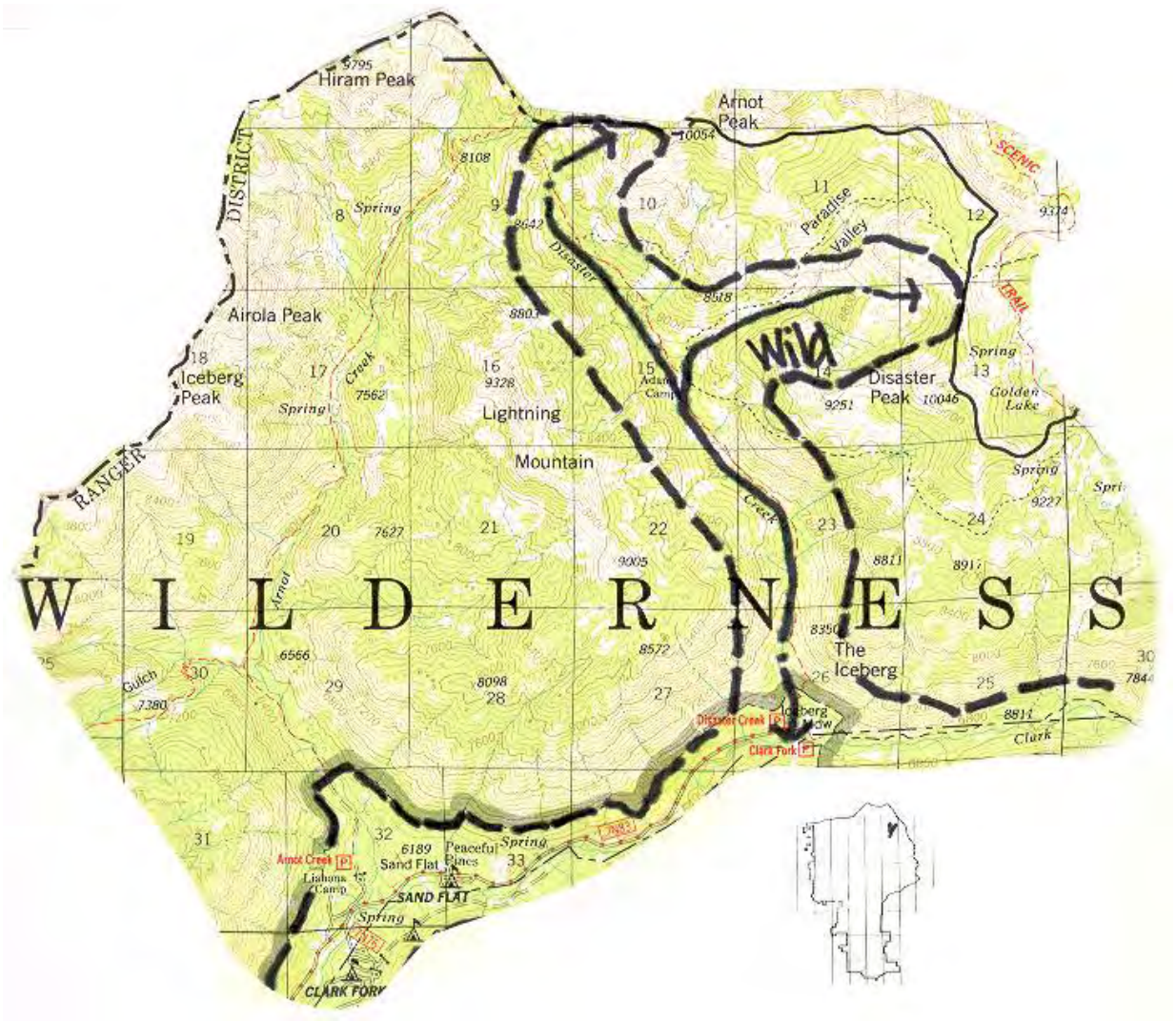
Historic/Cultural: The Me-Wuk of the central Sierra, and possibly their predecessors, believed Bower Cave to be sacred. Beginning in the mid-1800s and continuing until the turn of the century, the cave (then called Marble Springs Cave) was a popular tourist attraction.

Other: considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

Disaster Creek

Segment: **Headwaters - Clark Fork** (5 miles)
Outstandingly Remarkable Values: **Other**
Classification: **Wild**

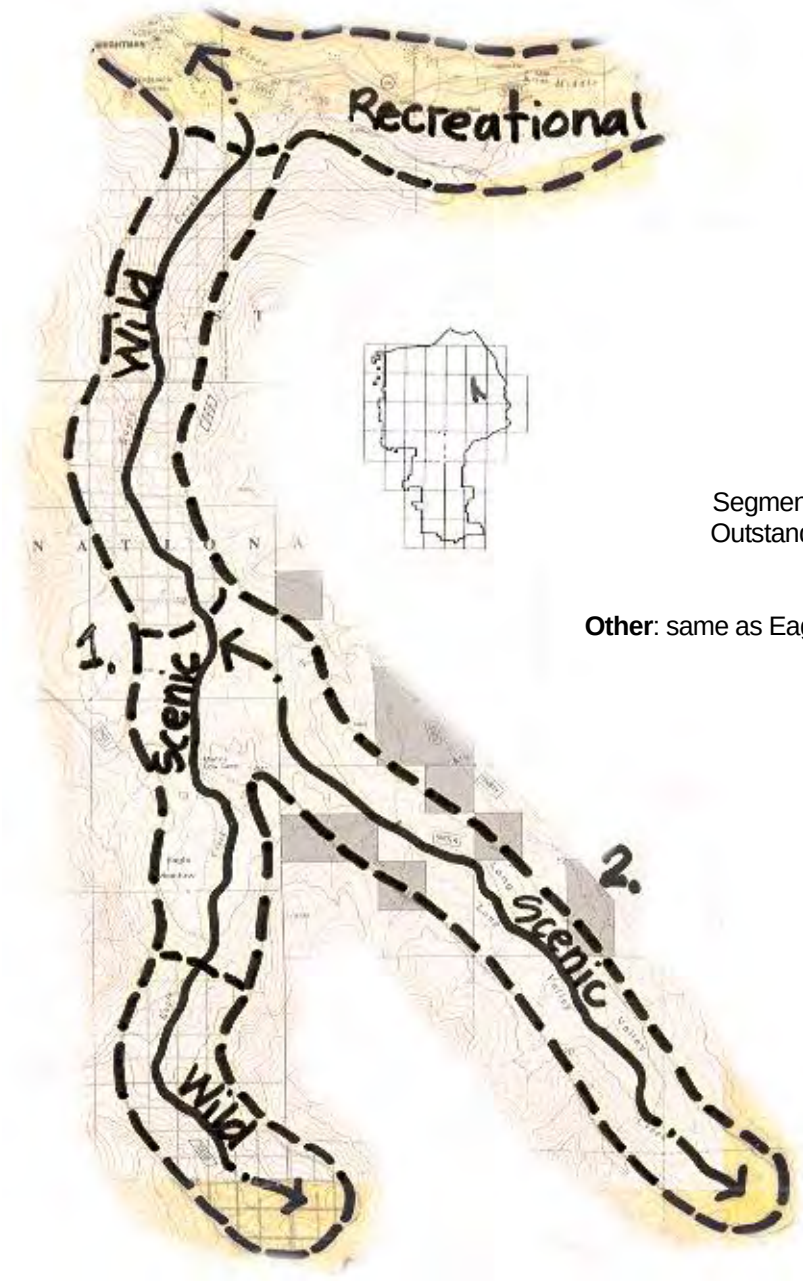
Other: considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.



Map E-3.21 **Disaster Creek**

Eagle Creek

Segment: **1 Headwater - Middle Fork Stanislaus** (7 miles)
Outstandingly Remarkable Values: **Other**
Classification: **5 Wild and 2 Scenic**



: considered sensitive because they are
or nonrenewable. Information can be found
Planning Records, on file at the Stanislaus
ıal Forest Supervisor's Office in Sonora, CA.

Eagle Creek

Segment: **2 Long Valley Creek** (4 miles)
Outstandingly Remarkable Values: **Other**
Classification: **Scenic**

Other: same as Eagle Creek Segment 1.

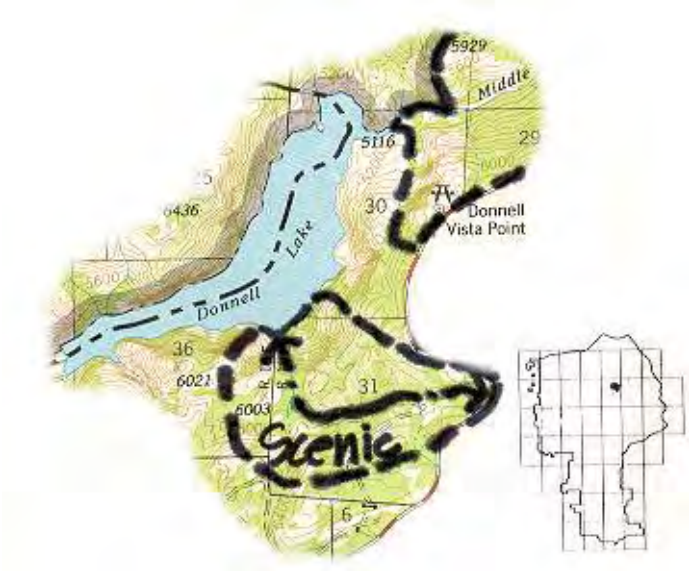
Map E-3.22 **Eagle Creek**
Segments 1-2

Niagara Creek

Segment: **2 Highway 108 - Donnell Reservoir** (1 mile)
Outstandingly Remarkable Values: **Scenic Geologic**
Classification: **Scenic**

Scenic: outstanding Variety Class A landscape includes a waterfall, of nearly 1,000 feet, from a hanging valley into Donnell Reservoir below.

Geologic: Niagara Creek Falls, a unique geologic feature also known as Ford Falls, is a hanging valley type waterfall of more than 900 feet. It is the longest falls on the Forest and is believed to be the northernmost such falls in the Sierra Nevada. Hanging valley falls are the result of glaciers slicing through main channels of rivers and truncating the lower end of tributary channels causing streamflow to suddenly drop off a precipice. Such features are unique to a part of the Sierra Nevada centered on nearby Yosemite National Park, where several famous hanging valley falls are found. Niagara Creek Falls, longer than many in Yosemite, drops from about 5,900 feet into Donnell Reservoir at 4,920 feet. It is composed of three sections: the uppermost an estimated 500 foot free fall; a 300 foot cascade; and, culminating in a 100 foot lower free fall. The dramatic geologic and visual effects of Niagara Falls are highlighted within the narrow, steep glaciated canyon of Donnell Reservoir.



Map E-3.23 **Niagara Creek**
Segment 2

Relief Creek

Segment: **Headwater - Summit Creek** (3 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

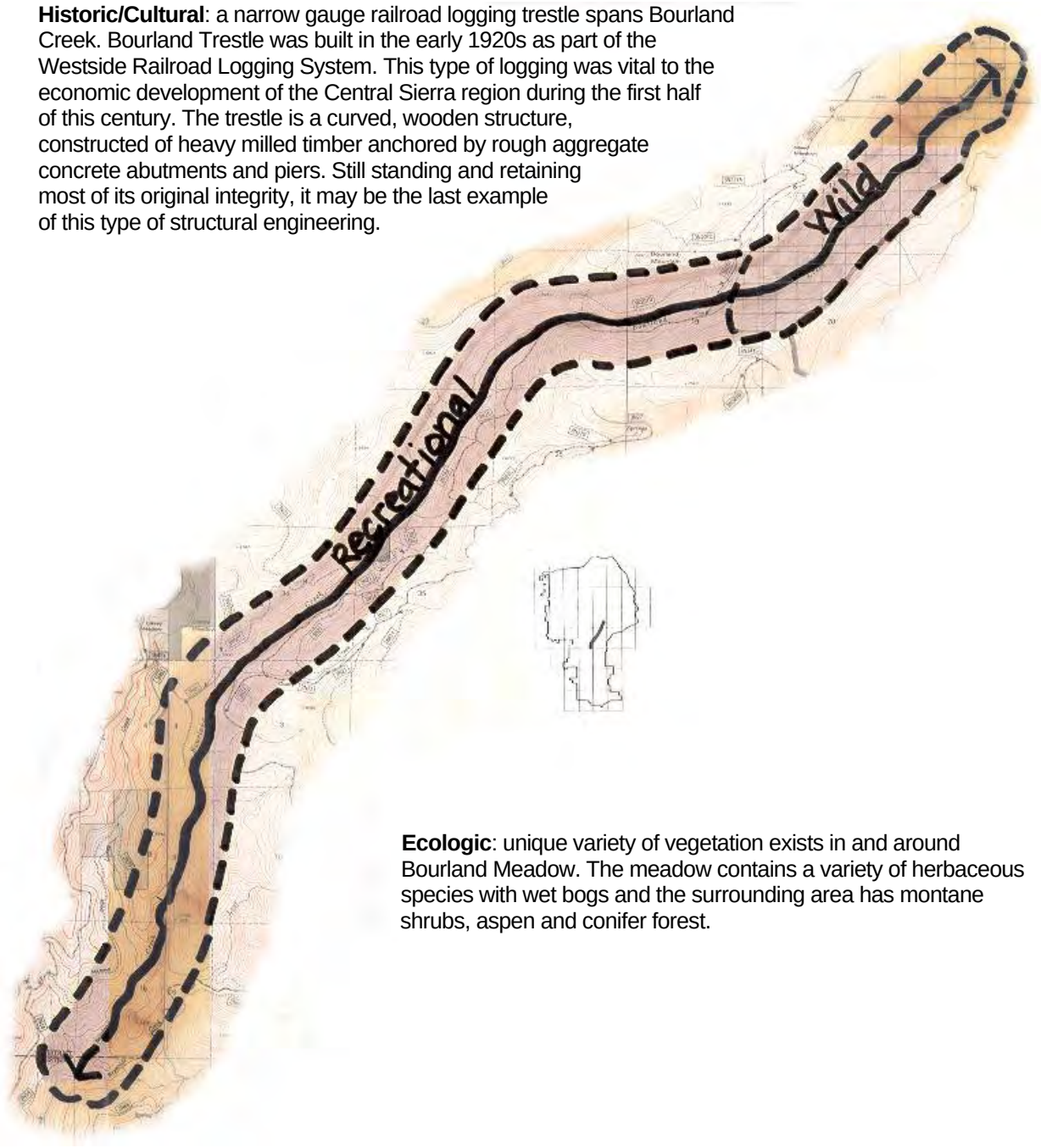
Scenic: outstanding Variety Class A landscape includes high peaks and a deep, U-shaped, glacially carved canyon with a variety of sub-alpine, riparian and meadow vegetation. Relief Creek provides a variety of water forms including cascades and pools.

Map E-3.24 **Relief Creek**

Bourland Creek

Segment: **Headwater - Reed Creek** (11 miles)
Outstandingly Remarkable Values: **Historic/Cultural Ecologic**
Classification: **2 Wild and 9 Recreational**

Historic/Cultural: a narrow gauge railroad logging trestle spans Bourland Creek. Bourland Trestle was built in the early 1920s as part of the Westside Railroad Logging System. This type of logging was vital to the economic development of the Central Sierra region during the first half of this century. The trestle is a curved, wooden structure, constructed of heavy milled timber anchored by rough aggregate concrete abutments and piers. Still standing and retaining most of its original integrity, it may be the last example of this type of structural engineering.



Ecologic: unique variety of vegetation exists in and around Bourland Meadow. The meadow contains a variety of herbaceous species with wet bogs and the surrounding area has montane shrubs, aspen and conifer forest.

Map E-3.25 **Bourland Creek**

Pacific Creek

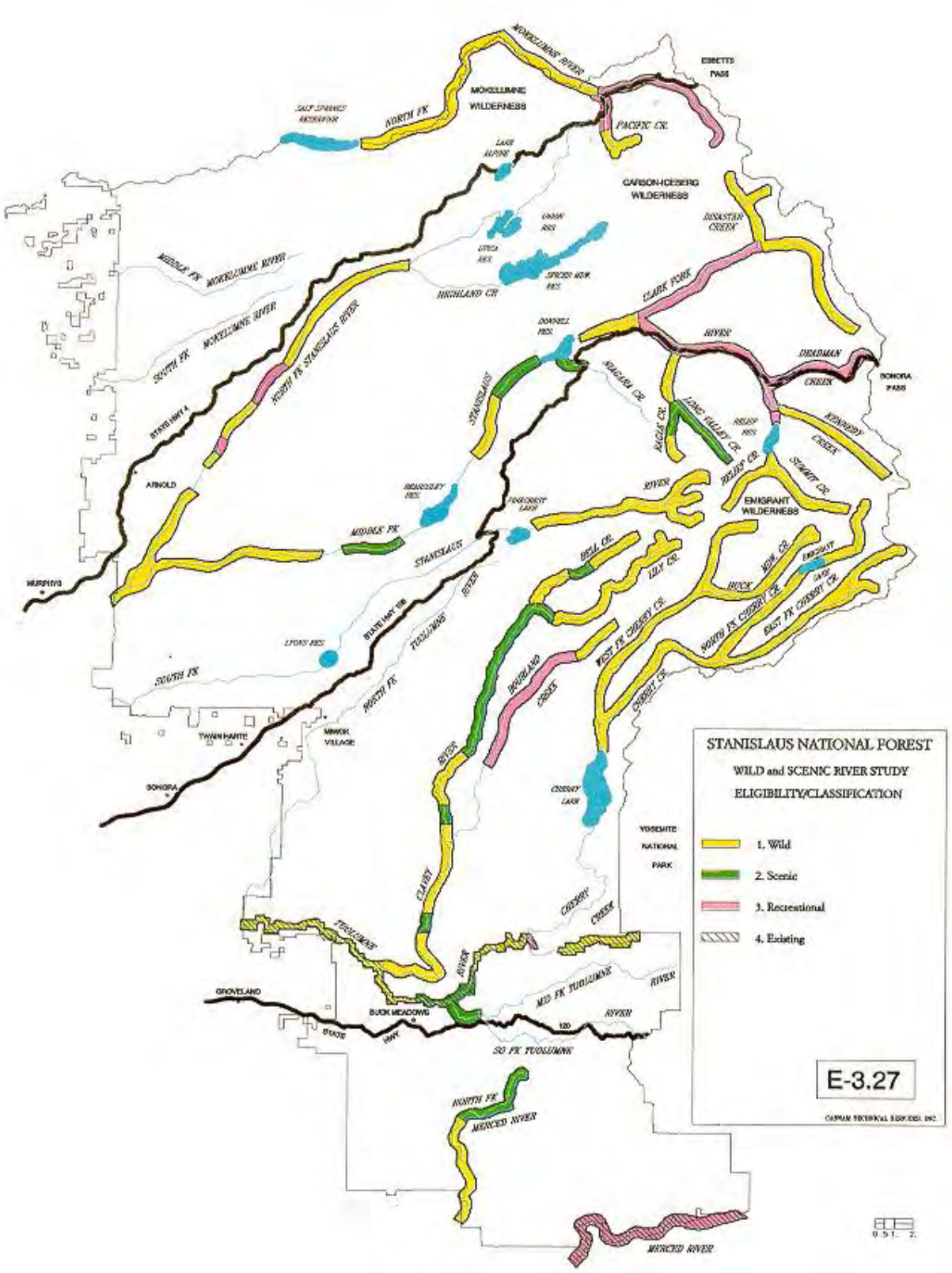
Segment: **Headwaters - North Fork Mokelumne** (6 miles)
Outstandingly Remarkable Values: **Scenic Other**
Classification: **4 Wild and 2 Recreational**

Scenic: outstanding Variety Class A landscape includes high peaks of volcanic origin, a broad valley with a meadow stream and strongly defined patterns of red fir, sub-alpine and riparian vegetation. The high mountain scenery of Pacific Valley attracts thousands of visitors each year, with the high peaks and glacially carved canyons of the high country as the major attractions for scenic viewing and camping.

