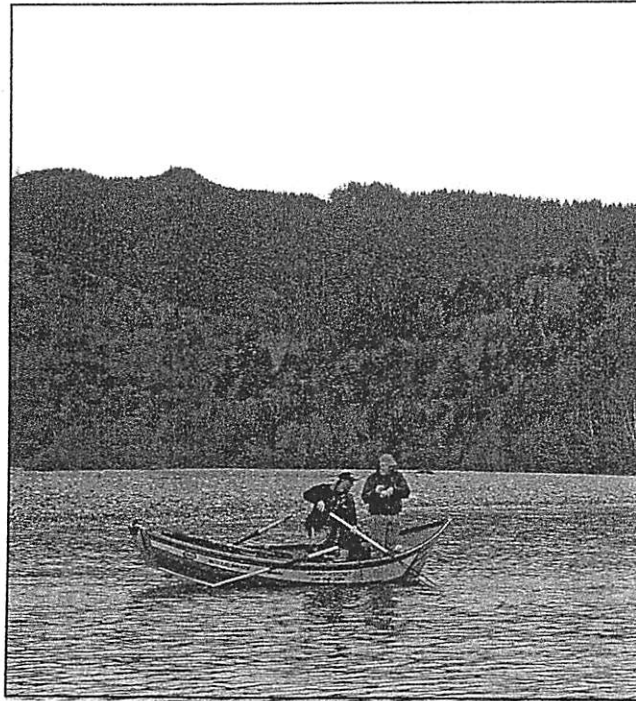


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Southern Oregon/Northern California
Salmon and Steelhead Fishing Guides
Use and Economic Analysis (1996 – 1997)



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Curry and Del Norte Counties

Introduction

The coastal rivers of Southern Oregon and Northern California are home to some of the best salmon and steelhead runs on the Pacific Coast. These coastal systems include the Sixes, Elk, Rogue, and Chetco Rivers (Curry County, OR) and the Smith, Klamath, Trinity, Mad and Eel Rivers (Del Norte and Humboldt Counties, CA) (See Map - Figure 1).

Anadromous salmonid populations in these rivers include spring and fall Chinook (*Onchorynchus tshawytscha*), Coho (*O. kisutch*), summer and winter steelhead (*O. mykiss*) and coastal cutthroat trout (*O. clarkii*). Each river hosts varying runs of summer, spring and winter populations of adult salmonids. The Rogue, Trinity and Klamath River fisheries are dominated by spring, summer and early fall runs of Chinook salmon and steelhead. Late fall Chinook and winter steelhead runs dominate the fisheries of the Sixes, Elk, Chetco, Smith, Mad and Eel Rivers (Personal Communication – CDFG/ODFW staff).

The recreational fishing guide industry has existed on West Coast rivers for over 50 years. This industry is an important economic component within the Southern Oregon and Northern California coastal communities. Thousands of anglers utilize guide services annually, providing income for hundreds of local and regional fishing guides.

