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Department of
Agriculture

Forest
Service

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Date: August 3, 1998

Dear Interested Citizen:

Enclosed is the Final Study Report/Final Environmental Impact Statement (FEIS) for the Eastside Wild and Scenic River Suitability Study for lands within and adjacent to the Tahoe National Forest and the Lake Tahoe Basin Management Unit. Due to the long period between issuance of the Draft document and the Final document a 30-day comment period has been provided before a Record of Decision is completed and signed.

The purpose of this Study report/FEIS is to evaluate eight rivers and streams within the Truckee River drainage for possible addition to the National Wild and Scenic Rivers system.

The Forest Service has identified Alternative E as the Preferred Alternative. Alternative E recommends Wild and Scenic River designation for the Upper Truckee River (with a wild classification) and Sagehen Creek (with a scenic classification). Independence Creek is recommended for a Special Interest Area (SIA) that would emphasize management for Lahontan Cutthroat trout. Sagehen Basin is recommended for further study as an SIA.

Formal Wild and Scenic river designation requires an act of Congress that names individual rivers as additions to the National Wild and Scenic River System. Development of a Management Plan is required within three years of passage of a Wild and Scenic River and would be done in accordance with requirements of the National Environmental Policy Act (NEPA) which includes extensive public involvement.

You can assist us by providing information regarding this proposal if it is new or different than existing comments displayed in Appendix E. Because of extensive prior public involvement, during this final 30-day period we are interested in receiving only NEW facts or data pertinent to the alternatives or recommendations. We need your comments postmarked by Sept. 8, 1998. If you have any NEW information, please send your comments to Lisa O'Daly, Lake Tahoe Basin Management Unit, 870 Emerald Bay Road, South Lake Tahoe, CA 96150.

Sincerely,

JUDIE L. TARTAGLIA
Acting Forest Supervisor
Tahoe National Forest (TNF)

For

JUAN M. PALMA
Forest Supervisor
Lake Tahoe Basin
Management Unit
(LTBMU)





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Southwest
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Tahoe
National Forest and
Lake Tahoe Basin
Management Unit



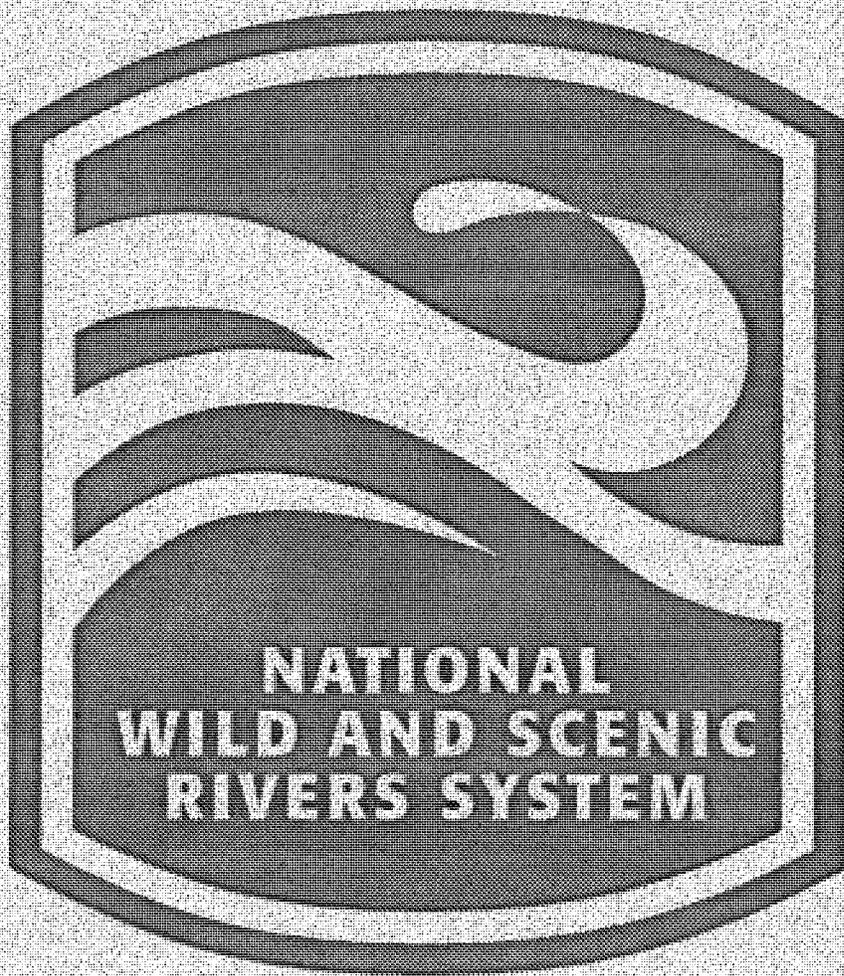
Eight Eastside Rivers

Wild and Scenic River Study Report

And Final Environmental Impact Statement

Tahoe National Forest and Lake Tahoe Basin Management Unit

July 1998



TAHOE NATIONAL FOREST
and
LAKE TAHOE BASIN MANAGEMENT UNIT

Wild and Scenic Rivers Study Report
and
Final Environmental Impact Statement

Alpine, El Dorado, Placer, Nevada and Sierra Counties, California

Lead Agency: USDA Forest Service

Responsible Official: Dan Glickman
Secretary of Agriculture
(Responsible for recommendation to Congress)

Judie L. Tartaglia, Acting Forest Supervisor
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and
Juan Palma, Forest Supervisor
Lake Tahoe Basin Management Unit
(Responsible for completion of the Suitability Study)

Type of Environmental
Impact Statement: Legislative

For Further Information: Phil Horning
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Abstract

This study report/Final Environmental Impact Statement (FEIS) documents the results of an analysis of eight rivers to determine their suitability for inclusion into the National Wild and

Scenic Rivers System. The study area is located in Alpine, El Dorado, Placer, Nevada, and Sierra counties, California. The eight rivers studied are the Truckee River from Tahoe City to the town of Truckee and seven tributaries to the main stem of the Truckee River including: the Upper Truckee River, Cold Stream, Alder Creek, Sagehen Creek, the Little Truckee River, Upper Independence Creek, and Perazzo Creek. The action alternatives considered are: A) Designate all eight rivers; B) Designate no rivers (No Action); C) Designate those rivers with the most extensive outstandingly remarkable characteristics; D) Designate rivers with the greatest amount of public recreation use directly associated with the river; E) Designate rivers that make the best contribution to a National System of Rivers; F) Designate rivers that would minimize impacts on other resource uses such as timber management, water and power development, and minimizes impacts on state and local governments ability to utilize existing utility and transportation corridors; G) Designates those rivers identified to have the greatest botanical and ecological values as related to the river environment.

The Preferred Alternative (Alternative E), which recommends designation of the Upper Truckee River as a National Wild River, Sagehen Creek as a National Scenic River, and recommends the Forest Service designate Upper Independence Creek as a Special Interest Area (SIA), is consistent with the Tahoe National Forest Land and Resource Management Plan and the Lake Tahoe Basin Land and Resource Management Plan. Alternative E also recommends that the Forest Service study the remaining portion of Sagehen Basin, outside the scenic river corridor, for possible SIA designation in a separate site-specific study.

Reviewers should provide the Forest Service with comments during the designated 30 day review period of the study report/FEIS. This will enable the Forest Service to analyze and respond to the comments in the final record of decision (ROD) process. Comments on the study report/DEIS should be specific and should address the adequacy of the statement or the merits of the alternatives discussed (40 CFR 1503.3).

Comments to be received by: _____

Comments should be sent to:

Lisa O'Daly
Lake Tahoe Basin Management Unit
870 Emerald Bay Road
South Lake Tahoe, CA 96150

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LIST OF ABBREVIATIONS/ACRONYMS

AF	Acre Feet
AUM	Animal Unit Month
BLM	Bureau of Land Management
CASPO	California Spotted Owl Guidelines
CFG	California Fish and Game
cfs	Cubic Feet per Second
DEIS	Draft Environmental Impact Statement
FEIS	Final Environmental Impact Statement
FS	Forest Service
FSH	Forest Service Handbook
HCRS	Heritage Conservation and Recreation Service
IDT	Interdisciplinary Team
LCT	Lahontan cutthroat trout
LRMP	Land and Resource Management Plan
LTBMU	Lake Tahoe Basin Management Unit
LWD	Large woody debris
M&I water	Municipal and Industrial water
MA	Management Area
NEPA	National Environmental Policy Act
NRI	National Rivers Inventory
OHV	Off Highway Vehicle
OR value	Outstandingly Remarkable Value
PR	Visual Quality Objective of Partial Retention
PS	Park Service
R	Visual Quality Objective of Retention
S&G	Forestwide Standards and Guidelines
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SIA	Special Interest Area
SO	Forest Supervisors Office
SPPCo	Sierra Pacific Power Company
SYRCL	South Yuba River Citizens League
T&E	Threatened and Endangered
TES	Threatened, Endangered and Sensitive
TNF	Tahoe National Forest
TROA	Truckee River Operating Agreement

List of Abbreviations/Acronyms continued.

USDA	United States Department of Agriculture
USDI	United States Department of Interior
USGS	United States Geological Survey
VQO	Visual Quality Objective

SUMMARY

INTRODUCTION

This Wild and Scenic River Final Environmental Impact Statement (FEIS)/Study Report analyzes the suitability of eight rivers within the Truckee River Basin for inclusion in the National Wild and Scenic Rivers System. The FEIS/Study Report further evaluates the environmental consequences of such designation on the human environment.

During the course of developing the Tahoe National Forest (TNF) and Lake Tahoe Basin Management Unit's (LTBMU) Land and Resource Management Plans, the public pointed out that the National Forests had not adequately inventoried their respective rivers for possible Wild and Scenic River classification. A subsequent inventory was conducted and nine rivers within the Truckee River Basin were identified as potentially eligible for study.

One river, Martis Creek, although eligible is not evaluated in this FEIS/Study Report. Martis Creek flows mostly through private lands, with only 10 percent of the river flowing through the Tahoe National Forest. The National Forest lands are located on the upper end of one fork of the stream. Martis Creek is a small stream consisting of four separate branches. Additionally, the outstandingly remarkable values are the cultural resources that are located entirely on private lands. The eligibility information has been provided to state and local governments for use in their respective planning.

The eight rivers selected for study are located within the Truckee River drainage, mostly within the boundaries of the TNF and the LTBMU on the east slope of the Sierra Nevada. All eligible rivers are within the state of California and are located in Alpine, El Dorado, Placer, Nevada, and Sierra counties. Cold Stream is located primarily on State and private lands. The rivers studied have a total mileage of 58.8 miles of perennial streams. The main stem of the Truckee River is a relatively short river, only about 120 miles in length from Lake Tahoe to Pyramid Lake, and the watershed drains an area of 2,720 square miles.

This FEIS/Study Report summarizes and incorporates by reference the findings of the eligibility study and focuses on the classification and suitability of eligible segments for inclusion in the National Rivers System and provides an assessment of the potential environmental impacts of the alternatives under consideration.

The FEIS/Study Report is tiered to the final EISs for the TNF and LTBMU Land and Resource Management Plans and the actions are consistent with the direction contained within these plans. After completion of the review process under the National Environmental Policy Act (NEPA), the Secretary of Agriculture may recommend that all or some of the Study Rivers be designated as part of the Wild and Scenic Rivers System. If the rivers are found to be not suitable, the final EIS/Study Report will not go further than the Chief of the Forest Service. Congress has final authority for designating Wild and Scenic rivers.

POTENTIAL DEVELOPMENT AND RISKS TO THE FREE FLOWING CHARACTER OF THE RIVERS

All the rivers are free flowing and currently there are no active proposals for any water or power development projects that might threaten their free flowing status. Sierra Pacific Power Company (SPPCo), a utility company that provides municipal and industrial (M&I) water to the Reno/Sparks Nevada area, has identified a potential dam and reservoir site on the Little Truckee River. However, this project is only one of a number of possible options to provide additional M&I water needed for future development. No proposals have been submitted for actual development of the project as there are more feasible options currently being pursued by SPPCo. The utility company does want to retain the option in the event additional upstream storage is needed in the future.

ELIGIBLE RIVERS

A TNF and LTBMU Interdisciplinary Team developed a preliminary classification for each of the rivers as part of the eligibility process. This determination was based on the level of development at the time of the study and was completed in accordance with the U.S. Departments of Agriculture and Interior Final Revised Guidelines for Eligibility, Classification, and Management of River Areas (47 FR 39454; September 7, 1982).

Wild Classification

Upper Independence Creek (2.0 miles)

Upper Truckee River (7.0 miles) *Was initially inventoried as Scenic

Scenic Classification

Sagehen Creek (8.0 miles)

Perazzo Creek (3.2 miles)

Recreational Classification

Truckee River (13.0 miles)

Cold Stream (5.2 miles)

Alder Creek (6.4 miles)

Little Truckee River (14.0 miles)

PUBLIC INVOLVEMENT

Initial issues and concerns were developed during a scoping period before the publication of the DEIS Study/Report. Over 400 letters were received commenting on the DEIS Study Report. The substantive comments from these letters were used to help review the individual rivers and alternatives to arrive at a final preferred alternative for this FEIS Study Report. In addition, these comments prompted many changes in the text from small editorial errors to changes in concepts. Appendix E provides a detailed summary of the public involvement along with the comments and Forest Service responses.

SUMMARY OF ALTERNATIVES

The Study Report/FEIS documents the results of an analysis of eight rivers to determine their suitability for Wild and Scenic River designation. Seven alternatives are considered, including: A) No Action; B) designation of all eight rivers; C) designation of those rivers with the most extensive outstandingly remarkable characteristics; D) designation of those rivers receiving the greatest amount of public recreation use as related to the river; E) designation of rivers that make the best contribution to the National System of Wild and Scenic Rivers; F) designation of those rivers that would minimize impacts on other resource uses such as timber management, water and power development, and local government's ability to use the corridors for existing and future utility and transportation corridors; G) designation of those rivers identified to have the greatest botanical and ecological values as related to the river corridors.

These alternatives were developed in response to issues raised during the scoping process for this study. Principal issues raised included concern over the possible effects of designation on the ability to maintain existing water and power developments and future developments; the possible effects on private lands; the effects of designation on existing occupancies and uses along the rivers, such as summer homes, campgrounds, and transportation needs along the river corridors; and the need to protect the free-flowing characteristics and the outstandingly remarkable characteristics identified for each river.

SPECIAL INTEREST AREA DESIGNATION

The study also considers alternative ways to protect the outstanding remarkable characteristics in lieu of Wild and Scenic River designation. The study evaluates the impacts of possible Special Interest Area (SIA), a Forest Service administrative designation for Upper Independence Creek. SIA designation is a Regional Forester decision. For Wild and Scenic Rivers, the Forest Service role is to recommend designation to the Secretary of Agriculture. Actual designation is a Congressional action.

PREFERRED ALTERNATIVE

The Forest Service has selected Alternative E as the preferred alternative. Alternative E recommends Wild River designation for the Upper Truckee River and Scenic River designation for Sagehen Creek. Alternative E also recommends that the Forest Service designate Upper Independence Creek as a SIA and recommends the Forest Service study the remaining portion of Sagehen Creek, outside the Scenic River Corridor, for possible SIA designation.

Table S.1 "Rivers by Alternative" describes the rivers evaluated by alternative; Table S.2 "Summary of Environmental Consequences" from Wild and Scenic River designation; and Table S.3 "Summary comparison of Suitability Factors considered for each river" describe the environmental consequences associated with each river and alternative.

**TABLE S.1
Rivers by Alternative**

Miles of River by Alternative							
	A	B	C	D	E	F	G
Truckee River	13.0		13.0	13.0			
Cold Stream ¹	5.2						
Alder Creek	6.4						
Independence Creek	2.0		*	*	*	*	*
Little Truckee River	14.0		14.0				14.0
Perazzo Creek	3.2		3.2				3.2
Sagehen Creek	8.0 ***		8.0 ***	**	8.0 ***	**	8.0 ***
Upper Truckee River	7.0		7.0		7.0	7.0	7.0
TOTALS	58.8	0	45.2	13.0	15.0	7.0	32.2

* Independence Creek is recommended for Special Interest Area designation by the Forest Service.

** Sagehen Creek is recommended to be analyzed for Special Interest Area designation by the Forest Service in a separate site-specific study.

*** The Sagehen Basin outside the Scenic River corridor is recommended to be analyzed for Special Interest Area designation by the Forest Service in a separate site-specific study.

¹ Cold Stream flows mostly through private and State Lands managed by the California State Department of Parks.

TABLE S.2

**SUMMARY OF ENVIRONMENTAL CONSEQUENCES
from Wild and Scenic River Designation**

RIVER	Private Land	Visual Quality	T/E/S species Veg/Ecological
Truckee River	Potential impacts are low. Land ownership is mixed.	Minimal impacts as area managed for Retention (R) and Partial Retention (PR).	No impact on TES species. No change on other wildlife habitat.
Cold Stream	Very low impacts. Some small & large blocks of private lands.	Minimal. Area has been logged. Meets standards for recreation river.	No impacts.
Alder Creek	Very low. Upper 40% is privately owned, subdivision lots. Lower end is National Forest.	Low. Private lands are fully developed. National Forest lands are managed for R & PR.	No impacts.
Independence Creek	Very low. 300 feet of stream flows through private lands. Remainder is on National Forest.	Visual quality would change from PR to Preservation.	Wild River or SIA designation would protect the Lahontan cutthroat trout & watchlist plants.
Little Truckee River	Low impact. Large blocks of private lands along the river.	No impact. Lands currently managed for R and PR.	Designation would protect riparian habitats from dam.
Perazzo Creek	Very low impact. The upper 0.4 mile are private timber lands.	Change from Modification & PR to Retention.	Some additional protection to meadows and willow habitats.
Sagehen Creek	No impacts. River flows totally through National Forest lands.	Change from Modification & PR to Retention.	Some additional protection to meadows and willow habitats.
Upper Truckee River	No impacts. River flows totally through National Forest lands.	No impacts.	Some additional protection to the Lahontan cutthroat trout.

Table S.2 (Continued)

River	Recreation	Cultural Resources	Minerals
Truckee River	Designation would require management plan. Use would be restricted to carrying capacity.	No impacts.	No impacts anticipated.
Cold Stream	Would increase some public interest in the Emigrant Trail.	Same as recreation. Trail on public lands is currently protected under National Trail legislation.	No impacts anticipated.
Alder Creek	Some short-term increase in use. No change in long-term.	No impact. Donner Archeological Site is currently protected.	No impacts anticipated.
Independence Creek	Some short-term increase in use. No change in long-term.	No impacts.	No impacts are anticipated. No existing claims.
Little Truckee River	Same as Alder Creek.	No impacts.	No impacts anticipated.
Perazzo Creek	Same as Alder Creek.	No impacts.	No impacts anticipated.
Sagehen Creek	Some short-term and slight long term increase in use.	No impacts.	No impacts anticipated.
Upper Truckee River	Some short-term and long-term increase in use due to the publicity.	Some increase in the potential for vandalism due to the increased public use.	No impacts anticipated.

TABLE S.2 (Continued)

River	Social/Economic Impacts	Research	Timber (See Table V.1)
Truckee River	Current lifestyles would remain the same. Designation should not change existing economic conditions.	No impacts.	A small reduction in timber volume is expected. Administration cost would not change.
Cold Stream	Same as Truckee River.	No impacts.	No impact on National Forest.
Alder Creek	Same as Truckee River.	No impacts.	No impacts.
Independence Creek	Same as Truckee River.	No impacts.	No impact. Timber would be non-regulated.
Little Truckee River	Potential impacts on current grazing use. Could affect the local ranchers if grazing is modified or reduced.	No impacts.	Some reduction in timber volume would occur. Administration costs would be higher to protect scenic values.
Perazzo Creek	Same as Little Truckee River.	No impacts.	Some reduction in timber volume and administration cost would increase.
Sagehen Creek	Same as Truckee River.	No impact. Research programs are compatible with Scenic River designation & will continue.	Some reduction in timber volume and administration cost would increase.
Upper Truckee River	Same as Little Truckee River.	No impacts.	No impacts.

TABLE S.3

Summary comparison of Suitability factors considered for each river

Factors to Consider	Rivers			
	Upper Truckee River	Sagehen Creek	Independence Creek	Little Truckee River
Degree to which area makes a worthy addition to National system	High	High	High	Moderate
The reasonably foreseeable uses foreclosed, or curtailed w/designation	None	Low	None	Low
Reasonably foreseeable uses enhanced w/desgn	High	High	High	Moderate/high
Public interest in desgn Local govt. interest	High	Moderate Truckee supports	Moderate Truckee supports SIA	Moderate Sierra Co. opposed
Cost of admin. - 5 years	\$ 50,000	\$ 80,000	\$ 10,000	\$ 43,000
The degree OR values will be protected if not designated & how	High LRMP allocation	High/Mod LRMP S&G	High SIA allocation	Moderate LRMP S&G
Current amount of Federal land ownership	2,153 Acres 100%	2,451 Acres 100%	644 Acres 89%	3,709 Acres 65%
Complexity of management/ river designation	Low	Low	Low	Low
Water projects proposed Potential for proposal	None Low	None Low	None Low	Conceptual Mod/High
OR Values that would contribute something new to Nat'l Wild and Scenic River System	High LC Trout Historic	High Ecol/Bot Research Historic	High LC Trout	Moderate Historic Ecological/ Botanical

This summary chart is provided for comparison purposes. For a complete understanding this chart should be used in context with text in Chapters II, III, IV, V, and appendices.

TABLE S.3 continued
Summary comparison of Suitability factors considered for each river

Factors to Consider	Rivers			
	Truckee River	Perazzo Creek	Coldstream / Emigrant Cyn	Alder Creek
Degree to which area makes a worthy addition to National system	Moderate	Moderate	Low	Low
The reasonably foreseeable uses foreclosed, or curtailed w/designation	Moderate	Low	None	Very Low
Reasonably foreseeable uses enhanced w/desgn	Moderate/High	Moderate	Low/Moderate	Low/Moderate
Public interest in desgn local govt. interest	High Truckee opposed	Moderate Sierra Co. opposed	Moderate/Lo Truckee opposed	Moderate/Lo Truckee opposed
Cost of admin. -5 years	\$ 150,000	\$ 30,000	\$ 12,000	\$ 40,000
The degree OR values will be protected if not designated now	High/Mod LRMP S&G	Moderate LRMP S&G	High/Mod SIA S&G/laws	High LRMP S&G/laws
Current amount of Federal land ownership	2,637 Acres 72%	913 Acres 77%	153 Acres 9%	1,273 Acres 54%
Complexity of management/ river designation	High	Low	Moderate	Moderate
Water projects proposed Potential for proposal	None Low/Mod	None Low	None Low	None Low
O R Values that would contribute something new to Nat'l Wild and Scenic River System.	High Historic	Moderate Ecological/- Botany	Moderate Historic	Moderate Historic

This summary chart is provided for comparison purposes. For a complete understanding this chart should be used in context with text in Chapters II, III, IV, V, and appendices.

CHAPTER I

PURPOSE AND NEED FOR ACTION

BACKGROUND

The Wild and Scenic Rivers Act and Public Law 88-29 authorized the Nationwide Rivers Inventory (NRI), which was initiated in 1975 by the Bureau of Outdoor Recreation (USDI), continued by the United States Department of Interior (USDI) Heritage Conservation and Recreation Service (HCRS) and is now maintained by the National Park Service (NPS). An initial listing for all states (except Montana and Alaska) was published by the NPS in 1982 and a major update in 1984. Listing on the NRI is not a close-ended process and the list has expanded dramatically as the Forest Service and Bureau of Land Management have identified potentially eligible rivers. The NRI is an inventory of those rivers and river segments which are relatively natural or undeveloped. To be eligible for possible inclusion in the National Rivers System, a river must be free-flowing and, with its adjacent land area, must possess one or more "outstandingly remarkable" values. These values are: scenic, recreational, geologic, fish and wildlife, historic, cultural, or other values, including ecological values. The intent of the National Wild and Scenic River Act of 1968 (PL 90-542) is to preserve some of the Nation's free-flowing rivers and immediate environments for present and future generations.

During the course of developing the Tahoe National Forest's (TNF) and the Lake Tahoe Basin Management Unit's (LTBMU) Land and Resource Management Plans, the public pointed out that the National Forests had not adequately inventoried their respective rivers for possible Wild and Scenic River eligibility. A subsequent inventory was conducted and a number of rivers within the National Forest boundaries were found eligible for study. Potential outstandingly remarkable values were identified for each river.

PURPOSE AND NEED OF STUDY

The purpose of this study is to determine the suitability of the eight eligible streams and tributaries within the Truckee River drainage for inclusion in the National Rivers System. A separate Suitability Study by the TNF is being conducted to analyze the remaining 22 eligible streams on the TNF located on the west slope of the Sierra Nevada. This study report/Final Environmental Impact Statement (FEIS) is tiered to the final EISs for the TNF and LTBMU Land and Resource Management Plans, and the actions are consistent with the direction contained within the TNF and LTBMU Forest Plans. The USDA Forest Service is the lead agency in conducting this environmental analysis and preparing the FEIS/Study report.

DECISIONS TO BE MADE

Based on the information and recommendations for Wild and Scenic River designation documented in the study report, the Secretary of Agriculture, as the responsible official, will transmit his recommendations to Congress. The final study report will be distributed to the public when the Secretary's recommendations are sent to the Congress. Legislative action to designate any river as a part of the Wild and Scenic Rivers System is the responsibility of Congress.

The Regional Forester has the authority to establish Special Interest Areas (SIA) which is a Forest Service administrative designation. This FEIS/Study Report also provides an analysis of the impacts that would be expected if Upper Independence Creek is designated a SIA.

OTHER RELEVANT STUDIES

A concurrent study on the Truckee River is underway by the US Bureau of Reclamation (Reclamation), US Fish and Wildlife Service, and the State of California (represented by the Department of Water Resources) to develop a Truckee River Operating Agreement (TROA) in accordance with Public Law 101-618. The TROA study and Environmental Impact Statement and Environmental Impact Report (EIS/EIR) is evaluating options for managing the reservoirs and river system to enhance the threatened and endangered fish species in Pyramid Lake and to provide a drought supply of municipal and industrial water for the Reno/Sparks Nevada, area. Although the TROA alternatives do not contain any proposed water impoundments or changes to the river channels, concern over the effects on future Wild and Scenic River designation was identified as an issue for the TROA study. The Truckee River, from Tahoe City to Truckee, and the Little Truckee River, from its confluence with Independence Creek to Stampede Reservoir, are eligible rivers and current management of flows in the rivers potentially could be changed by the TROA. The remaining eligible rivers including the headwaters of the Little Truckee River are unregulated, are located above the reservoirs managed under the TROA, are essentially free flowing, and are not affected by the TROA decisions.

The two studies are related in that decisions on river operations will be made in the TROA EIS/EIR, while recommendations for Wild and Scenic River designation is the purpose of this Wild and Scenic River FEIS/Study Report. Although some changes in management of the river system are anticipated under TROA, there should be no significant effect on any Wild and Scenic River designation proposed under this study. The changes in river operations proposed under TROA are limited to managing the releases of flows from the existing six reservoirs on the Truckee River. No additional storage reservoirs or changes to the river channels are planned, and the TROA EIS/EIR will describe and evaluate any impacts on future wild and scenic river designation. Conversely, the action to designate any or all of the eligible rivers is not expected to impact actions planned under TROA, although designation could have long-term impacts on future water development. These potential long-term impacts are described in this FEIS/Study Report.

The Forest Service is a cooperating agency for the TROA, while Reclamation is cooperating on the Wild and Scenic River Study. The objective of the cooperation is to provide coordination between the two studies.

ELIGIBILITY DETERMINATION

Appendix B provides documentation of the Determination of Eligibility and proposes potential classifications for the rivers. These classifications were identified through an Interdisciplinary Team process. There are three classes of wild and scenic rivers: a) wild, b) scenic, and c) recreational. Classification is based upon the condition of the river and adjacent lands at the time of the study.

Following the completion of the eligibility determinations, an interdisciplinary study team was assigned to study the eight rivers to determine whether or not they are suitable for recommendation to the Congress for designation as Wild and Scenic Rivers. Factors which are considered when determining suitability include:

- Which characteristics would make it a worthy addition to the National Wild and Scenic Rivers System;
- Current status of land ownership and use in the area;
- Reasonably foreseeable potential uses of resources that can be enhanced, and resource uses that are foreclosed or curtailed if designated;
- Public, state, and local government interest in designation of the river, and any other concerns raised during the study. The level of interest by the State or its political subdivisions in participating in the preservation and administration of the river should it be proposed for inclusion in the National Wild and Scenic Rivers system;
- Estimated cost to the United States of acquiring necessary lands and interests in land and administration of the area should it be added to the system; and
- Other management options to protect the outstandingly remarkable characteristics.

PUBLIC INVOLVEMENT AND PLANNING ISSUES

The Interdisciplinary Study Team identified several issues identified by the public and by agency personnel. These issues were identified as a result of news releases, mailings, and public and individual meetings. The major issues are:

1. The possible effect of classification on the ability to maintain existing water and power developments on the rivers.
2. The effects from designation on private lands.
3. The effects from designation on existing occupancies and uses along the rivers, such as summer homes, campgrounds, and transportation needs along the river corridors.

Significant concern was expressed by local landowners over the possible effects of designation on private property rights. The general perception of many landowners is that designation would seriously impact their rights, even though the Forest Service as a general principle of land management has no authority on private land. In addition, the Wild and Scenic Rivers Act (Section 6(b) and 6(c) limits condemnation where 50 percent of the land is already owned by Federal, State, and local governments; and where local governments have in place valid zoning ordinances which are consistent with purposes of the Act. Designation may have an influence on State and local government land use decisions affecting private land because the Forest Service would encourage zoning ordinances to be consistent with appropriate wild and scenic river guidelines. Chapter V - Environmental Consequences describes the potential impacts of designation on private lands.

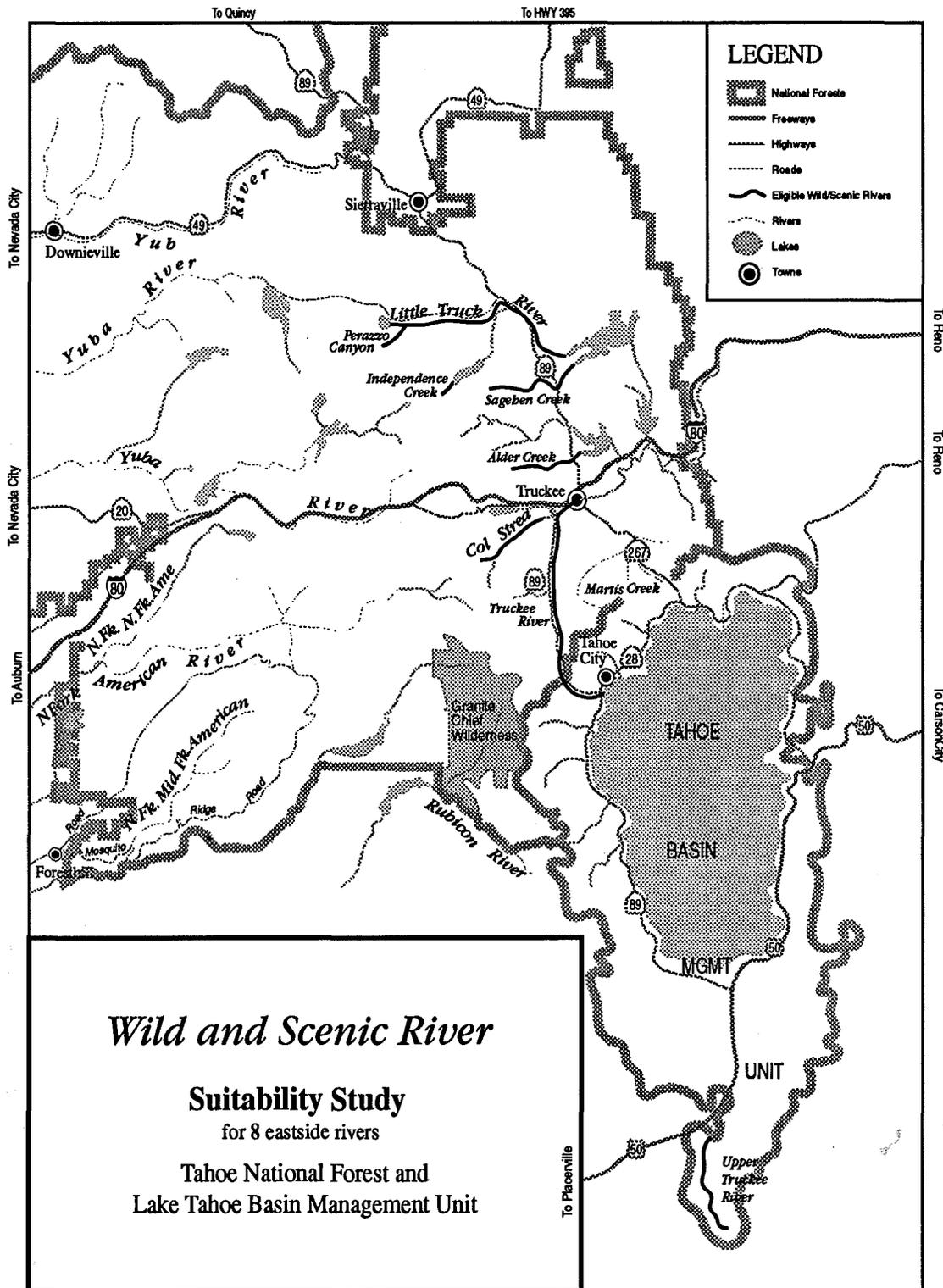
None of the eight rivers were originally identified on the Nationwide Rivers Inventory maintained by the National Park Service. All the eligible rivers were identified through the Interdisciplinary Team process. Cold Stream, identified by the Interdisciplinary Team as having at least one outstandingly remarkable value, is located primarily on private lands and state lands.

