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TAKE PRIDE IN AMERICA

United States Department of the Interior

BUREAU OF RECLAMATION
MID-PACIFIC REGIONAL OFFICE
2800 COTTAGE WAY
SACRAMENTO, CALIFORNIA 95825-1898

IN REPLY
REFER TO:

MP-727
PRJ-3.00

FEB 11 1993

To: Interagency Study Team
American River Wild and Scenic Eligibility Study

From: Chief, Division of Planning and Technical Services

Subject: Determination of Wild and Scenic Eligibility of Segments of the American River

Dear Team Member:

We are enclosing a copy of the Bureau of Reclamation's Final Report of the "American River Water Resources Investigation Technical Team's Inventory and Recommendation for Wild and Scenic River Eligibility and Preliminary Classification." On January 7, 1993 Regional Director, Roger Patterson, concurred in the report's recommendation and determined that three segments on the North and Middle Forks of the American River are "Eligible" for Wild and Scenic designation under the Wild and Scenic Rivers Act (WSRA) of 1968.

The next step will be a suitability study to determine if the eligible river segments are suitable for designation to the National Wild and Scenic River System (AWSRS). We anticipate this study will be conducted during the Phase III of the American River Water Resources Investigation (ARWRI) scheduled for 1994-1995. In the meantime, all the outstandingly remarkable values (ORV) identified within these segments and within 1/4 mile of the river will be protected as required under WSRA.

The program manager for the ARWRI, Mike Schaefer, and I both want to thank you for your participation and technical input on this study. We recognize that it required significant time on your part, and we appreciate your effort and your cooperation.

Susan E. Hoffman

Enclosure

AMERICAN RIVER WATER RESOURCES INVESTIGATION

TECHNICAL TEAM'S INVENTORY AND RECOMMENDATION FOR WILD AND SCENIC RIVER ELIGIBILITY AND PRELIMINARY CLASSIFICATION

INTRODUCTION

When the Bureau of Reclamation (Reclamation) conducts any new land or water resource planning, they are required to evaluate potential additions to the National Wild and Scenic Rivers System (NWSRS) under Section 5(d) of the Wild and Scenic Rivers Act (WSRA). The American River Water Resource Investigation (ARWRI) requires NWSRS eligibility evaluation.

The evaluation process has four steps, and this report covers only the first two:

1. Divide the rivers in the study areas into logical segments and determine what segments are eligible for NWSRS designation.

2. Determine the potential classification of eligible river segments as "wild", "scenic", "recreational", or any combination thereof.

3. Conduct a suitability study/legislative EIS to determine if the eligible river segments are suitable for designation to the NWSRS.

4. Prepare a land/river management plan for suitable river segments and submit the appropriate information of all appropriate alternative uses to Congress for their legislative decision of river use or designation to the NWSRS.

Any river segment found to be eligible for inclusion into the NWSRS, will result in the adjacent Reclamation administered lands within ¼ mile of the river being managed to protect the Outstandingly Remarkable Values (ORV) of the segment until the suitability issue is resolved.

In the following section we discuss 1) the Interagency Team involved in this study and 2) the process used to consider the eligibility of the selected river segments. It explains how Reclamation divided the study reaches of the American River into logical segments. The second section discusses eligibility criteria. The third and fourth sections are brief statements on how Reclamation addresses classification and suitability, respectively. Then following the discussion sections are the specific discussion of the river segments and their eligibility conclusion recommendations.

STUDY TEAM AND PROCESS

The WSRA does not provide specific process details for determining eligibility of rivers for potential inclusion into the NWSRS. Reclamation Instructions offer few guidelines to follow, so the ARWRI Project Manager investigated the processes used by the U.S. Forest Service (USFS), and the Bureau of Land Management (BLM). The following was decided as the process to be used:

1. An interagency team of the land and river managing and study agencies on the American River above Folsom Lake were assembled and asked to participate in the process. Representatives of this group were asked to name professionals who would be most knowledgeable of the eight resource categories that are considered under the WSRA for eligibility.

   The managing and study agencies, and their representatives included:

California Department of Parks and Recreation	- Bruce Kranz, Superintendent, American River Division
U.S. Forest Service	- Pete Brost, Recreation Officer, Tahoe National Forest
	- Gary Bilyeu, Land Management Planner, El Dorado National Forest
Bureau of Land Management	- Dave Harris, Employee Relations Specialist
Bureau of Reclamation	- Mike Schaefer, Chief, American River Basin Branch
U.S. Army Corps of Engineers	- Mike Welch, Acting Chief, Environmental Planning Section

   The resource categories, and the resource experts responsible to review them, were:

Recreation	- Mike Lynch, Ranger, DPR
Scenic	- Phil Horning, Landscape Architect, USFS
Fisheries	- Jody Brown, Fish and Wildlife Biologist, USFWS
Wildlife	- Jody Brown, Fish and Wildlife Biologist, USFWS
Geology	- Wendel Carlson, Geologist, BOR
Plants and Ecology	- Kathy Van Zuuk, Botanist, USFS
Archeological	- Jim West, Archeologist, BOR (Assisted by Mike Lynch, DPR)
Historical	- Jim West, Archeologist, BOR (Assisted by Mike Lynch, DPR)

   The study team met on December 9, 1991, February 28, and May 4, 1992.

   A classification subcommittee then met on May 26, 1992, to determine the potential classification of each river segment. Classification is based on a matrix of qualifications published in the Federal Register and attached to this report as Enclosure 1. This subcommittee's members included:

Bureau of Land Management	- Jim Eicher, Recreation Planner
U.S. Forest Service	- Art Allan, Resource Officer
Bureau of Reclamation	- Mike Schaefer, Project Manager, ARWRI
California Department of Parks and Recreation	- Mike Lynch, Ranger

2. The experts were asked to review their respective resource category and report back to the study team their findings of existing data (no new studies would be initiated) and their opinion regarding "outstandingly remarkable values" (ORV).

3. After the professionals submitted their report on ORV's then the managing and study representatives were to consider, and where appropriate, recommend that segment of river as eligible. The program manager would submit his report with the study team's recommendation(s) to Reclamation's Mid-Pacific Regional Director who will make the final determination if the river or segments of the river are eligible. A copy of each of the professionals' report is enclosed in Enclosure 3.

RIVER SEGMENTS IDENTIFIED

The WSRA states that to be eligible for inclusion into NWSRS, a river or segment of the river must be free flowing, and within its immediate environment, must possess one or more of the outstandingly remarkable values in the categories of scenic, recreational, geologic, fish, wildlife, historic, cultural, or other similar values. An ORV is not specifically defined in the WSRA but is interpreted as being the highest value resource based on a National or regional scale, and not just a local scale. "Free flowing", as defined in section 16(b) of the WSRA, means "existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion in the national wild and scenic rivers system shall not automatically bar its consideration for such inclusion." A river may flow between large impoundments and may qualify if conditions within the segment meet the eligibility criteria. There are many river segments already in the NWSRS which are downstream from or between major dams which severely regulate and diminish the flow of water in the affected segments.

There is no maximum or minimum river segment length. Some designations have exceeded 40 miles, while others have been as short as 4 miles. However, for this study, any segment less than one mile in length was not considered.

The three river segments considered in this study include the following, and are shown on Enclosure 2.

MF - The Middle Fork, from Oxbow Dam to the confluence with the North Fork American River. Length is approximately 23 miles.

NF_U - The North Fork, from Colfax-Iowa Hill Bridge to the upper end of Lake Clementine. Length is approximately 16 miles.

NF_L - The North Fork, from North Fork Debris Dam to the intake of the Auburn Dam diversion tunnel. Length is approximately 5 miles.

OUTSTANDINGLY REMARKABLE VALUES (ORV)

In order for the river segment to be considered eligible in this study, the ORV must occur on federally administered land, and be within ¼ mile of the river.

The following ORVs have been recommended by the majority of the Managing and Study Team members. Some objections by one or more study team members were raised concerning several of these recommendations. These objections include:

1. The ORV identified is not "river-related" (i.e., Western States Trail).

2. The source of information is only based on a personal communication (i.e., Foothill Yellow-Legged Frog, Shirttail Creek Stonefly, Scorpion Fly, Spiny Rhyacophilan Caddisfly, Townsend Big-Eared Bat, Pallid Bat, Native Wild Rainbow Trout, Clarkia, Great Copper Butterfly, Lindsey's Skipper Butterfly, and Wright's Butterfly.)

3. The area is heavily developed with roads, bridges, homes, transmission lines (i.e., "scenic" on NF_L).

Even with these objections, the majority of the study team members made the request to leave the following complete list of ORVs to be considered under the "Suitability" portion of the Study.

OUTSTANDINGLY REMARKABLE VALUES (ORV)

North Fork - Upper (NF_{ul}) (See Enclosure 2)

Recreation: White water rafting, because 80% of users are from out of the local area, and there are unique Class IV & V runs.

Scenic: Land form and water form are ORVs, due to deep and steep canyon walls, some dramatic rock formations, rugged terrain, and steep V-shape side canyons. There is excellent and high water quality, with little evidence of human activity below Iowa Hill-Colfax Bridge.

Geologic: No ORVs

Wildlife: The threatened Valley Elderberry Longhorn Beetle may be in the area as Elderberry bushes are found in significant numbers along the river.

The following are candidates for Federal or State endangered threatened listings:

Foothill Yellow-Legged Frog (Federal Candidate -2)
Shirttail Creek Stonefly (Federal Candidate -2)
Scorpion Fly (Federal Candidate -2)
Townsend Big-Eared Bat (Federal Candidate -2)
Pallid Bat (California species of special concern)
Wildlife habitat is of exceptionally high quality and diversity

Fish: No ORVs

Ecological and Other Values: The following are unique biological communities:

Clarkia with richest diversity known
Butterflies: - Great Copper
- Lindsey's Skipper
Ecosystem diversity

Eligibility Conclusion: Eligible

Classification: Scenic 1A, 2B, 3B

OUTSTANDINGLY REMARKABLE VALUES (ORV)

North Fork - Lower (NF_L) (See Enclosure 2)

Recreation: Western States Trail (Tevis Cup 100-mile total length, & Western States Endurance Run: 100-mile total length; only about 2½ miles in the NF_L)

Scenic: Land form and water form are ORVs, although there are more signs of civilization; roads, bridges, dam, homes

Geologic: No ORVs

Wildlife: The threatened Valley Elderberry Longhorn Beetle may be in the area as Elderberry bushes are found in significant numbers along the river.

