United States
Department of
Agriculture

FOREST SERVICE
PACIFIC
SOUTHWEST
REGION

NATIONAL
WILD AND SCENIC
RIVERS SYSTEM

KINGS RIVER

NATIONAL
WILD AND SCENIC
RIVERS SYSTEM

SOUTHFORK KINGS RIVER

NATIONAL
WILD AND SCENIC
RIVERS SYSTEM

MIDDLE FORK KINGS RIVER

AN ENVIRONMENTAL ASSESSMENT

Middle Fork, South Fork and The Kings Wild and Scenic Rivers Fresno County, California

USDA FOREST SERVICE

Sierra National Forest, Kings River Ranger District

Sequoia National Forest, Hume Lake Ranger District

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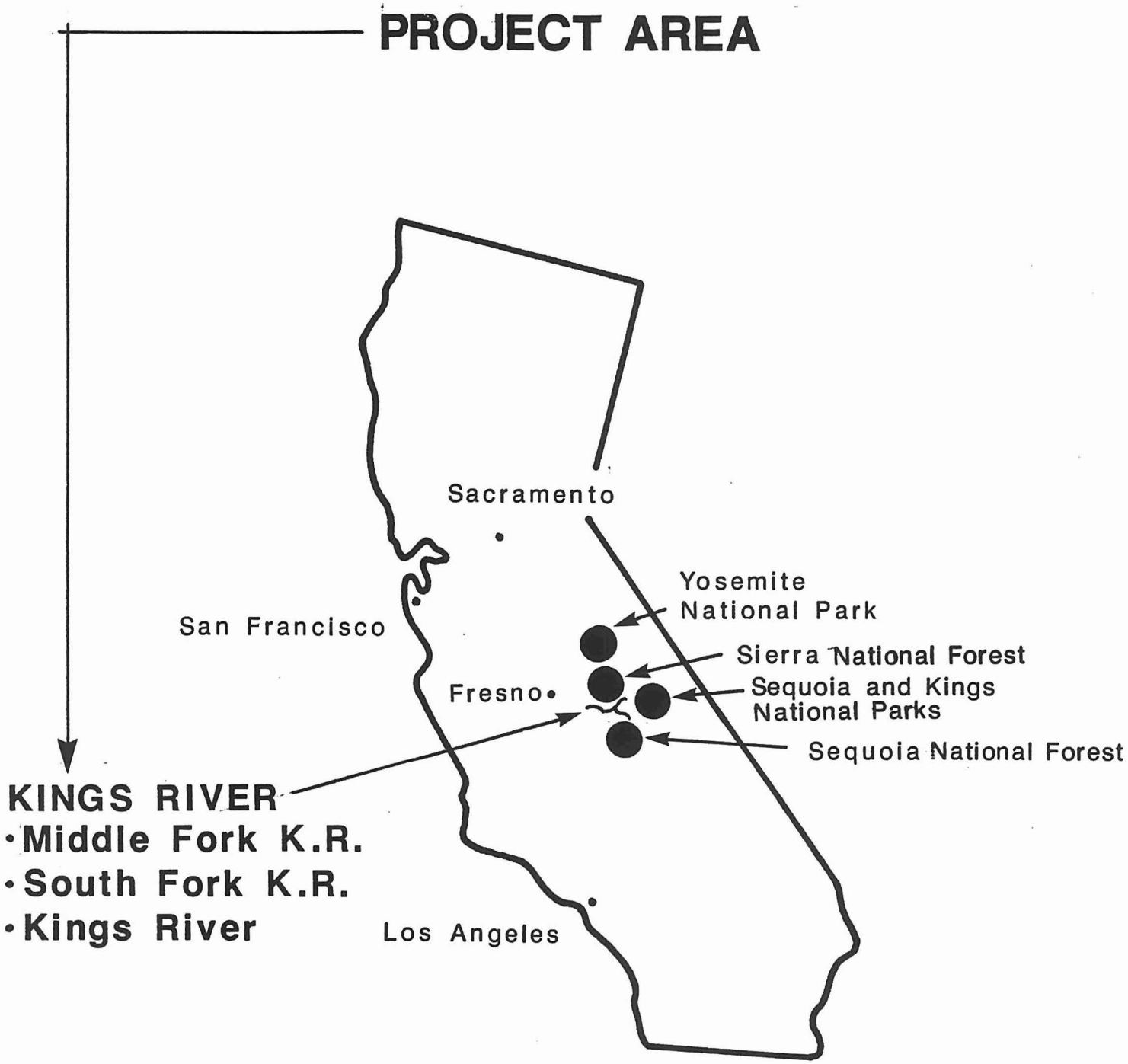
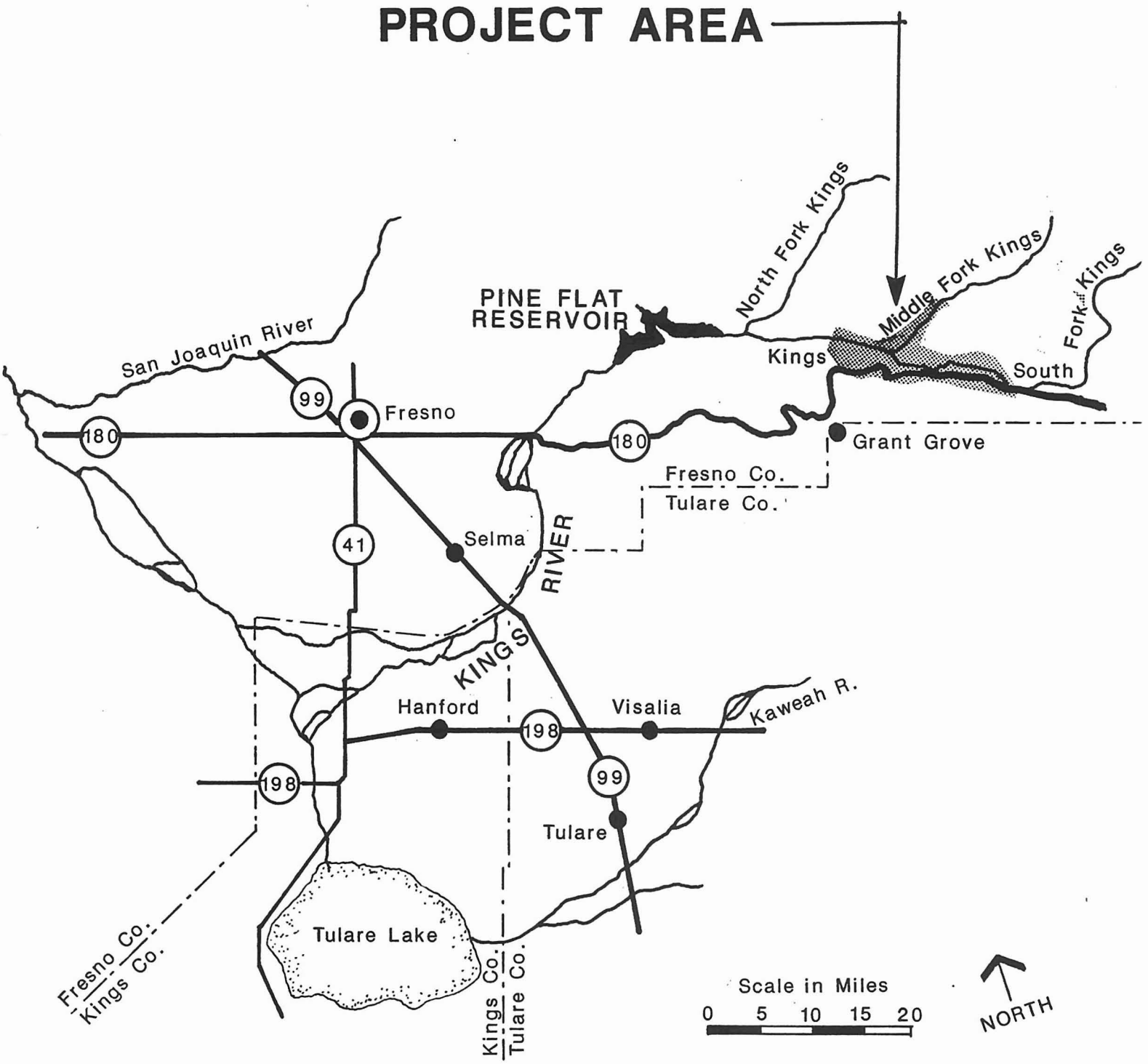

PROJECT AREA
Sacramento
San Francisco
Yosemite
National Park
Sierra National Forest
Fresno
Sequoia and Kings
National Parks
Sequoia National Forest
KINGS RIVER
•Middle Fork K.R.
•South Fork K.R.
•Kings River
Los Angeles



Kings River Basin

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1.0 PURPOSE AND NEED FOR ACTION

1.1 BACKGROUND

In November of 1987, President Reagan signed Public Law 100-150 amending Section 3(a) of the Wild and Scenic Rivers Act (16 U.S.C.1274(a) adding Wild and Scenic River designation to a total of 81.5 miles of the Kings River. These include six miles of the Kings River, 40.5 miles of the South Fork Kings River, and 35 miles of the Middle Fork Kings River. A total of 26 miles of this act's designated wild and scenic rivers are within public lands administered by the USDA Forest Service. The remaining 55.5 miles are within lands administered by the USDI National Park Service. The Act requires that, after consultation with State and local governments and the interested Public and within one year after the enactment, the Secretary of Agriculture (USDA Forest Service) shall determine detailed boundary locations and classification segments for the 26 miles of designated Wild and Scenic Rivers. The Act also indicates that the Secretary of the Interior will complete the boundaries and classifications of the 55.5 miles through the revision to their National Parks's General Management Plan in accordance with the plan's time schedule.

This Environmental Assessment documents analysis performed to accomplish the first phase planning objective required by the Act for the Secretary of Agriculture (USDA Forest Service): determination of boundaries and classifications of river segments. It documents the decision-making process for establishing boundaries for 26 miles of the Kings River, South Fork Kings River and Middle Fork Kings River. In addition, it documents

analysis leading to classification of the Middle Fork Kings River. Classification of the other segments has been previously accomplished (see Section 1.1.1 for explanation).

The act also requires the agency (USDA Forest Service) to complete a comprehensive management plan within three years after enactment. Following completion of this boundary and classification EA, another EA will be written to accomplish the Act's second phase objective, completion of a management plan (Forest Service calls this an implementation plan). This second EA document will include an analysis for the river's use, protection, management and development level. It will also address operation and maintenance standards within the boundaries and classifications approved in the first phase EA. The implementation plan will be based on this second analysis.

1.1.1 CLASSIFICATION OF SEGMENTS

Except for one mile of the Kings River from Garlic Meadow Creek to the 1,595 foot elevation, wild and scenic river classifications of the four segments within the 26-mile jurisdiction of the Secretary of Agriculture have been previously documented in Forest Service Draft Environmental Impact Statements (DEIS). The Kings River classification down to Garlic Meadow Creek and the classifications of two segments of the South Fork Kings River were approved by the approval of the final Sequoia (EIS) and National Forest Land and Resource Management Plan. The classification of one segment of the Middle Fork Kings River has not been approved.

The existing agency classification recommendations are as follows:

MIDDLE FORK KINGS RIVER

Boundary and classification recommendations for the Middle Fork were documented in the DEIS for the proposed Sierra National Forest Land and Resource Management Plan (issued 9/12/86). The eight-mile portion of Middle Fork, within public lands administered by Sierra National Forest (Segment 2) from the southwestern boundary of Sierra National Forest to the con-

of the river area in accordance with the Wild and Scenic Rivers Act, as amended (Public Law 90-542).

1.3 ISSUES

The request for comment on establishment of boundaries was solicited within the Forest Service and from various agencies including: Kings River Conservation District, environmental organizations, political representatives, media, and through a public meeting held August 23, 1988 (Refer to Section 6.0 CONSULTATION WITH OTHERS for details). This scoping process identified concerns which were taken into account during the environmental analysis.

The environmental setting of each concern, and the relevant effects produced by each alternative, are found in Section 4.0 ENVIRONMENTAL CONSEQUENCES. In the following list, concerns identified by sources external to the Forest Service are indicated by an asterisk (*).

Concerns Considered:

CULTURAL AND HISTORICAL RESOURCES (ARCHAEOLOGY): Will Wild and Scenic River boundaries bisect Cultural Resource Sites? Will the boundary cross at a right angle at linear sites such as the flume so as to protect them?

RECREATION: How will the establishment of a boundary affect recreational opportunities along these river sections? How will boundary locations affect construction of the proposed trail to Tehipite Valley, particularly the location of borrow and spoil disposal sites? Will the inclusion of the trail corridor within the boundary of a segment classified as "Wild" limit construction alternatives? Will the trail scar be visible from the river and Yucca Point? Will the boundary affect commercial rafting opportunities?

*LAND OWNERSHIP AND USE: Why was Horseshoe Bend chosen as the division between segments 1 and 1A of the South Fork rather than the Highway 180 bridge? Would the the bridge be easier to define in the field?

*GEOLOGY AND SOILS: Will the entire river corridor be protected within the river boundary including places where it could conceivably meander or change course? Will boundary locations impact soils, erosion or the geologic integrity of the area?

THREATENED AND ENDANGERED SPECIES (T&E): Will T&E surveys be necessary if any of the boundary alternatives are selected?

*VEGETATION: Will damage to vegetation occur if survey lines are run to establish boundaries with the one-quarter-mile width or aliquot alternative ?

*VISUAL RESOURCES: Are there any scenic resources that should be included in the one-quarter mile boundary?

SOCIO-ECONOMICS: Will the establishment of a boundary be logical, practical and economical to administer?

The scoping process did not identify any issues in the following areas, but these items were considered and included in the analysis.

FIRE: What is the policy for the suppression of wildfires in the project area? Is this strategy compatible with all proposed boundary alternatives ?

FISHERIES: Which of the boundary alternatives would have a beneficial effect on fisheries?

GRAZING: Are there any grazing permittees within the boundary study area?

MINERALS: Are there valid claims listed within any of the boundary alternatives?

TIMBER: Will the boundary location affect commercial timber harvest under any of the alternatives?

WATER QUALITY AND WATER RESOURCES: Will the location of the boundary affect water quality? Will watershed values be protected?

WILDLIFE: Will establishment of the boundaries disturb or impact any wildlife in the area?

In addition to the above list, the Interdisciplinary (ID) Team identified concerns that could require action to resolve. These concerns guide the formation of alternatives. The concerns which become "issues" in this analysis are:

1. *LAND OWNERSHIP AND USE: There is a proposed small hydro project on Ten Mile Creek (FERC 6017, issued in 1983). Will the establishment of the Wild and Scenic River boundary affect the project?

2. *ENGINEERING (LAND LINE LOCATION): Except for portions of Segment 1A on the South Fork, the segments are located in rugged and in some cases completely inaccessible terrain. It would be difficult and expensive to physically locate and monument the boundary line of river corridor segments. However, the need to do this is remote. Will there be a need to establish a boundary on the ground, and if so, how would this be accomplished?

2.0 DESCRIPTION OF THE AREA

2.1 Middle Fork Kings River

From its source in a series of glacial lakes in the vicinity of Muir Pass (11,955') and Black Giant (13,330'), the Middle Fork of the Kings River extends down to the confluence with South Fork Kings River and the Kings River. The length is 35 miles, but only eight miles are within the National Forest and are considered in this Environmental Analysis. The remaining 27 miles of the Middle Fork of the Kings River are within Kings Canyon National Park.

Below the boundary between Kings Canyon National Park and Sierra National Forest, the river flows through a very deep alluvial canyon. The lowest point of the river segment is approximately 2,240 foot. The river is one of the last completely free-flowing, primitive high Sierra rivers still remaining in California. It flows into the Kings River, one of the largest rivers flowing down the western slope of the Sierra Nevada.

Description of Segment- Middle Fork Kings River

Segment #2 description is as follows: Western Boundary of Kings Canyon National Park to the confluence of the Kings River. The length is 8.0 miles and is managed by the Sierra National Forest within the Monarch Wilderness. (See Maps F & G)

2.2 South Fork Kings River

From a source above timberline in a heavily glaciated basin and within Kings Canyon National Park, the South Fork of the Kings River extends down to the confluence with the Middle Fork of the Kings River and the Kings River within Sequoia and Sierra National Forests. The length is 40.5 miles, but only 12.0 miles are within the National Forest and are considered in this EA. The river flows through one of the deepest and most classic glacial canyons in the nation with several waterfalls and unique geologic formations.

The South Fork Kings has a complex floral diversity with several rare species. Numerous prehistoric sites and significant cultural resources exist on the river. The state has designated the river as a Wild Trout Stream. Important peregrine falcon and golden eagle habitat exist in the river area.

Description of Segments - South Fork Kings River

Segment # 1 has the following description: From the confluence of the Middle fork and Main Fork Kings River to Horseshoe Bend. The length is 2.5 miles and it is administered by the Secretary of Agriculture through the Sierra National Forest as a Wild and Scenic River within the Kings River Special Management Area (KRSMA).

Segment # 1A has the following description: From Horseshoe Bend to the Forest boundary. The length is 9.5 miles and it is managed by the Sequoia N.F. as a Wild and Scenic River. (See Maps F & G)

2.3 Kings River

From its source at the confluence of the Middle and the South Fork Kings River and within the Sierra and the Sequoia National Forests the Kings extends down to Pine Flat Reservoir. The length is 18 miles. This Environmental Assessment only considers six miles of designated Wild and Scenic River portion from the 1,595-foot elevation to the confluence of the Middle and South Fork of the Kings River. The landscape is characterized as Sierra Nevada Sierra Foothills.