Although there is one potential water impoundment project identified on the Little Truckee River above Stampede Reservoir, a site-specific study of this water impoundment project is beyond the scope of this study and is not addressed in the study report.

Issues identified by the public and the cooperating agencies were crucial in the development of the seven alternatives analyzed in this study. Determination of suitability involved the analysis of these alternatives as prescribed in United States Department of Interior (USDI) and United States Department of Agriculture (USDA) jointly issued Final Revised Guidelines for Eligibility, Classification, and Management of River Areas. (See 47 Federal Register 34457, September 7, 1982.) A more detailed description of public involvement is provided in Appendix E. In addition Appendix E provides all the key comments from the public and responses to these comments. The comments which came from over 400 letters were used to help reevaluate each of the rivers and the alternatives from the DEIS and develop a preferred alternative for this FEIS.

MAP A

Wild and Scenic River Suitability Study



CHAPTER II

ALTERNATIVES INCLUDING THE PROPOSED ACTION

This study has developed and analyzed seven alternatives which included the suitability or unsuitability of including eight rivers in the National Wild and Scenic Rivers System. Implementation of Alternative A would mean that all the rivers would be found suitable for designation, and management would be similar to the standards described in Appendix A. Alternative B is the No Action Alternative and designates none of the eligible rivers as suitable. Management under the No Action Alternative would be in accordance with the existing local County Plans on private lands, and Land and Resource Management Plans or Land Use Plans on State and Federal lands. The other alternatives range in numbers of and designates various combinations of the eligible rivers. Table 2.1 shows which rivers were evaluated under each alternative and compares the number of miles of river by alternative. Table 2.2 compares the number of acres within each river corridor by alternative. A 1/4-mile wide corridor from each river bank was used to determine the study area. The total area is considered a 1/2 mile corridor.

DEVELOPMENT OF ALTERNATIVES

The Wild and Scenic Rivers Act [section 4(a)] requires the consideration of a number of factors in evaluating the suitability of a river for inclusion in the National Wild and Scenic Rivers System. These factors help to define the scope of the FEIS/Study Report and include: (1) which characteristics would make it a worthy addition to the National Wild and Scenic River System; (2) the reasonably foreseeable uses of the land and water that would be enhanced, foreclosed, or curtailed if the area were included in the National Wild and Scenic Rivers System; (3) the values that may be foreclosed or diminished if the area is not protected as part of the system; (4) public, State, and local interest in the designation; (5) the cost of the area's acquisition and administration if it is added to the system; (6) the current status of landownership, including the amount of private land within and adjacent to the study area; and (7) other issues and concerns raised during scoping. The Summary of Environmental Consequences, Table 2.3, and the Summary Comparison of Suitability Factors, Table 2.4, provide an overview of how the alternatives and individual rivers were evaluated. Evaluating individual rivers was a significant part of the process in evaluating the alternatives.

To respond to these issues regarding recommendations of suitability, the Forest Service Guidelines (FSH 1509.15) suggest consideration of the following types of alternatives: (1) national designation of all eligible segments; (2) protection of eligible segments by some means other than national designation (such as State designation); (3) nondesignation of all or portions of the

eligible segments; (4) designation of segments with alternative classifications; and (5) continuing current management (or no action).

Some possible alternatives such as State designation and further segmenting the rivers were not considered in the DEIS because no interest had been expressed during scoping. In developing alternatives, the Forest Service considered all relevant issues raised by the public and Interdisciplinary Study Team during the scoping process. Comments received on the DEIS suggested the idea of ending the Truckee River at Donner Creek because this is the location of the city boundary. Please see the discussion on the subject in the next section, Alternatives Eliminated From Detailed Study. Each eligible river was retained in its entirety as described in the eligibility determination. Additionally, the preliminary classification identified by the Interdisciplinary Study Team was maintained for formulation of all the alternatives in the DEIS. In this FEIS, the Upper Truckee River classification was changed from Scenic to Wild in several alternatives.

Alternatives were developed to respond to issues raised by the public or the Interdisciplinary Study Team. Alternative E was developed to identify the rivers that make the best contribution to a National Wild and Scenic River System, when considering the best Outstandingly Remarkable values. Alternative F was developed in response to some publics wanting to minimize impacts on natural resources, minimize impacts on potential water development projects, and to avoid private lands. Alternatives C and G address the rivers with OR characteristics that are dependent upon the river environment, and Alternative D is responsive to those that believe highly-used recreation rivers should receive priority for designation.

Although Martis Creek was determined eligible for possible Recreational designation, the suitability of Martis Creek is not evaluated in this FEIS/Study Report. Martis Creek flows primarily through private lands (over 90%) with National Forest lands at the extreme upper end of one of the forks of the creek. Additionally, the OR characteristics, which are historical features, are located entirely on private lands. The eligibility information has been provided to the State and County for use in their respective planning. The existing character of the portion of Martis Creek on National Forest lands will be protected.

ALTERNATIVES ELIMINATED FROM DETAILED STUDY

An alternative suggested during scoping was to change classification of the rivers to a higher or more restrictive level. As an example, the suggestion was to move Recreation rivers to Scenic, and Scenic to Wild. The basis for preliminary classification is the degree of naturalness, or stated conversely, the degree of evidence of man's activity in the river area. The most natural rivers will be classified Wild; those somewhat less natural, Scenic; and those least natural, Recreational. Determination of classification is a professional judgment based on the criteria described in the USDA/USDI guidelines described in Chapter I and Appendix B.

The Interdisciplinary Study Team reviewed the level of development and naturalness for each river and classified each river to the highest or most natural level. Therefore, a Recreational river would not qualify for Scenic or Wild status based on the level of development currently existing. Many comments from the public on the DEIS suggested reconsidering Upper Truckee River for Wild Classification. This river was reevaluated and a determination was made that it be classified Wild. This was brought forward to alternatives considered in detail. Alternative F left the Upper Truckee River as a Scenic River.0

On the other hand, alternatives of changing classification downward, from Wild to Scenic, and from Scenic to Recreational were considered but not carried forward in detail as alternatives. No issues or suggestions were raised by the public in the initial scoping that indicates a need to consider these types of alternatives in detail.

Comments on the DEIS suggested a new segment for the Truckee River that would end at Donner Creek. This alternative segment would end where the City of Truckee boundary begins. In addition, the Barberry plants located in the heart of Truckee has been dropped from the T&E Species list and therefore is not an OR value. The location of these plants was one of the factors that set the end of the river segment at the Highway 267 bridge. The IDTeam considered this alternative segment, but decided to stay with the existing segment end point. The ID Team determined that the city setting was consistent with a recreation classification and that the Highway 267 Bridge was a more logical ending place.

DIRECTION COMMON TO ALL ALTERNATIVES

The objectives and management direction for designation of one or more rivers include the following:

Designation forecloses possible impoundment of these rivers for water supply or other uses. This prohibition would protect native and sensitive fish species which require free-flowing waters for their survival and would prevent the inundation of Federal or State listed endangered, threatened, or sensitive plant species within the river corridors.

All rivers would be managed to the standards prescribed for the respective classification as described in Appendix A. Private landowners along the classified rivers would be encouraged to continue current land uses in order to preserve the rural atmosphere surrounding the rivers. Landowners are encouraged to use the standard in Appendix A to guide future land uses and developments. Timber harvest on private lands is guided by the regulations developed to implement the California Forest Practices Act. Wild and Scenic River corridors (200 feet on each side of the river) are considered "Special Treatment Areas" under the regulations. The intent of this determination is to manage the 200-foot corridor in a manner that is compatible with the

objective for establishing the Special Treatment Area. The regulations do not prohibit the harvest of timber within the area, but require modified practices to protect the wild and scenic river values within the corridor

Ongoing regular uses of private lands, particularly those existing at the time that a river is designated, are not directly affected. The Federal government has no authority to zone private lands. Zoning is a power of state and local governments. There are provisions of the Wild and Scenic Rivers Act that call upon the Federal agencies to encourage local land use planning by issuing guidelines for local and state governments for consideration in protecting river corridors. These guidelines are not binding on local governments nor can the Federal government force the local governments to adopt them. Landowners are encouraged to maintain the existing environment along the river corridors, on private lands, under every action alternative evaluated in this study.

The University of California, Berkeley research program in Sagehen Creek is recommended to continue in all alternatives. Appendix D provides suggested legislative language for Scenic River designation that provides for continuance of research if designated.

The California Route of the Overland Emigrant Trail in Cold Stream has been designated as a National Historic Trail by Congress. The California National Historic Trail was designated as a component of the National Trails System by Public Law 102-328, dated August 3, 1992. The Historic Trail is the Outstandingly Remarkable (OR) value identified for Cold Stream during the eligibility determination process for the Wild and Scenic River study. This designation is included as part of all alternatives, including the No Action Alternative. Historical designation provides for protection of the trail and the OR value on public lands.

The Forest Service maintains a system of SIAs. SIAs are established to protect and where appropriate, foster public use, study, and enjoyment of areas with scientific, scenic, historical, geological, botanical, zoological, paleontological, or other special characteristics. Management activities can vary, but are intended to protect and/or enhance the values for which the area was classified. As an example, roads, trails, and recreation or interpretive facilities may be built within an SIA to facilitate public use. Vegetative management may occur to the extent that it is compatible with the SIA purpose and management objectives. SIA designation in some cases may be a more appropriate method to protect the Outstandingly Remarkable values for a stream than protection under Wild and Scenic River designation. Some of the alternatives will include recommendation of SIA designation as in the case of Upper Independence Creek, or to study an area for possible designation, as in the case of Sagehen Creek.

All alternatives, except Alternative B, would amend the appropriate Land and Resources Management Plan, for either the Lake Tahoe Basin Management Unit or the Tahoe National Forest, to provide interim protection for the specific rivers recommended for designation. The

specific language for interim protection is provided in Alternative E, the preferred alternative. Similar language would apply to the other alternatives if they became the preferred alternative.

ALTERNATIVES CONSIDERED IN DETAIL

1. Alternative A. Recommend designating all eligible rivers.

Alternative A provides that all eight study rivers be recommended for designation into the National Wild and Scenic Rivers System.

Wild Designation

Upper Independence Creek from its headwaters to Independence Lake.

Upper Truckee River from its headwaters to just south of the South Upper Truckee Road.

Scenic Designation

Perazzo Creek from its headwaters to the Little Truckee River; Sagehen Creek from its headwaters to Stampede Reservoir high water mark. The Sagehen Basin, outside of the Scenic River corridor, would be recommended to be analyzed for suitability as a SIA by the Forest Service in a separate site-specific study.

Recreational Designation

Truckee River from the dam at Lake Tahoe to the Highway 267 bridge in the town of Truckee; Cold Stream from its headwaters in Emigrant Canyon to the section line between sections 17 and 20, T. 17 N., R. 16 E.; Alder Creek from its headwaters to Prosser Creek Reservoir; the Little Truckee River from Webber Lake to Stampede Reservoir.

2. Alternative B. (No Action). Recommend designation of no rivers.

Alternative B would not recommend any rivers for designation and is the No Action Alternative. This would result in all rivers being found unsuitable, with the OR values being protected and maintained under management requirements of the US Forest Service, the California State Parks, local County plans, and National Historic Trail management requirements for the California Route of the Overland Emigrant Trail in Cold Stream Canyon.

3. Alternative C. Recommend designating rivers with the most extensive OR value as related to the river environment. These OR values include recreational, scenic, historical and cultural, biological and ecological, and wildlife and fisheries values.

Alternative C would recommend the Truckee River for designation as a National Recreational River; the Little Truckee River as a Recreational River; Sagehen Creek as a Scenic River; the Upper Truckee River as a Wild River; and Perazzo Creek as a Scenic River. Upper Independence Creek would be recommended for designation as a SIA by the Forest Service. The Sagehen Basin outside of the Scenic River corridor would be recommended to be analyzed for suitability as a SIA by the Forest Service in a separate site-specific study. On the remaining rivers the specific OR values would be protected and maintained under management requirements of the US Forest Service, the California State Parks, local County plans, and National Trail management requirements.

4. Alternative D. Recommend designation of river(s) that receive the greatest amount of public recreation use that is directly associated with the river.

Alternative D would recommend designation of the Truckee River as a Recreational River from the dam at Tahoe City to the bridge on Highway 267 within the community of Truckee. The Truckee River has sufficient flows and access to provide for a variety of recreation activities. Upper Independence Creek would be recommended for designation as a SIA. Sagehen Creek would be recommended to be analyzed for suitability as a Special Interest Area by the Forest Service in a separate site-specific study. On the remaining rivers the specific OR values would be protected and maintained under management requirements of the US Forest Service, the California State Parks, local County plans, and National Trail management requirements.

5. Alternative E. Recommend designating those rivers that make the best contributions to a National Wild and Scenic River System when considering the best OR values. This is considered the Preferred Alternative.

Alternative E would recommend designation of the Upper Truckee River as a Wild River, Sagehen Creek as a Scenic River, and Upper Independence Creek would be recommended for designation as a SIA. The Sagehen Basin outside of the Scenic River corridor would be recommended to be analyzed for suitability as a SIA by the Forest Service in a separate site-specific study. On the remaining rivers, the specific OR values would be protected and maintained under management requirements of the US Forest Service, the California State Department of Parks, or local County plans and National Trail management requirements.

As part of the Preferred Alternative, Alternative E amends the Forest Land and Resource Management Plan and EIS (1990) for the Tahoe National Forest and is consistent with language in the Forest Land and Resource Management Plan for the LTBMU. The amendment language provides for interim protection of the Upper Truckee River and Sagehen Creek as follows:

1. To the extent the Forest Service is authorized under law to control stream impoundments and diversions, the free-flowing characteristics of the Upper Truckee River and Sagehen Creek will not be modified
2. Outstandingly remarkable values for the Upper Truckee River and Sagehen Creek shall be protected, and or enhanced, to the extent practicable.
3. Control management and development of Public lands on the Upper Truckee and Sagehen Creek within in the 1/2 mile corridors. Protect these corridors from modification to the degree that eligibility and classification would be affected based on the inventory classification.

This direction will be added to the goals and desired conditions of the Forest Plan as an additional element for Wild and Scenic Rivers. In addition, there will be specific language in each appropriate management area under resource management emphasis that provides for interim protection of each river recommended.

The wording is: Provide interim Wild and Scenic River protection for Sagehen Creek according to Forest Service handbook direction Chapter 8 and the direction provided in the Goals and desired future condition section of this Forest Plan. This wording will be applied to Management Area (MA) 19 Eighty Nine, MA 32 Stampede Boca, MA 36 Sagehen Basin, MA 38 Billy, and MA 43 Sagehen Station. Interim protection direction will continue until Congress denies or approves designation of the recommended rivers and management plans are developed.

Upper Independence Creek, a recommended Special Interest Area, also amends the Forest Plan. The Special Interest Area name is Upper Independence Creek, the new Management Area is Independence, and the Management Area wording is located in Appendix C page C.4 and C.5.

6. Alternative F. Recommend designation of those rivers where designation would have minimum adverse impacts on other resources uses such as timber management and water and power development and would minimize impacts on local and state government's ability to utilize existing utility and transportation corridors.

Alternative F would recommend designation of the Upper Truckee River as a Scenic River and Upper Independence Creek would be recommended for designation as a SIA. Sagehen Creek would be recommended to be analyzed for suitability as a SIA by the Forest Service in a separate site-specific study. On the remaining rivers, the specific OR values would be protected by the US Forest Service or local County plans and National Trail management requirements.

7. Alternative G. Recommend designation of those rivers identified to have the greatest botanical and ecological outstandingly remarkable values as related to the river environment.

Alternative G would recommend designation of the Upper Truckee River as a Wild River, Sagehen Creek and Perazzo Creek as Scenic Rivers, and the Little Truckee River as a Recreational River. Upper Independence Creek would be recommended for designation as a SIA by the Forest Service. The alternative recommends the Forest Service evaluate the Sagehen Basin, outside of the Scenic River corridor, for suitability for designation as a SIA by the Forest Service in a separate site-specific study. On the remaining rivers, the specific outstandingly remarkable values would be protected by the US Forest Service or local County plans and National Trail management requirements.

MANAGEMENT REQUIREMENTS

Specific management requirements for designated rivers will be developed in management plans after designation, but will be similar to standards described in Appendix A. Management requirements for Upper Independence Creek SIA are listed in Appendix C.

TABLES AND MAP INFORMATION

On the following pages of chapter II are several tables showing an overview of river information, environmental consequences, evaluation of individual rivers and a map of the proposed SIA as follows: Table 2.1 Rivers by Alternative displays the river miles for each river by Alternative. Table 2.2 Eligible Rivers by Ownership, describes the land ownership adjacent to the eligible rivers within each river corridor. Table 2.3 Summary of Environmental Consequences describes the consequences for each Alternative. Table 2.4 Summary comparison of Suitability factors considered for each river describes how each river was evaluated for suitability. Map B displays the boundaries and land ownership for the recommended Upper Independence Creek SIA.

TABLE 2.1
Rivers by Alternative

	Miles of River by Alternative						
	A	B	C	D	E	F	G
Truckee River	13.0		13.0	13.0			
Cold Stream ¹	5.2						
Alder Creek	6.4						
Independence Creek	2.0		*	*	*	*	*
Little Truckee River	14.0		14.0				14.0
Perazzo Creek	3.2		3.2				3.2
Sagehen Creek	8.0 ***		8.0 ***	**	8.0 ***	**	8.0 ***
Upper Truckee River	7.0		7.0		7.0	7.0	7.0
TOTALS	58.8	0	45.2	13.0	15.0	7.0	32.2

* Independence Creek is recommended for Special Interest Area designation by the Forest Service.

** Sagehen Creek is recommended to be analyzed for Special Interest Area designation by the Forest Service in a separate site-specific study.

*** The Sagehen Basin outside the Scenic River corridor is recommended to be analyzed for Special Interest Area designation by the Forest Service in a separate site-specific study.

1. Cold Stream flows mostly through private and State Lands managed by the California State Department of Parks.

TABLE 2.2
Land Status within River Corridors by Alternative

Acres by Alternative

	A	B	C	D	E	F	G
Truckee River							
Federal	2,637		2,637	2,637			
Private	1,010		1,010	1,010			
Total	3,647		3,647	3,647			
Cold Stream							
Federal	153						
Private	1,581						
Total	1,734						
Alder Creek							
Federal	1,273						
Private	1,057						
Total	2,330						
Independence Creek							
Federal	644						
Private	80						
Total	724						
Little Truckee River							
Federal	3,709		3,709				3,709
Private	1,963		1,963				1,963
Total	5,672		5,672				5,672
Perazzo Creek							
Federal	913		913				913
Private	272		272				272
Total	1,185		1,185				1,185
Sagehen Creek							
Federal	2,451		2,451		2,451		2,451
Private	0		0		0		0
Total	2,451		2,451		2,451		2,451
Upper Truckee River							
Federal	2,153		2,153		2,153	2,153	2,153
Private	0		0		0	0	0
Total	2,153		2,153		2,153	2,153	2,153
TOTALS							
Federal	13,466		11,396	2,637	4,604	2,153	8,759
Private	6,430		3,712	1,010	0	0	2,702
Total	19,896		15,108	3,647	4,604	2,153	11,461

TABLE 2.3

SUMMARY OF ENVIRONMENTAL CONSEQUENCES from Wild and Scenic River Designation

RIVER	Private Land	Visual Quality	T/E/S species Veg/Ecological
Truckee River	Potential impacts are low. Land ownership is mixed.	Minimal impacts as area managed for Retention (R) and Partial Retention (PR).	No impact on TES species. No change on other wildlife habitat.
Cold Stream	Very low impacts. Some small & large blocks of private lands.	Minimal. Area has been logged. Meets standards for recreation river.	No impacts.
Alder Creek	Very low. Upper 40% is privately owned, subdivision lots. Lower end is National Forest.	Low. Private lands are fully developed. National Forest lands are managed for R & PR.	No impacts.
Independence Creek	Very low. 300 feet of stream flows through private lands. Remainder is on National Forest.	Visual quality would change from PR to Preservation.	Wild River or SIA designation would protect the Lahontan cutthroat trout & watchlist plants.
Little Truckee River	Low impact. Large blocks of private lands along the river.	No impact. Lands currently managed for R and PR.	Designation would protect riparian habitats from dam.
Perazzo Creek	Very low impact. The upper 0.4 mile are private timber lands.	Change from Modification & PR to Retention.	Some additional protection to meadows and willow habitats.
Sagehen Creek	No impacts. River flows totally through National Forest lands.	Change from Modification & PR to Retention.	Some additional protection to meadows and willow habitats.
Upper Truckee River	No impacts. River flows totally through National Forest lands.	No impacts.	Some additional protection to the Lahontan cutthroat trout.

Table 2.3 (Continued)

River	Recreation	Cultural Resources	Minerals
Truckee River	Designation would require management plan. Use would be restricted to carrying capacity.	No impacts.	No impacts anticipated.
Cold Stream	Would increase some public interest in the Emigrant Trail.	Same as recreation. Trail on public lands is currently protected under National Trail legislation.	No impacts anticipated.
Alder Creek	Some short-term increase in use. No change in long-term.	No impact. Donner Archeological Site is currently protected.	No impacts anticipated.
Independence Creek	Some short-term increase in use. No change in long-term.	No impacts.	No impacts are anticipated. No existing claims.
Little Truckee River	Same as Alder Creek.	No impacts.	No impacts anticipated.
Perazzo Creek	Same as Alder Creek.	No impacts.	No impacts anticipated.
Sagehen Creek	Some short-term and slight long term increase in use.	No impacts.	No impacts anticipated.
Upper Truckee River	Some short-term and long-term increase in use due to the publicity.	Some increase in the potential for vandalism due to the increased public use.	No impacts anticipated.

TABLE 2.3 (Continued)

River	Social/Economic Impacts	Research	Timber (See Table V.1)
Truckee River	Current lifestyles would remain the same. Designation should not change existing economic conditions.	No impacts.	A small reduction in timber volume is expected. Administration cost would not change.
Cold Stream	Same as Truckee River.	No impacts.	No impact on National Forest.
Alder Creek	Same as Truckee River.	No impacts.	No impacts.
Independence Creek	Same as Truckee River.	No impacts.	No impact. Timber would be non-regulated.
Little Truckee River	Potential impacts on current grazing use. Could affect the local ranchers if grazing is modified or reduced.	No impacts.	Some reduction in timber volume would occur. Administration costs would be higher to protect scenic values.
Perazzo Creek	Same as Little Truckee River.	No impacts.	Some reduction in timber volume and administration cost would increase.
Sagehen Creek	Same as Truckee River.	No impact. Research programs are compatible with Scenic River designation & will continue.	Some reduction in timber volume and administration cost would increase.
Upper Truckee River	Same as Little Truckee River.	No impacts.	No impacts.

TABLE 2.4

Summary comparison of Suitability factors considered for each river

Factors to Consider	Rivers			
	Upper Truckee River	Sagehen Creek	Independence Creek	Little Truckee River
Degree to which area makes a worthy addition to National system	High	High	High	Moderate
The reasonably foreseeable uses foreclosed, or curtailed w/ designation	None	Low	None	Low
Reasonably foreseeable uses enhanced w/ design	High	High	High	Moderate/high
Public interest in design Local govt. interest	High	Moderate Truckee supports	Moderate Truckee supports SIA	Moderate Sierra Co. opposed
Cost of admin. - 5 years	\$ 50,000	\$ 80,000	\$ 10,000	\$ 43,000
The degree OR values will be protected if not designated & how	High LRMP allocation	High/Mod LRMP S&G	High SIA allocation	Moderate LRMP S&G
Current amount of Federal land ownership	2,153 Acres 100%	2,451 Acres 100%	644 Acres 89%	3,709 Acres 65%
Complexity of management/ river designation	Low	Low	Low	Low
Water projects proposed Potential for proposal	None Low	None Low	None Low	Conceptual Mod/High
OR Values that would contribute something new to Nat'l Wild and Scenic River System	High LC Trout Historic	High Ecol/Bot Research Historic	High LC Trout	Moderate Historic Ecological/ Botanical

This summary chart is provided for comparison purposes. For a complete understanding this chart should be used in context with text in Chapters II, III, IV, V, and appendices.

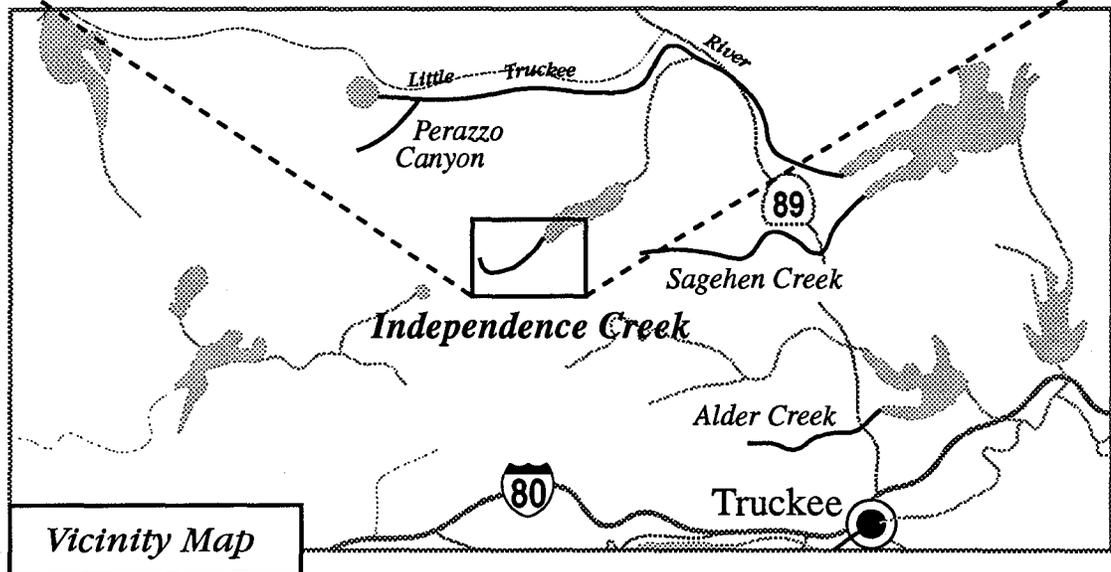
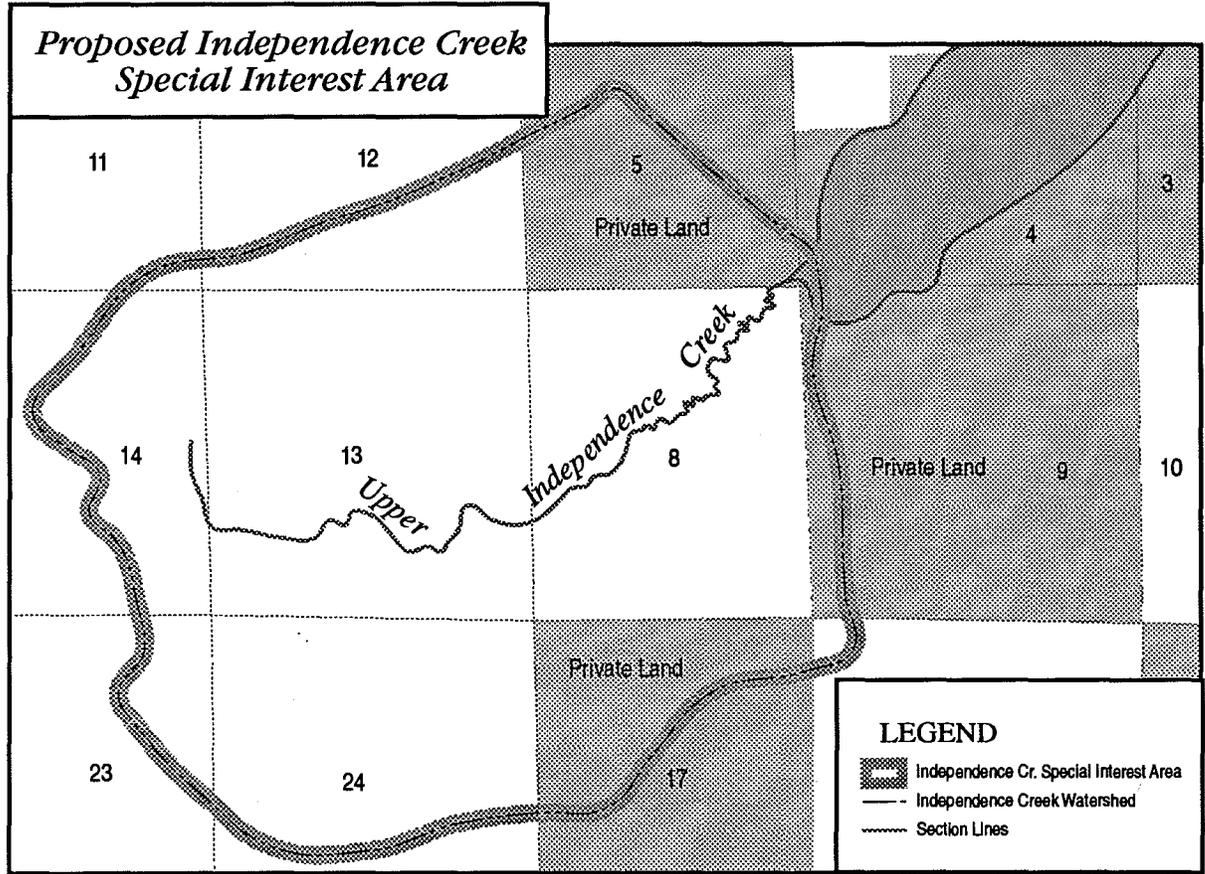
TABLE 2.4 continued
Summary comparison of Suitability factors considered for each river

Factors to Consider	Rivers			
	Truckee River	Perazzo Creek	Coldstream/ Emigrant Cyn	Alder Creek
Degree to which area makes a worthy addition to National system	Moderate	Moderate	Low	Low
The reasonably foreseeable uses foreclosed, or curtailed w/designation	Moderate	Low	None	Very Low
Reasonably foreseeable uses enhanced w/desgn	Moderate/ High	Moderate	Low/ Moderate	Low/ Moderate
Public interest in desgn local govt. interest	High Truckee opposed	Moderate Sierra Co. opposed	Moderate/Lo Truckee opposed	Moderate/Lo Truckee opposed
Cost of admin. -5 years	\$ 150,000	\$ 30,000	\$ 12,000	\$ 40,000
The degree OR values will be protected if not designated now	High/Mod LRMP S&G	Moderate LRMP S&G	High/Mod SIA S&G/laws	High LRMP S&G/laws
Current amount of Federal land ownership	2,637 Acres 72%	913 Acres 77%	1,273 Acres 9%	153 Acres 54%
Complexity of management/ river designation	High	Low	Moderate	Moderate
Water projects proposed Potential for proposal	None Low/Mod	None Low	None Low	None Low
O R Values that would contribute something new to Nat'l Wild and Scenic River System.	High Historic	Moderate Ecological/ Botany	Moderate Historic	Moderate Historic

This summary chart is provided for comparison purposes. For a complete understanding this chart should be used in context with text in Chapters II, III, IV, V, and appendices.