The following are candidates for Federal and State endangered or threatened listings:

Foothill Yellow-Legged Frog (Federal Candidate -2)
Townsend Big-Eared Bat (Federal Candidate -2)
Pallid Bat (California species of special concern)
Wildlife habitat is of exceptionally high quality and diversity

Fish: No ORVs

Ecological and Other Values: The following are unique biological communities:

Clarkia with richest diversity known
Butterflies: - Great Copper
- Lindsey's Skipper
Ecosystem diversity

Cultural: No Hands Bridge

Eligibility Conclusion: Eligible

Classification: Recreational 1A, 2C, 3C

OUTSTANDINGLY REMARKABLE VALUES (ORV)

Middle Fork (MF) (See Enclosure 2)

Recreation: Western States Trail Ride (Tevis Cup 100 mile total length & Western States Endurance Run 100 mile total length; only about 9 miles in the MF)
White water rafting - 80% of users from out of local area
- high demand use
- unique Class IV & V runs.

Scenic: Land form and water form are ORVs, due to deep and steep canyon walls. Rugged terrain, but not as many dramatic cliff faces as NF_U. Rucky-Chucky and Tunnel Shoot are dramatic.

Geologic: No ORVs

Wildlife: The threatened Valley Elderberry Longhorn Beetle may be in the area as Elderberry bushes are found in significant numbers along the river.

The following are candidates for Federal and State endangered or threatened listings:

Foothill Yellow-Legged Frog (Federal Candidate -2)
Spiny Rhyacophilan Caddisfly (Federal Candidate -2)
Townsend Big-Eared Bat (Federal Candidate -2)
Pallid Bat (California species of special concern)
Wildlife habitat is of exceptionally high quality and diversity

Fish: Rainbow Trout and habitat, because of its high quality and cold water releases from Oxbow powerplant.

Ecological and Other Values: The following are unique biological communities:
Butterflies: - Lindsey's Skipper
Ecosystem diversity

Cultural: Horseshoe Bar tunnels are the State's first manmade bedrock tunnels.

Eligibility Classification: Eligible

Classificiation: Scenic 1A, 2B, 3B

Summary and Conclusions

The subject American River's Middle and North Forks are unique river segments in several ways. Professional representatives of several Federal and State agencies have reviewed eight resource categories and found that several ORVs exist in each segment qualifying these segments as "Eligibility" for Wild and Scenic designation. Only one ORV is required to qualify a river segment as being eligible for Wild and Scenic designation. A "Suitability" study will now be required to examine the technical, economic, and practical aspects of this determination.

Henry L. Hansen
acting Chief, American River Basin Branch

I concur: Tudor L. Hoffman
Chief, Planning and Technical Services Division

I concur: Henry F. Masterson
ACTING Project Superintendent, Folsom Office (CVP)

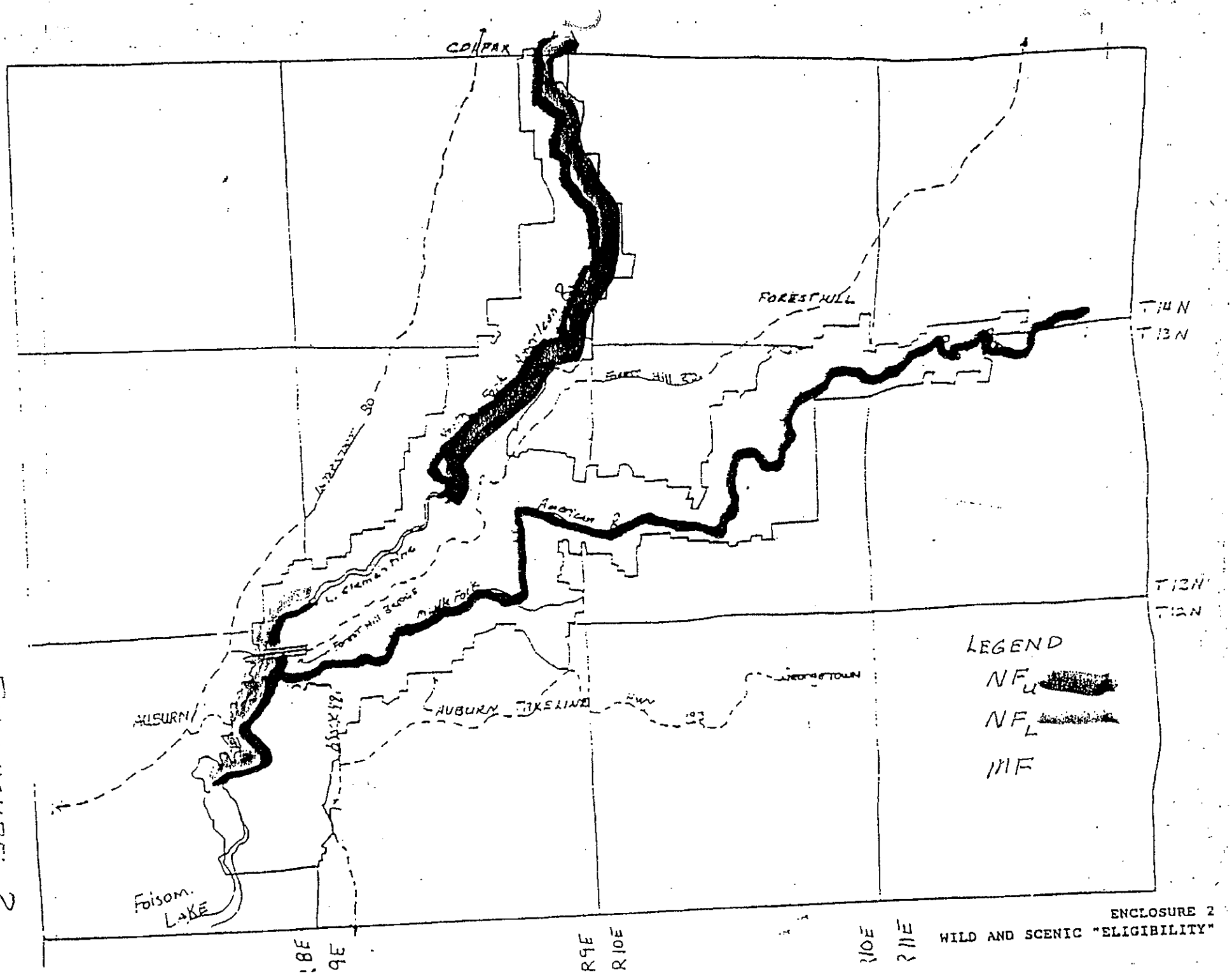
I concur: Thomas K. Gartman
Regional Director, Mid-Pacific

Enclosures
1 - Classification Criteria for Wild, Scenic, and Recreation of River Areas
2 - Map of River Segments
3 - Professionals' Reports on ORVs

OSURE 1

CLASSIFICATION CRITERIA FOR WILD, SCENIC AND RECREATIONAL RIVER AREAS
(EXCERPT FROM FEDERAL REGISTER, VOL. 47, NO. 173, TUESDAY, SEPTEMBER 7, 1982)

ATTRIBUTE	A - WILD	B - SCENIC	C - RECREATIONAL
SHORELINE DEVELOPMENT 1	Essentially primitive. Little or no evidence of human activity. The presence of a few inconspicuous structures, particularly those of historic or cultural value, is acceptable. A limited amount of domestic livestock grazing or hay production is acceptable. Little or no evidence of past timber harvest. No ongoing timber harvest.	Largely primitive and undeveloped. No substantial evidence of human activity. The presence of small communities or dispersed dwellings or farm structures is acceptable. The presence of grazing, hay production or row crops is acceptable. Evidence of past or ongoing timber harvest is acceptable, provided the forest appears natural from the riverbank.	Some development. Substantial evidence of human activity. The presence of extensive residential development and a few commercial structures is acceptable. Lands may have been developed for the full range of agricultural and forestry uses. May show evidence of past and ongoing timber harvest.
ACCESSIBILITY 2	Generally inaccessible except by trail. No roads, railroads or other provision for vehicular travel within the river area. A few existing roads leasing to the boundary of the river area is acceptable.	Accessible in places by road. Roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads or railroads is acceptable.	Readily accessible by road or railroad. The existence of parallel roads or railroads on one or both banks as well as bridge crossings and other river access points is acceptable.
WATER QUALITY 3	Meets or exceeds Federal criteria or federally approved State standards for aesthetics, for propagation of fish and wildlife normally adapted to the habitat of the river, and for primary contact recreation (swimming) except where exceeded by natural conditions.	No criteria prescribed by the Wild and Scenic Rivers Act. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all waters of the United States be made fishable and swimmable. Therefore, rivers will not be precluded from scenic or recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is being developed in compliance with applicable Federal and State Laws.	



ENCLOSURE 2

ENCLOSURE 2
WILD AND SCENIC "ELIGIBILITY"

PROFESSIONALS' REPORTS ON ORVs

3.1 Recreation

3.2 Scenic (Visual Resource)

3.3 FIsh & Wildlife

3.4 Geologic

3.5 Plants & Ecology

3.6 Archeological & Historical

ENCLOSURE 3

2/28/92

WILD AND SCENIC RIVER ELIGIBILITY ASSESSMENT
NORTH AND MIDDLE FORKS, AMERICAN RIVER

RECREATION VALUES

The current recreational uses of the assessment area of the North and Middle Forks of the American River are well documented in three recent studies. The most detailed and relevant of these studies is the U.S. Bureau of Reclamation (USBR) "Auburn State Recreation Area, Interim Resource Management Plan". The other two studies are the "American River National Recreation Area Feasibility Study" by the U.S. Bureau of Land Management (September 1991) and the "American River Watershed Investigation Feasibility Report" by the U.S. Army Corps of Engineers (April 1991).