Other: considered sensitive because they are fragile or nonrenewable. Information can be found in the Planning Records, on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

Map E-3.26 **Pacific Creek**

Map E-3.27 **Eligibility/Classification**



4. Alternatives

This Chapter describes and compares the alternatives. The first section describes each of the Wild and Scenic River alternatives (See Chapter II of the EIS for a full discussion of each Forest Plan alternative). The second section provides a comparison of the Wild and Scenic River alternatives.

Descriptions of the Alternatives

The Wild and Scenic Rivers Act and The National Wild and Scenic Rivers System; Final Guidelines for Eligibility, Classification and Management of River Areas of 1982 (1982 Final Guidelines), require the alternatives to consider and evaluate "No Action"; "Designation"; "Non-designation"; and, "Alternate Management" for each eligible segment.

In the context of this River Study:

1. "No Action" is covered in Alternative B, where current management would continue and all segments would be found unsuitable and not recommended for Wild and Scenic River designation.
2. "Designation" means that a segment would be found suitable for and recommended as an addition to the National Wild and Scenic Rivers System.
3. "Non-designation" means that a segment would be found unsuitable for and not recommended as an addition to the National Wild and Scenic Rivers System.
4. "Alternate Management" means some type of management (other than Wild and Scenic River) such as Wilderness, Near Natural, Wildlife, Special Interest Area (SIA), and Research Natural Area (RNA), that would protect the "outstandingly remarkable" values. Segments proposed for Alternate Management will be found unsuitable and not recommended for Wild and Scenic River designation.

Depending on the values and their locations, Alternate Management may apply to an entire segment or only to the portion where the values are located. For that reason, even though all values would be protected, the total miles under Alternate Management will be less than the actual miles of eligible segments.

Without construction of any water or hydro-electric developments, river values can be protected through Alternate Management. However, all forms of Alternate Management (including, with an exemption from the President, Wilderness) would allow water or hydro-electric developments that are precluded under Wild and Scenic River designation. Only Congress can withdraw the protection from development offered by the Wild and Scenic Rivers Act.

The following alternatives were developed according to the direction set forth in the Wild and Scenic Rivers Act and the 1982 Final Guidelines.

Alternative A

This is the Forest Service "Preferred Alternative". It proposes that 113 miles of suitable segments will be recommended for addition to the National Wild and Scenic Rivers System. All other segments are unsuitable; however, their values will be protected through 163 miles of Alternate Management.

Recommended Wild, Scenic or Recreational River classifications are identified for each segment. According to the Wild and Scenic Rivers Act and depending on whether Congress legislates the classifications, they may be given further consideration, following inclusion of the rivers into the National Wild and Scenic River System.

These Wild and Scenic River recommendations are subject to further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. The unsuitable segments of the Middle Fork Stanislaus will also be reviewed and possibly modified by the Chief of the Forest Service and the Secretary of Agriculture. The values of the unsuitable portions of the Middle Fork Stanislaus will be protected until the Secretary decides which portions of the river will be recommended for designation. Final authority for Wild and Scenic River designation has been reserved by the Congress to itself.

Alternative A includes the following suitable river segments and recommended classifications:

Table E-4.1 **Suitable Wild And Scenic Rivers** Alternative A

River/Stream	Suitable Segments	WILD	SCEN	REC
NF Mokelumne	1 Highland Lake - Wilderness			9
	2 Wilderness - Salt Springs	18		
NF Stanislaus	4 Highland Creek - McKays Reservoir	13		3
	6 McKays Reservoir - MF Stanislaus	7		
Stanislaus	NF/MF Stanislaus - Clark Flat	1.5		
MF Stanislaus	1 Deadman Creek			8
	2 Kennedy Creek	8		
	5 Relief Reservoir - Clark Fork			12
	6 Clark Fork - Donnell Reservoir	3		
	12 Sand Bar - NF Stanislaus	10.5		
Clark Fork	1 Headwaters - Wilderness	8		
	2 Wilderness - MF Stanislaus			9
SF Tuolumne	2 MF Tuolumne - Tuolumne		2	
Niagara Creek	2 Hwy 108 - Donnell Reservoir		1	
	Totals (113 miles Suitable)	69	3	41

Alternative A also includes the following unsuitable segments which are proposed for Alternate Management:

Table E-4.2 **Alternate Management** Alternative A

River/Stream	Unsuitable Alternate Management	miles	Alt Mgmt
MF Stanislaus	3 Summit Creek - Relief Reservoir	7	Wilderness
	8 Donnell Reservoir - Hells Half Acre	8	Near Natural
	10 Beardsley Reservoir Afterbay - Sand Bar	3	Near Natural
SF Stanislaus	1 Headwaters - Pinecrest	10	Wilderness
		4	Near Natural
Clavey	1 Bell Creek	1	Wilderness
		1	RNA
		5	Wildlife
	2 Lily Creek	5	Wilderness
		6	Wildlife
	3 Bell/Lily - 3N01	5	Wildlife
	4 3N01 - Cottonwood Road	8	Wildlife
	5 Cottonwood Road - Tuolumne	16	Near Natural
Cherry Creek	1 West Fork Cherry Creek	15	Wilderness
	2 North Fork Cherry Creek	13	Wilderness
	3 East Fork Cherry Creek	14	Wilderness
	4 EF/NF Cherry Creek - Cherry Lake	10	Wilderness
Buck Mdw Creek	Headwater - WF Cherry Creek	8	Wilderness
NF Merced	Headwater - Forest Boundary (portion)	1	SIA
Disaster Creek	Headwater - Clark Fork	5	Wilderness
Eagle Creek	1 Headwater - MF Stanislaus (portion)	3	SIA

River/Stream	Unsuitable Alternate Management	miles	Alt Mgmt
	2 Long Valley Creek (portion)	3	SIA
Relief Creek	Headwater - Summit Creek	3	Wilderness
Bourland Creek	Headwater - Reed Cr (portions)	2	RNA
		1	SIA
Pacific Creek	Headwater - NF Mokelumne	4	Near Natural
		2	Wildlife
	Totals	163	

Alternative A1

Same as Alternative A.

Alternative B

This is the "No Action" Alternative which would continue current management. All river segments would be unsuitable and not recommended for Wild and Scenic River designation. However, existing management protects the values on 185 miles of river segments and meets the criteria for Alternate Management. Alternative B includes the following unsuitable segments which would be proposed for Alternate Management:

Table E-4.3 **Alternate Management** Alternative B

River/Stream	Unsuitable Alternate Management	miles	Alt Mgmt
NF Mokelumne	2 Wilderness - Salt Springs	18	Wilderness
MF Stanislaus	1 Deadman Creek	8	SIA
	2 Kennedy Creek	8	Wilderness
	3 Summit Creek - Relief Reservoir	7	Wilderness
	5 Relief Reservoir - Clark Fork	12	SIA
SF Stanislaus	1 Headwaters - Pinecrest (portion)	10	Wilderness
Clark Fork	1 Headwaters - Wilderness	8	Wilderness
	2 Wilderness - MF Stanislaus	9	SIA
Clavey	1 Bell Creek	1	Wilderness
		6	Wildlife
	2 Lily Creek	5	Wilderness
		6	Wildlife
	3 Bell/Lily - 3N01	5	Wildlife
	4 3N01 - Cottonwood Road	8	Wildlife
Cherry Creek	1 West Fork Cherry Creek	15	Wilderness
	2 North Fork Cherry Creek	13	Wilderness
	3 East Fork Cherry Creek	14	Wilderness
	4 EF/NF Cherry Creek - Cherry Lake	10	Wilderness
Buck Mdw Creek	Headwater - WF Cherry Creek	8	Wilderness
Disaster Creek	Headwater - Clark Fork	5	Wilderness
Relief Creek	Headwater - Summit Creek	3	Wilderness
Pacific Creek	Headwater - NF Mokelumne	4	Near Natural
		2	Wildlife
	Totals	185	

Alternative C

This Alternative includes 55 miles of suitable segments which would be recommended for addition to the National Wild and Scenic Rivers System. All other segments would be unsuitable, however, the values on 205 miles would be protected through Alternate Management. Alternative C includes the following suitable segments and recommended classifications:

Table E-4.4 **Suitable Wild And Scenic Rivers** Alternative C

River/Stream	Suitable Segments	WILD	SCEN	REC
NF Mokelumne	2 Wilderness - Salt Springs	18		
MF Stanislaus	1 Deadman Creek			8
	5 Relief Reservoir - Clark Fork			12
Clark Fork	1 Headwaters - Wilderness	8		
	2 Wilderness - MF Stanislaus			9
	Totals (55 miles Suitable)	26	0	29

Alternative C also includes the following unsuitable segments which would be proposed for Alternate Management:

Table E-4.5 **Alternate Management** Alternative C

River/Stream	Unsuitable Alternate Management	miles	Alt Mgmt
NF Mokelumne	1 Highland Lake - Wilderness	9	SIA
NF Stanislaus	4 Highland Creek - McKays Reservoir	8	SIA
		8	Near Natural
	6 McKays Reservoir - MF Stanislaus	7	Near Natural
Stanislaus	NF/MF Stanislaus - Clark Flat	1.5	Near Natural
MF Stanislaus	2 Kennedy Creek	8	Wilderness
	3 Summit Creek - Relief Reservoir	7	Wilderness
	6 Clark Fork - Donnell Reservoir	3	Near Natural
	8 Donnell Reservoir - Hells Half Acre	8	Near Natural
	10 Beardsley Afterbay - Sand Bar	3	SIA
	12 Sand Bar - NF Stanislaus	10.5	Near Natural
SF Stanislaus	1 Headwaters - Pinecrest	10	Wilderness
		4	Near Natural
Clavey	1 Bell Creek	1	Wilderness
		1	RNA
		5	Wildlife
	2 Lily Creek	5	Wilderness
		6	Wildlife
	3 Bell/Lily - 3N01	5	Wildlife
	4 3N01 - Cottonwood Road	8	Wildlife
	5 Cottonwood Road - Tuolumne	16	Near Natural
SF Tuolumne	2 MF Tuolumne - Tuolumne	2	SIA
Cherry Creek	1 West Fork Cherry Creek	15	Wilderness
	2 North Fork Cherry Creek	13	Wilderness
	3 East Fork Cherry Creek	14	Wilderness
	4 EF/NF Cherry Creek - Cherry Lake	10	Wilderness
Buck Mdw Creek	Headwater - WF Cherry Creek	8	Wilderness
Disaster Creek	Headwater - Clark Fork	5	Wilderness
Niagara Creek	2 Hwy 108 - Donnell Reservoir	1	SIA
Relief Creek	Headwater - Summit Creek	3	Wilderness
	Totals	205	

Alternative D

Under this Alternative, all river segments would be unsuitable and not recommended for Wild and Scenic River designation. 125 miles of eligible river segments are within designated Wilderness and only those would be proposed for Alternate Management. Alternative D includes the following unsuitable segments which would be proposed for Alternate Management:

Table E-4.6 **Alternate Management** Alternative D

River/Stream	Unsuitable Alternate Management	miles	Alt Mgmt
NF Mokelumne	2 Wilderness - Salt Springs	18	Wilderness
MF Stanislaus	2 Kennedy Creek	8	Wilderness
	3 Summit Creek - Relief Reservoir	7	Wilderness
SF Stanislaus	1 Headwaters - Pinecrest (portion)	10	Wilderness
Clark Fork	1 Headwaters - Wilderness	8	Wilderness
Clavey	1 Bell Creek (portion)	1	Wilderness
	2 Lily Creek (portion)	5	Wilderness
Cherry Creek	1 West Fork Cherry Creek	15	Wilderness
	2 North Fork Cherry Creek	13	Wilderness
	3 East Fork Cherry Creek	14	Wilderness
	4 EF/NF Cherry Creek - Cherry Lake	10	Wilderness
Buck Mdw Creek	Headwater - WF Cherry Creek	8	Wilderness
Disaster Creek	Headwater - Clark Fork	5	Wilderness
Relief Creek	Headwater - Summit Creek	3	Wilderness
	Totals	125	

Alternative E

Under this Alternative, all 299 miles of eligible river segments would be suitable and recommended for Wild and Scenic River designation. Alternative E includes the following suitable segments and recommended classifications:

Table E-4.7 **Suitable Wild And Scenic Rivers** Alternative E

River/Stream	Suitable Segments	WILD	SCEN	REC
NF Mokelumne	1 Highland Lake - Wilderness			9
	2 Wilderness - Salt Springs	18		
NF Stanislaus	4 Highland Creek - McKays Reservoir	13		3
	6 McKays Reservoir - MF Stanislaus	7		
Stanislaus	NF/MF Stanislaus - Clark Flat	1.5		
MF Stanislaus	1 Deadman Creek			8
	2 Kennedy Creek	8		
	3 Summit Creek - Relief Reservoir	7		
	5 Relief Reservoir - Clark Fork			12
	6 Clark Fork - Donnell Reservoir	3		
	8 Donnell Reservoir - Hells Half Acre	4	4	
	10 Beardsley Afterbay - Sand Bar		3	
	12 Sand Bar - NF Stanislaus	10.5		
SF Stanislaus	1 Headwaters - Pinecrest Lake	14		
Clark Fork	1 Headwaters - Wilderness	8		
	2 Wilderness - MF Stanislaus			9
Clavey	1 Bell Creek	6	1	
	2 Lily Creek	9	2	
	3 Bell/Lily - 3N01		5	
	4 3N01 - Cottonwood Road	4	4	
	5 Cottonwood Road - Tuolumne	14	2	
SF Tuolumne	2 MF Tuolumne - Tuolumne		2	
Cherry Creek	1 West Fork Cherry Creek	15		
	2 North Fork Cherry Creek	13		
	3 East Fork Cherry Creek	14		
	4 EF/NF Cherry Creek - Cherry Lake	10		
Buck Mdw Creek	Headwater - WF Cherry Creek	8		
NF Merced	Headwater - Forest Boundary	6	5	

River/Stream	Suitable Segments	WILD	SCEN	REC
Disaster Creek	Headwater - Clark Fork	5		
Eagle Creek	1 Headwater - MF Stanislaus	5	2	
	2 Long Valley Creek		4	
Niagara Creek	2 Hwy 108 - Donnell Reservoir		1	
Relief Creek	Headwater - Summit Creek	3		
Bourland Creek	Headwater - Reed Creek	2		9
Pacific Creek	Headwater - NF Mokelumne	4		2
	Totals (299 miles Suitable)	212	35	52

Comparison of the Alternatives

This Section provides a brief comparison of the alternatives. See Chapter 5 and Table E-5.23 for a description of the effects of each alternative. First, Table E-4.8 shows suitable Wild and Scenic Rivers by alternative. Suitable segments are indicated where W&SR (Wild and Scenic River) appears, while unsuitable segments are left blank. Unsuitable segments proposed for Alternate Management are shown with the type of management that will protect the values.

Second, Table E-4.9 highlights the effects of Wild and Scenic River designations on the foreseeable potential developments by showing the developments precluded by each alternative. The foreseeable potential developments, described in Chapter 2 of this River Study, include all known past and current water or hydro-electric development proposals (Note: the Devil's Nose Project, proposed for the North Fork Mokelumne below Salt Springs, is being evaluated by the Eldorado National Forest) which may be affected by Wild and Scenic River designations on the Stanislaus National Forest. Some past proposals were determined to be not feasible at the time they were studied. For the purpose of this River Study, all proposals may become feasible and could be installed at some time in the future.

Table E-4.9 **Effects of Wild and Scenic River Designations on Foreseeable Potential Developments**

Foreseeable Potential Development	Precluded by Alternative				
	A A1	B	C	D	E
Mokelumne Wilderness Hydro-Electric	YES	NO	YES	NO	YES
Ramsey/French Meadow Hydro-Electric	YES	NO	NO	NO	YES
Griswold Powerhouse (NF Stanislaus)	YES	NO	NO	NO	YES
Kennedy Meadow Reservoir	YES	NO	YES	NO	YES
Dardanelle Powerhouse	YES	NO	NO	NO	YES
MF Stanislaus Diversions (Segment 8)	NO	NO	NO	NO	YES
MF Stanislaus Diversions (Segment 10)	NO	NO	NO	NO	YES
Griswold Powerhouse (MF Stanislaus)	YES	NO	NO	NO	YES
Granite Basin Reservoir	NO	NO	NO	NO	YES
Bell Meadow Reservoir	NO	NO	NO	NO	YES
Clavey Reservoir	NO	NO	NO	NO	YES
Clavey Powerhouse	NO	NO	NO	NO	YES
South Fork Tuolumne Powerhouse	YES	NO	NO	NO	YES
Niagara Falls Hydro-Electric	YES	NO	NO	NO	YES

Next, the Forest Plan alternatives (See EIS, Chapter II) allocate the eligible river segments to different management areas. In general, Wild and Scenic River values can be protected in Wilderness (Management Area 1); Wild and Scenic Rivers (Management Area 2); Near Natural (Management Area 3); Special Interest Area (Management Area 5); and Research Natural Area (Management Area 6). Certain river values could be affected, by full implementation of the applicable management direction, in Wildlife (Management Area 4); Scenic Corridor (Management Area 8); and General Forest (Management Area 9). Management area allocations that apply to the specific location of the river values are shown in Table E-4.10.

Finally, Wild and Scenic River values may be affected by both implementation of management area direction and construction of foreseeable potential developments as shown in Table E-4.11. The comparison shown in that Table is based on the combined effects of both construction of all foreseeable potential developments and full implementation of the applicable management area direction (Separate discussions of each are contained in Chapter 5).