MAP B

Proposed Independence Creek Special Interest Area



CHAPTER III

FINDINGS OF ELIGIBILITY AND CLASSIFICATION

INTRODUCTION

This chapter contains a summary of the findings of eligibility for inclusion in the Wild and Scenic Rivers System. See Appendix B for the actual findings documented by the Interdisciplinary Team. Following is a summary of the OR characteristics for each river and the determination of Wild, Scenic, or Recreational classification.

ELIGIBILITY

To be eligible for inclusion under the Wild and Scenic Rivers Act, a river or portion of a river must be free-flowing and, with its adjacent land area, must possess one or more of the following Outstanding Remarkable (OR) values: scenic, recreational, geologic, fish and wildlife, historic, cultural, or ecological. The eight rivers evaluated in this FEIS/Study Report are eligible for designation based on the findings by the Interdisciplinary Team that each of the eight rivers are free flowing and contain at least one OR characteristic.

The USDA and USDI Final Revised Guidelines for Eligibility, Classification, and Management of River Areas (47 FR 39454; September 7, 1982) indicate that a river segment flowing between impoundments is not necessarily precluded from designation if it meets eligibility criteria. The definition of "free flowing" from Section 16 (b) of the Act that follows helps clarify this issue: (b) "Free-flowing", as applied to any river or section of a river, 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: Provided, That this shall not be construed to authorized, intend, or encouraged future construction of such structures within components of the national wild and scenic rivers system". There are several small improvements along the eligible rivers including retaining walls and an irrigation diversion on the Little Truckee River. None of these developments significantly affect the free-flowing characteristics of the streams.

In addition to being free-flowing, a river must have at least one OR resource value. The following is a summary of the findings of the Interdisciplinary Team. (See Appendix B for the full report)

1) Truckee River - OR values on the Truckee River include recreation, and cultural resource values. Botanical values were originally considered outstandingly remarkable because of the

presence of the Truckee barberry. However, the U.S. Fish and Wildlife Service has dropped the plant from the Federal T&E list based on new taxonomy information. Other botanical resources are not considered to have OR values.

The Truckee River is heavily used by the general public for hiking, biking, fishing, kayaking, rafting, swimming, camping, picnicking, horseback riding, snowmobiling, snowplay, and skiing. The ease of access and proximity to Lake Tahoe add to the area's attractiveness as a recreation corridor. The ready access along with the intensity and diversity of recreational uses along the Truckee River combine to make recreation an outstanding recreation value.

Several prehistoric sites along the Truckee River qualify for listing on the National Register of Historic Places as they contain data for investigating regional research questions. These sites are large, contain complex stratigraphy, and contain evidence for the earliest human use of this region within the Sierra Nevada. One of these sites, CA-PLA-164, provided the oldest known Carbon 14 date of 8,130 B.P. (before present) for an archaeological site in the region. This date was obtained from small chunks of charcoal, which were associated with the partially fossilized wing bone of a large bird, and two basalt tools. The significance of this is stated in The Archaeology of the Tahoe Reach of the Truckee River: "Sites with components of this age are known in the Great Basin, but they are not at all common and sites with buried 8,000 year old components are definitely rare." It has been noted that OR prehistoric values may be rare and represent an area where a culture or cultural period was first identified or described.

2) Sagehen Creek - OR values on Sagehen Creek include botanical/ecological values, cultural and historical resources, fish and wildlife, and geological/hydrological values.

Sagehen Creek hosts numerous interrelated outstandingly remarkable values that are best identified as ecosystem values. The stream is also considered highly representative of eastside Sierra Nevada stream ecology for native fisheries. The interdependence of values increases its level of significance including the broader biodiversity of species. The geology provides the hydrology necessary to support the unique fens (best examples and the most extensive on the Forest) and is also likely to be involved in supporting two Class I (threatened and endangered) invertebrates in the stream. This ecological significance supports the stream with hydrology, geology, wildlife, fisheries, and plants being considered outstandingly remarkable. Fisheries by itself is considered unique and outstandingly remarkable due to the natural assemblage of native fish. (See Chapter IV, Section IX for a description of the fish). The University of California Research Station has provided numerous reports, papers, and research on the natural resources of Sagehen Creek and Basin. This research is considered a complementary OR value.

The historic sites within the Sagehen Creek basin are eligible for listing on the National Register of Historic Places as a historic district. The majority of these sites and associated features represent an intact railroad-based logging system. Additionally, an early sawmill and associated animal-based transportation system are also represented as well as depression-era sites which have received very little research to date. Sagehen Creek was not an integral part of these past logging operations.

3) Upper Independence Creek - OR values on Upper Independence Creek include botanical/ecological values, scenic, and fisheries.

Upper Independence Creek supports a fisheries of national importance primarily because it is the only stream that supports a continuously self-supporting Lahontan cutthroat trout population that has not had to have re-introduction of the species. The scenic values are of regional significance due to the classic "U" shaped valley configuration and the dramatic spatial definition of the valley. The plant values are of regional significance due to the existence of fens, which are rare in the Sierra Nevada and known to occur only in Nevada, Sierra, and El Dorado Counties.

4) The Little Truckee River - OR values on the Little Truckee River include botanical, wildlife, and cultural resource values.

The vegetation values are considered outstandingly remarkable because of the fens, which are rare in the Sierra Nevada. There are numerous fens but they are not as extensive as Sagehen Creek. The wildlife values are considered outstandingly remarkable due to the presence of bald eagle nesting sites and the presence of habitat for the willow fly-catcher. Cultural resources were identified as outstandingly remarkable because the Henness Pass road and the associated support service sites, such as stage stations, are eligible for listing on the National Register of Historic Places. However, the Little Truckee River was not an integral part of the development and use of the Henness Pass road.

5) Perazzo Creek - OR values on Perazzo Creek include the botanical/ecological associations and the broad diversity of wildlife habitat, including habitat for the willow flycatcher.

The fens are considered rare for plant values. The fens along with dry meadows, wet meadows, aspen, and a wide range of wild flowers and forbs provide a very diverse and unique plant community. This diverse plant community provides an extensive riparian community supporting many riparian-dependent species including the willow flycatcher. The Perazzo meadow complex and the Little Truckee River (Perazzo flows into the Little Truckee River) provide habitat for the second largest population of willow fly-catcher in California, indicating a highly valuable wildlife resource. The old-growth timber in the area adds to the biodiversity in the area and provides valuable habitat for old-growth dependent species.

6) Upper Truckee River - OR values on the Upper Truckee River include cultural resources, fisheries, wildlife, recreation and scenic values.

The Meiss cabin and barn complex are eligible for the National Register of Historic Places, indicating an OR characteristic. The recreation (scenic) values are based on the exceptional recreation opportunities providing the visitor with a non-motorized backcountry experience. Access is provided by an extensive trail system, including the Pacific Crest Trail (a National Scenic Trail), to the Upper Truckee River and lakes in the area. Recreation use is extensive throughout the area. Recreation uses include hiking, horseback riding, fishing, camping, mountain biking, and cross-country skiing. Scenic values include a dramatic backdrop scenery which include broad meadows and shallow lakes providing unobstructed views of the high alpine ridges to the east and west. Foreground views include the massive volcanic Round Lake Buttress. A self-sustaining population of Lahontan cutthroat trout, the only native trout to the area, provide an outstandingly remarkable value and are a federally listed "threatened" species under the Endangered Species Act of 1973. Wildlife values include habitat for sensitive species such as willow flycatchers, goshawk and the endangered peregrine falcons as well as the pileated woodpeckers a LTBMU Management Indicator Species. The critical summer habitat designation for mule deer leads to an outstandingly remarkable wildlife value for the area.

7) Cold Stream - The OR value on Cold Stream is the National Historical Overland Emigrant Trail.

The Emigrant trail along Cold Stream is one component of the California Route of the Overland Emigrant Trail. This trail, one of several routes utilized to access California and incorporated into the California National Historic Trail, recently achieved National Trail System status. The route follows the stream in order to access two separate Sierra Nevada crossings: Roller Pass and Cold Stream Pass. These passes were easier to approach than Donner Pass and carried the bulk of traffic on the Truckee route until 1864 when the Dutch Flat and Donner Lake Wagon Road was built. The trail is located adjacent to the stream for a portion of the route due to the ease of travel. Essentially, the pioneers followed the water course because of the favorable gradient for travel until the stream channel become too steep and rugged for wagon travel. The stream did not play any other role in the emigrant trail history.

8) Alder Creek - The OR value on Alder Creek is the historical Donner Camp- site.

The OR value on Alder Creek is the Donner Camp site which is eligible for listing in the National Register of Historic Places. The George and Jacob Donner families camped at this location during the winter of 1846-47, becoming one of the most famous and tragic symbols of the westward migration along the Overland Emigrant Trail. The remainder of the wagon

party occupied three cabins in the vicinity of Donner Lake near Donner Memorial State Park. Alder Creek was not considered an essential element in the location of the Donner Campsite.

CLASSIFICATION

After a river or portion of a river has been determined to be eligible for inclusion in the National System, the potential classification (Wild, Scenic, or Recreational) is determined. Classification is based on the level of development along the river and adjacent lands, and access to the river as it exists at the time of the study. Classification is not based on anticipated development or other changes along the river corridor; those are an aspect of evaluating suitability.

These terms can be misleading. For example, a "Recreational" river may have been designated for reasons other than recreation. The level of development along the river could preclude Wild or Scenic classification, but the same level of development would be allowable under the "Recreational" classification, whether or not the river is heavily used for recreation. The Wild and Scenic Rivers Act defines the following classification criteria:

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

Using these criteria, each eligible river was measured against the standards for each classification category. However, while the classification criteria provide uniform guidance for professional judgement, they are only guidelines and not absolute requirements. It is not possible to formulate criteria so as to mechanically or automatically classify river areas. The eligible rivers were preliminarily classified as follows:

Wild Rivers - Upper Independence Creek, and Upper Truckee River

Scenic Rivers - Sagehen Creek, and Perazzo Creek (Upper Truckee River re-classified wild)

Recreational Rivers - Truckee River, Cold Stream, Alder Creek, and the Little Truckee River

TABLE 3.1

Outstandingly Remarkable Values

	Veg/ Ecol	Rec	Scenic	Cult- ural	Fish	Geo- logy	Hydro- logy	Wild- life
Truckee River		X		X				
Cold Stream				X				
Alder Creek				X				
Independence Creek	X		X		X			
Ltl Truckee River	X			X				X
Perazzo Creek	X							X
Sagehen Creek	X			X	X	X	X	X
Upper Truckee River		X	X	X	X			X

TABLE 3.2

**Potential Classification Based on Eligibility Determination
Wild, Scenic and Recreational Miles by River**

	Wild	Scenic	Recreational
Truckee River			13.0
Cold Stream			5.2
Alder Creek			6.4
Independence Creek	2.0		
Little Truckee River			14.0
Perazzo Creek		3.2	
Sagehen Creek		8.0	
Upper Truckee River	7.0		

CHAPTER IV

AFFECTED ENVIRONMENT

I. LOCATION

The **eight** rivers eligible for additional study are located within the Truckee River drainage, mostly within the boundaries of the Tahoe National Forest and the Lake Tahoe Basin Management Unit (LTBMU) on the east slope of the Sierra Nevada. All eligible rivers are within the state of California and are located in Alpine, El Dorado, Placer, Nevada, and/or Sierra counties. The rivers studied comprise a total of 58.8 miles of perennial streams. The main stem of the Truckee River is a relatively short river, only about 120 miles in length from Lake Tahoe to Pyramid Lake, and the watershed drains a total area of 2,720 square miles. The location of the study rivers is shown on the map on Page I-5.

II. CLIMATE

Elevations in the upper watershed typically range from 9,000 to 10,000 feet in the Sierra on the western end of the Truckee watershed, to 4,000 to 5,000 in the valleys in Western Nevada. The eligible rivers are all within the upper watersheds. The area's climate is characterized by long, cold winters and by short, moderate-to-warm summers. Precipitation follows a seasonal pattern, primarily occurring from late October through early May. Summer thunderstorms are common in the region, but seldom produce significant amounts of precipitation over a wide area. Winter precipitation above 5,000 feet is normally in the form of snow. The spring runoff season lasts longer than is normal for watersheds at lower elevations, extending into July, as the snowpack at the highest elevations melts late in the season.

Temperature varies widely, but the coldest areas are around Truckee and Lake Tahoe; extreme lows can reach from -15 to -30 degrees Fahrenheit with maximums in the 90 degree range. The coldest spot in California is the townsite of Boca. Precipitation at the Sierra crest is 60-70 inches annually and drops sharply as one moves to the east and lower elevations, where it is less than 10 inches in the Reno/Sparks area.

III. LANDFORMS

Many of the higher slopes and peaks along the Sierra crest have been glaciated, exposing the hard underlying rock materials with glacial moraines formed along the adjacent slopes and valleys. Lake Tahoe occupies what geologists call a "graben", a rather steeply sided valley formed when faulting caused a block-shaped area to drop relative to the surrounding terrain. Martis Valley, where the town of Truckee is located, is a large, high mountain valley at approximately 6,000 feet

in elevation. From Martis Valley, the Truckee River falls sharply through a canyon into Western Nevada, ultimately terminating in Pyramid Lake.

IV. SOILS

Soils in the upper watershed occur on gentle to steep slopes and in broad valleys (i.e. Martis Valley). These soils have developed from rhyolitic and granitic bedrock and from alluvial deposits. Low precipitation is a major limitation to productivity. Soils at higher elevations (5,500 to 9,500 feet) along the crest of the Sierra have developed from volcanic, metasedimentary, and granitic rocks, and from glacial-alluvial deposits. Steep slopes and shallow, rocky soils limit productivity over much of the area.

V. FLOODPLAINS, WETLANDS AND RIPARIAN AREAS

Annual floodplains are the lowlands and relatively flat areas adjoining the rivers that are subject to a one percent or greater chance of flooding in a given year. There is a history of flooding from the Truckee River in the Reno/Sparks area from high spring run-off and "rain-on-snow" events during late winter. The Army Corps of Engineers have mapped an extensive floodplain in the Truckee Meadows area (Reno/Sparks) and have developed a series of levees along the river through Reno and Sparks.

Wetlands are areas regularly wet or flooded where the water table stands at or above the land surface for at least part of the year. There are large acreage of wetlands near the town of Truckee and in the Reno/Sparks area. A number of the tributaries of the Truckee River contain "fens", the largest of which is called the Mason Fen is within Sagehen Creek . Fens are unique ecosystem and plant communities with distinguishing characteristics. They are scattered in the Sierra Nevada in cold, permanently waterlogged soils. Subsurface hydrology is extremely important in their formation and continuation. California fens do not resemble fens that occur in the eastern states (Thorne, 1976). Some of the largest, most well-preserved, and best-studied fens in the Sierra Nevada are located in the Sagehen Creek Basin. Fens are very similar to a sphagnum bog, but with a richer flora including larger shrubs. Some may have a peat accumulation. Fens are rare in the state of California with fewer than ten known in El Dorado and Nevada Counties. There are fens along Sagehen Creek, Perazzo Creek, and the Little Truckee River.

Riparian areas are transition areas between aquatic ecosystems and their adjacent terrestrial ecosystem. They have distinctive soil characteristics and plant communities that require free or unbound water. Riparian areas function in providing fish and wildlife habitat, erosion control, forage, late season streamflow, and water quality. Riparian vegetation and areas are an important component along the entire length of the main stem of the Truckee River and its tributaries.

Vernal pools are generally small, poorly drained depressions in relatively flat areas. California vernal pools are well known for their unique flora. Vernal pools are the most threatened wetland ecosystem in California (Stone, 1990). There are known vernal pools along Sagehen Creek and Perazzo Creek.

VI. MINERALS

Minerals can be defined in three categories: Locatables (i.e. gold/silver), leasables (i.e. gas/oil/coal), and common variety minerals such as sand and gravel. Generally, Federal lands within the Truckee River watershed are open to mining under the general mining laws, although there are some areas withdrawn from mining such as existing dam sites. There is very little commercial or recreational mining along the study rivers. The majority of the mining activity in the river corridors are for sand and gravel operations, mostly in support of highway and other construction projects.

VII. STREAMFLOW

The entire Truckee River system is controlled by a series of dams and reservoirs. Flows in the eligible portions of the Truckee and Little Truckee Rivers are controlled by the dams on Lake Tahoe and Independence Lake, respectively. The other eligible rivers are located above the dams and flow into the reservoirs.

Historical flows including average daily flow and maximum and minimum flows are described in Table 4.4.

Instream flows in all the rivers are extremely variable due to the variation in annual precipitation. The flows in the Truckee River from Lake Tahoe to Truckee are augmented by the Prosser Exchange Agreement, a procedure that allows the use of water stored in Prosser Reservoir to maintain instream flows below the dam at Tahoe City. Minimum flows for the Truckee River between Tahoe City and Truckee are established by the Exchange Agreement at 50 cubic feet per second (cfs) during the winter and 70 cfs over the summer period. There is a 2 cfs minimum instream flow requirement on Independence Creek, which flows into the Little Truckee River, and a 3-5 cfs flow on the Little Truckee River below the Sierra Valley Diversion. Instream flow requirements are currently being studied through the TROA EIS/EIR and are expected to be increased over current levels. Flows in all other study rivers are uncontrolled and maintained by natural flows.

Current in-stream flow arrangements include (these are not legal requirements, but generally accepted by water users):

- | | |
|---|--------------------------------------|
| a. Truckee River (Tahoe City to Truckee) | 70 cfs in summer
50 cfs in winter |
| b. Little Truckee River (Based on 1952 Settlement)
(Below Sierra Valley Diversion) | |
| 7/1 to 10/15 | 3 cfs |
| 10/16 to 3/15 | 4 cfs |
| 3/16 to 6/30 | 5 cfs |
| c. Independence Creek (below reservoir) | 2 cfs |

The State of California has rights to 10,000 acre feet of surface water as a result of Public Law 101-618. California does not have storage capacity at this time, but will need reservoir storage in order to exercise these rights. Possible storage options include the use of one or a combination of the six existing reservoirs. Another option is the construction of a new reservoir, although no dam sites have been identified. This issue is being evaluated as part of the TROA EIS/EIR and there are no proposals for storage by California at this time.

VIII. WATER QUALITY

Water quality in all the study rivers is considered good although some historical practices of rapidly releasing water from Lake Tahoe and Independence Lake has resulted in some channel scouring and sedimentation. Aside from the historical impacts, there are some minor water quality problems in some of the study rivers at the current time. Lahontan Regional Quality Control Board has identified several water quality shortcomings on the Upper Truckee, Truckee, Sagehen, and Little Truckee Rivers. The water quality problems are associated with roads, timber harvests, grazing, recreation use, and urbanization. They range from sedimentation concerns, and impacts from heavy recreation use, to high levels of heavy metals. More detailed water quality information is available in the planning files. The quality of the water in all of the study rivers meet or exceed State Water Quality Standards.

IX. FISH AND WILDLIFE

The Federal agencies in cooperation with the California State Department of Fish and Game, manage the fish and wildlife resources and habitats within the area drained by the study rivers.

All the rivers considered in this suitability study are coolwater rivers. Significant game fish species include rainbow trout, brook trout, brown trout, mountain white fish, and the threatened Lahontan cutthroat trout (LCT). The Truckee River system also provides important habitat for native non-game species including: Lahontan reddsides, speckled dace, Tahoe sucker, mountain sucker, Paiute sculpin, and Lahontan tui chub. All seven tributaries to the main stem of the

Truckee are considered excellent fisheries. The main stem of the Truckee is classed as fair for fisheries due to the alteration of the river channels and low instream flows.

Almost all river corridors are open to hunting and fishing, with deer being the most popular big game animal pursued during the fall hunt. A portion of the Upper Truckee River near the Meiss cabin is closed to fishing to protect populations of the reintroduced LCT.

X. VEGETATION

More than 500 species of native plants and at least 160 introduced species may be found in the Truckee Basin (study area). Vegetation has considerable diversity because life-zones range from the semi-arid sagebrush steppe to alpine conditions. In most areas the timber was logged extensively during the 19th century to support the mining activities in Virginia City. Most of the stands of timber consist of trees that are between 90 and 120 years of age. The true "old-growth" timber is limited and found on steep, rocky slopes that was too difficult to cut by early logging methods. An exception exists in the Upper Truckee River Basin, which was not logged historically. Typical plant associations include Jeffrey pine, mixed conifer, riparian-deciduous, chaparral, meadow, aquatic-emergent, and alpine associations.

Jeffrey Pine Association: This type is found on the lower and drier slopes of the study area and includes pure Jeffrey pine stands in association with sagebrush, bitterbrush, and mountain mahogany. Elevation ranges from 6,000 feet to about 6,800 feet in elevation.

Mixed Conifer Forest: This type is found above the Jeffrey pine forest extending up to an elevation above 9,000 feet. Key species found in this type include: California red fir, whitebark pine, sugar pine, lodgepole pine, white fir, incense cedar, juniper, and at the highest elevations, western white pine and mountain hemlock. Jeffrey pine and ponderosa pine are found throughout the zone mixed with other species on the drier sites. Percentages of these species on a given site varies enormously.

Wetlands and Riparian: These plant communities are found on the moist soils adjacent to streams and lakes. Rich soils and available water provide for a wide variety of species. These areas have particular value as habitats for a variety of wildlife. Key species found in these areas include alder, willow, quaking aspen, and black cottonwood. There are wetlands near the town of Truckee. A number of tributaries of the Truckee River contain fens. Riparian vegetation and areas are found along the entire length of the main stem of the Truckee River and its tributaries.

Chaparral Association: These plant communities are found primarily on dry and south-facing slopes. Dominant species include tobacco brush, greenleaf manzanita, pinemat manzanita, basin sagebrush, bitterbrush, and rabbitbrush.

Meadow Association: This is an important component on the east slope of the Sierra and includes a number of high elevation meadows. Meadows comprise only 10 percent of the total land area of the Sierra Nevada. The study area contains extensive meadow complexes; both dry and wet meadows are found throughout the study area and provide important habitats for a variety of wildlife and some support cattle grazing. Perazzo meadow is a wide, flat valley that is about 1.5 miles long. The botanical diversity of the Perazzo and Independence Creek meadows is high, having plants common to the Great Basin and the Sierra Nevada. In addition, the meadows associated with Independence Creek are relatively undisturbed from management activities such as grazing. There are also meadows along Alder Creek, the Little Truckee River, and Sagehen Creek.

Alpine: These plant communities are high in elevation and usually do not support trees. These areas are usually on steep slopes covered with rocks and gravel, with small plants scattered in the relatively stable areas.

Old-Growth Areas: Important biological values of old growth include habitat for a variety of animal and plant species, biodiversity and pools of genetic resources, and long-term biological records of climate (Kaufmann, Moir, and Covington). The amount of old-growth forest that currently exists on the TNF and LTBMU is unknown although the amount of old growth that exists today is substantially less than what existed in the past. The importance of these old-growth communities centered on watercourses was pointed out in the TNF recommendations for fish and late-seral stage wildlife (Chapel, et al., 1992).

Older forests along rivers and streams provide recruitment of large, woody debris (LWD) to stream environments. LWD provides nutrients, shapes the stream channel, traps sediments, creates structural complexity and rearing habitat for fish, etc. There are known old-growth communities along Independence and Perazzo Creeks.

XI. THREATENED, ENDANGERED, AND SENSITIVE SPECIES

This section identifies species of plants and animals that are currently listed on the Federal endangered or threatened list; species that are on a list of Sensitive Species maintained by either the Forest Service or the State; or species listed as being of Special Interest by the state. Category 1 indicate species where there is sufficient information for the U.S. Fish and Wildlife Service to make a determination whether to include the species on the Federal list. Category 2 are those species where there is insufficient information to make a determination for listing.

A few of these species could be potentially affected by river designation, which should be primarily beneficial. However, most species would not have habitat directly affected by the action of designation.

A. Threatened/Endangered Species

Fish and Wildlife	Source
Lahontan cutthroat trout - threatened species	Fed/CA
American bald eagle - endangered species	Fed/CA
American peregrine falcon - endangered species	Fed/CA
California Red Legged frog	Fed
Sagehen Creek goeracean caddisfly - Category 1 species	Fed

B. Species of Special Interest - These are species that have been identified as being of special interest and listed as Category 2 by the US Fish and Wildlife Service.

Mt. Lyell salamander	Fed
Wolverine	Fed
Mono Basin mountain beaver	Fed
Sierra Nevada snowshoe hare	Fed
Cold Spring caddisfly	Fed
Confusion caddisfly	Fed
Kings Canyon cryptochian caddisfly	Fed

C. Sensitive Species

	Source
Sierra Nevada red fox	FS\CA
spotted owl	FS
Goshawk	FS
Willow flycatcher	FS
Pine marten	FS
Pacific fisher	FS
Great grey owl	FS
Mountain yellow-legged mountain frog	FS
Foothill yellow-legged frog	FS

D. Forest Service Region 5 Species of Concern (SC)

Yuma myotis bat	SC
fringed myotis bat	SC
long-eared myotis bat	SC
long-legged myotis bat	SC
pale Townsend's big-eared bat	SC

PLANTS

This portion of the vegetation section describes the rare plants (threatened, endangered, sensitive, and watchlist); the plants that are not desired i.e. noxious and invasive-exotic plants; and those plants that are requested from the forest as special forest products.

Threatened and endangered plants: No threatened or endangered plant species were expected or known to occur within the analysis area.

Sensitive plants: The sensitive plant species: *Arabis rigidissima* var. *demota* (Galena Creek rockcress), *Botrychium ascendens* (Moonwort), *Botrychium crenulatum* (Moonwort), *Botrychium lunaria* (Moonwort), *Botrychium montanum* (Moonwort), *Epilobium howellii* (Subalpine fireweed), *Erigeron miser* (Starved daisy), *Eriogonum umbellatum* var. *torreyanum* (Torrey's buckwheat), *Ivesia aperta* var. *aperta* (Sierra Valley Ivesia), *Ivesia aperta* var. *canina* (Dog Valley Ivesia), *Ivesia sericoleuca* (Plumas Ivesia), *Ivesia webberi* (Webber's Ivesia), *Lewisia longipetala* (Long-petaled Lewisia), *Meesia uliginosa* and *M. triquetra* (Mosses), *Pyrrocoma lucida* (Sticky Pyrrocoma), and *Scheuchzeria palustris* var. *americana* (American Scheuchzeria) were suspected to occur along the study rivers and streams. Portions of the potential habitat along identified rivers and streams have been surveyed as parts of other projects. These other surveys identified known occurrences of *Ivesia sericoluca*.

Watchlist Plants: Watchlist plants and plant communities are those plants that may become increasingly rare. These plants are in addition to threatened, endangered, and sensitive plant species. The following watchlist plants were identified as having potential habitat within the project area: *Astragalus whitneyi* var. *lenophyllus* (Whitney's milkvetch), *Camissonia tenacetifolia* ssp. *quadriperforata* (Sierra Valley evening primrose), *Darlingtonia californica* (Pitcher Plant), *Drosera anglica* (English Sundew), *Drosera rotundifolia* (Round-leaved Sundew), *Marsilea oligospora* (Nelson's pepperwort), *Pinus albicaulis* (Whitebark pine), *Potamogeton filiformis* (Slender-leaved Pondweed), *Scutellaria galericulata* (Marsh skullcap), *Silene invisus* (Hidden-petal campion), *Tonestus eximus* (Tahoe tonestus), *Trifolium lemmonii* (Lemmon's clover), *Utricularia minor* (Bladder-pod), and *Veronica cusickii* (Cusick's speedwell) Only portions of the potential habitat along the study rivers and streams have been surveyed as parts of other projects. These other surveys identified known occurrences of *Drosera anglica*, *Drosera rotundifolia*, and *Silene invisus*. Fens, aspen groves, and vernal pools are also known to occur along some of the study rivers and streams.

Noxious and Invasive-exotic weeds ("weeds"): "Weeds" are generally non-native plants that have been introduced into an area. They can invade an area with or without disturbance but become more readily established after disturbance. Invasive-exotic and noxious weeds can be introduced into an area in a number of ways, however, vehicles provide one of the most frequent sources of movement of plant materials from place to place.

A complete survey for "weeds" has not occurred. The following noxious and/or invasive-exotic weeds are known to occur along some of the study rivers and streams: *Hypericum perforatum* (Klamath Weed), *Euphorbia esula* (leafy spurge), *Lepidium latifolium* (perennial peppergrass), *Centaurea maculosa* (spotted knapweed), *Linaria dalmatica* (Dalmatian toadflax), *Carduus nutans* (Musk thistle), *Hydrilla verticillata* (hydrilla), and *Centaurea solstitialis* (Yellow Star

Thistle). All of these "weeds" are located primarily along roadsides and other disturbed areas such as old landings.

Special Forest Products: The study rivers and streams have numerous plants that have been requested for collection from the TNF as special forest products. These include but are not limited to: conifer boughs, firewood, willow cuttings, native plant cuttings, native plant seeds, manzanita branches, mushrooms, pine cones, and plants for medicinal/herbal/aroma/flavoring uses such as *Arnica* sp. (*Arnica*) and *Chimophila menziesii* (Little Prince's Pine).

XII. SCENIC AND VISUAL RESOURCES

Visual Quality Objectives (VQOs) for the Truckee River and its tributaries are described in the TNF and LTBMU Land and Resource Management Plans (LRMPs). Visual management objectives are described in the following terms:

Preservation (P) - Provides for ecological changes only.

Retention (R) - Where human activities are not evident to the casual Forest visitor.

Partial Retention (PR) - Where human activity may be evident, but must remain subordinate to the characteristic landscape.

Modification (M) - Human activity may dominate the characteristic landscape but must, at the same time, follow naturally established form, line, color, and texture.

VQOs for Wild Rivers would be Preservation; Scenic Rivers would be Retention; and Recreational Rivers would be managed for Retention in areas that typify the outstanding values for which the river was designated and areas which receive a large amount of recreation use. The remaining corridor along Recreational Rivers would be managed to meet an objective of Partial Retention. Existing LRMP direction is compatible with the VQO for all the study rivers except for upper Independence Creek, upper Truckee River, Sagehen Creek, and Perazzo Creek. The following describes the changes that would occur if designated per the eligibility determination:

River	Existing VQO	Projected VQO under Designation
Upper Truckee River	R	P
Upper Independence	R	P
Sagehen Creek	M & PR	R
Perazzo	M & PR	R

The section beginning on page IV.17, Section XX describes the VQOs and Scenic values for each eligible river.

XIII. RECREATION

Recreation is a major activity on the Truckee River and its tributaries. The Lake Tahoe area is a magnet drawing visitors world-wide, although the majority of the visitors are from California. The Truckee River and tributaries are an important resource which provide the basis for a wide variety of both summer and winter recreational activities.

Recreation use is particularly high on the Truckee River between Lake Tahoe and the community of Truckee. The river is used for a variety of recreation activities and is one of the most heavily used corridors along the east slope of the Sierra. Popular activities during the summer include recreation rafting or floating, bicycling along a developed bike path, fishing, camping and picnicking. A major highway linking Lake Tahoe to Interstate Highway 80 follows the corridor and traffic is heavy, both summer and winter. Current use during the summer often exceeds the capacity of the corridor to provide a quality and safe recreation experience. Conflicts currently exist between local homeowners, the business community, rafters, bicyclers, and other recreation users due to the intensive use of the river.

Of the remaining study river, the Upper Truckee River is the mostly heavily used for on-site recreation. The area was a candidate for Wilderness designation during the development of the California Wilderness Act of 1984. Although the area was not selected for Wilderness classification, the area has many backcountry recreational attributes and has been managed to protect and maintain these values. The area is unroaded and used extensively by hikers looking for a primitive recreation experience without the crowds generally associated with the classified Wilderness areas along the high Sierra.

Although recreation use in the Sierra Nevada is generally high due to the easy access and the large population in California, recreation use of the remaining study rivers is not unusual in comparison to the rest of the Sierra. Of these remaining study rivers, the Little Truckee River is the most popular and the most accessible to a major highway.

The section beginning on page IV.17 describes the recreational activities for each eligible river.