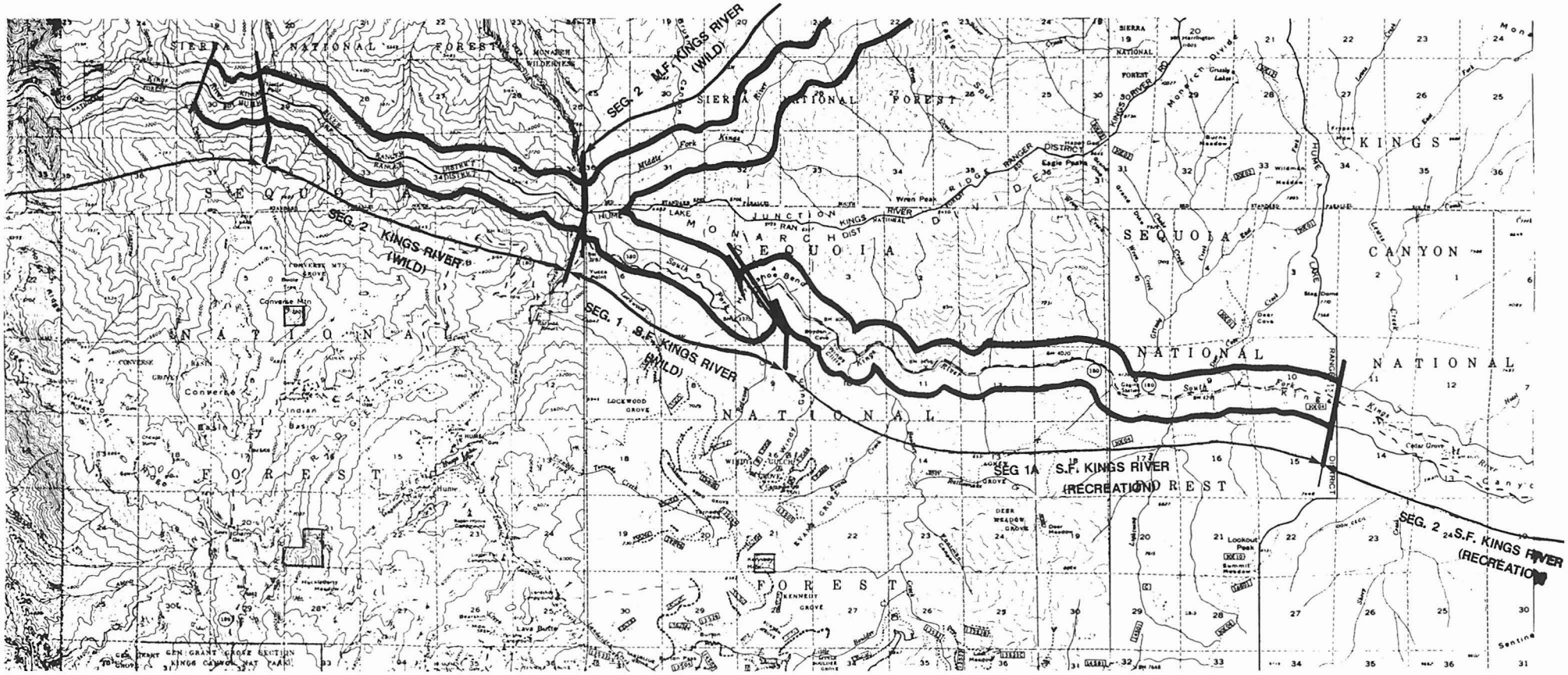
The Kings River along with its forks is one of the largest rivers flowing down the western slopes of the Sierra, and forms the boundary between the Sequoia and Sierra National Forests. Main ridges on both sides of the river are over 5,000 feet above the river. Slopes on the north side of the river are covered with chaparral and hardwoods. The south side of the river is less arid and includes more conifers. The river is free-flowing with numerous rapids. Access is limited above Garlic Falls. The Kings River is managed by the State of California as a State Wild Trout Stream Historic artifacts create an area of historic and cultural significance.

Description of Segment - Kings River

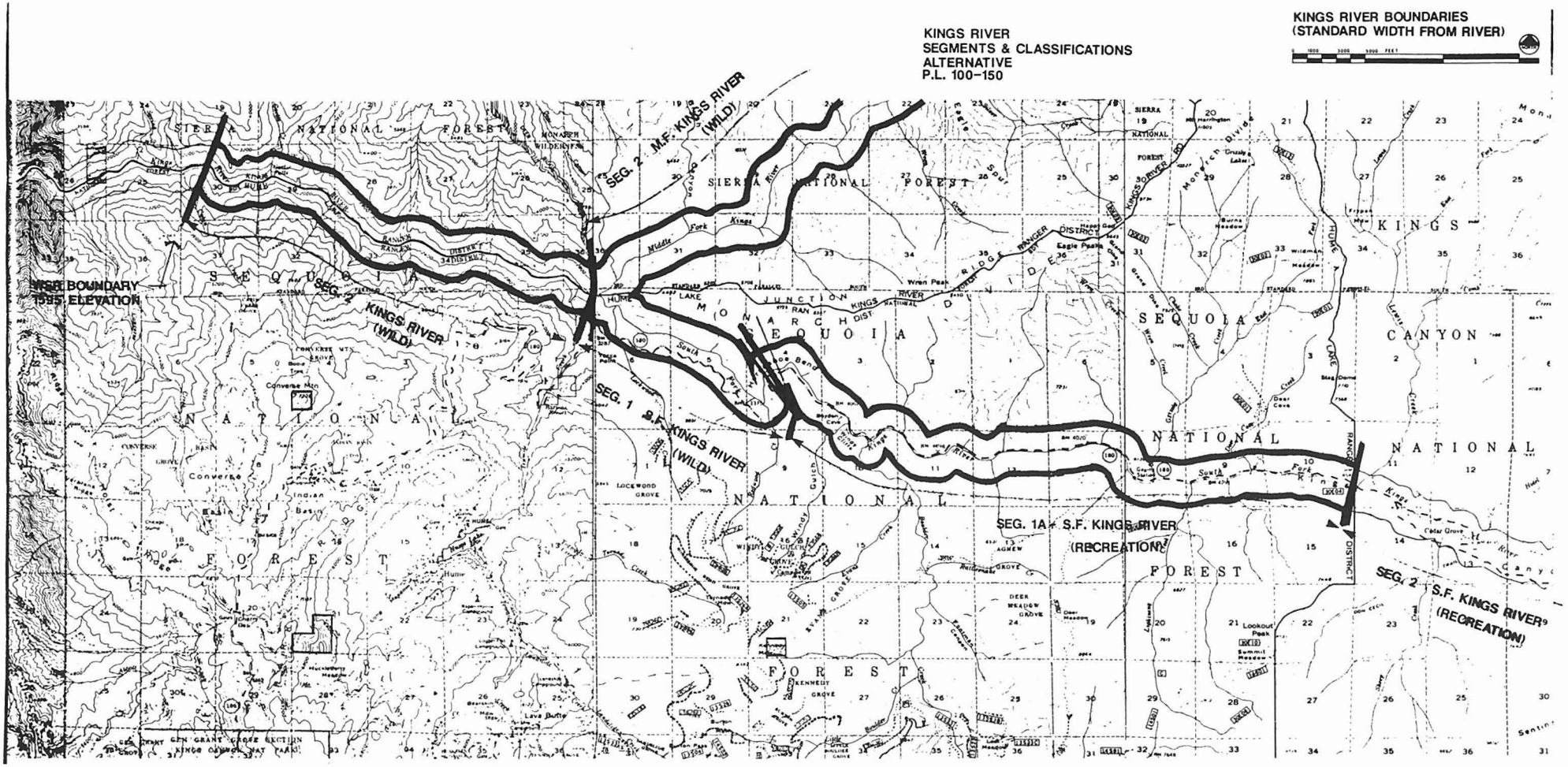
Segment # 2 has the following description: From approximately one mile below Garlic Creek to the confluence of Middle Fork and South Fork Kings River. The length is 6.0 miles and it is administered by the Secretary of Agriculture through the Sierra National Forest as a Wild and Scenic River within the Kings River Special Management Area (KRSMA). (See Maps F & G)

KINGS RIVER
SEGMENTS & CLASSIFICATIONS
LMP ALTERNATIVE

KINGS RIVER BOUNDARIES
(STANDARD WIDTH FROM RIVER)



MAP F


KINGS RIVER
SEGMENTS & CLASSIFICATIONS
ALTERNATIVE
P.L. 100-150
KINGS RIVER BOUNDARIES
(STANDARD WIDTH FROM RIVER)
SEG. 2 M.F. KINGS RIVER (WILD)
SEG. 2 KINGS RIVER (WILD)
SEG. 1 S.F. KINGS RIVER (WILD)
SEG. 1A S.F. KINGS RIVER (RECREATION)
SEG. 2 S.F. KINGS RIVER (RECREATION)
WSR BOUNDARY
1595' ELEVATION
SIERRA NATIONAL FOREST
SEQUOIA NATIONAL FOREST
KINGS CANYON NATIONAL
MONARCH DIVIDE
JUNCTION
Converse Mtn
Converse Basin
Indian Basin
Lookout Peak
Summit Meadow
Eagle Peaks
Wren Peak
Lava Butte
Hume
Lake Hume
Kings River
Middle Fork Kings
South Fork Kings
Monarch Divide
Kings River Ranger District
Hume Lake Ranger District
Cedar Grove
Lockwood Grove
Kennedy Grove
Deer Meadow Grove
Agnew Grove
Evans Grove
Gen Grant Grove Section
Kings Canyon Nat Park

MAP G

3.0 ALTERNATIVES

3.1 Formulation of Alternatives

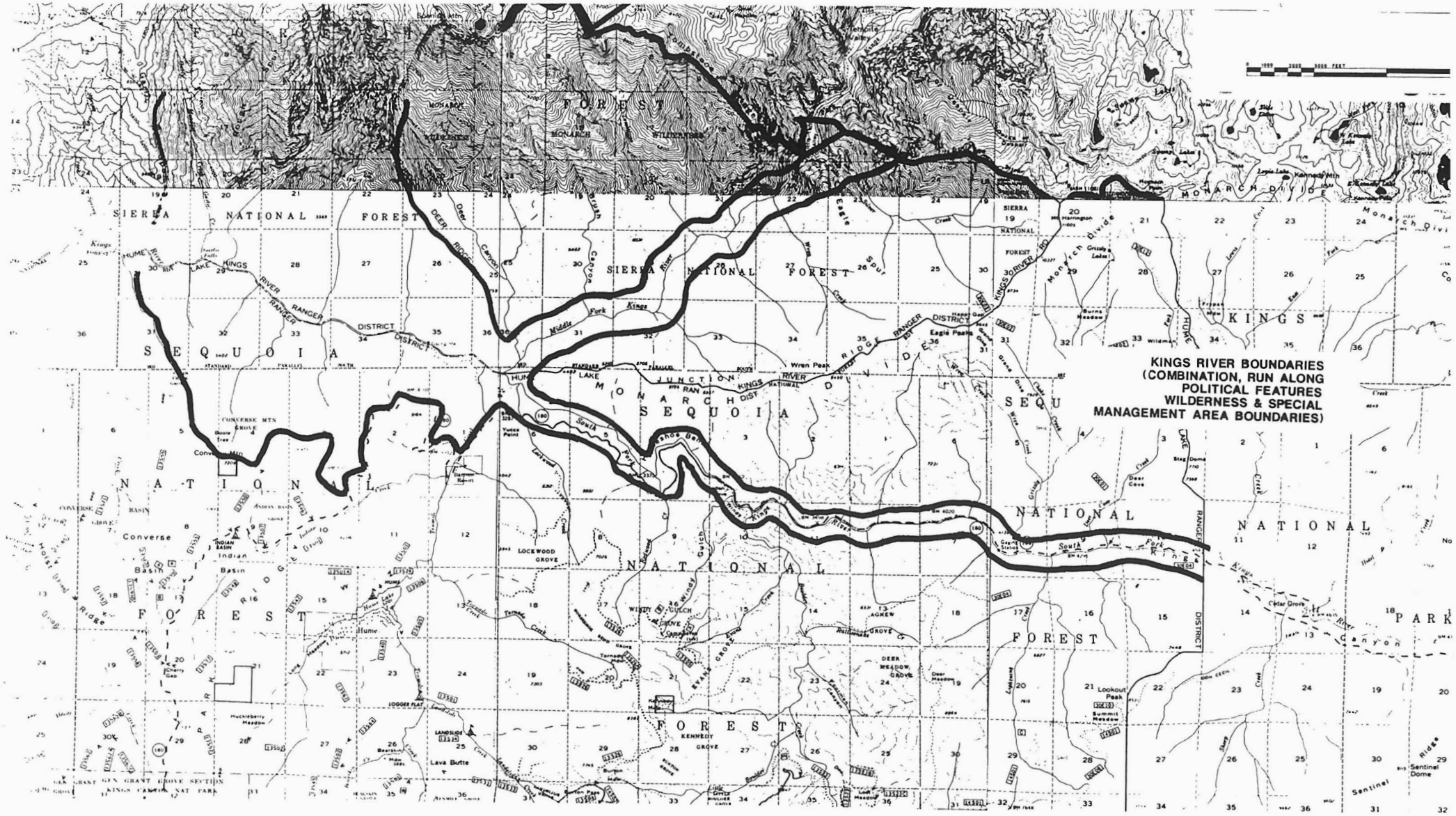
Alternatives were developed to protect the wild and scenic river values and in response to identified issues, and practical ways to establish boundaries for the Wild and Scenic River corridors.

3.2 Alternatives Considered but Eliminated from Detailed Study

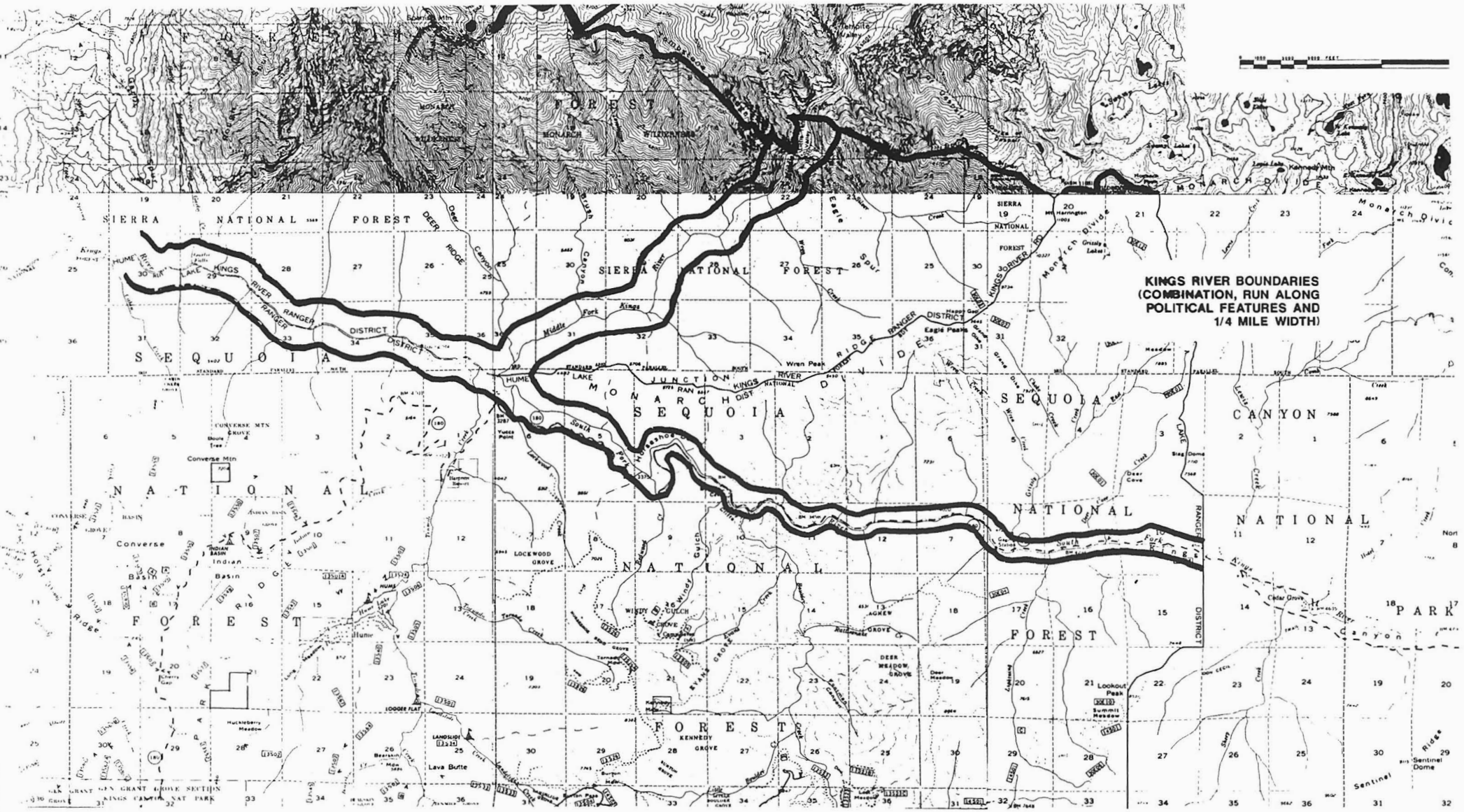
In addition to the boundary alternatives described in Section 3.3, the following alternatives were considered, but not analyzed in detail.

