

Instream Flows and Recreation on the Truckee River and Selected Tributaries

Report prepared for the Bureau of Reclamation

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Letter of Transmittal

This is a letter of transmittal of the study report, *Instream Flows and Recreation on the Truckee River and Selected Tributaries*. This report represents 7 months of research on the recreational activities, optimum instream flows, recreational river use by activity and segment, recreation-related expenditure data, and estimated recreational use of the Truckee River, Donner Creek, Prosser Creek, and the Little Truckee River. Extensive on-site data collection was undertaken during the peak recreation use period of June, July, and August. The information was gathered during this time by user surveys, observation, and administered surveys to guides and outfitters.

The strength of this paper lies not only in the user survey but also in the fact that much information gathered was acquired through interviews and conversations with professionals who intimately know and understand recreation on the Truckee River. In fact, virtually all guides and outfitters on the Truckee River cooperated and contributed to this study. Without their help, enthusiasm, and cooperation, it would have been difficult, if not impossible, to complete this study.

It is a pleasure to be able to present this report since its findings are backed up by a strong statistical and scientific database. We hope that the report can be used by river managers to plan and manage the water flows and recreation on the Truckee River and its tributaries in concert with other beneficial uses and for the benefit of all users.

Sincerely,



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Contents

	<i>Page</i>
1. Introduction	1
The Truckee River and its Importance for Recreation	1
Study Goals	3
Methodology	4
Survey Instruments	4
On-Site Surveys	4
Outfitter/ Guide Interviews	6
Off-Site Informal Interviews	6
Observations and Counts	6
Primary Survey Locations	6
Survey Questions and Purpose	7
Physical Characteristics of River Segments	7
Specific Recreation Use and Preference	7
Facility Location	8
Instream Flow	8
Existing Opportunities	8
Conflicts and Crowding	9
Local and Nonlocal Expenditures	9
Changes in Flows— Effects on Visitation and Expenditures	10
2. Characteristics of River and Users	10
Segments Defined	10
A. Lake Tahoe to River Ranch	10
B. River Ranch to Ollie's Bridge	12
C. Ollie's Bridge to Hirschdale Bridge (Town Section)	12
D. Glenshire Bridge to Boca Bridge	13
E. Boca Bridge to Floriston	13
F. Floriston to Verdi	13
G. Verdi to Reno/Sparks (Town Section)	14
H. Steamboat Creek Inflow to Pyramid Lake	14
I. Donner Creek (From Prosser Dam to the Truckee River)	14
J. Prosser Creek	16
K. Little Truckee River (Between Stampede and Boca Reservoirs)	16
Characteristics of Recreation River Users on the Truckee River and Selected Tributaries	16
3. Specific Recreation Activities, Uses, and Preferences	19
Overview of Recreation on the Truckee River and its Tributaries	19
Truckee River	21
Little Truckee River	21

	<i>Page</i>
Donner Creek	22
Prosser Creek	22
Recreation Activities Defined	22
Fly Fishing	22
Spin/Lure/Bait Fishing	23
Kayaking	23
Rafting	23
Camping	24
Picnicking	25
Sightseeing	25
Tubing	25
Swimming	25
Hiking	26
Activities—Number of Visits and User Days	26
Preferred Times to Visit	26
4. Facility Locations	30
River Access Points	34
Most Used Access Points	34
Truckee River	34
Little Truckee River	35
Prosser Creek	35
Donner Creek	35
Facilities	36
Trails and Pullouts	36
Bike Paths	36
Camping	36
Outfitters and Shops	37
5. Instream Flows	37
Optimum Recreation Flow Levels for Professionals	37
Optimum Flow Level by Recreation Activity and River Section	38
Section (A) - Lake Tahoe Outlet to River Ranch	38
Section (B) - River Ranch to Donner Creek Inlet	38
Section (C) - Donner Creek Inlet to Trout Creek Inlet	39
Section (D) - Trout Creek Inlet to Old Boca Bridge (Little Truckee Inflow)	39
Section (E) - Old Boca Bridge (Little Truckee Inflow) to Bridge at Floriston	39
Section (F) - Floriston to Verdi (River Bend)	40

	<i>Page</i>
Section (G) - River Bend (Verdi) to Steamboat Creek Inflow	40
Section (H) - Steamboat Creek Inflow to Pyramid Lake	40
Section (I) - Little Truckee River (Section Between Stampede and Boca Reservoirs)	41
Section (J) - Prosser Creek (From Prosser Dam to the Truckee River)	41
Section (K) - Donner Creek (Donner Lake to its Inflow into the Truckee River)	41
Optimum Riverflows for Survey Users	41
Categorization of "High," "Medium," and "Low" Flow Levels Per River Segment	42
A. River Ranch to Donner Creek Inlet	42
B. Donner Creek Inlet to Trout Creek Inlet	42
C. Trout Creek Inlet to Old Boca Bridge (Little Truckee Inflow)	43
D. Old Boca Bridge (Little Truckee Inflow) to Floriston Bridge	43
E. Floriston to Verdi (River Bend)	43
F. Verdi (River Bend) to Steamboat Creek Inflow	43
G. Steamboat Creek Inflow to Pyramid Lake	43
H. Little Truckee River	43
I. Prosser Creek	44
J. Donner Creek	44
Flows that Stop River Use	44
6. Whitewater Classifications	45
Class I— Easy	47
Class II— Novice	47
Class III— Intermediate	47
Class IV— Advanced	47
Class V— Expert	48
Class VI— Extreme	48
Whitewater Classification Rating by Segment on the Truckee River	48
River Segment	48
A. Lake Tahoe to River Ranch	48
B. River Ranch to Donner Creek Inlet (Ollie's Bridge)	48
C. Donner Creek Inlet (Ollie's Bridge) to Glenshire Bridge	48
D. Glenshire Bridge to Boca Bridge	48
E. Boca Bridge to Floriston	48
F. Floriston to Verdi	49
G. Verdi to Reno/Sparks	49
H. Steamboat Creek Inflow to Pyramid Lake	49

	<i>Page</i>
7. Existing Opportunities	49
Expansion of Recreation	49
Improved Access	51
Public Education	51
Special Events	51
Lahontan Cutthroat Trout	52
Existing Opportunities by River Section	53
Section A: Tahoe to River Ranch	53
Section B: River Ranch to Donner Creek Inlet (Ollie's Bridge)	53
Section C: Ollie's Bridge to Hirschdale Bridge (Town Section)	53
Section D: Glenshire Bridge to Boca Bridge	53
Section E: Boca Bridge to Floriston	54
Section (F: Floriston to Verdi	54
Section G: Verdi to Reno/Sparks (Town Section)	54
Section H: Steamboat Creek Inflow to Pyramid Lake	54
Sections I and J: Donner Creek and Prosser Creek	54
Section K: Little Truckee River (Between Stampede and Boca Reservoir)	54
8. Conflict and Crowding	55
9. Expenditures	59
10. Projections on how Changes in Flows Affect Visitation and Expenditures	62
Total Increased Visits and Expenditures for Survey Respondents	63
Total Increased Visits and Expenditures for Total Recreation User River Population	63
Projection if all Desired Flows Were Met	66
Fly Fishing	66
Fly Fisher Survey Respondents	66
Fly Fishing Total Increased Visits and Expenditures	68
Spin/Lure/Bait Fishing	68
Spin/Lure/Bait Survey Respondents	68
Spin/Lure/Bait Fishing Total Increased Visits and Expenditures	68
Kayaking	69
Kayaking Survey Respondents	69
Kayaking Total Increased Visits and Expenditures	69
Rafting	69
Rafting Survey Respondents	69
Rafting Total Increased Visits and Expenditures	70

	<i>Page</i>
11. Literature Cited	70

Appendices

- Truckee River Recreation Survey
- Truckee River Outfitter/Guide Interview Survey
- Contact List

Tables

<i>Table</i>	<i>Page</i>
1 Americans participation in sports	2
2 1998 Harris Poll on leisure activities for adult Americans	2
3 State participants are from	17
4 Gender	17
5 Education level	17
6 Household income	17
7 Recreationists on different river sections by activity	18
8 Observed user numbers per segment--users per day and projected use	27
9 Activities and use per year for survey respondents	27
10 Preferred fly fishing months by the Truckee River sections	28
11 Preferred spin/lure/bait fishing months by the Truckee River sections	29
12 Preferred kayaking months by the Truckee River sections	31
13 Preferred rafting months by the Truckee River sections	32
14 Optimum flows for surveyed users	42
15 Flows that would and would not stop use	44
16 Low and high flows that would stop use	45
17 Percent of users indicating time of year when flows are best	46
18a Acceptable number of people by actual number seen at the river's access put-in	56
18b Acceptable number of people by actual number seen on the river	56
18c Acceptable number of people by actual number seen at the river's takeout	57
19a Perceived crowding at put-in	57
19b Perceived crowding on the river	57
19c Perceived crowding at takeout	58
20 Types of conflicts on the Truckee River	58
21 Amount spent by survey respondents by activity and item	60
22 Total expenditures by location and item purchased for all survey respondents	61

<i>Table</i>		<i>Page</i>
23	Expenditures per average respondent by item purchased	61
24	Projected user numbers and expenditures by river section and year	62
25	Percent and number of survey respondents who would increase visits with changes in flows	64
26	Percentage and number of increased visits: fly fishing, given changes in flows	65
27	Percentage and number of increased visits: spin/lure/bait fishing, given changes in flows	66
28	Percentage and number of increased visits: kayaking, given changes in flows	67
29	Percentage and number of increased visits: rafters, given changes in flows	68

Maps

<i>Map</i>		<i>Page</i>
Location Map		5
Detail Map		11
River Segments		15
Popular River Access Sites		33
Whitewater Classification		50

I. Introduction

The Truckee River and its Importance for Recreation

"Water is the focal point of outdoor recreation" (Outdoor Recreation Resources Review Commission Report, 1972). Today, every statistic and report that demonstrates the importance of recreation activities supports this statement. In fact, for Americans, the relative importance and use of water for recreation continues to grow in relation to other recreation activities. For example, in 1979, four national surveys showed swimming and fishing to be the second and third most popular recreation activities for Americans (U.S. Heritage Conservation Recreation Service, 1979). In 1993, 217 million Americans rated swimming and fishing as the top two sports activities that they participate in most. A 1998 Harris Poll of the favorite leisure time recreation activities of Americans showed fishing just behind gardening as American's favorite outdoor recreation activity; this was followed closely by swimming, walking, and golf.

Just how important is the Truckee River as a provider of recreation? The Truckee River provides a valuable water resource that helps support the two most important recreation activities in America. The river also supports other very popular water-based activities that rate high with recreating Americans. These activities include boating (rafting, kayaking, canoeing), which is growing rapidly in popularity; sightseeing; tubing; camping (which occurs mainly near water); and the other water-related activities studied for this report. The river is not a national tourist attraction, nor is the river the most important regional tourist attraction. However, for locals from California and Nevada, the river takes on great importance when one considers that it mainly serves the recreation needs of 1 of the 10 fastest growing population centers in the United States— the Reno, Truckee, Tahoe area. The river runs through Reno and is easily accessible there and in the adjacent mountains. For much of the year, the river provides an escape from the heat and desert. It also provides the locals with their most important outdoor recreation activities. It provides recreation for all income groups and for all seasons. It also provides for a diversity of experiences such as the thrills and excitement of rafting and kayaking, the challenge and skill of fly fishing, and the peace and solitude of sightseeing along the river. The other major outdoor recreation activity in the area is skiing. Compared to the river-related activities, skiing offers a very limited resource and opportunity. Skiing is provided mainly for the high-income recreationists, offering thrills and excitement, and only occurs during the limited winter snow season. The Truckee River and its tributaries, on the other hand, are for everyone; they are accessible, offer diverse experiences, are affordable for all, are easily accessible and close, and provide the most popular outdoor recreation activities of Americans in one of the fastest growing population centers in America. Therefore, the Truckee River and its tributaries are essential to the people living in the region.

According to the survey respondents in this study, the Truckee River is not as good for fishing, rafting, or kayaking as other rivers in the region. However, it is still the river of choice by the locals for their water-based recreation activities. The resource and activities exist, and they provide a variety of quality experiences. And, all of this is affordable and within easy access of the local people.

From an economic standpoint, the river and its tributaries provide recreation that is a source of income for the local economies for most of the year. Businesses selling sporting equipment, restaurants, hotels, campgrounds, rental companies, guide services, etc., all benefit from the river and its recreation. The income generated is significant (table 1).

Table 1.—Americans participation in sports¹

Activity	Amount (millions)
Swimming	32.8
Fishing	24.3
Basketball	10.7
Running/jogging	10.6
Baseball/softball	6.2

¹ U.S. Bureau of the Census, 1994.

Table 2.—1998 Harris Poll on leisure activities for adult Americans

Activity	Percent
Reading	30
Watching television	21
Gardening	14
Spending time with family/kids	13
Fishing	11
Team sports	9
Going to movies and sewing/crocheting	8
Walking and swimming	8
Golf	6

Study Goals

This study was undertaken for the Bureau of Reclamation (Reclamation) to determine the recreational use, visitor numbers, desired instream flows in cubic feet per second (cfs), physical characteristics of the river, facility locations, existing opportunities, recreation-related expenditures, the preferred sections on the river to recreate, and potential changes as a result of the Truckee River Operating Agreement (TROA) flow alternatives. The information contained in this report is being used to assist Reclamation in establishing the baseline condition for the recreation resources within the Truckee River Basin. The baseline information will help determine potential impacts to the recreation resources which may be affected by the alternatives contemplated in the TROA Environmental Impact Statement (EIS).

Pertinent information/data will also provide input for the recreation/economics model which is being prepared by the University of Nevada, Reno, for Reclamation. The model will estimate changes in river use and changes in recreation expenditures for certain recreation activities for each alternative presented in the TROA EIS.

The study site included the Truckee River, Donner Creek, Prosser Creek, and the Little Truckee River, hereafter collectively referred to as the Truckee River. Although the study includes the Little Truckee, Donner Creek, and Prosser Creek, the emphasis of the study focused on the Truckee River. This emphasis is justified by the amount of recreational use the Truckee River receives compared to its tributaries. The primary recreational activities studied were stream fishing (fly fishing), spin/lure/bait fishing, rafting, and kayaking. Other activities studied were camping, picnicking, sightseeing, tubing, swimming, and hiking. Recreation typically begins in April and continues through October. Between June 7 and August 15, intensive user observations and surveys were used to collect information. Information outside of this time was gathered through interviews with guides, outfitters, and longtime locals who have extensive knowledge of the river. Besides formal interviews and surveys, time was spent in discussions and on the river with experienced and knowledgeable professionals. This led to a greater understanding of recreation and flow requirements for the Truckee River. Recreation on the river changes with the seasons and flows. In early April when the runoff starts to come down from the Sierra Mountains, anglers head out to the river to break the cycle of "cabin fever." As the riverflows increase, the hard-core kayakers dawn their dry suits and brave the water's frigid temperatures. The recreation season begins to pick up in June, sustains itself through September, and tapers off in October. The cycle of recreation activities changes as the flow of the rivers change.

Four "indicator" activities were given special emphasis in this report. Possible changes to these indicator activities, which may be caused by implementation of the TROA alternatives,

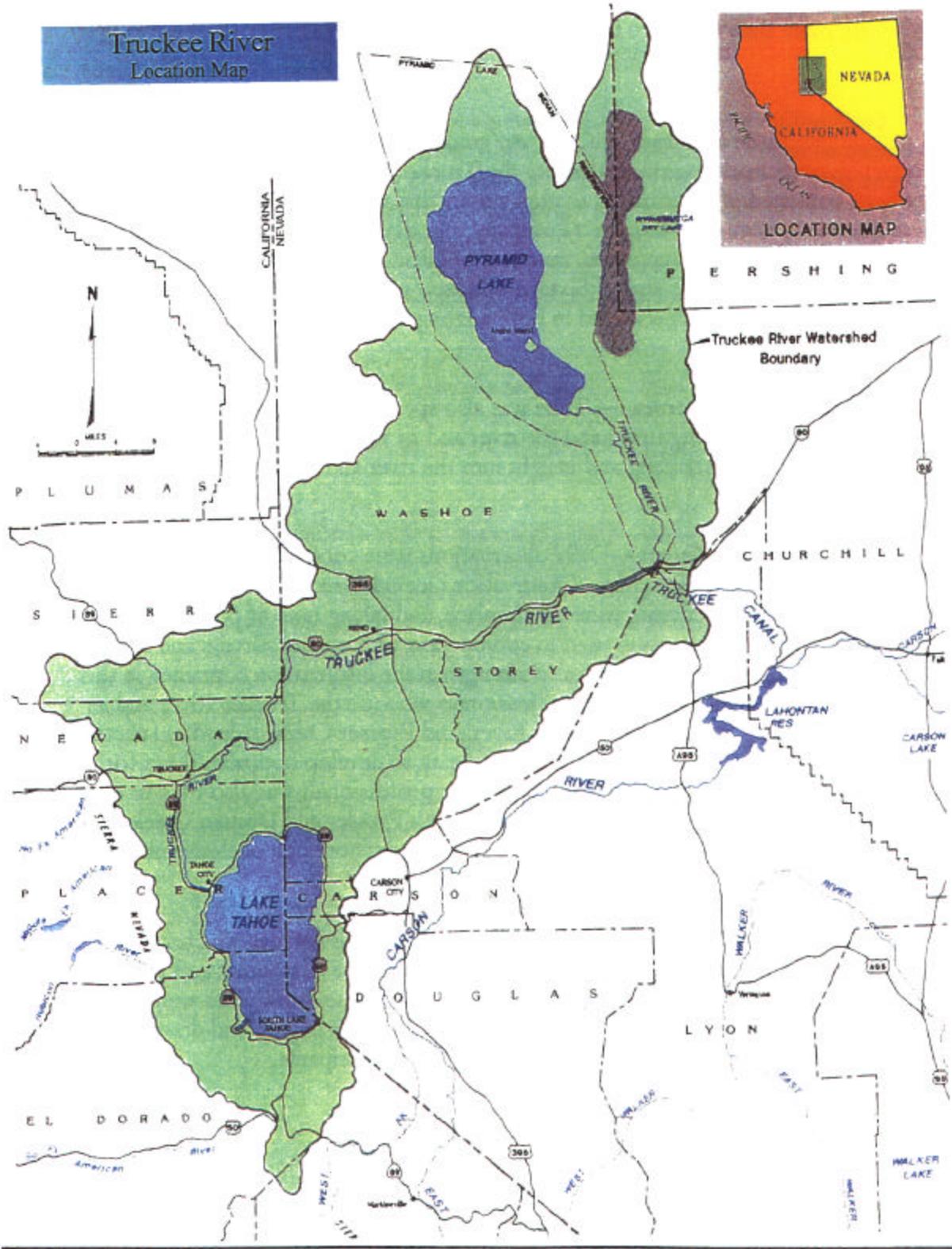
will be quantified in the EIS. Changes to other activities will be quantitatively addressed. The four indicator activities are fly fishing, spin/lure/bait fishing, kayaking, and rafting.