XIV. GRAZING MANAGEMENT

Cattle and sheep grazing is allowed under permit on all the study rivers. Although the Truckee River and Cold Stream are within allotments, the area within the study corridors are generally not used for livestock grazing. Grazing is managed in accordance with LRMP Standards and Guidelines and individual Allotment Management Plans. Although the study river corridors only consist of a 1/2 mile-wide area within the individual grazing allotments, the corridors often provide for a significant amount of the forage due to the meadow and riparian habitats found along

the streams. The following numbers represent the total amount of livestock use within the allotments located along the study rivers.

Allotment	Class of livestock	Numbers	Animal Unit Months
Alder Creek	Sheep	1,167	2,302 AUMs
Perazzo Creek	Cattle	164	644 AUMs
Sagehen Creek			
Sagehen allotment	Sheep	1,400	425 AUMs
Boca allotment	Sheep	1,167	2,302 AUMs
Upper Truckee (Meiss allotme	Cattle	200	766 AUMs
Little Truckee River			
Bickford	Cattle	75	403 AUMs
Webber Lake	Sheep	150	135 AUMs

Note: An Animal Unit Month (AUM) is one cow/calf for one month or 5 sheep for one month.

Grazing is prohibited within the Sagehen Research Station. Perazzo Creek through the lower meadows is currently being fenced to protect the rehabilitation work to restore the stream channel and streambanks (See page IV.27). The remaining areas are managed in accordance with the specific Allotment Management Plans or Annual Plans of Use.

XV. SOCIAL AND ECONOMIC

Tourism, including recreation, is the single most important economic segment of the California communities on the Truckee River system. The communities within the Lake Tahoe Basin and Truckee all rely on both summer and winter recreation attractions to draw thousands of visitors to the area. Lake Tahoe and the Truckee River and its tributaries are the primary attractions for people visiting and staying in the area. The beauty of Lake Tahoe is known internationally and draws people to the area, both to enjoy the lake and Truckee River along with the gaming provided by the casinos.

There are ten ski areas within the Lake Tahoe Basin and Truckee River drainage, all within approximately one hour from Reno and 2½ hours from Sacramento. Winter activities provide an important economic boost to the area.

Most of the future development along the Truckee is expected to be related to recreation, tourism, and the development of second or vacation homes. Although tourism and recreation dominate the economy, logging and livestock grazing are still important elements of the economy. There is a large sawmill at Loyalton that processes most of the timber harvested from the Truckee River

Basin and provides significant employment for residents of the Sierra Valley. Additionally there are a number of ranchers who use the Truckee River area for summer pasture for both cattle and sheep.

Another aspect of the economic setting that is pertinent to this study is the existing dam infrastructure. Stampede, Boca, Prosser, Independence, Donner, and Lake Tahoe all have dams that create reservoirs for storing water. This water represents significant water supplies for local towns and cities and a majority of the supply for Reno, Nevada. In addition to drinking water, this is the supply for industrial uses and agriculture in Nevada. As reported previously, this water supply also serves the Indian tribes of Pyramid Lake and provides flows for the threatened or endangered Cui-ui in Pyramid Lake. In addition to these consumptive uses the water is also used to generate electric power and provide flood control. These reservoirs provide a magnet for flatwater recreation activities and attract high numbers of tourists for boating, fishing, and shore related activities. These water supplies represent a foundation for all the subsequent economic activities discussed above.

XVI. WILD AND SCENIC RIVERS

At the present time, there are no Congressionally designated Wild, Scenic or Recreational rivers along the east slope of the Sierra. California has designated the East Fork of the Carson River (10 miles), and the West Fork of the Walker River (37 miles), as Wild and Scenic Rivers under the State process. The North Fork of the American River, directly west of the study area and on the west slope of the Sierra, was designated a Wild River by Congress in 1978. Other designated rivers on the west slope in the central Sierra include the Middle Fork of the Feather River, Merced River, Kings River, and the Tuolumne River. Tables 4.1 and 4.2 lists Federally or State designated rivers, or rivers currently identified for study for either Federal or State designation, within Nevada and California.

TABLE 4.1

**Designated Wild and Scenic Rivers
within
Sierra Nevada Province**

Federal Agency* Status	River Name	
Congress (FS)	North Fork American River	Wild
Congress (FS, PS)	North Fork Kern	Wild, Rec
Congress (FS)	South Fork Kern	Scenic, Rec
Congress (FS)	Kings River	Wild
Congress (FS, PS)	South Fork Kings River	Wild, Scenic, Rec
Congress (FS, PS)	Middle Fork Kings River	Wild
Congress (FS, PS, BLM)	Tuolumne River	Wild, Scenic, Rec
Congress (FS, PS, BLM)	Merced	Wild, Scenic, Rec
Congress (FS, PS)	South Fork Merced	Wild
Congress (FS)	Middle Fork Feather	Wild, Scenic, Rec

California State System - Wild and Scenic Rivers
(Public Resources Code, Sections 5093.54-5093.542)

California	East Fork Carson River	Scenic
California	West Fork Walker River	Wild, Scenic
California	No. Fork American River	Wild, Scenic
California	Lower American River	Recreation

* FS is USDA Forest Service

* PS is USDI Park Service

* BLM is USDI Bureau of Land Management

TABLE 4.2
Wild and Scenic Rivers Identified for Future Study
within
Sierra Nevada Province (East Slope Rivers Only)

Status	Federal Agency¹	River Name
Toiyabe NF	East Fork Carson River	Wild, Scenic, Rec
Toiyabe NF	West Fork Walker River	Wild and Scenic
Inyo NF	Lundy Canyon (Mill Creek)	Wild, Scenic, Rec
Inyo NF	Lake Canyon (So Fk Mill Creek)	Wild, Scenic
Inyo NF	UpperLeeVining Creek	Wild
Inyo NF	Lower Lee VingCreek	Rec
Inyo NF	BloodyCanyon(Walker Creek)	Wild
Inyo NF	GlassCreek/LowerDeadman/ Upper Owens River	Scenic, Rec
Inyo NF	Laurel Creek	Scenic
Inyo NF	McGee Creek	Wild
Inyo NF	So Fork Bishop Creek	Wild, Rec
Inyo NF	Cottonwood Creek	Scenic
Inyo NF	Lone Pine Creek	Wild, Rec
Inyo NF	Cottonwood Creek	Wild, Scenic, Rec
Inyo NF	Big Pine Creek	Wild, Rec
Inyo NF	Hot Creek	Rec
Inyo NF	Parker Creek	Wild
Inyo NF	Walker Creek	Wild
Inyo NF	Rock Creek	Wild,Rec
Inyo NF	Golden Trout Creek	Wild
Tahoe NF/LTBMU	Truckee River	Rec
Tahoe NF	Cold Stream	Rec
Tahoe NF	Alder Creek	Rec
Tahoe NF	Little Truckee River	Rec
Tahoe NF	Sagehen Creek	Scenic
Tahoe NF	Independence Creek	Wild
Tahoe NF	Perazzo Creek	Scenic
LTBMU	Upper Truckee River	14Scenic

¹ NF is National Forest; BLM is USDI Bureau of Land Management; LTBMU is the Lake Tahoe Basin Management Unit, a Forest Service Administrative Unit.

XVII. LANDOWNERSHIP AND LAND USE

Private lands within the study area include large ownerships managed for timber production and grazing, and numerous small tracts currently developed for housing, recreational purposes or held for future development. There are four major ski areas within the Truckee River watershed, outside of the Lake Tahoe Basin.

Sierra Pacific Industries (a timber company), Sierra Pacific Power Company, and the Southern Pacific Railroad are the major landowners. A major utility corridor follows Interstate 80 and includes major power and gas lines and the Southern Pacific Railroad. The utilities follow the Truckee River from east of Reno through the community of Truckee and on west over Donner Pass.

Public lands within the river study areas are managed primarily by two National Forests (Tahoe National Forest and the Lake Tahoe Basin Management Unit), the Bureau of Reclamation and the Army Corps of Engineers. The State of California manages State lands for recreation and wildlife purposes. Parts of the Desolation and Mount Rose Wilderness areas are located within the Truckee watershed.

The University of California at Berkeley has a long-term research station and program on National Forest System lands in Sagehen Creek. The primary objective of the research station is studying eastside Sierra ecosystem components including, but not limited to: vegetation, wildlife, and fisheries.

XVIII. CULTURAL AND HISTORIC RESOURCES

Knowledge of the time period preceding the coming of the first Euro-American settlers comes primarily from archaeological studies and ethnographic descriptions of the Native American groups. Archaeological studies indicate that people began to live in the study area about 8,000 years ago. With changing environmental conditions, the economic base for these hunters and gatherers required diversification such that by the time of Euro-American contact, the Washoe were dependent upon the wealth of fish resources found throughout the Truckee River and Lake Tahoe basins.

Historic occupation of the area began with the use of the Emigrant Trail by Euro-American settlers enroute to California from the east. The first wagon party to utilize the route along the Truckee River Canyon to Donner Pass was the Stephens Party of 1844. The tragic Donner Party followed in 1846-47.

Emigrant trails through the Tahoe Basin were created across a few strategic passes, such as Carson Pass and Luther Pass, beginning in the late 1840s.

The opening of the Comstock in Virginia City, Nevada in 1859 brought about an expansion of industry throughout the Truckee River drainage system including: establishment of transportation networks such as the Henness Pass Road and the Tahoe-Truckee Toll Road, both completed in 1860; the harvesting of ice for the Pacific Fruit Exchange, but also to cool the deep mine shaft temperatures; cattle and sheep grazing; dairying; and the manufacturing of charcoal by the Chinese which fueled the bellows used in the smelting process.

The first permanent settlement in the Truckee area was founded by Joe Grey in 1863. Grey established a cabin at the end of the Dutch Flat and Donner Lake Wagon Road. This road was built in advance of the Central Pacific Railroad for hauling supplies. Grey's Station, the name for this settlement, served as a stage station for travelers and railroad construction crews. A second settler, a man by the name of Coburn, built additional buildings and the town became known as Coburn's Station. In 1868 the town burned; it was rebuilt and renamed Truckee.

The dominant industry of the area was logging. These operations supplied all construction elements for the railroads, wooden support beams for mine shafts, lumber for local construction, and fuel for steam-powered engines. These logging industries continued to expand at the turn of the century as the completion of the Transcontinental Railroad in 1869 opened up more distant markets for consumption of wood products. The primary lumber company in the Truckee area was the Truckee Lumber Company (1867-1916), which established their first sawmill at Coburn's Station (Truckee).

XIX. TIMBER MANAGEMENT

The direction for timber management within the study area on the TNF and LTBMU, has changed since the approval of their respective Land and Resource Management Plans (LRMPs). Timber management practices are currently guided by the Interim Guidelines for the California Spotted Owl (CASPO). These are interim guidelines. Several initiatives are being developed for management of the California spotted owl and if approved will again amend LRMPs. The direction for timber management could change significantly once the guidelines are finalized.

Although land allocation remains as described in each LRMP, as amended, the silvicultural practices must be in conformance with the spotted owl guidelines. Generally, past timber management practices such as clear-cutting, seed tree cutting, and heavy shelterwood cutting are no longer used. Timber harvest prescriptions are used that protect and/or develop habitat for spotted owls and other animals requiring old forest habitats. These practices leave the larger trees, maintain a multiple forest canopy, leave a number of snags and down logs, and provide greater protection to riparian areas. The overall effect of these practices is a harvest that cuts fewer and smaller trees per acre, resulting in less volume per acre than originally projected in the LRMPs.

The drought of the late 80's and early 90's has resulted in significant mortality of the forest in the Lake Tahoe Basin and along some of the other river corridors. There has been an effort made to salvage the dead and dying trees which has resulted in a "one-time" increase in timber harvest over that projected in the LTBMU's and TNF's LRMP. It is expected that once the salvage effort is completed, the volume of timber removed will drop back to the level described in the LTBMU and TNF's LRMP. Both harvest of green and dead trees are guided by the CASPO Guidelines.

XX. DESCRIPTION OF ELIGIBLE RIVERS

A. Truckee River

This eligible river originates from the waters of Lake Tahoe at 6,240 feet and drops to about 5,780 feet over 11 miles near the town of Truckee. The river is within Placer and Nevada counties, California. The surrounding slopes are covered with a conifer forest. In the corridor itself, mixed conifer occur on the east side and true fir on the west side. Highway 89 borders the entire segment, offering numerous access points. This level of accessibility helps define the river's character as a type of linear park. Frequent pullouts along the roadway enable people to park and unload their picnic and camp equipment and carry them to the shoreline. The first four miles between Tahoe City dam and the River Ranch is also paralleled by a bike path constructed and maintained by the Tahoe City Public Utility District (TCPUD). The bike path extends beyond the River Ranch approximately 1/2 mile to the Midway Bridge. Possible extension of the bikepath to Truckee is currently being studied. Public access to the river is currently provided from the developed Forest Service recreation sites north of the River Ranch and river access points near the Tahoe City dam.

The corridor is heavily developed with numerous private homesites, mostly used as vacation homes. The Forest Service administers through special use permits, three campgrounds, a picnic area, a summer home tract, several water transmission lines, a portion of the Sierra Crest Grazing Allotment, water tanks, road special-use permits, power and telephone transmission lines, and a sewer transmission line between Lake Tahoe and the treatment plant in Truckee. Traffic frequently exceeds the capacity of the highway, particularly during the winter ski season. The California Department of Transportation (Cal Trans) is currently studying alternatives to reduce vehicle traffic to Lake Tahoe. Satellite parking in the Truckee area with shuttle buses, and renewal of rail service to the Tahoe Basin, are some of the items being considered.

A summertime use that became popular, and somewhat controversial, in the 1970s is rafting or floating the river and other general water sports. The Truckee River between Tahoe City and the River Ranch is a very placid reach of water and is popular for water sports, including floating with rafts, inner tubes, and air mattresses. Placer County regulates commercial rentals along the river in this section between the dam at Tahoe City and the River Ranch. Noncommercial use has increased and the TCPUD has developed a public launch facility and parking area near the "Y" at

Tahoe City. Adequate flows for water sports can be maintained throughout the summer, except under drought conditions.

The Truckee River is Lake Tahoe's only outlet. A dam built in 1865 controls the release of Tahoe's waters, the top six feet of which (regulating up to 745,000 acre feet of water) is operated as a reservoir that ultimately drains into Pyramid Lake. The natural level of the outlet from the lake is 6,223 feet. However, depending upon the quantity of inflow and operation of the gates, the Tahoe City dam can store about six feet or up to a maximum level of 6,229 feet. There are no current proposals for any additional water or power improvements along the Truckee corridor.

Existing flows are controlled by the dam at Tahoe City and are managed within two management constraints. Current minimum in-stream flow requirement is 50 cfs in the winter and 70 cfs during the summer period in order to maintain fish habitat. Flows are coordinated with releases from other reservoirs within the Truckee River Basin to maintain a flow of 500 cfs near the California/Nevada State line, known as the Floriston rates. In a normal year, the average release from the Tahoe City dam is 250 to 350 cfs. A flow of 125 cfs is considered the minimum flow needed to float the river. The water rights associated with these flows as well as the coordination and timing of these flows are a very complex subject that has been the subject of numerous administrative processes and court cases. The Truckee River is known as one of the most adjudicated rivers in America.

The Truckee River flows mostly through land managed by the LTBMU and the TNF, although there are some small parcels of private land within the river corridor. There are 2,637 acres of National Forest System lands and 1,010 acres of private lands within the 1/2-mile wide study corridor. The status of the National Forest lands (commonly called the Lanfar Deed lands) along the corridor is complex and not totally resolved. Both the Forest Service and Sierra Pacific Power Company claimed ownership of a 100-foot-wide strip on each side of the meander line of the Truckee River. A District Court Judgment by the Eastern District of California filed on May 24, 1985 determined "that the United States owns the fee to the disputed 100 foot strips and that Sierra Pacific Power Company has an easement thereon." The easement is for power purposes only.

The river bed up to the high water mark is claimed by the State of California and the status of the National Forest lands (Lanfar Deed lands) beyond the 100 foot strip have the same legal questions as the 100-foot strip. The issues related to the Lanfar Deed lands beyond the 100-foot-wide strip have not been contested in court; therefore, no legal determination has been made to date.

This special status of the public lands along the Truckee River create some of the same concerns or potential issues that private lands provide for designation. A recommendation for designation will need to consider the effects of the power easement and possible impacts to the free-flowing characteristic if the river is developed for power production.

As mentioned previously, several prehistoric sites along the Truckee River qualify for listing on the National Register of Historic Places as they contain data for investigating regional research questions. These sites are large, contain complex stratigraphy, and contain evidence for the earliest human use of this region within the Sierra Nevada. One of these sites, CA-PLA-164, provided the oldest known Carbon 14 date of 8,130 B.P. (before present) from an archaeological site in this region. This date was obtained from small chunks of charcoal which were associated with the partially fossilized wing bone of a large bird and two basalt tools.

The primary lumber company to operate along this portion of the Truckee River was the Truckee Lumber Company (1867-1916). Timber harvesting techniques for this company involved cutting trees on top of the Truckee River canyon, dragging the logs along chutes to the bluff overlooking the Truckee River, and releasing the logs down the slope and into the river to float to the mill at Truckee. Logs were also transported to the chutes by a narrow gauge railroad which was 1½ miles long. The cars were let down by brakes and drawn back up the slope by horses. As easily accessible areas for logging were exhausted, the lumber company expanded into new areas. Following the Tahoe-Truckee Toll Road (1860), a narrow gauge railroad, the Lake Tahoe Railway and Transportation Company, was completed in 1900. This railroad was primarily a tourist line which operated between Truckee and Tahoe City from May 15 through November 15. Freight, in the form of forest products, was hauled for the Truckee Lumber Company. In 1909 the Truckee Lumber Company built a spur into Squaw Valley to access timber harvesting operations there. The railroad bed for the Lake Tahoe Railway and Transportation Company is eligible for listing on the National Register of Historic Places.

The first influx of white settlers into the Squaw Valley area occurred in 1863. The summer of that year witnessed Shannon Knox and John Keiser's discovery of silver deposits. A settlement called Knoxville was located on the east side of the Truckee River while another town, Claraville, was located near the present-day entrance to the valley. By 1864, the towns were abandoned when miners discovered the silver deposits were a hoax.

The Truckee River is within Management Area 069-Truckee River as described in the TNF LRMP. Management direction is to develop and protect the recreation values and to maintain the visual quality and the Truckee River watershed. Timber management activities are limited to providing for stand health and to meet visual and recreation objectives.

The Visual Quality Objectives (VQO) for the foreground view from US Highway 89 South is Retention and in Middleground Partial Retention. There are several scenic rocky bluffs within the corridor. The Truckee River provides a major visual element that enhances the recreation experience within the corridor. The water features are primarily small riffles and rapids along with some meandering stretches of "slow" water.

Management of LTBMU lands are to develop and protect the recreation values; the area is within the Lower Truckee River Management Area as described in the LTBMU LRMP. The Management Area direction acknowledges the need to better coordinate interagency responsibilities along the corridor.

The private lands within the study boundary are in Placer and Nevada Counties and land uses permitted under the County Plans are considered compatible with Recreational river classification.

The OR values identified for the Truckee River include recreation and cultural values. The Truckee River is eligible for Recreational classification.

B. Sagehen Creek

Sagehen Creek is an eight mile segment which flows from its headwaters to Stampede Reservoir. The lands adjacent to the stream are entirely National Forest System lands and are managed by the TNF. The University of California at Berkeley has conducted a variety of research activities on National Forest lands within the Sagehen Basin since 1951. There have been over 130 research publications, films, and theses conducted in the area. Sagehen Creek is entirely within Nevada County, California.

The following is quoted from the Annual Report, Sagehen Creek Field Station (1990) produced by the Department of Forestry and Resource Management, University of California, Berkeley. "The Sagehen Creek Field Station (operated by the University of California at Berkeley) is devoted primarily to natural history research, secondarily to teaching at the university level. Some principal objectives of the research program are:

1. To determine the species composition, spatial distribution, and functional interrelationships of the various ecological communities in Sagehen Basin.
2. To understand the natural history of as many as possible of the individual species of plants and animals that constitute the ecological communities.
3. To study the stream and its tributaries, fens and riparian vegetation with a view to understanding the food chains that support aquatic life.
4. To follow the processes of plant succession following fire and other forms of vegetation disturbance, and to measure the effects on animal populations.
5. To determine the influence of weather, soils, competition, predation, and food and cover needs as they govern trends in animal populations.

The Station encourages basic biological and ecological studies and applied research directed towards solving current problems in the management of wildland resources. One such applied problem is to assess the interrelationships of timber management practices and wildlife and fisheries resources. Long-term experiments are given special consideration."

The Sagehen headwaters are an intact glacial cirque and part of a highly complex ecosystem. The glacial cirque gives rise to fens and bogs which are part of a complex hydrological system and are considered to have significant value for research purposes. The fens and bogs support a unique vegetative community and support over 40 different plant species, including two sundews, *Drosera rotundifolia* and *Drosera angelica*. Some of the largest and best studied fens in the entire Sierra Nevada occur in the Sagehen Creek Basin. There are known occurrences of *Ivesia sericoleuca* and *Silene invisa* in the Basin. Sagehen Creek also provides numerous habitats for wildlife and an endemic Lahontan Basin native fish community.

There are 2,451 acres of National Forest System lands and no acres of private lands with the study corridor.

Flows are unregulated in Sagehen Creek and daily average flow is 12.3 cfs based on about 40 years of data. (See Table 4.4) Sagehen has a large number of small springs that flow yearlong throughout the basin.

Recreation use is dispersed throughout the area, and most of the recreation use results from deer hunting during the fall. There is one small campground within view of the stream.

The VQOs for the majority of Sagehen Creek is Partial Retention with the emphasis on views from US Highway 89. The overall visual quality is mostly low or moderate. The main visual interest in the corridor would be the stream itself and some of the associated bogs and fens.

Logging operations along Sagehen Creek began in 1874. Martin and Leach operated the Banner Mill eight miles from Truckee on Sagehen Creek until 1882. Lonkey and E.R. Smith operated this same mill from 1882 until 1889. A cordwood producer, Abner Week, was also operating in the headwaters of Sagehen Creek.

The primary lumber company which operated in the Sagehen Creek drainage was the Sierra Nevada Wood and Lumber Company (SNW&L) whose operations were centered at Hobart Mills. The SNW&L Company was in operation from 1896 until 1917, at which time the company's assets were turned over to the Hobart Estate. The mill at Hobart Mills continued to operate until 1936.

The historic sites associated with the Sierra Nevada Wood and Lumber Company within the Sagehen Creek basin are eligible for listing on the National Register of Historic Places as a

historic district. The majority of these sites and associated features represent an intact railroad-based logging system. Additionally, the Banner Mill and associated animal-based transportation system are also represented as well as depression-era sites, which have received very little research to date.

Sagehen is within Management Area (MA) 043-the Sagehen Station and MA 036-the Sagehen Basin as described in the Tahoe LRMP. MA 043 comprises a 350-acre tract containing the Research Station, which has a number of buildings and research activities operating under special use permit. The Mason Fen, the largest fen on the TNF, consists of 30 acres and has been designated a Special Interest Area (SIA) by the Forest Service. Management direction for MA 043 is to maintain and provide for wildland research projects.

Management direction MA 036 includes the rest of the Sagehen Basin. The management emphasis is to manage the timber to "provide two alternative types of stand structure typified by even-aged openings and stands managed to produce and maintain mature forest structure. This will allow the evaluation of the relationships between stand structure, timber yields, wildlife habitat and other resource values." The original direction also anticipated a research objective that would evaluate the effects of the timber program on wildlife. Since the approval of the LRMP in 1990, timber management practices have changed to provide for the California spotted owl and its habitat. Current timber management activities would be in accordance with the Interim California Spotted Owl Guidelines. The primary research emphasis in both Management Areas has been on studying the fish, vegetation, and wildlife resources.

The TNF evaluated possible SIA designation for three sites in the Sagehen Basin during the development of the TNF LRMP. These included the Mason Fen, which was designated as a SIA, the Sagehen Headwaters, which was designated as a SIA, and the Sagehen Basin, which was not selected. Because management emphasis within the Sagehen Basin has changed since issuance of the LRMP, there have been proposals by the TNF's LRMP Interdisciplinary Team to reevaluate the Basin for possible SIA designation.

The OR values for Sagehen Creek include vegetation/ecological values, cultural and historical values, fish and wildlife, geological, and hydrological values. Sagehen is eligible for Scenic classification.

C. Upper Independence Creek

The eligible reach of Upper Independence Creek extends two miles upstream from Independence Lake to its headwaters. Access to Upper Independence Creek is via one of two roads that parallel the north and south sides of the lake. The roads terminate just short of the west end of the lake and access is controlled by the private property surrounding the lake. The stream above the lake is

accessible only by trail and is considered a "pristine" area. The lake shore and lower 300 feet of stream are on private lands. There are 644 acres of National Forest System lands and 80 acres of private lands within the study boundaries. Upper Independence Creek is one of two streams, out of the eight, being evaluated that is classified "Wild". Upper Independence Creek is entirely within Nevada County, California.

Upper Independence Creek has also been identified as a potential SIA by the TNF because of its scenic and ecological values, and Lahontan cutthroat trout fisheries, which is a Federally threatened species. The plant values are of regional significance due to the existence of fens, which are rare in California. See Appendix C for a description of the potential SIA.

Independence Lake is a natural lake where the water level has been raised by construction of a 31-foot-high earthen dam. The dam provides an additional storage of 17,500 acre feet of water that is owned by Sierra Pacific Power Company, a utility that provides municipal and industrial water to Reno and Sparks. Storage capacity of the lake varies between an elevation of 6,921 feet and 6,949 feet. A barrier to fish migrating into Upper Independence Creek develops during the spawning period when the lake drops below an elevation of 6,920 feet. This issue is being evaluated and is expected to be resolved as part of the TROA EIS/EIR.

Upper Independence Creek is within Management Area (MA) 044-Castle as described in the TNF LRMP. Management emphasis for the area is to enhance dispersed recreation use and to maintain the remote qualities that make the area attractive. Management activities should result in a natural-appearing landscape with few user conflicts.

Based on the TNF LRMP direction, the VQO for the area is Partial Retention. The scenic quality is very high due to the dramatic "U" shaped valley, interesting riparian vegetation and glacial formed Independence Lake.

The private land within the study boundary is within Nevada County and land uses permitted under county Planning are not considered compatible with the management objectives for a National Wild River, because roaded access is permitted.

Outstandingly Remarkable values in Upper Independence Creek include vegetation/ecological values, scenic and fisheries. Upper Independence Creek is eligible for Wild classification.

D. Little Truckee River

The Little Truckee River is 14 miles long from its origin at Webber Lake to Stampede Reservoir. Within that reach, Independence Creek and Perazzo Creek, flow into the main stem of the Little Truckee. Much of the Little Truckee is accessible from either State Highway 89 or the Jackson Meadows Road, both paved highways. About 54 percent of the lands along the Little Truckee are

National Forest System lands managed by the TNF. The remaining lands are in private ownership in the nature of large blocks, and many of the significant meadows that lie along the Little Truckee River are privately owned. There are 3,709 acres of National Forest System lands and 1,963 acres of private lands in the study corridor. The privately owned lands are primarily used for livestock grazing and logging, although there is a major, privately owned recreation complex on Webber Lake. This segment of the Little Truckee River flows through Sierra County, California.

The Sierra Valley Water Users in Plumas and Sierra Counties have rights to divert water from the Little Truckee River just above Independence Creek for agricultural use in Sierra Valley. This is an "out of basin" diversion which has averaged about 6,000 acre feet annually. Although there is a minimum instream flow of about 3-5 cfs, the diversion has a significant impact on river values below the diversion during periods of low flow.

Sierra Pacific Power Company has identified a potential dam and reservoir site on the Little Truckee River above Stampede Reservoir (see Map C at the end of this Chapter). This potential site is one of a number of possible projects identified by the utility company in their 1988 Water Resources Plan. The site is located in Section 33, T. 19 N. R 16 E. and would have a maximum reservoir capacity of 13,000 acre feet which could be expanded to approximately 20,000 acre feet with some relocation of Highway 89. The reservoir would back water up the Little Truckee River to a point just below the lower Little Truckee Campground. No firm proposals have been made by Sierra Pacific Power Company to actually construct a dam and reservoir at this time, but the utility company wants to maintain the option for the project in the event additional upstream storage is needed to provide municipal and industrial water to Reno and Sparks.

The Henness Pass Road was widely used by stagecoach and freight traffic between the Comstock town of Virginia City, the California towns of Nevada City and Marysville, and the Sacramento Valley during the 1860s. In 1850 Henness Pass was the shortest route to the goldfields on the upper Yuba River near Downieville. The road received improvements after two stock companies were formed: the Truckee Turnpike Company and the Henness Pass Turnpike Company. The road was used by stage and freight traffic between 1860 and 1868 after which time the volume of stage and freight traffic dropped because of the completion of the Central Pacific Railroad. However, the wagon road network continued to serve as a regional feeder line for freight between the railroad terminus at Truckee and settlements in Sierra Valley such as Sierraville. Local stage companies also continued to use the roads for passenger transport until the turn of the century. Several way stations were built to service the road during this time period, including hotels, stage stations, and saloons. The Henness Pass Road and associated support service sites are eligible for listing in the National Register of Historic Places.

The vegetative values are considered Outstandingly Remarkable because of the fens. Wildlife values are also outstanding due to the presence of a bald eagle nesting site and the second most extensive population of willow fly- catchers in the state.

The Little Truckee River is within Management Areas (MAs) 019-Eighty-Nine and MA 018-Heness as described in the Tahoe LRMP. MA 019 covers the road and streamside zone along Highway 89 and management direction is to maintain the visual quality with a foreground Retention VQO and middleground Partial Retention VQO. The LRMP also provides direction to restore damaged watersheds from the large wildfires in the area and continue maintenance and construction of facilities for developed and dispersed recreation. There are two developed campgrounds within the area and a parking area for dispersed winter sports on the summit between Cold Stream and the Little Truckee River. Fishing and general dispersed use are the main recreation activities along the river.

MA 018 is a large Management Area and provides direction for the segment of the river from Highway 89 to Webber Lake along the Henness Pass Road. Management direction is generally for timber and range management, although wildlife and watershed values are emphasized when managing streamside zones.

Based on LRMP direction, the VQO is Partial Retention as seen from the Fiberboard road. The overall visual quality is quite high due to the broad open valley, grand vistas, and interesting meander features of the river.

The private land within the study boundary is zoned General Forest by Sierra County and land uses permitted under this zone are considered compatible with the management objectives for a National Recreation River. The Highway 89 corridor has also been designated a Scenic Corridor by Sierra County.

OR values for the Little Truckee River include vegetation/ecological values, wildlife, and cultural resource values.

The Little Truckee River is eligible for Recreational classification.

E. Perazzo Creek

Perazzo Creek is 3.2 miles long, a tributary of the Little Truckee River, and flows mostly through National Forest System lands managed by the TNF, although 0.4 miles of the river does flow through privately owned lands. There are 913 acres of National Forest System lands and 272 acres of private lands in the study area. Access is provided off the Jackson Meadows road via a rough timber road. The meadow complex and its associated wildlife habitat is the most

outstanding feature associated with Perazzo Creek. Perazzo is mostly within Sierra County with approximately 1/2 mile of the headwaters in Nevada County.

The area supports a number of fens ranging in size from 12 square feet to about one acre separated by dry meadows and forest. All are located between the slightly sloped land between the meadows and the ridges. The fens along with bogs, dry meadows, wet meadows, aspen, and a wide range of wild flowers and forbs provide a very diverse and unique plant community. This diverse plant community provides an extensive riparian community supporting many riparian dependent species including habitat for the willow flycatcher. This canyon and the Little Truckee River support the second largest willow flycatcher population in California. Old-growth timber stands add to the diversity and provide valuable habitat for old-growth dependent species.

Perazzo Creek is a small stream with an average daily flow estimated at 15 to 20 cfs, and it is unregulated and fed by natural flows.

The lower part (80%) of Perazzo Creek is within TNF LRMP Management Area (MA) 018-Henness where the overall management direction is for timber and range management. The direction for the streamside zones and the meadow complex is to enhance wildlife and watershed values.

The upper part of Perazzo Creek (20%) lies within TNF LRMP MA 044-Castle which is to be managed for dispersed recreation, watershed and to maintain a natural appearing landscape.

Based on LRMP direction, the VQO for most of Perazzo Creek is Modification and a small amount of Partial Retention in the headwaters. The overall scenic quality is high particularly in the headwaters although private land logging has diminished much of the natural feeling. Some dramatic rock cliffs still dominate the view. The lower stretch of the stream is part of a broad scenic valley.