The area hosts about 500,000 people per year. The USBR plan details information on the density and location of recreational activities in the area. Recreational uses includes:

Camping
Fishing
Flatwater Boating
Hiking
Historical and Cultural Exploration
Horseback riding
Hunting
Mountain Biking
Nature Study and Appreciation
Off-Highway Vehicle Use
Photography
Picnicking
Power Boating
Recreational Mineral Collecting
Sunbathing
Swimming
Water Skiing
Whitewater Boating (rafting, kayaking and canoeing)

ENCLOSURE 3.1

POTENTIALLY REMARKABLE

Following the handout "Resource Evaluation Indicators", two activities have the potential to be considered "outstandingly remarkable". They are 1) whitewater rafting and 2) competitive events run on the Western States Trail.

Whitewater Rafting

Whitewater rafting and boating occurs on both the North, upper and Middle Fork. Besides private use, over 50 commercial rafting companies provide whitewater raft trips under permit from the California Department of Parks and Recreation (DPR) who administer/manage most of the area. The USBR management plan reports the commercial use is approximately 30% from Southern California, 50% from the San Francisco Bay area, 15% from the local three counties and 5% from other than these areas.

Competitive Events On The Western States Trail

The lower end of the Western States Trail runs through the assessment area. Two events of regional and national importance are held on the trail. They are the Western States Trail Ride (Tevis Cup) and the Western States Endurance Run. The Tevis Cup is a 100 mile horse endurance race and the Endurance Run is a 100 mile foot race. Both attract participants and spectators from around the country and internationally.

RESPONSES:

Two responses on the recreational uses were received.

One response was from the Western States Endurance Run. Their view is that the Middle Fork clearly qualifies as a wild and scenic river based on the "extreme, indeed worldwide, significance of the Western States Trail as a resource within the watershed." Included with their letter was a detailed response on these issues that they made to the U.S. Army Corps study.

The second response was from the Friends of the River. Their view is that the area should be designated a wild and scenic river. Regarding recreational use, they indicate that recreational boating and all of the recreational activities listed above, hold outstandingly remarkable value in one or more portions of the area.

Michael G. Lynch
California Department of Parks & Recreation
American River District
916-885-4527

United States Department of Agriculture
Forest Service
Tahoe National Forest
631 Coyote Street
P.O. Box 6003
Nevada City, CA 95959-6003
(916) 265-4531
FAX (916) 265-5820

WILD AND SCENIC RIVER ELIGIBILITY ASSESSMENT
NORTH AND MIDDLE FORKS, AMERICAN RIVER

VISUAL RESOURCE VALUES

Character Type

Both the North Fork and Middle Fork American Rivers emanate from the Sierra Nevada Mountain Character Type. The area of river under consideration is in the Sierra Foothill and Low Coastal Mountain Landscape Character Type. Landscape Character Types are introduced here because the Scenic Quality of this area will be determined by comparing the subject area with the qualities of Sierra Foothill and Low Coastal Mountain Landscape Character Type. This approach to landscape evaluation is based on the National Forest Landscape Management Volume 2 Chapter 1, California Region Landscape Character Types and Variety Class Criteria. While most of the land being evaluated is not National Forest lands the area is appropriate for this approach. The basic concept is to compare scenic qualities in geophysical provinces where broad landscape characteristics are similar. In other words compare scenic quality of mountains to mountains and desert to desert but not foothills to mountain or desert.

The Sierra Foothill and Low Coastal Mountain Character Type completely surrounds the Great Valley province and includes the low elevation gentle hills at the base of the Sierra Nevada and Cascade Ranges as well as a major portion of the Coast Range. The Sierra foothills are typified by open oak-woodland, rounded grassy hills, and chaparral covered slopes. In general, the terrain is gently rolling but steeper narrow topped ridges and narrow canyons are common on its upper slopes. The flora is characterized by trees 15 to 70 feet tall, in dense or open woodland with scattered brush and grassland between the trees. This area contains both the oak parkland of the upper valley floors and and the digger pine.

Visual Quality

North Fork American River:

There are four segments identified for the North Fork American River and this description applies to three segments while the other segment, Clementine Reservoir, is not included. The landform of the North Fork is characterized by dramatic spatial definition due to deep and steep canyon walls for the entire length of river under consideration. There are many areas where there are dramatic rock formations, rugged terrain, steep V shaped side canyons, occasional cliff faces and bluffs. The waterform of the North Fork is

characterized by dramatic forceful rapids including many class IV and V rapids on the stretch above Lake Clementine. Below Lake Clementine there are more large river bars, riffles, rapids, and stretches of strong but steady currents. The Vegetation form for the North Fork is characterized by a wide range of mixed conifer, deciduous oaks, oak woodlands, digger pine, chapparal, and grasslands. Generally the mixed conifer forests reach down to the river in many areas on the North facing slopes but reduce in amount as the river drops in elevation. Pine, Fir, and Cedar are also found in the steeper side canyons feeding into the main river. On south facing slopes there is a mix of chapparal, grasslands, and Digger Pine. In certain areas depending on bars and beaches there is a diverse mix of riparian vegetation. Generally the higher up the river the more green and luxurious the growth and the lower the elevation the drier the look of the vegetation. Water quality in a visual sense is quite high with good visibility through the water.

The lower two segments have more evidence of civilization in the form of roads, bridges, early work on a diversion dam, and private homes on the slope breaks of the Canyon walls near Auburn on both sides of the river. The upper segment has far less evidence of human activity although the segment does begin at the Iowa Hill Bridge.

Middle Fork American River:

The Landform for the Middle Fork can be described as having high dramatic canyon walls with strong spatial definition. There is some rock and cliff form but the canyon walls are mostly rugged terrain with interesting and steep side canyons such as Otter Creek and American Canyon. Water form includes Rucka Chucky Falls and several class III and IV rapids and one class V rapid called Tunnel Chute that includes a miner's tunnel through a hillside. Between the rapids are many areas of calm water mixed with areas of strong steady current. Below the old greenwood bridge and take out point the water takes on a greenish tint. The Vegetation form is mostly Digger Pine, Oak woodland, grassland, and chapparal with pine and fir only on the north facing slopes and in the steep side canyons. Riparian vegetation is established primarily along the major bars and beaches that form occasionally along the river. Water quality is high for visual clarity.

Evidence of humans and modern activity is limited on the Middle Fork except near Auburn because of roads, bridges, and houses. At the beginning of the segment the Ralston dam is evident and a few rough roads provide access at a few points along the river

Overall evaluation of both the Middle Fork and North Fork American River:

The above descriptions clearly place both of these rivers in the category of high scenic quality. To get an indication of how high the scenic quality, there is a need to compare these rivers with other rivers in the Character Type. One comparison made early was with the lower Merced River. Both the Middle Fork and North Fork compare favorably with the lower Merced River and are equal to or slightly better than the lower Merced. This is based on input from BLM river managers and followup personal observation. Additional

comparisons were made with the North Yuba, Middle Yuba, and South Yuba Rivers on the Tahoe National Forest which were all considered outstandingly remarkable. These three rivers were evaluated in the Sierra Nevada Mountain Character Type which is more dramatic. The North Fork and Middle Fork American are different in character than the Yuba rivers but still compare equally in water form and landform. Further discussion with two BLM river managers and the regional Landscape Architect developed the consensus that the Middle Fork and North Fork American Rivers would compare favorably with all the major rivers flowing from the Sierra Nevadas into the Foothill Character Type.

Submitted by Philip S. Horning
FOREST LANDSCAPE ARCHITECT

Philip S. Horning

AMERICAN RIVER WILD AND SCENIC ELIGIBILITY STUDY
Fish and Wildlife Values Assessment
June 1992

INTRODUCTION

The Federal Government recognizes the value and importance of rivers in their natural state. The National Park Service in 1960 (quotation at Congressional meeting) recommended that: "...certain streams be reserved in their free-flowing condition because their natural, scenic, scientific, aesthetic, and recreational values outweigh their value for water development and control purposes." Congress responded to this by passing Public Law 90-542, the Wild and Scenic Rivers Act (16 U.S.C. 1271 et.seq.) on October 2, 1963. The Act provided a means to implement this recommendation by establishing a National Wild and Scenic Rivers System, and a process for identifying and selecting rivers for inclusion in the system. The first step in this process is an eligibility study of the selected river segments.

The purpose of this study is to determine whether or not portions of the North and Middle Forks of the American River in California are eligible for inclusion as components of the National Wild and Scenic Rivers System. This assessment specifically addresses the fish and wildlife resources of these river segments. The segments that are being considered in this eligibility study include:

Segment 1- North Fork: Iowa Hill Bridge to Clementine Reservoir

Segment 2- North Fork: North Fork Dam to Auburn diversion tunnel

Segment 3- Middle Fork: Oxbow Dam to the North Fork confluence

EVALUATION CRITERIA

The evaluation criteria used to determine eligibility for the Wild and Scenic Rivers System includes the presence of any "Outstandingly Remarkable Values". The term "outstandingly remarkable" is not precisely defined in the Wild and Scenic Rivers Act; consequently, the determination of whether or not a river contains outstandingly remarkable values is often based on the relative value judgments made by a study team of professionals. In this case, the criteria used to assess outstandingly remarkable fish and wildlife values were developed by the U.S. Forest Service. The criteria are applicable to fish and wildlife populations and their habitat. These criteria include:

Wildlife:

1. Contains the habitat of species which are threatened or endangered.
2. Unique diversity of species and habitat exist.

ENCL. 3.3

3. Contains regionally or nationally important populations of wildlife.

4. Presence of exceptionally high quality habitat for wildlife of regional or national significance.

5. Area provides a critical link in habitat conditions for threatened or endangered species.

Fisheries:

1. Presence of Federal or State listed threatened, endangered, and sensitive fish species or their habitat.

2. Provides for regionally or nationally important resident fish.

3. Provides or has the potential to provide exceptionally high quality habitat for fish species indigenous to the region.