It is evident from our study that there is no substitute in the area for the recreation opportunities provided by the Truckee River. Anything that degrades the water recreation experience on the Truckee River will not only diminish the local economy but the quality of life of residents in the region. Likewise, anything that can be done to improve the water recreation experience will improve the economy and quality of life. The timed delivery of water (riverflow) certainly holds one of the major keys to degradation or improvement of the recreation on the rivers. Thus, the emphasis of this study was on identifying flows that are key to providing quality recreation experiences.

Methodology

Survey Instruments .—There were two survey instruments designed for this study. The first survey instrument was a written questionnaire consisting of 28 questions administered on-site to recreationists using the Truckee River, Donner Creek, Prosser Creek, and the Little Truckee River. It was administered as an on-site survey at pull-offs, campgrounds, parking lots, and at outfitter stores. The survey was designed to allow information to be collected from all user groups recreating on the river. One hundred eighty two surveys were completed. To obtain recreation user data from the second user group, a 14-question survey was designed. The population for the guide/outfitter surveys consisted of professional outfitters and guides who use the river for guiding clientele and sell merchandise related to their activity (i.e., fishing gear, kayak gear, etc.). The survey was administered as a one-on-one interview with 10 owner/managers of the business. Data collected from the user surveys were entered into the Statistical Package for the Social Sciences (SPSS) for analysis. Owner/manager surveys were compiled by hand.

On-Site Surveys .—Recreation river users were surveyed using on-site questionnaires handed out and collected on the Truckee River, the Little Truckee River, Donner Creek, and Prosser Creek. Survey sites were predominantly access points and areas of the river and its tributaries where the four indicator recreation activities occur. Surveys were also distributed through outfitters and owners of recreational businesses that use the Truckee River and selected tributaries. Surveys were distributed at random times of the day and week at selected sites according to use patterns to obtain representative samples. One hundred eighty two on-site user surveys were collected over a 70-day period. A significantly higher rate of return (than would be expected from a questionnaire) was obtained by waiting for most users to complete and hand over the questionnaire at popular gathering areas for anglers and boaters. An opportunistic approach was taken to survey users whenever they were encountered. The



survey consisted of 28 questions and took an average of 20 - 30 minutes for the participants to complete. Although there were a few persons who did not wish to participate, most people were more than willing to complete the survey.

Outfitter/Guide Interviews .—Outfitter/guide interviews were conducted with virtually all commercial recreation services that use the Truckee River and selected tributaries. The interviews consisted of a formatted written survey that was administered by the interviewer. These interviews were used to collect company user days, areas of operation, preferred flows for activities, numbers of employees, numbers of clients, and personal thoughts and insights that were invaluable for this study. Sixteen outfitter/guide surveys were completed from outfitters and guides who specialized in both angling and boating.

Off-Site Informal Interview .—Time was also spent informally with professionals discussing and experiencing first-hand the river and its recreation activities. This strengthened our understanding and insight into the river and its users.

Observations and Counts .—Daily observations were conducted at random sites along the river and its selected tributaries. Observations included recreational user counts, what and where recreational activities were taking place, and taking note of popular put-in and takeout sites. Observations were used in conjunction with on-site surveys and discussions with professional outfitters and guides to strengthen the information contained in this document. Informal interviews with professionals who use the Truckee River and its tributaries (Donner Creek, Little Truckee River, and Prosser Creek) helped to substantiate observed recreational use and counts and was meant to develop optimum flows for the four indicator recreational activities. Information from professionals was also used to obtain preferred flows and recreational use patterns on both Prosser and Donner Creeks because of the limited encounters surveyors had with recreationists on each of these tributaries.

Primary Survey Locations .—There were 13 primary survey sites which were repeatedly visited to find potential survey participants. These sites were all popular access points which were used considerably throughout the boating and fishing seasons. Sites were "staked out" for periods of time when user intensity was high. While traveling up and down the river, selected sites were also routinely visited to find survey participants.

Survey Questions and Purpose.—One hundred eighty two on-site surveys were completed. The primary purpose of the on-sight survey was to describe the different user group preferences for riverflows, preferred time, preferred sections, and activities they participate in. In the following section of this document, each question is listed under its relevant category. Its relevance to the study is also discussed.

Physical Characteristics of River Segments.— Even though this section discusses the physical characteristics of the river, it was also important in this section to discuss the characteristics of the users of the Truckee River.

The following questions were designed to determine a user profile and to let the user add any additional comments to the survey.

- (1) What City, State, and Zip Code are you from?
- (2) Check the category that best describes your formal education level.
- (3) What is your gender?
- (4) What was your household gross income for 1998-99?
- (5) Other comments?

Specific Recreation Use and Preference.— The purpose of this section was to determine the types of recreation activities occurring on the river, the number of visits and user days on the river, and the user preferences. The following questions were developed to gather information about the recreation use and preferences.

- (1) What recreational activities have you participated in on the Truckee River?
 - (2) When do you prefer to come to the river (spring, summer, weekdays, etc.) and why do you choose this time to come to the Truckee River? (Example: late May/early June on weekdays because the riverflows are best for fishing).
 - (3) List the section(s) of the river where you have participated in the following activities and give these areas a quality rating and reason for the rating.
-

- (4) At what time of year and where are the flows in the river best for your particular recreational activities?
- (5) Are there any other rivers in the area that you use for recreation? How would you compare them to the Truckee River?

Facility Location.— The purpose of this section was to determine access points along the river. The following question helped determine these access points. Other facility locations were identified by observation and input from professional outfitters and guides.

- (1) Please mark on the map the access points you started at with a "S" (start) and a "T" (takeout) where you ended your activities. Also, note the activity on the map.

Instream Flow.— This section was designed to help determine recommended flows, preferred flows, flow rates that would stop recreational use on the river, and the times of year for the best flows.

- (1) Would you like water levels or flows in a certain section of the Truckee River to be lower, higher, or the same during a certain period of the year to enhance your recreational experience? Please explain. (Example: higher during winter months, December, January, February, section 8).
- (2) Is there a water level or flow rate that you would recommend for the river that would enhance your recreational experience?
- (3) Is there a water level or flow rate which would keep you from using the river?
- (4) Would you still visit the Truckee River if conditions were not adequate to participate in your preferred recreational activities?
- (5) Do riverflows or some other factors determine whether or not you recreate on the Truckee River?

Existing Opportunities.— If recreation users are not using the Truckee River, where were they going? The following questions were designed to determine other rivers recreationists used.

- (1) Are there any other rivers in the area that you use for recreation?
- (2) What recreational activities do you think the Truckee River is best suited for?

Conflicts and Crowding.— Types of conflict on the river can be related to the riverflows and to who and how many recreationists are on the river. The following questions were designed to determine if there is any conflict, how often, and with whom there is conflict. The questions and data on numbers and types of users were also used to help substantiate and support our user counts and projections of river use.

- (1) List the average number of individuals who accompanied you to the Truckee River this past year per visit.
- (2) List any conflicts you have experienced or have heard about on the Truckee River.
- (3) Have you felt crowded while using the river this past year?
- (4) Please estimate the number of each of the following types of users you encountered (per visit) at each location this past year.
- (5) Are you aware of or had any conflicts with other users on the Truckee River?
- (6) On average visits to the Truckee River, how many people are within eyesight at any given time?
- (7) What (in your opinion) is an acceptable number of people to have within eyesight in the following places while on the river?

Local and Nonlocal Expenditures.— To determine how much money recreationists were spending when participating in their activity, the following questions were asked:

- (1) In the table, please indicate the amount, what you spent your money on, and where you spent your money while participating in your recreation activity.
 - (2) Have you used a commercial guide service on the Truckee River?
-

Changes in Flows— Effects on Visitation and Expenditures.— To determine how instream flows affect the participation level on the Truckee River and how they would affect expenditures, the following questions were asked:

- (1) Describe the river conditions that you prefer in order to participate in your river activities.
- (2) What might be done on the Truckee River to make it better for your recreation?
- (3) How many more visits per year would you make if this were done?

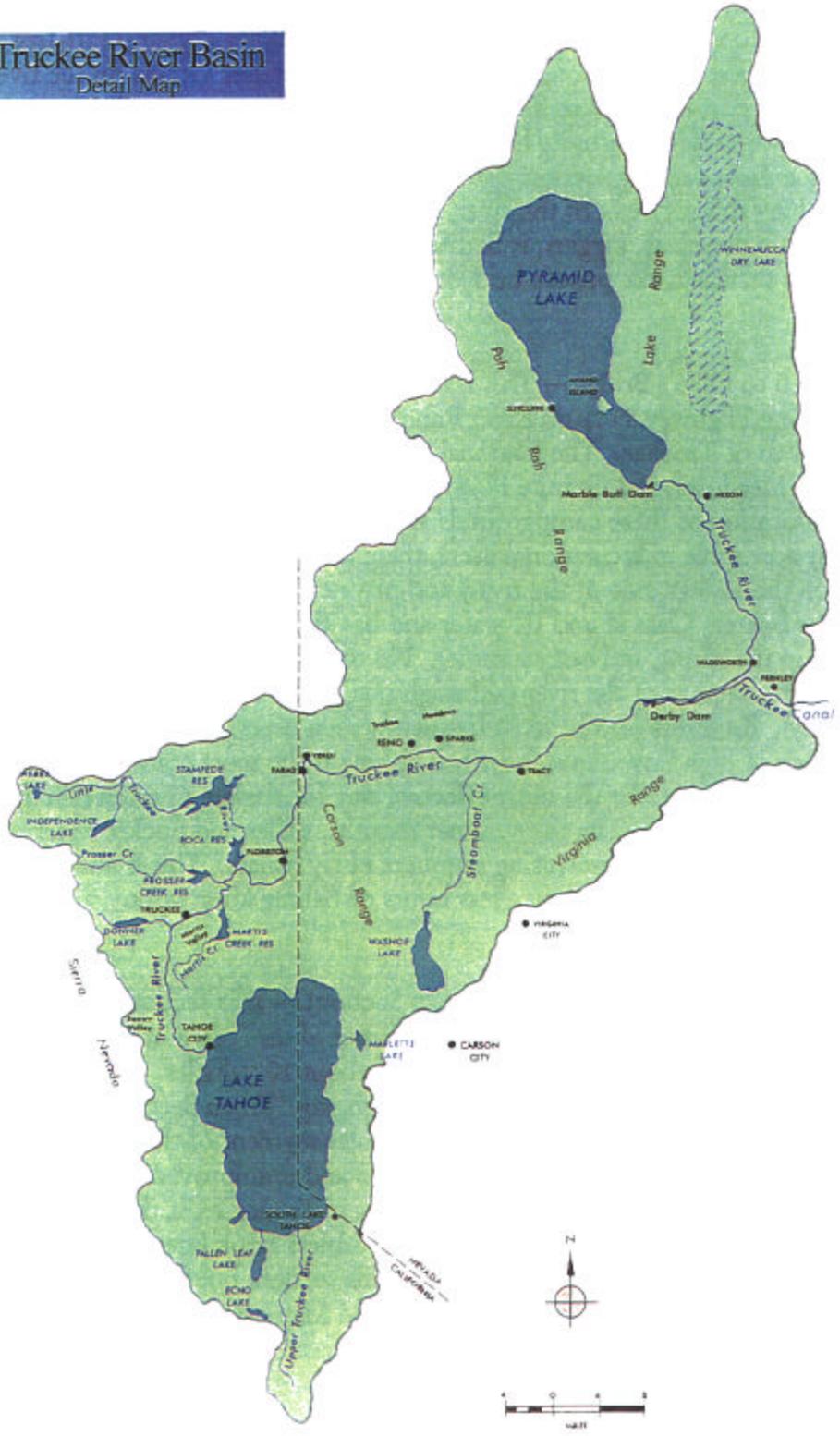
2. Characteristics of Rivers and Users

Segments Defined

The Truckee River has been divided into 11 sections, A-K, according to physical aspects of the river, access points, and recreational use patterns. Each segment of the river has unique characteristics which are attractive to different user groups and types of experience desired. Sections I, J, and K are selected tributaries of the Truckee River, which are also included in this study. Discussions with professional outfitters and guides also helped to identify logical beginning and ending points for the segments. By dividing the river into different segments, each section can be observed and studied separately and compared with other river segments. The segments on the Truckee River begin with section A at the outlet of Lake Tahoe to section H, which terminates in Pyramid Lake.

A. Lake Tahoe to River Ranch.—The Truckee River begins at the outlet of Lake Tahoe at the small 17-gate dam on the lake's western shore. This dam regulates the lake's first 6.1 feet of water that feeds into the Truckee River. This section of the river has more recreational activity than any other sections on the river. Recreational activities are forbidden within 1,000 feet downstream of the popular "Fanny Bridge" at the river's beginning. Fanny Bridge is a popular spot for people to view very large rainbow trout waiting for tourists to throw them a free meal as they sit in the highly oxygenated water. Unguided rafting dominates this section of the river as the most popular recreational activity. There are two permitted rafting companies that are licensed to operate on this section of the river. Each company is permitted to have 100 rafts on the water at any given time. The rafting season for this section of river ranges from the middle of June through early September, depending on temperatures and riverflows (refer to optimum flow levels, page 37). A public boat launch allows easy access for those who wish to use their own rafts. It is unlawful for watercraft to

Truckee River Basin
Detail Map



operate on the river if the flows exceed 1,250 cfs. The commercial rafting companies cannot send rafts out before 10:00 a.m. or after 4:00 p.m. (this allows anglers a raft-free river at peak fishing times and also reduces conflicts between different user groups on the river). Fishing on this section occurs throughout the fishing season but is more popular during the early spring and fall when rafting activity has subsided. This section of the river is rated as Class I water, with the most exciting section just before entering the River Ranch. A bike path, which runs along this segment of the river, has significantly increased the recreational use of this section from bicyclists, joggers, rollerbladers, and walkers. The biggest danger for boaters on this section is the private bridges which have little clearance during higher flows.

B. River Ranch to Ollie's Bridge.—This is the second most used section of the river. The river flows along Highway 89 from River Ranch to the Donner Creek inflow at the western end of the Town of Truckee. The National Forest Service has three campgrounds (Silver Creek, Goose Meadows, and Granite Flats) on this section. Heavy use of this river segment is due to the location of these campgrounds and easy access to the river. While most of the river is easily accessible to recreational users, there are a significant number of homes (especially on the eastern side of the river) and private properties which are posted. This section offers boaters Class II and III water and has significant traffic during periods of higher flows in the spring and early summer. No commercial rafting companies are currently operating on this section of the river (although one company has filed for a permit with Placer County). Kayakers are the most frequently seen users on this stretch of the river. During periods of high flows, spin/lure/bait fishing is the most common way for anglers to fish. Bait fishing seems to be the most effective way for anglers to catch fish during higher flows. As the flows slow during the summer months, riffles and pocket water begin to emerge, which in turn draws increasing numbers of fly fishers. This is also a popular section for those anglers who want to get in a few hours of fishing after work.

C. Ollie's Bridge to Hirschdale Bridge (Town Section).—This section begins at the Donner Creek inflow (Ollie's Bridge) at the southwest corner of the Town of Truckee. There is an unimproved parking area which has a capacity of about 10 vehicles. This access point is popular with kayakers who wish to boat the challenging "Town Section" of the river (rated as Class III) during spring runoff. The most popular segment of this section for anglers parallels Glenshire Road. There are many pullouts and unimproved parking areas which allow for easy access to the river. From the inflow at Trout Creek, the river is designated as "wild trout water" and is restricted to single and barbless hook lures and flies only. Both fly fishing and spin/lure/bait fishing take place on this section, but fly fishing is the norm. The most popular times to fish this section are April and May before the spring runoff occurs and

late July through the end of the fishing season on October 15. This section ends with the popular "bunkers" area that is accessible from the north or south day use areas by Hirschdale Bridge.

D. Glenshire Bridge to Boca Bridge.—This section flows between Glenshire Bridge and Boca Bridge. This section is popular with recreational boaters and is rated as Class II. This 4.5-mile section offers easy access points at both bridges. Although considered a Class II section, at higher flows (4,000 cfs), many would place it in the Class III category. Fishing at the beginning of this section has resulted in confrontations with the San Francisco Flycasters. The Flycasters own ½ mile of property on the river, which restricts foot access. However, those floating through on watercraft are legally allowed to fish. Fishing this section becomes popular when flows are below 800 cfs in both the spring and fall. Wading this section is more difficult than other sections of the river; spin/lure/bait fishing is more popular than fly fishing. Prosser Creek enters the Truckee River in this section and offers anglers (willing to walk) fine small stream fishing. Prosser Creek and its inflow are accessible from I-80 West by turning north on an unimproved road. This area is popular among fly fishers and is known as "Joe's Schoolyard." Long, smooth runs make the area around the Prosser Creek inflow attractive to the dry fly enthusiast. Fishing the Prosser Creek inflow area is most popular when the spring runoff has subsided in August and September. The Little Truckee River enters the Truckee River proper just before Boca Bridge. This is a popular put-in point for commercial rafting companies.

E. Boca Bridge to Floriston.—This section is the most popular with commercial rafting companies. Most outfitters put in at the Little Truckee confluence a few hundred yards from Boca Bridge and takeout at Floriston. Much of this section is Class II and III except the last ½ mile, which contains the Bronco and Jaws rapids (both are Class IV). Rafting takes place on this section when flows range from 1,000 to 4,000 cfs. Numerous rafting guides consider a flow of around 2,000 cfs to be "ideal." This section is also popular with more experienced kayakers. The area around Boca Bridge is popular with anglers because of its easy access and quality fishing.

F. Floriston to Verdi.—Just below Floriston Bridge, where the washed out Farad Diversion Dam is located, is a popular spot for kayakers to gather and "surf" and do "rodeo" moves on the wave that is produced by a concrete slab from the fallen dam. Commercial and private rafters and kayakers often use this section of the river. This section is rated as Class II, except for the portion from Farad to Verdi, which contains both Dead Man's and Staircase rapids (both are considered Class IV whitewater). This section requires three portages because of concrete diversion dams (Fleish, Steamboat Canal, and Verdi). Crystal Peak Park

at the west end of Verdi is a popular recreation site that offers improved facilities and easy access to the river. Although this is not a popular put-in site for boaters, rafters and kayakers frequently pass through. Spin/lure/bait fishing is popular and productive because of many deep holes that hold trout.