The private land within the study boundary is within Sierra County and Nevada County. Land uses permitted under the General Land Use Plans of the Counties, particularly the intensity of timber harvest and road access, are not considered compatible with the management objectives for a National Scenic River. However, they are compatible with Recreational River objectives. As stated previously, the Sierra County Board of Supervisors have passed a Resolution opposing any Wild and Scenic River designations in the County.

Currently, the Forest Service has initiated a major stream and riparian improvement project in Perazzo Meadows with the objective of stabilizing and improving the stream channel for fisheries. The stream channel is being fenced to protect the streambanks from erosion resulting from historic intensive use of cattle and sheep. Willows are being planted to stabilize the streambanks, and logs are being placed in the stream to improve the stream pool/riffle ratio for fish as well as provide a

source of woody material to improve productivity of the stream. Perazzo Creek is identified in the Technical Agency Draft of the Recovery Plan for Lahontan cutthroat trout as a potential LCT recovery site. In addition, the allotment management plan for this area is being revised and the environmental analysis is planned to be completed in the year 2000. These activities are designed to maintain the outstandingly remarkable values in Perazzo Creek.

A timber harvest project designed to improve the health and vigor of the timber on National Forest System lands was sold in December 1993. The contract provides three years to complete the harvest. The sale includes a horse logging unit along the sensitive meadow areas of Perazzo Creek and a single tree/group selection method of marking was used throughout the sale area. Some sanitation and salvage logging is also included. The logging proposed is consistent with the direction for Scenic Rivers described in Appendix A.

The private lands at the headwaters of Perazzo Creek were logged in 1992. Logging roads were constructed adjacent to the stream in a number of areas and remain open, providing road access to the upper reaches of the river. The logging practices on the private land would not be considered compatible with the direction described in Appendix A for a Scenic River. The amount of volume removed per acre and the miles and location of roads constructed are more in line with standards for a Recreational River than a Scenic River. Logging practices along the river corridor has clearly changed the visual characteristics from a natural condition to a managed forest condition. Designation as a National Scenic River could result in a moderate to high level of conflict with management objectives of the private land owners.

OR values found in Perazzo Creek include vegetation/ecological values and wildlife values.

Perazzo Creek is eligible for Scenic classification.

F. Upper Truckee River

The Upper Truckee River is 14.0 miles long. The headwaters of the river is near Carson Pass and flows north into the south end of Lake Tahoe near Tahoe Keys. The eligible part of the river is an approximate 7-mile segment from Carson Pass to south of the Upper Truckee Road. The eligible river is entirely on National Forest System lands. The study river flows through an area that is near natural and was considered for Wilderness designation as part of the California Wilderness Act. The upper Truckee's watershed is about 36,200 acres with 85% in El Dorado County and the remainder in Alpine County. The area remains near pristine, is within the Meiss Management Area as described by the LTBMU LRMP, and is being managed to protect its near natural values.

Land uses permitted under county zoning do not directly affect the study area and wild designation is compatible with county planning and zoning.

The area is an extremely popular area for recreation and provides an alternative to the generally crowded Desolation Wilderness. Dardenelles, Round, Meiss, Showers, Four, and Elbert lakes, mark the Meiss Country as a unique recreation resource. Summer recreation use, accessible through five trailheads located on two National Forests, is estimated at 10,000 persons per year, but may exceed 15,000 persons during a peak year.

Brook trout occur in four of the six lakes in the area: Dardenelles, Elbert, Four, and Showers. Brook trout are present in the Upper Truckee River and its tributaries. Brook trout were introduced in the early to mid-1900s.

The Upper Truckee is the largest tributary to Lake Tahoe and flows throughout the year. Flows average about 95 cfs daily, with a record high flow of 2,740 cfs. The stream supports a recreational fisheries with a variety of trout species including rainbow trout, brown trout, eastern brook trout, and LCT. The Upper Truckee supports the greatest number of migratory and resident fish populations of any Lake Tahoe tributary. There is a potential for an outstanding fisheries on the Upper Truckee, but will require some habitat improvement to reach its potential.

On the Meiss Allotment approximately 200 head of cattle are run for a total of 766 animal unit months. This allotment includes most of the upper Truckee Basin but the river is central to the grazing allotment. The cattle would be managed under a grazing system that will protect the Outstandingly Remarkable characteristics of the area if the river is designated.

The LCT is the only trout native to the Lake Tahoe Basin and the Truckee River system. The Recovery Plan for the LCT identified Meiss Meadow as suitable for the restoration of the fish. Restoration began in 1988 with the removal of non-native salmonids and rotenone application in the Alpine County portion of the upper Truckee River and Meiss Lake. This continued through 1991 and, in the summers and falls of 1990-92, fingerlings and adult Lahontan cutthroat trout were planted in Meiss Lake and the Upper Truckee River. This area is currently closed to fishing to protect the LCT population.

The Meiss cabin and barn complex, built in 1878, are eligible for listing on the National Register of Historic Places. The cabin is one of the few remaining from the era of upland cattle grazing in the Carson Pass area between 1860 and the early 1900s. It retains remarkable structural integrity and embodies a distinctive frame cabin style which was popular in high country cattle range camps during the 1860s and 1870s. Cattle operators continue to use the cabin today.

Recreation management objectives are to provide a low development setting with minimum regulations or restrictions. Motorized vehicles are prohibited throughout the area.

OR values identified for the Upper Truckee River include recreation, scenic, cultural, and fish and wildlife resource values.

The Upper 7-mile portion of this river from Carson Pass to near the South Upper Truckee Road is eligible for Wild classification.

G. Cold Stream

Cold Stream is 5.2 miles long and flows from a scenic canyon which lies just south of the Donner State Park and Interstate Highway 80. Cold Stream flows into Donner Creek just below or east of the Donner State Park. Much of the land ownership is private, although the California State Parks has recently acquired an additional one-mile of stream frontage between the railroad in the lower canyon. Only 0.6 miles of the stream crosses National Forest System lands, mostly near the head of the canyon. There are 153 acres of National Forest System lands and 1,057 acres of state/private lands within the 1/2-mile wide study area corridor. Much of the private land within the area has been logged or is scheduled for logging. The eligible section of Cold Stream is within Placer County, California.

The California Route of the Overland Emigrant Trail extends up Cold Stream Canyon along Cold Stream and Emigrant Canyon. This trail, one of several routes utilized to access California and incorporated into the California National Historic Trail system, was recently given National Trail System status. The route follows the stream in order to access two separate Sierra Nevada crossings, Roller Pass and Cold Stream Pass. These passes are easier to approach than Donner Pass and carried the bulk of traffic on the Truckee route until 1864 when the Dutch Flat and Donner Lake Wagon Road was built.

Although much of the original trail bed has been obscured by modern developments, there are many areas where evidence of the original trail can be observed. Recent private logging and road construction have made much of the upper Emigrant Canyon accessible by vehicle. The numerous segments which comprise the California National Historic Trail are eligible for listing in the National Register of Historic Places.

There are three major forks in Cold Stream Canyon, the South Fork, Cold Stream, and Emigrant Canyon. Flows are unregulated in all three canyons and the total average daily flow at the mouth of Cold Stream is estimated at about 42 cfs. Most of the flows are from the South Fork. Emigrant Canyon, the eligible fork for classification, is a small stream and annual daily flows are estimated at 10 to 15 cfs.

A short part of the trail crosses National Forest System lands located within Management Area (MA) 053-Donner, which is managed for recreation and visual values. Lands within the general MA have been identified for possible exchange due to the scattered federal ownership in the area. The headwaters of Cold Stream is located within MA 071-Tinkers, which is managed for

dispersed recreation and to protect values associated with the Emigrant Trail. The main recreation activities are hiking and some hunting.

Based on the TNF LRMP direction, the primary VQO is Retention with Partial Retention in the headwaters. The headwaters are part of the very scenic Sierra Crest with many dramatic mountains, cliffs, and rock features. The rest of the stream has nice scenic elements until it reaches the lower stretch of the stream where quarry activities have greatly modified the landscape.

The private land within the study boundary is within Placer County and land uses permitted under the General Plan are considered compatible with the management objectives for a National Recreation River.

There are no proposed impoundments or developments proposed for the stream.

The OR value is the Emigrant Trail located in Emigrant Canyon, a fork of Cold Stream. Cold Stream is eligible for Recreational classification.

H. Alder Creek

Alder Creek is 6.4 miles long with its headwaters just above or west of the Tahoe-Donner development. The stream flows east to Prosser Reservoir. Approximately 60% of the lands adjacent to the stream are managed by the TNF and the remaining 40% are privately owned, with numerous small private land ownerships. There are 1,273 acres of National Forest System lands and 1,057 acres of private lands within the study area. Alder Creek is within Nevada County, California.

Roads parallel both sides of the stream for 90% of its length. Part of the area is within the 1960 Donner Ridge Fire. Tahoe-Donner is a land-development project that has a small downhill ski and cross-county ski area along with a golf course in addition to the subdivision development.

Alder Creek is a small unregulated stream that flows into Prosser Reservoir. Annual daily flows are estimated at about 9 cfs. No water storage projects are proposed on Alder Creek.

The lower end of the stream is within Management Area (MA) 046-Prosser Hill with a management emphasis of intensive timber management, although the plan directs that the area along the Alder Creek road corridor be managed to protect the visual and watershed resources. The adopted VQO is Partial Retention. The upper end of the stream is within MA 053-Donner with a management emphasis to protect visual resources and the adopted VQO is Retention. Scenic Quality is moderate to low with features typical for the Sierra Nevada Province. Most of

the lands on Upper Alder Creek are private. The National Forest parcels have been identified for possible exchange.

Recreation activities are concentrated at the Donner Camp Day Use Site and in the upper watershed on private land. The downhill and cross-country ski areas attract a moderate level of winter use.

The private land within the study boundary are within Nevada County and land uses permitted under the General Plan are considered compatible with the management objectives for a National Recreation River.

Located in the vicinity of Alder Creek is the Donner Camp site which is eligible for listing on the National Register of Historic Places. The George and Jacob Donner families camped at this location during the winter of 1846-47, becoming one of the most famous and tragic symbols of the westward migration along the Overland Emigrant Trail. The camp, while within the river corridor, had no association with Alder Creek. The Donner families could make no further progress due to an injury and had to set up winter camp where they were. The remainder of the wagon party occupied three cabins near Donner Lake within Donner Memorial State Park.

The Alder Creek drainage was the site of intensive logging for over half a century, from the 1870s through the 1930s. Archival materials indicate that at least four lumber mills operated along Alder Creek, beginning with A. Proctor's Alder Creek Mill established sometime before 1869. This mill operated under Charles E. Roberson and James Machomick from 1869 to 1883 and was operated by Elle Ellen from 1883 to 1901. This mill had a 5-mile long flume to Prosser Creek. I.A. Smith and Scofield operated a small mill on Alder Creek around 1902. At the same time, Llewellyn Davies and Sons built a sawmill on Alder Creek which operated for the 1901-1902 logging seasons. Also, in the summer of 1901 the Sierra Nevada Wood and Lumber Company erected a small mill two miles below Davies' mill. A identified sawmill site on Alder Creek could be the I.A. Smith and Scofield Mill, the Davies and Sons mill, or the Sierra Nevada Wood and Lumber Company mill and was recently determined to be eligible for listing on the National Register of Historic Places.

OR values in Alder Creek is the Donner Campsite. Alder Creek is eligible for Recreational classification.

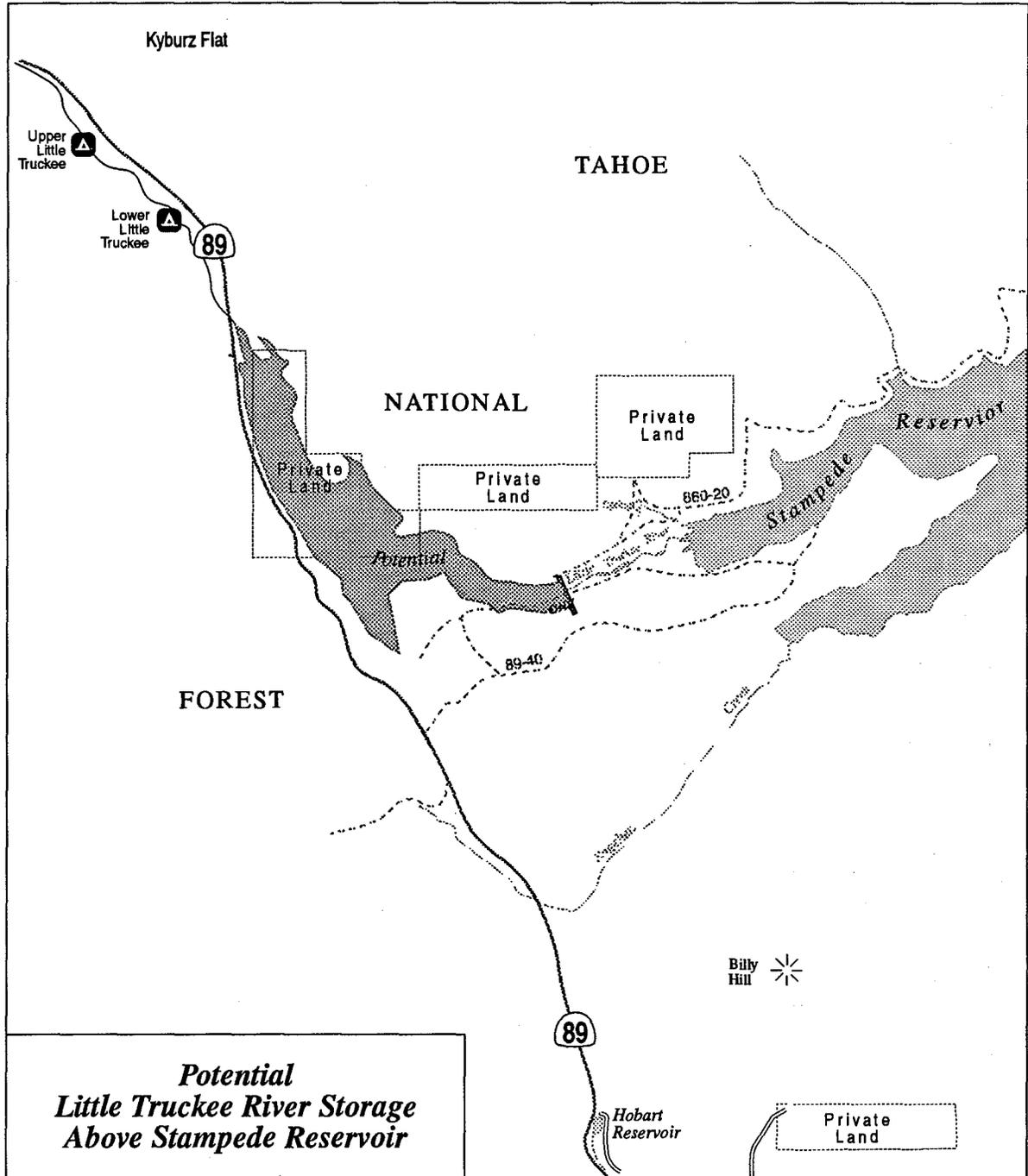
TABLE 4.3

Eligible Rivers by Ownership

Eligible Rivers	Total Miles	Wild	Scenic	Recreation
Truckee River ²				
Federal	10			
Private	3			
Total				13
Cold Stream				
Federal	0.6			
State	1.0			
Private	3.6			
Total				5.2
Alder Creek				
Federal	3.6			
Private	2.8			
Total				6.4
Independence Creek				
Federal	2.0			
Private	0			
Total		2.0		
Little Truckee River				
Federal	9.6			
Private	4.4			
Total				14.0
Perazzo Canyon				
Federal	2.8			
Private	0.4			
Total			3.2	
Sagehen Creek				
Federal	8.0			
Private	0			
Total			8.0	
Upper Truckee River				
Federal	7.0	7.0		
Private	0			
Total				

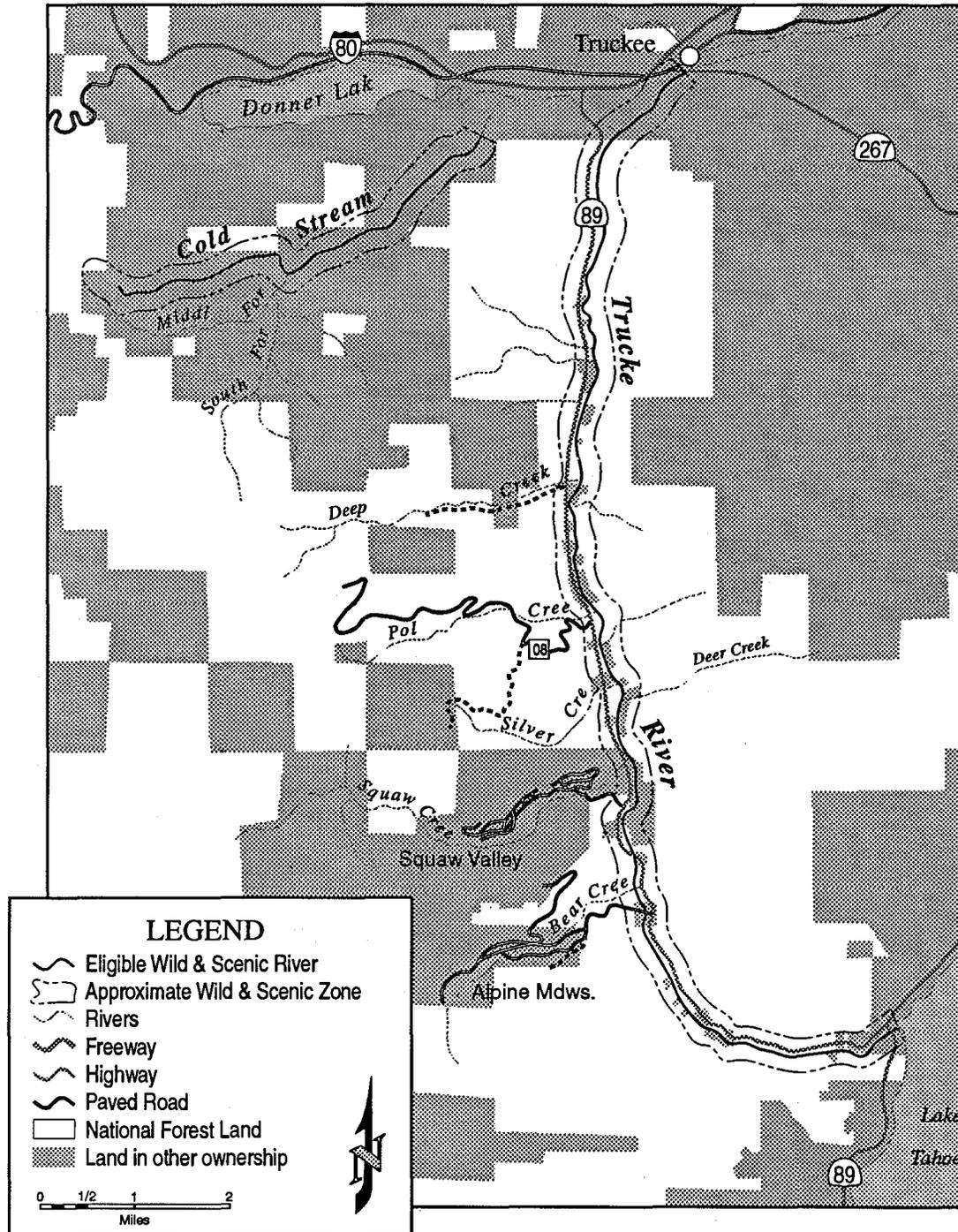
² Private land parcels along the Truckee River consists of small, scattered tracts. National Forest lands are encumbered by an easement held by Sierra Pacific Power Company for power purposes.

MAP C
Potential Little Truckee River Storage



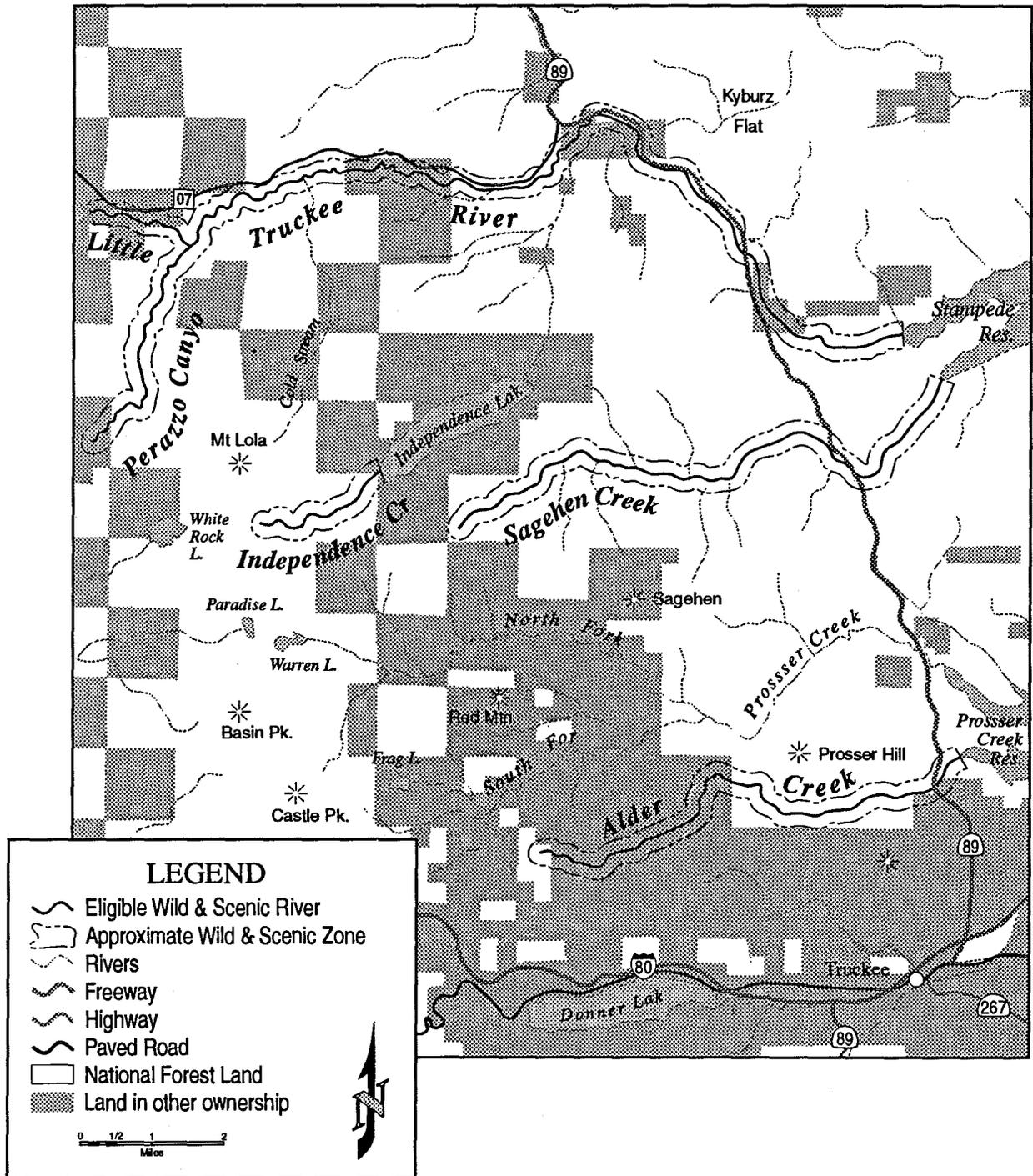
MAP D

Eligible Study Rivers Truckee River and Cold Stream

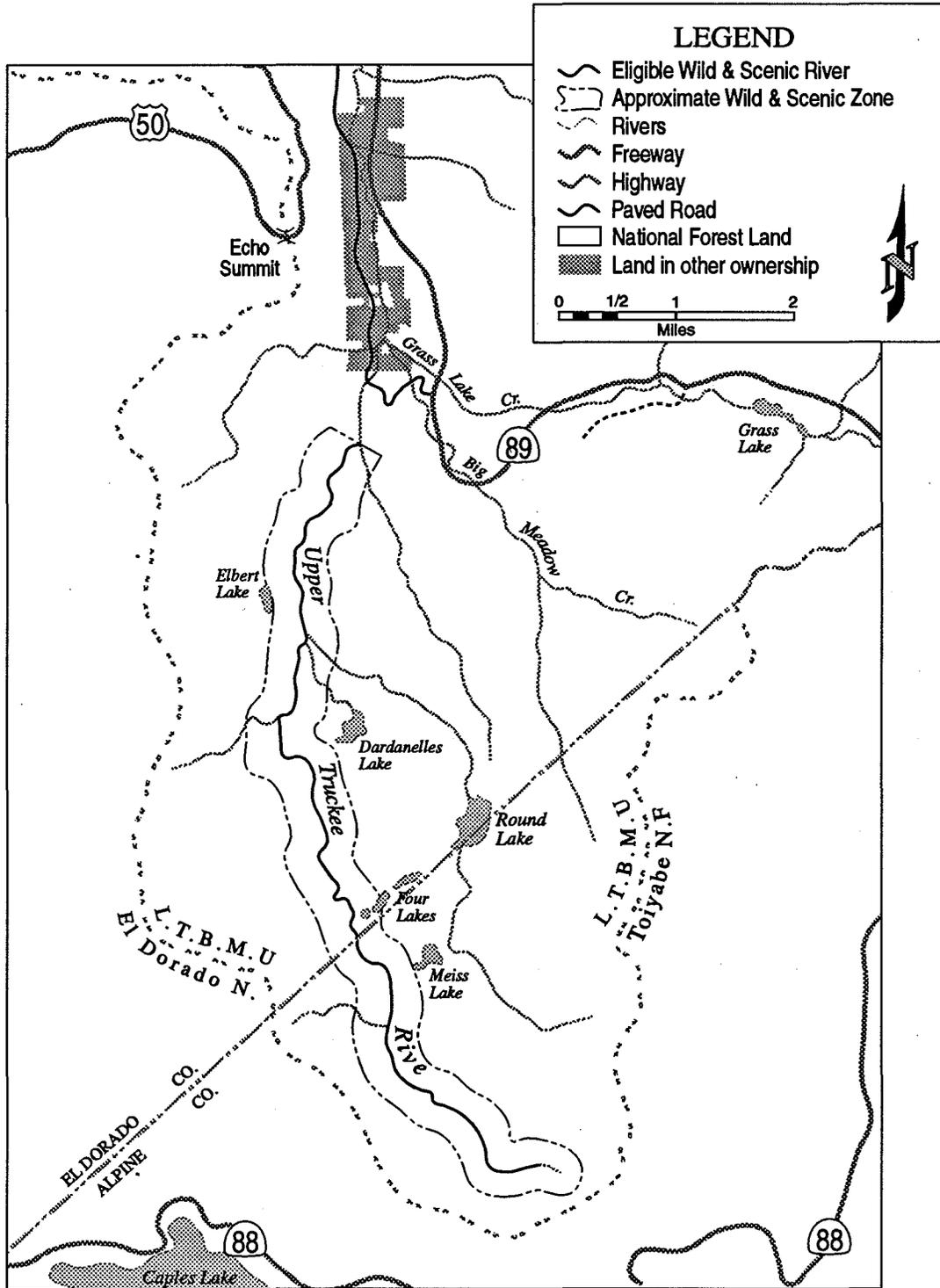


Map E

Eligible Study Rivers Alder Creek, Sagehen Creek, Upper Independence Creek, Little Truckee River and Perazzo Creek



MAP F
Eligible Study River
Upper Truckee River



CHAPTER V.

ENVIRONMENTAL CONSEQUENCES

This chapter forms the scientific and analytic basis for comparison of the alternatives. Environmental consequences are the result of activities scheduled to implement the alternative and vary as a result of the area that would be affected by the alternative. Tables 5.1 and 5.2 compare the consequences of implementing each alternative in terms of outputs and costs for management. Table 2.3 compares the consequences of implementing each alternative in terms of environmental changes and outputs.

It is important to note that the effects analyzed in this chapter relate to alternatives developed regarding the suitability of the study rivers for inclusion in the National Wild and Scenic Rivers System, and not for specific projects within the study areas.

The evaluation generally describes impacts occurring within the 1/2 mile-wide corridor (1/4 mile on each side of the riverbank), except where impacts would occur beyond the corridor. For the following factors, designation or lack of designation of a stream to the National Wild and Scenic River System, would not represent a significant change from the present situation.

- Air Quality
- Access
- Floodplains

Appendix A describes the type and level of activity considered compatible with designation. The effects analysis uses the management standard described in Appendix A as the basis to evaluate the alternatives.

Although guidelines for Wild segments would place restrictions on a number of activities, including timber management, structures, access, and utilities, these restrictions do not represent a significant change from the present situation. The only potential wild segments are upper Independence Creek where the area is currently being managed to protect the Lahontan cutthroat trout, and is unroaded; and upper Truckee River where the area is currently being managed for semi-primitive non-roaded values and is unroaded.

While timber management activities can continue under Scenic and Recreation designations, there would be some minor reduction of timber outputs and additional timber sale preparation and

administration costs in order to manage the timber in a way that is compatible with Scenic and Recreational river objectives.

Other factors which were analyzed and were determined to have an effect upon the human environment are discussed in the remainder of this chapter. Rivers not recommended for designation would be managed and protected under management requirements of the respective management plans for National Forest lands, State Park lands, and local county plans for private lands.

PRIVATE LANDS

Federal condemnation authority has been identified as a major concern of private landowners through public scoping. Since there is considerable private lands within the study boundaries of some of the rivers, it is important that the impact of designation on private lands be discussed.

US Department of Interior and US Department of Agriculture Interagency management guidelines and the Wild and Scenic Rivers Act state that all existing uses and development at the time of designation will be allowed to continue. A set of standards, Appendix A, determine activities that are considered compatible with Wild and Scenic designation. Any new activities which are within these standards are generally acceptable. The guiding determination is whether the activity or uses affect the outstanding values of the rivers.

The Wild and Scenic Rivers Act prohibits the Secretaries of Interior and Agriculture from acquiring fee title to private land by condemnation if more than 50 percent of the acreage within a river corridor is owned by the Federal, State, or local government. Condemnation is permitted, however, for clearing title and acquiring Scenic and other easements that are reasonably necessary to provide public access to a river or to protect the outstandingly remarkable (OR) values when they are threatened. The Federal government is allowed, however, to purchase land from willing sellers.

Condemnation for Scenic easements would only be considered when outstanding values are impacted or threatened. Although not required, private landowners would be encouraged to manage their lands in a way that protects the outstanding values of the river corridor. Counties have the responsibility and authority through zoning to regulate and encourage the management and uses on private lands. Because all private landowners would be encouraged to continue present land uses and to use the standards in Appendix A as a guide for future land uses and developments, designation would maintain current land use trends and would maintain present lifestyles.

Designation would place no restrictions on the disposal of private lands. Violations of water quality laws by private landowners are presently the responsibility of local and state governments and this would remain unchanged.

ALTERNATIVE A. Recommend designation of all eligible rivers. This Alternative recommends all eligible study rivers for designation (8 rivers)

Free Flowing

Designation into the National Wild and Scenic Rivers System would protect the free-flowing nature and the outstanding values of all eight study rivers by prohibiting Federal involvement with new water development projects. However, designation of the Truckee River (Tahoe City to Truckee) would be subject to the easement rights held by Sierra Pacific Power Company for power purposes.

Scenic or Visual Values

Scenic values and watershed protection would be the primary management objective for all public lands within the river corridors. Visual or Scenic Management is described by the use of such terms as Preservation, Retention, and Partial Retention. Preservation is intended to only allow ecological changes, Retention is where human activities are not evident to the casual visitor, and Partial Retention is defined where human activity may be evident but must remain subordinate to the characteristic landscape.

Therefore, under these definitions upper Independence Creek and upper Truckee River, designated Wild rivers, would be managed to maintain a natural appearing landscape at a visual quality objective (VQO) of Preservation. Rivers classified as Scenic such as Sagehen Creek, and Perazzo Creek, would be managed for a VQO of Retention. Rivers classified as Recreational would be managed under a VQO of Retention or Partial Retention. The areas managed for Retention would be those places which typify the outstanding values for which the river was designated and areas which receive a large amount of recreation use. Areas managed for Partial Retention would be those areas which do not have outstanding scenic values and which are not normally directly visible to most visitors.