Table E-4.10 **Management Area Allocations**

River/Stream	Eligible Segments	Alternative				
		A A1	B	C	D	E
NF Mokelumne	1 Highland Lake – Wilderness*	2	4	5	4	1(2),2
	2 Wilderness - Salt Springs	1(2)	1	1(2)	1	1(2)
NF Stanislaus	4 Highland Creek - McKays Reservoir*	2	8	5	8,9	2
	6 McKays Reservoir - MF Stanislaus	2	8	3	9	2
Stanislaus	NF/MF Stanislaus - Clark Flat	2	4,8	3	9	2
MF Stanislaus	1 Deadman Creek*	2	5	2	3,9	2
	2 Kennedy Creek	1(2)	1	1	1	1(2)
	3 Summit Creek - Relief Reservoir	1	1	1	1	1(2)
	5 Relief Reservoir - Clark Fork *	2	5	2	8	2
	6 Clark Fork - Donnell Reservoir	2	4,8	3	4,8	2
	8 Donnell Reservoir - Hells Half Acre	3	8	3	4,8,9	2
	10 Beardsley Afterbay - Sand Bar*	3	4,8	5	4,9	2
	12 Sand Bar - NF Stanislaus	2	4,8	3	9	2
SF Stanislaus	1 Headwaters - Pinecrest Lake	1,3	1,8	1,9	1,9	1(2),2
Clark Fork	1 Headwaters - Wilderness	1(2)	1	1(2)	1	1(2)
	2 Wilderness - MF Stanislaus*	2	5	2	4	2
Clavey	1 Bell Creek*	1,4,6	4	4,6,9	4,9	2,(6)
	2 Lily Creek	1,4	1,4	1,4	1,9	1(2),2
	3 Bell/Lily - 3N01	4	4	4	9	2
	4 3N01 - Cottonwood Road	4	4	4	9	2
	5 Cottonwood Road - Tuolumne	3	4,8,9	3	3,9	2
SF Tuolumne	2 MF Tuolumne - Tuolumne *	2	8	5	9	2
Cherry Creek	1 West Fork Cherry Creek	1	1	1	1	1(2)
	2 North Fork Cherry Creek	1	1	1	1	1(2)
	3 East Fork Cherry Creek	1	1	1	1	1(2)
	4 EF/NF Cherry Creek - Cherry Lake	1	1	1	1	1(2)
Buck Mdw Creek	Headwater - WF Cherry Creek	1	1	1	1	1(2)
NF Merced	Headwater - Forest Boundary*	5	9	9	9	2
Disaster Creek	Headwater - Clark Fork	1	1	1	1	1(2)
Eagle Creek	1 Headwater - MF Stanislaus*	5	4,8	4,9	8,9	2
	2 Long Valley Creek	5	4,8	4,9	9	2
Niagara Creek	2 Hwy 108 - Donnell Reservoir*	2(5)	8	5	8	2(5)
Relief Creek	Headwater - Summit Creek	1	1	1	1	1(2)
Bourland Creek	Headwater - Reed Creek	5,6	4,9	4,9	4,9	2
Pacific Creek	Headwater - NF Mokelumne*	3,4	3,4	4	4,9	1(2)

Legend

1 Wilderness
2 Wild and Scenic River
3 Near Natural
4 Wildlife
5 Special Interest Area
6 Research Natural Area
8 Scenic Corridor
9 General Forest
* Also Contains Developed Recreation Sites
( ) Dual Designations

Table E-4.11 **Summary of the Combined Effects of Non-Designation on Wild and Scenic River Values**

River/Stream	Eligible Segments	Alternative				
		A A1	B	C	D	E
NF Mokelumne	1 Highland Lake – Wilderness	PROT	DEGR	PROT	DEGR	PROT
	2 Wilderness - Salt Springs	PROT	LOST*	PROT	LOST*	PROT
NF Stanislaus	4 Highland Creek - McKays Reservoir	PROT	LOST	LOST*	LOST*	PROT
	6 McKays Reservoir - MF Stanislaus	PROT	LOST	LOST*	LOST	PROT
Stanislaus	NF/MF Stanislaus - Clark Flat	PROT	LOST	PROT	LOST	PROT
MF Stanislaus	1 Deadman Creek	PROT	PROT	PROT	DEGR	PROT
	2 Kennedy Creek	PROT	PROT	PROT	PROT	PROT
	3 Summit Creek - Relief Reservoir	PROT	PROT	PROT	PROT	DEGR
	5 Relief Reservoir - Clark Fork	PROT	LOST*	PROT	LOST*	PROT
	6 Clark Fork - Donnell Reservoir	PROT	LOST*	LOST*	LOST*	PROT
	8 Donnell Reservoir - Hells Half Acre	LOST*	LOST	LOST*	LOST	PROT
	10 Beardsley Afterbay - Sand Bar	LOST*	LOST	LOST*	LOST	PROT
	12 Sand Bar - NF Stanislaus	PROT	LOST	LOST*	LOST	PROT
SF Stanislaus	1 Headwaters - Pinecrest Lake	LOST	LOST	LOST	LOST	PROT
Clark Fork	1 Headwaters - Wilderness	PROT	PROT	PROT	PROT	PROT
	2 Wilderness - MF Stanislaus	PROT	PROT	PROT	PROT	PROT
Clavey	1 Bell Creek*	LOST	LOST	LOST	LOST	PROT
	2 Lily Creek	PROT	PROT	PROT	DEGR	PROT
	3 Bell/Lily - 3N01	PROT	DEGR	DEGR	LOST	PROT
	4 3N01 - Cottonwood Road	LOST	LOST	LOST	LOST	PROT
	5 Cottonwood Road - Tuolumne	LOST	LOST	LOST	LOST	PROT
SF Tuolumne	2 MF Tuolumne - Tuolumne	PROT	LOST	LOST	LOST	PROT
Cherry Creek	1 West Fork Cherry Creek	PROT	PROT	PROT	PROT	DEGR
	2 North Fork Cherry Creek	PROT	PROT	PROT	PROT	DEGR
	3 East Fork Cherry Creek	PROT	PROT	PROT	PROT	DEGR
	4 EF/NF Cherry Creek - Cherry Lake	PROT	PROT	PROT	PROT	DEGR
Buck Mdw Creek	Headwater - WF Cherry Creek	PROT	PROT	PROT	PROT	DEGR
NF Merced	Headwater - Forest Boundary	PROT	DEGR	DEGR	DEGR	PROT
Disaster Creek	Headwater - Clark Fork	PROT	PROT	PROT	PROT	DEGR
Eagle Creek	1 Headwater - MF Stanislaus	PROT	DEGR	DEGR	DEGR	DEGR
	2 Long Valley Creek	PROT	DEGR	DEGR	DEGR	DEGR
Niagara Creek	2 Hwy 108 - Donnell Reservoir	PROT	LOST	LOST	LOST	PROT
Relief Creek	Headwater - Summit Creek	PROT	PROT	PROT	PROT	DEGR
Bourland Creek	Headwater - Reed Creek	PROT	LOST	LOST	LOST	PROT
Pacific Creek	Headwater - NF Mokelumne	PROT	PROT	DEGR	DEGR	DEGR

Legend

DEGR Wild and Scenic River Value(s) Degraded.

LOST Wild and Scenic River Value(s) Lost on All of Eligible Segment.

LOST* Wild and Scenic River Value(s) Lost on Portion of Eligible Segment.

PROT Wild and Scenic River Value(s) Protected.

5. Environmental Consequences

This Chapter discloses the environmental consequences of the Wild and Scenic River alternatives that are described in Chapter 4 of this River Study. The first section highlights the foreseeable potential developments that could be affected by Wild and Scenic River designations on the Stanislaus National Forest. The second section highlights the "outstandingly remarkable" (OR) Wild and Scenic River values that could be affected by non-designation. Other sections show interest in Wild and Scenic River designations; land status; and, costs to administer a Wild and Scenic River, if it is designated. Another section evaluates the protection of river values through Alternate Management. Table E-5.23 lists the known effects of the alternatives, on potential uses and Wild and Scenic River values, for each eligible segment. The final section of this Chapter lists other environmental effects. See Chapter 4 of the EIS for a disclosure of the environmental consequences of the Forest Plan alternatives.

Foreseeable Potential Developments and Uses

The foreseeable potential developments include all known past and current water development proposals which may be affected by Wild and Scenic River designations on the Stanislaus National Forest. Some past proposals were determined to be not feasible at the time they were studied. For the purpose of this River Study, all proposals may become feasible and could be installed at some time in the future. The foreseeable potential developments affected by Wild and Scenic River designations are described in Chapter 2 and shown in Table E-4.9. The effects of Wild and Scenic River designations on these and other potential uses (minerals, timber, etc.) are shown, by segment, in Table E-5.23.

Alternative A

The following foreseeable potential developments would be precluded by Wild and Scenic River designations:

Table E-5.1 **Precluded Foreseeable Potential Developments** Alternative A

River/Stream	Segments	Potential Development
NF Mokelumne	2 Wilderness - Salt Springs	Mokelumne Hydros
NF Stanislaus	4 Highland Creek - McKays Reservoir	Ramsey/French Meadow Hydro
	6 McKays Reservoir - MF Stanislaus	Griswold NF Powerhouse
MF Stanislaus	5 Relief Reservoir - Clark Fork	Kennedy Meadow Reservoir
	6 Clark Fork - Donnell Reservoir	Dardanelle Powerhouse
	12 Sand Bar - NF Stanislaus	Griswold MF Powerhouse
SF Tuolumne	2 MF Tuolumne - Tuolumne	South Fork Powerhouse
Niagara Creek	2 Highway 108 - Donnell Reservoir	Niagara Hydro

Alternative A1

Same as Alternative A.

Alternative B

No foreseeable potential developments would be precluded by Wild and Scenic River designations.

Alternative C

The following foreseeable potential developments would be precluded by Wild and Scenic River designations:

Table E-5.2 **Precluded Foreseeable Potential Developments** Alternative C

River/Stream	Segments	Potential Development
NF Mokelumne	2 Wilderness - Salt Springs	Mokelumne Hydros
MF Stanislaus	5 Relief Reservoir - Clark Fork	Kennedy Meadow Reservoir

Alternative D

No foreseeable potential developments would be precluded by Wild and Scenic River designations.

Alternative E

The following foreseeable potential developments would be precluded by Wild and Scenic River designations:

Table E-5.3 **Precluded Foreseeable Potential Developments** Alternative E

River/Stream	Segments	Potential Development
NF Mokelumne	2 Wilderness - Salt Springs	Mokelumne Hydros
NF Stanislaus	4 Highland Creek - McKays Reservoir	Ramsey/French Meadow Hydro
	6 McKays Reservoir - MF Stanislaus	Griswold NF Powerhouse
MF Stanislaus	5 Relief Reservoir - Clark Fork	Kennedy Meadow Reservoir
	6 Clark Fork - Donnell Reservoir	Dardanelle Powerhouse
	8 Donnell Reservoir - Hells Half Acre	Diversions
	10 Beardsley Afterbay - Sand Bar	Diversions
	12 Sand Bar - NF Stanislaus	Griswold MF Powerhouse
SF Stanislaus	Headwaters - Pinecrest Lake	Granite Basin Reservoir
Clavey	Bell Creek	Bell Meadow Reservoir
	4 3N01 - Cottonwood Road	Clavey Hydro Reservoir
	5 Cottonwood Road - Tuolumne	Clavey Powerhouse
SF Tuolumne	2 MF Tuolumne - Tuolumne	South Fork Powerhouse
Niagara Creek	2 Highway 108 - Donnell Reservoir	Niagara Hydro

Wild and Scenic River Values

The Forest Plan alternatives (See EIS, Chapter II) allocate the eligible river segments to different management areas. In general, Wild and Scenic River values can be protected in Wilderness (Management Area 1); Wild and Scenic Rivers (Management Area 2); Near Natural (Management Area 3); Special Interest Area (Management Area 5); and Research Natural Area (Management Area 6). Certain river values could be affected, by full implementation of the management direction, in Wildlife (Management Area 4); Scenic Corridor (Management Area 8); and General Forest (Management Area 9). Management area allocations for each eligible segment are shown in Table E-4.10.

Wild and Scenic River values, identified in Chapter 3 of this River Study, may be affected with or without the construction of foreseeable potential developments. Therefore, in this Chapter, the effects on "outstandingly remarkable" (0R) values are shown both with and without construction of the potential developments. Values lost or degraded on portions of a segment, are preceded by an asterisk (*). All others are lost or degraded on the entire segment.

Some resources and values are considered sensitive because they are fragile or nonrenewable. They are indicated throughout this River Study as Other or OTHR. Information about them can be found in the Stanislaus National Forest Land and Resource Management Planning Records (Planning Records), on file at the Stanislaus National Forest Supervisor's Office in Sonora, CA.

The overall effects of non-designation on Wild and Scenic River values are summarized in Table E-4.11. Table E-5.23 lists the specific effects of non-designation on Wild and Scenic River values, for each eligible segment.

Alternative A

No "outstandingly remarkable" values would be lost or degraded due to implementation of Forest management area direction, without construction of foreseeable potential developments. The following "outstandingly remarkable" values will be lost, due to construction of foreseeable potential developments:

Table E-5.4 **Values Lost to Potential Developments** Alternative A

River/Stream	Segments	OR Value Lost
MF Stanislaus	8 Donnell Reservoir - Hells Half Acre	*SCEN *WDLF
	10 Beardsley Afterbay - Sand Bar	*FISH *WDLF
SF Stanislaus	Headwaters - Pinecrest Lake	SCEN RECR OTHR
Clavey	Bell Creek	SCEN ECOL
	2 Lily Creek	ECOL
	3 Bell/Lily - 3N01	FISH ECOL
	4 3N01 - Cottonwood Road	WDLF FISH ECOL
	5 Cottonwood Road - Tuolumne	*SCEN *RECR WDLF FISH ECOL

(*) Precedes value lost on portions of segment (Others lost on entire segment)

Alternative A1

Same as Alternative A.

Alternative B

The following "outstandingly remarkable" values will be lost due to implementation of Forest management area direction, without construction of foreseeable potential developments:

Table E-5.5 **Values Lost to Management Implementation** Alternative B

River/Stream	Segments	OR Value Lost
NF Stanislaus	6 McKays Reservoir - MF Stanislaus	RECR
Stanislaus	NF/MF Stanislaus - Clark Flat	RECR
MF Stanislaus	8 Donnell Reservoir - Hells Half Acre	WDLF
	10 Beardsley Reservoir/Aft - Sand Bar	WDLF
	12 Sand Bar - NF Stanislaus	RECR
Bourland Creek	Headwater - Reed Creek	ECOL

The following "outstandingly remarkable" values will be degraded due to implementation of Forest management area direction, without construction of foreseeable potential developments:

Table E-5.6 **Values Degraded By Management Implementation** Alternative B

River/Stream	Segments	OR Value Degraded
NF Mokelumne	1 Highland Lake - Wilderness	SCEN RECR

River/Stream	Segments	OR Value Degraded
NF Stanislaus	4 Highland Creek - McKays Reservoir	SCEN RECR WDLF
	6 McKays Reservoir - MF Stanislaus	SCEN
Stanislaus	NF/MF Stanislaus - Clark Flat	SCEN
MF Stanislaus	6 Clark Fork - Donnell Reservoir	SCEN
	8 Donnell Reservoir - Hells Half Acre	SCEN
	12 Sand Bar - NF Stanislaus	SCEN WDLF
SF Stanislaus	1 Headwaters - Pinecrest Lake	SCEN RECR
Clavey	1 Bell Creek	SCEN ECOL
	5 Cottonwood Road - Tuolumne	SCEN RECR WDLF ECOL
SF Tuolumne	2 MF Tuolumne - Tuolumne	SCEN
NF Merced	Headwater - Forest Boundary	OTHR
Eagle Creek	1 Headwater - MF Stanislaus	OTHR
	2 Long Valley Creek	OTHR
Niagara Creek	2 Highway 108 - Donnell Reservoir	SCEN

The following "outstandingly remarkable" values will be lost, due to construction of foreseeable potential developments:

Table E-5.7 **Values Lost To Potential Developments** Alternative B

River/Stream	Segments	OR Value Lost
NF Mokelumne	2 Wilderness - Salt Springs	*SCEN *RECR
NF Stanislaus	4 Highland Creek - McKays Reservoir	*SCEN *WDLF
	6 McKays Reservoir - MF Stanislaus	*SCEN *RECR
MF Stanislaus	5 Relief Reservoir - Clark Fork	*SCEN *RECR
	6 Clark Fork - Donnell Reservoir	*SCEN
	8 Donnell Reservoir - Hells Half Acre	*SCEN *WDLF
	10 Beardsley Afterbay - Sand Bar	*FISH *WDLF
	12 Sand Bar - NF Stanislaus	*SCEN *RECR
SF Stanislaus	1 Headwaters - Pinecrest Lake	SCEN RECR OTHR
Clavey	1 Bell Creek	SCEN ECOL
	2 Lily Creek	ECOL
	3 Bell/Lily - 3N01	FISH ECOL
	4 3N01 - Cottonwood Road	WDLF FISH ECOL
	5 Cottonwood Road - Tuolumne	*SCEN *RECR FISH WDLF ECOL
SF Tuolumne	2 MF Tuolumne - Tuolumne	*SCEN
Niagara Creek	2 Highway 108 - Donnell Reservoir	SCEN

(*) Precedes value lost on portions of segment (Others lost on entire segment)

Alternative C

The following "outstandingly remarkable" values will be lost due to implementation of Forest management area direction, without construction of foreseeable potential developments:

Table E-5.8 **Values Lost to Management Implementation** Alternative C

River/Stream	Segments	OR Value Lost
SF Stanislaus	1 Headwaters - Pinecrest Lake	SCEN RECR
Bourland Creek	Headwater - Reed Creek	ECOL

The following "outstandingly remarkable" values will be degraded due to implementation of Forest management area direction, without construction of foreseeable potential developments:

Table E-5.9 **Values Degraded by Management Implementation** Alternative C

River/Stream	Segments	OR Value Degraded
NF Merced	Headwater - Forest Boundary	OTHR
Eagle Creek	1 Headwater - MF Stanislaus	OTHR
	2 Long Valley Creek	OTHR
Pacific Creek	Headwaters - NF Mokelumne	SCEN OTHR

The following "outstandingly remarkable" values will be lost, due to construction of foreseeable potential developments:

Table E-5.10 **Values Lost to Potential Developments** Alternative C

River/Stream	Segments	OR Value Lost
NF Stanislaus	4 Highland Creek - McKays Reservoir	*SCEN *WDLF
	6 McKays Reservoir - MF Stanislaus	*SCEN* RECR
NF Stanislaus	6 Clark Fork - Donnell Reservoir	*SCEN
	8 Donnell Reservoir - Hells Half Acre	*SCEN *WDLF
	10 Beardsley Reservoir/Aft - Sand Bar	*FISH *WDLF
	12 Sand Bar - NF Stanislaus	*SCEN *RECR
SF Stanislaus	1 Headwaters - Pinecrest Lake	SCEN RECR OTHR
Clavey	1 Bell Creek	SCEN ECOL
	2 Lily Creek	ECOL
	3 Bell/Lily - 3NO1	FISH ECOL
	4 3N01 - Cottonwood Road	WDLF FISH ECOL
	5 Cottonwood Road - Tuolumne	*SCEN *RECR WDLF FISH ECOL
SF Tuolumne	2 MF Tuolumne - Tuolumne	*SCEN
Niagara Creek	2 Highway 108 - Donnell Reservoir	SCEN

(*) Precedes value lost on portions of segment (Others lost on entire segment)

Alternative D

The following "outstandingly remarkable" values will be lost due implementation of Forest management area direction, without construction of foreseeable potential developments:

Table E-5.11 **Values Lost to Management Implementation** Alternative D

River/Stream	Segments	OR Value Lost
NF Stanislaus	6 McKays Reservoir - MF Stanislaus	RECR
Stanislaus	NF/MF Stanislaus - Clark Flat	RECR
MF Stanislaus	8 Donnell Reservoir - Hells Half Acre	WDLF
	10 Beardsley Reservoir/Aft - Sand Bar	WDLF
	12 Sand Bar - NF Stanislaus	SCEN RECR WDLF
SF Stanislaus	1 Headwaters - Pinecrest Lake	SCEN RECR
Clavey	1 Bell Creek	ECOL
Bourland Creek	Headwater - Reed Creek	ECOL

The following "outstandingly remarkable" values will be degraded due to implementation of Forest management area direction, without construction of foreseeable potential developments:

Table E-5.12 **Values Degraded By Management Implementation** Alternative D

River/Stream	Segments	OR Value Degraded
NF Mokelumne	1 Highland Lake - Wilderness	SCEN RECR
NF Stanislaus	4 Highland Creek - McKays Reservoir	SCEN RECR WDLF
	6 McKays Reservoir - MF Stanislaus	SCEN
NF Stanislaus	1 Deadman Creek	SCEN RECR
	5 Relief Reservoir - Clark Fork	SCEN RECR
	6 Clark Fork - Donnell Reservoir	SCEN
	8 Donnell Reservoir - Hells Half Acre	SCEN
Clavey	1 Bell Creek	SCEN
	2 Lily Creek	ECOL
	4 3N01 - Cottonwood Road	WDLF ECOL
	5 Cottonwood Road - Tuolumne	SCEN RECR WDLF ECOL
SF Tuolumne	2 MF Tuolumne - Tuolumne	SCEN
NF Merced	Headwater - Forest Boundary	OTHR
Eagle Creek	1 Headwater - MF Stanislaus	OTHR
	2 Long Valley Creek	OTHR
Niagara Creek	2 Highway 108 - Donnell Reservoir	SCEN
Pacific Creek	Headwater - NF Mokelumne	SCEN OTHR