A boundary alternative was considered which used existing Congressionally designated features. This alternative was eliminated from further consideration because it would not meet the intent of the new Public Law 100-534 which indicates that the boundaries of designated rivers shall include an average of not more than 320 acres per mile. It would also be impractical to establish a river boundary line that is the same as the Kings River Special Management Area (KRSMA) boundary line because the criteria to administer the river corridor would be different in certain resources than the criteria for the resources within the KRSMA. (See MAP D)

A boundary alternative was considered which used a combination of existing Congressionally designated features and one-quarter mile width from the normal high water line. This alternative was eliminated from further consideration because it was basically the same as Alternative B. It was therefore combined and analyzed as part Alternative B. (See MAP E)


KINGS RIVER BOUNDARIES
(COMBINATION, RUN ALONG
POLITICAL FEATURES
WILDERNESS & SPECIAL
MANAGEMENT AREA BOUNDARIES)
SIERRA NATIONAL FOREST
SEQUOIA NATIONAL FOREST
KINGS CANYON NATIONAL PARK
MONARCH DIVIDE
Converse Basin
Hume
Lake Kennedy
Lava Butte
Lookout Peak
Summit Meadow
Sentinel Dome
Cedar Grove
Wren Peak
Eagle Peak
Kennedy Mtn
Kennedy Lake
Grizzly Lakes
Burns Meadow
Deer Meadow
Deer Cave
Stag Dome
Lockwood Grove
Kennedy Grove
Deer Meadow Grove
Agnew Grove
Lodge Pole Grove
Landslide
Logger Flat
Huckleberry Meadow
Converse Mtn
Indian Basin
Yucca Point
Sentinel Ridge
Monarch Divide
Kings River
Middle Fork Kings
South Fork Kings
Deer Ridge
Eagle Spur
Kings River Ranger District
Sierra National Forest
Sequoia National Forest
Kings Canyon National Park
Junction Lake
Monarch Lake
Hume Lake
Converse Basin
Indian Basin
Lava Butte
Lookout Peak
Summit Meadow
Sentinel Dome
Cedar Grove
Wren Peak
Eagle Peak
Kennedy Mtn
Kennedy Lake
Grizzly Lakes
Burns Meadow
Deer Meadow
Deer Cave
Stag Dome
Lockwood Grove
Kennedy Grove
Deer Meadow Grove
Agnew Grove
Lodge Pole Grove
Landslide
Logger Flat
Huckleberry Meadow
Converse Mtn
Indian Basin
Yucca Point
Sentinel Ridge
Monarch Divide
Kings River
Middle Fork Kings
South Fork Kings
Deer Ridge
Eagle Spur
Kings River Ranger District
Sierra National Forest
Sequoia National Forest
Kings Canyon National Park
Junction Lake
Monarch Lake
Hume Lake
Converse Basin
Indian Basin
Lava Butte

MAP D


KINGS RIVER BOUNDARIES
(COMBINATION, RUN ALONG
POLITICAL FEATURES AND
1/4 MILE WIDTH)
SIERRA NATIONAL FOREST
SEQUOIA NATIONAL FOREST
SEQUOIA NATIONAL FOREST
SEQUOIA NATIONAL FOREST
CANYON NATIONAL PARK
MONARCH DIVIDE
Converse Mtn
Converse Basin
Indian Basin
Lava Butte
Lookout Peak
Summit Meadow
Eagle Peaks
Wren Peak
Sentinel Dome
Cedar Grove
Hume
Lake Kings River Ranger District
Monarch Divide
Kings River Ranger District
Middle Fork Kings River
South Fork Kings River
Eagle Spur
Deer Ridge
Deer Canyon
Brush Canyon
Lake Junction
Kennedy Grove
Lockwood Grove
Windy Gulch
Agnew Grove
Deer Meadow Grove
Lodger Flat
Landslide
Huckleberry Meadow
Hume Lake
Kennedy Mtn
Mt Harrington
Grizzly Lakes
Sierra National Forest
Monarch Divide
Kings River Ranger District
Lake Ridge
Holst Ridge
Sentinel Ridge
Cedar Grove
Kennedy Mtn
Lake Spur
Wren Peak
Eagle Peaks
Yucca Point
Harmon Sequoia
Lockwood Grove
Windy Gulch
Kennedy Grove
Deer Meadow Grove
Lodger Flat
Lava Butte
Huckleberry Meadow
Hume
Cherry Gap
Gen Grant Grove Section
Kings Canyon Nat Park

MAP E

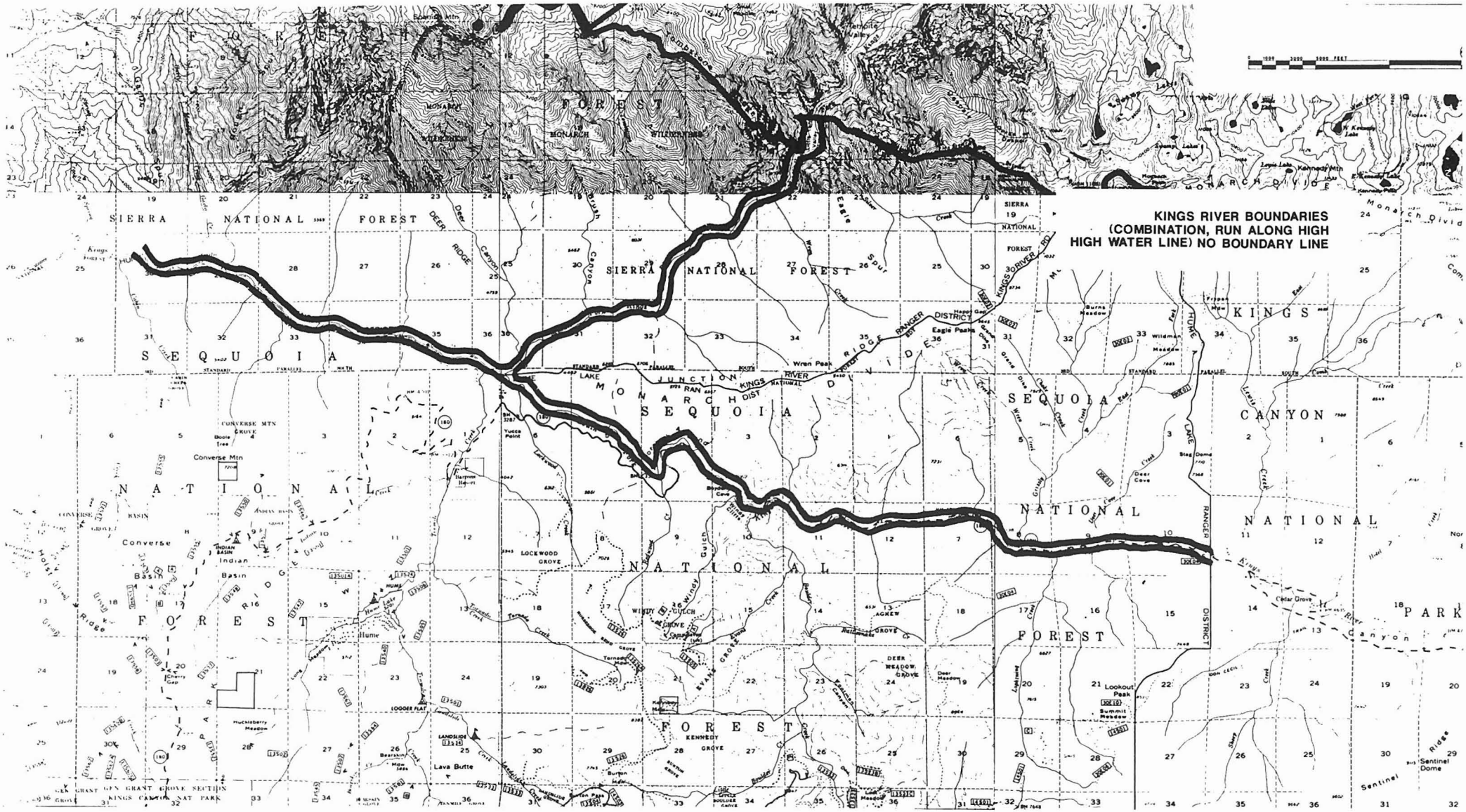
3.3 Description of Alternatives

Alternatives A, B and C, Classifications of Middle Fork Kings River and Kings River from Garlic Meadow Creek to the 1,595-foot elevation

A Wild classification is included under all alternatives for the Middle Fork Kings River and one mile of the Kings River from Garlic Creek to the 1,595-foot elevation. The Middle Fork Kings River is entirely within the Monarch Wilderness, and the one mile of the Kings River is entirely within the Kings River Special Management Area. Both the wilderness and KRSMA designations preclude options to manage the river corridor at either the Scenic or Recreational classifications. An Eligibility and Classification analysis is shown in Appendix B. (See Map F & G after 2.3)

Alternative A, Boundary at High Water Mark

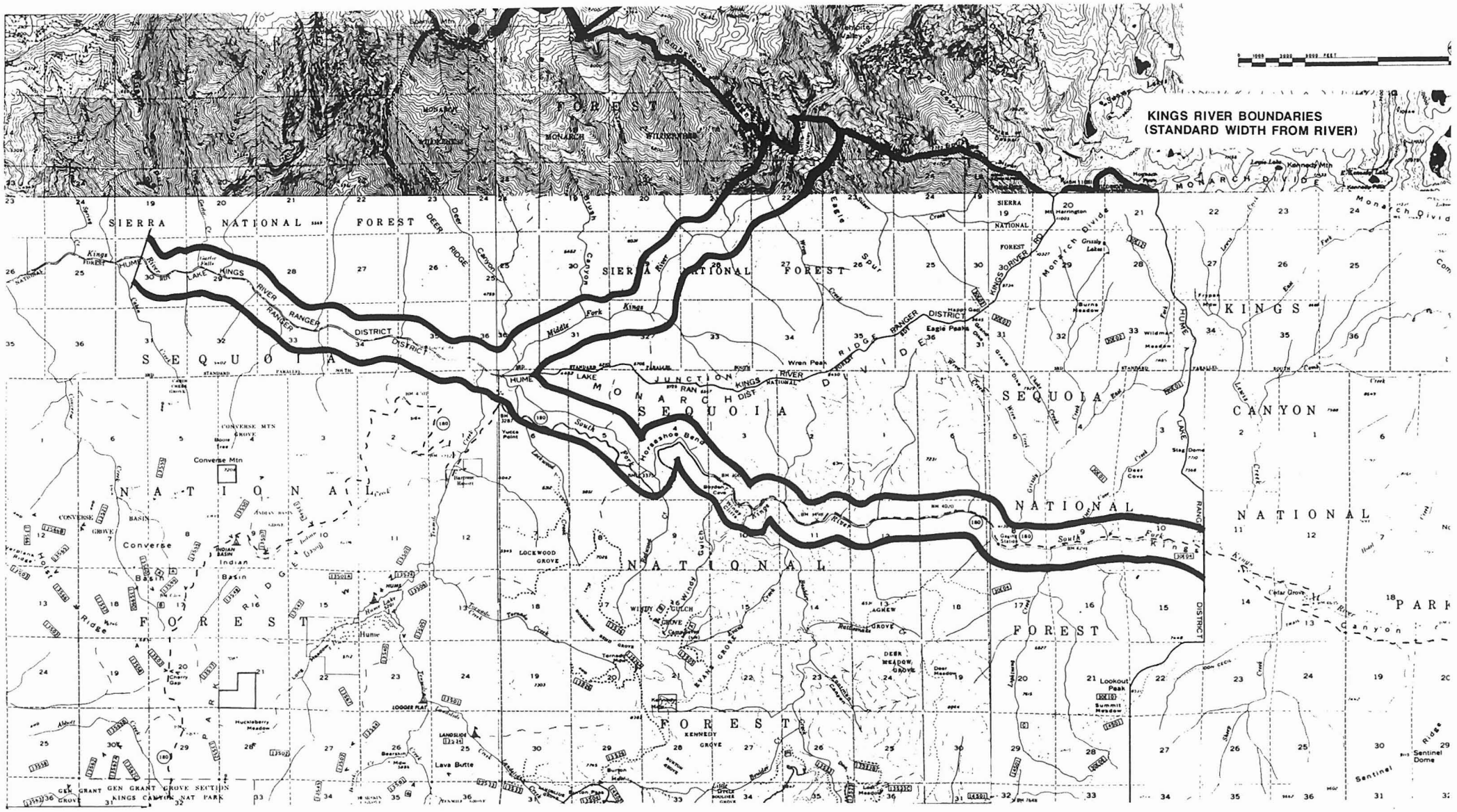
The Wild and Scenic River boundary would be confined to the immediate river, normal high water mark to normal high water mark. The river and areas within these marks would be managed as Wild and Scenic Rivers within the "Wild" or "Recreational" classification guidelines. The area that is adjacent to the river would be managed as wilderness, where included in the Monarch Wilderness. The adjacent area included in the Kings River Special Management Area (KRSMA) would be evaluated and managed along with the Special Management Area Environmental Assessment and the corresponding KRSMA Management Plan. The 800-feet wide area between the normal high water mark and the Monarch Wilderness would be managed as General Forest zone as described in the Sequoia Land Management Plan. (See Map A)


KINGS RIVER BOUNDARIES
(COMBINATION, RUN ALONG HIGH
HIGH WATER LINE) NO BOUNDARY LINE
SIERRA NATIONAL FOREST
SEQUOIA NATIONAL FOREST
KINGS CANYON NATIONAL PARK
MONARCH DIVIDE
KINGS RIVER JUNCTION
Converse Mtn
Converse Basin
Indian Basin
Hume
Lava Butte
Eagle Peaks
Wren Peak
Lookout Peak
Summit Meadow
Sentinel Dome
Cedar Grove
Deer Meadow Grove
Kennedy Grove
Lockwood Grove
Windy Gulch Grove
Agnew Grove
Deer Cove
Stag Dome
Burns Meadow
Wildman Meadow
Kennedy Mtn
Kennedy Lake
Monarch Divide
Kings River Canyon
Hume Lake Ranger District
Kings River Ranger District
Monarch Wilderness
Deer Ridge
Eagle Spur
Wren Creek
Cedar Grove
Sentinel Ridge
Converse Mtn Grove
Gen Grant Grove Section
Kings Canyon Nat Park

MAP A

Alternative B, Boundary Approximately 1/4 Mile Width from High Water Mark

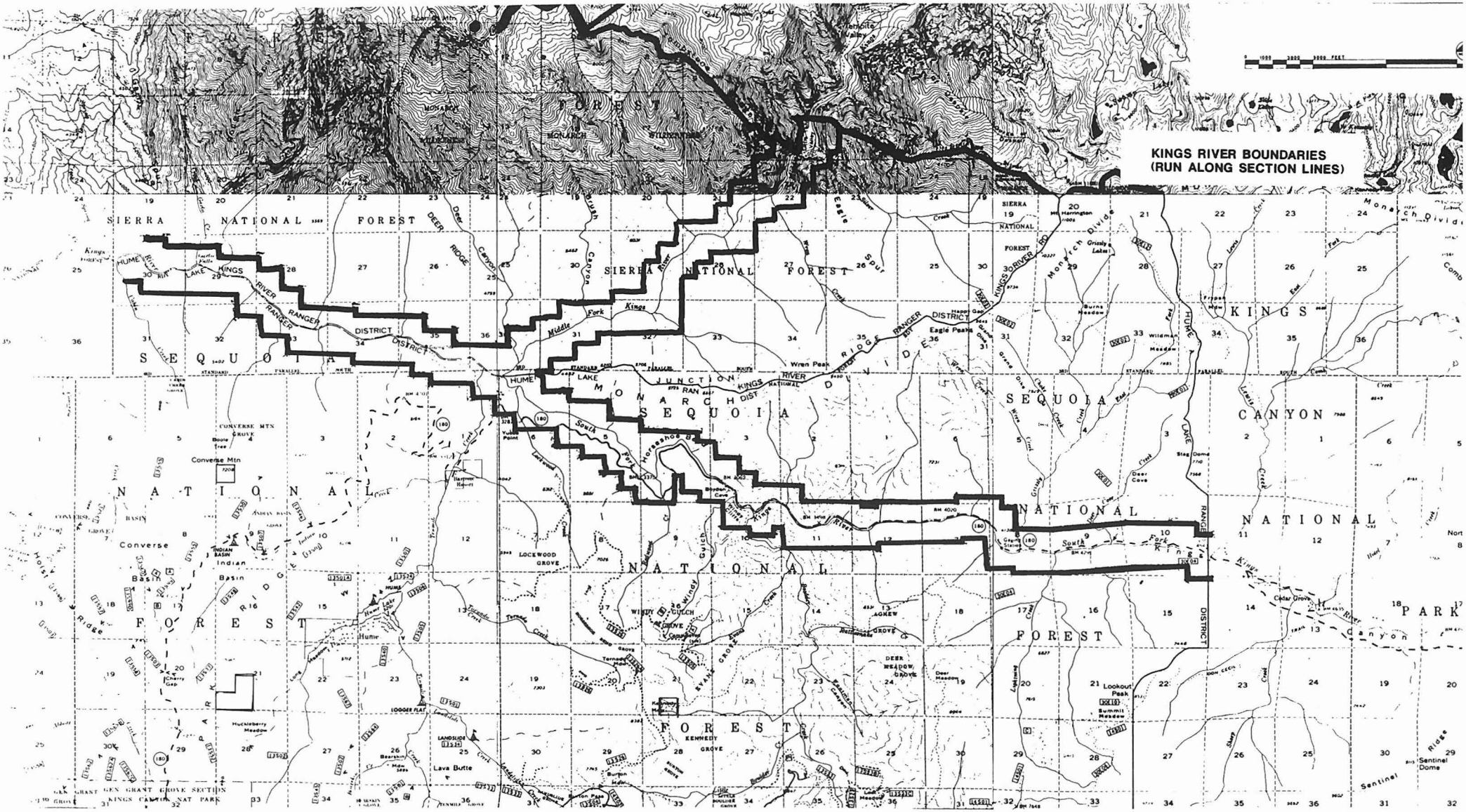
The Wild and Scenic River corridor boundary would comprise that area measured approximately one-quarter mile horizontal distance from the normal high water mark on each side of the river. These adjacent areas plus the river would together average approximately 320 acres per mile and would be managed as Wild and Scenic River within the "Wild" and "Recreational" classifications guidelines. State Plane coordinates of points on both sides of the river would be scaled off a USGS map. These points would lie approximately one-quarter mile from the river at places where there is a pronounced change in river direction. The WSR boundary, then, would be a series of straight lines connecting these points, and would approximate the river's configuration. The State Plane coordinates would define the boundary. This would be a no action alternative in accordance with Public Law 100-534 which makes a technical change to section 3 (b) of the Wild and Scenic Rivers Act to clarify that the boundaries of designated rivers shall include an average of not more than 320 acres per mile, measured from the ordinary high water mark. (See MAP B)


KINGS RIVER BOUNDARIES
(STANDARD WIDTH FROM RIVER)
SIERRA NATIONAL FOREST
SEQUOIA NATIONAL FOREST
KINGS CANYON NATIONAL PARK
MONARCH DIVIDE
Converse Mtn
Converse Basin
Indian Basin
Hume
Lava Butte
Lookout Peak
Summit Meadow
Sentinel Dome
Eagle Peaks
Wren Peak
Horseshoe Bend
Yucca Point
Lockwood Grove
Windy Gulch
Kennedy Grove
Deer Meadow Grove
Agnew Grove
Kennedy Mtn
Mt Harrington
Burns Meadow
Wildman Meadow
Deer Cove
Stag Dome
Cedar Grove
Huckleberry Meadow
Gen Grant Grove Section
Kings Canyon Nat Park
Kings River Ranger District
Hume Lake Ranger District
Monarch Divide
Eagle Spur
Middle Fork Kings
South Fork Kings
Kings River
Hume Lake
Kings River Rd
Deer Ridge
Brush Canyon
Lewis Creek
Sentinel Ridge
Canyon

MAP B

Alternative C, Boundary Following Aliquot Parts of Sections

The Wild and Scenic River corridor boundary would be established by using aliquot parts of sections. The corridor boundary would be located approximately one-quarter mile from the normal high water mark on each side of the river The river including these adjacent areas, which would average approximately 320 acres per mile, would be managed as Wild and Scenic Rivers within the "Wild" and "Recreational" classifications guidelines. These aliquot lines would define the boundary. (See MAP C)


KINGS RIVER BOUNDARIES
(RUN ALONG SECTION LINES)
SIERRA NATIONAL FOREST
SEQUOIA NATIONAL FOREST
KINGS CANYON NATIONAL PARK
MONARCH DIVIDE
HUME LAKE
KINGS RIVER RANGER DISTRICT
Wren Peak
Eagle Peaks
Converse Mtn
Converse Basin
Indian Basin
Lava Butte
Lookout Peak
Sentinel Dome
Monarch Divide
Middle Fork Kings
South Fork Kings
Kings River
Eagle Spur
Deer Ridge
Deer Canyon
Brush Canyon
Horseshoe Bend
Windy Gulch
Evans Grove
Kennedy Grove
Deer Meadow Grove
Summit Meadow
Cedar Grove
Sentinel Ridge
Holst Ridge
Hume
Lodgepole Flat
Lockwood Grove
Huckleberry Meadow
Cherry Gap
Gen Grant Grove Section
Kings Canyon Nat Park

MAP C

3.4 Comparison of Alternatives

Table one is found in Appendix A. It compares the alternatives in their ability to meet project objectives and resolve key issues. The table is titled "EFFECTS OF BOUNDARY ESTABLISHMENT." A more detailed analysis, including concerns identified in the scoping process, is found in the next Section 4.0 ENVIRONMENTAL CONSEQUENCES.