4. Is highly representative of an indigenous aquatic habitat.

5. Provides a regionally distinctive or highly popular angling opportunity.

METHODS

In order to gain some perspective on the relative importance of the fish and wildlife values of the North and Middle Forks, we compared similar values in the Yuba River and Cosumnes River. All three rivers flow through similar elevations, contain similar habitat types and are within the western Sierra Nevada mountains. However, we recognize that these other systems have distinct differences so they are not entirely analogous to the American River watershed.

Data collection for this assessment began with a literature search for biological information on resources within 1/4 mile of the river, (which is the boundary of consideration). Personal contacts were made with recognized experts to gain additional information on various fish and wildlife resources. The Natural Diversity Database and the Wildlife Habitats Relationships Database System were also referenced. We were fortunate to have several recent reports on the area such as Bureau of Land Management's (BLM) *American River National Recreation Area Feasibility Study*, Bureau of Reclamation's (Reclamation) *Auburn State Recreation Area Interim Resource Management Plan*; and the Fish and Wildlife Service's (Service) *American River Watershed Investigation Fish and Wildlife Coordination Act Report*.

RESULTS

The study area occupies a transition zone (700-1200 ft) between the middle elevation foothill grassland, woodland-hardwood forest communities, and the higher montane, largely mixed evergreen and conifer-dominated forest communities. A broad range of vegetation types are present, including riparian, freshwater marsh, grassland, oak woodlands, mixed evergreen forest, chaparral, open water, urban and rocky areas (U.S. Fish and Wildlife Service (USFWS), 1991).

Wildlife:

The diverse plant communities found within the American River canyons provide equally diverse wildlife habitats supporting a large variety of wildlife species. At least 238 birds, 47 mammals, 10 amphibians, and 20 species of reptiles have been observed (USFWS, 1991). The canyons have remained relatively remote and undisturbed, thus providing the high habitat quality required by many of the species found in the canyons. In addition, several other species of wildlife which use or are dependent upon habitat attributes of the canyon are found in habitats adjacent to the canyons.

The rich diversity of threatened and endangered species found within this area is unique and significant. There are 2 Federally-listed endangered species, 1 Federally-listed threatened species, 12 Federal-candidate species, and 23 State-listed threatened, endangered or sensitive species. Although candidate species are not protected under the Endangered Species Act, the 1988 amendments require the Service to monitor their status. If any of these species decline precipitously, they could be listed on an emergency basis. Category 1 designates taxa for which the Service has sufficient biological information to support a proposal to list as endangered or threatened, whereas Category 2 designates taxa for which existing information may warrant listing, but for which substantial biological information to support such a rule is lacking. Species that are particularly significant include:

Peregrine Falcon (*Falco peregrinus*)
Status: Federally endangered, California endangered.
There has been increasing use of the area by peregrine falcons and there is a high potential for reoccupation of historic nest sites (Walton, pers. comm.).

Bald Eagle (*Haliaeetus leucocephalus*)
Status: Federally endangered, California endangered.
The bald eagle is a winter resident and frequently migrates through the study area.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)
Status: Federally threatened Elderberry bushes, host plant of the Valley Elderberry Longhorn Beetle is found in significant numbers along the river (Nagano, pers. comm.).

Foothill Yellow-Legged Frog (*Rana boylii*)
Status: Federal candidate 2, California species of special concern. The populations of this amphibian are declining rapidly throughout the Sierra Nevada mountains. Habitat loss and the introduction of the predatory bullfrog (*Rana catesbiana*) are the major factors contributing to its decline (Jennings, pers. comm.).

Red Legged Frog (*Rana aurora draytoni*)
Status: Federal candidate 2, California species of special concern. This species is considered to be extirpated from this portion of its range. If individuals were to be found, this would be considered highly significant (Jennings, pers. comm.).

Western Pond Turtle (*Clemmys marmorata marmorata*)
Status: Federal candidate 2, California species of special concern. The western pond turtle is considered an important component in the ecosystem because it is an aquatic scavenger. Alteration and loss of habitat is the major concern (Jennings, pers. comm.).

Shirttail Creek Stonefly (*Megaleuctra sierra*)
Status: Federal candidate 2.
This insect is considered very rare and is known to exist in only one other location in the world; namely along the Yuba River (Fields, pers. comm.).

Scorpionfly (*Orbittacus obscurus*)
Status: Federal candidate 2.
This insect is also considered to be very rare and is known to exist within only two populations along the river - near Bridalveil Falls and Shirttail Creek (Penny, pers. comm.).

Spiny Rhyacophilan Caddisfly (*Rhycophila spinata*)
Status: Federal candidate 2.
This rare species prefers cool, running water, and is only found within two locations in the area: Foresthill Divide and Ladys Canyon; and is probably not widespread (Fields, pers. comm.).

Townsend's Big-eared Bat (*Plecotus townsendii*)
Status: Federal candidate 2 and California species of special concern. Once considered common within California, this bat is now extremely rare within most of its range. Declines have been especially serious in the western Sierra foothill region, mostly due to disturbance and destruction of roosting sites and loss of habitat. Suitable roosting sites are the most important limiting resource. This species is extremely sensitive to disturbance of roosting and nursery colony sites. This problem has become so serious that Section 2014 of the Fish and Game Code states that entering a *Plecotus* maternity roost is willful and negligent destruction. There is a possibility that some colonies exist within the study area due to its steep and rugged terrain which restricts humans access. If a nursery colony were to be found, this would be considered highly significant (Pierson, pers. comm.).

River Otter (*Lutra canadensis*)
Status: California fully protected.
This species has been sighted in the North Fork, is considered rare in the area, and therefore highly significant (Armijo and Tattum, pers. comm.).

Golden Eagle (*Aquila chrysaetos*)
Status: California species of special concern.
Golden eagles are known to reside in the area, and there has been a nest reported within the vicinity of Lover's Leap. (Detrich, pers. comm.) Although this nest location is above the study area's boundary it is significant because there are probably more as yet undiscovered pairs nesting within the study areas boundaries (Tattum, pers. comm.).

Pallid Bat (*Antrozous pallidus*)
Status: California species of special concern.
This particular bat species is declining rapidly throughout its range. Pallid bats generally roost in hollow oaks and buildings. Loss of habitat and disruption of roosting sites are of concern. It is believed there are maternity colonies within the study area. This is considered highly significant (Larson, pers. comm.).

Although not outstanding in themselves, the presence of fisher and ringtail are significant features to the region.

The American River within these segments cuts through a variety of plant communities, thereby creating the wide diversity of habitats for wildlife.

Some factors which contribute to the importance of the area include:

a) diverse and large numbers of raptors, particularly California spotted owls and goshawks;

b) large numbers of non-game birds, which provide an important avian prey base for resident and migratory raptors;

c) caves which provide important roosting and potential nursery habitat for at least 9 species of bats that are known to occur within this area.

d) the 86 species of butterflies known to occur within the study area. Many of them are considered rare, and many of them are highly associated with serpentine rock. According to Shapiro, a recognized butterfly expert from U.C. Davis, the amount of serpentine and the faunistic richness of more than 86 species of butterflies is highly significant (Van Zuuk, 1992).

Wildlife habitat within and surrounding this area is of exceptionally high quality and diversity, qualifying the area to be outstandingly remarkable in at least a regional context. The combination of numerous wildlife populations and diverse habitats makes this area significant from a biological viewpoint.

The abundance and diversity of canyon wildlife is due largely to the continuous, dense, undisturbed nature of the riparian corridors along the river channel. In addition to the pristine condition of the river channel, much of the adjacent habitat is relatively undisturbed. This is evidenced by the presence and diversity of threatened and endangered and other wildlife species inhabiting or migrating through the study area. The most important habitat features in the area are:

a) the riverine habitat which is important to a wide variety of birds and mammals including bald eagles, river otters, ringtail, osprey and amphibians;

b) the canyon which provides a natural migration corridor for a variety of raptors and other species;

c) the extensive rimrock which is important raptor nesting habitat; and

d) the riparian zone which is important because of its multi-strata structure, dense cover, and high plant species diversity making it especially productive, supporting the highest percentages of wildlife species within the State (Leopold, 1985);

e) the north-south interface of the canyons which provides a unique juxtaposition of habitats along the river. The north slope tends to be a moist, damp environment due to less sun exposure, whereas the south slope is drier and more arid because of increased sun exposure. As the canyon changes direction, sun exposure changes and so does vegetation. Consequently, the plants and animals found within these two habitat types differ. Therefore, this geologic configuration supports an ecosystem that is truly unique in its complexity and diversity.

f) the steep canyons along the river make human access very difficult, thus creating a "disturbance free zone". This relative isolation serves as a kind of refuge, a secure place away from the urban environment, especially for some of the larger, more secretive mammals like bears and mountain lions (Taylor, pers. comm.). In addition, the river and its deep pools serve as a refugia especially during times of drought, for amphibians and reptiles.

Fish

The study area of the American River is inhabited by a diverse assemblage of fish species; at least 6 known native and 6 introduced species occur within the study area.

The North Fork supports a variety of warmwater species including smallmouth bass, bullhead and sunfish, on a year-round basis. Although a few trout are present, summer/fall water temperatures are generally too warm for suitable summer rearing. The Middle Fork, in contrast, supports both warmwater and coldwater species year-round. Cooler temperatures resulting from the Middle Fork American River Project (Oxbow Dam) support brown and rainbow trout for

about 10 miles below the dam. Habitat is more suitable for warmwater species below this point (USFWS, 1991).

The population of native wild trout that inhabit segment 3 (Oxbow Dam to the North Fork confluence) qualifies as an outstandingly remarkable resource due to the above average size and numbers of rainbow trout (Gerstung, pers. comm.). Segment 1 is also known for its wild trout fishery - a portion of the river immediately upstream is a State designated Wild Trout Stream.