The following "outstandingly remarkable" values will be lost, due construction of foreseeable potential developments:

Table E-5.13 **Values Lost to Potential Developments** Alternative D

River/Stream	Segments	OR Value Lost
NF Mokelumne	2 Wilderness - Salt Springs	*SCEN *RECR
NF Stanislaus	4 Highland Creek - McKays Reservoir	*SCEN *WDLF
	6 McKays Reservoir - MF Stanislaus	*SCEN *RECR
Mf Stanislaus	5 Relief Reservoir - Clark Fork	*SCEN *RECR
	6 Clark Fork - Donnell Reservoir	*SCEN
	8 Donnell Reservoir - Hells Half Acre	*SCEN *WDLF
	10 Beardsley Reservoir/Aft - Sand Bar	*FISH*WDLF
	12 Sand Bar - NF Stanislaus	*SCEN *RECR
SF Stanislaus	1 Headwaters - Pinecrest Lake	SCEN RECR OTHR
Clavey	1 Bell Creek	SCEN ECOL
	2 Lily Creek	ECOL
	3 Bell/Lily - 3NO1	FISH ECOL
	4 3N01 - Cottonwood Road	WDLF FISH ECOL
	5 Cottonwood Road - Tuolumne	*SCEN *RECR WDLF FISH ECOL
SF Tuolumne	2 MF Tuolumne - Tuolumne	*SCEN
Niagara Creek	2 Highway 108 - Donnell Reservoir	SCEN

(*) Precedes value lost on portions of segment (Others lost on entire segment)

Alternative E

No "outstandingly remarkable" values would be lost. The following "outstandingly remarkable" values may be degraded by increased recreation use, due to the attraction of Wild and Scenic River designations:

Table E-5.14 **Values Degraded By Increased Use** Alternative E

River/Stream	Segments	OR Value Degraded
MF Stanislaus	3 Summit Creek - Relief Reservoir	SCEN OTHR
Cherry Creek	1 West Fork Cherry Creek	SCEN
	2 North Fork Cherry Creek	SCEN
	3 East Fork Cherry Creek	SCEN
	4 EF/NF Cherry Creek - Cherry Lake	SCEN
Buck Mdw Creek	Headwater - WF Cherry Creek	SCEN
Disaster Creek	Headwater - Clark Fork	OTHR
Eagle Creek	1 Headwater - MF Stanislaus	OTHR
	2 Long Valley Creek	OTHR
Relief Creek	Headwater - Summit Creek	SCEN
Pacific Creek	Headwater - NF Mokelumne	OTHR

Interest in Wild and Scenic River Designations

The Draft Wild and Scenic River Study generated a great deal of interest and responses to the Draft EIS for the Forest Plan. The Stanislaus received both written and verbal comments; the latter from a series of meetings held with the public in several surrounding communities, with interest groups, and with government bodies. Several hundred comments, pertaining to Wild and Scenic River designations on the Stanislaus, were received. Copies of these comments are available for review at the Stanislaus National Forest Supervisor's Office in Sonora, California. The comments were coded and summarized into the 37 different Wild and Scenic River comments shown in Chapter 10 of this River Study. Many comments deal solely with either the Clavey River or the North Fork Stanislaus River.

Land Status

Chapter 2 of this River Study lists the land status for each study river. Only 7.5 miles (2.5%) of the 299 miles of eligible river segments are lands that are owned or managed other than by the Forest Service. Approximately 2 miles of the North Fork Stanislaus passes through the Calaveras Big Trees State Park, where Wild and Scenic River management would be consistent with management of the Park. Due to the special recreation and wildlife values of riparian areas on this Forest, most of the remaining 5.5 miles have already been identified as priorities for Forest Service acquisition through the Land and Water Conservation Fund (LWCF) program. Therefore, no additional acquisition costs or effects on private property, from Wild and Scenic River designations, are expected in any of the alternatives.

Administration Costs

This Section shows, by alternative, the estimated additional costs to administer Wild and Scenic Rivers, if they are designated. Alternative E (Table E-5.18) and Table E-5.23 show the costs for each eligible segment. The costs include a one-time expenditure needed to prepare the required management plans and annual funding needed for operation, maintenance and monitoring. They do not include an; costs associated with operation, maintenance or construction of developed recreation sites.

The costs vary according to the management situation of each segment. Wilderness planning and management, for example, will meet Wild and Scenic River requirements in most cases; therefore, those costs are much less than others. Outside Wilderness, costs are lower in some areas which are already being managed for the same uses and values as would a Wild and Scenic River. Planning costs range from $100 to $300/mile for Wilderness segments and from $1,000 to $3,000/mile for those outside Wilderness. Annual costs range from $100 to $300/mile for Wilderness segments and from $500 to $2,000 per mile for those outside Wilderness.

For the purpose of this Study, the estimated administration cost for a particular segment is the same in each alternative where it would be recommended.

Alternative A

Table E-5.16 shows the additional administration costs, due to Wild and Scenic River designations, in Alternative A.

Table E-5.16 **Wild and Scenic River Administration Costs** Alternative A

River/Stream	Segments	miles	Plan $	Annual $
NF Mokelumne	1 Highland Lake - Wilderness	9	18,000	9,000
	2 Wilderness - Salt Springs	18	1,800	1,800
NF Stanislaus	4 Highland Creek - McKays Reservoir	16	32,000	16,000
	6 McKays Reservoir - MF Stanislaus	7	14,000	7,000
Stanislaus	NF/MF Stanislaus - Clark Flat	1.5	1,500	750
MF Stanislaus	1 Deadman Creek	8	8,000	4,000
	2 Kennedy Creek	8	1,600	800
	5 Relief Reservoir - Clark Fork	12	12,000	12,000
	6 Clark Fork - Donnell Reservoir	3	3,000	1,500
	12 Sand Bar - NF Stanislaus	10.5	10,500	5,250
Clark Fork	1 Headwaters - Wilderness	8	800	800
	2 Wilderness - MF Stanislaus	9	9,000	9,000
SF Tuolumne	2 MF Tuolumne - Tuolumne	2	2,000	1,000
Niagara Creek	2 Highway 108 - Donnell Reservoir	1	2,000	1,000
	Totals	113	116,200	69,900

The additional costs of Alternative A are higher than all other alternatives, except E. Here, planning costs average $1,028 per mile and annual costs average $619 per mile of Wild and Scenic River. Average costs are higher than Alternative C due to the proportion of Wilderness Rivers; 34 miles out of 113 (30%) in A and

26 miles out of 55 (47%) in C. The expected amount of coordination needed with private landowners, State agencies and many interested publics accounts for the higher than average planning costs for the North Fork Stanislaus.

Alternative A1

Same as Alternative A.

Alternative B

This Alternative would not include any additional Wild and Scenic River designations; no additional costs would be incurred.

Alternative C

Table E-5.17 shows the additional administration costs, due to Wild and Scenic River designations, in Alternative C.

Table E-5.17 **Wild and Scenic River Administration Costs** Alternative C

River/Stream	Segments	miles	Plan $	Annual $
NF Mokelumne	2 Wilderness - Salt Springs	18	1,800	1,800
MF Stanislaus	1 Deadman Creek	8	8,000	4,000
	5 Relief Reservoir - Clark Fork	12	12,000	12,000
Clark Fork	1 Headwaters - Wilderness	8	800	800
	2 Wilderness - MF Stanislaus	9	9,000	9,000
	Totals	55	31,600	27,600

Alternative C includes only those rivers where existing management meets or nearly meets the Wild and Scenic River requirements. Therefore, the additional costs of Alternative C are lower than all other alternatives, except B and D which have no additional costs. Here, planning costs average $575 per mile and annual costs average $502 per mile of Wild and Scenic River.

Alternative D

This Alternative would not include any additional Wild and Scenic River designations; no additional costs would be incurred.

Alternative E

Table E-5.18 shows the additional administration costs, due to Wild and Scenic River designations, in Alternative E.

Table E-5.18 **Wild and Scenic River Administration Costs** Alternative E

River/Stream	Segments	miles	Plan $	Annual $
NF Mokelumne	1 Highland Lake - Wilderness	9	18,000	9,000
	2 Wilderness - Salt Springs	18	1,800	1,800
NF Stanislaus	4 Highland Creek - McKays Reservoir	16	32,000	16,000
	6 McKays Reservoir - MF Stanislaus	7	14,000	7,000
Stanislaus	NF/MF Stanislaus - Clark Flat	1.5	1,500	750
MF Stanislaus	1 Deadman Creek	8	8,000	4,000
	2 Kennedy Creek	8	1,600	800
	3 Summit Creek - Relief Reservoir	7	2,100	1,400
	5 Relief Reservoir - Clark Fork	12	12,000	12,000
	6 Clark Fork - Donnell Reservoir	3	3,000	1,500
	8 Donnell Reservoir - Hells Half Acre	8	8,000	4,000
	10 Beardsley Afterbay - Sand Bar	3	3,000	3,000
	12 Sand Bar - NF Stanislaus	10.5	10,500	5,250
SF Stanislaus	1 Headwaters - Pinecrest Lake	14	8,200	7,000
Clark Fork	1 Headwaters - Wilderness	8	800	800
	2 Wilderness - MF Stanislaus	9	9,000	9,000
Clavey	1 Bell Creek	7	12,300	10,500
	2 Lily Creek	11	14,000	16,000
	3 Bell/Lily - 3N01	5	15,000	7,500
	4 3N01 - Cottonwood Road	8	16,000	8,000
	5 Cottonwood Road - Tuolumne	16	32,000	16,000
SF Tuolumne	2 MF Tuolumne - Tuolumne	2	2,000	1,000
Cherry Creek	1 West Fork Cherry Creek	15	4,500	3,000
	2 North Fork Cherry Creek	13	3,900	2,600
	3 East Fork Cherry Creek	14	4,200	2,800
	4 EF/NF Cherry Creek - Cherry Lake	10	3,000	2,000
Buck Mdw Creek	Headwater - WF Cherry Creek	8	2,400	1,600

River/Stream	Segments	miles	Plan $	Annual $
NF Merced	Headwater - Forest Boundary	11	33,000	16,500
Disaster Creek	Headwater - Clark Fork	5	500	500
Eagle Creek	1 Headwater - MF Stanislaus	7	21,000	10,500
	2 Long Valley Creek	4	12,000	6,000
Niagara Creek	2 Hwy 108 - Donnell Reservoir	1	2,000	1,000
Relief Creek	Headwater - Summit Creek	3	900	900
Bourland Creek	Headwater - Reed Creek	11	33,000	16,500
Pacific Creek	Headwater - NF Mokelumne	6	5,000	6,000
	Totals	299	350,200	207,200

The additional costs of Alternative E are higher than all other alternatives. Here, planning costs average $1,171 per mile and annual costs average $693 per mile of Wild and Scenic River. Average costs are higher than Alternative A due, in part to, the additional management and monitoring that would be required on the rivers where values could be degraded by overuse (Disaster, Eagle, Relief, Buck Meadow and Pacific). The expected amount of coordination needed with private landowners, State agencies and many interested publics account for higher than average planning costs for the North Fork Stanislaus. Resource tradeoffs and the expected amount of coordination needed with other agencies and many interested publics account for higher than average planning costs for the Clavey, North Fork Merced, Eagle Creek and Bourland Creek.

Alternate Management

This Section evaluates the proposed "Alternate Management" protection, of Wild and Scenic River values, contained in each alternative. Chapter 4 of this River Study contains a description of "Alternate Management" and also lists the segments proposed for such protection in each alternative. Without construction of any foreseeable potential developments, river values can be protected through Alternate Management. However, all forms of Alternate Management (including, with an exemption from the President, Wilderness) would allow water and hydro-electric developments that are precluded under Wild and Scenic River designation. Only Congress can withdraw the protection from development offered by the Wild and Scenic Rivers Act. Table E-5.23 lists the effects of Alternate Management on the uses and values of each eligible river segment. The following descriptions show how effective Alternate Management will be in each alternative. For the purpose of this analysis, all potential developments (including those in Wilderness) on non-designated segments, would be constructed.

Alternative A

In this Alternative, the Wild and Scenic River values on all eligible, but unsuitable, segments would be protected through 163 miles of Alternate Management, without construction of any foreseeable potential developments. However, the following segments, proposed for Alternate Management, will lose Wild and Scenic River values, on all or portions of 50 miles, to construction of the foreseeable potential developments:

Table E-5.19 **Alternate Management Segments with Values Lost to Potential Developments** Alternative A

River/Stream	Unsuitable Alternate Management	miles	Alt Mgmt
MF Stanislaus	8 Donnell Reservoir - Hells Half Acre	8	Near Natural
	10 Beardsley Reservoir Afterbay - Sand Bar	3	Near Natural
SF Stanislaus	1 Headwaters - Pinecrest	10	Wilderness
Clavey	1 Bell Creek (portions)	1	RNA
	4 3N01 - Cottonwood Road	8	Wildlife
	5 Cottonwood Road - Tuolumne	16	Near Natural
	Totals	50	

The combination of Wild and Scenic River designations and Alternate Management, with construction of all foreseeable potential developments, protects the Wild and Scenic River values on 226 miles (768) of the eligible river segments, in Alternative A.

Alternative A1

Same as Alternative A.

Alternative B

In this Alternative, the Wild and Scenic River values on 185 miles of eligible segments would be protected through Alternate Management, without construction of any foreseeable potential developments. However, the following segments, proposed for Alternate Management, will lose Wild and Scenic River values, on all or portions of 54 miles, to construction of the foreseeable potential developments:

Table E-5.20 **Alternate Management Segments with Values Lost to Potential Developments** Alternative B

River/Stream	Unsuitable Alternate Management	miles	Alt Mgmt
NF Mokelumne	2 Wilderness - Salt Springs	18	Wilderness
MF Stanislaus	5 Relief Reservoir - Clark Fork	12	SIA
SF Stanislaus	1 Headwaters - Pinecrest(portion)	10	Wilderness
Clavey	1 Bell Creek (portions)	6	Wildlife
	4 3N01 - Cottonwood Road	8	Wildlife
	Totals	54	

Alternate Management, with construction of all foreseeable potential developments, protects the Wild and Scenic River values on 131 miles (44%) of the eligible river segments, in Alternative B.

Alternative C

En this Alternative, the Wild and Scenic River values on 205 miles of eligible segments would be protected through Alternate Management, without construction of my foreseeable potential developments. However, the following segments, proposed -or Alternate Management, will lose Wild and Scenic River values, on all or portions of 89.5 miles, to construction of the foreseeable potential developments:

Table E-5.21 **Alternate Management Segments with Values Lost to Potential Developments** Alternative C

River/Stream	Unsuitable Alternate Management	miles	Alt Mgmt
NF Stanislaus	4 Highland Creek - McKays Reservoir	16	SIA
	6 McKays Reservoir - MF Stanislaus	7	Near Natural
MF Stanislaus	6 Clark Fork - Donnell Reservoir	3	Near Natural
	8 Donnell Reservoir - Hells Half Acre	8	Near Natural
	10 Beardsley Reservoir/Aft - Sand Bar	3	SIA
	12 Sand Bar - NF Stanislaus	10.5	Near Natural
SF Stanislaus	1 Headwaters - Pinecrest	10	Wilderness
		4	Near Natural
Clavey	1 Bell Creek (portions)	1	RNA
	4 3N01 - Cottonwood Road	8	Wildlife
	5 Cottonwood Road - Tuolumne	16	Near Natural
SF Tuolumne	2 MF Tuolumne - Tuolumne	2	SIA
Niagara Creek	2 Highway 108 - Donnell Reservoir	1	SIA
	Totals	89.5	

The combination of Wild and Scenic River designations and Alternate Management, with construction of all foreseeable potential developments, protects the Wild and Scenic River values on 170.5 miles (57%) of the eligible river segments, in Alternative C.

Alternative D

In this Alternative, the Wild and Scenic River values on 125 miles of eligible segments would be protected through Alternate Management, without construction of any foreseeable potential developments. However, the following segments, proposed for Alternate Management, will lose Wild and Scenic River values, on all or portions of 28 miles, to construction of the foreseeable potential developments:

Table E-5.22 **Alternate Management Segments with Values Lost to Potential Developments** Alternative D

River/Stream	Unsuitable Alternate Management	miles	Alt Mgmt
NF Mokelumne	2 Wilderness - Salt Springs	18	Wilderness
SF Stanislaus	1 Headwaters - Pinecrest(portion)	10	Wilderness
	Totals	28	

Alternate Management, with construction of all foreseeable potential developments, protects the Wild and Scenic River values on 97 miles (32%) of the eligible river segments, in Alternative D.

Alternative E

No segments would be proposed for Alternate Management. The Wild and Scenic Rivers Act requires protection of the Wild and Scenic River values on all designated river segments.

Effects of the Alternatives

Table E-5.23, which follows, lists the effects, if any, of the alternatives for each eligible segment. It includes the effects of Wild and Scenic River designations on foreseeable potential developments and uses. It also describes the effects of non-designation on "outstandingly remarkable" (OR) Wild and Scenic River values.

The Table indicates: Wild and Scenic River recommendations (Wild, Scenic, Recreational); Alternate Management (Wilderness, Near Natural, Wildlife, Special Interest Area, Research Natural Area); and other management area allocations that would not include special management or protection of Wild and Scenic River values (Wildlife, Scenic Corridor, General Forest).

Table E-5.23 **Effects Of Alternatives**

North Fork Mokelumne

Segment: **1 Highland Lake - Mokelumne Wilderness** (9 miles)
Outstandingly Remarkable Values: **Scenic Recreation**
Classification: **Recreational**

Alternatives		
A, A1, E Wild and Scenic River	B, D Wildlife	C Special Interest Area
Foreseeable Potential Developments and Uses		
Minerals: None	None	SIA (2,880 acres) would be withdrawn. No known potential.
Timber: .16 mmbf/year not scheduled for harvest.	None	Same as A.
Wild and Scenic River Values		
Outstandingly Remarkable (OR) values protected under the Wild and Scenic (W&S) Rivers Act.	Scenic: OR value degraded by timber management and road construction. Recreation: OR value degraded by increased recreation access resulting from road construction.	OR values protected under SIA management.
Administration Costs		
Plan: $18,000 Annual: $ 9,000	None	No additional costs due to W&S River designation, but costs to manage SIA would be similar to A.