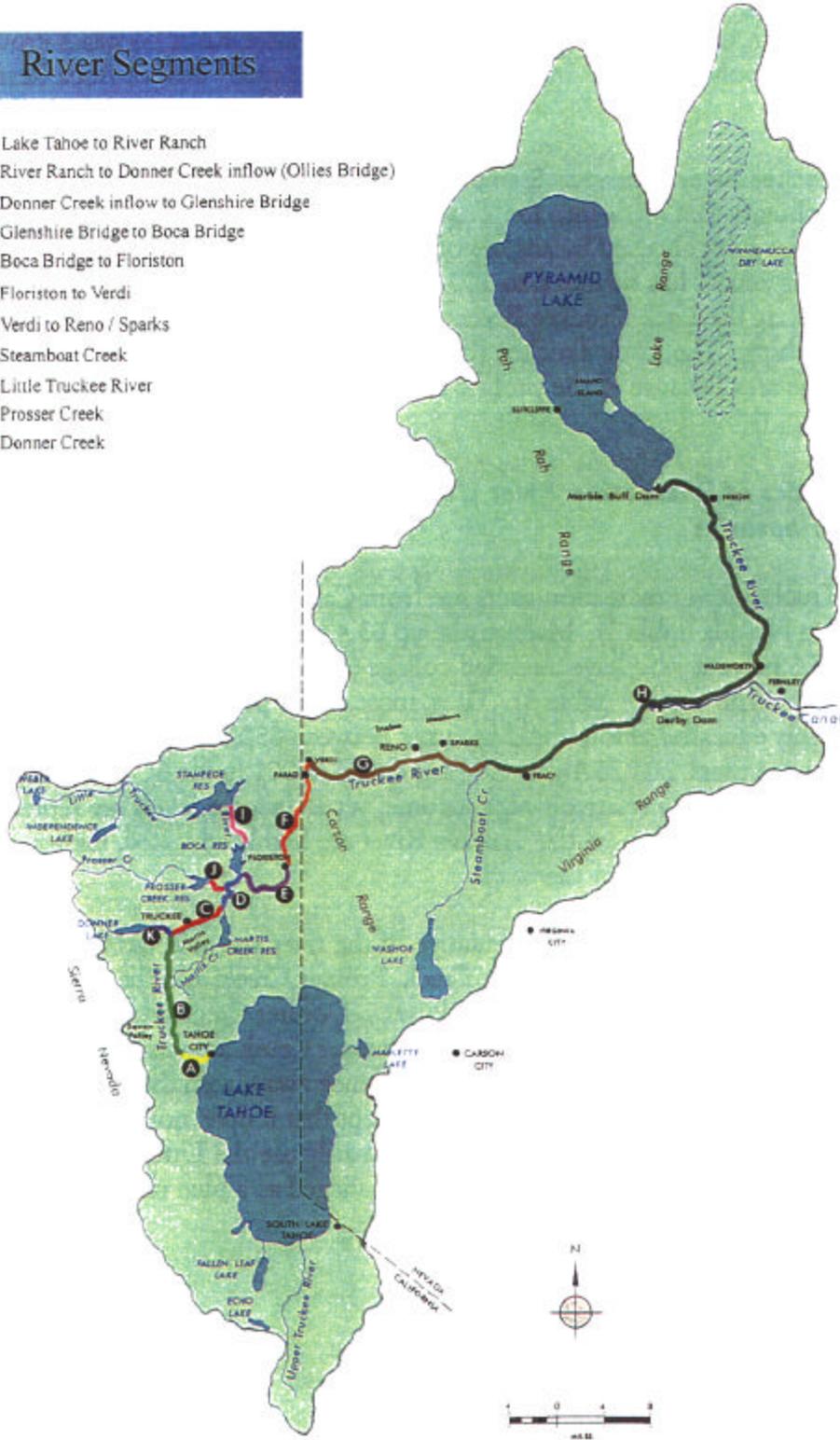
G. Verdi to Reno/Sparks (Town Section).—This "urban" section of the Truckee River is easily accessible because of the many parks that line the river through Reno and Sparks. Some limited rafting and kayaking take place during March, April, and May when the spring runoff begins (see table 7). There is also a kayak slalom course by Mayberry Bridge which is used in the early spring and summer months. During the hot summer months, rafters occasionally use this section to "play" in the river to beat the hot temperatures. Fishing is the most popular recreational activity through this section of the river. Several parks run along this section of the river through downtown Reno and Sparks. Although some fly fishing does take place here, spin/lure/bait fishing is more popular. Several anglers who fish this section of the river say that the fishing is good because of the periodic stocking by the Nevada Division of Wildlife. Stocking starts in March and continues through September, with rainbow trout being released every 2 weeks from Sparks west to Verdi. Most fishing takes place during the late spring and summer when the flows have started to decline from the spring runoff.

H. Steamboat Creek Inflow to Pyramid Lake.—This section of the river is used very little use compared to the rest of the river. In fact, it was difficult for our surveyors to find anyone to survey, even on weekends. Although some recreational use does take place on this section, it is minimal in comparison to the upper reaches. Spin/lure/bait fishing and rafting were both observed on this section. From Sparks, the river flows through a hot and dry desert environment for approximately 40 miles along I-80 until it leaves the highway and runs through Paiute Indian reservation land. Along I-80, there is little access to the river because of the significant amount of private property. The only river access site that people encountered along I-80 was near Derby Dam. Conversations with locals familiar with this area said that little recreation takes place.

I. Donner Creek (From Prosser Dam to the Truckee River).—Donner Creek is a small but significant tributary that feeds into the Truckee River just above the Town of Truckee. A small dam on the eastern shore of Donner Lake feeds the creek. From a recreation standpoint, the most important aspect is that Donner Creek runs through Donner State Park and Memorial. Most recreational activity on the creek takes place here. Both fly fishing and spin/lure/ bait fishing take place from the banks. Because the creek is small, rafting and kayaking do not occur.

River Segments

- A** Lake Tahoe to River Ranch
- B** River Ranch to Donner Creek inflow (Ollies Bridge)
- C** Donner Creek inflow to Glenshire Bridge
- D** Glenshire Bridge to Boca Bridge
- E** Boca Bridge to Floriston
- F** Floriston to Verdi
- G** Verdi to Reno / Sparks
- H** Steamboat Creek
- I** Little Truckee River
- J** Prosser Creek
- K** Donner Creek



J. Prosser Creek.—Prosser Creek is also a small stream that is popular with fly fishers. Many anglers visit this stream to get away when the Truckee River becomes crowded. Prosser Creek is only accessible from westbound I-80, 4 miles west of Boca Reservoir.

K. Little Truckee River (Between Stampede and Boca Reservoirs).—This is the most significant tributary that feeds into the Truckee River. The section between Stampede and Boca Reservoirs is highly used by anglers of all types during the early spring (May- June) and after the spring runoff has subsided to 500 cfs or below. Fly fishers and bank anglers congregate where the Little Truckee River enters Boca Reservoir because of its easy access and quality fishing. The Little Truckee River is considered to be one of the more productive fisheries in the area because of the prolific insect populations and quality habitat.

Characteristics of Recreation River Users on the Truckee River and Selected Tributaries

Nearly all Truckee River recreation users are from California (72.3 percent), while 22.7 percent are from Nevada (table 3). Males make up 63.4 percent of the recreation users (table 4). There are 27.6 percent who have attended college (almost 60 percent are college graduates or have a post-graduate degree) (table 5). Thus, most of the people recreating on the Truckee River are highly educated. Household incomes between \$50,001 and \$70,000 make up 23 percent of the users, and 23.4 percent earn over \$75,001 (table 6). Those who recreate on the Truckee River make a relatively high income, yet all income levels are represented on the river. Overall, recreationists on the Truckee River are highly educated, high-income males who live within a day's drive of the river.

The data given in tables 2-6 are representative of the river and selected tributaries as a whole. Each of the selected tributaries (Donner Creek, Prosser Creek, and the Little Truckee River) draws a different population of recreational users. Donner Creek attracts families who are camping in the Donner State Memorial Park. Prosser Creek attracts mainly fly fishers seeking solitude and a small stream fishing experience away from the crowds. The Little Truckee River is similar to the Truckee River except that it does not receive rafting or kayaking pressure. Both bank and fly anglers primarily use the Little Truckee River. There has recently been a proposal for the river to be managed as a blue ribbon fishery, which would make it catch and release only.

Instream Flows and Recreation on the Truckee River

Table 3.—State participants are from

State	Number of people	Percent of people
California	120	73.6
Nevada	37	22.7
Texas	1	0.6
Idaho	1	0.6
Michigan	2	1.2
Oregon	2	1.2

Table 4.—Gender

	Number of people	Percentage of people
Male	104	63.4
Female	60	36.6

Table 5.—Education level

	Number of people	Percentage of people
Some high school	1	0.6
Graduated high school	20	12.3
Some college	45	27.6
Graduated 4-year college	40	24.5
Post-graduate degree or work	57	35.0

Table 6.—Household income

	Number of people	Percentage of people
Less than \$15,000	17	11.3
\$15,001 - \$25,000	18	12.0
\$25,001 - \$35,000	26	17.3
\$35,001 - \$50,000	19	12.7
\$50,001 - \$75,000	35	23.3
\$75,001 - \$100,000	19	12.7
Over \$100,000	16	10.7

Table 7.—Recreationists on different river sections by activity

River section	Fly-fishing	Spin/lure fishing	Kayaking	Rafting	Tubing	Sight-seeing	Camping	Hiking	Picnicking	Swimming
A/B	15.5	26.3	18.2	40.7	0.0	30.9	59.1	20.0	0.0	30.0
C	23.2	11.3	14.9	9.3	0.0	17.6	18.2	30.0	100.0	20.0
D	19.0	17.0	23.8	25.9	0.0	20.5	4.5	20.0	0.0	30.0
E	6.3	7.6	26.5	5.5	0.0	3.0	0.0	0.0	0.0	10.0
F	7.7	3.8	2.5	3.7	0.0	5.9	4.5	0.0	0.0	0.0
G	1.5	17.0	11.6	5.5	0.0	10.3	0.0	0.0	0.0	10.0
H	3.5	1.9	0.8	1.9	0.0	3.0	0.0	10.0	0.0	0.0
I	16.9	9.4	0.0	1.9	0.0	5.8	13.7	10.0	0.0	0.0
J	2.8	3.8	0.0	3.7	0.0	1.5	0.0	10.0	0.0	0.0
K	3.5	1.9	1.7	1.9	0.0	1.5	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	100.0

3. Specific Recreation Activities, Uses, and Preferences

Overview of Recreation on the Truckee River and its Tributaries

Truckee River.—From its origin at the outlet on Lake Tahoe, recreation begins within the first 50 feet of the Truckee River. Fanny Bridge, which crosses the river 50 feet from the dam, is Tahoe City's answer to an aquarium and is a major tourist attraction. During the summer, there are always people leaning over (thus, the bridge name) watching the hundreds of trout that congregate in the highly oxygenated water that is released from Lake Tahoe. The trout are impressively large and are quick to snatch up any morsel of food dropped into the water. Fishing is not permitted within 1,000 feet of the dam. During the summer months, rafting is the number one recreational activity on the first 3.5 miles of the river. Raft rental companies catch the attention of visitors coming into Tahoe City from Highway 89. There are two permitted raft rental outfitters that sell "do it yourself" raft trips down the first 3.5 miles of the river. The trips end conveniently at a artificial water "roundabout" at River Ranch. Depending on riverflows, the self-guided float generally takes around 1-1/2 to 3 hours. Recreation on this section is not limited to water activities. The Truckee River Bicycle Path parallels the river from Tahoe City to Alpine Meadows. Bicycle riders, in-line skaters, joggers, walkers, people watchers, and people wishing to stay on dry land are abundant along the "bike" trail. To avoid conflicts with fishermen, rafting companies do not put rafts on the river before 10:00 a.m. or after 4:30 p.m. This keeps the prime fishing times (morning and evening) free of commercial rafts that put down fish and make them impossible to catch.

From River Ranch down to the Town of Truckee, kayaking, fishing, and camping are popular recreation activities. There are three Forest Service campgrounds (Granite Flats, Goose Meadows, and Silver Creek) along Highway 89 between Tahoe City and the Town of Truckee. The campgrounds are open all year, but the main season is from Memorial Day to Labor Day. These campgrounds have a total of 133 campsites, vault toilets, and hand pump water wells. Although many campers stay in tents, RVs are the most popular form of accommodation. These campgrounds are also popular with the retired community; some have been staying in the same campground for 15 years. In the spring, this section is also popular with kayakers. As the water starts to ebb and the rocks start to protrude, fishing slowly replaces kayaking as the main "on river" recreation. Both bank and fly anglers consider this section of the river to be "good" (on a scale from excellent to poor).

The river through the Town of Truckee is a popular intermediate to advanced run for kayakers. During the spring runoff, this section is rated as Class III whitewater because of the continuous whitewater. If you abandon your boat and have to swim this section, it

is not easy to get to shore. It is advisable to have your "roll" down before running this section. When the flow drops below 800 cfs, fishing starts to become more consistent, and fishermen can often be seen while driving along West Street.

From the east end of the Town of Truckee to Hirshdale Bridge, fly fishing is the main game. The river from Trout Creek to Boca Bridge is designated as "wild trout waters" and requires artificial lures and flies with barbless hooks. There are many pullouts and unimproved parking areas along Glenshire Road. One local fishing guide who travels the road every day stated, "At a minimum, I see 3-4 cars parked along this section at any given time from late June through mid August." Although there is some rafting and kayaking activity along this section of the river, angling is by far the most popular recreational activity. From Glenshire Bridge to Boca Bridge, both fishing and boating are equally popular. Although bank access for anglers is somewhat limited, fishing this section by boat is becoming increasingly popular. There have been many confrontations with land owners (owned by the San Francisco Flycasters) and anglers attempting to fish through their property (which is legal as long as they stay in the boat or raft). This is also a great intermediate Class II + kayak run which is very popular with intermediate boaters or as a "warm up" for more advanced kayakers. Private rafters also regularly use this section.

The main section of the river for rafting is from Boca Bridge to Floriston. This section is also the most used section of the Truckee River by commercial outfitters. During June and July, rafters head down the river anticipating the Jaws and Bronco rapids which guard the takeout point at Floriston. While 95 percent of this ever-popular run is considered Class II and III, Jaws and Bronco rapids are considered Class IV rapids and are not for the faint of heart. These rapids can be avoided by an easy portage (which is often done by children and the faint of heart). Fishing is also popular, but access is somewhat limited since the river is away from the highway.

Floriston to Verdi is also considered an advanced river runner's section, with numerous Class III rapids and one (Dead Man's Curve) Class IV rapid. Just east of the bridge at Floriston is the former site of the Farad Diversion Dam, which was washed out in the flood of 1997. This is a popular site for kayakers to gather and "surf" the wave made by the concrete remnants of the dam. Kayakers take turns surfing and attempting "trick" moves on this "artificial" wave while enjoying the camaraderie of other boaters. Two diversion dams (Fliesh and Verdi) have to be portaged on this section. Crystal Peak Park on the west side of Verdi is popular with anglers, sightseers, picnickers, and families enjoying the outdoors. The park offers easy access to the river for fishing or as a launching site for boats. There are picnic tables, extra large grills, restrooms, and a paved parking lot that make this area popular for family gatherings and groups. The dominant recreational activities in Crystal Peak Park are picnicking and spin/lure/bait fishing.

The River Bend area on the east side of Verdi is also used for fishing, launching boats, and swimming. Although there are no improved facilities, this area is very popular. This area differs from Crystal Peak Park in that it draws people who are there for a more specific (fishing or boating) recreational activity.

Rafting or kayaking from River Bend to the Patagonia outlet is also a popular run for private rafters and occasionally commercial outfitters. Fishing on this section is also popular. The Nevada Division of Wildlife stocks the river here with "catchable" size rainbow trout.

Reno and Sparks have many river parks that allow easy access to the river. Spin/lure/bait fishing is the most popular form of angling in this section of the river, although fly fishing is also popular. The Nevada Division of Wildlife stocks this section of the river every 2 weeks from March through September. This section of the Truckee River is what the Nevada Division of Wildlife calls a "put and take fishery." Wingfield Park, Idelwild Park, and Fisherman's Park are favored fishing spots by Reno and Sparks locals who say that the fishing is excellent during the late spring and summer months. There is also a kayak slalom course near Mayberry Bridge, which is frequented by kayak enthusiasts. The final section of the river from Steamboat Creek to Pyramid Lake follows Interstate 80 to the Town of Waddsworth where it heads north and runs through the Pyramid Lake Indian Reservation. On several trips to Pyramid Lake, our researchers observed only three people who were using the river for recreation. Researchers attempted to find recreationists at different times of the day and week, including weekends. Access to the river on Paiute land is mostly restricted and discouraged, although plans for allowing access to the river for fishing is being considered.

Little Truckee River.—The section of the Little Truckee River that was investigated for this study lies between Stampede and Boca Reservoirs. This section of the river winds through open meadows and valleys and is popular with fly fishers and bank anglers because of the healthy population of rainbow and brown trout. Stream and habitat improvement projects have improved this section of the river that has eliminated the need to plant trout due to increased success in reproduction. The Little Truckee River inlet into Boca Reservoir is very popular with anglers. There is an adequate shoulder along the road that provides easy access down to the river. Boyington Mill Campground is located on the Little Truckee River, 4 miles north of Boca Dam. This campground is popular with anglers who fish the river. The campground offers 10 campsites and has a vault toilet. The "meadows section" just north of Boyington Mill Campground is also popular. There is a parking area with trails leading down to the river. It has been recently proposed that this section (between Stampede and Boca Reservoirs) be designated as a "wild trout" fishery. These regulations would reduce the bag limit from five trout of any size to two trout 14 inches or smaller. Bait fishing would also be eliminated, allowing fishing with artificial flies and lures only.

Donner Creek.—Donner Creek lies west of the Town of Truckee. The section of Donner Creek, which is included in this study, is from the outlet of Donner Lake to its confluence with the Truckee River. Three miles of the creek lie within Donner Memorial State Park. The park offers 150 campsites, day use, picnicking, fishing, and 2-1/2 miles of hiking trails. Angling, although not considered as good as the other areas contained in this report, does take place. Most of the creek ranges from 15 to 30 feet wide and can be easily fished from its banks. Most of the angling pressure that takes place on Donner Creek is from campers who are staying in the campground. Spinning and bait fishing seem to be the dominant form of angling. Most of the anglers who fish Donner Creek are more generalists than "expert" fly fishers. Rafting and kayaking do not occur on Donner Creek.

Prosser Creek.—The segment of Prosser Creek included in this study is from the Prosser Reservoir outflow to its confluence with the Truckee River. Due to its small size, Prosser Creek is not suitable for rafting or kayaking. The creek is accessible from westbound I-80 (the same pullout anglers use to access "Joe's Schoolyard") a few miles west of Old Boca Bridge. Fly fishers seeking solitude and a small stream angling experience fish at Prosser Creek.