The VQO system is intended to provide an overall direction for visual management and is not intended to be a rigid requirement on every acre. As an example, there could be situations where there is a need to develop off-highway parking and public restroom facilities in order to manage the river. These type of developments would be designed to blend in with the existing visual setting and would be considered to be compatible with the overall visual management objectives.

Designating all eight rivers would put additional emphasis on meeting visual quality objectives set for areas within the river corridors. The general result would be to maintain or improve the scenic quality of the landscape along the eight rivers.

Timber Management

Timber management activities within the river corridors would be secondary to protection and enhancement of other resources. Designation would not change the suitable forest land base, except for rivers classified Wild, (upper Independence Creek and upper Truckee River). The timber in the 1/2-mile-wide river corridor would be removed from the regulated timber base. For those rivers designated as Scenic or Recreational, special emphasis would be placed on protecting and or enhancing recreational, visual, water, and other OR values. Timber management practices would include thinning, sanitation/salvage, and other silvicultural cutting practices. Clear-cutting would not be used except as needed to treat insect/disease or safety problems. All timber management prescriptions would be in accordance with the California Spotted Owl Guidelines (CASPO). The Little Truckee River, Sagehen Creek, and Perazzo Creek contain the greatest available timber resources of the eligible rivers.

The relationship of old-growth to the river corridors has been pointed out in the TNF Recommendations for Fish and Late-Seral Stage Wildlife Report (Chapel et al., 1992). Perazzo Creek and Upper Independence Creek both support old-growth communities along the study corridors. Old-growth timber is currently managed and protected under the Interim CASPO guidelines for timber management and the TNF LRMPs streamside management zone and old-growth guidelines. Designation would protect the old-growth stands from possible inundation. Timber along the river corridor in Perazzo Creek would be managed for recreation and scenic values rather than for intensive timber management as currently described in the TNF LRMP and modified by the CASPO guidelines.

Designation would not significantly change the timber volumes removed from the river corridors over the long run. Table 5.1 describes the changes in outputs associated with each alternative based on the 1990 Forest Plan prescriptions. With current CASPO guidelines there would be little difference in outputs between general forest areas and areas within the alternative Wild and Scenic River corridor proposals.

Wildlife, Riparian and Aquatic Species

Impacts on wildlife in the river corridors should be minimal as there would be no change in habitat conditions. Increased recreation use could have some effect on species that normally

require minimal disturbance from humans. However, any disturbance would normally be limited to localized areas, and overall should not be detrimental to the wildlife populations.

Perazzo Creek, Sagehen Creek, the Upper Truckee River, and the Little Truckee River all have diverse ecological riparian settings with numerous bogs, fens and meadows. The meadow habitats support a large population of willow-flycatcher, a Forest Service Sensitive Species. Designation would help to protect these unique areas for the willow-flycatcher and other riparian dependent species. Designation would also favor fisheries as the rivers would be protected from impoundments.

The only identified impoundment is on the Little Truckee River and is described in the Environmental Consequences Section entitled Water Development or Improvement Projects. Current grazing and timber activities are designed to protect riparian values along the stream. The decision to recommend designation as a Scenic or Recreational river would provide an additional level of protection to the wildlife, riparian, and aquatic OR values from any future impoundments or diversions, although none are anticipated at this time.

Plants(Threatened, Endangered, Proposed, Sensitive, Watch-List Plants and Communities)

Threatened, Endangered, Proposed and Sensitive Plants

Examination of maps and existing data for each study river and stream was reviewed. The review showed potential for the following threatened, endangered, proposed, or sensitive plant species: *Eriogonum umbellatum* var. *torreyanum* (Torrey's buckwheat), *Ivesia aperta* var. *aperta* (Sierra Valley Ivesia), *Ivesia aperta* var. *canina* (Dog Valley Ivesia), *Ivesia sericoluca* (Plumas Valley Ivesia), *Ivesia webberi* (Webber's Ivesia), *Scheuchzeria palustris* var. *americana* (American Scheuchzeria), *Silene invisia* (Hidden-petal campion), and *Vaccinium coccinium* (Scarlet huckleberry). It is assumed that these plants exist in the identified potential habitat until on-the-ground plant surveys are done. Only portions of the potential habitat along the study rivers and streams have been surveyed. Existing surveys have identified known occurrences of *Ivesia sericoluca* and *Silene invisia*. Current management direction for sensitive plants is to protect or minimally impact (indirect effects such as impacts from dust are permitted) sensitive plant species when discovered. An exception exists for *Silene invisia* where some direct and indirect impacts are allowed on a case-by-case basis. Current management for the endangered species is total protection.

Individual plants of *Silene invisia* could be impacted under current management if they exist within the study area. Although impacts to individual plants could occur, these impacts would not contribute to a trend for listing because it is believed that the current management for this species will maintain the overall viability of the species.

The effects of designation of any of the rivers or streams as wild, scenic, or recreational would have no or minimal effects on the threatened, endangered, or proposed plants as current management is to protect them.

Designation would bring additional attention and emphasis to protection of ecological values and would help protect the sensitive plant species because current management direction does not provide for total protection of sensitive plants in all cases. Current management for the sensitive plants is to protect or minimally impact them from direct and indirect impacts such as timber harvest, trail construction, etc. Increased public use from designation can be expected for a few years which would create the possibility of impacts from illegal collection, trampling, etc., although the overall impacts should be minimal. Designation would provide protection from any possible impoundments of the rivers, although none are proposed at this time.

Watchlist Plants and Communities

Current management direction for the watch-list plants and communities does not protect them from direct and indirect effects. Potential habitats for *Camissonia tanacetifolia* subsp. *quadriperforata* (Sierra Valley evening primrose), *Trifolium lemmonii* (Lemon's clover), *Darlingtonia californica* (pitcher plant), *Drosera rotundifolia* (Round-leaved sundew), *Drosera anglica* (English sundew), and bogs, fens, vernal pools are found within the study river corridors.

Although complete on-the-ground surveys are not available, existing surveys have identified known occurrences of *Drosera rotundifolia*, *Drosera anglica*, fens, and vernal pools. Current management direction for these plants and plant communities is to protect them if they exist in a riparian area that is one acre in size or larger (TNF LRMP direction). Smaller riparian areas are protected if they occur within the stream management zones or within large meadows. Small, isolated occurrences do receive impacts from projects such as timber harvest, off-highway vehicle use, grazing, etc.

Designation of any of the rivers and streams would help protect the watch-list plants and plant community as greater emphasis would be placed on identification and protection within the river corridors. Designation would also protect these plants and communities from inundation resulting from dam and reservoir construction, if proposed.

Vernal Pools

Vernal pools are among the most threatened wetland ecosystems in California (Stone, 1990). Little protection is currently provided for the species requiring vernal pool habitats. Designation would protect vernal pool habitats by putting a greater emphasis on the

importance of these small, isolated habitats. Vernal pools have been identified along Sagehen Creek and Perazzo Creek.

Riparian areas

The impacts on riparian habitats throughout the country has been extensive. Designation of the rivers would provide additional protection from possible inundation of these plant communities beyond that currently provided by LRMP Standards. Although the Forest Plan Streamside Zone Standards provide protection for riparian habitats along perennial, intermittent, and ephemeral streams, the standards do not specifically provide for protection of small (less than one acre) meadows and isolated wet areas associated with springs. Designation would provide additional emphasis to all riparian areas, including bogs and fens.

Meadows

Meadows comprise only 10 percent of the land area in the Sierra Nevada. These plant communities are of great importance due to their limited numbers and ecological significance. There are meadows along Alder Creek, Sagehen Creek, the Little Truckee River, Perazzo Creek, and upper Truckee River. Several of the meadow complexes are an OR characteristic providing unique habitats for both plants and animals. Designation would protect these meadows from possible inundation and would add additional emphasis in protecting these ecological values as mentioned above.

Old-growth

Although the amount of old-growth forest that currently exists varies depending on the definition, it is substantially less than the amount that existed in the past. The importance of the old-growth communities that exist along watercourses has been clearly described in the TNF Recommendations for fish and late-seral stage wildlife by Chapel et al., 1992. Designation would protect these remaining stands from possible inundation and would add additional emphasis in protecting these ecological values.

Recreation

National designation would increase publicity of the rivers and create more public interest, thereby increasing recreational use in Scenic and Recreational rivers. Recreation use in Independence Creek and Upper Truckee River, potential Wild rivers, would also increase somewhat because of the public attention. At least temporarily, increases in hiking, fishing, picnicking, and camping would be greater than currently projected under existing management plans.

Recreation trends on nationally recognized rivers indicate that recreation use generally increases for a few years, then tapers down and gradually levels off to predesignation conditions. Visitors generally desire a less crowded environment and go elsewhere. Normally, the Recreational rivers receive the greatest increase in use because of their accessibility, although use along the Truckee River is already considered to exceed capacity during the summer. Most of the remaining rivers would attract visitors for an initial visit, but use would rapidly drop off as recreation opportunities are limited on most of the study rivers.

Recreation values and uses on the Truckee River between Lake Tahoe and Truckee are extremely high as the river currently provides for a wide variety of recreation activities and is one of the most heavily used recreation corridors along the east slope of the Sierra. Current use generally exceeds the capacity of the river corridor and conflicts exist between private/summerhome owners and the rafters, bicycles, and campers/picnickers that use the area during the summer.

Designation would require the development of a management plan to determine an appropriate level and mix of activities that would protect and enhance the OR characteristics of the river. There are concerns among some private landowners that designation would bring an increase in recreation use and would aggravate an existing problem. Experience on other rivers that have been designated indicate that use increases for a period of time, but drops back to a level compatible with the recreation opportunities. The net affect on recreation on the Truckee River, once a management plan is developed, would most likely be a reduction in total recreation use in order to bring use in balance with the canyon's carrying capacity. However, there should be an increase in the quality of the recreation experience once the plan is completed and implemented.

The Upper Truckee River is within the former Dardanelles Roadless Area and is currently managed for unroaded recreation under the LTBMU's Land and Resource Management Plan. Although the area was not recommended for Wilderness designation, management direction stated within the LTBMU LRMP is to retain a future condition of backcountry that exhibits substantially natural conditions. Wild classification is compatible with existing National Forest management objectives described in the LTBMU LRMP. Within the 1/2 mile corridor, the ROS class would change from SPNM to Primitive and the VQO would change to Preservation.

For all the rivers designated it is expected that there would be more emphasis on recreation management and an overall improvement of the recreation experience for the public using the rivers. While recreation use may increase as discussed above, recreation management emphasis would be to provide for numbers appropriate to the river's classification and values. When needed, recreation carrying capacities could be set in the required management plans.

Grazing Management

Livestock grazing is managed in accordance with TNF and LTBMU LRMP Standards and Guidelines and individual Allotment Management Plans. The objective is develop management strategies that will bring all range lands to satisfactory or better condition. Although current levels of livestock grazing are generally considered compatible with Wild and Scenic River management, designation could result in increased public use for a period as described in the section on Recreation. Additional public use increases the potential for conflicts between livestock grazing and recreation use.

The rivers with the greatest potential for grazing/recreation conflicts are the Upper Truckee River, the Little Truckee River, and Perazzo Creek.

Cultural Resources

Possible effects on cultural and historic resources could result from any increase in visitation. Many of the OR values for a number of the streams are cultural or historical values. Increases in hiking, camping, fishing, and picnicking from designation would increase the probability of vandalism and illegal artifact collection. On the other hand, designation would prohibit potential inundation of any cultural or historic remains and with adequate interpretive signing, random vandalism could be reduced.

Wild and Scenic River designation should not have any significant impact on the cultural and historic resources within the study river corridors.

Minerals

Designation should not have a significant impact on mineral activity in the Truckee River basin as there is not much existing activity in the study area. Section 9 of the Wild and Scenic River Act states that for all Federal lands within Wild, Scenic, and Recreational river corridors, all prospecting, mining, and other activities on claims not perfected prior to inclusion of the river segment into the system are subject to regulation by the administering Secretary. Existing mineral activities would continue to be conducted in a manner that would minimize surface disturbance, sedimentation, and pollution, and degradation of the visual resource. No new mineral activities would be permitted with the Wild rivers (Upper Independence Creek and upper Truckee River). New mineral activity within Scenic and Recreational rivers would be mitigated to protect the outstanding values of the river. Proposals for new mining or prospecting activities on Federal lands would require a site-specific environmental analysis to address the specific proposal.

Private landowners and owners of outstanding mineral rights on lands within the recommended river corridors would be encouraged to conduct activities in a manner consistent with the guidelines in Exhibit A. Cold Stream flows mostly through private and/or state lands and mineral activities would be conducted in accordance with state and local laws and ordinances.

Social/Economic

Overall current lifestyles and employment would not appreciably change as a result of designation. Regional economics and employment, which rely heavily on tourism and recreation, would continue and be enhanced by designation. Employment associated with timber-related activities would not be significantly impacted by designation.

There could be some impacts on individual ranchers or loggers where designation results in changes in the operations of livestock grazing or timber harvest. Although the projected impacts are not expected to be large overall, there could be some impacts on individual operations if changes are needed to resolve conflicts resulting from designation. Probably the greatest impact is the cumulative impacts resulting from a number of changes occurring including increasing concern over riparian areas, needs of threatened and endangered species, including old-growth dependent species, along with Wild and Scenic river designation.

Recreation use and access would continue to be available. Users would still be able to access hunting, fishing, and camping spots.

Water Development or Improvement Projects

Future water resource projects for municipal, agricultural, flood control, power generation, or other uses may be foregone if there is a direct and adverse effect on the free-flowing characteristics of the river. This could result in a future impact on downstream users in Nevada, although the only additional water storage project identified by Sierra Pacific Power Company on the study rivers is a 13,000 to 20,000 acre feet dam and reservoir on the Little Truckee River above Stampede Reservoir. Although the project has been identified as a possible site for additional storage, the likelihood of constructing a new reservoir on the Little Truckee is questionable, as there are presently more economical options available to meet Sierra Pacific's water needs. The impacts of foreclosing this option are unknown at this time, as Sierra Pacific has identified a number of options to meet future demand. Generally, the utilities like to maintain all future options because of the uncertainties associated with the development of any new water supply.

The decision to designate the Little Truckee River would protect the OR values (i.e. vegetation wildlife and cultural) found along the river, including the riparian habitats, from

any potential reservoir. The principal benefit would be to protect the vegetation, as the cultural sites would be avoided. No known T&E or sensitive plants or animals would be affected.

There could be some potential effect on options for the State of California to exercise its water rights for surface flow (10,000 AF) provided under PL 101-618, depending whether California selects to use one of the existing reservoirs or construct a new reservoir. Designation would foreclose possible impoundment of these rivers for water supply or other uses. Specific impacts from designation on California's options are unknown at this time, as California has not decided on how to utilize its water rights.

Section 7. (a) of the Act clearly precludes water development projects on designated Wild and Scenic River segments. This same section also makes it clear that existing and new projects are allowed above or below a designated segment unless these projects would "unreasonably diminish the the scenic, recreationl, and fish and wildlife values present in the area". This part of the act is quoted here to provide the full intent of the Act:

"Sec. 7. (a) The Federal Power Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act (41 Stat. 1063), as amended (16 U.S.C. 791a et seq.), on or directly affecting any river which is designated in section 3 of this Act as a component of the national wild and scenic rivers system or which is hereafter designated for inclusion in that system, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a wild, scenic, or recreational river area or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area on the date of designation of a river as a component of the National Wild and Scenic Rivers System".

Research

Sagehen Basin has been intensively studied by the University of California-Berkeley staff and students for over 30 years. Scenic designation of Sagehen Creek should not impact existing research activities and future research in the basin. The recommendation for Scenic River designation provides for the continuance of research as described in Appendix D. Although most of the research currently underway does not include major vegetative manipulation, the University has constructed a weir across the creek and a fish chamber for research and educational purposes. There are a number of other research activities and

facilities in close proximity to the creek, including a stream gage, a weather station, and a number of buildings used by the University.

Future plans for the station include the construction of a dormitory and classroom. All future developments are planned to be within or adjacent to the river corridor just above the flood plain. The existing and proposed developments associated with the research program are considered compatible with Scenic River objectives. Much of the information known about Sagehen Creek is a direct result of the 30 years of research and continuance of the research should provide greater understanding of the ecological values (i.e. one of the OR values) within the Sagehen Basin.

Designation may attract additional public use into the area and could increase the potential to disturb some long-term research sites. However, the potential impacts from some increase in public use should not cause a major impact on research activities.

Private Lands

The effects on private land owners are described previously. There would be some additional Forest Service costs for coordination, including survey and posting of property lines, on those rivers with large amounts of private lands. Generally, those rivers that are mostly on National Forest System lands would be easier and less complex to manage as Wild and Scenic rivers than those rivers with extensive, mixed public/private ownership.

The Truckee River, Cold Stream, Alder Creek, and the Little Truckee River each contain a large percentage of private property, including a number of special land uses. There are a number of developments including highways and a major railroad, along with a variety of utility uses including electrical transmission lines, sewer lines, and gas/oil pipelines located in or adjacent to the river corridors.

Designation could impact local government's ability to utilize the river corridors for their infra-structure needs, including such activities as road improvement projects, and construction of additional electrical, sewer, gas, and oil lines. Costs could increase in order to minimize impacts on the rivers.

OR Values

Alternative A would protect and enhance all OR values by designating all eight rivers. This would significantly increase the number of eastside streams that Congress could consider. Alt. A would protect the best candidate rivers along with rivers that would make less of a contribution, be repetitive of values already represented, or better represented by the best river candidates.

ALTERNATIVE B. No Action Alternative. Recommends no rivers for designation.

This alternative does not recommend designation for any of the eight eligible study rivers and is not responsive to public concerns that those rivers with special characteristics or quality should be added to the National Wild and Scenic Rivers System. Although all eligible rivers have at least one OR characteristic, it is recognized that not all rivers are equally suitable to be a worthy or quality addition to the system.

The No Action alternative would allow the consideration of future impoundments and diversions of any of the rivers. It should be noted that there are no current or active proposals for additional storage or diversions at this time and that this alternative does not imply that any future proposals would be approved. The decision to approve or disapprove any future project would be the subject of a project-specific analysis. This alternative continues existing water use management activities, but does not provide for the permanent long-term preservation of the free-flowing conditions of the rivers.

Even though this study is not the vehicle for making decisions on permitting dams in these study rivers as discussed above, the general impacts to any of these streams can be described if a dam were approved in the future. The immediate impact of a dam would be to eliminate the free-flowing character of the river in question for the distance submerged under water. Stream flow is required to provide habitat needs of native fish and game species. Channel form and function can be impaired if flows are changed significantly as can happen when dams are built. As a result fisheries and wildlife habitat could be detrimentally impacted. Existing private land and public land uses would be precluded under the reservoir and in some of the lands around the reservoir. Existing and future mineral development would be precluded under the reservoir site. Recreation use would change from river and stream activities to flat water activities such as boating, waterskiing, and fishing from boats or shore. If the potential dam was proposed in the potential wild rivers, the dam could eliminate valued semi-primitive motorized or non-motorized lands that are in short supply on the Tahoe NF. Economic benefits to the region would vary with the size of the project and the cost benefits of the individual project. The immediate botanical values under a reservoir site would clearly be lost. Occurrences of sensitive and watchlist plant species could be inundated with possible dam projects. Cultural resource values, both known and unknown, could be inundated and not available for research and public understanding. With any of these resources the merit of a dam project would have to be weighed against the possible impacts to the resources described above.

Old-growth timber is currently managed to provide for the California spotted owl (CASPO Guidelines) and the Forests streamside standards. Old-growth values for other wildlife and visuals are not covered by the CASPO guidelines. Nondesignation would maintain this current situation. Timber management would continue as prescribed in the appropriate LRMP as amended by CASPO and other amendments over time. There would be no immediate new effects on OR

values. However, overtime there could be some cumulative effects on widespread values like wild life habitat or ecological values.

Livestock grazing would continue as directed by LRMP Standards and Guidelines and individual Allotment Management Plans. Emphasis would be to continue to develop individual allotment management plans with an objective of implementing management strategies that will improve all range lands to satisfactory or better condition.

Recreation use would continue as directed by LRMP Standards and Guidelines and the normal budget constraints. In some of the higher concentrated recreation use areas there is the potential for impact to other resources such as plants, wildlife, fisheries, and cultural resources. Prevention or mitigation of these impacts would rely on Standards and Guidelines from the LRMP and standard procedures presently in place.

Nondesignation would have no effect on the threatened, endangered, or proposed plants that occur along the river corridors as current direction is to protect these plants. Potential impacts on sensitive and watch-list plants could be greater without designation, although the potential impacts are not expected to result in a loss of overall viability. Existing management direction for sensitive and watch-list species is to prevent them from becoming candidates for threatened and endangered listing.

Potential impacts to ecologically significant plant communities due to nondesignation (i.e. vernal pools, fens, riparian habitats, and meadows) would be the same as the current situation. The larger or known riparian areas, fens, vernal pools, and meadows would continue to be protected under the Forest Plan Guidelines, with possible impacts to the smaller and unmapped habitats. The overall impact without designation is unknown.

California would retain all options to store their water including use of the existing reservoirs in the system or construction of a new reservoir. The following are anticipated impacts to the OR values identified for each stream under the No Action Alternative.

Truckee River

The Truckee River Canyon is heavily used by local homeowners, campers, picnickers and for bicycling and rafting. The river is paralleled by Highway 89, a major arterial into the North Shore of Lake Tahoe. The combination of traffic and local use in the canyon has resulted in conflicts between uses and presents a public safety problem because of the heavy vehicle and foot traffic along the highway.

Without designation there are no requirements to bring the users, agencies, and homeowners together to resolve the existing conflicts and overuse. Although the development of a management

plan does not require National River classification, designation would result in a management plan development receiving a higher priority.

Under this alternative, over the short term, recreation conflicts would be resolved on a case-by-case basis without the benefit of a coordinated long range plan. On a longer term basis, a coordinated effort would be needed to adequately address the issues.

Current TNF and LTBMU LRMP direction as well as Federal law provides for protection of the cultural values.

Cold Stream

The OR value along Cold Stream is the California Route of the Overland Emigrant Trail, a National Historic Trail. The Trail follows along Cold Stream and then turns up into Emigrant Canyon, one of the three forks within the Cold Stream watershed. Scenic values are considered high. A portion of the California Route of the Overland Emigrant Trail is located along the river corridor. There are no proposed impoundments along the river and a decision not to designate Cold Stream would have little effect on the OR value (historic Emigrant Trail) as the management direction provided for National Trails provides adequate protection for the Trail. Additional protection of the Trail has resulted from the recent transfer of some private lands in the area to the California State Parks system.

Alder Creek

The OR value for Alder Creek is the Donner Camp which was the site of a winter camp used by part of the Donner Party. The camp site is listed on the National Register of Historic Places. The Donner Camp is located just above Prosser Reservoir. Since there are no proposals to increase the size of Prosser Reservoir, and no other water developments are planned, there would be no impact on the Donner Camp by the decision not to recommend designation. The camp is protected by existing Federal law and TNF LRMP standards and guidelines, which require total protection of the cultural site.

Sagehen Creek

Sagehen Creek has a variety of OR values including vegetative/ecological values, cultural resources, geological/hydrological and wildlife values. The area also provides habitat for pine marten, a Forest Service and California Sensitive Species, which has been studied by UC Berkeley and other researchers for a number of years. Although significant research has been completed, more work is needed to learn the hydrological/geological relationships which support the fens and meadows.

Current TNF LRMP direction does not provide adequate protection for the smaller fens. The recommendation to study the Sagehen Basin for possible SIA designation is based on the recognition that a change in management direction or Management Area standards and guidelines as described in the TNF LRMP is needed to protect these OR values. The decision to not recommend classification as a scenic river would not change the current situation or level of management protection. There would be no impact on the research programs conducted by the University of California in Sagehen as this alternative would continue the existing program.

Upper Truckee River

The Upper Truckee River OR values include back-country recreation, scenic values, and fisheries values, including habitat for the threatened Lahontan cutthroat trout. The area contains significant areas of key fawning habitat for mule deer. These values are currently protected under direction of the LTBMU LRMP and the decision to not recommend classification as a Wild river would not impact these OR values.

Perazzo Creek

Perazzo Creek has a diverse ecological setting with numerous bogs, fens, and meadows. The meadow habitat supports a population of willow flycatcher, a Forest Service Sensitive Species. There are a number of small (less than one acre) meadows in the Perazzo Area which are not specifically protected by the TNF LRMP. This will not change under this alternative, although the overall impact is unknown. There are no proposed water impoundments or diversions and TNF LRMP direction for grazing and timber activities provides a sufficient level of protection for the OR values along the stream.

Little Truckee River

The Little Truckee River has several campgrounds and several cultural sites including a historic dairy site, Hobart Estates Logging Camp, the Sierra Valley Diversion Ditch, and the Henness Pass Road and Stage Stations associated with the Henness Pass Road. There is a potential dam site identified by Sierra Pacific Power Company along the Little Truckee River just above Stampede Reservoir.

The potential dam site is approximately $\frac{3}{4}$ mile above Stampede Reservoir and would back water up to a point just below the Forest Service campgrounds on Highway 89. The reservoir would inundate National Forest lands and Bickford Ranch properties adjacent to the highway. The Bickford Ranch currently is used as a base for their ranching operations and as a family retreat. Recreation use would change from activities associated with a free-flowing stream to "flat water" activities such as boating and swimming.

Although identified as a potential project in Sierra Pacific's water resources planning, the likelihood of a dam and reservoir being constructed is considered slight. Without designation, there is a potential that the OR values (i.e. vegetation and cultural) found along the Little Truckee, including riparian habitats, could be significantly impacted in the event a dam/reservoir is constructed. The principal impact would be on the vegetation, as the known cultural sites are above the reservoir site. *Drosea rotundifolia*, a watch list plant has been inventoried within the proposed reservoir site. *Ivesia sericolueca*, a Forest Service Sensitive plant has been observed just above Stampede Reservoir along the Little Truckee River. No known T&E or Sensitive wildlife species would be affected.

In the absence of water impoundments or diversions, this alternative would have no new effects on private lands, existing visual resources, timber management activities, fish and wildlife, threatened, endangered, and sensitive species, recreation use, cultural and historic resources, or mineral resources.

ALTERNATIVE C Recommends designation of those rivers with the most extensive OR values as related to the river environment. These OR values include recreational, scenic, historical and cultural, biological and ecological, wildlife and fisheries values.

Alternative C recommends designation of the Truckee River and the Little Truckee Rivers as National Recreational Rivers; Sagehen Creek, and Perazzo Creek would be recommended as National Scenic Rivers, and the Upper Truckee River would be recommended as a National Wild River. Upper Independence Creek would be recommended for designation as a Special Interest Area by the Forest Service and the Sagehen Basin, outside of the Scenic River Corridor, would be studied for possible SIA designation. This alternative recommends the rivers determined to have OR values that are most extensive and most closely related to the river environment.

The effects of designation on visual resources, timber management, water resource development and management, research, wildlife, endangered, threatened, and sensitive wildlife and plant species, minerals, private lands, and cultural resources for the Truckee River, Upper Truckee River, Little Truckee River, Perazzo Creek, and Sagehen Creek would be similar to those described in Alternative A. Most OR values would be protected as in Alternative A

The major potential impacts to those rivers not designated would be the potential to impact the OR values identified for each river. The potential effects on the OR values of the streams not designated (Cold Stream and Alder Creek) would be similar to impacts described in Alternative B (No Action).

Upper Independence Creek provides habitat for the LCT, a threatened species on the Federal list, and supports a number of unusual ecological features including fens, meadows, and pristine plant

communities. Upper Independence Creek is recommended for classification as a SIA by the Forest Service, which would provide additional protection for the OR values. The decision not to recommend designation as a wild river would not significantly impact the OR values, as they would be protected under existing management direction and standards in the TNF LRMP and/or by SIA. (See Appendix C for additional information on potential impacts with and without designation.)

ALTERNATIVE D. Recommends designation of those rivers that receive the greatest amount of public recreation use that is directly associated with the river.

Alternative D recommends designation of the Truckee River as a National Recreation River. The remaining seven rivers are not recommended for Wild and Scenic river designation. Upper Independence Creek is recommended for designation as a SIA by the Forest Service. Sagehen Creek would be studied for possible SIA designation by the Forest Service in a separate site-specific study.

The Truckee River has extensive recreation values along the entire stream that closely relate to the river environment. Recreation values and uses on the Truckee River between Lake Tahoe and Truckee are extremely high. The river currently provides for a wide variety of recreation activities and is one of the most heavily used recreation corridors along the east slope of the Sierra. This alternative is responsive to public concerns over the need to maintain the Truckee River in a free-flowing state. Protection of the free-flowing character of the river with designation would be subject to the easement rights held by Sierra Pacific Power Company for power purposes. However, designation would prohibit Federal participation in any project that would impact the river's free-flowing character. The effects on recreation from designation of the Truckee River are described in Alternative A.

The effects of designation of the Truckee River on visual resources, timber management, wildlife, endangered, threatened, sensitive species, watch-list plants and communities, private property, water development, minerals, and cultural resources for the Truckee River are also described in Alternative A. Impacts from SIA designation of Upper Independence Creek are described in Alternative C.

The major potential impacts to those rivers not designated would be the potential to impact the OR values identified for each river. The impacts of not recommending designation for Sagehen Creek, Perazzo Creek, the Upper Truckee River, Alder Creek, Coldstream, and the Little Truckee River are the same as described in Alternative B (No Action).

ALTERNATIVE E. Recommends designating those rivers that make the best contribution to a National Wild and Scenic River System when considering the OR values.

This Alternative recommends designation of the Upper Truckee River as a National Wild River and Sagehen Creek as National Scenic Rivers and Upper Independence Creek is recommended for designation by the Forest Service as a SIA. The Sagehen Basin, outside the Scenic River corridor, would be studied for possible SIA designation by the Forest Service in a separate site-specific study. The remaining five rivers are not recommended for designation.

The effects of designation of the Upper Truckee River and Sagehen Creek on visual resources, research, timber management, recreation, wildlife, endangered, threatened, and sensitive species, water development, minerals, and cultural resources are described in Alternative A.

Impacts from SIA designation of Upper Independence Creek are described in Alternative C.

The major potential impacts to those rivers not designated would be the potential to impact the OR values identified for each river. These impacts are described in Alternative B (No Action) for each of the non-designated rivers including the Truckee River, Cold Stream, Alder Creek, the Little Truckee River, and Perazzo Creek.

This alternative would recommend the two rivers considered to make the best contribution to the National Wild and Scenic River System in terms of quality OR values and also OR values not well represented in the system. The ecological/botanical, research, and historic values of Sagehen Creek bring unique values to the Wild and Scenic River System that are presently not represented in the system. The Upper Truckee brings unique fisheries and historic values that make new contributions to the W&S River System in a primitive setting that can be enjoyed by many dispersed recreation users. The third best river while not recommended for designation is recommended for SIA status where the OR value (Lahontan cutthroat trout) would be the management emphasis and protection and enhancement would be pursued.

Since all the lands involved are National Forest System lands, the ease and cost of Forest Service administration under the Wild and Scenic River program would be considerably less than for rivers with significant private lands. This is due generally to the reduction of administrative costs needed to coordinate National Forest programs with private land management objectives. Typically, there are additional costs where there are extensive private lands which require additional survey and posting of property boundaries and the need for public access. See Table 5.2 for cost estimates of designation.

ALTERNATIVE F. Recommends designation of those rivers that would have minimum adverse impacts on other resource uses such as timber management and water and power development and would minimize impacts on local and state governments' ability to utilize existing utility and transportation corridors.

This Alternative would recommend designation of the Upper Truckee River as a National Scenic River and Upper Independence Creek would be recommended for designation by the Forest Service as a SIA. Sagehen Creek would be studied for possible SIA designation by the Forest Service in a separate site-specific study.

The effects of designation of the Upper Truckee River on visual resources, recreation, private property, wildlife, endangered, threatened, and sensitive species, water development, minerals, and cultural resources would be similar to those described in Alternative A.

The impacts on timber management would be negligible under this alternative as compared overall to Alternative A as current management direction for the one river recommended for designation is compatible with wild and scenic river objectives. Currently, there are no regulated timber outputs on either Upper Independence Creek (SIA) or the Upper Truckee River. This would not change under this alternative.

Impacts from SIA designation of Upper Independence Creek are described in Alternative C.

The Truckee River, Cold Stream, Little Truckee River, and Alder Creek all contain major highways and power lines. Cold Stream also has a railroad adjacent to the stream in the lower part of the canyon. This alternative would not impact the use or improvement of these existing infrastructure, by state and/or local governments.