North Fork Mokelumne

Segment: **2 Mokelumne Wilderness Boundary - Salt Springs Reservoir** (18 miles)
Outstandingly Remarkable Values: **Scenic Recreation Geologic Fish**
Classification: **Wild**

Alternatives	
A, A1, C, E Wild and Scenic River	B, D Wilderness
Foreseeable Potential Developments and Uses	
Development: 2 potential hydro-electric sites in the Mokelumne Wilderness would be precluded under the W&S Rivers Act. No current proposals; potential power would be foregone. Upstream expansion of Salt Springs, although not proposed, would be precluded.	Existing Wilderness designation precludes development unless an exemption is granted by the President.
Wild and Scenic River Values	
OR values protected through dual designation under the Wilderness Act and the W&S Rivers Act.	***Without Construction of Hydro-Electric Sites***
	OR values protected under the Wilderness Act.
	With Construction of Hydro-Electric Sites Development can occur in Wilderness, if an exemption is granted by the President. Free-flowing conditions and W&S River eligibility would be lost on any impounded portions of the segment. The developments would also have the following effects.
	Scenic: OR value lost on portions of the segment within view of the developments.
	Recreation: OR value lost on portions of the segment within sight or sound of the developments. Visitor's expectations for a primitive recreation experience and solitude would not be met.
Administration Costs	
Plan: $1,800 Annual: $1,800	None

Segment: 4 **Highland Creek - McKays Reservoir** (16 miles)
Outstandingly Remarkable Values: **Scenic Recreation Wildlife Other**
Classification: **13 Wild and 3 Recreational**

<table>
<tr><th colspan="4">Alternatives</th></tr>
<tr><th>A, A1, E
Wild and Scenic River</th><th>B
Scenic Corridor</th><th>C
Near Natural/SIA</th><th>D
General Forest</th></tr>
<tr><td colspan="4">Foreseeable Potential Developments and Uses</td></tr>
<tr><td>Development: Ramsey/French Meadow hydro-electric project would be precluded under the W&S Rivers Act. Potential power, domestic water and income would be foregone. Upstream expansion of McKays Reservoir, although not proposed, would be precluded.</td><td>None</td><td>None</td><td>None</td></tr>
<tr><td>Minerals: 13 miles of Wild River (4,160 acres) would be withdrawn from entry, under the W&S Rivers Act. No known potential.</td><td>None</td><td>SIA (9280 acres) would be withdrawn. No known potential.</td><td>None</td></tr>
<tr><td>Timber: .25 mmbf/year not scheduled for harvest.</td><td>None</td><td>Same as A.</td><td>None</td></tr>
<tr><td colspan="4">Wild and Scenic River Values</td></tr>
<tr><td rowspan="6">OR values protected under the W&S Rivers Act.</td><td colspan="3">Without Construction of The Ramsey/French Meadow Hydro-Electric Project</td></tr>
<tr><td>Scenic: OR value degraded by timber management and road construction.</td><td rowspan="3">OR values protected under Near Natural and SIA management.</td><td rowspan="3">Same as B.</td></tr>
<tr><td>Recreation: OR value degraded by timber management and road construction.</td></tr>
<tr><td>Wildlife: OR value degraded by timber management and road construction.</td></tr>
<tr><td colspan="3">With Construction Of The Ramsey/French Meadow Hydro-Electric Project
The preliminary proposals for this project include several impoundments, diversions and powerhouses. Free-flowing conditions and W&S River eligibility would be lost on all impounded portions of the segment. The developments would also have the following effects.</td></tr>
<tr><td colspan="3">Scenic: OR value lost on portions of the segment within view of the developments.</td></tr>
<tr><td colspan="3">Wildlife: OR value lost on portions of the segment due to fragmentation of travel routes for sensitive species.</td></tr>
<tr><td colspan="4">Administration Costs</td></tr>
<tr><td>Plan: $32,000
Annual: $16,000</td><td>None</td><td>No additional costs due to W&S designation, but costs to manage SIA would be similar to A.</td><td>None</td></tr>
</table>

Segment: **6 McKays Reservoir - Middle Fork Stanislaus** (7 miles)
Outstandingly Remarkable Values: **Scenic Recreation**
Classification: **Wild**

Alternatives			
A, A1, E Wild and Scenic River	B Scenic Corridor	C Near Natural	D General Forest
Foreseeable Potential Developments and Uses			
Development: North Fork alternative for the Griswold hydroelectric project would be precluded under the W&S Rivers Act. Potential power and income would be foregone. Downstream expansion of McKays Reservoir facilities, although not proposed, would be precluded.	None	None	None
Minerals: 7 miles of Wild River (2240 acres) would be withdrawn from entry, under the W&S Rivers Act. Portions have moderate potential.	None	None	None
Timber: .15 mmbf/year not scheduled for harvest.	None	Same as A.	None
Wild and Scenic River Values			
OR values protected under the W&S Rivers Act.	***Without Construction Of The Griswold (North Fork) Hydro-Electric Project***		
	Scenic: OR value degraded by timber management and road construction.	OR values protected under Near Natural management.	Same as B.
	Recreation: OR value lost due to timber management, road construction and addition of motorized access.		
	With Construction Of The Griswold (North Fork) Hydro-Electric Project The preliminary proposals for this project include a possible powerhouse location on this segment. Free-flowing conditions and W&S River eligibility would be lost on any portions of the segment that may be impounded. The development would also have the following effects.		
	Scenic: OR value lost on portions of the segment within view of the development.		
	Recreation: OR value lost on portions of the segment within sight or sound of the development. Visitor's expectations for a semi-primitive recreation experience would not be met.		
Administration Costs			
Plan: $14,000 Annual: $ 7,000	None	None	None

Stanislaus

Segment: **North/Middle Fork Stanislaus - Clark Flat** (1.5 miles)
Outstandingly Remarkable Values: **Scenic Recreation**
Classification: **Wild**

Alternatives			
A, A1, E Wild and Scenic River	B Scenic Corridor	C Near Natural	D General Forest
Foreseeable Potential Developments and Uses			
Development: Upstream expansion of the existing hydro-electric facilities at Clark Flat, although not proposed, would be precluded.	None	None	None
Minerals: 1.5 miles of Wild River (480 acres) would be withdrawn from entry, under the W&S Rivers Act. Low to moderate potential.	None	None	None
Wild and Scenic River Values			
OR values protected under the W&S Rivers Act.	Recreation: OR value lost due to addition of motorized access.	OR values protected under Near Natural management.	Same as B.
Administration Costs			
Plan: $1,500 Annual: $ 750	None	None	None

Middle Fork Stanislaus

Segment: **1 Deadman Creek** (8 miles)
Outstandingly Remarkable Values: **Scenic Recreation Geologic Historic/Cultural**
Classification: **Recreational**

Alternatives		
A, A1, C, E Wild and Scenic River	B Special Interest Area	D General Forest
Foreseeable Potential Developments and Uses		
Minerals: None	SIA (2500 acres) would be withdrawn. No known potential.	None
Timber: .1 mmbf/year not scheduled for harvest.	Same as A.	None
Wild and Scenic River Values		
OR values protected under the W&S Rivers Act.	OR values protected under SIA management.	Scenic: OR value degraded by timber management and road construction.
		Recreation: OR value degraded by increased recreation access resulting from timber management and road construction.
Administration Costs		
Plan: $8,000 Annual: $4,000	No additional costs due to W&S designation, but costs to manage SIA would be similar to A.	None

Middle Fork Stanislaus

Segment: **2 Kennedy Creek** (8 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Alternatives	
A, A1, E Wild and Scenic River	B, C, D Wilderness
Wild and Scenic River Values	
OR values protected through dual designation under the Wilderness Act and the W&S Rivers Act.	OR values protected under the Wilderness Act.
Administration Costs	
Plan: $1,600 Annual: $ 800	None

Middle Fork Stanislaus

Segment: **3 Summit Creek Headwaters - Relief Reservoir** (7 miles)
Outstandingly Remarkable Values: **Scenic Other**
Classification: **Wild**

Alternatives	
A, A1, B, C, D Wilderness	E Wild and Scenic River
Wild and Scenic River Values	
OR values protected under the Wilderness Act.	OR values protected through dual designation under the Wilderness Act and the W&S Rivers Act. However, the attraction of W&S River designation may result in increased recreation use, with the following effects.
	Scenic: OR value degraded immediately adjacent to the river area by increased evidence of trails and camps.
	Other: OR value degraded. See Stanislaus National Forest Land and Resource Management Planning Records (Planning Records).
Administration Costs	
None	Plan: $2,100 Annual: $1,400

Segment: **5 Relief Reservoir - Clark Fork** (12 miles)
Outstandingly Remarkable Values: **Scenic Recreation Geologic Other**
Classification: **Recreational**

<table>
<tr><th colspan="3">Alternatives</th></tr>
<tr><th>A, A1, C, E
Wild and Scenic River</th><th>B
Special Interest Area</th><th>D
Scenic Corridor</th></tr>
<tr><td colspan="3">Foreseeable Potential Developments and Uses</td></tr>
<tr><td>Development: Kennedy Meadow Reservoir would be precluded under the W&S Rivers Act. No current proposal; potential increased water storage capacity would be foregone.</td><td>None</td><td>None</td></tr>
<tr><td>Minerals: None</td><td>SIA (3840 acres) would be withdrawn. No known potential.</td><td>None</td></tr>
<tr><td>Timber: .25 mmbf/year not scheduled for harvest.</td><td>Same as A.</td><td>None</td></tr>
<tr><td colspan="3">Wild and Scenic River Values</td></tr>
<tr><td rowspan="5">OR values protected under the W&S Rivers Act.</td><td colspan="2">Without Construction of Kennedy Meadow Reservoir</td></tr>
<tr><td>OR values protected under SIA management.</td><td>Scenic: OR value slightly degraded by increased timber management and road construction.</td></tr>
<tr><td></td><td>Recreation: OR value slightly degraded by increased timber management and road construction.</td></tr>
<tr><td colspan="2">With Construction of Kennedy Meadow Reservoir
Project would include a large impoundment on this segment. Free-flowing conditions and W&S River eligibility would be lost on the impounded portion of the segment. The development would also have the following effects.</td></tr>
<tr><td colspan="2">Scenic: OR value lost on portions of the segment within view of the development.</td></tr>
<tr><td colspan="2">Recreation: OR value lost on portions of the segment within sight or sound of the development. Visitor's expectations for a semi-primitive recreation experience at the major access point to the Emigrant Wilderness would not be met.</td></tr>
<tr><td colspan="3">Administration Costs</td></tr>
<tr><td>Plan: $12,000
Annual: $12,000</td><td>No additional costs due to W&S designation, but costs to manage SIA would be similar to A.</td><td>None</td></tr>
</table>

Segment: **6 Clark Fork Confluence - Donnell Reservoir (3 miles)**
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Alternatives		
A, A1, E Wild and Scenic River	B, D Scenic Corridor	C Near Natural
Foreseeable Potential Developments and Uses		
Development: potential location for the Dardanelle Powerhouse would be precluded under the W&S Rivers Act. It was never a specific proposal, but rather a site identified in the 1976 California State Water Bulletin; potential power would be foregone. Upstream expansion of Donnell Reservoir, although not proposed, would be precluded.	None	None
Minerals: 3 miles of Wild River (960 acres) would be withdrawn under the W&S Rivers Act. No known potential.	None	None
Timber: .1 mmbf/year not scheduled for harvest.	None	Same as A.
Wild and Scenic River Values		
OR values protected under the W&S Rivers Act.	***Without Construction of Dardanelle Powerhouse***	
	Scenic: OR value degraded by timber management and road construction.	OR values protected under Near Natural management.
	With Construction of Dardanelle Powerhouse This development would include a large powerhouse located just above Donnell Reservoir, the lower limit of this eligible segment. W&S River eligibility would be lost on the lower portion of the segment. The development would also have the following effects.	
	Scenic: OR value lost on portions of the segment within view of the development. Some facilities could be visible from the popular Donnell Vista which is located above the Reservoir.	
Administration Costs		
Plan: $3,000 Annual: $1,500	None	None

Segment: **8 Donnell Reservoir - Hells Half Acre** (8 miles)
Outstandingly Remarkable Values: **Scenic Wildlife**
Classification **4 Wild and 4 Scenic**

<table>
<tr><th colspan="4">Alternatives</th></tr>
<tr><th>A, A1, C
Near Natural</th><th>B
Scenic Corridor</th><th>D
General Forest</th><th>E
Wild and Scenic River</th></tr>
<tr><td colspan="4">Foreseeable Potential Developments and Uses</td></tr>
<tr><td>Development: None</td><td>None</td><td>None</td><td>Potential diversions out of this segment would be precluded under the W&S Rivers Act. No current proposals; possible source of domestic water would be foregone. Diversions out of Donnell Reservoir would not be affected. Upstream expansion of the hydro-electric facilities at Hells Half Acre and downstream expansion of the facilities at Donnell, although not proposed, would be precluded.</td></tr>
<tr><td>Timber: .25 mmbf/year not scheduled for harvest.</td><td>None</td><td>None</td><td>Same as A.</td></tr>
<tr><td>Minerals: None</td><td>None</td><td>None</td><td>4 miles of Wild River (1280 acres) would be withdrawn under the W&S Rivers Act. No known potential.</td></tr>
<tr><td colspan="4">Wild and Scenic River Values</td></tr>
<tr><td colspan="2">Without Construction of Middle Fork Segment 8 Diversions</td><td colspan="2" rowspan="5">OR values protected under the W&S Rivers Act.</td></tr>
<tr><td rowspan="2">OR values protected under Near Natural management.</td><td>Scenic: OR value degraded by timber management and road construction.</td></tr>
<tr><td>Wildlife: OR value degraded by timber management and road construction.</td></tr>
<tr><td colspan="2">With Construction of Middle Fork Segment 8 Diversions
This project could include several small impoundments and diversions on this segment. Free-flowing conditions and W&S River eligibility would be lost on the portions of the segment that are impounded and/or developed. Such developments would also have the following effects.</td></tr>
<tr><td colspan="2">Scenic: OR value lost on portions of the segment within view of the developments.</td></tr>
<tr><td colspan="2">Wildlife: OR value lost on portions of the segment due to disruption of bald eagle habitat and/or nesting.</td></tr>
<tr><td colspan="4">Administration Costs</td></tr>
<tr><td>None</td><td>None</td><td>None</td><td>Plan: $8,000
Annual: $4,000</td></tr>
</table>

Segment: **10 Beardsley Reservoir and Afterbay - Sand Bar** (3 miles)
Outstandingly Remarkable Values: **Fish Wildlife Historic/Cultural**
Classification: **Scenic**

<table>
<tr><th colspan="4">Alternatives</th></tr>
<tr><th>A, A1, C
Near Natural</th><th>B
Scenic Corridor</th><th>D
General Forest</th><th>E
Wild and Scenic River</th></tr>
<tr><td colspan="4">Foreseeable Potential Developments and Uses</td></tr>
<tr><td>Development: None</td><td>None</td><td>None</td><td>Potential diversions out of this segment would be precluded under the W&S Rivers Act. No current proposals; possible source of domestic water would be foregone. Expansion of the existing Spring Gap Powerhouse, located within the segment, would also be precluded. Upstream expansion of the existing powerhouse at Sand Bar, although not proposed, could be affected or precluded, depending on the W&S boundary adopted by Congress. Diversions out of Beardsley Reservoir or its Afterbay would not be affected.</td></tr>
<tr><td>Timber: .15 mmbf/year not scheduled for harvest.</td><td>None</td><td>None</td><td>Same as A.</td></tr>
<tr><td colspan="4">Wild and Scenic River Values</td></tr>
<tr><td colspan="3">Without Construction of Middle Fork Segment 10 Diversions</td><td rowspan="5">OR values protected under the W&S Rivers Act.</td></tr>
<tr><td>OR values protected under Near Natural management.</td><td colspan="2">Wildlife: OR value lost by disruption of bald eagle habitat and/or nesting, from timber management and road construction.</td></tr>
<tr><td colspan="3">With Construction of Middle Fork Segment 10 Diversions
This project could include several small impoundments and diversions on this segment. Free-flowing conditions and W&S River eligibility would be lost on the portions of the segment that are impounded and/or developed. Such developments would also have the following effects.</td></tr>
<tr><td colspan="3">Fish: OR value lost on portions of the segment due to impoundments and possible improved access to the River, allowing more recreation use.</td></tr>
<tr><td colspan="3">Wildlife: OR value lost on portions of the segment due to disruption of bald eagle habitat and/or nesting.</td></tr>
<tr><td colspan="4">Administration Costs</td></tr>
<tr><td>None</td><td>None</td><td>None</td><td>Plan: $3,000
Annual: $3,000</td></tr>
</table>

Segment: **12 Sand Bar - North Fork Stanislaus** (10.5 miles)
Outstandingly Remarkable Values: **Scenic Recreation Wildlife**
Classification: **Wild**

<table>
<tr><th colspan="4">Alternatives</th></tr>
<tr><th>A, A1, E
Wild and Scenic River</th><th>B
Scenic Corridor</th><th>C
Near Natural</th><th>D
General Forest</th></tr>
<tr><td colspan="4">Foreseeable Potential Developments and Uses</td></tr>
<tr><td>Development: Middle Fork alternative for the Griswold hydroelectric project would be precluded under the W&S Rivers Act. Potential power and income would be foregone. Downstream expansion of the existing powerhouse at Sand Bar, although not proposed, could be affected or precluded, depending on the W&S boundary adopted by Congress.</td><td>None</td><td>None</td><td>None</td></tr>
<tr><td>Minerals: 10.5 miles of Wild River (3360 acres) would be withdrawn from entry, under the W&S Rivers Act. Portions have moderate potential.</td><td>None</td><td>None</td><td>None</td></tr>
<tr><td>Timber: .15 mmbf/year not scheduled for harvest.</td><td>None</td><td>Same as A.</td><td>None</td></tr>
<tr><td colspan="4">Wild and Scenic River Values</td></tr>
<tr><td rowspan="6">OR values protected under the W&S Rivers Act.</td><td colspan="3">Without Construction Of The Griswold (Middle Fork) Hydro-Electric Project</td></tr>
<tr><td>Scenic: OR value degraded by timber management and road construction.</td><td rowspan="3">OR values protected under Near Natural management.</td><td rowspan="3">Same as B, except all OR values are lost due to an increased level of timber management and road construction. W&S River eligibility would be lost.</td></tr>
<tr><td>Recreation: OR value lost due to timber management, road construction and addition of motorized access.</td></tr>
<tr><td>Wildlife: OR value degraded by disruption of bald eagle habitat and/or nesting, from timber management and road construction.</td></tr>
<tr><td colspan="3">With Construction Of The Griswold (Middle Fork) Hydro-Electric Project
The preliminary proposals for this project include a possible powerhouse location on this segment. Free-flowing conditions and W&S River eligibility would be lost on any portions of the segment that may be impounded. The development would also have the following effects.</td></tr>
<tr><td colspan="3">Scenic: OR value lost on portions of the segment within view of the development.</td></tr>
<tr><td colspan="3">Recreation: OR value lost on portions of the segment within sight or sound of the developments. Visitor's expectations for a semi-primitive recreation experience would not be met.</td></tr>
<tr><td colspan="4">Administration Costs</td></tr>
<tr><td>Plan: $10,500
Annual: $ 5,250</td><td>None</td><td>None</td><td>None</td></tr>
</table>

Segment: **1 Headwaters - Pinecrest Lake** (14 miles)
Outstandingly Remarkable Values: **Scenic Recreation Geologic Other**
Classification: **Wild**