Recreation Activities Defined

The Truckee River is well known for its scenic values and water-based recreation opportunities. Although most of the recreational activities are directly water-based activities, hiking, bird watching, picnicking, and sightseeing are popular activities that are indirectly linked to the river. For this study, data were collected for all recreation activities. However, this report focuses on four major instream recreational activities that Reclamation has noted as indicator activities. These include fly fishing, spin/lure/bait fishing, kayaking, and rafting. Although there are additional recreational activities that take place on the Truckee River, these are the dominant recreational activities that directly depend on riverflows for the quality of the experience.

Fly Fishing.—The Truckee River and selected tributaries have a long history of fly fishing. Before the 1930's, the river was the only place in the world where an angler could catch Lahotan cutthroat trout from 10 to 30 pounds. Although those days are gone, Lahotan cutthroat trout are being reintroduced into the river in hopes of establishing them throughout the system. Fly fishing is one of the most popular recreational uses of the river.

Spin/Lure/Bait Fishing.—Anglers who use spinning and casting methods to catch fish are placed in a separate category than fly fishers because of the difference in attributes of the activities. Although some anglers who use spinning or casting methods do wade in the river, it is most common to use these methods from shore. Since the Truckee River has different regulations for different sections of the river, anglers who use spinning gear, lures, and bait tend to use sections that allow these methods. Spin, lure, and bait fishing methods can be more effective at flow rates that are higher and lower than those best suited for fly fishing. Spin/lure/bait fishing is also popular at Donner Creek primarily due to its family atmosphere, which appeals to the generalist and not the specialized angler. Bait anglers are more oriented toward catching and keeping their limits (consumptive) than fly anglers who are more oriented toward skill.

Kayaking.—Kayaking is a growing sport on the Truckee River. The river's physical characteristics make it an ideal medium for kayakers. From Class I to Class IV whitewater (depending on season and flows), the Truckee River has runs to suit the abilities of most kayakers. Although there are a few Class IV rapids (Bronco, Jaws, and Dead Man's Curve), 95 percent of the river is rated as Class II and III. These are classes that appeal to intermediate kayakers. For those who wish to try kayaking for the first time, the upper section by Tahoe City is a great place to get initiated. Kayaking does not occur on the Little Truckee River, Donner Creek, or Prosser Creek.

Rafting.—During the high flow months (generally late June through early August), rafting dominates the river as the most popular activity. Commercial rafting (both guided and unguided) takes place on most sections of the river down to Reno. Private rafters are known to use the river in its entirety. The county licenses commercial outfitters, while public rafters do not need to be licensed. Rafting does not occur on the Little Truckee River, Donner Creek, or Prosser Creek.

The upper section of the river (Fanny Bridge area to River Ranch) is used more by rafters than any other section of the river. Due to its mild rapids, almost anyone who wishes to try this activity is almost guaranteed a good time. Rafters can bring their own rafts or rent them in Tahoe City at locations along the river. The upper section of the river (Fanny Bridge area to River Ranch) is used more by rafters than any other section of the river. Due to its mild rapids, almost anyone who wishes to try this activity can do so. Rafters can bring their own rafts or rent them in Tahoe City at locations along the river.

The most "exciting rafting" on the river takes place from the Old Boca Bridge area through the Powerhouse Rapid near Reno. Commercial rafting companies run all these sections of the river; however, the most popular and exciting run is from the Little Truckee River inlet

(near Old Boca Bridge) to Floriston. Most of the run is Class II and III, but the anticipation of the Jaws and Bronco rapids (Class IV) near the end of the trip never quite lets one totally relax. Rafters can choose to run these rapids or portage (as many companies do with younger rafters) the last few hundred yards of this popular section.

Rafting also takes place on the river in the Reno/Sparks area. Most of the rafting traffic through this section of the river is public users trying to stay cool from Reno's summer heat. Although few in numbers, rafters can occasionally be seen floating on sections of the river between Sparks and Pyramid Lake.



Whitewater rescue training near Floriston.

Camping.—Camping is very popular on the Highway 89 corridor between Tahoe City and the Town of Truckee. There are three Forest Service campgrounds (Silver Creek, Goose Meadow, and Granite Flats) on this section of the river, with a total of 151 camp-sites. The normal use season is from June through October. Although the campgrounds are open year round, there is no available drinking water or camp host during the off season. The

Boyington Mill Campground is a popular campsite for anglers who fish the Little Truckee River between Stampede and Boca Reservoirs. Campers generally sit and enjoy the river or wade and fish.

Picnicking.—There are many picnicking sites along the river from Tahoe City to the Reno/Sparks area. Many people use the campgrounds along Highway 89 as day use sites to picnic and spend the day by the river. Many enjoy just being by the river and relaxing. Crystal Peak Park is a very popular area for day use and picnicking. Mayberry Park, Idelwild Park, and Cottonwood Park are popular picnicking sites in the Reno and Sparks areas.

Sightseeing.—Throughout the length of the Truckee River, sightseeing takes on many forms. Bird watching and wildlife viewing are the most popular sightseeing activities that occur throughout the Truckee River basin. There are many pullouts along both Interstate 80 and Highway 89 where people can stop to take in the views. Many people who participate in other recreational activities on the river say sightseeing is their secondary activity. Some of the rafters indicated that sightseeing was as important as their primary activity.

Tubing.—"Tubing" is running the river with a tire inner tube as the watercraft. This activity is usually done when the riverflows are lower because inner tubes do not have the control of rafts or kayaks. During this study, very few tubers were encountered floating down the river. One of the most popular areas for this activity is on the first stretch of the river from Tahoe City to River Ranch. This section is rated as Class I, and tubing here is relatively safe compared to stretches of the river where flows increase in intensity. Persons who participate in this activity appear to be relatively unaware of the potential dangers of the river and account for many accidents compared to experienced rafters or kayakers.

Swimming.—Like sightseeing, swimming on the river usually comes as a byproduct of the participant's primary activity. Most of the swimming takes place as "water play" more than actual swimming. Most people take to the water to "beat the heat" during hot summer days. On hot days, many rafters on the first section (section A) of the river take to the water to cool off and board their craft for the rest of the ride. The River Bend area down by Verdi is one place where people were seen swimming in significant numbers. This area on the river is slow moving at lower flows and is relatively safe for this activity. On the far end of the river by Nixon, people enjoy the calm water on a hot afternoon.

Hiking.—Few hikers were encountered along the river. There were a few who stated that they did participate in this activity on the user survey. Some fishermen hike into areas that are not accessible by other means.

Activities—Number of Visits and User Days

During research on the river, random user counts were taken on each segment of the river. These counts were used to estimate a projected use for each segment of the river. The total number of observations to obtain an average number of users per segment per day divided the total number of users. The average users per day were multiplied by the total number of days considered to be the main water-based recreation season (214) to estimate the total use per segment. Section A was by far the most heavily used segment of the river, with a total of 4,490 river users observed on 22 separate observations (which averages 204.09 users per day for the entire 214-day period). Section D is the second most used segment of the river, averaging 81.11 users per day, with sections B and C averaging 269 and 302 users per day, respectively.

Recreationists were asked what river recreation activities they took part in and the average number of visits and days the user spent on the Truckee River per year. Table 8 gives the total number of visits, days, and average days spent per visit. The mode for all of the activities listed is 2 days, which would account for weekend trips to the river. Kayakers had the highest use rate followed by sightseeing and fly fishing. Many people stated that sightseeing was a secondary activity that came as a byproduct of their primary activity while on the river.

Preferred Times to Visit

Preferred times to visit the Truckee River and its tributaries for water-based recreational activities range from March through October. June through September were the most preferred months; however, there are some significant exceptions to these preferences. March, April, and May are by far the most preferred months for kayaking because of the high water flows.

Preferred times to visit the Truckee River (table 10) for water-based recreational activities ranges from March through October. The fishing season on the Truckee River begins in April and continues through the middle of October. June, July, and August are the most preferred months for fly fishers, with July being the most preferred.

Table 8.—Observed user numbers per segment—users per day and projected use

Section	Observed users per segment	Users per day	Projected use per segment/year
A	4,490	205.45	43,967
B	269	15.82	3,385
C	302	13.13	2,810
D	730	81.11	17,601
E	118	7.86	1,683
F	80	5.71	1,222
G	181	9.52	2,037
H	8	2.66	596
I	35	3.18	680
J	0	0.00	0
Total	5,871	343.086	73,238

Table 9.—Activities and use per year for survey respondents

Activity	Percent of visits per year	Percent of days per year	Average days per visit
Fly fishing	20.9	23.80	1.31
Spin/lure/bait fishing	15.1	16.60	1.26
Kayaking	31.4	27.94	1.02
Rafting	5.0	4.80	1.11
Tubing	0.4	0.34	1.22
Sightseeing	21.2	20.10	1.09
Camping	3.8	4.32	1.30
Hiking	2.0	1.80	1.05
Picnicking	0.2	0.30	1.66
Total	100.0	100.00	1.22

Table 11 shows the preferred months for spin/lure/bait anglers to visit the river. The highest use months are June, July, and August. Spin/lure/bait anglers, although not as flow dependent, prefer the same months.

Table 10.—Preferred fly fishing months by the Truckee River sections

Month	Section A/B	Section C	Section D	Section E	Section F	Section G	Section H	Section I	Section J	Section K	Total
March	8	10	7	5	1	1	1	1	1	2	37
April	8	10	7	5	1	1	1	1	1	2	37
May	0	10	7	5	1	1	1	1	1	2	29
June	9	17	14	8	4	1	4	10	4	5	76
July	12	25	18	8	4	1	6	13	4	5	96
August	14	19	16	7	3	1	5	15	5	5	90
September	6	14	12	4	2	1	4	12	2	2	59
October	6	11	11	4	2	1	1	8	1	2	47
Total	63	116	92	46	18	8	23	61	19	25	471

Table 11.—Preferred spin/lure/bait fishing months by the Truckee River sections

Month	Section A/B	Section C	Section D	Section E	Section F	Section G	Section H	Section I	Section J	Section K	Total
March	5	2	2	0	0	4	1	1	1	0	16
April	5	2	2	0	0	4	1	1	1	0	16
May	5	2	2	0	0	4	1	1	1	0	16
June	12	4	3	1	2	7	1	3	2	0	35
July	17	4	3	2	2	8	1	4	2	0	43
August	13	4	3	2	2	7	1	3	2	0	37
September	3	0	1	0	1	1	0	3	0	0	9
October	2	0	1	0	0	1	0	3	0	0	7
Total	64	18	17	5	7	36	6	19	9	0	179

By a large margin, kayakers prefer March, April, and May to recreate the Truckee River, with the most popular sections being A, B, C, and D (which total 299 user days). According to our survey, kayakers prefer higher flows, which occur in the spring.

Unlike kayaking, table 13 shows that rafters prefer months June, July, and August. July was the most preferred month, with 39 user days, followed by June and August with 29 user days, respectively. It is suspected that rafters are more oriented toward weather (temperatures), with kayakers being more concerned with water flows.

4. Facility Locations

On the upper section of the river from Tahoe City to River Ranch, the raft rental companies have installed toilets and trash receptacles for those who use this section of the river. The companies also conduct a daily "sweep" of the river, picking up trash after the day is done. At the takeout, rafters can take refuge from the sun under open tents while they wait for the bus shuttle back to Tahoe City. It is this stewardship and effort from businesses that use this section of the river that maintains a quality experience for their clientele and private users of the river.

The U.S. Forest Service has 14 campgrounds within Tahoe National Forest. While not all of these campgrounds are directly on the Truckee River, they are within a few minutes drive. Along Highway 89 South, there are three campgrounds (Granite Flat, Goose Meadows, and Silver Creek). These are very popular with campers, anglers, and other river users. The normal use season for these campgrounds is from June through October. These three campgrounds offer a total of 133 campsites with fire pits, picnic tables, toilets, and drinking water. Day use of the campgrounds is popular with picnickers, anglers, sightseers, and others who enjoy the outdoors.

From the Donner Creek confluence to Boca Bridge, there are few facilities other than what is available in the Town of Truckee. In the plaza section of the Town of Truckee, there is a visitor center, a multitude of restaurants, sporting good supply stores, grocery stores, and gas stations. Just east of Truckee, there are portable toilets at the parking areas along Glenshire Drive (these are popular with anglers). Other than toilet facilities, river users must be self sufficient. The Boca Bridge area is also equipped with portable toilets, complements of the rafting companies that use this area as a put in for rafting trips. A portable toilet is also available at the takeout under the bridge at Floriston.

Crystal Peak Park, located in Verdi, offers a paved parking lot, toilets, water, picnic tables, and large grills for group gatherings. There always seems to be people enjoying this well-equipped park.

Table 12.—Preferred kayaking months by the Truckee River sections

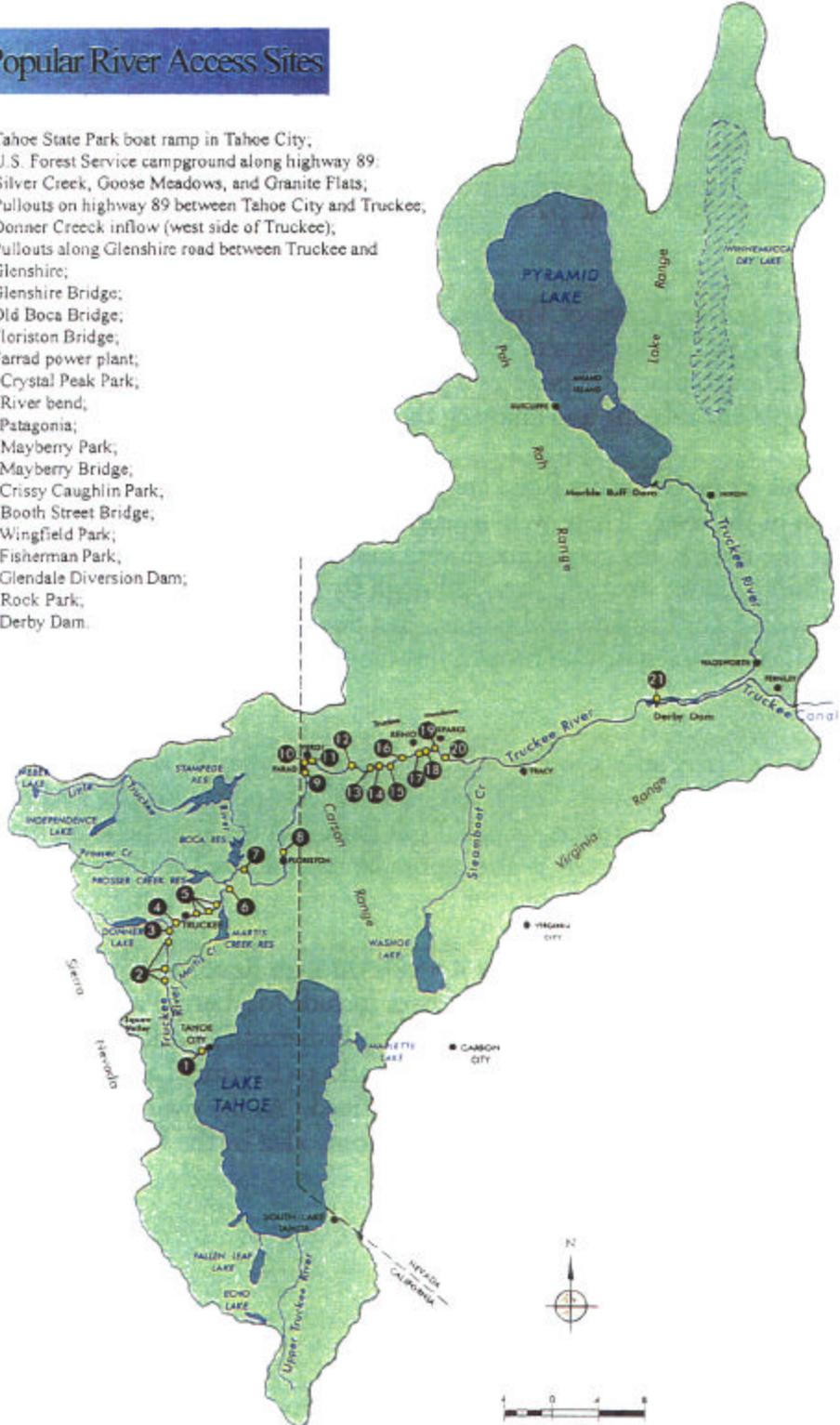
Month	Section A/B	Section C	Section D	Section E	Section F	Section G	Section H	Section I	Section J	Section K	Total
March	15	18	25	16	1	8	0	0	0	0	83
April	15	18	25	16	1	8	0	0	0	0	83
May	16	19	26	18	2	8	0	0	0	0	89
June	7	5	7	9	1	4	0	1	0	0	34
July	6	4	5	8	0	4	0	1	0	0	28
August	5	4	4	8	0	5	0	1	0	0	27
September	0	0	0	0	0	0	0	1	0	0	1
October	0	0	0	0	0	0	0	0	0	0	0
Total	64	68	92	75	5	37	0	4	0	0	345

Table 13.—Preferred rafting months by the Truckee River sections

Month	Section A/B	Section C	Section D	Section E	Section F	Section G	Section H	Section I	Section J	Section K	Total
March	3	2	5	3	2	2	0	1	0	0	18
April	3	2	5	3	2	2	0	1	0	0	18
May	3	2	5	3	2	2	0	1	0	0	18
June	13	5	5	2	1	2	0	1	0	0	29
July	17	6	8	3	2	2	0	1	0	0	39
August	12	4	5	3	1	2	0	2	0	0	29
September	0	1	2	1	1	1	0	0	0	0	6
October	0	1	2	1	1	1	0	0	0	0	6
Total	51	23	37	19	12	14	0	7	0	0	163

Popular River Access Sites

1. Tahoe State Park boat ramp in Tahoe City;
2. U.S. Forest Service campground along highway 89; Silver Creek, Goose Meadows, and Granite Flats;
3. Pullouts on highway 89 between Tahoe City and Truckee;
4. Donner Creek inflow (west side of Truckee);
5. Pullouts along Glenshire road between Truckee and Glenshire;
6. Glenshire Bridge;
7. Old Boca Bridge;
8. Floriston Bridge;
9. Farrad power plant;
10. Crystal Peak Park;
11. River bend;
12. Patagonia;
13. Mayberry Park;
14. Mayberry Bridge;
15. Crissy Caughlin Park;
16. Booth Street Bridge;
17. Wingfield Park;
18. Fisherman Park;
19. Glendale Diversion Dam;
20. Rock Park;
21. Derby Dam.



River Access Points

Access points along the Truckee River range from maintained parks with full facilities to faint trails that head toward the river from the road. From Lake Tahoe to the Town of Truckee, the river parallels Highway 89, with many maintained access points (U.S. Forest Service campgrounds) that allow for easy access to the river. This section of the highway has wide shoulders that allow river users to park almost anywhere along the river from Truckee to Squaw Valley.