4.0 ENVIRONMENTAL CONSEQUENCES AND AFFECTED ENVIRONMENT

This section discloses the current environmental conditions (Affected Environment) and potential consequences (Environmental Consequences) or impacts of each of the alternatives described in Section 3.0. The intent is to provide an analytical basis for the comparison of alternatives.

During the interdisciplinary analysis certain environmental impacts were identified which, while not necessarily significant, could be modified to lessen undesirable consequences. Where possible, actions were developed to incorporate these modifications. There were no actions that had a potential to create a significant environmental impact. No mitigating measures were needed for any of the alternatives considered. Actions necessary to implement the project are listed in Appendix D, Management Requirements and Constraints. Those requirements and constraints, in conjunction with project design and Forest Land Management Plan (FLMP) Standards and Guidelines, allow all action alternatives to stay within Minimum Management Requirements as described in Sequoia National Forest's Final Environmental Impact Statement and Sierra National Forest's Draft Environmental Impact Statement upon which the Forest Land Management Plans are based.

4.1 CULTURAL AND HISTORICAL RESOURCES (ARCHAEOLOGY)

4.1.1 MIDDLE FORK KINGS RIVER

No systematic survey for cultural resources has ever been conducted in the Middle Fork Canyon due to its extreme rugged terrain and inaccessibility. No estimate of its sensitivity can be made at this time.

The river corridor in this segment is within the Monarch Wilderness. The Middle Fork Canyon has truly primitive shorelines. It is one of the last remaining free-flowing primitive high Sierra rivers. There is no trail access to the Forest Service segment.

4.1.2 SOUTH FORK KINGS RIVER

Complete archaeological investigation of the South Fork has not been conducted in the area administered by the National Forest. A need for systematic archaeological reconnaissance is indicated by the numerous sites found on the adjacent Kings Canyon National Parks river segments and a lack of knowledge of the prehistory of the National Forest river segments.

4.1.3 KINGS RIVER

Before the Twentieth Century, only Native Americans, sheepherders, and a few explorers had entered the region. The naming of the Kings River is attributed to the expeditions of Gabriel Moraga The Kings River was "discovered" in 1805 and named Rio De Los Santos Reyes. This translates to River Of The Holy Kings and refers to the three wise men in the Bible. The modern name, Kings River, is not seen on maps until 1852.

Although this segment has never been systematically surveyed, Native American sites are evident along both sides of the river.

Known historic resources include remnants of portions of a 54-mile lumber flume circa 1889.

4.1.4 EFFECTS OF BOUNDARY ESTABLISHMENT ON CULTURAL RESOURCES

There would be no affect on cultural resources under any of the alternatives. No ground-disturbing activity would occur. The entire area except Segment 1A of the South Fork Kings River is currently protected by the Monarch Wilderness and the Kings River Special Management Area. Some administrative difficulties may occur if sites are bisected by the boundary and fall within the provisions of the Monarch Wilderness and the Wild and Scenic Planning Area. Site boundaries shall fall completely in one planning venue or the other. Archaeological reconnaissance would be required prior to monumenting boundary locations in the field unless Alternative A, the normal high water mark alternative, is selected. Selection of the normal high water alternative would insure all terrestrial resources, except those in Segment 1A, would be included in plans for the Monarch Wilderness or the Kings River Special Management Area, and all riparian resources would be included in the venue of the Wild and Scenic Rivers Plan.

4.2 ENGINEERING (LAND LINE LOCATION)

The Middle Fork Kings River, South Fork Kings River and the Kings are located within townships which are suspected to be fraudulently surveyed. Many of the men who carried out these surveys within these townships were tied to the "Benson Syndicate". The terrain is extremely rugged, yet was reportedly surveyed in some cases at a rate of six miles per day as reported in the survey dates coinciding with the Syndicate activities. Corner recovery in adjacent townships, surveyed by some of the same men during that same era and characterized by rough terrain has been poor. Recoverable evidence of the surveys (ie. bearing trees and corner monuments) can not be located in the field. It is unlikely any section corners or one-quarter corners were monumented east of the confluence of Mill Flat Creek and the South Fork Kings. The nearest evidence of a surveyed corner exists

approximately one mile from the confluence of the North Fork Kings and the South Fork Kings.

4.2.4 EFFECT OF BOUNDARY LOCATION

Locating the boundary in the field for Alternative C (along section lines or the aliquot alternative) would probably involve independent resurveys of all or portions of five townships in very rough terrain. Costs could be well in excess of one million dollars. An exception may be if a Global Positioning System (GPS) were available. These systems use satellites and ground equipment that are together used to determine a point on the ground's latitude and longitude. This system is a function of availability of equipment, sky blocking, and signal attenuation among others. It is unlikely that this technology would be available for many years.

Establishing boundary locations for Alternative B (locations approximately one-quarter mile from river) would be relatively easy. State Plane coordinates of points on both sides of the river would be scaled off a USGS map. These points would lie approximately one-quarter mile from the river at places where there is a pronounced change in river direction. The WSR boundary, then, would be a series of straight lines connecting these points, and would approximate the river's configuration. The State Plane coordinates would define the boundary and be approximately 1,000 to 1,600 feet from the river. The boundary would not have to be physically located in the absence of an issue. Distance is understood to be horizontal unless specified as slope distance.

Establishing boundary locations for Alternative A (boundary locations at high water mark) would be contradictory to the 1988 legislation. The 1986 amendment to the Wild and Scenic Rivers (WSR) Act did not reference the previous 1968 Act's wording that WSR corridors average one-quarter-mile in width. However a 1988 Public Law 100-534 makes a technical change to Section 3 (b) of the Wild and Scenic Rivers Act. It clarifies that the boundaries of designated rivers shall include an average of not more than 320 acres per mile, measured from the normal high water mark. Boundaries of the Middle Fork Feather and North Fork American and Tuolumne Wild and Scenic Rivers were

established prior to enactment of this amendment. For this reason comparative data on the affect of various alternatives for establishing boundaries were not available. Those rivers designated under this public law 100-150 will be one of the first studied under this 1986 WSR amendment.

4.3 FIRE

Sierra National Forest Policy for the suppression of wildfires in Monarch Wilderness and the Kings River Special Management Areas is to use one of three predetermined strategies; Confine, Contain or Control. Because of the diverse, steep, and hazardous topography and resource values in the Special Management Area and within the river corridor, fire objectives and strategies will vary on what side of the Kings River a fire occurs.

On the Sierra National Forest's north side of the river, the objective will be confinement with maximum size of 200 acres. Confinement is defined as limiting the fire spread within a predetermined area principally by use of natural or pre-constructed boundaries or enviromental conditions. Suppression action may be minimal and limited to survellance under approprate conditions.

Sequoia National Forest suppression policy for the Monarch Wilderness and Kings River Special Management Area south side of the Kings River, is control with a maximum acre objective of 10 acres. Control is defined as completing the control line around a fire, any spotfires therefrom and any interior stands to be saved; burn out any unburned area adjacent to the fire side of the control line; and cool down all hot spots that are immediate threats to the control line until the line can reasonably be expected to hold under foreseeable conditions.

4.3.4. EFFECT OF BOUNDARY ESTABLISHMENT ON FIRE

The Sierra and Sequoia National Forest fire policies are compatible with all proposed boundary alternatives. The width of the protected river corridor within the KRSMA would be greater under the B (1/4 mile) and C (aliquot) alternatives. However,

fires that occur within the river boundaries would be managed accordingly to area environmental conditions, employee safety and site- specific prescriptions and not necessarily accordingly to Congressionally designated wilderness, wild and scenic river or KRSMA boundaries.

4.4 FISHERIES

4.4.1 MIDDLE FORK KINGS RIVER

The portion of the river from the park boundary to the main fork Kings River within Sierra National Forest contains rainbow, brown and brook trout. Non-game native species are the Sacramento squawfish, and Sacramento sucker. Due to the remote setting and difficult access, the river is lightly fished. The river is a good trout fishery.

4.4.2 SOUTH FORK KINGS RIVER

The river segment within the Sequoia National Forest is designated and managed under the State of California Wild Trout Program. The goal of this management emphasis is to maximize wild trout angling opportunities, with priority placed on maintaining abundant self-sustaining trout populations in which the number of larger, older fish is not significantly reduced by angler harvest.

4.4.3 KINGS RIVER

The Kings River above the North Fork junction is designated and managed under the State of California Wild Trout Program. The goal of this management emphasis is to maximize wild trout angling opportunities, with a priority placed on maintaining abundant self-sustaining trout populations in which the number of larger, older fish is not significantly reduced by angler harvest. Principal species involved are rainbow and brown trout.

4.4.4 EFFECT OF BOUNDARY ESTABLISHMENT ON FISHERIES

The location of a boundary would not have an impact on this resource. Since this river has been designated as a Wild and Scenic River, the construction of minor structures for such purposes as improvement of fish and game habitat are acceptable, provided they do not affect the free-flowing characteristics of the river and harmonize with the surrounding environment.

4.5 GEOLOGY AND SOILS

4.5.1 MIDDLE FORK KINGS RIVER

The Middle Fork canyon on Sierra National Forest, from Tehipite Valley to the confluence, is influenced by stream erosion and takes on the classic "V"-shape. In addition to the predominant granite, meta-volcanics are present at high elevations and compose a few of the peaks.

4.5.2 SOUTH FORK KINGS RIVER

Geology of the South Fork Kings River is interesting. The river gorge averages 5,000 feet deep. Segment 1 is the most complex geologically. Extensive pre-Cretaceous metasedimentary rocks including marble are common in the area. These marble formations have numerous caves, the most famous for the region being Boyden Cave. Boyden Cave is a marble cave with a "Early Triassic to late Jurassic" megafossil locality in the vicinity. The cave is adjacent to the river. A small ridge of Jurassic-Triassic metavolcanic rocks occurs east of the Boyden Cave area. The remainder of Segment 1 is granitic. A prominent waterfall occurs on Grizzly Creek adjacent to Highway 180 and the South Fork Kings River.

The South Fork Kings River is unique because of the deep gorge, cliffs, dikes, and combination of various rock types adjacent to the river.

4.5.3 KINGS RIVER

The Kings River Canyon is unique in the Sierra Nevada. The Canyon is over 7,000 feet deep, considerably deeper than the Grand Canyon. The elevation of the north rim at Spanish Mountain is 10,051 feet. The elevation of the river at the point Deer Canyon enters, is 2,400 feet.

Geologically, the Kings is comprised of granitic rocks, with some pre-Cretaceous limestones, pre-Cretaceous metasedimentary rocks and a small pre-Cretaceous metavolcanic outcrop.

4.5.4 EFFECT OF BOUNDARY ESTABLISHMENT ON GEOLOGY AND SOILS

The effect of boundary locations on geology and soils would be minimal under Alternatives B and C. No ground disturbing activity would occur within the boundaries of segments classified "Wild" where all areas within the river corridor would be protected. However potential effects to the geology and soils under Alternative A, B or C could occur within Segment 1A because of the "Recreational" classification.

Alternative A would also have the potential to have an effect because construction of new roads, campgrounds or other structures would be allowed outside the river boundaries and within the Kings River Special Management Area and along that portion of the South Fork classified as "Recreational."

4.6 GRAZING

There is one grazing permit, the Hoist/Converse allotment that includes an area in Sec. 30, T.13S, R.30E. Due to the steep nature of the area, cattle do not graze within one-quarter mile of the South Fork Kings River. There would be no effect on grazing under any of the boundary alternatives.

4.7 LAND OWNERSHIP AND USE

4.7.1 MIDDLE FORK KINGS RIVER

The eight miles of the Middle Fork Kings River is within public lands administered by USDA Forest Service, Sierra National Forest.

There are six easements dating from 1902 within the Forest Service segment. There is a Federal Power Act Withdrawal (FERC) extending the full length of the corridor within the National Forest. The status of this withdrawal is currently being reviewed. The Bureau of Land Management has the responsibility to recommend to Congress by 1991 whether withdrawal is to be removed.

There are no roads or trails to or along the section within Sierra National Forest.

4.7.2 SOUTH FORK KINGS RIVER

Twelve miles of the South Fork Kings River is within public lands administered by USDA Forest Service. The Sequoia National Forest manages 9.5 mile and Sierra National Forest administers 2.5 miles within the Kings River Special Management Area. There are no withdrawals or easements along the South Fork Kings River.

Yucca Point Trail provides access to the extreme lower end of this river segment (Sec.1, T13S, R28E.) Excellent access occurs from Boyden Cave to Cedar Grove along California Highway 180.

4.7.3 KINGS RIVER

The entire six miles of Segment 2 is within public lands administered by Sierra National Forest within the Kings River Special Management Area. The river forms the boundary between the Sierra and Sequoia National Forests.

The northern side of Segment 1 is accessed from the Kings River National Recreation Trail (Trail 27E01, Sierra National Forest.) The upper or eastern end of the segment is inaccessible except for a Forest Service trail which runs down to the river from Yucca Point (Trail 28E01) on the south side of the river (Sequoia National Forest). As a laboratory and a classroom, the Kings is used by many colleges and universities, as well as by the YMCA groups, Boy Scouts, Outward Bound, and elementary schools. Disabled and special needs classes from Fresno City College use the lower canyon.

There is a preliminary permit issued in 1983 for a power withdrawal on the lower portion of Ten Mile Creek. Preliminary plans show the powerhouse, penstock, and powerlines within one quarter mile of the Kings River.

4.7.4 EFFECT OF BOUNDARY ESTABLISHMENT ON LAND OWNERSHIP AND USE

The location of a boundary could have an impact on the proposed hydro development. Since this river has been designated as a Wild and Scenic River, hydroelectric development would be prohibited within the river corridor boundary. Selection of Alternatives B or C would prevent hydroelectric development along Ten Mile Creek for at least one-quarter mile from the confluence with the Kings River.

4.8 MINERALS

There are no listed claims within any of the boundary alternatives. Future new claims designated within wild and scenic rivers that are classified as "Wild" are precluded by the Wild and Scenic River Act. The location of boundaries would not affect minerals under any of the alternatives.

4.9 RECREATION

4.9.1 MIDDLE FORK KINGS RIVER

There is currently no road or trail access to the Forest Service portion of the Middle Fork. The river is normally a raging torrent; however, anglers occasionally wade up river from the Yucca Point where fishing can be done during periods of extremely low water. Kayaking has been attempted but those boaters regarded the Middle Fork the most difficult within California. The Kings basin is a world class area for rock climbing and mountaineering. Granite faces rise 3,600 feet, and many backcountry routes remain unclimbed. Public Law 100-150 provides for a trail to be built up the Middle Fork Canyon to provide year-round access to Tehipite Valley located upstream in Kings Canyon National Park. Tehipite Valley, in the upper Middle Fork canyon, is considered one of the highlights of the entire Sierra, though seldom visited. The lower seven miles within the Sierra National Forest presently has no trail access. The Recreation Opportunity Spectrum Class for this area is Primitive (P).

4.9.2 SOUTH FORK KINGS RIVER

The river is a raging torrent and is extremely dangerous for floating during spring and early summer. Rafting, kayaking and canoeing are either impossible or presently done only with extreme hazards.

Boyden Cave and Grizzly Falls Picnic Area are within one-quarter mile of the South Fork Kings. Hiking is the main activity along this portion of the river.

There are good opportunities for fishing, hiking, and camping along the river. Along the roaded portions, angling pressure is heavy, while use diminishes as distance from road access increases.

The Recreation Opportunity Spectrum Class for the 12 miles of river within National Forest System land is Roaded Natural (RN).

4.9.3 KINGS RIVER

The Kings River has the highest volume of water which can safely be rafted in the Sierra Nevada, the second highest in California. Kayakers and canoeists along with rafters enjoy the river's long use season. However, the utilized portion is below elevation 1,595 and outside the existing designated Wild and Scenic River system. A group has requested a permit to operate a river rafting guiding service on the Kings River from Yucca Point to Garnet Dike. This portion is within Segment 2 and is within the designated Wild and Scenic River System. The Forest Service position has been that there will be no commercial ventures authorized on this portion of the Kings River until a whitewater boating management plan is prepared as called for in the Sequoia Forest Land Management Plan and the Wild and Scenic River Management (implementation) Plan. The Recreation Opportunity Spectrum class for the entire segment is Semi-PrimitiveNon-Motorized(SPNM).

Fishing, a popular activity, is common along the more accessible portions of the river. However, trail access ends at Garlic Falls, limiting fishing above that point. Hiking is popular in the spring and fall when temperatures are mild. Other recreation activities including hunting, camping, and horseback riding occur, but are minimal because of limited trail access above the Rough Creek area.

4.9.4 EFFECT OF BOUNDARY ESTABLISHMENT ON RECREATION

Within the Monarch Wilderness recreation opportunities are equal under all alternatives.

Under Alternative A, recreation construction could occur adjacent to the river within the Kings River Special Management Area. Alternatives B and C would limit development of roads, campgrounds, and utilities adjacent to the river within the Kings River Special Management Area. If a whitewater management plan permitted commercial rafting along the "Wild" section of the Kings River, the selection of Alternative B or C would only allow

minimum opportunities for development of improvements in conjunction with the rafting.