Perazzo Creek, Sagehen Creek, and the Little Truckee River contain the largest amount of timber currently available under provisions of the TNF LRMP. Although the overall impacts on the timber resources from designation are considered minor as described in Alternative A, this alternative retains the availability of timber along those rivers with the largest timber resource.

The major potential impacts to those rivers not designated would be the potential to impact the OR values identified for each river. These impacts are described in Alternative B. This alternative recommends one of the best rivers in terms of OR values but does not offer the best contribution for botanical ecological values which are not well represented in the National System.

ALTERNATIVE G. Recommends designation of those rivers identified to have the greatest botanical and ecological outstandingly remarkable values as related to the river environment.

This alternative recommends designation of the Upper Truckee River as a National Wild River, Sagehen Creek, and Perazzo Creek as National Scenic Rivers, and the Little Truckee River as a National Recreation River. Upper Independence Creek would be designated by the Forest Service as a SIA and the Sagehen Basin, outside of the Scenic River Corridor, would be studied for possible SIA designation.

The effects of designation of Perazzo Creek, Sagehen Creek, the Upper Truckee River, and Little Truckee River on private lands, visual resources, timber management, recreation, research, wildlife, endangered, threatened and sensitive species, water development, minerals, and cultural resources are described in Alternative A.

The major potential impacts to those rivers not designated would be the potential to impact the OR values identified for each river. These impacts are described in Alternative B. The effects of SIA designation of Upper Independence Creek are described in Alternative C.

OTHER ENVIRONMENTAL CONSEQUENCES

Adverse Effects that Cannot be Avoided

Some increases in environmental degradation may result from increased recreation use due to designation. Individual river management plans would address mitigation actions to reduce any environmental problems along the designated rivers. Congressionally designated rivers would be under the statutory protection of the Wild and Scenic Rivers Act. Rivers not designated would continue to be managed in accordance with federal, state, and local county plans.

Implementation of any of the alternatives may create some social conflicts between various users, simply because any action or lack of action is acceptable to some people and not acceptable to others.

Local Short-Term Uses of Man's Environment and Maintenance and Enhancement of Long-Term Productivity

Implementation of any alternative would continue to provide opportunities for short-term resource yields. Forest management practiced under either federal or state standards (described in LRMPs and the California Forest Practices Act) ensure that short-term resource activities do not significantly impair the land's long-term productivity. Congressional designation of any alternative, except Alternative B (No Action), would enhance the long-term free-flowing river recreational opportunities on the river(s) included in that alternative.

Irreversible or Irretrievable Commitments of Resources

An irreversible commitment is one in which nonrenewable resources are permanently lost. None of the alternatives result in use or modification of resources that are considered nonrenewable (e.g. minerals). There would be no irreversible commitment of resources. Designation would protect threatened, endangered or sensitive plants or wildlife species from becoming irreversibly lost due to dam construction.

There could be a loss for potential development of the water resources for municipal/industrial and agricultural water and power generation, or to provide storage for California water rights, although no firm projects or proposals have been identified.

An irretrievable commitment is one in which resource production or use is lost while managing an area for another purpose. Implementation of Alternative A would create some decline in the production of timber, forage, and mineral resources. Any decline in the use of these resources would result in an irretrievable loss of these resources. All alternatives eliminate or reduce the management of some resources while increasing the management opportunities of others.

Other Effects

None of the alternatives would have adverse effects in terms of energy requirements, conservation potential, or urban quality. No conflicts with federal, regional, or state land use plans have been identified.

Compatibility with State and Local Plans and Policies

Sierra County has passed a resolution opposing designation of any rivers into the National Wild and Scenic System within the county. Designation of Perazzo Creek, the lower 1/2 mile of Sagehen Creek and/or the Little Truckee River would be in conflict with the County's resolution. The Town of Truckee did not support designation of the Truckee River, Alder Creek, and Coldstream while it did support designation of Sagehen Creek and recommending Independence Creek for a Special Interest Area(SIA). This information was received in a letter during the formal comment period on the DEIS.

TABLE 5.1

**Effects on Timber Outputs from
Wild and Scenic River Designation
Annual Outputs
(Thousands of Board Feet)**

ALTERNATIVES

River	Alt B No Action	A	C	D	E	F	G
Truckee River	222.2	219.0	219.0	219.0	222.2	222.2	222.2
Cold Stream	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Alder Creek	192.0	191.2	192.0	192.0	192.0	192.0	192.0
Independence Creek	0	0	0	0	0	0	0
Little Truckee River	328.8	316.3	316.3	328.8	328.8	328.8	316.3
Perazzo Creek	149.4	44.5	44.5	149.4	149.4	149.4	44.5
Sagehen Creek	342.6	118.0	118.0	342.6	118.0	342.6	118.0
Upper Truckee	0	0	0	0	0	0	0
Total	1,236.2	890.2	891.0	1,233.0	1,011.6	1,236.2	894.2
Difference ¹	0	-346.0	-345.2	-3.2	-224.6	0	-342.0

¹ Differences are based on changes from those projected in the current TNF and LTBMU Forest Plans. The outputs in the Forest Plans are the same as projected under Alternative B (No Action).

**TABLE 5.2
Cost of Designation**

No acquisition of private lands and no recreation or other developments would be proposed for any of the rivers eligible for designation under the Wild and Scenic Rivers system. Planning and management costs would increase above current levels. This table lists the additional funding needs for a five-year period for each of the study rivers.

	Implementation Cost	Management Plan	O&M Costs	Total
Truckee River	\$5,000	\$140,000	\$5,000	\$150,000
Cold Stream	\$500	\$11,000	\$500	\$12,000
Alder Creek	\$2,500	\$35,000	\$2,500	\$40,000
Independence Creek	\$2,500	\$7,000	\$500	\$10,000
Ltl Truckee River	\$5,000	\$35,000	\$3,000	\$43,000
Perazzo Creek	\$2,500	\$25,000	\$2,500	\$30,000
Sagehen Creek	\$2,500	\$75,000	\$2,500	\$80,000
Upper Truckee River	\$3,000	\$42,000	\$5,000	\$50,000

CHAPTER VI

LIST OF PREPARERS

MANAGEMENT OFFICIALS

Judie L. Tartaglia (Tahoe National Forest Acting Forest Supervisor)

Joanne Roubique (Truckee District Ranger, Tahoe National Forest)

Sam Wilbanks (Sierraville District Ranger, Tahoe National Forest)

Pete Brost (Tahoe National Forest - Public Services Officer)

Juan Palma (Lake Tahoe Basin Management Unit Forest Supervisor)

INTERDISCIPLINARY TEAM

Terry B. Randolph (Tahoe National Forest - Planning Team Leader)

B.S. Forestry, University of Idaho 1962. Thirty-three years experience at Ranger District and Supervisor's Office level. Twelve years experience as Planning Officer Served in various positions including three years as a District Ranger and as staff assistant in recreation, timber, and fire on five Ranger Districts and four National Forests.

John Corbett (Tahoe National Forest - Lands Staff)

John provided expertise in land status, mineral area management and special uses. Received B.S. in Forestry in 1960 from the University of Connecticut. Has completed postgraduate work in real estate and is a professional forester licensed by the State of California.

Philip Horning (Tahoe National Forest - Landscape Architect)

Phil provided expertise in recreation, visual management and with Special Interest Areas. He was the Interdisciplinary Team Leader and Wild and Scenic River Coordinator for the Eligibility Determination process. Phil received his Bachelor of Landscape Architecture (1969) from the College of Forestry and Environmental Science at Syracuse, N.Y. He has served on four National Forests, a State Forest in Australia, and the Peace Corps in Iran.

Kathy Van Zuuk (Tahoe National Forest - Botanist/Air Quality Coordinator)

Kathy provided expertise in all areas relating to vegetation and ecological management, including threatened and endangered species management for plants. Kathy received a Master of Science Degree in Plant Ecology from Northern Michigan University in 1978. She

has work experience with the Michigan Department of Natural Resources, the Lake Tahoe Basin Management Unit, and the Tahoe National Forest.

Laura Browning (Tahoe National Forest - Recreation Planner)

Laura assisted in the Wild and Scenic River Eligibility Determination forestwide and is presently the ID Team leader for the Westside Wild and Scenic River study. Laura received her B.S. in Natural Resources Planning, Humboldt State University, Arcata, California 1990. Worked seasonally with the National Park Service while completing college.

Ann Carlson (Tahoe National Forest - Fisheries Biologist)

Ann provided expertise on fisheries issues for the study, including the management needs for the Federally listed Threatened Lahontan cutthroat trout. Ann received her M.S. in Aquatic Ecology from Utah State University in 1989. She has worked for the Tahoe National Forest as a Fish Biologist for eight years.

Carrie Smith (Tahoe National Forest - Truckee District Archaeologist)

Carrie provided expertise on cultural and historical resources associated with the study rivers. Carrie received a BA (Anthropology) from the University of Nevada, Reno in 1984 and a MA (Anthropology) from the University of New Mexico, Albuquerque in 1988. She has served as the District Archaeologist since June 1990.

William A. Baker (Tahoe National Forest - Environmental Coordinator)

Bill provide guidance to the planning process to assure requirements of the National Environmental Policy Act were followed. Bill received his B.S. (Forest Management) from the University of California, Berkeley in 1965 and is a Professional Forester licensed by the State of California. Bill has served on several National Forests and has been the Environmental Coordinator for the Tahoe National Forest for fourteen years.

Lisa O'Daly (Lake Tahoe Basin Management Unit - Community Planner)

Lisa provided coordination for the study with the LTBMU and was the Team Leader in the eligibility analysis for the Upper Truckee River. Lisa received a BA from the University of California, Davis in 1986 in Public Education. She has worked on the Lake Tahoe Basin Management for ten years as a Community Planner.

CHAPTER VII

References

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Washoe County Regional Planning Agency. March 1991. Truckee Meadows Regional Plan.

Wild and Scenic Rivers Act dated October 2, 1968 (P.L. 90-542, 82 Stat. 906, as amended; 16 U.S.C. 1271(note), 1271-1287)

CHAPTER VIII

Distribution List

Copies of the Study Report/FEIS have been sent to, and comments have been requested from the following: Note - Those with an S after their name requested a summary instead of an FEIS.

Federal Agencies and Officials

Army Corps of Engineers
Centers for Disease Control and Prevention
Eldorado National Forest
Federal Highway Administration, Region 9
Lake Tahoe Basin Management Unit
The Honorable Dianne Feinstein
The Honorable Barbara Boxer
The Honorable Harry Reid
The Honorable Richard Bryan
The Honorable Barbara Vucanovich
The Honorable Wally Herger
The Honorable John Doolittle
The Honorable Tim Leslie
The Honorable Bernard Richter
The Honorable David Knowles
Toiyabe National Forest
US Environmental Protection Agency
US Bureau of Mines (Spokane, Washington)
US Department of Interior (Washington, D.C.)
USDA Soil Conservation Service (So Lake Tahoe, Ca)
USDA Forest Service (Washington Office)
USDA Forest Service, Intermountain Region
USDI Bureau of Indian Affairs (Carson City, Nv)
US Department of Transportation (Washington, D.C.)
USDI Fish and Wildlife Service
USDI Bureau of Reclamation (Carson City, Nv)
USDI Geological Survey (Carson City, Nv)

State and Local Agencies

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Alpine County Board of Supervisors
California Department of Forestry and Fire Control
California Department of Fish and Game
California Department of Transportation (CALTRANS) -S-
California Department of Water Resources
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California Office of Planning and Research
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Libraries:
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Nevada State Department of Conservation and Natural Resources -S-
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Nevada County Planning Department
Nevada State Division of State Parks
Northern Sierra Air Quality District
North Tahoe Chamber of Commerce
Placer County Environmental Health
Placer County Board of Supervisors
Placer County Planning Department
Resources Agency of California
Sierra Valley Water Company
Sierra County Board of Supervisors
Sierra County Planning Department
South Tahoe Public Utilities District
Tahoe City Public Utility District

Tahoe-Donner Association
Tahoe Regional Planning Agency
Tahoe-Truckee Sanitation Agency
Town of Truckee
Truckee Fire Protection District
Truckee-Donner Public Utilities District
Truckee-Donner Recreation and Parks District
University of California, Sagehen Field Station
University of California, Berkeley
Washoe County Parks and Recreation
Washoe County Regional Water Management Agency
Washoe County Comprehensive Planning

Indian Tribes

Fallon Paiute-Shoshone Tribes
Native American Heritage Commission
Pyramid Lake Paiute Tribe
Washoe Tribe of Nevada & California

Businesses/Organizations

American Rivers
California Native Plant Society
California Forestry Association
California Association of Four Wheel Drive Clubs
Fibreboard
Friends of the River
High Sierra Motorcycle Club
League to Save Lake Tahoe
North Tahoe Trail Dusters
Sierra Pacific Power Company
Sierra Club, Mother Lode Chapter
Sierra Club, Toiyabe Chapter
Sierra Pacific Industries
Siller Brothers
South Yuba River Citizens League
Tahoe Sierra Preservation Council
Tahoe Donner Historical Society
Tahoe Donner Association
The Nature Conservancy

Truckee Chamber of Commerce
Truckee-Carson Irrigation District
Wilderness Society
California Wilderness Coalition

Newspapers

Auburn Journal (Auburn, Ca)
Union (Grass Valley, Ca)
Gazette-Journal (Reno, Nv)
Loyalton Booster (Loyalton, Ca)
Mountain Messenger (Downieville, Ca)
Nevada Appeal (Carson City, Nv)
Record Courier (Douglas County, Nv)
Sacramento Bee (Sacramento, Ca) -S-
Sierra Sun (Truckee, Ca)
Tahoe Daily Tribune (So Lake Tahoe, Ca)
Tahoe World Newspaper (Tahoe City, Ca)

Individuals

John and Judy Hodge	Alice Jensen	Allan Muth -S-
Dave Pratt	Carl R. Gustafson	John Skoverski
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APPENDIX A

Management Guidelines for Wild, Scenic, and Recreational River Corridors

The following guidelines provide general management direction for National Forest lands for recommended and designated Wild, Scenic, and Recreational River corridors and that a more specific Management Plan is developed after Wild and Scenic River designation.

WILD RIVERS

Timber Production: Cutting of trees will not be permitted except when needed in association with a primitive recreation experience (such as clearing for trails and protection of users) or to protect the environment (such as control of fire). Timber outside the boundary but within the visual corridors, will be managed and harvested in a manner to provide special emphasis to visual quality.

Water Supply: All water supply dams and major diversions are prohibited.

Hydroelectric Power: No development of hydroelectric power facilities would be permitted.

Flood Control: No flood control dams, levees, or other works are allowed in the channel or river corridor. The natural appearance and essentially primitive character of the river area must be maintained.

Mining: New mining claims and mineral leases are prohibited within 1/4 mile of the river. Valid claims would not be abrogated. Subject to regulations (36 CFR 228) that the Secretaries of Agriculture and Interior may prescribe to protect the rivers included in the National System, other existing mining activity would be allowed to continue. Existing mineral activity must be conducted in a manner that minimizes surface disturbance, sedimentation, and visual impairment. Reasonable access will be permitted.

Road Construction: No roads or other provisions for overland motorized travel would be permitted within a narrow incised river valley or, if the river valley is broad, within 1/4 mile of the river bank. A few inconspicuous roads leading to the boundary of the river area at the time of study will not disqualify wild river classification. Also, unobtrusive trail bridges could be allowed.

Agriculture: Agricultural use is restricted to a limited amount of domestic livestock grazing and hay production to the extent currently practiced. Row crops are prohibited.

Recreation Development: Major public-use areas, such as large campground, interpretive centers, or administrative headquarters are located outside the wild river area. Simple comfort

and convenience facilities, such as fireplaces or shelters may be provided as necessary within the river area. These should harmonize with the surroundings.

Structure: A few minor existing structures could be allowed assuming such structures are not incompatible with the essentially primitive and natural values of the viewshed. New structures would not be allowed except in rare instances to achieve management objectives (i.e. structures and activities associated with fisheries enhancement programs could be allowed).

Utilities: New transmission lines, gas lines, water lines, etc, are discouraged. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way are indicated, the scenic, recreational, and fish and wildlife values must be evaluated in the selection of the site.

Motorized travel: Motorized travel on land or water could be permitted, but is generally not compatible with this classification.

SCENIC RIVERS

Timber Production: A wide range of silvicultural practices could be allowed provided that such practices are carried on in such a way that there is no substantial adverse effect on the river and its immediate environment. The river area should be maintained in its near natural environment. Timber outside the boundary but within the visual scene area should be managed and harvested in a manner which provides special emphasis on visual quality.

Water Supply: All water supply dams and major diversions are prohibited.

Hydroelectric Power: No development of hydroelectric power facilities would be allowed.

Flood Control: Flood control dams and levees would be prohibited.

Mining: Subject to regulations at 36 CFR 228 that the Secretaries of Agriculture and the Interior may prescribe to protect the values of rivers included in the National System, new mining claims and mineral leases could be allowed and existing operations allowed to continue. However, mineral activity must be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment.

Road Construction: Roads may occasionally bridge the river area and short stretches of conspicuous or longer stretches of inconspicuous and well-screened roads or screened railroads could be allowed. Consideration will be given to the type of use for which roads are constructed and the type of use that will occur in the river area.

Agriculture: A wider range of agricultural uses is permitted to the extent currently practiced. Row crops are not considered as an intrusion of the "largely primitive" nature of scenic corridors as long as there is not a substantial adverse effect on the natural-like appearance of the river area.

Recreation Development: Larger scale public use facilities, such as moderate size campgrounds, public information centers, and administrative headquarters are allowed if such structures are screened from the river. Modest and unobtrusive marinas also can be allowed.

Structures: Any concentrations of habitations are limited to relatively short reaches of the river corridor. New structures that would have a direct and adverse effect on river values would not be allowed.

Utilities: This is the same as for wild rivers.

Motorized Travel: Motorized travel on land or water may be permitted, prohibited or restricted to protect the river values.

RECREATIONAL RIVERS

Timber Production: Timber harvesting would be allowed under standard restrictions to protect the immediate river environment, water quality, scenic, fish and wildlife, and other values.

Water Supply: Existing low dams, diversion works, rip rap and other minor structures are allowed provided the waterway remains generally natural in appearance. New structures are prohibited.

Hydroelectric Power: No development of hydroelectric power facilities is provided.

Flood Control: Existing flood control works may be maintained. New structures are prohibited.

Mining: Subject to regulations (36 CFR 228) that the Secretaries of Agriculture and the Interior may prescribe to protect values or rivers included in the National System, new mining claims and mineral leases are allowed and existing operations are allowed to continue. Mineral activity must be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment.

Road Construction: Paralleling roads or railroads could be constructed on one or both river banks. There can be several bridge crossings and numerous river access points.

Agriculture: Lands may be managed for a full range of agricultural uses, to the extent currently practiced.

Recreation Development: Campgrounds and picnic areas may be established in close proximity to the river. However, recreational classification does not require extensive recreation development.

Structures: Small Communities as well as dispersed or cluster residential developments are allowed. New structures are allowed for both habitation and for intensive recreation use.

Utilities: This is the same as for wild and scenic river classifications.

Motorized Travel: Motorized travel on land or water may be permitted, prohibited or restricted. Controls will usually be similar to surrounding lands and waters.

APPENDIX B

Findings of Eligibility and Classification

The Wild and Scenic Rivers Act and the Final Revised Interagency Guidelines for Eligibility, Classification, and Management of River Areas (47 Federal Register 39454, September 7, 1982) provide direction for determining the eligibility and classification of study rivers.

ELIGIBILITY

To be eligible for designation as a component of the National Wild and Scenic Rivers System, a river must be free flowing which is defined by the Act as: "Sec. 16. (b) "free-flowing", as applied to any river or section of a river, 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: Provided, That this shall not be construed to authorized, intend, or encouraged future construction of such structures within components of the national wild and scenic rivers system.

A river also must possess one or more of the following as outstandingly remarkable values: (1) scenic, (2) recreational, (3) geological, (4) fish and wildlife, (5) historic or cultural (6) other values, including biological or ecological. This is a subjective judgement by the Interdisciplinary Team (IDT) to determine whether a feature is outstandingly remarkable. The process requires the study team list all of the special values of the river study area and then assess whether they are very rare or unique within the State(s) or Nation, or are superior examples of values that may be found elsewhere. Another option of the study team is to use the river's physiographic or hydrologic region as the geographic framework for comparison and modify it if necessary to reflect use patterns, etc. For recreation features, the region may be defined based on the population the resource serves, while for archaeological sites, it may be most appropriate to define the region as the area inhabited by the culture involved. Studies conducted in the Pacific Northwest on rivers have recommended going further to include those features that are "exemplary" (common but important types -- things that typify the nations's diversity) as well as rare features.

CLASSIFICATION

There are three classifications of rivers, or river segments, in the National Wild and Scenic Rivers System -- wild, scenic and recreational. Classification is based on the condition of the river and the adjacent lands at the time of the study. Table 3.2 shows the miles of wild, scenic, and recreational segments on each river. The act defines these classifications as follows:

- a) **Wild River.** Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and water unpolluted. These rivers represent vestiges of primitive America.

- b) **Scenic River.** Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- c) **Recreational River.** Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundments or diversion in the past.

INTERDISCIPLINARY TEAM (IDT) PROCESS FOR ELIGIBILITY DETERMINATION

Background

In the fall of 1990 the Tahoe National Forest requested potential candidate streams to be listed from all five Ranger Districts, Supervisor's Office resource specialists, and conservation groups. In addition to the names of the streams, resource information about each stream was requested to help identify potential Outstandingly Remarkable (OR) resource values. The specific values under consideration were those identified in handbook direction and the Wild and Scenic River Act. These were described previously. The Supervisor's Office resource specialists were asked to systematically review known resource information for their specialty and identify additional candidate streams. Some specialists reviewed information inventoried on 1:24,000 quad sheets while others referred to lists of resource values such as the list of threatened and endangered species. Based on these reviews and input from the Districts and environmental groups a final list of 70 streams and rivers were identified for formal review by the Forest Wild and Scenic Rivers IDT.

Interdisciplinary Team

The IDT was formed by Supervisor's Office (SO) resource specialists, District personnel with resource knowledge or field knowledge of the streams under consideration, resource officers, some District Rangers, and the ID team leader who was the Wild and Scenic River Coordinator for the Forest. In addition two member of the public served as observers to ensure that a fair and balanced process was being conducted. The Executive Director of the South Yuba River Citizens League (SYRCL), Mary Haughey, and District Manager for Sierra Pacific Timber, Tim Fellers, observed the meetings. In some of the meetings Robert Ingrham represented Tim Fellers. Both citizens brought information forward on certain streams and commented on the process of the team. The IDT meetings were conducted on each District in the late winter and early spring of 1991 to determine the eligible streams.

The Process

1. The first step was to ask the appropriate members of the IDT to provide a general description of the stream being considered. Usually this was a District person familiar with the stream. In some cases additional information was provided by resource specialists who had conducted stream surveys or other field surveys in the vicinity.

2. Based on this discussion the first issue to be determined was whether the stream was free flowing. The answer was yes or no. For some streams there was lively debate on this issue because the definition of free flowing requires interpretation.
3. The third step was to review the known resource values for the stream. Each resource area listed above was described and important values identified. At this point there was purposely no effort to ask specialist whether they thought the resource values were outstandingly remarkable.
4. After all the resource values were objectively described, the team was asked to determine the level of significance for each resource. The team discussed the relative significance of each resource area and based on the discussion assigned a number from zero to 4. Zero indicated no value present, 1 indicated the value was not significant, 2 indicated a resource value of local significance, 3 indicated regionally significant resources, and 4 indicated values of national value. The numbers assigned to each resource represented the discussion and were not used in any mathematical formula that would determine eligibility.
5. The last step of eligibility was making a determination that there were outstandingly remarkable values identified for a river. Generally regional and national values were the key indicators of outstandingly remarkable values. The IDT put a lot of effort into this last step because there were many factors to consider and there was no automatic assumption that if a resource value was regionally or nationally significant that it was eligible. In some cases there were values of national significance identified, but the stream was not considered eligible because the value was not within the stream corridor for any significant length. Each situation was determined on a case by case basis. The final notes for the eligibility determination capture the final determination but do not demonstrate the complexity of discussion and the amount of effort made by the team to reach these conclusions.
6. Seven District meetings were conducted by the IDT to develop a list of streams considered tentatively eligible. A final meeting was conducted in August of 1991 to review the entire list of streams and ensure that from a Forestwide perspective all streams identified as eligible truly met the meaning of outstandingly remarkable. Two or three streams were dropped from the list during this meeting. Duncan Creek on Foresthill District was dropped from the list at a later time when subsequent field work indicated that no rare plants existed within the stream corridor.

Classification

Additional meetings were conducted with each District and the IT leader to finalize the recommended classification for each river determined to be eligible. In some cases additional forest staff were recruited for this task who had field knowledge of road locations, timber management activities, and other kinds of development that affect the classification of river segments. These meetings were conducted in the Fall of 1991 and information finalized in the winter of 1992.

Interdisciplinary Team Members:

Supervisors Office

Philip Horning, ID Team Leader
Landscape Architect and Recreation
Kathy Van Zuuk, Forest Botanist
& ecological values
Ron Medel, Forest Fisheries Biologist
Diana Craig, Wildlife Biologist
Donna Day, Assist Forest Archaeologist
Ann Boyd, Geologist
Ann Carlson, Fisheries Biologist

Downieville District

Bill Haire, Resource Officer
Steve Underwood, Wildlife Biologist
Dennis Stevens, Archaeologist
Hank Meals, Archaeologist
Dick Zembiac, Minerals Officer
Alan Doer, Forester

Foresthill District

Harlan Hamburger, Resource Officer
Nolan Smith, Archaeologist
Matt Triggs, Wildlife Biologist

Truckee District

Rick Maddalena, Recreation Officer
Fran Herbst, Dispersed Recreation Officer
Carrie Smith, Archaeologist
Keith Mickelson, Resource/Lands Officer

Lake Tahoe Basin Management Unit

Lisa O'Daly, Planner
Julie Perrochet, Fisheries
Penny Rucks, Forest Archaeologist
Kathy Erwin, Wildlife
Jeff Reiner, Grazing
Susan Norman, Hydrology
Lori Alessio, Sensitive Plants

Sierraville District

Steve Bishop, District Ranger
Fred Kent, Resource Officer
Michael Baldrice, Archaeologist
Robert Frost, Fire Prevention

Nevada City District

Nolan Smith, Archaeologist
Dave Connell, Wildlife Biologist
Robert Cary, Forester
Donn Thane, Forester

RIVERS DETERMINED TO BE NOT ELIGIBLE - EASTSIDE RIVERS

River	Comments
Cold stream/Hwy. 89	Not free-flowing
Cold stream/Mt. Lola	*
Smithneck Creek	
Berry Creek	
Little Truckee River/ between Stampede and Boca	Not free-flowing
Five Lakes Creek	
Prosser Creek/ North and South Forks	
Silver Creek	
Pole Creek	
Upper Cold Creek/ tributary to Cold Creek	
South Fork Cold Creek/ tributary to Cold Creek	

* Where there are blanks these streams were determined to not be eligible because no outstandingly remarkable values were identified by the ID team.

STUDY RIVERS

The Eastside or Truckee River Basin Wild and Scenic River study evaluates the suitability of eight eastside study rivers, including the Upper Truckee River which was determined eligible for suitability study by an Interdisciplinary Team from the Lake Tahoe Basin Management Unit. Specific eligibility information for the west side rivers is available for review at the Forest Supervisors Office in Nevada City, California.

The outstanding values of the rivers studied in detail in this EIS are described below:

1. Truckee River

Background - The eligible river originates from the waters of Lake Tahoe at 6,240 feet and drops to about 5,780 feet over 11 miles near the town of Truckee. The surrounding slopes are covered with a conifer forest. In the corridor itself, mixed conifer occur on the east side and true fir on the west side. Highway 89 borders the entire segment, offering numerous access points. This level of accessibility helps define the river's character as a type of linear park. Frequent pullouts along the roadway enable people to park and unload their picnic and camp equipment and carry them to the shoreline. The first four miles between Tahoe City dam and the River Ranch, is also paralleled by a bikepath constructed and maintained by the Tahoe City Public Utility District (TCPUD). Past River Ranch, river access needs are provided by the developed recreation sites managed by the Forest Service.

A summertime use that became popular, and somewhat controversial, in the 1970's is rafting or floating the river and general water sports. The Truckee River between Tahoe City and the River Ranch is a very placid reach of water and popular for water sports including floating with rafts, inner tubes, and air mattress. Placer County regulates commercial rentals along the river between the dam at Tahoe City and the River Ranch. Noncommercial use has increased and the TCPUD

developed a public launch facility and parking area near the "Y" at Tahoe City. Adequate flows for water sports can be maintained throughout the summer, except under drought conditions.

The Truckee River is Lake Tahoe's only outlet. A dam built in 1865 controls the release of Tahoe's waters, the top six feet which (regulating up to 745,000 acre feet of water) are operated as a reservoir, ultimately draining into Pyramid Lake. The natural level of the outlet from the lake is 6,223 feet; however, the quantity of inflow and operation of the gates at the Tahoe City dam can store a maximum level of 6,229 feet. When the lake level is below the natural rim, there are no flows in the Truckee. Although there have been discussions about pumping water from Lake Tahoe during extreme droughts, no pumping has occurred in recent years, other than a limited amount to keep the fish alive that were trapped near the dam.

Flows are controlled by the dam at Tahoe City and are managed within two management constraints. Current minimum in-stream flow requirements are 50 cu ft/sec in the winter and 70 cu ft/sec during the summer period in order to maintain fish habitat. Flows are coordinated with releases from other reservoirs within the Truckee River Basin to maintain a flow of 500 cfs near the California/Nevada State line, known as the Floriston rates. In a normal year, the average release from the Tahoe City dam is 250 to 350 cfs. A flow of 125 cu ft/sec is considered the minimum flow needed to float the river.

Free Flowing

The segment of the Truckee from Lake Tahoe to Truckee City meets the intent of the criteria. There are some modifications to the river, but they are not significant enough to effect its free flowing characteristics. The banks along the Deer Park Picnic Area have been rip-rapped to prevent erosion at this heavily used site. Further, boulder placement at the Caltrans project (at the highway's river crossing) tends to look artificial, but this could be mitigated.

Determination of Outstandingly Remarkable Characteristics

Recreation

The Truckee River is heavily used by the general public for hiking, biking, fishing, water sports (floating and kayaking), swimming, camping, picnicking, horseback riding, snowmobiling, snowplay, and skiing. The ease of access and the proximity to Lake Tahoe add to the area's attractiveness as a recreation corridor. The intensity and diversity of recreational uses along the Truckee River combine to make outstandingly remarkable recreation values. Criteria to make this determination included: (this criteria was also used to evaluate recreation values for all study rivers).

-Diversity of recreation opportunities: Number of potential/actual activities participated within the area.

-Quality/uniqueness of existing recreation opportunities: Comparative number of percent of similar opportunities available in the region.

-Level of use: Number of user days, visitor hours, or other measure of use levels.

-Access: Ease of access (trailheads, etc., accessibility by road): availability of access points; proximity to population centers.

- Character/naturalness: Pristine quality; level of wildness/remoteness; extent of undeveloped area.
- Presence of interesting natural features or wildlife: Number and type of points or features of interest.
- Scenic quality: Presence of panoramic views and other scenic qualities.
- Number/type recreation sites/facilities: Extent of appropriate facility development; potential/existing camping areas, trailheads, trails etc.
- Length of boating season: Number of weeks/months and time of year the river is navigable and boatable at reasonable conditions.
- Class/difficulty of river segment.
- Length of run/river segment: The actual length of navigable river available to recreational river runners and average time required to boat the segment.

Scenic Quality

The Truckee River Canyon from Tahoe City to Truckee is rated as a variety class A landscape which means that it has high visual diversity and high scenic quality. The water features of deep pools, riffles, and small rapids, excellent water quality and riparian vegetation make the river corridor a very attractive setting. Within the corridor, there are occasional rocky bluffs with vertical cliffs and steep talus slopes sometimes down to the river bank.

Overall, while the features are attractive, there are no dramatic water features such as roaring rapids or waterfalls. The study team did not identify any features that would indicate the potential for Outstandingly Remarkable visual characteristics.