The American River along segments 1 and 3 provides exceptionally high quality habitat for fish species native to the region, and is representative of an indigenous aquatic habitat. Therefore, the habitat quality of this area qualifies as outstandingly remarkable.

Comparison of the American, Yuba and Cosumnes Rivers showed that within the western Sierra's, similar habitats at similar elevations result in similar, but not the same, species compositions. However, the experts all agreed that even though similar species can occur within these several watersheds, it does not diminish their importance, uniqueness and significance. Although many of the species discussed were found within the three watersheds, others were unique to the American River such as the scorpionfly and the spiny rhycophilan caddisfly.

The dramatic canyons of the American River sets it apart from the other two rivers. Neither the Cosumnes or the Yuba have the same sort of steep canyon slopes at the same elevation. Of the three rivers, the Cosumnes is the only in which there are no dams in place.

Free Flowing Rivers

Free flowing rivers, such as segment 1 of the North Fork American, support a greater diversity of closely adjoining vegetation and other habitat features, than rivers that have been dammed or diverted, thus provide critically important protected access to the water and canyon bottoms to a broader variety of wildlife. Under natural stream conditions, river channel and canyon bottoms provide significantly greater access to water, higher value as movement and migration corridors, feeding sites and escape cover for wildlife than controlled streams (BLM, 1990. FWS addendum comments). In addition, these free flowing rivers support instream fishery and aquatic resources not present in reservoir or pond environments.

Large segments of natural free flowing rivers of this size are fast disappearing throughout the United States. In California, relatively few rivers remain in a natural or relatively natural free flowing state. Few other rivers in the Sierra region remain undammed and undiverted in their upper watersheds. In our view, this situation places the North Fork American River in a category of high Statewide and national significance (BLM, 1990. FWS addendum comments).

Ecosystems:

The Sierra Nevada foothills and river canyons provide essential habitat for many species. Habitat in the river canyons is especially productive in terms of the number of species which depend on it. In addition, the canyons provide a linear linkage of similar habitat. Large acreage losses of canyon habitat have already occurred and land development needed to accommodate the growing population in California continue to destroy and degrade remaining habitats. In recent years, the importance of minimum habitat size required by indigenous species to maintain their genetic diversity and viability has come more sharply into focus (BLM, National Recreation Area 1990). Therefore, the relative value of these remaining natural canyon ecosystems has increased significantly.

Biodiversity is important to the integrity and health of an ecosystem. Biological diversity is an attribute of natural processes operating of the ecosystem, community, species and genetic levels. Organisms within ecosystems are essential to the health of the biosphere. When a population is wiped out, ecosystems suffer, even if many other populations of the same organisms are still extant. Large populations and diverse gene pools are capable of surviving unfavorable environmental conditions without extinctions. Genetic variation within a species increases its potential for successfully evolving in response to long-term environmental changes. Intraspecific genetic diversity is largely irreplaceable except on a geologic time scale (Ehrlich, 1988).

Species diversity, like intraspecific genetic variation, is very important to the ability of communities to survive unfavorable environmental changes. Likewise, community diversity is important to the survival of ecosystems. The diversity of a community or ecosystem brings about stability, therefore, increasing the chance of species survival.

The single greatest threat to the biological diversity of relatively intact natural communities is the destruction or their conversion to other uses. Human expansion over natural habitats as urban activities grow outward destroys and fragments remnant functioning ecosystems. Losses of single, specific micrchabitats within an otherwise undisturbed habitat can cause the local extinction of certain species. Disruption of even narrow corridors of natural habitat between large blocks of habitat can lead to losses of species. In addition, losses of certain species due to any one or more causes can affect closely associated species sometimes leading ultimately to secondary extinction events (Murphy, 1988).

Conservation efforts should take into account species variety and the ecosystems that sustains them. Therefore, protection must occur at all these levels to assure the long-term viability of natural communities.

CONCLUSION

The Fish and Wildlife Service finds that wildlife habitats within this area are of extremely high quality and diversity qualifying the area as an outstandingly remarkable resource. In addition, the abundance and diversity of wildlife populations makes this area outstandingly remarkable from a biological viewpoint. Together, this creates a truly outstandingly remarkable ecosystem. Specifically, wildlife species that are considered outstandingly remarkable include:

Valley Elderberry Longhorn Beetle - Federally threatened species found in significant numbers along the river;

Foothill Yellow-Legged Frog - species that has become extremely rare in the Sierra Nevada's;

Shirttail Creek Stonefly - rare species known to exist in only two populations within the Western Sierra's: along Shirttail Creek and along the Yuba River;

Scorpionfly - rare species known to exist within two populations along the river - near Bridalveil Falls and Shirttail Creek;

Spiny Rhyacophilan Caddisfly - rare species known to exist within two populations in the area - near Foresthill Divide and Lady's Canyon.

Townsend's Big-eared Bat - species that has become extremely rare in the Western Sierra's; strong possibility of maternity colonies within the area;

Pallid Bat - species that has become rare in the area, maternity colonies believed to exist.

Regarding fisheries, segments 1 and 3 are considered outstandingly remarkable due to the exceptionally high quality habitat for fish species native to the region, and because it is representative of an indigenous aquatic habitat. In addition, the above average size of rainbow trout qualifies segment 3 to be considered outstandingly remarkable as well.

The Fish and Wildlife Service strongly urges that all of the North and Middle Forks of the American River based on area wide wildlife values, and segments 1 and 3 for fisheries values, be included in the Wild and Scenic Rivers system to assure that the nationally significant character of this river is preserved for future generations to enjoy.

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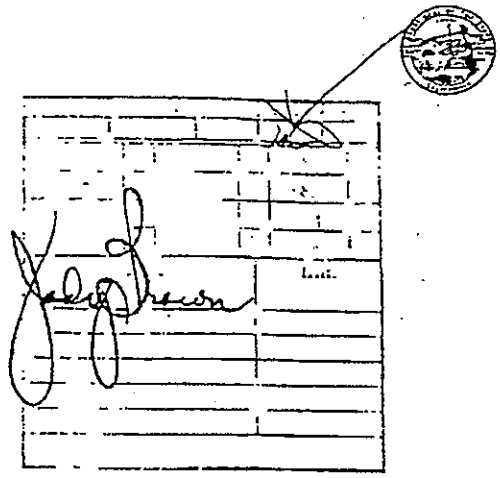
STATE OF CALIFORNIA—THE RESOURCES AGENCY

PETE WILSON, Governor

DEPARTMENT OF FISH AND GAME

P.O. BOX 944209
SACRAMENTO, CA 94244-2090
(916) 739-3415



May 20, 1992

Ms. Jody Brown
U.S. Fish and Wildlife Service
Division of Water Resources RME-1803
2800 Cottage Way
Sacramento, California 95825

Dear Ms. Brown:

In response to your telephone request of May 6, 1992, for information on the trout fishery in the Middle Fork of the American River downstream from Oxbow Dam, the following are some observations that I made on the river between 1962 and 1986: 1) The subject river reach prior to the completion of the Placer County Water Agency (PLACWA) Project during the mid 1960's was characterized by excessive summer water temperatures, a mediocre trout fishery limited to cool weather months, and an abundance of nongame fish. 2) After several years of PLACWA Project operation, a good rainbow trout fishery characterized by unusually large trout developed in response to an improved river environment for trout. 3) While angling on the river reach between Oxbow Dam and Rucka-Chucky Rapids, I observed on numerous occasions that an unusually large proportion of the trout that I caught and that I observed in other catches were within the 10 to 22 inch size range. This is rather remarkable in view of the fact that rainbow trout over 12 inches in length are uncommon in most western slope Sierra Nevada streams.

I attribute this situation to the fact that substantially increased flows of cold water released from upstream reservoirs have made it possible for rainbow trout to thrive and grow the year around in a productive low elevation canyon. Colder summer water temperatures may have also reduced the abundance of competing nongame fish. The release of plankton to the river from upstream storage reservoirs has undoubtedly increased trout food production and thus increased the growth rate of trout.

Since I have not visited the river since the beginning of the drought in 1987, I am not sure whether trout in the river are still abundant. If not, I am confident that the fishery will rebound following the drought.

In conclusion, the Middle Fork of the American River downstream from Oxbow Reservoir has supported a trophy rainbow trout fishery not common in other Sierra Nevada streams.

If you have additional questions, I can be reached by calling (916) 739-3415.

Sincerely,

Eric Gerstung

Eric Gerstung
Associate Fishery Biologist

WILD AND SCENIC RIVERS ACT
ELIGIBILITY ASSESSMENT OF THE NORTH AND MIDDLE FORKS OF THE AMERICAN RIVER

GEOLOGIC REVIEW
MAY 4, 1992

Purpose - This report presents the results of the geologic evaluation of the various segments of the North Fork and Middle Fork American River canyons which are being studied for eligibility for inclusion as wild and scenic rivers.

As background to this review, a brief discussion of the area's regional geology and tectonic history is in order:

The study area lies near the center of the northwest-trending band of metamorphic rocks which underlies the western slope of the Sierra Nevada. This band of rocks, termed the Sierra Nevada metamorphic belt, ranges in width from 30 to 50 miles and extends some 200 miles from the town of Mariposa in the south to Lake Almanor in the north. The eastern margin of the belt is delineated by the Sierra Nevada granitic batholith while the western margin lies adjacent to sedimentary rocks of the Great Valley sequence.

Based on plate tectonic and structural studies over the past two decades it is now generally agreed that the metamorphic belt can be divided into three major fault-bounded tectonic blocks termed terranes (Figure 1). Each terrane consists of thick accumulations of Paleozoic and Mesozoic age marine sedimentary and volcanic rocks of various lithologies that have been deformed, metamorphosed and intruded by both ultrabasic and granitic rock masses. These rock units have been isoclinally folded and faulted to such an extent that stratigraphic relationships are indeterminant on a regional scale. Bedding, foliation and other structural elements within the belt generally trend northwest and dip steeply eastward.