From the west end of the Town of Truckee, the river leaves the road and becomes less user access friendly. In the "Town Section" of the river "Ollie's Bridge" is the most popular access point. Although mostly popular as a put-in for kayakers running the "Town Section," anglers and people just relaxing and enjoying the river also frequent this spot.

The access points along Glenshire Road are popular with anglers who fish the "wild trout waters" section of the river. There were usually three to four cars (minimum) parked along this section of the river at any given time during mid-June through mid-August. The access at Hirschdale Bridge is also very popular. Although fly fishers create most of the traffic, this is also a popular access for kayakers and rafters. Just down river of Hirschdale Bridge, there have been conflicts between private property owners (San Francisco Flycasters) and anglers fishing from boats.

Before the Prosser Creek inflow to the Truckee River, Highway 80 again parallels the river. From the Prosser Creek inflow to Verdi, frequented access points include Old Boca Bridge, Floriston Bridge, Farad Powerplant, Crystal Peak Park, and the river bend on the east side of Verdi. The Patagonia headquarters is also a popular takeout site for those who put in kayaks or rafts at Verdi.

There are many access sites to the river as it winds through Reno, and Sparks, Nevada. Frequented access sites along this section of river include Mayberry Park, Mayberry Bridge, Idlewild Park, Booth Street Bridge, Wingfield Park, Fisherman's Park, Glendale Diversion Dam, and Rock Park. From the eastern end of Sparks to Pyramid Lake, access to public sections of the river is very limited and not well defined. As the river leaves I-80 and runs north toward Pyramid Lake, access to the river is controlled by the Paiute Indian Reservation.

Most Used Access Points

Truckee River.—

- (1) Tahoe State Park boat ramp in Tahoe City
 - (2) Pullouts and parking from River Ranch to Tahoe City
-

- (3) U.S. Forest Service campgrounds along Highway 89— Silver Creek, Goose Meadows, and Granite Flats
- (4) Pullouts on Highway 89 between Tahoe City and Truckee
- (5) Donner Creek inflow (west side of Truckee)
- (6) Pullouts along Glenshire Road between Truckee and Glenshire
- (7) Glenshire Bridge
- (8) Old Boca Bridge
- (9) Floriston Bridge
- (10) Farrad Powerplant
- (11) Crystal Peak Park
- (12) River bend
- (13) Patagonia?
- (14) Mayberry Park
- (15) Mayberry Bridge
- (16) Crissy Caughlin Park
- (17) Booth Street Bridge
- (18) Wingfield Park
- (19) Fisherman Park
- (20) Glendale Diversion Dam
- (21) Rock Park

Little Truckee River.—The Little Truckee River can be accessed at pullouts that are along the road leading from Boca to Stampede Reservoirs. The popular inlet into Boca Reservoir has extra wide shoulders, which makes close access both easy and convenient. There is also parking at the Boyington Mill Campground, 4 miles north of Boca Dam. Upstream there are two parking areas that allow access to the meadow section behind Stampede Reservoir. From both of these parking areas, there are walking trails down to the river.

Prosser Creek.—Access to the section at Prosser Creek between Prosser Reservoir and the Truckee River is located on westbound I-80 a few miles west of Old Boca Bridge. The turnoff is onto an unimproved dirt road which leads to the railroad tracks. Although it is possible to drive down to the tracks, a four-wheel drive is recommended. This is the same pullout and access to the popular "Joe's Schoolyard" fishing site.

Donner Creek.—Donner Creek can be accessed from Donner Creek State Park. Anglers can either park at the museum or pay a day use fee for access to the river back to the campground.

Facilities

Trails and Pullouts.—There are many pullouts along roads that parallel the Truckee River. These pullouts allow for easy access to the river and range from shoulders along the highway to fairly large unimproved parking areas. Along Highway 89 between Tahoe City and the Town of Truckee, there are many pullouts along the shoulder of the road. Although some are somewhat hidden, regulars that visit the river are familiar with them. The more obvious pullouts are close to the U.S. Forest Service campgrounds (Granite Flat, Goose Meadow, and Silver Creek). These are accessed for day use. From these pullouts, there are trails that lead to popular boat put-in sites and fishing areas. Along Glenshire Road, there are pullouts that allow anglers to access the river at almost any specific location.

As the river parallels I-80, pullouts become few and far between. One of the more popular pullouts along this section allows access to the Prosser Creek inflow to the Truckee River. This pullout can only be accessed heading westbound on I-80, approximately 4 miles west of Boca Bridge. The area under the I-80 bridge at the turnoff to Boca Reservoir is also popular with both anglers and boaters. There are two pullouts at Floriston— one is under the bridge, and the second can only be accessed on I-80 westbound. This pullout is popular with kayakers that go to "surf" the wave caused by the blown-out Floriston Diversion Dam. Down by the Farad Powerplant, there are pullouts with trails leading to the river.

Down river from Farad, pullouts become scarce due to the significant amount of private property. Along some of the off ramps a few miles from Reno, there are pullouts that are used by anglers familiar with the area. Past Sparks there is only one obvious pullout by the Derby Dam exit off of eastbound I-80. Most of this section is private property, so any pullouts along this section are on private property. As the river heads north on to the Paiute Indian Reservation, there are pullouts along the river, but these are also on private property.

Bike Paths.—The Truckee River bike trail starts at the north end of Tahoe City and continues 4-1/2 miles to River Ranch. This is a paved two-way trail that is popular with bicyclists, runners, rollerbladers, and walkers. The paved trail is also wheelchair accessible. This bike path allows aesthetic views of the Truckee River and encourages appreciation for the river's natural habitat. The Truckee Rotary Club has plans to continue the trail connecting Glenshire, Truckee, and Donner Lake to the existing trail from Tahoe City.

Camping.—The U.S. Forest Service has many campgrounds that are on or very close to the Truckee River. The most used campgrounds are along Highway 89 between Tahoe City and the Town of Truckee. Silver Creek Campground is approximately 5 miles south of Truckee. Its facilities include 27 campsites, drinking water, and vault toilets. Goose Meadows

Campground is located approximately 3 miles south of Truckee. Facilities include 24 campsites, hand pump wells for drinking water, and toilet facilities. Granite Flat Campground is the most popular and largest campground along this section and is 1 mile south of Truckee. Facilities include 75 campsites, wheelchair accessibility, drinking water, and vault toilets. The only other U.S. Forest Service campground that is on the river lies 4 miles north of Boca Dam. Boyington Mill Campground is popular with fly fishers who fish the Little Truckee River. Facilities include 10 campsites and vault toilets. No drinking water is available.

Donner State Park has many campsites that are on the bank of Donner Creek. These campsites are the first choice for campers who fish Donner Creek. Facilities include drinking water, shower facilities, charcoal grills, and fire pits.

Outfitters and Shops.—There is a multitude of outdoor sporting good shops in both Tahoe City and Truckee that offer gear to rent or purchase. These include shops that specialize in fly fishing gear, kayaking supplies, and rafting gear. Most shops offer daily and weekly rental of gear; some shops offer guide services or can refer interested parties to local guides (see appendix for list of outfitters, guides, and shops).

5. Instream Flows

Optimum Recreation Flow Levels for Professionals

The following is a list of optimum flows for each of the four indicator recreational activities. This list was derived from the mean flows as recommended by professional outfitters and guides. Streamflows for specific recreational activities were taken from professional outfitter questionnaires because of their extensive knowledge and experience with both professional and private recreational use of the river and their knowledge of cfs flows on the river.

Kayakers and rafters prefer higher water conditions which provide for more exciting and challenging runs down the river. Higher flows produce "standing waves" such as the popular ("park and surf") just down from Floriston Bridge. This type of wave is generated by the remnants of the old Farad Diversion Dam when flows exceed 800 cfs. Changes in flow levels can increase or reduce the difficulty rating of a particular section of river. A section that is rated as Class III (such as the Boca to Floriston run) at flows above 1,500 cfs is lowered to Class II at flows below 800 cfs. Optimum flow levels *are subjective* and depend on the type of experience desired and the skill level of the users.

Overall, anglers prefer moderate to lower flows more than rafters and kayakers. Anglers, who prefer fly fishing, look for flows that allow for easy wading and access to fish holding

water which might be in the middle of the river and obstructions which hold trout. Although not necessary, wading increases a fly fisher's enjoyment and success rate. Higher flows also limit commercial guiding opportunities because increased flows may be dangerous for inexperienced anglers. Some guides won't take clients on the river when flows exceed levels that produce an unacceptable risk for clients. Bank anglers are less particular about flow levels than fly fishers because this style of angling and the equipment they use does not require that they enter the river. One recurring theme between both fly fishers and bank anglers was the consistency of flows. Flows that are rapidly increased or reduced decrease success rates among both groups of anglers.

Optimum Flow Level by Recreation Activity and River Section

Section (A) - Lake Tahoe Outlet to River Ranch .—

Fly fishing: 350 - 500 cfs allows for adequate flows and reasonably easy wading.

Spin/lure/bait fishing: 350 cfs - 600 cfs.

Rafting: A 400-cfs flow is swift enough to keep an exciting pace down river and makes for a 1- to 2-hour trip down to River Ranch. At flows above 500 cfs, bridges on this section of the river may have to be portaged. Commercial rafting companies stop renting rafts when flows are below 100 cfs and above 700 cfs.

Kayaking: For kayaking, optimum flows depend on a kayaker's skill level. Many kayakers are against the regulation that restricts all watercraft from operating on this section when flows exceed 1,250 cfs.

Section (B) - River Ranch to Donner Creek Inlet.—

Fly fishing: 500 - 600 cfs are optimum flows for this section.

Spin/lure/bait fishing: Bank fishers are more successful when the flows are slightly higher (600 - 800 cfs) than those desired by fly fishers.

Rafting: 800 - 1,000 cfs results in Class II - III whitewater sections.

Kayaking: 800 - 1,000 cfs results in Class III - whitewater sections.

Section (C) - Donner Creek Inlet to Trout Creek Inlet.—

Fly fishing: At 400 - 500 cfs, guides say this section fishes well. When flows exceed 800 cfs, wading becomes very difficult.

Spin/lure/bait fishing: 600 - 800 cfs is an optimum flow for spin/lure/bait anglers because these flows produce more fishable water for this type of fishing.

Rafting: At 900 - 1,200 cfs, this section (Town Section) is considered continuous Class II - III whitewater.

Kayaking: At 900 - 1,200 cfs, this section (town section) is considered continuous Class II - III whitewater.

Section (D) - Trout Creek Inlet to Old Boca Bridge (Little Truckee Inflow).—

Fly fishing: 400 - 500 cfs produces the best conditions for fly fishing on this (designated as "wild trout water") popular section of river.

Spin/lure/bait fishing: Same as flows for fly fishing but spin/lure/bait anglers will have less difficulty fishing at slightly higher (600 - 800 cfs) flows than fly fishers.

Rafting: At 900 - 1,200 cfs, this section offers Class II + whitewater.

Kayaking: Popular with intermediate kayakers at 900 - 1,200 cfs, it is rated as a Class II + run.

Section (E) - Old Boca Bridge (Little Truckee Inflow) to Bridge at Floriston.—

Fly fishing: 400 - 500 cfs is "ideal" for fly fishers, but flows up to 700 cfs are manageable.

Spin/lure/bait fishing: At 400 - 500 cfs, this section is relatively easy to wade, but, for those who fish from the bank, flows of 600 - 800 cfs still offer good fishing.

Rafting: 800 - 1,200 cfs produce "safe and exciting" Class II - III whitewater for this run except for the Class IV rapids, Jaws and Bronco (which can be easily portaged). The optimum flows desired by outfitters and guides are 2,000 cfs. This is the only section of the river that rafting guides will run between 500 - 600 cfs because of this section's deeper channels which keep rafts from running aground.

Kayaking: Depending on individual kayaker's abilities, preferred flows for this section range from 1,000 - 2,000 cfs. Many kayakers run all but the last portion of this section (Bronco and Jaws rapids).

Section (F) - Floriston to Verdi (River Bend).—

Fly fishing: 500 - 600 cfs is "ideal" for those who choose to wade. For those who float this section, higher flows of 600 - 700 cfs are better.

Spin/lure/bait fishing: 500 - 600 cfs produces good fishing, but higher flows of 600 - 700 cfs are still manageable with spinning gear.

Rafting: 2,000 - 4,000 cfs is considered acceptable for rafting this section.

Kayaking: Depending on an individual kayaker's abilities, preferred flows range from 1,500 - 2,000 cfs, which produce Class III + whitewater.

Section (G) - River Bend (Verdi) to Steamboat Creek Inflow.—

Fly fishing: Flows from 500 - 800 cfs produce the best conditions for fly fishing.

Spin/lure/bait fishing: Flows from 600 - 800 cfs offer good fishing.

Rafting: Flows at 2,000 cfs produce consistent "fun" Class II whitewater. Mike Miltner of Tahoe Whitewater Tours said he would take clients down this section with flows up to 4,000 cfs.

Kayaking: 2,000 - 4,000 cfs produces Class II - III whitewater.

Section (H) - Steamboat Creek Inflow to Pyramid Lake.—

Fly fishing: 1,000 - 1,500 cfs.

Spin/lure/bait fishing: 1,000 - 3,000 cfs.

Rafting: 1,000 - 3,000 cfs.

Kayaking: 1,000 - 3,000 cfs.

Section (I) Little Truckee River - (Section Between Stampede and Boca Reservoirs).—

Fly fishing: Optimum flows for this section are 100 - 250 cfs.

Spin/lure/bait fishing: 200 - 500 cfs.

Rafting: Does not occur on this section.

Kayaking: Does not occur on this section.

Section (J) - Prosser Creek - (From Prosser Dam to the Truckee River).—

Fly fishing: 40 - 70 cfs.

Spin/lure/bait fishing: 40 - 70 cfs.

Rafting: Does not occur on this section.

Kayaking: Does not occur on this section.

Section (K) Donner Creek - (Donner Lake to its Inflow into the Truckee River).—

Fly fishing: 40 - 50 cfs.

Spin/lure/bait fishing: 40 - 50 cfs.

Rafting: Does not occur on this section.

Kayaking: Does not occur on this section.

Optimum Riverflows For Survey Users

Participants were asked if they would recommend a flow rate for the river that would enhance their recreational experience. Table 14 gives the recommended flow rate for each activity. For angling, in general, consistency of riverflows has a considerable influence on angler's success rates. For fly fishing, a medium (58.6 percent) and consistent (31.0 percent) flow is recommended. Spin/lure/bait anglers also stated their preference for medium (68.3 percent) and consistent (22.7 percent) flow levels. Kayakers' (61.0 percent) preferences

Table 14.—Optimum flows for surveyed users

	Percent that prefer low flows	Percent that prefer medium flows	Percent that prefer high flows	Percent that prefer consistent flows	Total
Fly fishing	5.2	58.6	5.2	31.0	100.0
Spin/lure/bait fishing	4.5	68.3	4.5	22.7	100.0
Kayaking	12.2	24.4	61.0	2.4	100.0
Rafting	12.0	52.0	32.0	4.0	100.0

lean toward higher flows than rafters (32.0 percent). The difference in flow preferences in boating activities is due to the experience desired and the ability level of the participants. Rafters expressed their desire for exciting but perceived safe flows, while kayakers tend to look for a more challenging experience.

Categorization of "High," "Medium," and "Low" Flow Levels per River Segment

On the survey, participants were asked to state the preferred flows for their recreational activity. Participants stated either "high," "medium," "low," or "consistent" to describe flow levels. The following list was derived through input from professionals and recreationists who were familiar with the river sections and cfs flow levels.

A. River Ranch to Donner Creek Inlet.—

High	Greater than 900 cfs
Medium	500 - 900 cfs
Low	Less than 500 cfs

B. Donner Creek Inlet to Trout Creek Inlet.—

High	Greater than 900 cfs
Medium	500 - 900 cfs
Low	Less than 500 cfs

C. Trout Creek Inlet to Old Boca Bridge (Little Truckee Inflow).—

High	Greater than 900 cfs
Medium	500 - 900 cfs
Low	Less than 500 cfs

D. Old Boca Bridge (Little Truckee Inflow) to Floriston Bridge.—

High	Greater than 1,500 cfs
Medium	800 - 1,500 cfs
Low	Less than 800 cfs

E. Floriston to Verdi (River Bend) .—

High	Greater than 1,500 cfs
Medium	600 - 1,500 cfs
Low	Less than 600 cfs

F. Verdi (River Bend) to Steamboat Creek Inflow.—

High	Greater than 2,000 cfs
Medium	1,000 - 2,000 cfs
Low	Less than 1,000 cfs

G. Steamboat Creek Inflow to Pyramid Lake.—

High	Greater than 2,000 cfs
Medium	1,000 - 2,000 cfs
Low	Less than 1,000 cfs

H. Little Truckee River.—

High	Greater than 800 cfs
Medium	300 - 800 cfs
Low	Less than 300 cfs

Instream Flows and Recreation on the Truckee River

I. Prosser Creek.—

High	Greater than 80 cfs
Medium	40 - 80 cfs
Low	Less than 40 cfs

J. Donner Creek.—

High	Greater than 40 cfs
Medium	10 - 40 cfs
Low	Less than 10 cfs

Flows That Stop River Use

Participants were asked if there was a flow rate that would keep recreationists from using the river. Results are documented in tables 15 and 16. All but two of the responses indicated that flow rates would keep them from using the river. For fly fishers, kayakers, and rafters, 100 percent of the respondents indicated that flows would stop use on the river (table 15). The influence of water levels and the role it plays in determining the amount of user days is significant. For fly fishers, 76 percent said high flows, and 24 percent said low flows, would keep them from using the river. Spin/lure/bait anglers also indicated that 34 percent would stop using the river if the river was too low, or 66 percent would stop if the river were too high. For boating activities, 92 percent of the kayakers and 84 percent of the rafters indicated that low flows were unacceptable for their activity and would stop use on the river. Only 8 percent of kayakers and 16 percent of rafters would stop use on the river if the flow was high. The difference in response rates for high flows can again be attributed to the experience desired.

Table 15.—Flows that would and would not stop use

	Number that said, "Flow would stop use."	Percent that said, "Flow would stop use."	Number that said, "Flow would not stop use."	Percent that said, "Flow would not stop use."
Fly fishing	58	100.0	0	0.0
Spin/lure/bait fishing	23	92.0	2	8.0
Kayaking	44	100.0	0	0.0
Rafting	21	100.0	0	0.0

Table 16.—Low and high flow that would stop use

	Percent that said, "Low flow would stop use."	Percent that said, "High flow would stop use."
Fly fishing	24.0	76.0
Spin/lure/bait fishing	34.0	66.0
Kayaking	92.0	8.0
Rafting	84.0	16.0

Respondents gave the time of year that had the best flows for their activity (table 17). For fly fishing, July (22.0 percent) and August (19.4 percent) were the most favorable times of the year, followed by September (13.5 percent). During this time, flows are lower than the spring run-off flows. For spin/lure/bait fishing, July (25.2) and August (20.9 percent) again were the most favorable times of the year. They also stated that June (20.1 percent) is also a favorable time of year. These numbers drop off in September (7.8 percent) and also the spring months of April (9.4 percent) and May (9.4 percent). For kayakers, spring is the best time for flows, with 31.1 percent in April and 32.6 percent in May. As summer approaches and flows lower, numbers drop dramatically. In early fall, numbers drop to virtually zero. Results of the questionnaire indicate that kayakers prefer high flow levels that are found in spring runoff.