Cultural Resources

The Truckee River was an important transportation corridor for the Native American Washoe who traveled to Lake Tahoe along the river. The area was inhabited by the Washoe during the spring and summer months with Lake Tahoe and the Truckee River system supplying fish, a food source critical to Washoe subsistence. There are several recorded prehistoric village sites along the banks of the lower Truckee River which are eligible for listing on the National Register of Historic Places. These prehistoric sites are considered to have outstandingly remarkable values.

The railroad bed for the Lake Tahoe Railroad and Transportation Company parallels the Truckee River. This railroad served as the primary transportation link to Lake Tahoe prior to the automobile and was intrinsic to the development of the North Shore of Lake Tahoe. The Knoxville Townsite, which was a former boomtown whose ore was found to be worthless, is also adjacent to the river. Further, historic logging along the river corridor has left several logging related features such as splash dams and mill sites.

The railroad bed for the Lake Tahoe Railroad and Transportation Company is eligible for listing on the National Register of Historic Places.

Geology

The geology of the Truckee River Canyon is not unusual, but is characteristic of the Sierra Nevada. However, it is not a "textbook" example of such a river. The Study Team did not find the geological features to be outstandingly remarkable.

Fisheries

The Truckee River provides a significant fisheries resource and the California Department of Fish and Game (CFG) recognizes the reach from Tahoe City to Truckee as the most important trout spawning area on the entire main stem of the Truckee River. CFG's entire trout planting program on the main stem of the Truckee is concentrated in this area. Other game fish species found in the area include rainbow, brown, brook, and Lahontan cutthroat trout, and mountain whitefish. The Truckee River also provides important habitat for native non-game species including: Lahontan redband, Lahontan speckled dace, Tahoe sucker, mountain sucker, Paiute sculpin, and Lahontan tui chub. The easy access along Highway 89, combined with numerous CFG trout plants throughout the season, produce highly successful angler experiences. The recreational fishing experience adds to the diversity of recreational opportunities for the area and the recreational OR values. The fisheries values, alone, were not considered outstandingly remarkable.

Wildlife

Wildlife found along the Truckee River are typical of the Canadian Life Zone as species are associated with Red fir, lodgepole, and meadow/willow/alder habitats. Species include mule deer, beaver, waterfowl and pine marten. Spotted owls occupy adjacent stands of older forests near the Deer Creek drainage. Bald Eagle's roost along the river area sporadically during the winter. However, the Team did not find wildlife values significantly higher than similar habitats in the Sierra, and did not identify any outstandingly remarkable wildlife values.

Botanical and/or Ecological Values

The Lower Truckee corridor provides typical high elevation riparian associations along the riverbanks and a conifer environment away from the river. The previously endangered *Berberis (Mahonia) sonnei* is no longer on the threatened and endangered list. As a result of this action, botanical values are not considered to be outstandingly remarkable. Other ecological values are considered typical for the Sierra and there are no other outstandingly remarkable ecological values known within the river corridor.

Conclusion

The Truckee River was determined eligible for Recreational River status under the Wild and Scenic Rivers Act. This recommendation is based on the fact that the river is free flowing between Tahoe City and Truckee and possesses outstandingly remarkable Recreation and Cultural Resource values.

2. Coldstream Canyon (Emigrant Canyon)

Background

Emigrant Canyon, a fork of Coldstream Canyon, is 5.2 miles long, and flows from a scenic canyon which lies just south of the Donner State Park. Coldstream Canyon flows into Donner Creek just below or east of the Donner State Park. Most of the land ownership is private, although the California State Parks is in the process of acquiring an additional one mile of stream frontage. Much of the private land within the area has logged or is scheduled for logging.

Free Flowing

The stream meets the criteria as free flowing. There are no impoundments on the stream.

Determination of Outstandingly Remarkable Characteristics

Recreation

Recreation use is limited in the area and consists mostly of day hikes along the Pacific Crest Trail and into the headwaters. Other dispersed use includes fishing and mountainbikes. Recreation use is typical of the Sierra and the Team determined there are no outstandingly remarkable recreation features.

Scenic

Coldstream Canyon (Emigrant Canyon) is considered to be highly scenic with high spatial definition. The scenic values are complimentary to other outstandingly remarkable features and the scenic values are not considered outstandingly remarkable.

Cultural Resources

The Truckee River Route of the California Overland Emigrant Trail parallels much of Coldstream and Emigrant Canyon. All of the various components (i.e., routes, cutoffs, branches) of the California Overland Emigrant Trail achieved National Trail status in August 1992. This trail is considered to be an outstandingly remarkable value.

Geology

There are no unique or specially significant geological features within the area. There is a granite bowl located at the top of the creek displaying some glaciation, but overall the area does not contain any outstanding remarkable geological features.

Fish and Wildlife

Coldstream Canyon (Emigrant Canyon) supports populations of brook and brown trout. Lahontan reddsides have also been observed. There is a good potential habitat for native fisheries including Lahontan cutthroat trout. There is habitat for pine marten and goshawk, both old-forest dependent species. The area has been heavily logged leaving a network of riparian stringers throughout. The fisheries and wildlife values are not considered outstandingly remarkable.

Botanical and Ecological Values

There are no known Threatened or Endangered species, although there is a potential for four sensitive Ivesia species. The botanical and ecological values are typical for the Sierra and no outstanding remarkable features were identified.

Conclusion

The Stream is eligible due to significant cultural resources. The Emigrant trail is considered outstandingly remarkable due to its relationship to a nationally significant historical event. Based on identifying the historical resources as outstandingly remarkable, Coldstream Canyon has been determined to be eligible as a National Recreational River.

3. Alder Creek

Background

Alder Creek is 6.4 miles long with its headwaters just above or west of the Tahoe-Donner development. The stream flows east to Prosser Reservoir. Approximately 60% of the lands adjacent to the stream are managed by the Tahoe National Forest and the remaining 40% are privately owned, with numerous small private land ownerships.

Roads parallel both sides most of the stream for 90% of the length of the creek. Part of the area is within the 1960 Donner Ridge fire. Tahoe-Donner is a land development project that has a small ski area and a golf course in addition to the real estate development.

Free Flowing

The stream meets the criteria of free flowing.

Determination of Outstanding Remarkable Characteristics

Recreation

Donner ski area and the Tahoe-Donner golf course are part of a large planned community real estate development. Other recreation activities include a variety of dispersed uses such as walking, driving for pleasure, and bird watching. Recreation use is limited and for the most part users are homeowners in the general area. There are no outstandingly remarkable recreation features in the area in the opinion of the study team.

Scenic

Scenic values are generally moderate and the spatial definition is low. The area does not contain any outstanding remarkable scenic values.

Cultural Resources

The Donner Camp, used by the George and Jacob Donner Families of Donner Party fame, is located on the lower reaches of Alder Creek. Professional Historians generally agree that a branch of the California Overland Emigrant Trail did not follow Alder Creek. Additionally, there is a

sawmill site and a large, complex prehistoric basalt quarry site adjacent to the creek. The Donner Camp is eligible for listing on the National Register of Historic Places and constitutes an outstandingly remarkable value. The sawmill was recently determined eligible for listing on the National Register of Historic Places.

Geology

The geology is common to the Sierra and there are no outstandingly remarkable characteristics.

Fisheries and wildlife

Alder Creek supports three trout species, brook, rainbow, and brown. Brook trout are the most numerous, rainbow trout are moderately abundant, and there are only a few brown trout at this time. Rainbow trout from Prosser Reservoir spawn in the lower end of the stream, just above the reservoir. There are no known fish or wildlife Threatened or Endangered species associated with this stream, although there is an active beaver population and a growing wildlife population. Overall, the wildlife and fisheries values are not considered outstanding remarkable.

Botanical and Ecological

There are no known unique plant communities or Threatened or Endangered species within the area. There is potential for four Ivesia species, *Silene invis*a and *Eriogonum umbellatum* var. *torreyanum*, all Forest Service sensitive species. Overall the botanical and ecological values are not considered outstandingly remarkable.

Conclusion

The nationally significant Donner Camp is located in the lower reaches of the creek. This is the location of the site where the Donner family actually camped which is separate from the rest of the party which camped at Donner Lake. There is a split in professional opinion as to whether the overland emigrant trail followed over this route. The site is eligible for listing on the National Historical Register.

4. Sagehen Creek

Background

Sagehen Creek is an eight mile long segment which flows from its headwaters to Stamped Reservoir. The lands adjacent to the stream are entirely National Forest System Lands and are managed by the Tahoe National Forest. The University of California at Berkeley has a field research station in the Sagehen Basin and has conducted a variety of research activities on National Forest lands within the Sagehen Basin since 1951. There have been over 178 research publications, 27 Ph.D. dissertations and 27 M.S. theses based on work at Sagehen Creek Field Station. The primary research emphasis has been basic research on the ecology of aquatic and terrestrial species and communities with an emphasis on management of wildland resources.

Free Flowing

Sagehen is a free flowing stream and free from any impoundments. The stream channel condition is natural except where roads cross.

Determination of Outstandingly Remarkable Characteristics

Recreation

Forest Service management direction within the Sagehen Basin has not encouraged intensive recreation use because of the long term research activities being conducted throughout the basin. There is a small campground on Sagehen Creek and light dispersed recreation such as fishing and deer hunting occurs throughout the basin. There are no outstandingly remarkable recreation values in the area.

Visuals

The Sagehen headwaters have a high visual quality while the remaining area is considered moderate to low in visual quality. The Study Team did not consider visual quality to be an outstandingly remarkable factor in the Sagehen Creek area.

Cultural Resources

The Sagehen basin was logged beginning in the 1870's. Evidence of these early animal and railroad based logging systems and associated sites are still visible. The basin is considered eligible for listing on the National Register of Historic Places as a historic district. The values are considered to be outstandingly remarkable.

Geology, Hydrology, Vegetation, and Ecological Resources

The Sagehen headwaters are an intact glacial cirque. The Sagehen cirque is a vernal pool and has a population of vernal quillwort (*Isoetes bolanderi*) which is not widely distributed on the TNF. The number of springs (over 20) gives rise to fens which are part of a complex hydrological system and are considered to have significant value for research purposes. These fens are unique vegetative communities with 40 different plant species, including two sundews, *Drosera rotundifolia* and *Drosera anglica*. Mosses dominate the peatlands, especially *Drepanocladus* and *Cratoneuron* species, several monocot species, as well as shrubs. A fen generally has continuous running water and consequently a higher pH and different plant community from a bog (which generally have impounded water, lower pH and the diagnostic presence of *Sphagnum* mosses - a situation more common along the Canadian Shield and in eastern North America). These fens are the largest and most extensive on the Forest.

There are known occurrences of *Ivesia sericoleuca* and *Silene invisa* within the study area. Both are Forest Service sensitive species.

The largest fen in the area - Mason Fen, was proposed by the Tahoe National Forest in their Forest and Resource Management Plan for designation as a Special Interest Area, an administrative designation that is intended to identify areas with special or unique values, and provide protection of these values.

The biological diversity within Sagehen along with the historical values are clearly outstandingly remarkable features in the view of the study team.

Fisheries and Wildlife

Sagehen Creek is an eastside Sierra stream and has received extensive research over the years. The stream supports five native fish species in greater abundance than other similar creeks in the area. All the native fish which includes the Lahontan redbreast, speckled dace, Tahoe sucker, mountain sucker, and Paiute sculpin are listed by the California Department of Fish and Game as State species of Special Concern. Sagehen Creek also supports brown, brook, and rainbow trout.

A number of Forest Service Sensitive species exist in the area and research has been directed toward understanding them. These include the pine marten, Sierra red fox, and the goshawk. There are a number of habitats within the area including extensive riparian areas, fens and bogs, a mixed conifer forest, and the area is within part of the Donner Ridge fire, which burned in 1960. The area is generally representative of the east slope of the Sierra and probably the key fish/wildlife value in the area is the availability of data from the research. The native fish community in Sagehen Creek is both unique and has outstandingly remarkable values. Additionally, there are several rare caddis fly species inhabiting Sagehen Creek.

Conclusion

Sagehen Creek hosts numerous interrelated outstandingly remarkable values that is best identified as ecosystem values. The stream is also considered highly representative of eastside Sierra Nevada stream ecology for native fisheries. The interdependence of values increases its level of significance including the broader hydrology is also likely to be involved in supporting two class I (T&E) invertebrates in the stream. This ecological significance supports the stream being outstandingly remarkable and also supports the hydrology, geology, wildlife, fisheries, and plants being considered outstandingly remarkable. This is the best ecological/botanical value of the eastside rivers. Fisheries by itself is considered unique and outstandingly remarkable due to the natural assemblage of native fish. The University of California Research Station has provided extensive and professional reports and papers on the natural resources in and around Sagehen Creek over many years. These research values are considered a complementary OR value. In addition the cultural values of the often intact steam engine logging technology remnants is also considered regionally significant and therefore outstandingly remarkable.

5. Upper Independence Creek

Background

The eligible reach of Upper Independence Creek is the two mile of stream above Independence Lake to its headwaters. Access to Upper Independence Creek is via one of two roads that parallel the north and south side of the lake. The roads terminate just short of the west end of the lake and access is controlled by the private property surrounding the lake. The stream above the lake is accessible only by trail and considered a "pristine" area. Upper Independence Creek, approximately 1/4 mile above the lake, flows entirely through National Forest System lands

managed by the Tahoe National Forest. Upper Independence Creek is one of two streams being considered for "Wild" River designation out of the eight rivers in this study.

Independence Lake is a natural lake where the water level has been raised by construction of a dam. The dam provides an additional storage of 17,300 acre feet of water that is owned by Westpac Utility, a provider of municipal and industrial water to Reno and Sparks. The storage capacity of the lake varies between an elevation of 6921 feet and 6949 feet.

Free Flowing

Upper Independence Creek, above Independence Lake, is a pristine and natural free flowing stream. Upper Independence Creek drains a small watershed and flows are minimal during the late summer and fall. In 1992, the 7th year of the drought, Upper Independence Creek flows had dropped to intermittent flows during the fall.

Determination of Outstandingly Remarkable Characteristics

Recreation and Visual

Because of the controlled access, the area is remote and pristine. The area above the lake is accessible by trail. Fishing in Upper Independence Creek is closed to protect the Lahontan cutthroat trout, a threatened species, so recreation use is limited to hiking, camping, or birdwatching. Deer Hunting is a popular recreation activity in the Fall.

Scenic values are moderate to high. There is high spatial definition with 2000 foot walls and cliff faces. The valley is a classic "U" shaped or glaciated valley. Independence Lake is located within two lateral moraines left from the glacier.

Cultural Resources

The cultural values within the area include three prehistoric sites and two historic sites which are aspen groves with carvings by early day shepherders. The cultural resources are not considered outstandingly remarkable by the Forest Archeologist.

Geology

The upper section of the drainage is a "U" shaped valley which terminates into a recessional moraine. Hydrologic values are not unique, although the headwaters of the watershed is in excellent condition, most likely due to the fact that it is unroaded and undeveloped.

Fish

The eligible portion of the stream, above Independence Lake, supports a reproducing population of Lahontan cutthroat trout. Generally, as fry the Lahontan cutthroat trout migrate downstream to Independence Lake to live and grow and use Independence Creek to spawn. The creek does support a small number of resident trout and Lahontan reddsides. A key concern for maintenance of the Lahontan cutthroat population is to maintain sufficient water in the lake so that the fish can swim into the upper creek for spawning during the spring. Low water levels during the spring spawning period will create a barrier to the fish.

Wildlife

Bald Eagle is the one Threatened or Endangered species in this drainage. Eagles frequent the area particularly in the fall when the Kokanee Salmon spawn upstream from Stampede Reservoir. The area does provide habitat to a number of Sensitive species including the California Spotted Owl , pine marten, Sierra red fox, and the Pacific fisher. Both owls and bald eagles have been sighted in this area in past years. Upper Independence Creek does have a natural connector with Sagehen Basin and research on the pine marten is currently being conducted in both drainages. Bears have been observed during the Lahontan cutthroat trout spawn along with more common species such as deer and coyotes during the summer season.

Botanical and Ecological

The upper watershed contains a number of fens, meadows and pristine plant communities. The fens are not as large or as extensive as Sagehen Basin. There are stands of old-growth California red fir. The area has never been logged and has received limited grazing in the last 40 years. The upper canyon is probably one of the least changed from man's activities within the Truckee watershed. There are no known TES species within the area. However, there is unsurveyed potential habitat for *Scheuchzeria palustris* var. *americana*, *Vaccinium coccinium*, and four *Ivesia* species.

Conclusion

For the upper reach of Independence Creek fisheries, plants, and scenic values are considered outstandingly remarkable for the following reasons: The fisheries are of national importance primarily because this is the only stream that supports a continuously self supporting Lahontan cutthroat trout population that has not had to have re-introduction of the species. The scenic values are of regional significance due to the classic U shaped valley configuration and the dramatic spatial definition of the valley. The plant values are of regional significance due to the existence of fens which are quite rare in the State of California and known to occur only in Nevada and El Dorado Counties. Based on the outstandingly remarkable values identified above it has been determined that Independence Creek above Independence Lake is eligible as a National Wild River.

6. Little Truckee River

Background

The Little Truckee River is 14 miles long from its origin at Webber Lake to Stampede Reservoir. Much of the Little Truckee is accessible from either State Highway 89 or the Jackson Meadows Road, both paved highways. About 65 percent of the lands along the Little Truckee are National Forest System Lands managed by the Tahoe National Forest. The remaining lands are in private ownership in the nature of large blocks. Many of the significant meadows that lie along the Little Truckee are privately owned. The privately owned lands are primarily used for livestock grazing and logging, although there is a large, privately owned recreation complex on Webber Lake.

Free Flowing

Webber Lake, near the origin of the Little Truckee has a small dam used primarily to hold water for recreational purposes. Further down the drainage a trans-drainage diversion was constructed prior to the turn of the Century to transfer Truckee River water into Sierra Valley for irrigation purposes. Sierra Valley lies within the Feather River drainage. The Sierra Valley Water users have a small diversion dam on the river just above the junction with the road to Independence Lake where the water to Sierra Valley is diverted. This diversion dam currently is a major barrier to fish migration and diverts most of the stream water during the irrigation season.

Determination of Outstandingly Remarkable Characteristics

Recreation

Recreation activities are mostly dispersed with driving for pleasure along Highway 89 and the Jackson Meadows Road. There are two campgrounds, the upper and lower Little Truckee Campgrounds, dispersed camping in Perazzo Meadows and fishing along the entire river.

The area does provide opportunities for snowmobiling, cross-country skiing, and is the site of Mt Lola which was proposed as a four-seasons destination recreation area.

Scenic

The river flows through a series of meadows with spacious views and the stream meanders through a variety of settings including wide valleys, through the Donner burn, and adjacent to the two major roads. Road construction has changed the channel in a number of locations which resulted in increased flows and some channel cutting as result of the high flows. Visual quality is typical along the east slope of the Sierra and although pleasant, is not considered to be outstandingly remarkable.

Cultural Resources

There are a number of prehistoric and historic sites within the general area of the Little Truckee River including a historic dairy site, a Hobart Estates logging camp, the Sierra Valley Diversion ditch, and the Henness Pass Road. Along the Henness Pass Road are numerous stage stops including Davis Station. Segments of this turnpike and associated stage stops are eligible for listing on the National Register of Historic Places.

Geology and Hydrology

There are no special geological or hydrologic features. The river does have an impressive 100 foot waterfall in three major drops. During spring flows this waterfall is a very impressive scenic feature. There are also fossilized leaves in the canyon below Webber Lake.

Fisheries and Wildlife

The Little Truckee River provides quality habitat for native and non-native species including, brown, brook and rainbow trout, Lahontan reddsides, speckled dace, Paiute sculpin, Tahoe sucker, mountain sucker, and mountain whitefish. A privately owned Fly Fishing Club has about a mile of river that attracts fisherman from out-of-state.

The area supports one of the three largest populations of willow flycatchers, a State listed endangered species, west of Highway 89 in the numerous meadows. Pine Marten, a sensitive species have been seen in the area and there is potential habitat for the Pacific fisher. Thirty bald eagles a T&E species, wintered in 1990 at the inlet to Stampede Reservoir and there is potential habitat for the Great Gray Owl.

Botanical and Ecological

There are a number of fens along the Little Truckee although the total number is not known. The fens are not as large or as extensive as in Sagehen Basin. The river supports extensive areas of riparian habitat and support a number of birds and animals which utilize riparian habitats.

There is a known occurrence of the Forest Service sensitive plant *Ivesia sericoleuca* within the study area. There is also unsurveyed potential habitat for *Vaccinium coccinium*, *Scheuchzeria palustris* var. *americana* and four *Ivesia* species.

Conclusion

The vegetation, wildlife, and cultural resources were identified as outstandingly remarkable. Based on this finding the Little Truckee River has been determined to be eligible as a National Recreational River. The vegetation values were considered outstandingly remarkable because of the fens which are quite rare in the Sierra Nevada. The wildlife values are considered outstandingly remarkable due to the presence of bald eagle nesting sites and the second most extensive population of willow fly catcher in the State. Cultural resources were identified as outstandingly remarkable because of the National significance of the Henness Pass road and the associated historic transportation activities and several historic sites.

7. Perazzo Creek

Background

Perazzo is 3.2 miles long, a tributary of the Little Truckee River, and flows mostly through National Forest system lands managed by the Tahoe National Forest. 0.4 miles of the river does flow through privately owned lands. Access is provided off the Jackson Meadows road via a rough timber road. The meadow complex is probably the most outstanding feature associated with Perazzo Creek.

Free Flowing

Perazzo Creek is a free flowing stream with no impoundments or diversions. The stream, although small, provides sufficient water to support a fishery throughout the summer and fall.

Determination of Outstandingly Remarkable Characteristics

Recreation

There are dispersed activities along the stream including fishing, hunting, and snowmobiling and cross-country skiing. There are two undeveloped campsites along the stream that receive moderate recreation use during the summer period.

Visual

This canyon has high visual quality due to the wide vistas at the lower end of the canyon and the dramatic cliffs that are found at the upper end.

Cultural Resources

An old dairy site is located in the lower meadow and prehistoric sites have been identified in the meadow. The cultural resource values are not considered to have outstandingly remarkable values.

Geology and Hydrology

There are no unique geological or hydrological features in the area.

Fisheries and Wildlife

Perazzo Creek supports native fish of Lahontan reddsides, Tahoe suckers and Paiute sculpins and non-native brook and brown trout. There are several fisheries habitat improvement projects underway or being planned to improve the fisheries habitat in Perazzo Creek.

One of the key wildlife values is the suitable nesting habitat available for the Willow Flycatcher. Pine marten have been seen in the area and there is potential habitat for the Pacific fisher and Great Gray Owl.

Botanical and Ecological

Perazzo Creek and Canyon have an extremely diverse population of plants for a relatively small area. Fens are found in the area along with wet and dry meadows. The fens are not as large or as extensive as Sagehen Basin. Perazzo Creek has an extensive meadow complex. There are large stands of quaking aspen and a great variety of wild flowers including monkey flowers and evening primrose. The area has large vertical rock monuments like stove pipes, grouse, beaver ponds, waterfowl nesting areas habitat for sensitive furbearers. The uniqueness of the Perazzo Watershed is its diversity of land forms and plant communities. There is a known occurrence of *Silene invisa* within the study area.

Conclusion

The plant/ecological associations and the broad diversity of wildlife habitat along with the willow flycatcher are the outstandingly remarkable values for Perazzo Canyon. For plant values fens in particular are considered quite rare and quite valuable. The fens along with bogs, dry meadows, wet meadows, stands of aspen, a wide range of wild flowers and forbs provides a very diverse and

unique plant community. This diverse plant community that provides an extensive riparian community supports many riparian dependent species including the willow fly catcher. The fact that this area has the second highest concentration of willow flycatchers in California indicates a very unique wildlife value. The old growth in the area adds to the diversity and provides valuable habitat for old growth dependent species such as the pine marten.

Based on the above outstandingly remarkable values, it is determined that Perazzo Canyon is an eligible Wild and Scenic River.

8. Upper Truckee River

Background - The part of the Truckee River that flows into Lake Tahoe on the south end of the lake is called the Upper Truckee River. This stream is Lake Tahoe's largest tributary, draining 56.6 square miles of the southern tip of the Tahoe Basin. The Upper Truckee's watershed is about 36,200 acres, 85% of which is in El Dorado County, California and the rest in Alpine County, California. The entire river consists of 14 miles and drops approximately 2,400 feet from its headwaters to Lake Tahoe. The upper 7 miles is totally within National Forest lands and is the portion of the river considered eligible for Wild and Scenic designation. The remaining 7 miles of river flows mostly through private and highly developed lands.

The "backcountry" character of the area called Meiss Country is consistent until it reaches Christmas Valley where there is urban development. Meiss Country includes part of the Upper Truckee watershed from its southernmost tip north to Big Meadow Creek and Benwood Meadow Creek.

The area was known as the Dardanelles or Echo-Carson Roadless Area when it was studied for Wilderness classification and released for other multiple uses by the California Wilderness Act in 1984. Subsequent management has been designed to protect the natural conditions and the LTBMU Forest Plan provides for a continuation of maintaining natural conditions.

Free Flowing - The Upper Truckee River is a natural flowing river without impoundments, diversions, channel straightening, rip-rapping, or other modifications. The area is riverine in appearance and free of high head dams and extensive rip rap and diversions. Watershed restoration projects have been carried out occasionally, but none has extensively modified the channel or its environment.

Determination of Outstandingly Remarkable Characteristics

Recreation

The Upper Truckee River is an easily accessible area popular for non-motorized recreation use. Ten to fifteen thousand recreationists use it each year. Trailheads for access are extensive, and the Pacific Crest Trail, a National Scenic Trail, and the Tahoe Rim Trail traverse the area. Recreational uses include hiking, backpacking, mountain biking, swimming, horseback riding, fishing, and cross country skiing. Primitive recreation is especially appropriate in the area and local residents use it as the alternative of choice to the Desolation Wilderness.

Meiss Country depicts the cultural landscape of the mountain west - complete with pole fences, and the historic cabin/barn complex. The cabin/barn complex is eligible for inclusion in the

National Register of Historic Places and still is used to manage the livestock (cattle) within the area. In the winter, a Forest Service permittee operates a backcountry skiing/ski hut concession. Rather than falling-down remnants more commonly encountered, the working condition of the ranching setting is unique. These features, which are preserved in an area that has never been logged provide a sense of stepping back a hundred years in time. Because of the topography, visitors can see or hear very little from the "outside world" although in reality they are just a few miles from US 50, 88, 89 or the development in Christmas Valley.

The area contains an outstandingly remarkable recreation setting.

Scenic Quality

The southern portion of the Upper Truckee has broad meadows and shallow lakes offering unobstructed views of the high alpine ridges to the east and west. The northern portion is more steeply dissected, with the Pacific Crest's granite terrain and cliffs to the west, and volcanic breccia to the east. Coupled with the dramatic backdrop scenery, the nearview scenery such as the massive volcanic Round Lake Butte is distinctive. Further, the dramatic old Sierra junipers occurring throughout the area add to the special character of the Meiss Country. These landscapes and the extensive meadows from which they are view, created a distinctive visual quality and an outstanding alpine visual setting. These scenic values are considered outstandingly remarkable.

Cultural Resources

Two known cultural sites are located in this watershed: a prehistoric fishing campsite along the river, and the Meiss cabin and barn.

The two story Meiss cabin was constructed in 1878 and was used as a cow camp for over 120 years. The barn, burned by fire, was rebuilt in 1914. The structures are on the banks of the Upper Truckee and it is believed that the river's water source and the adjacent meadow suitable for livestock were the primary reasons for the cabin's location. Both the cabin and barn received an extensive overhaul in 1983 by the grazing permittees. The cabin was used for livestock management during the summer and is used as a shelter for cross-country skiing concession during the winter. The Meiss cabin and barn complex are eligible for listing in the National Register of Historic Places. The National Register nomination is in process. They are considered outstandingly remarkable historic features.

The prehistoric fishing campsite has not received any formal archaeological research. It is known that Native Americans have occupied the Tahoe Basin for thousands of years and it was used intensively spring through fall.

Geology/Hydrology

Like most of the Sierra, the Upper Truckee River has been influenced by both glaciation, vulcanism, and faulting. Most of the area is composed of undulating to very steep granitic, metamorphic, and volcanic rock outcrops and strongly sloping to very steep, stony to gravelly, coarse loamy sands and sandy loams. The rock outcrops range from small, scattered rocks to large areas covering several acres. These outcrops range from small, scattered rocks to large areas covering several acres. These outcrops are largely the result of glaciation.

A special characteristic of several of the riparian stringers is the presence of fens. Uncommon in the Lake Tahoe Basin, these organic soils, are in this case located around a spring.

The conclusion of the study team was that there are no outstandingly remarkable geological or hydrological values, as characteristics are typical of the Sierra Nevada and the Lake Tahoe Basin.

Fisheries

Fisheries habitat is distributed between 20 miles of stream and six lakes. The Streams are the Upper Truckee River and Big Meadow Creek. The lakes are Dardanelles, Elbert, Four, Meiss, Round, and Showers.

The Upper Truckee, because of its large capacity and extensive length, is able to support the greatest number of migratory and resident fish populations of any Lake Tahoe tributary. The Upper Truckee supports rainbow trout, brown trout, eastern brook trout, and Lahontan cutthroat trout.

The Lahontan cutthroat trout is the only native trout to the area. Due to habitat degradation, historical overharvesting, dam and diversion construction on spawning tributaries, and competition from and hybridization with non-native trout, the Lahontan cutthroat is listed as Threatened on the Federal list. The recovery plan developed by the US Fish and Wildlife Service and the California State Department of Fish and Game identified the Upper Truckee as suitable for the restoration of the fish. Restoration began in 1988 with the removal of non-native fish and continued through 1991. In the summer and fall of 1990-91, Lahontan were reintroduced in Meiss Lake and the Upper Truckee. Populations are now self-sustaining; however, some additional non-native fish removal may be necessary in the future. There is the potential for a population of 3,000 fish to exist in the area.

There are outstandingly remarkable fisheries values within the area, including the only self sustaining population of Lahontan cutthroat trout in the Tahoe Basin.

Wildlife

There are a wide variety of wildlife habitats within the Upper Truckee, including habitats for black bear, willow flycatchers, a Forest Service Sensitive species, waterfowl, goshawks, pileated woodpeckers, golden eagles, and key habitat for mule deer.

The California Department of Fish and Game has identified a significant amount of "critical fawning habitat" for mule deer. During the spring, hiding cover is very important to fawns, to provide protection from predators. Willows, corn lilies, and aspen are important components of cover in riparian habitats and all are present along the Upper Truckee.

The Carson Valley and Grizzly Flat deer herds use the area during the spring and summer. Available forage for both herds has been impacted by drought. Loss of habitat due to increased urbanization along the winter ranges is a serious problem to maintenance of the herds. Surveys by CFG have found the does to be in very poor to poor condition.

The critical summer habitat designation for mule deer leads to an outstandingly remarkable wildlife value for the area.

Botanical and/or Ecological Values

The area provides habitat for hidden-petal campion (*Silene invisa*), a Forest Service Sensitive plant. There are populations elsewhere along the Sierra and due to the large number of occurrences of the hidden-petal campion, its presence does not constitute an outstandingly remarkable value for the river corridor.

Conclusion

The Upper Truckee River was determined to be eligible for possible classification as a Scenic river in the Draft EIS. Outstandingly remarkable values contributing to this determination were cultural resources, fisheries, recreation and scenic values, and the wildlife values in the area. Many who commented on the Draft EIS expressed that the Upper Truckee should be recommended as a Wild river, not Scenic. In response to this public input the Forest Service re-examined whether the river could qualify as Wild.

The primary reason that the Forest Service originally felt that the Upper Truckee did not meet the standards of a Wild river was the presence of the Meiss cabin and barn complex, an outstandingly remarkable feature. Located on the streambank of the Upper Truckee, these historic features were believed to move the river segment out of the Wild category because of the "essentially primitive shoreline" requirement of that river classification. In re-examining the issue, the Forest Service Handbook was again consulted. It states that a few inconspicuous structures, particularly those of historic or cultural value like the cabin/barn complex, need not bar Wild classification. These structures affect only a minor portion, in terms of area, of the river segment, and help to define the character of the Meiss Meadow section. Public feedback is that they enhance the river environment in this situation. In addition, past watershed restoration activities have stabilized, but not extensively modified the river. Consequently, in response to public comment, the Forest Service now recommends a Wild designation for the headwater of the Upper Truckee.