Alternatives			
A, A1 Near Natural	B Scenic Corridor	C, D General Forest	E Wild and Scenic River
Note: 10 mile portion in the Emigrant Wilderness is included as Alternate Management in alternatives A-D.			
Foreseeable Potential Developments and Uses			
Development: Existing Wilderness designation precludes development of the Granite Basin Project, within the Emigrant Wilderness, unless an exemption is granted by the President. These alternatives would not affect the potential reservoir sites which are outside the Wilderness.			Potential reservoir sites, including the Granite Basin Project in the Emigrant Wilderness, would be precluded under the W&S Rivers Act. The Granite Basin project was consider(both before and after the Emigrant Wilderness was designated in 1975. No current proposals; potential domestic water storage capacity would be foregone.
Minerals: None	None	None	4 miles of Wild River (1280 acres), outside Wilderness, would be withdrawn under the W&S Rivers Act. No known potential.
Timber: .1 mmbf/year not scheduled for harvest.	None	None	Same as A.
Wild and Scenic River Values			
Without Construction of Potential Reservoirs Within Wilderness: OR values protected under the Wilderness Act. Outside Wilderness: the effects would be as follows.			Within Wilderness: OR values protected through dual designation under the Wilderness Act and the W&S Rivers Act. Outside Wilderness: OR values protected under the W&S Rivers Act.
OR values protected under Near Natural management.	Scenic: OR value degraded by timber management and road construction	Scenic: OR value lost to increased level of timber management and road construction.	
	Recreation: OR value degraded by timber management, road construction of introduction of some and motorized access.	Recreation: OR value lost due to increased level of timber management, road construction motorized access.	
With Construction of Potential Reservoirs Development can occur in Wilderness, if an exemption is granted by the President. Free-flowing conditions and W&S River eligibility would be lost on any impounded portions of the segment. The developments would also have the following effects.			
Scenic: OR value lost since most portions of the segment would be within view of at least one of the developments.			
Recreation: OR value lost since most portions of the segment would be within sight or sound of a development. Visitor's expectations for semi-primitive and primitive recreation experiences would not be met.			
Other: OR value lost. (See Planning Records)			
Administration Costs			
None	None	None	Plan: $8,200 Annual: $7,000

Clark Fork

Segment: **1 Headwaters - Carson-Iceberg Wilderness** (8 miles)
Outstandingly Remarkable Values: **Scenic Historic/Cultural**
Classification: **Wild**

Alternatives	
A, A1, C, E Wild and Scenic River	B, D Wilderness
Wild and Scenic River Values	
OR values protected through dual designation under the Wilderness Act and the W&S Rivers Act.	OR values protected under the Wilderness Act.
Administration Costs	
Plan: $800 Annual: $800	None

Clark Fork

Segment: **2 Wilderness - Middle Fork Stanislaus** (9 miles)
Outstandingly Remarkable Values: **Scenic Recreation**
Classification: **Recreational**

Alternatives		
A, A1, C, E Wild and Scenic River	B Special Interest Area	D Wildlife
Foreseeable Potential Developments and Uses		
Minerals: None	SIA (2880 acres) would be with- drawn. Portion has moderate potential.	None
Timber: .15 mmbf/year not scheduled for harvest.	Same as A.	None
Wild and Scenic River Values		
OR values protected under the W&S Rivers Act.	OR values protected under SIA management.	None
Administration Costs		
Plan: $9,000 Annual: $9,000	No additional costs due to W&S designation, but costs to manage SIA would be similar to A.	None

Segment: **1 Bell Creek** (7 miles)
Outstandingly Remarkable Values: **Scenic Historic/Cultural Ecologic**
Classification: **6 Wild and 1 Scenic**

<table>
<tr><th colspan="4">Alternatives</th></tr>
<tr><th>A, A1, C
RNA/Wildlife</th><th>B
Wildlife</th><th>D
General Forest</th><th>E
Wild and Scenic River</th></tr>
<tr><td colspan="4">Note: 1 mile portion in the Emigrant Wilderness is included as Alternate Management in alternatives A-D.</td></tr>
<tr><td colspan="4">Foreseeable Potential Developments and Uses</td></tr>
<tr><td>Development: None</td><td>None</td><td>None</td><td>Potential Bell Meadow Reservoir would be precluded under the W&S Rivers Act. No current proposal; increased storage capacity for domestic water use in parts of Tuolumne County would be foregone.</td></tr>
<tr><td>Minerals: Bell Meadow RNA (490 acres) would be withdrawn. Area has moderate potential.</td><td>None</td><td>None</td><td>5 miles of Wild River outside Wilderness (1,600 acres) would be withdrawn under the W&S Rivers Act. Portion has moderate potential.</td></tr>
<tr><td>Timber: .1 mmbf/year not scheduled for harvest.</td><td>None</td><td>None</td><td>.4 mmbf/year not scheduled for harvest.</td></tr>
<tr><td colspan="4">Wild and Scenic River Values</td></tr>
<tr><td colspan="3">Without Construction of Bell Meadow Reservoir and Clavey Project
Within Wilderness: OR values protected under the Wilderness Act.
Outside Wilderness: the effects would be as follows.</td><td rowspan="5">Within Wilderness: OR values protected through dual designation under the Wilderness Act and the W&S Rivers Act.
Outside Wilderness: OR values protected under the W&S Rivers Act.</td></tr>
<tr><td rowspan="2">OR values, at Bell Meadow, protected under RNA management.</td><td>Scenic: OR value degraded by timber management and road construction.</td><td>Scenic: OR value degraded by timber management and road construction.</td></tr>
<tr><td>Ecologic: OR value, at Bell Meadow, degraded by timber management, road construction and introduction of some motorized access.</td><td>Ecologic: OR value, at Bell Meadow, lost due to increased level of timber management, road construction and motorized access.</td></tr>
<tr><td colspan="3">With Construction of Bell Meadow Reservoir
Free-flowing conditions and W&S River eligibility would be lost on the impounded portions of Bell Creek. The development would also have the following effects.</td></tr>
<tr><td colspan="3">Scenic: OR value lost due to construction of a reservoir, which would eliminate the variety of vegetation at Bell Meadow.</td></tr>
<tr><td colspan="3">Ecologic: OR value, at Bell Meadow, lost due to construction of a reservoir, which would eliminate the variety of vegetation at Bell Meadow. OR value, of all 5 Clavey segments (including Bell and Lily), lost due to construction of a reservoir, which would interrupt the free-flowing characteristics of the entire river system.</td></tr>
<tr><td colspan="3">With Construction of Clavey Project
The Clavey Project, with construction of a reservoir on Segment 4 of the Clavey, would have the following effects.</td></tr>
<tr><td colspan="3">Ecologic: OR value, of all 5 Clavey segments (including Bell and Lily), lost due to construction of a reservoir, which would interrupt the free-flowing characteristics of the entire river system (See Clavey Segment 4).</td></tr>
<tr><td colspan="4">Administration Costs</td></tr>
<tr><td>None</td><td>None</td><td>None</td><td>Plan: $12,300
Annual: $10,500</td></tr>
</table>

Segment: **2 Lily Creek** (11 miles)
Outstandingly Remarkable Values: **Ecologic**
Classification: **9 Wild and 2 Scenic**

Alternatives		
A, A1, B, C Wilderness/Wildlife	D Wilderness/General Forest	E Wild and Scenic River
Note: 5 mile portion in the Emigrant Wilderness is included as Alternate Management in alternatives A-D.		
Foreseeable Potential Developments and Uses		
Minerals: None	None	4 miles of Wild River (1,280 acres), outside Wilderness, withdrawn under the W&S Rivers Act. No known potential.
Timber: None	None	.1 mmbf/yr not scheduled for harvest
Wild and Scenic River Values		
Without Construction of Clavey Project Within Wilderness: OR values protected under the Wilderness Act. Outside Wilderness: the effects would be as follows.		Within Wilderness: OR values protected through dual designation under the Wilderness Act and the Act. Outside Wilderness: W&S Rivers OR values protected under the W&S Rivers Act.
OR values protected under Wildlife management.	Ecologic: OR value degraded by timber management and road construction.	
With Construction of Bell Meadow or Clavey Project Construction of a reservoir on Segment 1 or Segment 4 causes OR values and W&S River eligibility to be lost on the entire segment, with the following effects.		
Ecologic: OR value lost (See Clavey segment 1 and 4).		
Administration Costs		
None	None	Plan: $14,000 Annual: $16,000

Segment: **3 Bell Creek/Lily Creek - 3N01** (5 miles)
Outstandingly Remarkable Values: **Fish Ecologic**
Classification: **Scenic**

Alternatives		
A, A1, B, C Wildlife	D General Forest	E Wild and Scenic River
Foreseeable Potential Developments and Uses		
Timber: None	None	.6 mmbf/yr not scheduled for harvest
Wild and Scenic River Values		
Without Construction of Clavey Project		OR values protected under the W&S Rivers Act.
OR values protected under Wildlife management.	Ecologic: OR value degraded by timber management and road	
With Construction of Bell Meadow Reservoir The Bell Meadow Reservoir Project, with construction of a reservoir on Segment 1 of the Clavey, would have the following effects		
Ecologic: OR value lost (See Clavey Segment 1).		
With Construction of Clavey Project The Clavey Project, with construction of a reservoir on Segment 4, causes OR values and W&S River eligibility to be lost on the entire segment, with the following effects.		
Fish: OR value lost on segments 3, 4 and 5 of the Clavey due to construction of a reservoir, which would attract recreational fishing and lead to introduction of non-native fish populations.		
Ecologic: OR value lost (See Clavey segments 1 and 4).		
Administration Costs		
None	None	Plan: $15,000 Annual: $ 7,500

Segment: **4 3N01 - Cottonwood Road** (8 miles)
Outstandingly Remarkable Values: **Fish Wildlife Ecologic**
Classification: **4 Wild and 4 Scenic**

<table>
<tr><td colspan="3">Alternatives</td></tr>
<tr><td>A, A1, B, C
Wildlife</td><td>D
General Forest</td><td>E
Wild and Scenic River</td></tr>
<tr><td colspan="3">Foreseeable Potential Developments and Uses</td></tr>
<tr><td>Development: None</td><td>None</td><td>The proposed reservoir location for the Clavey Project would be precluded under the W&S Rivers Act. The reservoir would provide water storage for a hydro-electric project proposed for the Clavey and several of its tributaries. The proposed powerhouse would be located on the lower portion of Segment 5 of the Clavey. Potential power and source of revenue to pay for increased domestic water storage capacity at an enlarged Lyons Reservoir would be foregone.</td></tr>
<tr><td>Minerals: None</td><td>None</td><td>4 miles of Wild River (1,280 acres) would be withdrawn. Portions have moderate potential.</td></tr>
<tr><td>Timber: None</td><td>None</td><td>.8 mmbf/yr not scheduled for harvest</td></tr>
<tr><td colspan="3">Wild and Scenic River Values</td></tr>
<tr><td colspan="2">Without Construction of Clavey Project</td><td rowspan="8">OR values protected under the W&S Rivers Act.</td></tr>
<tr><td rowspan="2">OR values protected under Wildlife management.</td><td>Wildlife: OR value degraded by timber management and road construction.</td></tr>
<tr><td>Ecologic: OR value, degraded by timber management and road construction.</td></tr>
<tr><td colspan="2">With Construction of Bell Meadow Reservoir
The Bell Meadow Reservoir Project, with construction of a reservoir on Segment 1 of the Clavey, would have the following effects</td></tr>
<tr><td colspan="2">Ecologic: OR value lost (See Clavey Segment 1).</td></tr>
<tr><td colspan="2">With Construction of Clavey Project
Free-flowing conditions would be lost on the impounded portion of the segment. OR values and W&S River eligibility would be lost on the entire segment. The development would also have the following effects.</td></tr>
<tr><td colspan="2">Fish: OR value lost (See Clavey Segment 3).</td></tr>
<tr><td colspan="2">Wildlife: OR value lost due to construction of a reservoir, which would eliminate a significant portion of valuable habitat.</td></tr>
<tr><td colspan="2">Ecologic: OR value, of all 5 Clavey segments lost due to construction of a reservoir, which would interrupt the free-flowing characteristics of the entire river system.</td></tr>
<tr><td colspan="3">Administration Costs</td></tr>
<tr><td>None</td><td>None</td><td>Plan: $16,000
Annual: $ 8,000</td></tr>
</table>

Segment: **5 Cottonwood Road-Tuolumne** (16 miles)
Outstandingly Remarkable Values: **Scenic Recreation Fish Wildlife Ecologic**
Classification: **14 Wild and 2 Scenic**

<table>
<tr><th colspan="4">Alternatives</th></tr>
<tr><th>A, A1, C
Near Natural</th><th>B
Scenic Corridor</th><th>D
General Forest</th><th>E
Wild and Scenic River</th></tr>
<tr><td colspan="4">Foreseeable Potential Developments and Uses</td></tr>
<tr><td>Development: None</td><td>None</td><td>None</td><td>The proposed powerhouse location for the Clavey Project would be precluded under the W&S Rivers Act. The powerhouse would utilize water stored in a reservoir located on the Segment 4. W&S River designation would not preclude the reservoir location; however, the project would have to be downsized to include a powerhouse much closer to the reservoir. Potential power and source of revenue to pay for increased domestic water storage capacity at an enlarged Lyons Reservoir would be reduced or foregone.</td></tr>
<tr><td>Minerals: None</td><td>None</td><td>None</td><td>14 miles of Wild River (4,480 acres) would be withdrawn. Moderate potential on portions.</td></tr>
<tr><td>Timber: .1 mmbf/year not scheduled for harvest.</td><td>None</td><td>None</td><td>Same as A.</td></tr>
<tr><td colspan="4">Wild and Scenic River Values</td></tr>
<tr><td colspan="2">Without Construction of Clavey Project</td><td colspan="2" rowspan="11">OR values protected under the W&S Rivers Act.</td></tr>
<tr><td rowspan="4">OR values protected under Near Natural management.</td><td>Scenic: OR value degraded by timber management and road construction.</td></tr>
<tr><td>Recreation: OR value degraded by timber management, road construction and addition of motorized access.</td></tr>
<tr><td>Wildlife: OR value degraded by timber management and road construction.</td></tr>
<tr><td>Ecologic: OR value degraded by timber management and road construction.</td></tr>
<tr><td colspan="2">With Construction of Bell Meadow Reservoir
The Bell Meadow Reservoir Project, with construction of a reservoir on Segment 1, would have the following effects</td></tr>
<tr><td colspan="2">Ecologic: OR value lost (See Clavey Segment 1).</td></tr>
<tr><td colspan="2">With Construction of Clavey Project
Preliminary proposals for this project include a powerhouse and re-regulation reservoir on the lower portion of this segment. Free-flowing conditions and W&S River eligibility would be lost on the impounded portion of this segment. The development would also have the following effects.</td></tr>
<tr><td colspan="2">Scenic: OR value lost on portions of the segment within view of the development.</td></tr>
<tr><td colspan="2">Recreation: OR value lost on portions of the segment within sight or sound of the development. Visitor's expectations for a semi-primitive recreation experience would not be met.</td></tr>
<tr><td colspan="2">Fish: OR value lost (See Clavey Segment 3). Wildlife: OR value lost (See Clavey Segment 4).</td></tr>
<tr><td colspan="2">Ecologic: OR value lost (See Clavey segments 1 and 4).</td></tr>
<tr><td colspan="4">Administration Costs</td></tr>
<tr><td>None</td><td>None</td><td>None</td><td>Plan: $32,000
Annual: $16,000</td></tr>
</table>

South Fork Tuolumne

Segment: **2 Middle Fork Tuolumne - Tuolumne** (2 miles)
Outstandingly Remarkable Values: **Scenic Other**
Classification: **Scenic**

Alternatives			
A, A1, E Wild and Scenic River	B Scenic Corridor	C Special Interest Area	D General Forest
Foreseeable Potential Developments and Uses			
Development: South Fork Powerhouse location would be precluded under the W&S Rivers Act. No current proposal; potential power and income would be foregone. Potential reservoirs located above the Middle Fork confluence would not be affected.	None	None	None
Minerals: None	None	SIA (640 acres) would be withdrawn. No known potential.	None
Wild and Scenic River Values			
OR values protected under the W&S Rivers Act.	***Without Construction of South Fork Powerhouse Hydro-Electric Project***		
	Scenic: OR value degraded by timber management and road construction in adjacent areas.	OR values protected under SIA management.	Same as B.
	With Construction of South Fork Powerhouse Hydro-Electric Project This project could include impoundments, diversions and a powerhouse on this segment. Free-flowing conditions and W&S River eligibility would be lost on all impounded portions of the segment. The development would also have the following effects.		
	Scenic: OR value lost on portions of the segment within view of the development.		
Administration Costs			
Plan: $2,000 Annual: $1,000	None	None	None

Cherry Creek

Segment: **1 West Fork Cherry Creek** (15 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Alternatives	
A, A1, B, C, D Wilderness	E Wild and Scenic River
Wild and Scenic River Values	
OR values protected under the Wilderness Act.	OR values protected through dual designation under the Wilderness Act and the W&S Rivers Act. However, the attraction of W&S River designation may result in increased recreation use, with the following effects.
	Scenic: OR value degraded, immediately adjacent to the river area, by increased evidence of use.
Administration Costs	
None	Plan: $4,500 Annual: $3,000

Cherry Creek

Segment: **2 North Fork Cherry Creek** (13 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Alternatives	
A, A1, B, C, D Wilderness	E Wild and Scenic River
Wild and Scenic River Values	
OR values protected under the Wilderness Act.	Same as Cherry Creek, Segment 1.
Administration Costs	
None	Plan: $3,900 Annual: $2,600

Cherry Creek

Segment: **3 East Fork Cherry Creek** (14 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Alternatives	
A, A1, B, C, D Wilderness	E Wild and Scenic River
Wild and Scenic River Values	
OR values protected under the Wilderness Act.	Same as Cherry Creek, Segment 1.
Administration Costs	
None	Plan: $4,200 Annual: $2,800

Cherry Creek

Segment: **4 East/North Fork Cherry Creek - Cherry Lake** (10 miles)
Outstandingly Remarkable Values: **Scenic Geologic**
Classification: **Wild**

Alternatives	
A, A1, B, C, D Wilderness	E Wild and Scenic River
Wild and Scenic River Values	
OR values protected under the Wilderness Act.	Same as Cherry Creek, Segment 1.
Administration Costs	
None	Plan: $3,000 Annual: $2,000

Buck Meadow Creek

Segment: **Headwaters - West Fork Cherry Creek** (8 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Alternatives	
A, A1, B, C, D Wilderness	E Wild and Scenic River
Wild and Scenic River Values	
OR values protected under the Wilderness Act.	Same as Cherry Creek, Segment 1.
Administration Costs	
None	Plan: $2,400 Annual: $1,600

North Fork Merced

Segment: **Headwater - National Forest Boundary** (11 miles)
Outstandingly Remarkable Values: **Geologic Historic/Cultural Other**
Classification: **6 Wild and 5 Scenic**

Alternatives		
A, A1 Special Interest Area	B, C, D General Forest	E Wild and Scenic River
Foreseeable Potential Developments and Uses		
Minerals: SIA (1200 acres) would be withdrawn. Portions have high potential, with lead and gold occurrences.	None	6 miles of Wild River (1,920 acres) would be withdrawn under the W&S Rivers Act. Portions have high potential, with lead and gold occurrences.
Timber: .1 mmbf/year not scheduled for harvest.	None	Same as A.
Wild and Scenic River Values		
OR values protected under SIA management.	Other: OR value degraded. See Planning Records.	OR values protected under the W&S Rivers Act.
Administration Costs		
No additional costs due to W&S River designation, but cost to manage SIA would be similar to E.	None	Plan: $33,000 Annual: $16,500

Eagle Creek

Segment: **1 Headwater - Middle Fork Stanislaus** (7 miles)
Outstandingly Remarkable Values: **Other**
Classification: **5 Wild and 2 Scenic**

Alternatives			
A, A1 Special Interest Area	B Scenic Corridor	C, D General Forest	E Wild and Scenic River
Foreseeable Potential Developments and Uses			
Minerals: SIA (See Planning Records) would be withdrawn. Portion has high potential.	None	None	5 miles of Wild River (1600 acres) would be withdrawn under the W&S Rivers Act. Portion has high potential.
Timber: .1 mmbf/year not scheduled for harvest.	None	None	.2 mmbf/year not scheduled for harvest.
Wild and Scenic River Values			
OR values protected under SIA management.	Other: OR value degraded. See Planning Records.		OR values protected under the W&S Rivers Act. However, the attraction of W&S River designation may result in increased recreation use, with the following effects.
			Other: OR value degraded. See Planning Records.
Administration Costs			
None	None	None	Plan: $21,000 Annual: $10,500

Eagle Creek

Segment: **2 Long Valley Creek** (4 miles)
Outstandingly Remarkable Values: **Other**
Classification: **Scenic**

Alternatives			
A, A1 Special Interest Area	B Scenic Corridor	C, D General Forest	E Wild and Scenic River
Foreseeable Potential Developments and Uses			
Minerals: SIA (See Planning Records) would be withdrawn. No known potential.	None	None	None
Timber: .1 mmbf/year not scheduled for harvest.	None	None	.2 mmbf/year not scheduled for harvest.
Wild and Scenic River Values			
Same as Eagle, Segment 1			
Administration Costs			
None	None	None	Plan: $12,000 Annual: $ 6,000

Niagara Creek

Segment: **2 Highway 108 - Donnell Reservoir** (1 mile)
Outstandingly Remarkable Values: **Scenic Geologic**
Classification: **Scenic**

Alternatives		
A, A1, E Wild and Scenic River	B, D Scenic Corridor	C Special Interest Area
Foreseeable Potential Developments and Uses		
Development: Niagara Falls hydroelectric site would be precluded under the W&S Rivers Act. The site was studied in the early 1980's. No current proposal; potential power and income would be foregone. The proposed powerhouse would be located below the Falls, on the shores of Donnell Reservoir.	None	None
Minerals: None	None	SIA (320 acres) would be withdrawn. No known potential.
Timber: .1 mmbf/year not scheduled for harvest.	None	Same as A.
Wild and Scenic River Values		
OR values protected under the W&S Rivers Act.	***Without Construction of Niagara Falls Hydro-Electric Project***	
	Scenic: OR value degraded by timber management and road construction in and adjacent to the area.	OR values protected under SIA management.
	With Construction of Niagara Falls Hydro-Electric Project This project could include small impoundments, diversions, a penstock and a powerhouse. Free-flowing conditions and W&S River eligibility would be lost on any impounded portions. The development would also have the following effects.	
	Scenic: OR value lost on the entire segment due to the construction of facilities and de-watering of the Falls.	
Administration Costs		
Plan: $2,000 Annual: $1,000	None	No additional costs due to W&S designation, but costs to manage SIA would be similar to A.