Rafters prefer the summer months of June, July, and August to participate in their activity. This is what rafters in table 9 indicated they preferred. Summer preference could also be explained by the fact that summer is the primary time outfitters take rafters on the river.

The best months of the year for flows that enhance sightseeing opportunities are the spring and summer months. The numbers peak in July and then drop to almost nothing in the fall months of September and October.

Campers believed that the months of June, July, and August were the best flow months. The spring months of April and May also had significant appeal for campers.

6. Whitewater Classifications

The following river rating classification system is designed to give a grade or class to sections of whitewater or rapids. These ratings are designed to give boaters an approximate difficulty of a given section of river so the paddler can match his or her skill level on appropriate

Table 17—Percent of users indicating time of year when flows are the best

Month	Fly fishing	Spin/ lure/bait fishing	Kayaking	Rafting	Tubing	Sight- seeing	Camping	Hiking	Picnicking
April	11.7	9.4	31.1	9.0	0.0	16.0	16.0	33.3	0.0
May	11.7	9.4	32.6	9.0	0.0	16.0	16.0	33.3	0.0
June	10.0	20.1	12.9	22.0	0.0	20.0	19.9	0.0	100.0
July	22.0	25.2	10.6	33.0	0.0	26.7	23.1	33.3	0.0
August	19.4	20.9	9.8	24.0	0.0	18.7	18.6	0.0	0.0
September	13.5	7.8	1.5	2.0	0.0	1.3	3.2	0.0	0.0
October	11.7	7.2	1.5	1.0	0.0	1.3	3.2	0.0	0.0
Total	100.0	100.0	100.0	100	0.0	100.0	100.0	100.0	100.0

sections of river. This river classification is accepted on rivers throughout the world. The system goes from Class I (easiest) to Class VI (most difficult). Most of the Truckee River is rated as Class II or III, but, there are a few rapids, (Bronco, Jaws, and Dead Man's Curve) which are considered as Class IV. River classifications are objective and can change with flow rates of the river. The following list describes the characteristics that are considered for each class.

Class I—Easy

Fast-moving water with riffles and small waves. Few obstructions, all obvious and easily missed, with little training. Risk to swimmers is slight, and self rescue is generally easy.

Class II—Novice

Straightforward rapids with wide, clear channels, which are evident without scouting the river ahead. Occasional maneuvering may be required, but rocks and medium sized waves are easily missed by trained paddlers. Swimmers are seldom injured, and group assistance, while helpful, is seldom required. Rapids at the upper end of this rating are rated as Class II +.

Class III—Intermediate

Rapids with moderate and irregular waves which may be difficult to avoid. Complex maneuvers in fast current and good boat control in tight passages or around ledges is often required. Large waves are present but are easily avoided. Injuries while swimming are rare; self-rescue is usually easy but group assistance may be required to avoid long swims. Rapids at the upper end of this rating are rated Class III +.

Class IV—Advanced

Intense, powerful, but predictable rapids requiring precise boat handling in turbulent water. Rapids may require "must do" moves above dangerous hazards. Scouting the rapids is necessary the first time down. Risk of injury to swimmers is moderate to high, and water conditions may make self rescue difficult. Group assistance for rescue is often essential but requires practiced skills. Rapids at the upper end of this rating are rated as CLASS IV +.

Class V—Expert

Extremely long, violent rapids which expose a paddler to above-average dangers. Drops may contain large, unavoidable waves and holes or steep, congested chutes with complex demanding routes. Rapids may continue for long distances between pools, demanding a high level of fitness. A very reliable "Eskimo roll," proper equipment, extensive experience, and practiced rescue skills are essential.

Class VI—Extreme

These runs have almost never been attempted and often exemplify the extremes of difficulty, unpredictability, and danger.

Whitewater Classification Rating by Segment on the Truckee River

River Segment.—

- A. *Lake Tahoe to River Ranch.*—Class I.

 - B. *River Ranch to Donner Creek Inlet (Ollie's Bridge).*—Continuous Class II - III.

 - C. *Donner Creek Inlet (Ollie's Bridge) to Glenshire Bridge.*—Class II - III continuous whitewater. Truckee Falls rapid is rated as Class III - III +. The Town Section is continuous whitewater, and kayakers should be confident in their "combat roll" because of the lack of places to exit the river.

 - D. *Glenshire Bridge to Boca Bridge.*—Class II - II +; a popular run for intermediate boaters.

 - E. *Boca Bridge to Floriston.*—Most of this section is rated as Class II - III, but if run in entirety includes Bronco and Jaws rapids, it is rated as Class IV. Other rapids include Junkyard rapid Class II + and Railroad rapid Class II - III.
-

F. *Floriston to Verdi*.—Class III - IV whitewater. This section starts with the Blowout rapid (Class III) and the "Park and Surf" (Class III) 300 yards east of Floriston Bridge. These two rapids are at the site of the old Farad Diversion Dam.

Other rapids on this section include Dead Man's Curve rapid (Class IV), Son of Dead Man's Curve rapid (Class III +), Staircase rapid (Class III - III +), and Unnamed rapid (Class III - III +).

G. *Verdi to Reno/Sparks*.—Class III. The section from River Bend to Patagonia is a popular run for both rafters and kayakers. Rapids on this section include the River Bend rapid (Class III) and the Powerhouse rapid (Class II - III).

H. *Steamboat Creek Inflow to Pyramid Lake*.—Class I. *Note:* Segments I, J, and K are not given a whitewater classification since rafting and kayaking do not occur on these sections.

7. Existing Opportunities

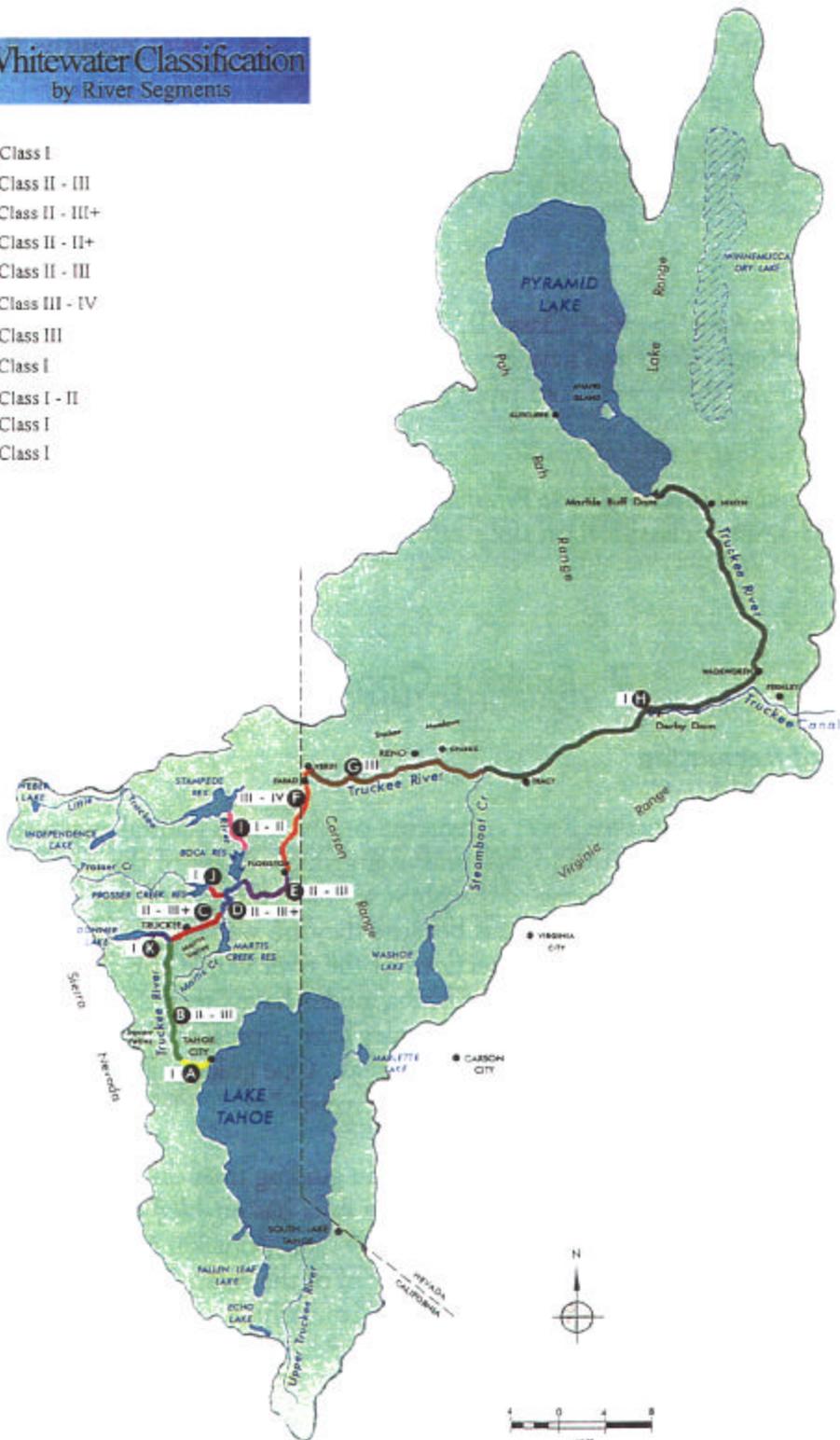
Expansion of Recreation

Recreational use on the Truckee River is centered on the river's natural attributes that make each section unique and attractive to different user groups. Most of the river segments that are heavily used are popular because of the physical characteristics of that section. Recreationists tend to go to popular areas because they are well known. Dispersing recreation use to some of the less used sections of the river would spread out some of the crowds that congregate at popular areas. Fishing guides have "secret" places to take clients for a greater wilderness experience. Fishing guides have expressed their interest in expanding guided fishing trips to some of the less popular areas. One guide said, "If it's not private property and there are fish, we'll detour from the crowds."

One local rafting company has expressed interest in guiding trips on some of the less popular segments of the river. New technology in building rafts has enabled boats to run water that would be considered too low for rafting. These low draft pontoon rafts could open up sections where traditional rafts would hit the bottom of the river. Rafting companies also have to obtain permits to run new sections of the river, which can be a difficult and lengthy process. Rafting numbers are controlled on the Truckee River through use permits granted by the county in which they operate.

**Whitewater Classification
by River Segments**

- A** Class I
- B** Class II - III
- C** Class II - III+
- D** Class II - II+
- E** Class II - III
- F** Class III - IV
- G** Class III
- H** Class I
- I** Class I - II
- J** Class I
- K** Class I



Improved Access

Although there are many existing unimproved access points on the Truckee River, improvements could be made to some of the more popular spots while keeping environmental damage to a minimum. The upper sections of the river in California have many improved access points, including several paved and gravel parking areas between Tahoe City and River Ranch. The U.S. Forest Service campgrounds along Highway 89 offer day use of their facilities for a \$3 fee. Access to the "Town Section" of river in Truckee could be improved if the proposed bike path is constructed. This would allow people to have foot access to the river in this section. Access to the river from Glenshire Drive could be improved if trails were constructed to keep foot traffic contained, thereby reducing environmental damage.

Access along Highway 80 is minimal and not well marked. River access signs would be an improvement and would keep people from wandering on to private property. Access to the lower section of the river below the Reno/Sparks area would be a welcome addition and might help to increase use of this underutilized section of the river. If access points were created, this section of the river could help spread out users and provide new areas for people to enjoy the river. On the Pyramid Lake Paiute Indian Reservation, access is minimal, but plans for allowing fishing access to the river is being considered. Providing fee access areas for anglers could bring in additional revenue for the Paiute Tribe and would be welcomed by anglers seeking to fish for the Lahontan cutthroat trout.

Public Education

Providing the public with information on the Truckee River is important for both access and safety issues. The map produced by River Adventures and More, Sierra Pacific, Sierra Nevada Whitewater Club, and The Truckee River Yacht Club is an excellent tool to help inform recreationists about river access points, river classifications, parking areas, available facilities, and diversion dams. Spreading knowledge and information in this way is an excellent way to improve the quality of recreation for river users.

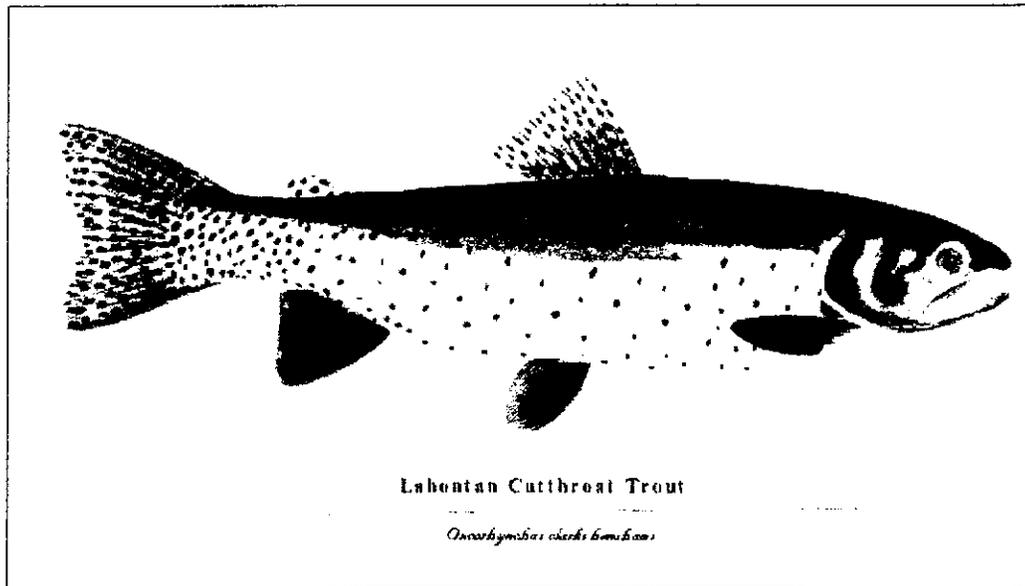
Special Events

Truckee River Day was started in 1995 as a way to restore, protect, and educate the public about the Truckee River. Events have included erosion control, stream stabilization, trail building, and river cleanup. While river restoration and cleanup are important, education is also a main focus. The Truckee River Habitat Restoration Group hopes that Truckee River

Day will increase public awareness of the river. Other special events, especially on the river section below Sparks, could increase recreation use on this seldom-used section. One event might be a fishing contest; another might be a canoe race or float day.

Lahontan Cutthroat Trout

The Lahontan cutthroat trout is the prize of the Truckee River's wildlife. By the early 1940's, these fish had largely disappeared from the Truckee River and were listed as an endangered species in 1970. In 1975, this classification was changed to threatened status. The U.S. Fish and Wildlife Service is currently working toward the goal of recovering the species. The recovery of this fish has been controversial, with some of the angling public being opposed because some areas where they fish have been closed. If this unique fish is restored to the river, it could have a significant impact on recreation on the Truckee River. The Pyramid Lake Paiute Reservation is considering management plans that would allow anglers access to the river on reservation land. One fisheries biologist for the reservation stated that there was currently a viable population of Lahontan cutthroat trout on reservation lands. If a plan to allow fishing on the reservation were developed, this would open up a unique recreational experience for anglers and would provide the reservation with a new source of revenue.



The Lahontan cutthroat trout.

Existing Opportunities by River Section

Section A: Tahoe to River Ranch.—This is a most-used part of the river when flows are greater than 100 cfs. The rafting rental companies are very busy when the flows are good. The problem exists when flows are less than 100 cfs. An opportunity that could be available for businesses would be to promote interpretive river walks with a guide. When the water is so low that no rafts are able to float, these walks could be done on the bike trail that runs parallel to the river. The company's vans could be used to pick up customers at the River Ranch Restaurant, where they pick up rafters, and take them back to the shop. The interpretive programs could be designed to talk about local history, the natural resources of the area, flora and fauna, and issues that affect the future of the river. Local historians would train the employees who are doing the interpretive walks, as well as the U.S. Forest Service, the Division of Wildlife, etc. They would promote this in their shops, local hotels/condominiums, and through local tourism advertisement.

Section B: River Ranch to Donner Creek Inlet (Ollie's Bridge).—This part of the river has three campgrounds. Recreational opportunities include promoted kayak clinics, fishing clinics, wildlife photography clinics, and interpretive talks about the natural resources and wildlife. This could be done in cooperation between local businesses and government agencies. This would give campers/locals who do not use the river an opportunity to learn about different recreation activities. Promotion could be done at the campgrounds, local businesses, and government agencies. These are highly used areas and give the businesses and public agencies the ability to educate visitors of the area and protect the river and wildlife it supports.

Section C: Ollie's Bridge to Hirschdale Bridge (Town Section).—This section of the river is popular and gets high use because of its location to the city. Spring provides a Class III whitewater experience, while the summer creates a great area for fly fishing. Opportunities for this section could be a special event that celebrates the river. This would give local businesses a chance for increased promotions to locals/visitors. Public agencies would do a community outreach teaching about the river, recreational opportunities, and how the river supports the natural resources and local wildlife. This event could include races and games that focus on the river.

Section D: Glenshire Bridge to Boca Bridge.—Increased access to the river could be established in this area because there are a lot of privately owned warehouses and a junkyard. The park could also be expanded to give greater access to the river. This is a heavily used

area for fishing, with the "wild trout waters" from Trout Creek to Boca Bridge. There is the possibility of providing educational materials on low impact fishing and kayaking at the pullouts via signage.

Section E: Boca Bridge to Floriston.—This is the most popular section of the river for commercial outfitting rafting companies. They could offer free days of rafting to the local community to educate the public about their business and the river. Because of this river section's popularity, it is recommended that the opportunities are at a maximum working level. The guides provide educational outreach of the river through their businesses.

Section F: Floriston to Verdi.—The Boca City landmark is located where rafting companies takeout. This is a great opportunity to do an interpretive walk for rafters. It is a self-guided tour. This could be promoted more through the rafting companies, local area businesses, and government agencies.

Section G: Verdi to Reno/Sparks (Town Section).—Reno and Sparks have river parks that allow great access to the river. The following are opportunities for this section of the river—special events that teach kayaking to locals and visitors, events sponsored by the local Parks and Recreation, fishing clinics, interpretive talks at the parks, a fishing derby for children, and handicap accessible areas for fishing.