Boyden Cave was in operation at the time the South Fork Kings River was classified as "Recreational." Operation of the caves would be permitted to continue under all alternatives. Additional development would be consistent with the "Recreational" classification. Grizzly Falls Picnic Area is also consistent with the "Recreational" classification.

4.10 SOCIO-ECONOMIC

4.10.1 MIDDLE FORK KINGS RIVER

Economics: There are no known existing or proposed water resource developments on this river.

There are no known existing or proposed competing resource uses. There are no roads or trails to or along the section managed by Sierra National Forest, therefore, opportunities for commercial whitewater boating or recreational activities are presently nonexistent.

Socio: Only people with knowledge of traveling up the river corridor during low water periods for nature study, hiking or fishing visit the Sierra National Forest portion of the river. There are no trails or roads adjacent or close to the river.

The river transects a broad elevation range of the Sierra, from highcountry to foothills, with no reservoirs or major diversions along the way. It is valuable for the ecological well-being of Central California communities and potentially to people and science in general.

4.10.2 SOUTH FORK KINGS RIVER

The socio-economic environment of the South Fork Kings River is limited to one small tourist-oriented business. Under Special

Use Authorization from the Forest Service, an operator conducts tours of Boyden Cave during the summer. Boyden Cave (Sequoia National Forest) is located on State Highway 180 west of Cedar Grove (Kings Canyon National Park) where there is a campground, store, and gas station. Altogether, these businesses account for fewer than ten seasonal jobs.

Segment 1 from Horseshoe Bend downstream to the confluence with the Middle Fork is extremely inaccessible, lying in the bottom of the very steep canyon well below California Highway 180. There is no access into this river area. Horseshoe Bend is the first close look at the river afforded visitors as the roadway drops into the canyon bottom. The river itself is virtually a continuous whitewater rapid.

The majority of Segment 1A from the boundary with Kings Canyon National Park downstream to Horseshoe Bend is easily reached by California Highway 180. Due to the rugged canyon and river in this section, campgrounds do not exist. Improvements include the Grizzly Falls Picnic Area and Boyden Cave. Scenic vistas are common in this corridor and the excellent maintained highway brings many visitors. Whitewater rapids are common along the entire length of Segment 1A. At Horseshoe Bend, the road is well above the river and canyon views with whitewater attracting many photographers. The Highway drops to the river shoreline at Boyden Cave, and crosses to the north side. Highway 180 is not open during the winter season.

4.10.3 KINGS RIVER

There are no commercial rafting or grazing activities within the designated wild and scenic river upstream from the Garnet Dike area and above the 1,595 foot elevation.

4.10.4 EFFECT OF BOUNDARY ESTABLISHMENT ON SOCIO-ECONOMICS

There would be no effect on the socio-economics in any of the boundary alternatives. Alternative B would be more economical to administer than Alternative C because the boundary lines would be easy to find if they had to be field monumented. Alter-

native A would be the most economical because the high water line is already field evident.

4.11 THREATENED AND ENDANGERED SPECIES

Historic peregrine falcon eyries are located on the Kings River near Garlic Falls and on the South Fork Kings River. Near Horseshoe Bend a single peregrine was sighted in 1988. A falcon hack site is located adjacent to but outside the study area. Although the falcons use the area of the South Fork Kings, the location of a boundary would not effect the falcons or their environment. Bald Eagles flying up the Kings to forage will also not be affected by boundary locations. Also see 4.13 VEGETATION, where it suggests that some T&E surveys may be necessary if boundary lines have to be field located for Alternatives B or C.

4.12 TIMBER

Timber activities in the area would have no affect on wild and scenic river values under any of the alternatives. The lands adjacent to the Middle Fork Kings River, 2.5 miles of the South Fork Kings River, and the Kings River are either in designated wilderness or in the Kings River Special Management Area. No timber cutting is allowed in wilderness and is only permitted in the KRSMA where it is required in order to control the attacks of fire, insects, or disease or to otherwise conserve the scenery or the natural or historical objectives of the area. The KRSMA restrictions on timber cutting are comparable to Wild classification restrictions. There is no commercial timber land along the remaining 9.5 miles of the South Fork Kings River.

4.13 VEGETATION

4.13.1 MIDDLE FORK KINGS RIVER

The reaches of the canyon below Tehipite Valley are covered by chaparral like western mountain mahogany, gooseberry, ceanothus, manzanita, and scrub oak. There are red fir, white fir, Jeffrey pine and ponderosa pine in the higher elevations. In the lower and middle canyon, the river is bordered by alder, cottonwood, and willow. The riparian zones are places of lush growth including cottonwood, sycamore, and canyon live oak in the lower areas.

At least three sensitive plants occur in the drainage. They are:
Raillardella muirii (Muir's raillardella),
Streptanthus fenestratus (Tehipite jewel flower)
Carex tompkinsii (Thompkins sedge)

4.13.2 SOUTH FORK KINGS RIVER

There are willows, cottonwoods, alders, black oak and live oak within the valley floor. Giant sequoias thrive on the south rim of the canyon. The drier slopes show manzanita, golden cup oak, mountain mahogany and incense cedar. White fir, red fir and sugar pine thrive in the higher elevations.

Sensitive plants that have been found in the South Fork basin are:
Erigeron aequifolius (Hall's daisy)
Lewisia congdonii (Congdon's bitterroot) - location Boyden Cavern area.
Carex tompkinsii (Tompkins sedge) - location Boyden Cavern, Yucca Point.

4.13.3 KINGS RIVER

Vegetation types in the lower elevations of the canyon are Digger Pine Oak, Chaparral, Blue Oak Savannah, and Riparian Deciduous. Black willow is the most common plant at the water's edge. California sycamores are plentiful, along with interior live

oak, canyon live oak, California buckeye, broadleaf maple, and California bay. There are no (botanic) sensitive plant species or notable plant communities known to exist along this portion the Kings River. However, above Pine Flat Reservoir, small groves of ponderosa pine are a distinctive plantlife feature. The area is within the Western Hardwood ecosystem.

4.13.4 EFFECTS OF BOUNDARY ESTABLISHMENT ON VEGETATION

No significant effect would occur to vegetation under any of the boundary strategies. If hand clearing is required to facilitate surveying lines or trail construction under Alternative B and C, minor effect would occur to the T & E and sensitive species. Botanical surveys would be conducted prior to any manipulation of vegetation to determine presence or non-presence of sensitive plants. Vegetation management using mechanical equipment would not be allowed within the boundaries of Alternatives B or Alternative C.

4.14 VISUAL RESOURCES

4.14.1 MIDDLE FORK KINGS RIVER

Within Sierra National Forest the Middle Fork falls within the Sierra Nevada Landscape Character type. The river corridor is very rugged, and access is difficult. In places it is over 7,000 feet deep. The Sierra National Forest has rated this section of the river corridor as having a "Distinctive" Variety Class A. This rating is for the highest quality scenery found within a National Forest visual management zone within the State of California.

4.14.2 SOUTH FORK KINGS RIVER

Within the Sequoia National Forest, the South Fork also falls within the Sierra Nevada Landscape Character type. Waterfalls, unique geologic formations and a diversity of plant species en-

hance the characteristics of this free-flowing stream. Some of the backcountry is among the most spectacular in America. The Sequoia National Forest has rated this section of the river corridor as having a "Distinctive" Variety Class A. This rating is for the highest quality scenery found within a National Forest visual management zone. Much of the upper portion of the river, from just below Boyden Cave, is located adjacent to the State Highway that provides access to the Cedar Grove portion of Kings Canyon National Park. A picnic area, the road, and other developments have reduced the naturalness of the corridor. The lower 2.5 miles of river is in a very rugged canyon well away from and not influenced by the highway.

4.14.3 KINGS RIVER

The Kings River falls within the Sierra Nevada Landscape Character type. Clear, unpolluted water is seen in rapids and large pools. The diversity of the vegetation, and the many boulders enhance the beauty of the river corridor. Waterfalls on tributaries are another attraction. The falls of Garlic Meadow Creek drop 650 feet in four pitches. Rough Creek has a fall over 75 feet. The upper portion presents a unique panorama of a picturesque stream flowing through an unaltered steep-walled V-type canyon. The reach above Garlic Falls has been rated as "Distinctive" by both the Sequoia and the Sierra National Forests.

4.14.4 EFFECT OF ESTABLISHMENT OF BOUNDARIES ON VISUALS

There would be a minor effect on the visual quality of the area under Alternative B and C. These effects would be limited to monumenting of the survey lines if it were necessary to field locate the boundary. There would be a potential visual effect in Alternative A if facilities are allowed to be developed outside the river boundary. Outstanding scenic resources have been identified beyond the potential boundary locations for Alternitives B and C.

4.15 WATER QUALITY AND WATER RESOURCES

Flow Data: Kings River, near trimmer,California, # 11-2135
Average annual flow: 1,456 cfs (1931-1982)
Maximum recorded flow: 59,100 cfs (12/23/55).
Minimum recorded flow: 70 cfs (1/14/63,10/5/77).
Drainage area: 952 square miles (area above gauge).
Seasonal Range:
Average Mean Flow (cfs)

Oct. 212, Nov. 256, Dec. 399, Jan. 710, Feb. 630, March 853, April 1790, May 4187, June 4622, July 2372, Aug. 926, Sept. 459.

These flow figures are taken from the gauge located in NW 1/4,Section 27, T. 12 S., R. 26 E., Fresno County, on the right bank at Rodger's Crossing, 0.9 miles upstream from the North Fork, 2.9 miles south of Balch Camp, and 9.6 miles southeast of Trimmer. The seasonal range was determined from nine randomly selected years from 1932 to 1979. The gauge is located on the Kings River below the confluence of the Middle and South Forks. All numbers given here can be presumed to be two or three times the numbers for either the Middle Fork or the South Fork because these river basins have similar drainage areas and snowpacks. The late spring peak is accounted for by snowmelt. The January peak occurs as a result of direct runoff from rainfall.

Water quality of the Kings is excellent. The water is well-oxygenated, cold, clear, and low in nutrients, phosphous, turbidity, and other pollutants. Dissolved solids are present at a low level of 30 to 40 parts per million. At medium and low-water flows the Kings is crystal clear and dark green in the deepest pools.

4.15.4 EFFECT OF BOUNDARY ESTABLISHMENT ON WATER QUALITY AND WATER RESOURCES

Location of boundaries would not affect water quality under alternatives B and C. There would be a potential effect to the water resources if potential developments adjacent to the river were allowed to occur along the South Fork Kings River in Alternative A.

4.16 WILDLIFE

4.16.1 MIDDLE FORK KINGS RIVER

Since the river drops nearly 10,000 feet from source to mouth, wildlife is extremely varied. Roughly 180 species of wildlife may occur in this area.

Higher elevations are home for marmots, ground squirrels, gophers, mice, marten, weasels, Clark's nutcrackers, rosy finches, etc. Montane forests are habitat for deer, bear, coyote, marten, porcupine, gray squirrels, chipmunks, mice, gophers, owls, woodpeckers, Stellar's jays, mountain chickadees, kinglets, warblers, etc. The golden eagle is a permanent resident and bald eagles are winter visitors.

In the lower chaparral area coyote, deer, ring-tailed cats, foxes, quail, hummingbirds, flycatchers, towhees, sparrows, scrub jays, gray fox, brush rabbits, rattlesnakes, gopher snakes and many lizards may be found. Wildlife populations are believed to be stable. The area offers potential nest sites for the endangered peregine falcon. Riparian areas are extremely important wildlife habitats on the Sierra National Forest and along this river corridor. The extreme rugged topography and vegetative cover seems to limit the amount of wildlife use in parts of the area.

4.16.2 SOUTH FORK KINGS RIVER

After five years of consecutive reintroduction efforts ("hacking" captive-bred peregrine falcons), peregrine falcons are nesting in the cliffs along the South Fork Kings River. Hacksite efforts should continue until "downlisting" by the Fish and Wildlife Service, Pacific States Recovery Team. Some of these efforts may occur outside the one-quarter mile river corridor boundary. The prairie falcon has also been known to migrate throughtout the lower canyons. The wood duck, osprey, spotted owl, pileated woodpecker, and pine grosbeak can be found in these areas.

Wolverines are known to be occasional visitors of the Kings Canyon area.

4.16.3 KINGS RIVER

California mule deer from the Middle Fork Kings live on both sides of the canyon. The Hume deer herd relies heavily on land adjacent to the south side of the river. The floor of the canyon is excellent winter habitat for the herd. Bear, racoon, fox, skunk and ring-tailed cats are frequently sighted along the canyon. Deer commonly winter along the lower slopes of the canyon, and move to higher elevations in the summer. Approximately 150 species of riparian-associated wildlife live along the river. Important habitat for the endangered peregrine falcon, golden eagle, and bald eagle, also occurs along the river corridor. Wolverines are known to be occasional visitors of the Kings Canyon area.

4.16.4 EFFECT OF BOUNDARY ESTABLISHMENT ON WILDLIFE

Temporary disturbance to wildlife could occur under Alternative B and C if the boundary lines had to be monumented. A potential for impact could occur adjacent to the Kings river, within the Kings River Special Management Area and along the South Fork Kings River in Segment 1A where hunting may be allowed if alternative A was selected.

5.0 DISTRIBUTION OF THE REPORT

Copies of this Environmental Assessment, including the maps, decision notice and finding of no significant impact, which describe the river boundaries in detail will be made available at the following addressess:

Hume Lake Ranger District, Sequoia National Forest
35860 E. Kings Canyon Rd., Dunlap, CA 93621
(209) 338-2251

Kings River Ranger District, Sierra National Forest
34849 Maxon Road, Sanger, CA 93657
(209) 841-3311

Pacific Southwest Region, USDA Forest Service
630 Sansome Street, San Francisco, CA 94111
(415) 556-9381

Sequoia National Forest, USDA Forest Service
900 West Grand Avenue, Porterville, CA 93257
(209) 784-1500

Sierra National Forest, USDA Forest Service
1139 "O" Street, Fresno, CA 93721
(209) 487-5155

6.0 CONSULTATION WITH OTHERS

This section describes the individuals and agencies who participated in the analysis or were consulted for comments and concerns as part of the scoping process. Public comment was solicited in the form of interagency meetings, public meetings, public notices, and mailings.

6.1 INTERDISCIPLINARY TEAM

The following USDA Forest Service staff have been involved with the coordination, research, writing, editing, graphics and publishing of this environmental assessment:

Wallace McCray, Forest Landscape Architect, SNF
Ann Dellavalle, Environmental Officer KRRD, SNF
Cynthia Whelan, Recreation Planning Forester HLRD, SQF

6.2 REVIEW TEAM

The following USDA Forest Service and USDI National Park Service staff have been involved with the reviewing, editing, and providing suggestive comments for this environmental assessment:

Jim Shiro, Recreation Management,RO
Terry Elliott, Environmental Coordinator, SNF

Donna Heagy, Fisheries Biologist, SNF
Paula McMasters, Special Areas, Forester, RO
John Lorenzana, Wildlife Biologist/Range, SNF
Brent Roath, Forest Soil Scientist, SNF
Earl Franks, Forest Hydrologist, SNF
Gordon Yamanaka, Wildlife Biologist, SNF
Bob Hull, Forest Lands Officer, SNF
Dave Kohut, Forest Fire Management Officer, SNF
Jerry Degraff, Forest Geologist, SNF
Jerry Gelock, Forest Recreation Officer, LMP Officer, SQF
Tommy Baxter, Forest Recreation Officer, SNF
Charles Hellen, District Resource Officer, KRRD, SNF
Michael Evans, District Resource Officer, HLRD, SQF
Jeff Seib, Cadastrial Engineer, SNF
Susan Jordan, Land Surveyor, SNF
Steve Anderson, Range/Wildlife Officer, HLRD, SQF
Don Fullmer, Silviculturist, HLRD, SQF
Inez Robbins, Assistant Forest Recreation Officer, SQF
Larry Burd, Assistant Silviculturist, HLRD, SQF
Bob Bernal, Landscape Architect Aid, SNF
Bill Tweed, Management Assistant, Seq./ Kings Canyon. N.P.
Joan McCray, Editor Consultant

6.3 MANAGEMENT TEAM

The following USDA Forest Service staff have been involved with providing the recommended approval decisions relating to this environment assessment:

Jim Boynton, Forest Supervisor, SNF
Jim Crates, Forest Supervisor, SQF
Paul Pratt, District Ranger, KRRD, SNF
Bruce Waldron, District Ranger, HLRD, SQF

6.4 THE PUBLIC

This section lists the source and nature of the public comments received. Approximately 300 letters were mailed to various

people and agencies requesting comment on the establishment of the boundaries. No written comments were received. However public comments were recorded at the public meetings and the location of agency responses are listed and found within this EA.

1.Interagency Meeting March 22, 1988 with representatives of Sequoia-Kings Canyon National Parks, Sequoia National Forest, Sierra National Forest, and The Pacific Southwest Region of the Forest Service among others.

a) Should an interagency plan be prepared for the entire reach of each river? See section 1.1

b) Is there a possibility of changing the recommended classifications in the LMP as part of this study process? See section 1.1.1

2. Informal meetings with representatives of Committee to Save the Kings River

a) Boundary between Segments 1 and 1A South Fork Kings River at Horseshoe Bend. Feel setting the boundary at the Highway 180 bridge near Boyden Cave would clarify the differentation between the two segments.

b) Opposed high water line boundary alternative even though no adverse impact would result on the Kings River. Opposition is based on a concern minimum boundaries could set a precedent on projects where setting boundary at the high water mark would have an adverse affect on protection of the Wild and Scenic Resource.

3. Public Meeting Clovis Memorial Building

a) Why was Horseshoe Bend chosen as the division between segments rather than the Highway 180 bridge?