Relief Creek

Segment: **Headwater - Summit Creek** (3 miles)
Outstandingly Remarkable Values: **Scenic**
Classification: **Wild**

Alternatives	
A, A1, B, C, D Wilderness	E Wild and Scenic River
Wild and Scenic River Values	
OR values protected under the Wilderness Act.	OR values protected through dual designation under the Wilderness Act and the W&S Rivers Act. However, the attraction of W&S River designation may result in increased recreation use, with the following effects.
	Scenic: OR value degraded, immediately adjacent to the river area, by increased evidence of use.
Administration Costs	
None	Plan: $900 Annual: $900

Bourland Creek

Segment: **Headwater - Reed Creek** (11 miles)
Outstandingly Remarkable Values: **Historic/Cultural Ecologic**
Classification: **2 Wild and 9 Recreational**

Alternatives		
A, A1 RNA and SIA	B, C, D General Forest	E Wild and Scenic River
Foreseeable Potential Developments and Uses		
Minerals: RNA (1,000 acres) and SIA (1 acre) would be withdrawn. Portion has moderate potential.	None	2 miles of Wild River (640 acres) would be withdrawn under the W&S Rivers Act. Portion has moderate potential.
Timber: .1 mmbf/year not scheduled for harvest.	None	1.1 mmbf/year not scheduled for harvest.
Wild and Scenic River Values		
OR values protected under RNA and SIA management.	Ecologic: OR value lost due to timber management and road construction in, and adjacent to, Bourland Meadow.	OR values protected under the W&S Rivers Act.
Administration Costs		
None	None	Plan: $33,000 Annual: $16,500

Disaster Creek

Segment: **Headwaters - Clark Fork** (5 miles)
Outstandingly Remarkable Values: **Other**
Classification: **Wild**

Alternatives	
A, A1, B, C, D Wilderness	E Wild and Scenic River
Wild and Scenic River Values	
OR values protected under the Wilderness Act.	OR values protected through dual designation under the Wilderness Act and the W&S Rivers Act. However, the attraction of W&S River designation may result in increased recreation use, with the following effects.
	Other: OR value degraded. See Planning Records.
Administration Costs	
None	Plan: $500 Annual: $500

Pacific Creek

Segment: **Headwaters - North Fork Mokelumne** (6 miles)
Outstandingly Remarkable Values: **Scenic Other**
Classification: **4 Wild and 2 Recreational**

Alternatives			
A, A1, B Near Natural/Wildlife	C Wildlife	D General Forest	E Wild and Scenic River
Foreseeable Potential Developments and Uses			
Minerals: None	None	None	4 miles of Wild River (1280 acres), outside Wilderness, would be withdrawn under the W&S Rivers Act. No known potential.
Timber: .2 mmbf/year not scheduled for harvest.	None	None	.3 mmbf/year not scheduled for harvest.
Wild and Scenic River Values			
OR values protected under Near Natural and Wildlife management.	Scenic: OR value degraded by timber management and road construction. Other: OR value degraded. See Planning Records.		OR values protected under the W&S Rivers Act; however, the attraction of W&S River designation may result in increased recreation use, with the following effects.
			Other: OR value degraded. See Planning Records.
Administration Costs			
None	None	None	Plan: $5,000 Annual: $6,000

Other Environmental Effects

This Section describes the adverse environmental effects that cannot be avoided; local short-term uses of the environment and the maintenance and enhancement of long-term productivity; irreversible and irretrievable commitment of resources; cumulative effects; and other effects of the alternatives.

Adverse Environmental Effects That Cannot be Avoided

Forest management direction, providing streamside protection, applies under all alternatives. Also, the statutory protection of the Wild and Scenic Rivers Act would apply to certain eligible segments in alternatives A, Al and C, and to all eligible segments in Alternative E. Therefore, without construction of foreseeable potential developments, none of the alternatives will have any significant, unavoidable, and unmitigatable adverse environmental effects. Alternatives A, Al, B, C and D include eligible river segments open to construction of foreseeable potential developments. Under each of those alternatives, potential site-specific, significant, unavoidable impacts and mitigation measures would be considered before approval, or denial, by the Forest Service and other Federal or State agencies.

Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

Forest management direction ensures that long-term productivity of the wildlife habitat, soil, water, and other resources is protected in all alternatives. Short-term uses that could occur through construction of foreseeable potential developments in alternatives A, Al, B, C and D would provide increased electric power or water supply, economic growth, and employment opportunities and could cause short-term and long-term environmental alterations. The potential benefits of precluded foreseeable potential developments would be foregone in alternatives A, Al, C and E. The potential effects on long-term productivity would be examined in a site-specific analysis for construction of any foreseeable potential development.

Irreversible and Irretrievable Commitment of Resources

Without construction of any foreseeable potential developments, none of the alternatives would have an irretrievable or irreversible commitment of resources. Wild and Scenic River designations, in alternatives A, Al, C and E would preclude some uses of the land and water; however, this does not represent a permanent expenditure of resources. Site-specific irreversible commitments of resources would be identified before construction of any foreseeable potential development, in alternatives A, Al, B, C and D.

Cumulative Effects

The Wild and Scenic River designations in alternatives A, Al, C and E would result in cumulative land management effects. On the Stanislaus National Forest, 40 miles of the Tuolumne and Merced Rivers are already included in the National Wild and Scenic Rivers System.

Alternative E would preclude the foreseeable potential developments on all 299 miles of eligible river segments. Developments that could occur in the other alternatives could contribute to the cumulative elimination of riparian habitat and free-flowing rivers in the State of California. Site-specific cumulative effects would be identified before construction of any foreseeable potential developments in alternatives A, Al, B, C and D.

Other Effects

Without construction of foreseeable potential developments, none of the alternatives would have unmitigatable effects on energy requirements; threatened or endangered species; historic and cultural resources; or sensitive riparian environments. Site-specific effects and mitigation measures would be identified before construction of any foreseeable potential development, in alternatives A, Al, B, C and D.

6. Distribution of the Study

The Draft Stanislaus National Forest Wild and Scenic River Study was included as Appendix E of the Draft Environmental Impact Statement (DEIS) for the Stanislaus National Forest Land and Resource Management Plan. Copies of the DEIS (and the River Study) were distributed to the following:

Local Agencies

Amador County, Water Resources
Calaveras County Water District
Contra-Costa/East Bay Municipal Utilities
County of Tuolumne
Hetch-Hetchy Water & Power
San Francisco Park & Recreation
San Francisco Water
Stanislaus County Air Pollution Control
Tuolumne County Agriculture Commission
Tuolumne Regional Water District
Turlock Irrigation District

Local Governments

Alpine County Board of Supervisors
Alpine County Public Works
Calaveras County Board of Supervisors
Mariposa County Board of Supervisors
Tuolumne County Board of Supervisors

State Agencies

Calaveras Big Trees State Park
California Department of Conservation
California Department of Fish & Game
California Department of Forestry & Fire
California Regional Water Quality Control
Department of Transportation
California State Clearinghouse

State Officials

Attorney General
Governor Pete Wilson

Federal Agencies

Bureau of Land Management
EIS Review Coordinator, EPA Region One
Eldorado National Forest
EPA-FALD, Office of Federal Activities
Rocky Mountain Forest & Range Experimental Station
Sierra National Forest
Soil Conservation Service
Toiyabe National Forest
Forest Service, Pacific Southwest Region
US Department of Interior
Yosemite National Park
Yosemite Wilderness Office

Federal Officials

Gary Condit - US House
Alan Cranston - US Senate
Richard Lehman - US House

Libraries

Alpine County Library
Calaveras County Public Library
Columbia College Library
General Library, Berkeley, CA
J. Paul Leonard Library
Mariposa County Free Library
Oakland Public Library
Public Library of Stockton & San Joaquin
Sacramento Public Library
San Francisco Public Library
San Jose Public Library
Stanislaus County Public Library
State Library Governmental Documents
Tuolumne County Library

News Media

KVML
Modesto Bee
Sacramento Bee
San Jose Mercury News
Sierra Sentinel News
Stockton Record
Union Democrat

Organizations and Groups

American Land Conservancy
American Motorcycle Association
American Rivers
American Wildlands
Associated California Loggers
Audubon Central Sierra
Back Country Horseman
Blue Ribbon Coalition
California Native Plant Society
California Reforestation
California Sportfishing Protection
California Trout
California Wilderness Coalition
Camp Tawonga
Central Sierra Env. Resource Center
Central Sierra Planning Council
Certified Forest Service
Clean Water Action
Cold Springs Water Company
ECHO River Trips
4WD Association
Easy Reader
Ebbetts Pass Community
Fibreboard Corporation
Friends of the River
Forest Slopes Management
Forest Watch
Georgia Pacific Industries
Eldorado Logging
Highway 120 Association
Lakemont Pines Homeowner's
Merced Canyon Committee
Merced Dirt Riders
Michigan-California Lumber Company
Modesto 4WD
Modesto Houndsmen Association
Natural Heritage Institute
National Soil Survey Lab
Norby Lumber Company
Pacific, Gas & Electric
Pine Mountain Lake Board of Directors
Price Trust
Project Safe Resource Decision
Rio Tierra Fundamental School
Tu-CARE
Scenic Shoreline
Sequoia Trust Industries
Sierra Club, Northern California-Nevada
Sierra Club, Bay Chapter
Sierra Mac River Trips
Sierra Pacific Industries
Strawberry Property Owner's Association
Timber Association of California
Tuolumne County Trails Council
United 4WD Association
Western Forest Industries
Western Mining Council
Western Wood Products
Wilderness Society

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Baiocchi, Bob
Baisdon, Mike
Baker, Brian
Baker, Karen & Ron
Baker, Therese
Ball, John
Ballew, Larry
Bargmann, John
Barsanti, Cris
Barse, Jeremiah
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Basey, Harold
Battarini, Richard
Battat, Karin
Bearden, Kelly
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Brady, Eva M.
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Braun, Bill
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Brown, Clara & Curt
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Buckingham, Michael
Buckley, John
Bunt, Walter K.
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Burton, Jim
Bush, Curtis H.
Byram, Patrick
Campana, Kathi
Campbell, Rochelle
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Cartwright, Mary
Cashell, Lois
Chadd, Brian
Chalmers, Walt
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Christensen, Ann
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Enget, Erlend Vold
Engstrom, Bruce
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Esch, Fred
Estep, Fred
Evans, Steve
Faddis, Eleanor & Roy
Fails, Jason
Faught, Jimmy
Fedderly, Trish & Jim
Feeney, Jim
Felte, Steve
Fessenden, Price
Finn, David
Fischer, A.J. & E.
Fish, Roberta
Fiske, Ellen & John
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Ford, Tim
Frederick, Earl M.
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Gano, JoEllen
Geddes, Ernie
Gerstung, Eric
Gibson, John
Gilbert, Bob
Gilbert, Virginia & Bob
Gill, Janice
Goldberg, Rob
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Goodrich, Linny
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Hamari, Don
Hancock, David
Hanley, David
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Harrell, Dave
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Senger, Bill
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Sims, Roger
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Snyder, John
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Soper, Barbara
Souder, Dr. Jon
Spencer, Sol
Spitzer, Elizabeth
Starr, Judith
Starr, Sharon
Steele, Sue
Stein, Mark
Stephens, Judy
Stern, Susan
Stirland, Bern
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Stone, Patrick
Storm, Donald
Straus, Jeff
Stroh, Malen
Strojan, Les
Swanke, Bart
Swanson, John R.
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Thorton, Mark V.
Thoshinsky, David
Tillema, Beverly
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Verill, Wayne
Vick, Al
Voytilla, Ben
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Weinkle, Dick
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7. List of Preparers

The River Study Team, with guidance and direction from the Forest Management Team, prepared this Wild and Scenic River Study. Team members were:

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Calvin B. Bird (Forest Planning Officer)
Humboldt State University - BS, Forestry (1972)
Forest Service experience since 1972, including District Ranger and Planning Officer; Stanislaus Planning Officer since 1988.

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River Study Team

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Rutgers University - BS, Landscape Architecture (1976)
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Stephen R. Robertson (District Resource Officer)
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Utah State University - BS, Fishery Management (1974)
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Forest Service experience since 1988, as Fisheries Biologist; 9 years with BLM as Fisheries Biologist; Stanislaus Fisheries Biologist since 1988.

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Forest Service experience since 1978, as Economist and Operations Research Analyst; Stanislaus Economist since 1984.

8. Glossary

The Stanislaus National Forest Wild and Scenic River Study is included as Appendix E of the Environmental Impact Statement (EIS) for the Stanislaus National Forest Land and Resource Management Plan. Appendix F of the EIS includes a full glossary. This Glossary lists the abbreviations and terms that are used throughout this River Study.

AF	Acre Feet
Aft	Afterbay
Bdy	Boundary
Conf	Confluence
Cr	Creek
DEGR	Degraded
DEIS	Draft Environmental Impact Statement
ECOL	Ecologic
EF	East Fork
EIS	Environmental Impact Statement
GEOL	Geologic
H/CR	Historic/Cultural Resource
LIT	Little
LWCF	Land and Water Conservation Fund
MDW	Meadow
MF	Middle Fork
MMBF	Million Board Feet
MW	Megawatts
NF	North Fork
NN	Near Natural
Nr	Near
OR	Outstandingly Remarkable
OTHR	Other (See the Planning Records)
PROT	Protected
RES	Reservoir
SCEN	Scenic
SF	South Fork
SIA	Special Interest Area
REG	Recreational Classification
RECR	Recreation
RNA	Research Natural Area
USDA	United States Department of Agriculture
W	Wilderness
WDLF	Wildlife
WF	West Fork

9. References

California Department of Water Resources. California State Water Bulletin. (1976) Sacramento, CA.

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10. Public Response

The Draft Stanislaus National Forest Wild and Scenic River Study was included as Appendix E of the Draft Environmental Impact Statement (DEIS) for the Stanislaus National Forest Land and Resource Management Plan. The documents were available for a 120 day public review and comment period which ended on February 26, 1991. All public comments, including those from letters and public meetings, were recorded. Similar comments (total follows each comment below) were combined into representative statements. Appendix N of the EIS shows the process used to respond to public comments on the entire DEIS. This Chapter includes the Wild and Scenic River comments and the Forest Service response to each. The comments are divided into a general category and those addressing individual rivers.

General

1. Comment: What makes a river eligible for Wild and Scenic River designation? (2)

   Response: Section 2(b) of the Wild and Scenic Rivers Act (1968 as amended) states that a river must be free-flowing and possess one or more outstandingly remarkable values in order to be eligible for inclusion to the National Wild and Scenic River System. The National Wild and Scenic Rivers System; Final Guidelines for Eligibility, Classification and Management of River Areas of 1982 (1982 Final Guidelines) provide further direction for determining free-flowing conditions and outstandingly remarkable values.

2. Comment: What happens if an eligible river is not designated as a Wild and Scenic River? The Forest Service should hold up and not allow dams. (1)

   Response: Congress has the final authority to designate Wild and Scenic Rivers. Federal agencies are required to provide protection for Study Rivers that are found eligible, until suitability determinations are made. Once an eligible river is determined unsuitable, the river is subject to the normal FERC permit process for licensing and construction of hydro-electric developments. To the extent of Forest Service authority, no water or hydro-electric development would be permitted on river segments that are determined suitable and recommended for Wild and Scenic River designation.

3. Comment: What role does the Forest Plan have in Congressional decisions on Wild and Scenic River designations? (1)

   Response: The Forest Plan, through the Wild and Scenic River Study, includes the first set of steps in the Wild and Scenic River designation process:

   a. Study Rivers are identified (all major rivers and streams in this case).

   b. Determine eligibility (a river, or segment, must be free-flowing and possess at least one outstandingly remarkable value).

   c. Determine recommended Classifications (Wild, Scenic, or Recreational) based on existing conditions.

   d. Determine Suitability (provide the basis for the decision to recommend designation or non-designation).

   Once the Forest Plan is approved and implemented, the Wild and Scenic River recommendations may be modified by the Chief of the Forest Service, the Secretary of Agriculture, and the President. The President then forwards the final recommendations to Congress where lies the final authority to add components to the National Wild and Scenic River System.

4. Comment: Your eligibility assessments and suitability decisions need re-analysis. (7)

   Response: The eligibility assessments and suitability determinations have been revisited. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

5. Comment: Many of the rivers and streams assessed for eligibility were overly segmented. This is a particular problem with the Clavey and its tributaries (Bell, Bourland and Reed Creeks) as well as the Middle and South Forks of the Tuolumne. (3)

   Response: The 1982 Final Guidelines state that: "For the purpose of study and determining eligibility and classification, the river area may be divided into segments." It goes on to say that: "There are no specific requirements concerning the length or the flow of an eligible river segment. A river segment is of sufficient length if, when managed as a wild, scenic or recreational river, the outstandingly remarkable values are protected. Flows are sufficient if they sustain or complement the outstandingly remarkable values for which the river would be designated."

   The Forest identified logical segments for each river and stream. This process considered items such as major confluences, impoundments, road crossings, potential classifications, and ease of management. We do not believe the rivers to be overly segmented; in fact, of those listed above, Bell Creek, Bourland Creek, Reed Creek, and the Middle Fork Tuolumne River are each only one segment.