Current workers studying the Sierra Nevada metamorphic belt now interpret the formation of these terranes in terms of plate tectonics concepts. These terranes are believed to be a group of tectonically accreted blocks emplaced along the western margin of the North American plate at various intervals during geologic time. Extensive discussions of the geologic age and genesis of this region can be found in papers by Schweikert (1981), Schweikert and Snyder (1981), Schweikert and others (1982), Jones and others (1982), Saleeby (1982), and Sharp and others (1982).

Discussion - The significance of the above brief discussion of the origins of the metamorphic belt is to point out that the lithology and structure of the region generally precludes the local occurance of unusual or unique rock types or geologic structures. The rock units encountered within the various segments of the river include a wide variety of metamorphosed sedimentary and volcanic rocks which are quite common. These include, but are not limited to, such rock types as schists, phyllites, slates, graywackes, recrystalized limestone and greenstones. In addition, small to large bodies of younger intrusive rocks ranging in composition from ultramafic (pyroxenite and serpentinite) to granodiorite cut the basement rock complex. Such rock types are common in other areas of the world where regional metamorphism has occurred.

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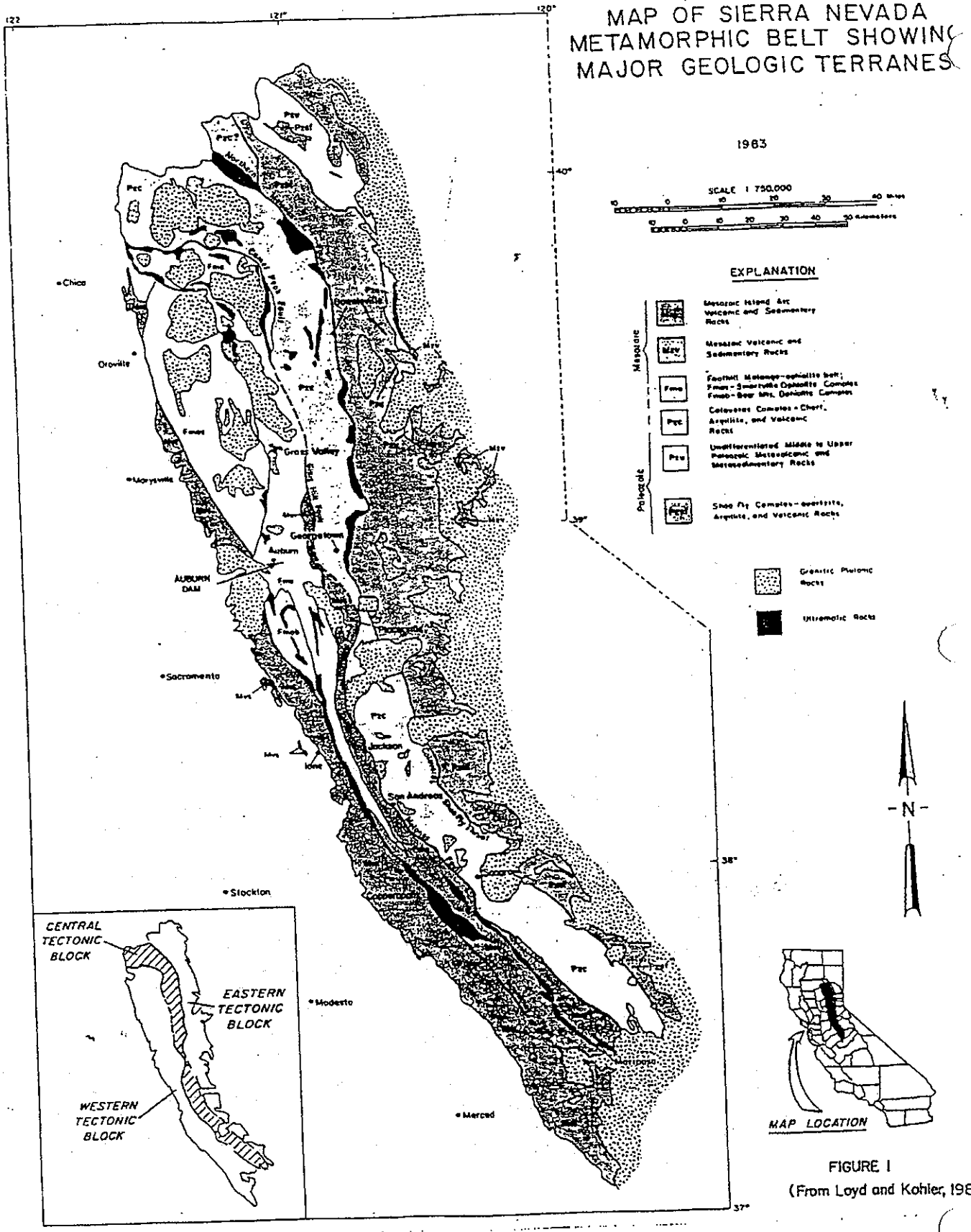

FIGURE 1
(From Loyd and Kohler, 1987)

In addition, the metamorphosed volcanic and sedimentary rock units are several tens of feet thick and generally extend laterally for several thousand feet. Because the river and its two branches generally transects nearly normal to the regional structure tends to preclude the presence of local units found only within a narrow, one-quarter mile wide, corridor.

Review of Data

Several major sources of detailed geologic data relating to the geology of the area were reviewed for this assessment. They are as follows:

1) Numerous memorandums and reports of U.S. Bureau of Reclamation (USBR) geologic investigations in the Middle and North Forks of the American River were reviewed. The earliest studies documented are early 1940's damsite investigations near Auburn. However, the most comprehensive field work performed in this region by the USBR was accomplished during the period from 1966 through 1980 when feasibility, preconstruction and construction work on the Auburn project was in progress.

During this period extensive engineering geologic investigations were conducted for various proposed bridge crossings and road alignments along both the Middle and North Forks of the American River. In addition, various known landslides and sites of potential landslides within the planned reservoir area were also investigated. Also, investigations of the numerous, large river gravel bars were conducted by the materials section to determine suitability for use as concrete aggregate.

2) In the 1950's L.D. Clark conducted extensive geologic traverses along most of the major river channels in the central and northern portions of the Sierra Nevada metamorphic belt. The results of his mapping is documented in his reports describing the stratigraphy and structure of the area (Clark, 1964 and 1976).

3) Mineral-land classification studies have been conducted by the California Division of Mines and Geology. These studies classify land based upon the presence, absence or potential occurrence of significant mineral deposits. Reports that have been reviewed are those describing the Auburn 15' Quadrangle (Kohler, 1984), the Georgetown 15' Quadrangle (Kohler, 1983) and the Camino and Mokelumne Hill 15' Quadrangles (Loyd and Kohler, 1987).

Conclusions

In reviewing the reports and documents listed above as well as those in the attached list of references, no rare, unique or one-of-a-kind geologic feature, process or phenomenon was noted as being present within the various river segments. Although some rock units were reported as being "interesting", they were neither unusual nor rare. Based on this negative finding it is concluded that no "outstandingly remarkable" geologic features, structures or deposits are present within the study areas.

J. Wendel Carlson
Engineering Geologist
USBR Mid-Pacific Region
Sacramento, California

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AMERICAN RIVER WILD AND SCENIC ELIGIBILITY STUDY
May 1992

BACKGROUND: The portions of the American River that are being considered in this eligibility study include 5 segments. The segments are:

Segment 1 - North Fork: Iowa Hill Bridge to Clementine reservoir,
Segment 2 - North Fork: North Fork Dam to Auburn diversion tunnel,
Segment 3 - North Fork: Auburn diversion to Folsom reservior, and
Segment 4 - Middle Fork: Oxbow to the North Fork confluence.

Note: The Clementine reservoir segment is not considered free flowing and will not be addressed in this report. The other segments will be addressed as to any outstandingly-remarkable features that they contain (or may contain) in the "botanical" and "ecological other" categories.

BOTANICAL

DISCUSSION: Table 1 lists all the threatened, endangered, rare, and sensitive plants that are known or suspected to occur within the study area.

TABLE 1 - PLANTS SUSPECTED/OCCURRING WITHIN THE STUDY AREA

Scientific Name	Common Name	Abbreviation
Arctostaphylos nissenana	Nissenan Manzanita	ARNI
Calystegia stebbinsii	El Dorado Morning Glory	CAST
Ceanothus roderickii	Pine Hill Ceanothus	CERO
Chlorogalum grandiflorum	Red Hills Soaproot	CHGR-2
Darlingtonia californica	California Pitcher Plant	DACA
Dichetostemma lacuna	Vernal pool brodiaea	DILA
Drosera anglica	English Sundew	DRAN
Fritillaria pluriflora	Adobe Lily	FRPL-2
Fremontodendron decumbens	Pine Hill Flannel Bush	FRDE
Galium californicum ssp. *sierrae*	El Dorado Bedstraw	GACAS
Gratiola heterosepala	Boggs Lake hedge-hyssop	GRHE
Helianthemum suffrutescens	Bisbee Peak Rush-rose	HESU-2
Lewisia serrata	Sawtoothed Lewisia	LESE
Orcuttia californica	California Orcuttia	ORCA
Penstemon personatus	Closed-lip Penstemon	PEPE
Phacelia stebbinsii	Stebbin's Phacelia	PHST
Senecio layneae	Layne's Butterweed	SELA-3
Wyethia reticulata	El Dorado County Mule Ear	WYRE

ENCL 3.5

The Army Corps of Engineers surveyed for the following State and Federal rare plant species (target species) in 1990 (Drost, 1991). *Calystegia stebbinsii* (El Dorado Morning Glory), *Ceanothus roderickii*. (Pine Hill Ceanothus), *Chlorogalum grandiflorum* (Red Hills Soaproot), *Fremontodendron decumbens* (Pine Hill Flannel Bush), *Galium californicum* ssp. *sierrae* (El Dorado Bedstraw), *Helianthemum suffrutescens* (Bisbee Peak Rush-rose), *Phacelia stebbinsii* (Stebbin's Phacelia), *Senecio layneae* (Layne's Butterweed) and *Wyethia reticulata* (El Dorado County Mule Ear). This survey included only those areas that would be affected by the largest version of the proposed Auburn Dam - 950 feet upslope from the river. It did not cover a distance of 1/4 on each side of the river which is the area of consideration for this wild and scenic eligibility study.