Horseshoe Bend was chosen during the Sequoia National Forest planning analysis because it was determined that this was the point where Highway 180 came in close proximity to and was visible from the river (the highway was within one-quarter mile

from the ordinary high water mark). Thus, it was determined the river met the "Recreational" classification criteria better than the "Wild" classification. Additionally, this location coincided with the KRSMA boundary and provided a logical point for change of Classification.

b) Would the one-quarter mile alternative include the entire flood plain and riparian fringe? Is there any scenic or other significant resource that would not be included in the one-quarter mile boundary? If the river meanders, which is the best alternative to protect it? See section 4.2.4 and 4.14.4.

c) Is the one-quarter mile slope or horizontal distance? Does the surveyor who gave the opinion the 1/4 mile is the easiest alternative understand the question about horizontal distance verses slope distance? See section 4.2.4

d) How hard is it to establish the boundary line with the one-quarter mile alternative? Could you use the quarter mile map? Will the one-quarter mile boundary have to be surveyed in the absence of an issue? See section 4.2.4

e) Where is the one-quarter mile measured from? (Normal high water line) Could you exceed the one-quarter mile boundary? See section 4.2.4

f) What will happen to the proposed small hydro project on Ten Mile Creek with the quarter-mile alternative (FERC 6017)? See section 4.7.4

g) What is the history of establishing boundaries on previous projects? Were they feasible? What were the problems? See Section 4.2.4

h) Will you consider the damage to vegetation required to run lines to establish metes and bounds? See section 4.13.4

7.0 APPENDIX

APPENDIX A

EFFECTS OF BOUNDARY ESTABLISHMENT

This table one compares the alternatives in their ability to meet project objectives and resolve key issues. A more detailed analysis, including concerns identified in the scoping process, is found in section 4.0 ENVIRONMENTAL CONSEQUENCES.

RESOURCES	Alt A	Alt B	Alt C
Cultural Res	No Effect	No Effect	No Effect
Land Line	No Effect	Effect	Effect
		if surveyed	O/M cost
Fire	No change	No change	No change
Fisheries	No Effect	No Effect	No Effect
Geology	Effect	No Effect	No Effect
	adj. to river		
Grazing	No Effect	No Effect	No Effect
Land Ownership	Effect	Effect	Effect
	adj. to river	to Hydro	to Hydro
Minerals	No claim	No claim	No claim
Recreation	Effect	Effect	Effect
	adj. to river	To KRSMA	To KRSMA
Socio-economics	No Effect	No Effect	No Effect
T & E species	Effect	No Effect	No Effect
	adj. to river		
Timber	No Effect	No Effect	No Effect
Vegetation	No Effect	No Effect	No Effect
Visual Resources	Effect	Effect	Effect
	adj. to river	if surveryed	if surveyed
Water quality	No change	No change	No change
Wildlife	Effect	No Effect	No Effect
	adj. to river		

APPENDIX B

FINDING OF ELIGIBILITY AND CLASSIFICATION

TABLE 2 The following tables shows a summary of activities allowed by classification. The Kings River Special Management Area is also included because portions of the Kings and South Fork Kings are within this KRSMA. These are guidelines only and should be confirmed with the specific Acts.

ACTIVITY	KRSMA	WILD	SCE	REC
Timber cutting	no	no	yes	yes
Water Dams	no	no	no	yes
Hydro power	no	no	no	no
Flood Control	x	no	no	no
Mining claims	no	no	yes	yes
Road Const.	x	no	yes	yes
Agric. grazing	yes	yes	yes	yes
Recre develop	yes	yes	yes	yes
Structures	x	yes	yes	yes
Utilities	x	yes	yes	yes
Motorized travel	yes	yes	yes	yes
Veg.for Wildlife	yes	x	x	x
Hunting/fishing	yes	x	x	x

x= Not addressed in Act or Standards and Guidelines, Any conflicts between Acts, regulate in favor of the more restrictive provision. All of the "yes" guidelines in "Wild" or "Scenic" classifications have conditions.

APPENDIX B

FINDINGS OF ELIGIBILITY AND CLASSIFICATION

TABLE 3. **OUTSTANDING REMARKABLE VALUE SUMMARY MIDDLE FORK KINGS RIVER**

SEGMENT 2	VALUES
•Classic "V" shape canyons	Geologic
Important lush riparian areas	Botanic
•Potential sites for peregine falcon, wildlife populations stable	Wildlife
Fish populations are self-sustaining	Fishery
•One of last free-flowing primitive high Sierra rivers still remaining in Calif.	Recreation
•Distinctive deep valleys,rugged, highest quality ratings for National Forests	Scenic
Additional cultural resource sites expected	Cultural

•*OUTSTANDING REMARKABLE VALUES*

APPENDIX B

FINDINGS OF ELIGIBILITY AND CLASSIFICATION

TABLE 4. ELIGIBILITY AND CLASSIFICATION ANALYSIS- MIDDLE FORK KINGS RIVER

BLOCK 1 WILD	SEGMENT 2
Free of impoundments?	yes
Generally Inaccessible except by trail?	yes
Watershed/shoreline essentially primitive?	yes
Waters Unpolluted?	yes
BLOCK 2 SCENIC	
Free of impoundments?	
Only accessible in a few places by road?	
Watershed/shoreline largely primitive and largely undeveloped?	
BLOCK 3 RECREATION	
Past Impoundments or diversions unobtrusive?	
BLOCK 4 ALL	
Possesses Outstandingly remarkable resource values?	yes
CLASSIFICATION/ELIGIBILITY	*WILD*

Explanation: to qualify for WILD, there must be 4 yeses in block 1 and yes in block 4; for SCENIC, there must be 3 yeses in block 2 and yes in block 4; for RECREATIONAL, there must be a yes in block 3 and block 4.

APPENDIX B

FINDINGS OF ELIGIBILITY AND CLASSIFICATION

TABLE 3. OUTSTANDING REMARKABLE VALUES SUMMARY- SOUTH FORK KINGS RIVER

SEGMENT 1,1A	VALUES
•Premier example of precretaceous limestones with numerous caves, "v"canyon	Geologic
Diversity of plant species, 2 sensitive plants	Botanic
Peregine falcon along cliffs, Calif bighorn are present	Wildlife
Designated as State Wild Trout river	Fishery
Good opportunities for fishing,hiking and camping	Recreation
•Rated highest quality scenic for NF, unique geologic formations	Scenic
Numerous sites recorded, additional sites expected	Cultural

•*OUTSTANDINGLY REMARKABLE VALUES*

APPENDIX B

FINDINGS OF ELIGIBILITY AND CLASSIFICATION

TABLE 4. **ELIGIBILITY AND CLASSIFICATION ANALYSIS- SOUTH FORK KINGS RIVER**

BLOCK 1 WILD	SEG 1	SEG 1A
Free of impoundments?	yes	yes
Generally inaccessible except by trail?	yes	no
Watershed/shoreline essentially primitive?	yes	yes
Waters unpolluted?	yes	yes
BLOCK 2 SCENIC		
Free of impoundments?		yes
Inaccessible or only accessible in a few places by road?		no
Watershed/shoreline largely primitive and largely undeveloped?		yes
BLOCK 3 RECREATION		
Past impoundments or diversions are unobtrusive?		yes
BLOCK 4 ALL		
Possesses outstandingly remarkable resource values?	yes	yes
CLASSIFICATION/ELIGIBILITY	*WILD*	*REC*

Explanation: to qualify for WILD, there must be 4 yeses in Block 1 and yes in block 4; for SCENIC, there must be 3 yeses in block 2 and yes in block 4; for RECREATION, there must be a yes in block 3 and block 4.

APPENDIX B

FINDINGS OF ELIGIBILITY AND CLASSIFICATION

TABLE 3. OUTSTANDING REMARKABLE VALUES SUMMARY - KINGS RIVER

SEGMENT 2 (1)	VALUES
•River canyon unique in Sierra Nevada, Over 7,000',deeper than Grand Canyon	Geologic
Area within western hardwood ecosystem	Botanic
About 150 species of riparian wildlife live along river	Wildlife
Self-sustaining trout population	Fishery
Semi-primitive non-motorized areas good for hiking, camping fishing	Recreation
•Unique panorama of picturesque stream flowing through a steep-walled v-type canyon	Scenic
Cultural resource sites are evident along both sides of the river	Cultural

•*OUTSTANDING REMARKABLE VALUES*

(1) = Includes the one mile portion from Garlic Creek to the 1,595-foot elevation.

APPENDIX B

FINDINGS OF ELIGIBILITY AND CLASSIFICATION

TABLE 4. ELIGIBILITY AND CLASSIFICATION ANALYSIS - KINGS RIVER

BLOCK 1 WILD	SEGMENT 2(1)
Free of impoundments?	yes
Generally inaccessible except by trail?	yes
Watershed/shoreline essentially primitive?	yes
Waters unpolluted?	yes
BLOCK 2 SCENIC	
Free of impoundments?	
Inaccessible or only accessible in a few places by road?	
Watershed/shoreline largely primitive and largely undeveloped?	
BLOCK 3 RECREATION	
Past impoundments or diversions are unobtrusive?	
BLOCK 4 ALL	
Possesses outstandingly remarkable resource values?	yes
CLASSIFICATION/ELIGIBILITY	*WILD*

Explanation: to quality for WILD, there must be 4 yeses in block 1 and yes in block 4; for SCENIC, there must be 3 yeses in block 2 and yes in block 4; for RECREATIONAL, there must be a yes in block 3 and block 4.

(1) = Includes the one mile portion from Garlic Creek to 1595-foot elevation.

APPENDIX C

MANAGEMENT REQUIREMENTS AND CONSTRAINTS

The items listed below were determined by the ID team to be actions necessary to carry the results of their analysis into the design phase of Wild and Scenic River planning. There were no required actions to mitigate potential significant environmental effects (mitigating measures).

TABLE 5. MANAGEMENT REQUIREMENTS AND CONSTRAINTS.

Requirement or Constraint	Responsibility	When
1. Establish boundary descriptions for the selected alternative, submit to Regional WSR Coordinator for Federal Register publication.	Land Surveyor	Mar 89
2. Publish the Notice of availability of boundary and classification in the Federal Register.	Regional Forester	May 89
3. Notify the permittee of Decision and any impact of the WSR on the Ten Mile hydroelectric proposal.	District Ranger Forest Superv. (Sequoia N.F.)	Apr 89
4. Complete a 2nd phase EA and implementation plan for the WSR.	Project Manager & I.D. Team	Nov 90

APPENDIX D

REFERENCED MATERIAL AND SUPPORTING DOCUMENTS

The following documents were used in the preparation of this Environmental Assessment:

(1) PUBLIC LAW, Wild and Scenic River Act (P.L. 90-542) Oct. 1968

(2) PUBLIC LAW, Wild and Scenic Rivers Act (amended by P.L. 99-590), Oct. 1986

(3) PUBLIC LAW, Wild and Scenic Rivers Act (amended by P.L. 100-150), Nov. 1987

(4) DEPARTMENT STANDARD, Wild and Scenic River Federal Register Vol 47,173, Sept. 1982

(5) AGENCY STANDARD, Forest Service Handbook (FSH 1909.12 Chapter 8), Jul. 1987

(6) AGENCY STANDARD, Forest Service Manual (FSM 1924), Jul. 1988

(7) AGENCY STANDARD, Forest Service Manual (FSM 2354), Feb. 1987

(8) AGENCY LAND MANAGEMENT PLAN, Sequoia National Forest Land and Resource Management Plan Final, Environmental Impact Statement (1988) and the Forest Plan

(9) AGENCY LAND MANAGEMENT PLAN, Sierra National Forest Draft Land and Resource Management Plan, Environmental Impact Statement (1986) and the Forest Plan.

(9) PUBLIC LAW, Wild and Scenic Rivers Act (amended by P.L. 100-534), Oct. 1988

(10) NATIONAL FOREST GUIDELINE, A Work Plan for the Kings River South Fork Kings River and Middle Fork Kings River, Jul. 1988

Public Law 100-150
100th Congress

An Act

To designate a segment of the Kings River in California as a wild and scenic river, and for other purposes.

Nov. 3, 1987
[H.R. 799]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. DESIGNATION OF KINGS RIVER.

(a) DESIGNATION.—Section 3(a) of the Wild and Scenic Rivers Act (16 U.S.C. 1274(a)) is amended by adding the following new paragraph at the end:

"(62) KINGS, CALIFORNIA.—The Middle Fork of the Kings River from its headwaters at Lake Helen between Muir Pass and Black Giant Mountain to its confluence with the main stem; the South Fork, Kings River from its headwaters at Lake 11599 to its confluence with the main stem; and the main stem of the Kings River from the confluence of the Middle Fork and the South Fork to the point at elevation 1,595 feet above mean sea level. The segments within the Kings Canyon National Park shall be administered by the Secretary of the Interior. The remaining segments shall be administered by the Secretary of Agriculture. After consultation with State and local governments and the interested public and within one year after the enactment of this paragraph, the respective Secretaries shall take such action as is required under subsection (b) of this section. In the case of the segments of the river administered by the Secretary of the Interior, the requirements of subsection (b) shall be fulfilled through appropriate revisions to the general management plan for Kings Canyon National Park, and the boundaries, classification, and development plans for such segments need not be published in the Federal Register. Such revisions to the general management plan for the park shall assure that no development or use of park lands shall be undertaken that is inconsistent with the designation of the river under this paragraph. For the purposes of the segments designated by this paragraph, there are authorized to be appropriated such sums as may be necessary, but not to exceed $250,000, to the Secretary of Agriculture for development and land acquisition.".

National parks, monuments, etc.

State and local governments.

Appropriation authorization.

(b) RENUMBERING.—Section 3(a) of the Wild and Scenic Rivers Act (16 U.S.C. 1274(a)) is amended by redesignating the paragraphs relating to the Cache La Poudre River, the Saline Bayou, Black Creek, the Klickitat, and the White Salmon as paragraphs (57) through (61), respectively.

SEC. 2. SPECIAL MANAGEMENT AREA.

(a) ESTABLISHMENT.—In order to provide for public outdoor recreation use and enjoyment of certain areas within the Sierra National Forest and the Sequoia National Forest, to protect those areas' natural, archaeological, and scenic resources, and to provide for appropriate fish and wildlife management of those areas, there is hereby established the Kings River Special Management Area

Conservation.
16 USC 539g.
National Forest System.

19-139 O - 87 (150)

(hereinafter in this Act referred to as the "special management area"). The special management area shall be administered by the Secretary of Agriculture (hereinafter in this Act referred to as "the Secretary") through the Sierra National Forest.

(b) AREA INCLUDED.—The special management area shall consist of the lands, waters, and interests therein within the area generally depicted on the map entitled "Boundary Map, Kings River Special Management Area", dated April 1987. The map shall be on file and available for public inspection in the offices of the National Forest Service, Department of Agriculture. The Secretary of Agriculture may from time to time make minor revisions of the boundary of the special management area.

Public information.

National Forest System.

(c) ADMINISTRATION.—The Secretary shall administer the special management area in accordance with this Act and with the provisions of law generally applicable to units of the National Forest System. In the case of any conflict between the provisions of such Acts, the provisions of this Act shall govern. In the administration of the special management area the Secretary may utilize such statutory authority as may be available to him for the conservation of wildlife and natural resources as he deems necessary to carry out the purposes of this Act. Nothing in this Act shall be construed to prohibit grazing within the special management area to the same extent, and in accordance with the same rules and regulations as applicable in the absence of this Act. The Secretary may permit the cutting of timber within the special management area only in those cases where in the judgment of the Secretary the cutting of such timber is required in order to control the attacks of fire, insects, or diseases or to otherwise conserve the scenery or the natural or historical objects in the area.

Forests and forest products.

(d) MINING AND MINERAL LEASING.—Subject to valid existing rights, lands within the special management area are withdrawn from location, entry, and patent under the mining laws of the United States, from the operation of the mineral leasing laws of the United States and from operation of the Geothermal Steam Act of 1970.

State and local governments.

(e) HUNTING AND FISHING.—The Secretary shall permit hunting and fishing on lands and waters within the special management area in accordance with applicable Federal and State law. The Secretary may designate zones where, and establish periods when, such activities will not be permitted for reasons of public safety, administration, fish and wildlife management or public use and enjoyment. Except in emergencies, regulations issued by the Secretary under this subsection shall be put into effect only after consultation with the appropriate State agencies responsible for hunting and fishing activities.

(f) MANAGEMENT PLAN.—After consultation with the State of California, the Secretary shall publish a management plan for the special management area within three years after the enactment of this Act. The plan shall provide for public outdoor recreation use and enjoyment of the special management area, protect the area's natural, archeological, and scenic resources, and provide for appropriate fish and wildlife management within the area. The plan shall contain provisions for management of vegetation within the area designed to enhance the wildlife carrying capacity of the area. The plan shall permit off-road vehicular use of off-road trails to the same extent and in the same locations as was permitted before enactment of this Act. The plan shall provide for the development of hiking

trails in the special management area and shall include a trail from Garlic Creek to Little Tehipite Valley.

(g) ACCESS TO PRIVATE LANDS.—If any State or privately owned land or any valid mining claim or other valid occupancy is within the special management area, or if State or private subsurface rights underlie public lands within the special management area, the Secretary shall provide the State or private owner, claimant, or occupier and their successors in interest such rights as may be necessary to assure adequate and feasible access for economic and other purposes to the site concerned. Such rights shall be subject to reasonable regulations issued by the Secretary to protect the natural and other values of the special management area, taking into account the traditional and customary means of access used prior to the enactment of this Act.

Dams.