6. Comment: Many of the rivers and streams assessed for eligibility were not segmented enough to insure proper classification. This is a particular problem on Bell Creek, Eagle Creek, Bull Creek and the North Fork Merced. (2)

   Response: See the response to comment #5. The Forest did not fail to insure proper classification. In fact, due to the location of outstandingly remarkable values, portions of all of the streams listed above would no longer be eligible if further segmented.

   The Wild and Scenic River Study recommends classifications that are most appropriate for each eligible segment. Depending on whether Congress legislates the classifications, the recommendations can be further refined through alternatives developed in the required Boundary and Classification environmental analysis.

7. Comment: The Forest failed to identify all outstandingly remarkable values on portions of the Clavey River, Bourland Creek, Reed Creek, South Fork Tuolumne River, Cherry Creek and Niagara Creek. (4)

   Response: The 1982 Final Guidelines state that: "The determination of whether a river area contains outstandingly remarkable values is a professional judgment on the part of the study team." The eligibility assessments and suitability determinations have been revisited. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

8. Comment: Private inholdings should be assessed and the existence of inholdings should not have any impact on eligibility or suitability determinations. (2)

   Response: All lands within the Stanislaus National Forest boundary, including private and State Park, were assessed in the Draft Wild and Scenic River Study. Confusion on this issue was due to the computer generated management area maps which only colored National Forest land. The Wild and Scenic River Map (I-4, Draft Plan) clearly showed that all lands were included in the study. The Draft River Study also showed land status for each stream that included National Forest and all other lands.

9. Comment: Recommend the tributaries of the Tuolumne for Wild and Scenic Status, including the Clavey River and its tributaries (Bell, Bourland, lower Reed, and Reynolds Creeks), Cherry Creek, Middle and South Forks Tuolumne River. (358)

   Response: The Forest studied 900 miles of rivers and streams for eligibility and suitability as Wild and Scenic Rivers. The DEIS listed 300 miles as eligible; the Draft Plan proposed to recommend 120 additional miles of Wild and Scenic Rivers. The values of the remaining 180 eligible miles were proposed for Alternative Management. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

10. Comment: Do not recommend any more river or stream segments for Wild and Scenic River designation; local water supply options are not utilized. (61)

    Response: Section 1(b) of the Wild and Scenic Rivers Act (1968 as amended) states that: "...selected rivers of the Nation... shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes."

    The eligibility assessments and suitability determinations have been revisited. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

11. Comment: All or portions of the six streams recommended for classification are a far cry from the original intent of the Wild and Scenic Rivers Act. (1)

    Response: Section 1(b) of the Wild and Scenic Rivers Act (1968 as amended) states that: "...selected rivers of the Nation... shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes."

    The Wild and Scenic River Study was conducted according to direction set forth in the Wild and Scenic Rivers Act and the 1982 Final Guidelines, which clarify the terms "river", "segment" and "free-flowing".

12. Comment: Since the Act prohibits all sorts of crossings, possible future needs for these streams are permanently prohibited. (1)

    Response: The Wild and Scenic Rivers Act and the 1982 Final Guidelines do not prohibit all sorts of crossings or any other developments for that matter, with the exception of new impoundments or diversions. Under all three classifications (Wild, Scenic and Recreational), existing improvements are allowed. Scenic classification allows for occasional roads, crossings and other improvements. Recreational classification allows for a wide variety of uses and improvements. The individual Wild and Scenic River management plans will identify and provide direction for the site specific uses and improvements allowed on each river.

13. Comment: The 1985 DEIS proposed no more Wild and Scenic Rivers, while in 1990, 120 miles were proposed. The Forest must be responding to an allocation or target forced upon it.(1)

    Response: The 1985 DEIS did propose to recommend a river for Wild and Scenic River designation. Regardless of that fact, the two studies were entirely different in scope and result:

The 1985 DEIS included a Draft Wild and Scenic River Study that evaluated the 115 miles of rivers on the Forest, that were identified in the Nationwide Rivers Inventory. 78 miles (68% of the inventory) were found eligible for Wild and Scenic River designation and the preferred alternative proposed to recommend 19 miles (16% of the inventory) of the North Fork Mokelumne River. The 1990 DEIS included a comprehensive Draft Wild and Scenic River Study that evaluated 900 miles of rivers and streams on the Forest. 300 miles (33% of the inventory) were found eligible for Wild and Scenic River designation and the preferred alternative proposed to recommend 120 miles (13% of the inventory) of various rivers and streams.

No allocation or target for miles of Wild and Scenic River was given to the Stanislaus through higher Forest Service channels. All additional Wild and Scenic River mileage figures, given by the Forest Service and/or quoted in the Regional Forester's Environmental Agenda, included only those rivers that were recommended in published draft Forest Plans and previously approved Final Forest Plans.

14. Comment: Wild and Scenic River designations will have effects beyond the 1/4 mile corridor. (2)

    Response: Once a Wild and Scenic River is designated by Congress, river boundaries must be established and a management plan must be prepared. According to the Wild and Scenic Rivers Act, the management plan for the river and its corridor, must include direction to protect and enhance the Wild and Scenic River values. Areas outside the established corridor will be managed according to the applicable management area direction and prescriptions contained in the Forest Plan.

15. Comment: The Forest Service prepared the Wild and Scenic Study in violation of Chapter 8, Section 8.23 of the Forest Service Handbook, the 1982 Final Guidelines and NEPA. (3)

    Response: The Wild and Scenic River Study was conducted within the Forest Planning and NEPA processes, according to direction set forth in the Wild and Scenic Rivers Act, the 1982 Final Guidelines and Chapter 8 of the Forest Service Land and Resource Management Planning Handbook. The Handbook provides for identification of study rivers during the Forest planning process.

    The River Study includes descriptions of each river and identification of values that would merit Wild and Scenic River eligibility. It also includes discussions of the land status, potential uses and management concerns. In addition, alternatives are presented and environmental consequences are revealed. Rivers that were found eligible were considered for suitability within the framework of each alternative.

    There were several opportunities for public comment throughout the NEPA process:

    a. The 1985 DEIS included a Draft Wild and Scenic River Study that evaluated 115 miles of rivers on the Forest. 78 miles were found eligible for Wild and Scenic River designation; including, the North Fork Mokelumne, North Fork Stanislaus, and portions of the Clavey and South Fork Tuolumne. A public comment period followed publication of that DEIS.

    b. The 1990 DEIS included a Draft Wild and Scenic River Study that evaluated 900 miles of rivers and streams on the Forest. 300 miles were found eligible for Wild and Scenic River designation. A public comment period followed publication of that DEIS.

    The eligibility assessments and suitability determinations have been revisited. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

16. Comment: Specific management direction, to protect Wild and Scenic Rivers, should incorporate the requirements of the Wild and Scenic Rivers Act, Forest Service Handbook and the 1982 Final Guidelines. (1)

Response: This direction was contained within the emphasis statement for the Wild and Scenic River Management Area (Draft Plan, Chapter IV). In the Final Plan it is now repeated as general direction under the management practice for Wild and Scenic River Management.

17. Comment: Wild and Scenic River Standards and Guidelines should be revised to prohibit new dams and diversions and to incorporate recommended changes in the following management practices: Fish and Wildlife Improvements; Range; Recreation; Special Cutting; Roads; Visual Quality Objectives; and, Wild and Scenic River Management. (1)

    Response: The Final Plan now includes management direction to protect proposed Wild and Scenic Rivers, to the extent that Forest Service authority allows. Standards and Guidelines in the Final Plan, for the management practices mentioned in the comment, are as follows.

    Fish Habitat Improvements (5-B): The fish and wildlife standards and guidelines for Wild and Scenic Rivers have been revised.

    Allotment Management (9-A-2&3): The range standards and guidelines for Wild and Scenic Rivers have been revised.

    ROS (10-B-1,2,3&4): The recreation standards and guidelines for Wild and Scenic Rivers have been revised. However, it must be noted that there is some overlap between river classification and Recreation Opportunity Spectrum (ROS) classes: All rivers within Wilderness are all ROS Primitive; Wild rivers outside Wilderness are all ROS Semi-Primitive Non-Motorized (SPNM); Scenic and Recreational rivers may fall into either ROS SPNM, Semi-Primitive Motorized (SPM), or Roaded Natural (RN); The standards and guidelines now refer to the ROS map which shows the adopted ROS classes for the Forest.

    Special Cutting (15-I): Special cutting methods are provided as needed to protect and enhance Wild and Scenic River values. This would include trail clearing and hazard tree removal. No timber harvest is scheduled on any Wild and Scenic River, regardless of the classification.

    Fuelwood and Miscellaneous Forest Products (15-M): The general direction allows this practice to occur only on Scenic and Recreational rivers and then only when Wild and Scenic River values can be protected. This type of practice is appropriate and it can actually be used to help protect and enhance other river values.

    Road Construction and Reconstruction (16-A): The forestwide standards and guidelines and management area direction for the Visual Quality Objective (VQO) Retention provide the needed protection for Scenic rivers.

    VQO (17-B-1&2): The visual standards and guidelines for Wild and Scenic Rivers have been revised. However, it must be noted that there is some overlap between river classifications and the adopted VQOs: Wild rivers within Wilderness are all VQO Preservation; Wild, Scenic and Recreational rivers outside Wilderness are all VQO Retention. The VQO Partial Retention is not the adopted level or a goal. However, some proposed Recreational rivers exist in a condition equal to Partial Retention. This is an acceptable interim level for the landscapes of Recreational rivers, with a goal of being upgraded to Retention over time through natural processes or rehabilitation.

    Wild and Scenic River Management (19-B): these standards and guidelines are consistent with Forest Service policy and will be used in conjunction with the management plans of each river.

18. Comment: The Wild and Scenic River Study should include data on the potential adverse impacts of designation on supplies of water and electricity for each of the identified water resource development projects. (2)

Response: The Final River Study now includes the best available information on the effects of the Wild and Scenic River designations on all known foreseeable potential developments. Since the River Study solely determines Wild and Scenic River suitability, it does not identify the site-specific effects on, or of, the potential developments.

19. Comment: Sensible logging or grazing will not hurt the wild or scenic qualities of a river; footbridges, campsites, garbage cans and boat docks will. (1)

    Response: The Wild and Scenic Rivers Act and the 1982 Final Guidelines do not prohibit all logging and grazing, or any other developments for that matter. Under all three classifications (Wild, Scenic and Recreational), existing improvements and uses such as grazing are allowed. Special harvest of timber is also allowed if river values can be protected or enhanced. Scenic classification allows for a variety of uses, occasional roads, crossings and other improvements. Recreational classification allows for a wide variety of uses and improvements. The individual Wild and Scenic River management plans will identify and provide direction for the site-specific uses and improvements allowed on each river.

20. Comment: Designate all eligible river and streams as Wild and Scenic Rivers. (194)

    Response: The Forest Service can study and make recommendations, but only Congress has the final authority to designate Wild and Scenic Rivers. The Wild and Scenic River Study considers and evaluates Alternative E which would recommend all eligible segments for Wild and Scenic River designation. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

21. Comment: Opposed to Wild and Scenic River designations that will eliminate existing off-highway vehicle opportunities; these designations create road blocks to long distance touring. (6)

    Response: The Wild and Scenic River recommendations of the Stanislaus Forest Plan do not eliminate existing OHV opportunities or create road blocks for long distance touring. The Wild and Scenic Rivers Act and the 1982 Final Guidelines do not prohibit OHV use, crossings or any other developments for that matter, with the exception of new impoundments or diversions (See the response to comment #12). Under all three classifications (Wild, Scenic and Recreational), existing improvements and uses are allowed. Scenic classification allows for occasional roads, crossings and other improvements. Recreational classification allows for a wide variety of uses and improvements. The individual Wild and Scenic River management plans will identify and provide direction for the site-specific uses and improvements allowed on each river. The required Forest OHV Plan will evaluate and identify opportunities for long distance touring. The river management plans and the OHV Plan will be prepared to conform with the direction that is contained in the Forest Plan.

22. Comment: Endorses the Wild and Scenic River recommendation for the South Fork Stanislaus and the North Fork Merced. (2)

    Response: Portions of the South Fork Stanislaus and the North Fork Merced were found eligible, but not suitable in the Draft River Study. However, the outstandingly remarkable values would be protected through proposed Alternative Management such as Near Natural and Special Interest Areas. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

23. Comment: The Wild and Scenic River Study is inconsistent and does not adequately document the existence of any outstandingly remarkable values on the North and Middle Forks Stanislaus River, that would justify their inclusion in the National Wild and Scenic Rivers System. (1)

    Response: The 1982 Final Guidelines state that: "The determination of whether a river area contains outstandingly remarkable values is a professional judgment on the part of the study team." The eligibility assessments and suitability determinations have been revisited. All of the public comments

that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

North Fork Mokelumne River

24. Comment: Recommend the entire North Fork Mokelumne River for Wild and Scenic River designation (from Tiger reservoir downstream, except for Salt Springs Reservoir). (2)

    Response: The North Fork Mokelumne River, from its source at Highland Lakes to Salt Springs Reservoir, will be recommended for Wild and Scenic River designation. By agreement with the Eldorado National Forest, the Stanislaus is responsible for studies and recommendations for the portion of the North Fork Mokelumne River above Salt Springs Reservoir, while the Eldorado is responsible for the area below. Therefore, this Forest Plan does not address the portion of that river below Salt Springs.

North Fork Stanislaus River

25. Comment: Recommend the North Fork Stanislaus for Wild and Scenic River designation; include private and State lands and oppose and hydro development. (112)

    Response: Portions of the North Fork Stanislaus River were found eligible and the DEIS proposed to recommend all eligible segments for Wild and Scenic River designation. The eligibility assessments and suitability determinations have been revisited. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

    All lands, including the Calaveras Big Tree State Park, along the North Fork Stanislaus River were assessed in the Wild and Scenic River Study (See response to comment #8).

    The Forest Service is required to provide protection for Study Rivers that are found eligible, until suitability determinations are made. Once an eligible river is determined unsuitable, the river is subject to the normal FERC permit process for licensing and construction of hydro-electric developments. To the extent of Forest Service authority, no water or hydro-electric development would be permitted on river segments that are determined suitable and recommended for Wild and Scenic River designation.

26. Comment: Why is the North Fork Stanislaus rated outstandingly remarkable for Scenic value, while Highland Creek is not? They are both similar. (1)

    Response: The 1982 Final Guidelines state that: "The determination of whether a river area contains outstandingly remarkable values is a professional judgment on the part of the study team." The study team determined that the scenic values on the North Fork Stanislaus (from the Highland Creek confluence to the Middle Fork confluence) were significant from a regional context and met the criteria for outstandingly remarkable, while Highland Creek did not.

27. Comment: The Draft Wild and Scenic River Study states that many cultural sites are known along all segments of the North Fork Stanislaus (page E-9), while another section (page E-4) states that only 4 sites have been located. (1)

    Response: The statement on page E-4 was based on information that is now outdated. This confusion has been eliminated from the Final River Study.

Middle Fork Stanislaus River

28. Comment: We want watershed-level protection for the Middle Fork Stanislaus River, including Clark Fork, Disaster, Deadman, Kennedy, Relief, Eagle, Long Valley, Niagara and Cow Creeks. (2)

    Response: The Forest studied 900 miles of rivers and streams for eligibility and suitability as Wild and Scenic Rivers. The DEIS listed 300 miles as eligible; the Draft Plan proposed to recommend 120 additional miles of Wild and Scenic Rivers. The values of the remaining 180 eligible miles were proposed for Alternative Management. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

29. Comment: The lower 2 miles of the Middle Fork Stanislaus Segment 12, from the North Fork Stanislaus confluence to Clark Flat is actually the main stem Stanislaus. (1)

    Response: This has been corrected in the Final River Study, which now shows the Stanislaus River (actually 1.5 miles) as a separate study segment.

30. Comment: The mileage shown for Segment 12 of the Middle Fork Stanislaus in Table 3 (page E-57 of the Draft Study) is 12, however on page II-22 of the DEIS it is listed as 9 miles. (1)

    Response: Table 3 (E-57) showed that 12 miles were eligible, while page II-22 showed that 9 miles were recommended. Table 4 (E-65) also indicated that of the 12 miles eligible, 9 were recommended for Wild classification and 3 miles for Near Natural management.

31. Comment: The conclusion that the Middle Fork Stanislaus Segment 12 offers possible whitewater boating is unsupportable. (1)

    Response: Several outfitter/guides have expressed an interest in boating this section of the river. The outstandingly remarkable recreation value is based only on hiking, fishing and semi-primitive experience opportunities.

32. Comment: The historic features on segments 6, 8 and 10 of the Middle Fork Stanislaus are incompatible with the classifications given and should not be the basis for designating those portions of the river. (1)

    Response: The 1982 Final Guidelines state that: "The determination of whether a river area contains outstandingly remarkable values is a professional judgment on the part of the study team." The Guidelines further state that: "The existence of a few inconspicuous structures, particularly those of historic or cultural value need not bar Wild classification." Scenic classification allows "The presence of small communities or dispersed dwellings." Recreational classification allows "The presence of extensive residential development and a few commercial structures." The eligibility assessments and suitability determinations have been revisited. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

Clavey River

33. Comment: Recommend the Clavey River for Wild and Scenic River designation. (929)

    Response: A portion of the Clavey River was found eligible for Wild and Scenic River designation in the Draft River Study. The eligibility assessments and suitability determinations have been revisited. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

34. Comment: Do not recommend the Clavey for Wild and Scenic River designation. (14)

Response: See response to comment #33.

35. Comment: The California Wilderness Act of 1984 set aside the Clavey River for water power development. (1)

    Response: The California Wilderness Act of 1984 did not set aside the Clavey River for water power development. It did, however, designate the Tuolumne as a Wild and Scenic River with a provision that designation of the Tuolumne shall not preclude the licensing, development, or maintenance of water resource facilities on those portions of the Clavey and certain other tributaries of the Tuolumne that are outside of the designated boundary of the Tuolumne Wild and Scenic River. This provision means that the Tuolumne River is not subject to Section 7(a) of the Wild and Scenic Rivers Act that would normally preclude the licensing of any project proposed on the Clavey if such project would "invade or unreasonably diminish the scenic, recreational, or fish and wildlife values of the Tuolumne Wild and Scenic River. The Clavey River, which is listed as a study river in the Nationwide Rivers Inventory, is still subject to the remaining portions of the Wild and Scenic Rivers Act: the Clavey must be studied for Wild and Scenic River eligibility and any segments found eligible must be protected until a suitability determination is completed.

36. Comment: The Clavey River should have outstandingly remarkable values for Recreation, Fish, Wildlife, Cultural Resources and Ecologic. (561)

    Response: The 1982 Final Guidelines state that: "The determination of whether a river area contains outstandingly remarkable values is a professional judgment on the part of the study team." The eligibility assessments and suitability determinations have been revisited. All of the public comments that addressed Wild and Scenic Rivers have been considered. The results are incorporated into the final Wild and Scenic River Study (EIS, Appendix E).

37. Comment: Damming of the Clavey will have serious effects on its watershed and fish. (37)

    Response: The Final River Study now includes the best available information on the effects of the alternatives on river values. Since the Study solely determines Wild and Scenic River suitability, it does not identify the site-specific effects on, or of, the potential developments.

    The Forest Service is required to provide protection for Study Rivers that are found eligible, until suitability determinations are made. Once an eligible river is determined unsuitable, the river is subject to the normal FERC permit process for licensing and construction of hydro-electric developments. To the extent of Forest Service authority, no water or hydro-electric development would be permitted on river segments that are determined suitable and recommended for Wild and Scenic River designation.