The California Department of Fish and Game, Natural Diversity Data Base, reported that the rare plants *Arctostaphylos nissenana* (Nissenan Manzanita) and *Gratiola heterosepala* (Boggs Lake hedge-hyssop) were found near the Middle Fork of the American River. (Henderson, 1991)

Haines and Cooley, 1984, also list *Orcuttia californica* (California Orcuttia), *Darlingtonia californica* (California pitcher plant), *Dichetostemma lacuna* (Vernal pool brodiaea) *Drosera anglica* (English Sundew), *Fritillaria pluriflora* (Adobe Lily), and *Penstemon personatus* (Closed-lip Penstemon) as being present in the project area.

Potential habitat for Forest Service "sensitive species" was identified by the Forest Botanists for the Eldorado and Tahoe National Forests - these plants are *Lewisia serrata*, *Senecio layneae*, and *Phacelia Stebbinsii* (Williams, 1992). "Sensitive plant species is a term used to designate those plants known or highly suspected to occur on National Forest System (NFS) lands that are considered viable candidates for federal threatened or endangered classification under the Endangered Species Act of 1973." (Smith and Berg, 1988) Potential habitat for several watch-list (TNF) and special interest (ENF) species was also identified. (Watch-list and special interest plants are not considered threatened, endangered, or sensitive, but are species and/or communities that are becoming increasingly rare.)

Table 2 lists the status of the plants suspected or known to occur within the project area. Definitions of the meaning of the various categories are provided in Tables 3 through 7.

EVALUATION METHODS: Potential habitat for the survey conducted by Drost was developed in consultation with the Endangered Species offices of the United States Fish and Wildlife Service and the California Department of Fish and Game. "The Corp's Scope of Works identified all plant species listed by the State of California or the Federal Government as threatened or endangered, which could potentially occur in the project areas". (Drost, 1991) Actual survey methodology for the areas surveyed by Drost are listed in his 1991 report.

Potential habitat for the Haines and Cooley report was developed based on an October 1978 report that was prepared by the State of California entitled "Auburn Reservoir Project, Folsom Lake State Recreation Area General Plan", page 25. This report covered a larger area than is being considered in this study.

The Forest Service potential habitat was identified using soil type maps, vegetation type maps, topographical maps, aerial photos, personal knowledge of the project area, and/or previous survey records for these plants.

TABLE 2 - STATUS OF THE PLANTS SUSPECTED/OCCURRING WITHIN THE STUDY AREA

ABBREVIATION	CNPS LIST	CNPS R-E-D CODE	STATE STATUS	FEDERAL STATUS
ARNI	1B	3-2-3	–	C3c
CAST	1B	3-3-3	CE	C2
CERO	1B	3-2-3	CR	C2
CHGR-2	1B	2-2-3	–	C2
DACA	4	1-2-1	–	C3c
DILA	4	1-1-3	–	C3c
DRAN	2	2-1-1	–	–
FRDE	1B	3-2-3	CR	C2
FRPL-2	1B	1-2-3	–	C2
GACAS	1B	3-2-3	CR	C2
GRHE	1B	3-2-2	CE	C2
HESU-2	1B	2-2-3	–	C2
LECA	1B	2-2-3	–	C3c
LESE	1B	3-3-3	–	C2
ORCA	1B	2-3-2	CE	C1
PEPE	1B	2-2-3	–	C2
PHST	1B	2-2-3	–	C2
SELA-3	1B	2-2-3	CR	C2
WYRE	1B	2-2-3	–	C2

The following tables list definitions of the categories that they have been assigned by the various agencies.

TABLE 3 - DEFINITION OF THE STATE CATEGORIES RARE, THREATENED, AND ENDANGERED.

CATEGORY	DEFINITION
RARE	A plant that is not presently threatened with extinction, but is in such small numbers throughout its range that it may become endangered if its present environment worsens.
THREATENED	A plant that is not presently threatened with extinction, but is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts.
ENDANGERED	A plant whose prospects of survival and reproduction are in immediate jeopardy from one or more causes.

TABLE 4 - DEFINITION OF THE FEDERAL CATEGORIES THREATENED AND ENDANGERED ACCORDING TO THE ENDANGERED SPECIES ACT 1973.

CATEGORY	DEFINITION
THREATENED	Any species "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."
ENDANGERED	Any species, including subspecies, "in danger of extinction throughout all or a significant portion of its range."

TABLE 5 - DEFINITION OF THE CALIFORNIA NATIVE PLANT SOCIETY'S (CNPS) LISTS

LIST	DEFINITION
1B	Plants considered rare or endangered in CA and elsewhere.
2	Plants considered rare, threatened, or endangered in CA, but more common elsewhere.
3	Plants which need more information.
4	Plants of limited distribution - a watch list.

TABLE 6 - THE CALIFORNIA NATIVE PLANT SOCIETY'S R-E-D CODE DEFINITIONS.

CODE	DEFINITION
R(RARITY): 1	Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
2	Occurrence is confined to several populations or to one extended population.
3	Occurrence is limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.
E(ENDANGERMENT): 1 2 3	Not endangered. Endangered in a portion of its range. Endangered throughout its range.
D(DISTRIBUTION): 1 2 3	More or less widespread outside California. Rare outside California. Endemic to California.

TABLE 7 - FEDERAL CATEGORYS AND DEFINITIONS

CATEGORY	DEFINITION
1	Taxa for which enough substantial information on biological vulnerability and threat(s) is available to support proposals to list them as endangered or threatened species.
2	Taxa for which there is some evidence of vulnerability, but for which there are not enough data to support listing proposals at this time.
3A	Taxa for which the Service has persuasive evidence of extinction,
3B	Names that, on the basis of current taxonomic understanding, do not represent distinct taxa meeting the Act's definition of "species".
3C	Taxa that have proven to be more abundant or widespread than previously believed and/or those that are not subject to any identifiable threat.

RESULTS:

Drost Survey: Drost conducted his surveys in the spring and summer of 1990. "None of the target rare plant species were found in the surveys of the upper American River watershed. Related species were found...." (Drost, 1991). Drost goes on to say "....the impression obtained from the appearance of the habitat (as compared to the habitat at known localities for the target species) suggested that these were not appropriate sites for the target species." The entire project area was not surveyed by Drost and he did not look for all of the species listed in Table 1. In addition, he only looked at unusual substrates - serpentine, limestone, and diabase.

Forest Service Potential Habitat: An evaluation of the study area for potential habitat for Forest Service sensitive species showed **significant habitat** for *Lewisia serrata* (Sawtoothed Lewisia). In a phone conversation with Drost (January 1992) he stated that he could not say whether this *Lewisia* was present in the study area or not. His descriptions of existing vegetation and habitats suggest that it could be present in the project area. (This is based on physical descriptions and associated species. If these plants were found in the study area, it would be significant because it is believed that there is significant genetic variability by canyon between populations of this *Lewisia*. In addition, the TNF populations show some intermediate characteristics between *Lewisia cantelowii* (LECA) and LESE. Both of these plants are Forest Service sensitive and closely related. There are differences in number of serrations, thickness of leaf, and color, however. Three of the known populations of LESE on the TNF occur along the NF of Middle Fork American in a mile and one half stretch of potential habitat. If LESE were found in the study area, it would be significant - potential habitat occurs in segments 1 and 5. The known distribution of this plant is eight occurrences in the State of California with four occurrences on the Tahoe National Forest on the NF Mid F of American and Middle Fork American, and four on the Eldorado National Forest. This plant is known only from Eldorado and Placer Counties.

California Department of Fish and Game - Natural Diversity Data Base: Nissenan Manzanita is known from the south slope of the ridge leading to Cock Robin Point near the Middle Fork American River, T.13N., R.10 and 11E., sections 22, 23, 24 - segment 5. It is on private property within the Eldorado National Forest boundary. The general habitat is described as closed-cone coniferous forest and chaparral. This population is described as a "large stand occurring in pure form (single species stand) on the south facing slopes of section 23 and mixed with *Arcostaphylos viscida* beneath an overstory of *Pinus attenuata* along the ridge approaching Cock Robin Point in section 22", (sensitive species population record, Baad, 1979) The overall distribution of this species is Sonora, Camino, Placerville, Slate Mountain, Georgetown, and Garden Valley Quadrangles in Eldorado and Tuolumne Counties (Smith and Berg, 1988). It is considered to be a **significant population** (Bittman, personal communication, 1992). There are 11 known populations of this plant. One population is considered extant. Only 5 of the populations occur, at least in part, on National Forest system lands. The other 5 occur on private lands. This population is considered significant because of it's size and that it is a single species stand. California State Parks Department of Parks and Recreation, in their 1988 report on the Auburn Reservoir Project, state that the Eldorado Manzanita is a rare endemic that is considered stable or increasing by the California Native Plant Society.

Boggs Lake hedge-hyssop is a vernal pool plant that is known from Fresno, Lake, Lassen, Madera, Placer, Sacramento, and Shasta Counties and from the State of Oregon (Smith and Berg, 1988). Henderson reports that it has been found within the Auburn Quadrangle near the Middle Fork American River (segment 4?). Vernal pool habitats were not observed by Drost in the study area.

Haines and Cooley report that Eldorado mule ears, California Orcuttia, Eldorado Galium, Vernal pool brodiaea, Adobe lily, Beaked rush, California Dichondra, Constances's rock cress, English sundew, small-leaved agastache, California pitcher plant and closed-lip penstemon are present in the study area. This information was taken from a State of California report that was prepared in 1978. The locations of these plants have not been reported to the Natural Diversity Data Base. Casey, 1992, felt that many of these plants probably occurred near the study area and not within 1/4 mile of the rivers being addressed.