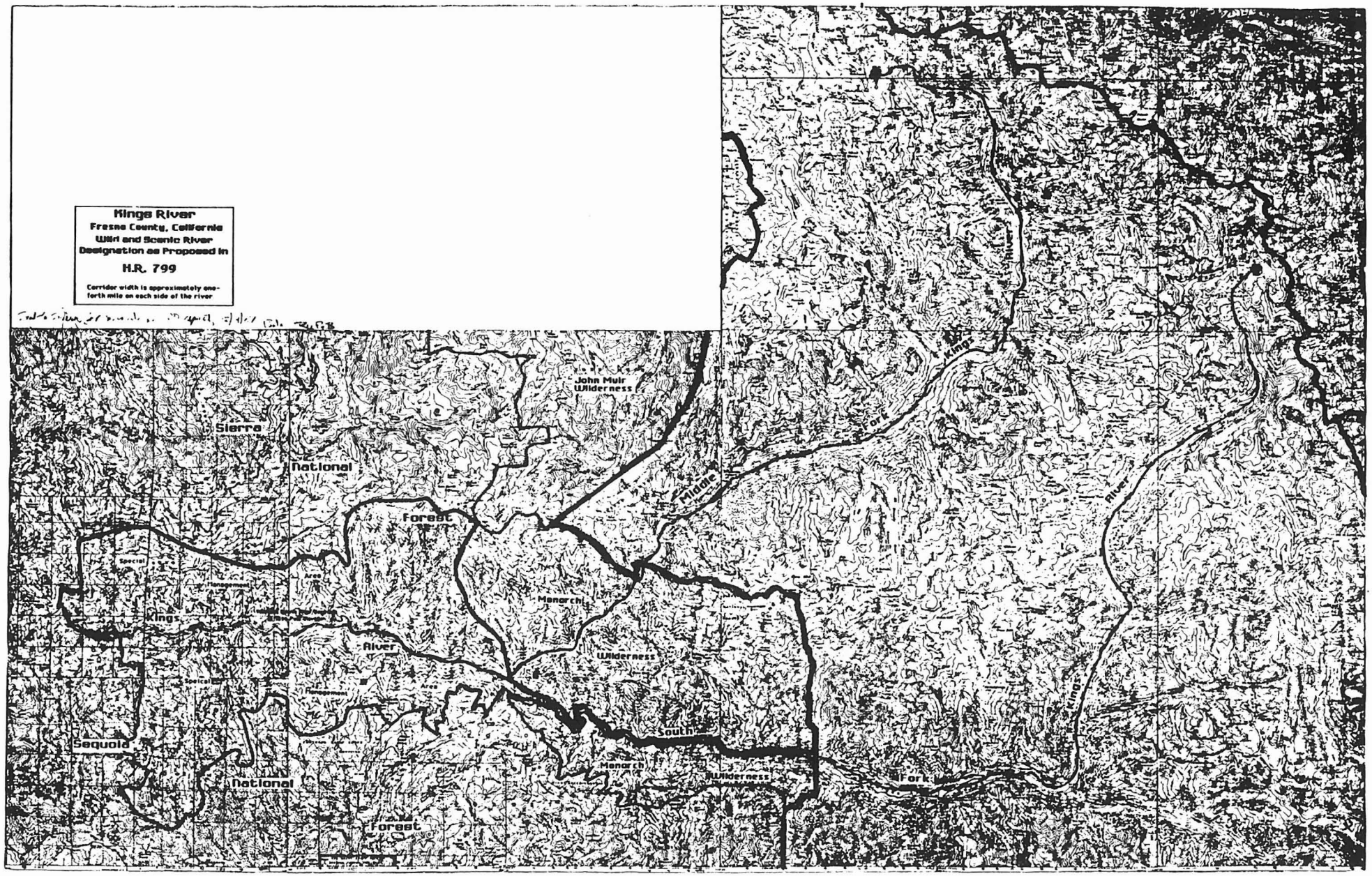
(h) SPECIFIC PROTECTIONS.—In recognition of the dispute that exists over whether a dam project should be constructed in the segment of the Main Stem of the Kings River from the point at elevation 1,595 feet above mean sea level downstream to the point at elevation 990 feet above mean sea level, Congress declares its intention at this time not to designate that segment of the Kings River as a component of the Wild and Scenic Rivers System. Notwithstanding any other provision of law, no Federal lands may be used for the construction of any dam or diversion within the boundaries of the special management area without specific authority of the Congress. In order to protect the natural, cultural, recreational, fishery, and wildlife values of the river segment referred to in this subsection, that segment shall be subject to the provisions of section 7(a) of the Act of October 2, 1968 (82 Stat. 906), in the same manner as if it were designated. Nothing in this Act shall preclude the Kings River Conservation District from conducting studies as it may deem appropriate.

Approved November 3, 1987.

LEGISLATIVE HISTORY—H.R. 799:

HOUSE REPORTS: No. 100-49 (Comm. on Interior and Insular Affairs).
SENATE REPORTS: No. 100-185 (Comm. on Energy and Natural Resources).
CONGRESSIONAL RECORD, Vol. 133 (1987):
Apr. 21, considered and passed House.
Oct. 1, considered and passed Senate, amended.
Oct. 13, House concurred in Senate amendments.

O



Official Congressional Map

APPENDIX E

BOUNDARY DESCRIPTIONS AND MAPS

The 26 miles of designated Wild and Scenic Rivers administered by the Secretary of Agriculture (USDA Forest Service) boundary location is shown on the enclosed maps and boundary description documents. There are 7,786.22 acres within the 26 miles. This averages 299 acres per mile and meets the intent of Public Law 100-534, which indicates that the boundaries of designated rivers shall include an average of not more than 320 acres per mile. Approximately 4,941 acres are administered by the Sierra National Forest and approximately 2,845 acres are administered by the Sequoia National Forest.

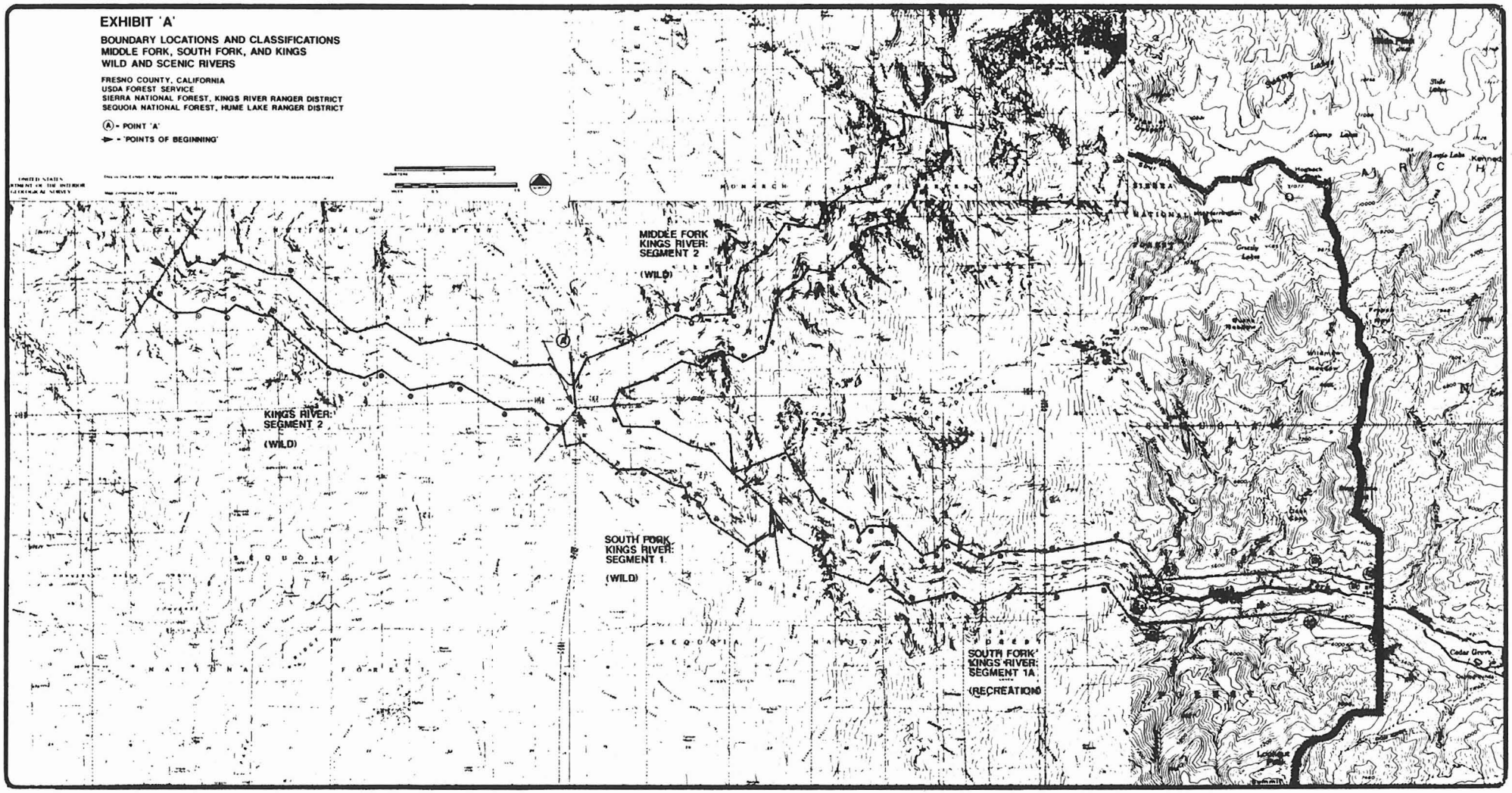


EXHIBIT 'A'
BOUNDARY LOCATIONS AND CLASSIFICATIONS
MIDDLE FORK, SOUTH FORK, AND KINGS
WILD AND SCENIC RIVERS
FRESNO COUNTY, CALIFORNIA
USDA FOREST SERVICE
SIERRA NATIONAL FOREST, KINGS RIVER RANGER DISTRICT
SEQUOIA NATIONAL FOREST, HUME LAKE RANGER DISTRICT
A - POINT 'A'
- 'POINTS OF BEGINNING'
MIDDLE FORK KINGS RIVER: SEGMENT 2 (WILD)
KINGS RIVER: SEGMENT 2 (WILD)
SOUTH FORK KINGS RIVER: SEGMENT 1 (WILD)
SOUTH FORK KINGS RIVER: SEGMENT 1A (RECREATION)

EXHIBIT 'A'

BOUNDARY LOCATIONS AND CLASSIFICATIONS
MIDDLE FORK, SOUTH FORK, AND KINGS
WILD AND SCENIC RIVERS

FRESNO COUNTY, CALIFORNIA
USDA FOREST SERVICE
SIERRA NATIONAL FOREST, KINGS RIVER RANGER DISTRICT
SEQUOIA NATIONAL FOREST, HUME LAKE RANGER DISTRICT

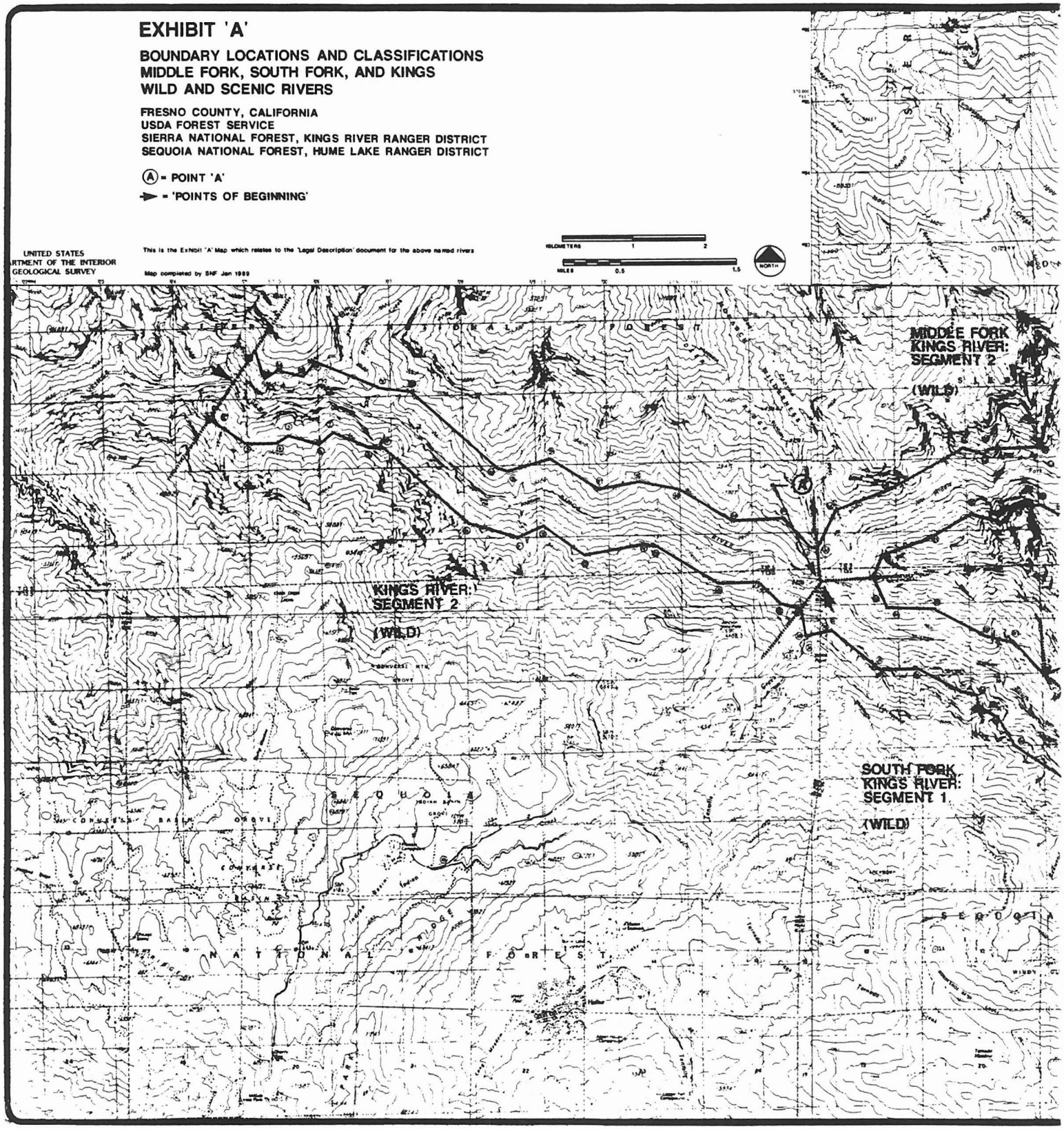
(A) = POINT 'A'

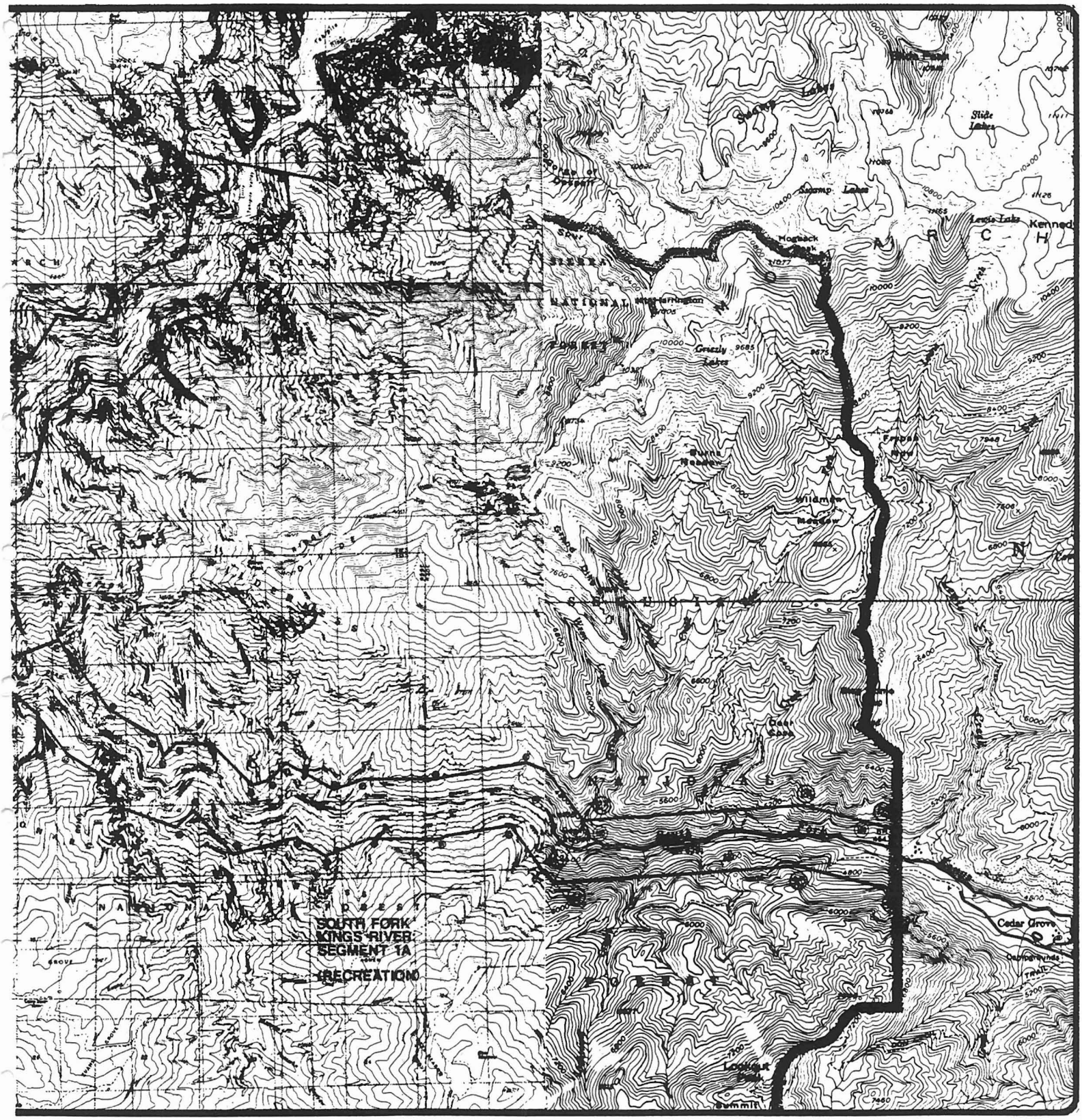
→ = 'POINTS OF BEGINNING'

UNITED STATES
RTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

This is the Exhibit 'A' Map which relates to the 'Legal Description' document for the above named rivers

Map completed by SNF Jan 1989




SOUTH FORK
KINGS RIVER
SEGMENT 1A
(RECREATION)
Slide Lakes
Swamp Lakes
Lewis Lake
Kennedy
Hogback Peak
Mt. Harrington
Grizzly Lakes
Burns Meadow
Wildman Meadow
Deer Cove
Cedar Grove
Campgrounds
Lookout Peak
Summit

BOUNDARY DESCRIPTION

FOR THE

MIDDLE FORK, SOUTH FORK, AND
THE KINGS WILD AND SCENIC RIVERS

That portion of the Sierra and Sequoia National Forests, as shown on Exhibit 'A' attached hereto and made a part hereof, being more particularly described as follows:

Kings River : Segment 2

Beginning at a point on the left bank of the Kings River where the high water mark elevation is 1595 feet above mean sea level;

thence southwesterly to a point whose coordinates are 555,060.25 N and 2,009,183.34 E;

thence S 55° 37′ 57" E, 1969.61 feet, more or less, to a point whose coordinates are 553,948.41 N and 2,010,809.12 E;

thence N 85° 47′ 24" E, 1385.34 feet, more or less, to a point whose coordinates are 554,050.11 N and 2,012,190.72 E;

thence N 53° 13′ 50" E, 507.12 feet, more or less, to a point whose coordinates are 554,353.67 N and 2,012,596.95 E;

thence S 72° 44′ 48" E, 1361.79 feet, more or less, to a point whose coordinates are 553,949.77 N and 2,013,897.46 E;

thence N 53° 13′ 33" E, 1014.24 feet, more or less, to a point whose coordinates are 554,556.96 N and 2,014,709.87 E;

thence S 66° 29′ 50" E, 1772.87 feet, more or less, to a point whose coordinates are 553,849.95 N and 2,016,335.66 E;

thence S 82° 09′ 43" E, 738.41 feet, more or less, to a point whose coordinates are 553,749.25 N and 2,017,067.17 E;

thence S 49° 29′ 41" E, 5133.95 feet, more or less, to a point whose coordinates are 550,414.66 N and 2,020,970.75 E;

thence S 74° 35′ 25" E, 2276.97 feet, more or less, to a point whose coordinates are 549,809.62 N and 2,023,165.86 E;

thence N 65° 59′ 40" E, 1245.25 feet, more or less, to a point whose coordinates are 550,316.22 N and 2,024,303.40 E;

thence S 56° 04′ 29" E, 2352.44 feet, more or less, to a point whose coordinates are 549,003.30 N and 2,026,255.38 E;

thence N 81° 06′ 16" E, 2632.41 feet, more or less, to a point whose coordinates are 549,410.36 N and 2,028,856.13 E;

thence N 89° 56′ 23" E, 731.56 feet, more or less,
to a point whose coordinates are 549,411.13 N and 2,029,587.69 E;

thence S 58° 10′ 48" E, 3254.86 feet, more or less,
to a point whose coordinates are 547,695.00 N and 2,032,353.37 E;

thence N 86° 50′ 09" E, 1872.36 feet, more or less,
to a point whose coordinates are 547,798.35 N and 2,034,222.88 E;

thence S 49° 20′ 04" E, 1394.73 feet, more or less,
to a point whose coordinates are 546,889.49 N and 2,035,280.82 E;

thence S 71° 19′ 54" E, 944.27 feet, more or less,
to a point whose coordinates are 546,587.24 N and 2,036,175.40 E;

thence northeasterly to the confluence of the South Fork Kings River and the Middle Fork Kings River, hereinafter referred to as point 'A';

thence northerly to a point whose coordinates are
549,116.40 N and 2,036,903.72 E;

thence N 76° 06′ 12" W, 418.83 feet, more or less,
to a point whose coordinates are 549,216.99 N and 2,036,497.15 E;

thence N 42° 54′ 57" W, 1793.01 feet, more or less,
to a point whose coordinates are 550,530.11 N and 2,035,276.25 E;

thence S 87° 23′ 10" W, 2278.14 feet, more or less,
to a point whose coordinates are 550,426.22 N and 2,033,000.47 E;

thence N 59° 55′ 28" W, 2819.64 feet, more or less,
to a point whose coordinates are 551,839.26 N and 2,030,560.45 E;

thence N 80° 25′ 52" W, 1813.65 feet, more or less,
to a point whose coordinates are 552,140.75 N and 2,028,772.04 E;

thence S 80° 43′ 31" W, 1893.85 feet, more or less,
to a point whose coordinates are 551,835.52 N and 2,026,902.95 E;

thence N 58° 09′ 55" W, 2680.16 feet, more or less,
to a point whose coordinates are 553,249.23 N and 2,024,625.95 E;

thence S 72° 40′ 20" W, 2042.80 feet, more or less,
to a point whose coordinates are 552,640.81 N and 2,022,675.87 E;

thence N 67° 31′ 09" W, 527.94 feet, more or less,
to a point whose coordinates are 552,842.68 N and 2,022,188.05 E;

thence N 48° 24′ 35" W, 5327.87 feet, more or less,
to a point whose coordinates are 556,379.32 N and 2,018,203.28 E;

thence N 86° 04′ 51" W, 1466.25 feet, more or less,
to a point whose coordinates are 556,479.54 N and 2,016,740.46 E;

thence N 68° 06′ 01" W, 2978.46 feet, more or less,

to a point whose coordinates are 557,590.45 N and 2,013,976.93 E;

thence S 43° 07′ 28" W, 831.72 feet, more or less,
to a point whose coordinates are 556,983.40 N and 2,013,408.38 E;

thence N 75° 05′ 42" W, 1177.44 feet, more or less,
to a point whose coordinates are 557,286.26 N and 2,012,270.55 E;

thence S 58° 05′ 03" W, 765.67 feet, more or less,
to a point whose coordinates are 556,881.47 N and 2,011,620.63 E;

thence N 20° 22′ 13" W, 1402.17 feet, more or less,
to a point whose coordinates are 558,195.95 N and 2,011,132.56 E;

thence southwesterly to a point on the right bank of the Kings River where the high water mark elevation is 1595 feet above mean sea level;

thence southwesterly across the Kings River to the point of beginning.

Middle Fork Kings River : Segment 2

Beginning at point 'A', the confluence of the South Fork Kings River and the Middle Fork Kings River;

thence northerly approximately 1/4 mile to a point whose coordinates are 549,116.40 N and 2,036,903.72 E;

thence N 23° 59′ 11" E, 1993.55 feet, more or less,
to a point whose coordinates are 550,937.79 N and 2,037,714.13 E;

thence N 69° 27′ 07" E, 2602.69 feet, more or less,
to a point whose coordinates are 551,851.32 N and 2,040,151.24 E;

thence N 60° 32′ 25" E, 3917.18 feet, more or less,
to a point whose coordinates are 553,777.84 N and 2,043,561.93 E;

thence S 72° 48′ 37" E, 1021.36 feet, more or less,
to a point whose coordinates are 553,475.99 N and 2,044,537.67 E;

thence N 38° 42′ 01" E, 389.22 feet, more or less,
to a point whose coordinates are 553,779.75 N and 2,044,781.03 E;

thence N 89° 54′ 23" E, 2275.60 feet, more or less,
to a point whose coordinates are 553,783.47 N and 2,047,056.63 E;

thence N 14° 26′ 10" E, 3238.63 feet, more or less,
to a point whose coordinates are 556,919.84 N and 2,047,864.02 E;

thence N 56° 48′ 04" E, 2037.04 feet, more or less,
to a point whose coordinates are 558,035.22 N and 2,049,568.56 E;

thence N 31° 28′ 01" E, 2017.81 feet, more or less,
to a point whose coordinates are 559,756.29 N and 2,050,621.88 E;

thence S 82° 13′ 56" E, 2214.78 feet, more or less,

to a point whose coordinates are 559,456.94 N and 2,052,816.33 E;

thence N 20° 14′ 14" E, 1402.16 feet, more or less,
to a point whose coordinates are 560,772.54 N and 2,053,301.35 E;

thence N 54° 28′ 07" E, 2093.81 feet, more or less,
to a point whose coordinates are 561,989.36 N and 2,055,005.29 E;

thence N 71° 31′ 24" E, 1284.08 feet, more or less,
to a point whose coordinates are 562,396.31 N and 2,056,223.18 E;

thence N 38° 39′ 53" E, 648.61 feet, more or less,
to a point whose coordinates are 562,902.75 N and 2,056,628.40 E;

thence N 10° 13′ 52" E, 2261.64 feet, more or less,
to a point whose coordinates are 565,128.43 N and 2,057,030.12 E;

thence N 74° 25′ 11" E, 1517.22 feet, more or less,
to a point whose coordinates are 565,535.94 N and 2,058,491.58 E;

thence N 3° 24′ 13" W, approximately 1400 feet, to a point on the boundary between the Kings Canyon National Park and the Sierra National Forest;

thence east-southeasterly 2800 feet, more or less, along said boundary to a point bearing N 4° 43′ 02" W from a point whose coordinates are 564,429.59 N and 2,061,337.34 E;

thence S 4° 43′ 02" E, 2029.09 feet, more or less,
to a point whose coordinates are 564,429.59 N and 2,061,337.34 E;

thence S 33° 11′ 33" W, 1331.20 feet, more or less,
to a point whose coordinates are 563,315.59 N and 2,060,608.57 E;

thence S 75° 53′ 49" W, 1255.86 feet, more or less,
to a point whose coordinates are 563,009.58 N and 2,059,390.56 E;

thence S 12° 14′ 21" W, 1138.80 feet, more or less,
to a point whose coordinates are 561,896.66 N and 2,059,149.14 E;

thence S 31° 52′ 54" W, 2146.52 feet, more or less,
to a point whose coordinates are 560,073.96 N and 2,058,015.42 E;

thence S 74° 44′ 40" W, 1936.06 feet, more or less,
to a point whose coordinates are 559,564.53 N and 2,056,147.58 E;

thence S 61° 48′ 37" W, 644.63 feet, more or less,
to a point whose coordinates are 559,260.01 N and 2,055,579.41 E;

thence S 16° 10′ 28" W, 1158.93 feet, more or less,
to a point whose coordinates are 558,146.95 N and 2,055,256.57 E;

thence S 46° 51′ 48" W, 2223.18 feet, more or less,
to a point whose coordinates are 556,626.87 N and 2,053,634.27 E;

thence N 78° 59′ 27" W, 1573.51 feet, more or less,
to a point whose coordinates are 556,927.36 N and 2,052,089.72 E;

thence S 33° 42′ 08" W, 730.26 feet, more or less,
to a point whose coordinates are 556,319.83 N and 2,051,684.51 E;

thence S 55° 14′ 19" W, 1778.33 feet, more or less,
to a point whose coordinates are 555,305.90 N and 2,050,223.55 E;

thence S 13° 20′ 10" W, 3847.08 feet, more or less,
to a point whose coordinates are 551,562.56 N and 2,049,336.16 E;

thence S 62° 46′ 26" W, 1552.54 feet, more or less,
to a point whose coordinates are 550,852.27 N and 2,047,955.64 E;

thence N 58° 12′ 40" W, 957.25 feet, more or less,
to a point whose coordinates are 551,356.54 N and 2,047,141.98 E;

thence S 83° 59′ 05" W, 980.58 feet, more or less,
to a point whose coordinates are 551,253.78 N and 2,046,166.81 E;

thence S 47° 46′ 01" W, 1205.79 feet, more or less,
to a point whose coordinates are 550,443.31 N and 2,045,274.02 E;

thence N 68° 50′ 41" W, 1395.32 feet, more or less,
to a point whose coordinates are 550,946.88 N and 2,043,972.73 E;

thence S 60° 13′ 08" W, 2245.66 feet, more or less,
to a point whose coordinates are 549,831.49 N and 2,042,023.66 E;

thence S 67° 23′ 33" W, 2375.94 feet, more or less,
to a point whose coordinates are 548,918.14 N and 2,039,830.29 E;

thence S 25° 40′ 02" W, 1122.76 feet, more or less,
to a point whose coordinates are 547,906.17 N and 2,039,343.97 E;

thence westerly to point 'A'.

<u>South Fork Kings River : Segment 1</u>
Beginning at point'A', the confluence of the South Fork Kings River and the Middle Fork Kings River;

thence southwesterly approximately 1/4 mile to a point whose coordinates are 546,587.24 N and 2,036,175.40 E;

thence S 11° 26′ 12" E, 1237.79 feet, more or less,
to a point whose coordinates are 545,374.03 N and 2,036,420.84 E;

thence N 79° 05′ 28" E, 1076.06 feet, more or less,
to a point whose coordinates are 545,577.67 N and 2,037,477.46 E;

thence S 52° 00′ 38" E, 2788.16 feet, more or less,
to a point whose coordinates are 543,861.51 N and 2,039,674.87 E;

thence S 86° 59′ 13" E, 1872.63 feet, more or less,
to a point whose coordinates are 543,763.08 N and 2,041,544.91 E;

thence S 62° 41′ 26" E, 2197.77 feet, more or less,
to a point whose coordinates are 542,754.75 N and 2,043,497.72 E;

thence S 82° 13′ 17" E, 738.69 feet, more or less,
to a point whose coordinates are 542,654.77 N and 2,044,229.61 E;

thence S 9° 13′ 30" E, 512.14 feet, more or less,
to a point whose coordinates are 542,149.25 N and 2,044,311.72 E;

thence S 60° 36′ 35" E, 1027.39 feet, more or less,
to a point whose coordinates are 541,645.05 N and 2,045,206.88 E;

thence S 31° 49′ 45" E, 1545.80 feet, more or less,
to a point whose coordinates are 540,331.70 N and 2,046,022.11 E;

thence S 55° 27′ 15" E, 2668.53 feet, more or less,
to a point whose coordinates are 538,818.47 N and 2,048,220.11 E;

thence N 60° 58′ 08" E, 1672.37 feet, more or less,
to a point whose coordinates are 539,630.05 N and 2,049,682.36 E;

thence N 0° 06′ 05" W, 1820.29 feet, more or less,
to a point whose coordinates are 541,450.34 N and 2,049,679.14 E;

thence northwesterly to a point whose coordinates are 543,468.83 N and
2,047,317.83 E;

thence N 44° 24′ 21" W, 1978.56 feet, more or less,
to a point whose coordinates are 544,882.32 N and 2,045,933.35 E;

thence N 62° 58′ 13" W, 1552.79 feet, more or less,
to a point whose coordinates are 545,587.99 N and 2,044,550.17 E;

thence N 68° 58′ 44" W, 2527.12 feet, more or less,
to a point whose coordinates are 546,494.50 N and 2,042,191.24 E;

thence N 84° 49′ 08" W, 2204.21 feet, more or less,
to a point whose coordinates are 546,693.55 N and 2,039,996.04 E;

thence N 28° 16′ 06" W, 1376.82 feet, more or less,
to a point whose coordinates are 547,906.17 N and 2,039,343.97 E;

thence westerly to point 'A'.

<u>South Fork Kings River : Segment 1A</u>
Beginning at a point whose coordinates are 541,450.34 N and 2,049,679.14 E;

thence S 37° 18′ 52" E, 2285.64 feet, more or less,
to a point whose coordinates are 539,632.53 N and 2,051,064.67 E;

thence S 59° 16′ 15" E, 2367.56 feet, more or less,
to a point whose coordinates are 538,422.75 N and 2,053,099.81 E;

thence S 18° 37′ 57" E, 1279.83 feet, more or less,
to a point whose coordinates are 537,210.00 N and 2,053,508.71 E;

thence S 70° 50′ 04" E, 2756.86 feet, more or less,
to a point whose coordinates are 536,304.92 N and 2,056,112.77 E;

thence N 48° 50′ 41" E, 1078.15 feet, more or less,
to a point whose coordinates are 537,014.45 N and 2,056,924.54 E;

thence S 45° 34′ 02" E, 2738.85 feet, more or less,
to a point whose coordinates are 535,097.06 N and 2,058,880.28 E;

thence N 75° 31′ 03" E, 2854.25 feet, more or less,
to a point whose coordinates are 535,810.86 N and 2,061,643.83 E;

thence S 61° 11′ 59" E, 1672.54 feet, more or less,
to a point whose coordinates are 535,005.10 N and 2,063,109.48 E;

thence N 70° 40′ 20" E, 2152.84 feet, more or less,
to a point whose coordinates are 535,717.63 N and 2,065,140.99 E;

thence N 89° 51′ 52" E, 2927.69 feet, more or less,
to a point whose coordinates are 535,724.56 N and 2,068,068.68 E;

thence N 80° 00′ 51" E, 3549.16 feet, more or less,
to a point whose coordinates are 536,340.00 N and 2,071,564.06 E;

thence S 35° 26′ 06" E, 3097.26 feet, more or less,
to a point whose coordinates are 533,816.43 N and 2,073,359.78 E;

thence S 63° 42′ 23" E, 908.32 feet, more or less,
to a point whose coordinates are 533,414.07 N and 2,074,174.12 E;

thence N 86° 02′ 12" E, 10677.77 feet, more or less,
to a point whose coordinates are 534,152.08 N and 2,084,826.36 E;

thence S 75° 42′ 25" E, approximately 4450 feet, to a point on the eastern boundary of the Sequoia National Forest;

thence northerly 2750 feet, more or less, along said boundary to a point bearing S 76° 12′ 40" E from a point whose coordinates are 536,781.87 N and 2,084,981.08 E;

thence N 76° 12′ 40" W, 4190.03 feet, more or less,
to a point whose coordinates are 536,781.87 N and 2,084,981.08 E;

thence S 86° 21′ 57" W, 10021.07 feet, more or less,
to a point whose coordinates are 536,146.66 N and 2,074,980.16 E;

thence N 33° 23′ 04" W, 3264.34 feet, more or less,
to a point whose coordinates are 538,872.37 N and 2,073,183.94 E;

thence N 71° 24′ 46" W, 944.53 feet, more or less,
to a point whose coordinates are 539,173.44 N and 2,072,288.68 E;

thence S 79° 13′ 31" W, 4385.01 feet, more or less,

to a point whose coordinates are 538,353.67 N and 2,067,980.98 E;

thence N 88° 23′ 52" W, 3335.53 feet, more or less,
to a point whose coordinates are 538,446.93 N and 2,064,646.76 E;

thence S 68° 37′ 54" W, 1395.87 feet, more or less,
to a point whose coordinates are 537,938.33 N and 2,063,346.84 E;

thence N 61° 11′ 47" W, 2508.60 feet, more or less,
to a point whose coordinates are 539,147.00 N and 2,061,148.61 E;

thence S 38° 40′ 41" W, 1038.12 feet, more or less,
to a point whose coordinates are 538,336.57 N and 2,060,499.85 E;

thence S 75° 54′ 38" W, 837.96 feet, more or less,
to a point whose coordinates are 538,132.58 N and 2,059,687.10 E;

thence N 45° 53′ 43" W, 2609.84 feet, more or less,
to a point whose coordinates are 539,948.96 N and 2,057,813.05 E;

thence N 86° 33′ 27" W, 1629.40 feet, more or less,
to a point whose coordinates are 540,046.80 N and 2,056,186.59 E;

thence S 46° 52′ 43" W, 889.55 feet, more or less,
to a point whose coordinates are 539,438.75 N and 2,055,537.30 E;

thence N 22° 00′ 51" W, 871.94 feet, more or less,
to a point whose coordinates are 540,247.12 N and 2,055,210.47 E;

thence N 57° 21′ 22" W, 2803.74 feet, more or less,
to a point whose coordinates are 541,759.50 N and 2,052,849.60 E;

thence N 34° 58′ 24" W, 3697.67 feet, more or less,
to a point whose coordinates are 544,789.44 N and 2,050,730.12 E;

thence S 68° 50′ 34" W, 3658.93 feet, more or less,
to a point whose coordinates are 543,468.83 N and 2,047,317.83 E;

thence southeasterly to the point of beginning whose coordinates are
541,450.34 E and 2,049,679.14 E.

Note: Bearings and distances are Grid, North American Datum of 1927.
Elevations are referenced to the National Geodetic Vertical Datum of 1929.