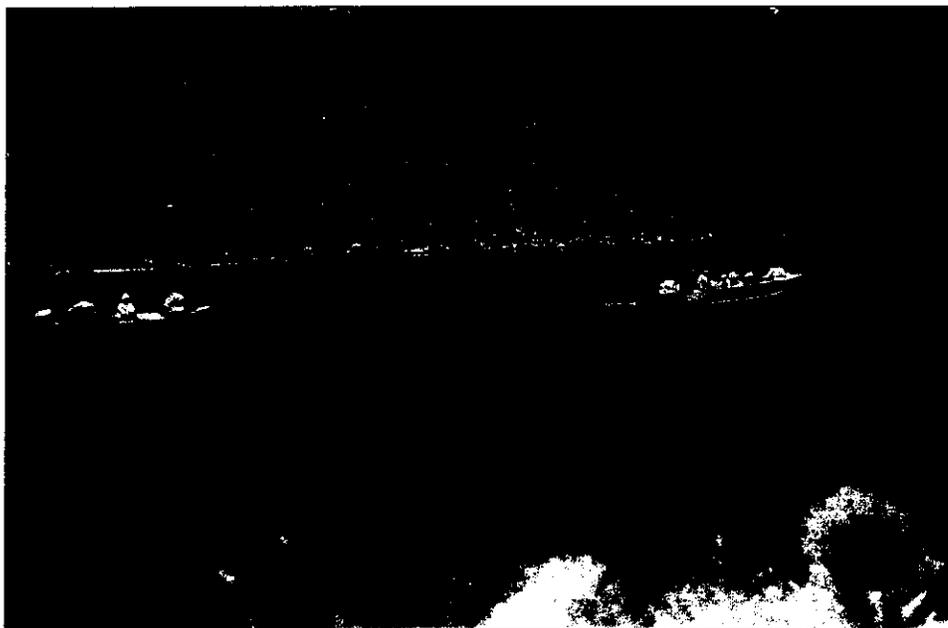
Section H: Steamboat Creek Inflow to Pyramid Lake.—More access and pull-offs are needed. Reno Parks and Recreation could provide trips, purchase land to create parks, campgrounds, etc.

Sections I and J: Donner Creek and Prosser Creek.—Promote small stream fishing in order to lessen the impact that occurs on the Truckee River. This could be done through local businesses, government agencies, and organizations focused on fishing.

Section K: Little Truckee River (Between Stampede and Boca Reservoir).—Create more access and purchase conservation easements to allow anglers the opportunity to access this section of the river.

8. Conflict and Crowding

Users were asked if they had felt crowded at their first access point while on the river and where they left the river. Based on all three locations, less than 3 percent perceived that the river was extremely crowded, 17.2 percent thought the river was moderately crowded, 27.6 percent viewed the river as slightly crowded, 44.9 percent thought the river was not crowded at all, and 7.3 percent did not answer this question. While talking with people on the river, most people did not consider the river to be crowded. One local guide said, "Sure, there might be a lot of people out on the river, but there are plenty of places to go if you are seeking a solitary experience." People tend to congregate at certain areas due to the river's characteristics (i.e., "wild trout section"). Whitewater classifications also draw people seeking a certain recreational experience. On the uppermost section of the river from Tahoe City to River Ranch, the gentle Class I water makes it an ideal place for those river users seeking an enjoyable and relaxing trip down the river. Those who seek an exciting and challenging experience might run the section from Boca Bridge to Floriston, which has Class IV rapids. Most users that had experienced conflicts with other users said that they were usually caused by lack of common courtesy. One area of conflict that needs to be addressed is where the Little Truckee River enters Boca Reservoir (section I). Anglers who fish this popular area have expressed their negative feelings toward boats and jet skis that move through this section of the Little Truckee River interfering with those who are wading and fishing from the bank.



Boats heading up the Little Truckee River from Boca Reservoir.

Instream Flows and Recreation on the Truckee River

Table 18c.—Acceptable number of people by actual number seen at the river's takeout

Number of people seen	Acceptable number of people to see at the river's takeout (%)					
	0	1	2	3	4	5
0	0.0	0.0	7.7	0.0	0.0	0.0
1	100.0	25.0	7.7	0.0	0.0	9.1
2	0.0	50.0	30.8	33.3	57.1	54.5
3	0.0	25.0	30.8	33.3	14.3	9.1
4	0.0	0.0	0.0	0.0	14.3	9.1
5	0.0	0.0	7.7	0.0	0.0	9.1
6	0.0	0.0	15.3	0.0	14.3	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	33.3	0.0	9.1
20	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 19a.—Perceived crowding at put-in

	Number of responses	Percentage of responses
Extremely crowded	4	2.4
Moderately crowded	31	18.5
Slightly crowded	53	31.5
Not crowded	80	47.6

Table 19b.—Perceived crowding on the river

	Number of responses	Percentage of responses
Extremely crowded	5	3.0
Moderately crowded	33	19.6
Slightly crowded	48	28.6
Not crowded	82	48.8

Table 19c.—Perceived crowding at takeout

	Number of responses	Percentage of responses
Extremely crowded	5	3.0
Moderately crowded	30	17.8
Slightly crowded	50	29.8
Not crowded	83	49.4

Table 20.—Types of conflicts on the Truckee River

Type of conflict	Number of people	Percentage of people
None	112	77.7
Further rafting regulations	6	4.1
Fly fishermen	2	1.4
Bank fishermen	2	1.4
Landowner	2	1.4
Water management	6	4.1
Too many people	13	8.9
Dams	1	0.7
Power boats	1	0.7
1,250 cfs regulations	1	0.7

Most people feel that it is acceptable to see between zero to five people while at the river access put-in. The actual numbers that people said they saw were between 0 to 20 people.

In table 12, it was found that 77.7 percent of those surveyed said that they did not have any conflict. While 8.9 percent said that they had a conflict with too many people being on the river, 4.1 percent said that they have had conflicts with rafters. This information reaffirms that there is very little conflict on the Truckee River at this point in time and that the few conflicts that do exist are caused by too many people and crowding on certain sections of the

river. If use continues to increase, it may be necessary to regulate the number of users allowed on the river at any one time and/or segregate river sections for different user groups.

9. Expenditures

This section of the report gives data on how much is being spent by Truckee River recreation users who responded to our survey. The information is then projected in section 10 of this report to show how much river recreation users are spending per year.

Table 21 shows how much is being spent (on each specific expenditure item) by each activity group.

Table 22 shows how much all survey respondents are spending on each expenditure item in Truckee, the Reno/Sparks area, and other areas.

Table 23 shows how much each survey respondent spent per visit to the Truckee River on each item purchased.

The key figure shown in table 23 is the average dollar amount spent per visit for each survey respondent. Each user spent, on average, \$138.18 per visit to the Truckee River. This amount is used in section 10 to calculate the total amount being spent by recreationists on the Truckee River and its tributaries.

Table 24 shows the projected user numbers and expenditure per river segment and year. The greatest number of users is in section A of the Truckee River, with 204 users per day on this section of the river, with a projected use number of 43,467. This area is near Tahoe City and is a popular site for visitors. Users observed in this study spent \$28,189 on this river segment. The projected money spent by all recreational river users is \$6,035,011. The next most popular site for recreation users is section D of the river. There are 81 users per day on this section of the river, which projects 17,358 users per year. The amount is projected to be \$2,398,528 per year. The least number of users and monies spent are in the Prosser Creek, Donner Creek, and Little Truckee River areas.

The total number of users counted during our study period on the river was 5,871. The average of users per day counted during our study on the river was 343. The total amount of money spent on the river is \$47,418. The projected number of users on each section of the river totals 73,238 users spending a projected amount of \$10,239,766.

Table 21.—Amount spent by survey respondents by activity and item
(\$)

Commodity	Fly fishing	Spin/lure/ bait fishing	Kayaking	Rafting	Multiple major activities	Other activities	Total
Camping fees	268.00	382.00	0.00	224.00	91.00	126.00	1,091.00
License fees	544.00	585.00	90.00	25.00	55.00	0.00	1,299.00
Hotel and motel	2,455.00	0.00	0.00	1,715.00	0.00	0.00	4,170.00
Restaurant	1,665.00	374.00	460.00	1,530.00	320.00	280.00	4,629.00
Groceries and supplies	2,080.00	615.00	428.00	1,195.00	390.00	260.00	4,968.00
Gas	830.00	385.00	685.00	470.00	232.00	70.00	2,672.00
Shopping	595.00	420.00	100.00	935.00	50.00	250.00	2,350.00
Equipment rentals	130.00	220.00	100.00	290.00	40.00	0.00	780.00
Fishing supplies	1,015.00	665.00	200.00	0.00	0.00	155.00	2,035.00
Guide services	515.00	0.00	0.00	440.00	0.00	0.00	955.00
Other	0.00	140.00	0.00	60.00	0.00	0.00	200.00
Total	10,097.00	3,786.00	2,063.00	6,884.00	1,178.00	1,141.00	25,149.00

Instream Flows and Recreation on the Truckee River

Table 22.—Total expenditures by location and item purchased for all survey respondents

	Truckee	Reno/Sparks	Other area	Total
Camping fees	1,091.00	0	0	1,091.00
License fees	957.00	242.00	100.00	1,299.00
Hotel and motel	3,825.00	345.00	0	4,170.00
Restaurant	4,189.00	480.00	0	4,669.00
Groceries and supplies	4,741.00	227.00	0	4,968.00
Gas	2,297.00	375.00	0	2,672.00
Shopping	2,315.00	35.00	0	2,350.00
Equipment rentals	640.00	100.00	0	740.00
Fishing supplies	1,685.00	350.00	0	2,035.00
Guide services	955.00	0	0	955.00
Other	200.00	0	0	200.00
Total	22,895.00	2,154.00	100.00	25,149.00

Table 23—Expenditures per average respondent by item purchased

Expenditures item	\$ spent per person	Total spent by users surveyed
Camping fees	6.00	1,091.00
License fees	7.04	1,299.00
Hotel and motel	22.71	4,170.00
Restaurant	26.55	4,669.00
Groceries and supplies	27.30	4,968.00
Gas	14.44	2,672.00
Shopping	12.71	2,350.00
Equipment rentals	4.00	740.00
Fishing supplies	11.18	2,035.00
Guide services	5.15	955.00
Other	1.10	200.00
Total	138.18	25,149.00

Table 24.—Projected user numbers and expenditures by river section and year

River sections	Number of users counted over study period	Average number of users counted per day	Projected use per segment/year	\$ spent by users counted	Projected \$ spent per segment/year all users
A	4,490	204.09	43,467	28,189	6,035,011
B	269	15.82	3,385	2,211	467,739
C	302	13.13	2,810	1,814	388,285
D	730	81.11	17,358	11,208	2,398,528
E	118	7.866	1,683	1,086	232,557
F	80	5.71	1,222	789	168,856
G	181	9.52	2,037	1315	281,473
H	8	2.66	596	367	82,355
I	35	3.18	680	439	93,962
J	0	0	0	0	0
Total	5,871	343.086	73,238	47,418	10,239,766

10. Projections on How Changes in Flows Affect Visitation and Expenditures

This section deals with increased visits and expenditures when changes in flow occur. These changes in use and expenditures are compared to higher minimum flow, consistent flows, and/or higher flows. Data are given first for all survey respondents and then projected to all river users. Lastly, data are given for each major activity group.

The total increased visits and expenditures for the survey respondents has been calculated by the total number of visitors from table 8 multiplied by the average per person expenditure from table 23.

The total increased visits and expenditures for the four major recreational activities were calculated as a percentage of the number of visitors from table 8 and the average of the per-person expenditure from table 21 for each separate major recreation category of fly fishing, spin/lure/bait fishing, kayaking, and rafting. The total expenditures from the four major

recreation categories (tables 26-29) will not equal the total increased visits and expenditures from table 25 because recreationists may have chosen more than one major activity in which they participated. Also, the average expenditure for all recreationists is not just based on the four user groups. It includes activities such as fly fishing, spin/lure/bait fishing, kayaking, rafting, camping, hiking, sightseeing, tubing, and picnicking.

Total Increased Visits and Expenditures for Survey Respondents

Of the visitors surveyed, 10.1 percent (18) would increase, on average, 7.7 visits per year if **higher minimum flows** existed, which represents 138 more visits per year, a total increase of user days of 221, and an increased expenditure of \$19,069. (This is based on a per-person expenditure of \$138.18 x 138 visits.)

Of the visitors surveyed, 23.2 percent (42) would increase, on average, 3.3 visits if more **consistent flows** existed, which represents 139 more visits per year, a total increase of user days of 222, and an increased expenditure of \$19,207. (This is based on a per-person expenditure of \$138.18 x 139 visits.)

Of the visitors surveyed, 4.0 percent (7) would increase, on average, 6.2 visits if **higher flows** existed, which represents 43 more visits per year, a total increase of user days of 69, and an increased expenditure of \$5,942. (This is based on a per-person expenditure of \$138.18 x 43 visits.)

Total Increased Visits and Expenditures for Total Recreation User River Population

Of the visitors surveyed, 10.1 percent of the 73,981 visitors, or 7,472 visitors, would increase, on average, 7.7 visits per year if **higher minimum flows** existed. This represents 57,534 more visits per year and a total increase of user days of 92,054. Increased visits represent a yearly increase in expenditure of \$7,950,048. (Based upon \$138.18 per visit x 57,534 increased visits).

Of the visitors surveyed, 23.2 percent of the 73,981 visitors, or 17,163 visitors, would increase, on average, 3.3 visits per year if **more consistent flows** existed. This represents 56,637 more visits per year and a total increase of user days of 90,619. Increased visits represent a yearly increase in expenditure of \$7,826,100. (Based upon \$138.18 per visit x 56,637 increased visits).

Table 25.—Percent and number of survey respondents who would increase visits with changes in flows

Types of change	Multiple visits	2 visits	3 visits	4 visits	5 visits	6 visits	10 visits	12 visits	20 visits	Total visits
Higher minimum flows	¹ 2.8 5	1.1 2		1.1 2	1.7 3		2.2 4	0.6 1	0.6 1	10.1 18
More consistent flows	² 0.5	11.0	1.6	4.4	4.4	0.5	0.5			22.9
Higher flows	³ 0.5	0.5			1.6		1.0			3.6
Total, all flows	3.8	12.5	1.6	5.4	7.6	0.5	3.7	0.5	0.5	36.6

¹ 7.7 is the mean number of increased visits for the sample for those wanting "higher minimum flows."

² 3.3 is the mean number of increased visits for the sample for those wanting "more consistent flows."

³ 6.2 is the mean number of increased visits for the sample for those wanting "higher flows."

Formula: Total number of users stating increase visits * the number of visits in which they would increase = total number of increased visits.

Table 26.—Percentage and number of increased visits: fly fishing, given changes in flow

Types of change	Multiple visits	2 visits	3 visits	4 visits	5 visits	6 visits	10 visits	Total visits
Higher minimum flows	1.5 1				1.5 1		1.5 1	10.1 18
More consistent flows		19.7 13	4.5 3	10.6 7	3.0 2	1.5 1	1.5 1	40.8 27
Total of flows	1.5 1	19.7 13	4.5 3	10.6 7	4.5 3	1.5 1	3.0 2	45.3 30

Table 27.—Percentage and number of increased visits: spin/lure/bait fishing, given changes in flow

Types of change	Multiple visits	2 visits	4 visits	5 visits	12 visits	Total visits
Higher minimum flows				2.4 1	2.4 1	4.8 2
More consistent flows	2.4 1	11.9 5	2.4 1	14.3 6		31.0 13
Total of flows	2.4 1	11.9 5	2.4 1	16.7 7	2.4 1	35.8 15

Of the visitors surveyed, 4.0 percent of the 73,981 visitors, or 2,959 visitors, would increase, on average, 6.2 visits per year if **higher flows** existed. This represents 18,345 more visits per year and a total increase of user days of 29,352. Increased visits represent a yearly increase in expenditure of \$2,534,912. (Based upon \$138.18 per visit x 18,345 increased visits).

Projection if all Desired Flows Were Met

If **higher and more consistent flows** and **higher minimum flows** were all maintained, then 36.6 percent of the 73,981 Truckee River recreation users, or 27,077 users, would increase their yearly visits by either 7.7, 3.3, or 6.1 visits. This reflects an increase in visitation of 129,686 visits per year and an increase in expenditure of \$17,920,011 per year based on an average expenditure per visit of \$138.18.

Fly Fishing.—

Fly Fisher Survey Respondents.—For our survey study sample, 34 percent, or 66 river users, are fly fishing (see table 25). Of the visitors surveyed, 4.5 percent (3) would increase, on average, 13.3 visits per year if **higher minimum flows** existed. This represents 40 more visits per year, a total increase of user days of 64, and an increased expenditure of \$6,119. (This is based on a per-person expenditure of \$152.98 x 40 visits.)

For our survey study sample, 34 percent, or 66 river users, are fly fishing. Of the visitors surveyed, 40.8 percent (27) would increase, on average, 3.3 visits per year if **more consistent flows** existed. This represents 89 more visits per year, a total increase of user days of 142, and an increased expenditure of \$13,615. (This is based on a per-person expenditure of \$152.98 x 89 visits.)

Table 28.—Percentage and number of increased visits: kayaking, given changes in flow

Types of change	Multiple visits	2 visits	4 visits	5 visits	10 visits	20 visits	Total visits
Higher minimum flows	8.8 4	2.2 1	4.4 2	6.6 3	8.8 4	2.2 1	33.0 15
More consistent flows		2.2 1		2.2 1			4.4 2
Higher flows	2.2 1			6.6 3	2.2 1		11.0 5
Total of flows	11.0 5	4.4 2	4.4 2	15.4 7	11.0 5	2.2 1	48.4 22

Table 29.—Percentage and number of increased visits: rafters, given changes in flow

Types of change	Multiple visits	2 visits	10 visits	12 visits	Total visits
Higher minimum flows	5.2 2	2.6 1	2.6 1	2.6 1	13.0 5
More consistent flows		2.6 1			2.6 1
Higher flows	2.6 1	2.6 1			5.2 2
Total of flows	7.8 3	7.8 3	2.6 1	2.6 1	20.8 8

Fly Fisher Total Increased Visits and Expenditures.—If **higher minimum flows** and **more consistent flows** were maintained, then 45 percent of the 25,153 fly fishers, or 11,318 users, would increase their yearly visits by either 13.3 or 3.3 visits. This represents an increase in visitation of 48,921 visits per year and an increased expenditure of \$7,483,934 per year based on an average expenditure per visit of \$152.98.