The *Clarkia* species in the Iowa Hill-Colfax areas have the richest diversity of *Clarkia* known (Shapiro, conversation record, 1992). Leslie Gottlieb is doing a genetic diversity study on those *Clarkias*'. This is **significant** from an ecological - biodiversity standpoint.

The major types of vegetation in the area are "montane conifer forest, montane and foothill mixed evergreen forest, foothill woodlands, foothill meadows and grasslands, chaparral, riparian forests, freshwater marshes, valley grasslands, and vernal pools" (American River Watershed Investigation, 1991). "The Sierra foothills and canyons provide essential habitat for many species. This habitat is increasingly being encroached upon to accommodate the growing population of California.....Habitat in the river canyons is especially productive in terms of the range of species which depend on it. In addition, the canyons provide a linear linkage of similar habitat." (American River NRA Study, 1990) Several studies have been done to document the animals that live in the study area. The following are some of the species that were mentioned that were not addressed in other lists and/or were mentioned as a concern when addressing ecological diversity in general. It is not meant to be an inclusive list.

California red-legged frog (*Rana aurora draytoni*) reported by CA Dept of Fish and Game about 4 miles east/north east of Foresthill in the Foresthill and Michigan Bluff Quadrangles. Loss of habitat for this species is of concern.

California yellow-legged frog (*Rana boylii boylii*) reported by Drost and Haines and Cooley as being in the project area. Loss of habitat for this species is of concern.

Black Swift (*Cypseloides niger*) reported by CA Dept of Fish and Game from Foresthill in the Foresthill Quadrangle. "If found in the study area in May or June it may indicate a breeding colony. This would be **significant**. (Laudenslayer, conversation record, 1992) This bird feeds on insects during the day, the insects generally speaking emerge from the water, which ties the birds to the river drainages. (Laudenslayer, 1992)

Spiny Rhyacophilan Caddisfly (*Rhyacophila spinata*) reported by CA Dept of Fish and Game from Lady's Canyon about 2 miles east/south east of Foresthill, Foresthill Quadrangle.

Tight Coin (*Ammonitellia Yatesi*) reported by CA Dept of Fish and Game from Pioneer Cave in Eldorado County in the Auburn Quadrangle.

River Otter reported from the NF of NF American. Highly suspected to occur downstream. This is considered significant by Forest Service Wildlife Biologists. (Armijo and Triggs, 1992)

Bald Eagle reported as wintering within the study area.

Pine Martin have been sighted in the general area. A 1984-1985 sighting in the Hayden Hill area T.15N., R.11E., sections 5, 6, 7 and 8. Also the shirttail Canyon area, T.14N., R.11E., section 8 on May 3, 1991. Pine martin use riparian areas for travel and forage and probably use the river canyons within the study area. They are a wide ranging species.

CA Spotted Owl have habitat along the Middle Fork of the American River. It is suspected that it is at least foraging habitat and wintering habitat. Possibly a resident pair(s).

Land Snails have been reported within the study area. Dr. Berry Roth who is writing a book on California land snails feels that it is likely that there are significant populations of land snails within the study area, and has a data base with this information. However, he is a consultant and would like to be paid for compiling this information. "The varied snail and slug fauna of California includes species and subspecies whose existence is presently endangered or potentially threatened by habitat destruction. Some of these are vulnerable because of rarity or narrowly restricted range; other, wide-ranging, species have been depleted over portions of their ranges." (Roth, 1972)

Butterflies:

The species richness of butterflies in the study area is **significant** (Shapiro, Matun, Patterson, 1992). This type of habitat exists in the Feather, Yuba and American Drainages. Matun felt that the known species from the

Feather River Drainage was higher but that was probably due to access. Shapiro felt that the species richness of butterflies in the Yuba Drainage was about the same as that in the American River Drainage.

Several people have been documenting the occurrence of the different types of butterflies in the study area since the 1970's. There is a listing of butterflies that were known to occur in the study area in "Protecting our Heritage - The Planning and Conservation League Foundation", 1984. This list was created by Bill Patterson.

CA Dogface Butterflies: (*Colias eurydice*) Bill Patterson reports that the population of CA dogface butterflies that are located near the confluence of the NF American and MF American is a breeding population. This is considered **significant** (Langston, conversation record, 1992). This colony has a larger number of adults which makes it better than the colony recently discovered near Folsom. (Patterson, conversation record, 1992) Shapiro, (conversation record, 1992) discovered another population of this butterfly near the Iowa Hill Bridge area. This is the CA state insect. Colonies are isolated and local in habit. They can't fly the distance between colonies.

Sonora Blue: (*Philotes sonorensis*) The northern most populations of this butterfly do not occur within the project area (Langston, conversation record, 1992). However, it is the largest of the most northern colonies (Matun, conversation record, 1992). Langston does not consider it a new subspecies even with red spots on the hind wings of 25% of the males. Matun feels these colonies may be genetically different by canyon.

Great Copper: (*Lycaena xanthoides*) Patterson lists this as occurring within the study area. Shapiro considers this **highly significant** (Shapiro, conversation record, 1992). It is extremely rare in the foothills. The Iowa Hill Road population is only one of three colonies known from our area. (Alta and Colfax are the other areas.) ("It is common in the Bay Area and in parts of southern California and locally common in the Sacramento Valley. This species has only widely scattered populations in the North Coast Ranges and is known from about 4 sites in the entire Sierra Nevada western foothill region.) (Shapiro, letter, 1992) UC Davis is doing biochemical genetic studies on the Iowa Hill Colony. Matun (conversation record, 1992) does not list this species as occurring in the Feather River Drainage. He said it was recorded as occuring just out of the Yuba Canyon Drainage.

Lindsey's Skipper: (*Hesperia lindseyi*) Patterson lists this as occurring within the study area. Shapiro considers this **highly significant** (Shapiro, conversation record, 1992). It is extremely rare in the foothills. ("It may be common in the North Coast Range and foothills of the Trinity Alps and has been found east to Ball Mountain in east Siskiyou County. Only three sites known in the western foothills of the Sierra Nevada's." (Shapiro, letter, 1992) It is confined to serpentine. There are only three or four colonies in all of the foothills. It is an extension of it's range and that is significant (McNeal, conversation record, 1992).

Wright's Skipper: (*Erynnis brizo lacustra*) Patterson lists this as occurring within the study area. Shapiro considers this **highly significant** (Shapiro, letter, 1992). ("Another serpentine endemic, locally common in the North Coast Range, extremely rare in the Sierra Nevada, with 3 or 4 recorded populations.") (Shapiro, letter, 1992.)

Veined White: (*Pieris napi*) This butterfly has been found double-brooded on the Iowa Hill Road about 1/2 way from Colfax to the river and in the canyon below Auburn. "At present these are the only definite double-brooded populations known. Probably more exist near Placerville. " (Shapiro, letter, 1992.)

In addition to those butterflies listed above, there are at least 81 others (86 total) that are known to occur within the study area. Many of them are considered rare. Many of them are highly associated with serpentine. Shapiro feels the amount of serpentine and the faunistic richness of more than 86 species of butterflies is highly **significant.**

CONCLUSIONS

This area has highly significant habitat and occurrances of plants and animals. Known occurrances of the Great Cooper, Lindsey's Skipper and Wright's Skipper are considered outstandingly remarkable. Having the greatest genetic diversity of the genus *Clarkia* in the area is considered outstandingly remarkable. These outstandingly remarkable occurrances and the significant occurrances of other insects, animals, birds and plants make this area an outstandingly remarkable ecosystem.

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9/28/92

WILD AND SCENIC RIVER ELIGIBILITY ASSESSMENT
NORTH AND MIDDLE FORDS, AMERICAN RIVER

CULTURAL AND HISTORICAL VALUES

The cultural and historical background of the study area can broadly and roughly be divided into three eras: 1) the Native American era prior to the 1849 gold rush; 2) the '49 gold rush and mining era until the turn of the century; 3) the Twentieth Century era.

Cultural resource surveys in the study area include Rackerby (1965), Ridder and Childress (1967) and True (1981). Summaries of cultural/historical resources are contained in the following reports:

Auburn Dam, Final Environmental Statement, Supplement No. 2 (9/23/80) by the U.S. Bureau of Reclamation.

"American River Watershed Investigation" (April 1991) by the U.S. Army Corps of Engineers.

"Auburn State Recreation Area Resource Management Plan" (Draft September 1991) by the U.S. Bureau of Reclamation and the California Department of Parks & Recreation.

"American River National Recreation Area Feasibility Study" (September 1990) by the U.S. Bureau of Land Management.

Copies of the cultural/historical portions of these reports are attached.

ENCL 3.6

OUTSTANDINGLY REMARKABLE VALUES (ORV'S)

Based on the foregoing reports and guidelines for ORV's, the following cultural/historical resources meet the indicators as Outstandingly Remarkable Values (OHV).

Native American Era Prior to 1849. No Outstandingly Remarkable Values.

Gold Rush/Mining Era. On the Middle Fork Segment, the Horseshoe Bar Tunnels meet the indicators for ORV status.

> **HORSESHOE BAR TUNNELS.** Horseshoe Bar, on the Middle Fork below Foresthill, is the site of the first bedrock tunnel in the state, driven in 1850. Built to divert water from one mile of river bed to permit gold mining, the original tunnel was unsuccessful. A successful 200 foot tunnel, built in 1888, still carries the waters of the Middle Fork American River around Horseshoe Bar.

Twentieth Century Era. On the Lower North Fork Segment, the Mountain Quarries Company Railroad Bridge (also known as "No Hands Bridge") meets the indicators for ORV designation.

> **MOUNTAIN QUARRY RAILROAD BRIDGE.** The Mountain Quarry Railroad Bridge was the longest concrete bridge in the world when it was built in 1911-1912. The 170-foot-long, three-span, reinforced concrete bridge was part of a seven mile private railroad that carried limestone from the Cool Limestone Quarry to the rail line in Auburn. The railroad was abandoned in World War II, but the bridge is still used as a river crossing for a riding and hiking trail.

M.G. Lynch

M.G. Lynch
California Department of Parks & Recreation
American River District
916-885-4527