Spin/Lure/Bait Fishing.—

Spin/Lure/Bait Fishing Survey Respondents.—For our survey study sample, 23 percent, or 42 river users, are spin/lure/bait fishing (see table 26). Of the visitors surveyed, 4.8 percent (2) would increase, on average, 8.5 visits per year if **higher minimum flows** existed. This represents 17 more visits per year, a total increase of user days of 27, and an increased expenditure of \$1,532. (This is based on a per-person expenditure of \$90.14 x 17 visits.)

For our survey study sample, 23 percent, or 42 river users, are fly fishing. Of the visitors surveyed, 40.8 percent (27) would increase, on average, 3.4 visits per year if **more consistent flows** existed. This represents 91 more visits per year, a total increase of user days of 142, and an increased expenditure of \$8,202. (This is based on a per-person expenditure of \$90.14 x 91 visits.)

Spin/Lure/Bait Fishing Total Increased Visits and Expenditures.—If **higher minimum flows** and **more consistent flows** were maintained, then 35.8 percent of the 17,015 spin/lure/bait fishers, or 6,091 spin/lure/bait fisher users, would increase their yearly visits by

either 8.5 or 3.4 visits. This reflects an increase in visitation of 24,871 visits per year and an increased expenditure of \$2,241,871 per year based on an average expenditure per visit of \$90.14.

Kayaking.—

Kayaking Survey Respondents.—For our survey study sample, 24 percent, or 46 river users, are kayakers (see table 27). Of the visitors surveyed, 33.0 percent (15) would increase, on average, 5.6 visits per year if **higher minimum flows** existed. This represents 84 more visits per year, a total increase of user days of 134, and an increased expenditure of \$3,767. (This is based on a per-person expenditure of \$44.84 x 84 visits.)

For our survey study sample, 24 percent, or 46 river users, are kayakers. Of the visitors surveyed, 4.4 percent (2) would increase, on average, 4.5 visits per year if **more consistent flows** existed. This represents 8.4 more visits per year, a total increase of user days of 13, and an increased expenditure of \$376.66. (This is based on a per-person expenditure of \$44.84 x 8.4 visits.)

For our survey study sample, 24 percent of 46 river users are kayakers. Of the visitors surveyed, 11.0 percent (5) would increase, on average, 5 visits per year if **higher flows** existed. This represents 25 more visits per year, a total increase of user days of 40, and an increased expenditure of \$1,121. (This is based on a per-person expenditure of \$44.84 x 25 visits.)

Kayaking Total Increased Visits and Expenditures.—If **higher minimum flows** and **more consistent flows** and **higher flows** were maintained, then 48.4 percent of the 17,733 kayakers, or 8,583 users, would increase their yearly visits by either 5.6, 4.5, or 5 visits. This reflects an increase in visitation of 46,036 visits per year and an increased expenditure of \$2,064,254 per year based on an average expenditure per visit of \$44.84.

Rafting.—

Rafting Survey Respondents.—For our survey study sample, 20 percent, or 38 river users, are rafters (see table 28). Of the visitors surveyed, 13.0 percent (5) would increase, on average, 8 visits per year if **higher minimum flows** existed. This represents 40 more visits per year, a total increase of user days of 64, and an increased expenditure of \$7,246. (This is based on a per-person expenditure of \$181.16 x 40 visits.)

For our survey study sample, 20 percent, or 38 river users, are rafters. Of the visitors surveyed, 2.6 percent (1) would increase, on average, 2 visits per year if **more consistent flows** existed. This represents 2 more visits per year, a total increase of user days of 3.2, and an increased expenditure of \$362.32. (This is based on a per-person expenditure of \$181.16 x 2 visits.)

For our survey study sample, 24 percent of 46 river users are kayakers. Of the visitors surveyed, 5.2 percent (2) would increase, on average, 2 visits per year if **higher flows** existed. This represents 4 more visits per year, a total increase of user days of 6.4, and an increased expenditure of \$724.72. (This is based on a per-person expenditure of \$181.16 x 4 visits.)

Rafting Total Increased Visits and Expenditures.—If **higher minimum flows and more consistent flows** and **higher flows** were maintained, then 20.8 percent of the 14,778 rafters, or 3,074 users, would increase their yearly visits by either 8 or 2 visits. This reflects an increase in visitation of 17,672 visits per year and an increased expenditure of \$3,201,460 per year based on an average expenditure per visit of \$181.16.

11. Literature Cited

Shelby, B., T. Brown, and Taylor. 1992. Streamflow and Recreation. General Technical Report RM 209. Fort Collins, Colorado, U.S. Forest Service, Rocky Mountain Forest Service and Range Experiment Station.

Doug Whittaker Outdoor Recreation Planner Alaska Region. 1993. Instream Flows for Recreation: A Handbook on Concepts and Research Methods. U.S. Forest Service.

Ken D. Bovee and Tim Cochnauer. 1977. Development and Evaluation of Weighted Criteria, Probability-of-Use Curves for Instream Flow Assessments. Cooperative Instream Flow Service Group, Fort Collins, Colorado.

Richard Kraus and Lawrence R. Allen. 1987. Research and Evaluation in Recreation, Parks and Leisure Studies. Gorsuch Scarisbrick, Publishers. Scottsdale, Arizona.

Heede, B.H. 1980 Stream Dynamics: An overview for land managers. USDA Forest Service General Technical Report, RM-72, 26 p.

Barrow, Pope, ed. 1989. The American Whitewater Affiliation nationwide whitewater inventory. Washington, DC: American Whitewater Affiliation.

Corbett, Rodger. 1990. A method for determining minimum instream flow for recreational boating. SAIC Special Report 1-239-91-01. McLean, Virginia.

**TRUCKEE
RIVER
RECREATION
SURVEY**

Conducted by Lawrence Stuemke and Tammy Kibler
Colorado State University

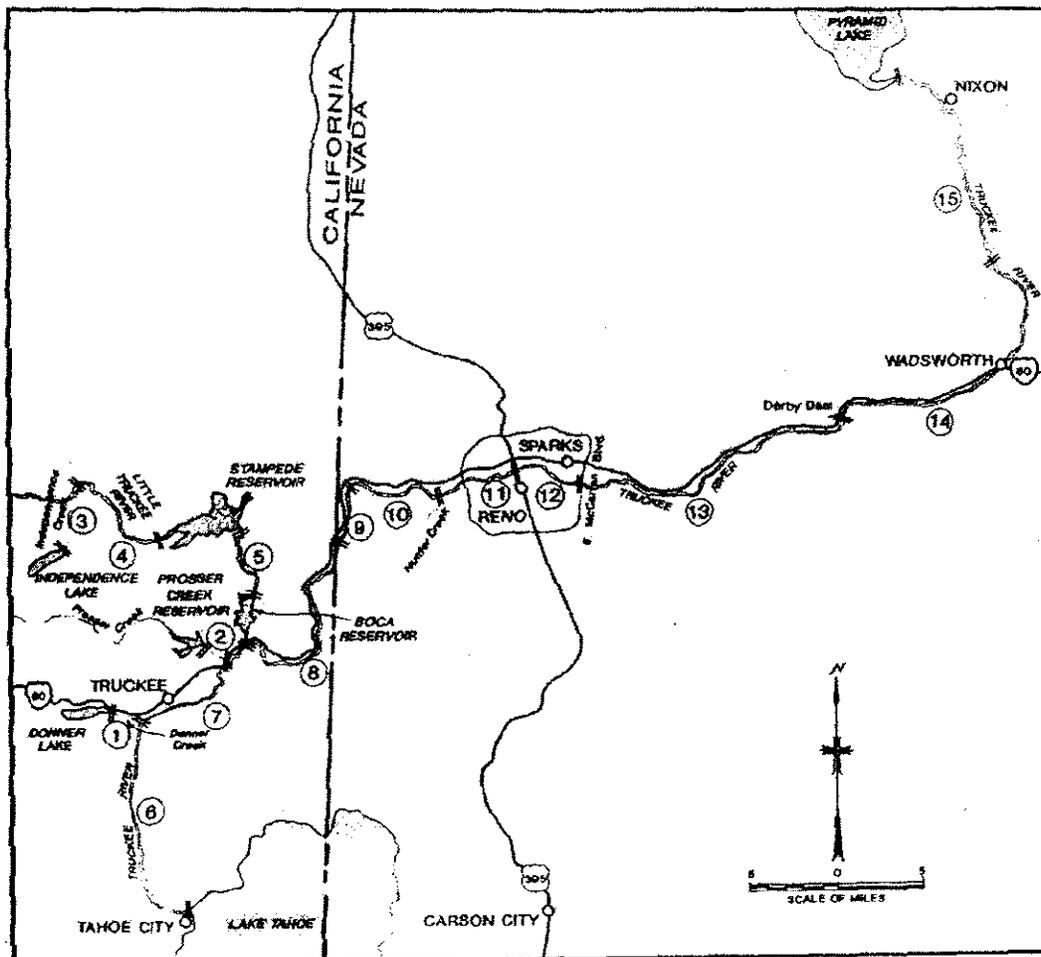
Summer
1999

Important: For this survey, Truckee River includes the Truckee plus the sections of the Little Truckee, Donner Creek, and Prosser Creek.

1 What recreation activities have you participated in on the Truckee River?

Activity	Visits	Days
Circle activities and put X next to the activity you are doing today	Average number of visits per year	Average number of days per year
Flyfishing	_____	_____
Spin/ lure/ bait fishing	_____	_____
Kayaking (Canoeing)	_____	_____
Rafting	_____	_____
Tubing	_____	_____
Sightseeing	_____	_____
Camping	_____	_____
Hiking	_____	_____
Picnicking	_____	_____
Jetskiing	_____	_____
Other activities _____	_____	_____

2. When do you prefer to come to the river (spring, summer, weekdays etc.) and why do you choose this time to come to the Truckee? (example: Late May/early June on weekdays because the river flows are best for fishing.)



3. List the section (s) of the river where you participated in the following activities and give these areas a quality rating and reason for the rating. (Please see map for river section)

ACTIVITY	RIVER SECTION(S)	RATING				REASON FOR RATING
		Excellent	Good	Fair	Poor	
Flyfishing	_____	_____	_____	_____	_____	_____
Spin / lure/ bait fishing	_____	_____	_____	_____	_____	_____
Kayaking / Canoeing	_____	_____	_____	_____	_____	_____
Rafting	_____	_____	_____	_____	_____	_____
Tubing	_____	_____	_____	_____	_____	_____
Sightseeing	_____	_____	_____	_____	_____	_____
Camping	_____	_____	_____	_____	_____	_____
Hiking	_____	_____	_____	_____	_____	_____
Picnicking	_____	_____	_____	_____	_____	_____
Jetskiing	_____	_____	_____	_____	_____	_____
Other _____	_____	_____	_____	_____	_____	_____

4 At what time of year and where are the flows in the river best for your particular recreational activities? (See map)

NAME OF ACTIVITY	Months and weeks of the year Example (1 st week of June, 1999)	Section # (See map)
Flyfishing		
Spin / lure/ bait fishing		
Kayaking (canoeing)		
Rafting		
Tubing		
Sightseeing		
Camping		
Hiking		
Picnicking		
Jetskiing		
Other (List)		

5. Please mark on the map with a "S" (start), what access points you started at and a "T" (take out), where you ended your activities. Also, note on map the activity.

6. Would you like water levels or flows in certain section of the Truckee River to be lower, higher or the same during a certain period of the year to enhance your recreation experience. Please explain. (example - higher during winter months Dec, Jan, Feb section 8).

	AREA (refer to map)	Month/Day/Year
LOWER		
HIGHER		
SAME		

7. Is there a water level or flow rate that you would recommend for the river that would enhance your recreational experience? Please describe. _____

8. Is there a water level or flow rate, which would keep you from using the river? Please describe. _____

9. Would you still visit the Truckee River area if conditions were not adequate to participate in your preferred Truckee River recreation activities? Yes ___ No ___

10. Do river flows or some other factors determine whether or not you recreate on the Truckee River?
Activity Name _____ ; River Flows _____ or other Factors _____ (Name factors)

11. List the average number of individuals Per visit, who accompanied you to the Truckee River this past year.

1 ___ 2 ___ 3 ___ 4 ___ 5 ___ More _____

12. List any conflicts you have experienced or have heard about the Truckee River and explain (Circle experienced or heard about and give explanation)

13. Have you felt crowded while using the river this past year? (Please indicate by circling the appropriate numbers below)

Did you feel crowded by other users	Not at all Crowded	Slightly Crowded	Moderately Crowded	Extremely Crowded
At the access where you first entered the river	4	3	2	1
While on the river	4	3	2	1
At the access where you left the river	4	3	2	1

14. Please estimate the number of each of the following types of users you encountered (per visit) at each location this past year?

(Do not count members of your own party)

Estimate Number of Users:

	Fly Fishing	Spin/lure/bait Fishing	Rafting	Canoeing	Kayakers	Tubers	Jetskiers
At the access where you first entered the river.	_____	_____	_____	_____	_____	_____	_____
While on the river.							
Section # _____	_____	_____	_____	_____	_____	_____	_____
Section # _____	_____	_____	_____	_____	_____	_____	_____
At the access where you left the river.	_____	_____	_____	_____	_____	_____	_____

15. Are you aware of or had any conflicts with other users on the Truckee River?
 (If "yes", put a "C" on the map where you encountered these conflicts)

Kayakers / Canoeists	Yes	No
Rafters	Yes	No
Flyfishermen	Yes	No
Spin / lure/ bait fishermen	Yes	No
Private land owners	Yes	No
Commercial guides	Yes	No
Sightseers	Yes	No
Jetskiers	Yes	No
Other _____	Yes	No

(If "yes", please describe and give date) _____

16. On average visits to the Truckee River, how many people are within eyesight at any given time? _____

17. What (in your opinion) is an acceptable number of people to have within eyesight in the following places while on the river?

At the access where you first entered the river. It is OK to have as many as _____
 It doesn't matter to me _____

While on the river. It is OK to have as many as _____
 It doesn't matter to me _____

At the access where you left the river. It is OK to have as many as _____
 It doesn't matter to me _____

18. Are there any other rivers in the area that you use for recreation? (If "Yes", rate the river compared to the Truckee).

Other river name: _____ Activity _____ Better than _____ Similar to _____ Not as good as _____ the Truckee River for the above activity.

19. What recreational activities do you think the Truckee River is best suited for?

Kayaking / Canoeing Rafting Flyfishing Spin / lure / bait fishing Swimming Jetskiing Tubing
 Sightseeing Other _____ Why? _____

20. Have you used a commercial guiding service on the Truckee River?

Guided Yes ___ No ___ Name of Guide Service _____ Activity _____
 Unguided Yes ___ No ___

21. How much did you spend on the following items on this visit to the river? Indicate the percentage of the total spent in Truckee, Reno/Sparks or Other Area.

Items	Total \$	Truckee %	Reno/Sparks %	Other Area %
Camping Fees				
License Fees				
Hotel and Motel				
Restaurant				
Groceries and Supplies				
Gas				
Shopping				
Rental of Equipment				
Fishing Supplies				
Guide Services				
Other				
Total				

22. Describe the river conditions that you prefer in order to participate in your river activities.

23. What might be done on the Truckee River make it better for your recreation: _____

24. How many more visits would you make per year if this were done? _____

The following questions are for statistical information only and will be kept strictly confidential.

25. What City, State, and Zip Code are you from? _____

26. Female ___ Male ___

27. Check the category that best describes your formal education level.

- Some high school
- Graduated from high school or vocational tech
- Some college
- Graduated from a four-year college
- Post graduate work or degree

28. What was your household gross income for 1998-1999?

- Less than \$15,000
- \$15,001-\$25,000
- \$25,001-\$35,000
- \$35,001-\$50,000
- \$50,001-\$75,000
- \$75,001-\$100,000
- over \$100,000

Other Comments?

THANK YOU FOR YOUR TIME AND COOPERATION!

5. At what time of year and where are the flows in the river the best for guided trips?

<u>SECTION</u>	<u>MONTHS/WEEKS</u>	<u>COMMENTS</u>
----------------	---------------------	-----------------

6. Would you like water levels or flows in certain sections (see map) lower, higher, or the same during a certain period of the year that would enhance the quality of experience for your clients?

<u>SECTION</u>	<u>WATER LEVEL</u>	<u>TIME OF YEAR</u>
----------------	--------------------	---------------------

7. Is there a water level or flow rate that would keep you from using the river for guided trips?
Please describe.

Do river flows or some other factors determine whether you guide on certain sections of the river?

River flows Yes _____ No _____

Other factors (please describe)

9. On average, what is the number of clients that accompany each guide? _____

Minimum _____ Maximum _____

10. How many guides do you employ?

Full time _____

Part time _____

11. Do you think there will become a time when there will need to be limits on the number of people on the river?

Yes _____ No _____ Explain –

12. Do you think there will become a time there will be limits on the types of use on the river (i.e. only rafting, flyfishing, catch and release only, etc.)

13. Do you think there should be limits on river use now?

Yes _____ No _____ Explain –

14. Have you or any guides experienced or heard of any conflicts between different user groups on the river? Explain –

15. Are there any other rivers in the area that your company uses to guide clients on? (If “yes” rate that river compared to the Truckee).

Other river _____ Better than _____ Similar to _____ Not as good as _____ the Truckee River.

Other river _____ Better than _____ Similar to _____ Not as good as _____ the Truckee River.

Other river _____ Better than _____ Similar to _____ Not as good as _____ the Truckee River.

CONTACT LIST

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Pyramid Lake, NV.

Nevada Division of Wildlife
Reno, NV.

California Division of Wildlife
Truckee, CA.

Truckee Ranger District
Truckee CA.

Tahoe National Forest
Nevada City, CA.

U.S. Forest Service
Truckee, CA.

Truckee Chamber of Commerce
Truckee, CA.

Commercial guides and outfitters

Truckee River Raft Rentals
Tahoe City, CA.

Truckee River Outfitters
Truckee, CA.

Tahoe Whitewater Tours
Tahoe City, CA

Reno Fly Shop
Reno, NV.

Mountain Air Rafting
Tahoe City, CA.

Four Seasons Flyfishing
Truckee, CA.

Whitewater Excitement
Auburn, CA.

Johnson Tackle & Guide Service
Tahoma, CA.

9 Lives Paddleshop
Tahoe City, CA.

Riffleworks Flyfishing
Truckee, CA.

I.R.I.E. Rafting Company
Olympic Valley, CA.

Orvis Flyfishing Outfitters
Tahoe City, CA.

River Adventures & More
Reno, NV.

California School of
Flyfishing, Truckee CA.

Truckee Trout Guides
Truckee, CA.

True Value Mountain
Hardware, Truckee CA.

Special interest groups

Truckee River Yacht Club
Reno, NV.

Tahoe-Truckee Flyfishers
Tahoe City, CA.

Friends Of The River
Rafting Chapter
Sacramento, Ca.

Sierra Pacific Power Company
Tahoe City, CA.

Sierra Nevada Whitewater Club
Reno, NV.