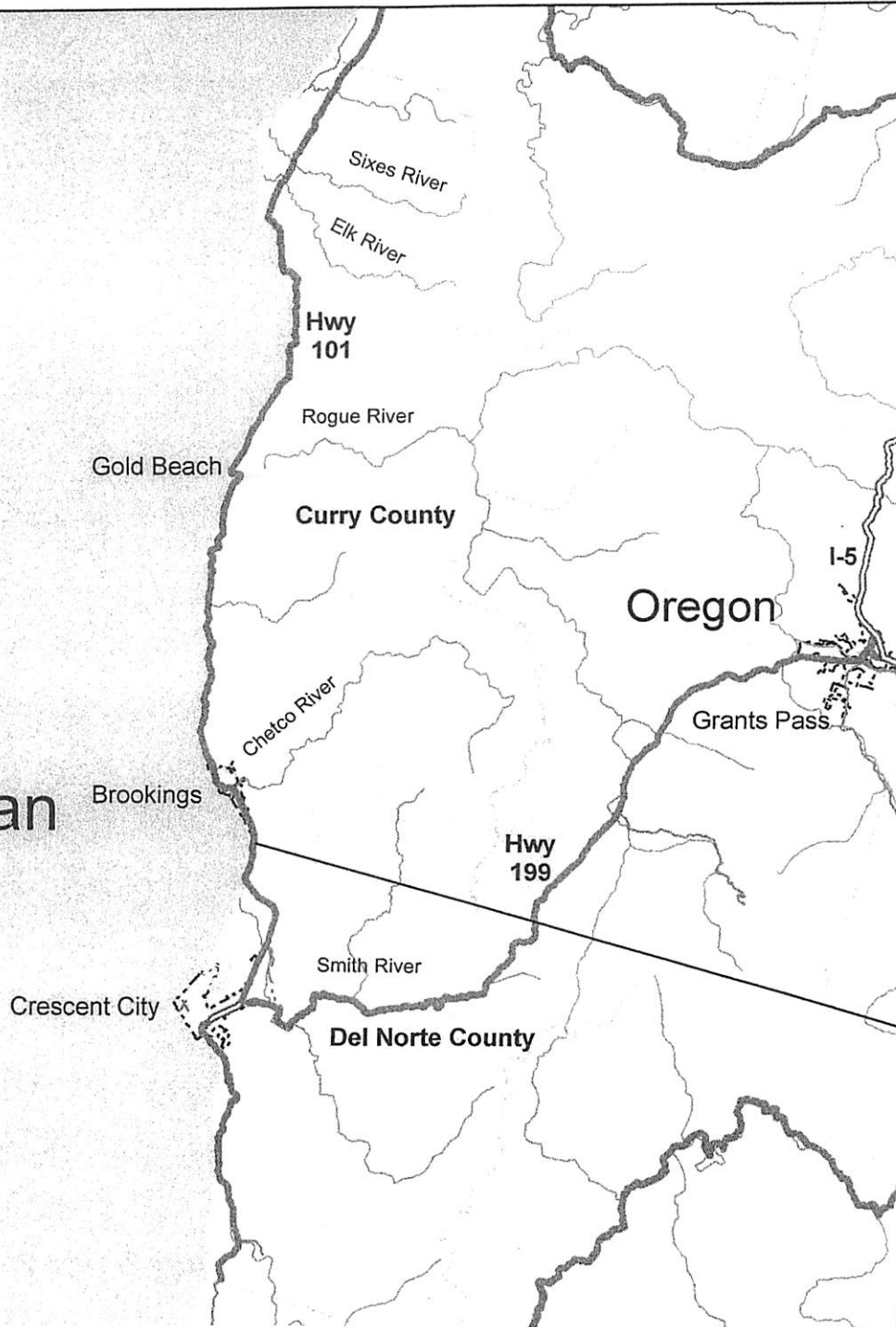
Significant increases in the number of salmon and steelhead fishing guides operating in Curry, Del Norte and Humboldt coastal streams seemed to have occurred from 1990 – 1995. However, no directed studies were conducted to quantify these fishing guide industry demographics, use trends and economic impacts. Some of this increase may have been a reflection of job reductions in the timber and commercial fishing industries with partial transformation of these resource workers to river guiding.

Estimates of the value of recreational fishing in California and the West Coast states have been conducted in several studies over the years (American Sportfishing Assoc., 2007; Boyle *et al.*, 1998; Douglas and Sleeper, 2003; McWilliams and Goldman, 1994; NMFS, 2006; and Ransom, 2001). However, these studies were not directed at river guiding or necessarily salmonid fisheries. Alkire (2008) conducted a review of the value of recreational fishing in California, summarizing many of the above studies.

Limited surveys of salmon and steelhead recreational anglers have been conducted in Southern Oregon/Northern California coastal rivers. Kershner and Vankirk (1984) identified characteristics and attitudes of Klamath River anglers in a 1979 survey. Douglas and Sleeper (2003) conducted a lower Klamath Basin recreational use survey that included sport angling. The Economic Sciences Research Center at Washington



Pacific Ocean



Methods

A questionnaire was developed in 1998 that targeted the Southern Oregon and Northern California river fishing guide industry. Questions included demographic information (residency, years of operation, age); fishing fees; river location of guided trips and months of operation. Several questions also solicited opinions about salmonid fishery management issues.

A draft of this questionnaire was distributed for comments to two California Department of Fish and Game biologists, an Oregon Fish and Wildlife biologist, a Sea Grant fishery specialist, four river guide association representatives and a University of California social scientist. A final questionnaire was developed (Appendix 1) using input from these reviewers.

Lists of river fishing guides were obtained from regional guides associations and Oregon and California statewide guide lists. The following sources were used to compile a targeted guide survey group:

1. California Department of Fish and Game list of licensed guides (1995) – Guides were listed by fish specie and county of use (Del Norte, Humboldt and Trinity).
2. Oregon State Marine Board River Guide list (1998) – Guide use listed by district area served.
3. Smith River Guides List (1998) – used for Rowdy Creek Hatchery enhancement tournaments.
4. Rogue River Guides Association (1998).
5. Curry Guides Association (1997).
6. Northern California Association of River Guides (1996).
7. U.S. Forest Service Guides List (1997) – Gold Beach District.
8. Smith River National Recreational Area Guide List (1998).

There were numerous instances of river guide name and address repetitions in these extensive lists. Upon thorough review of the lists it was determined that 388 fishery river guides utilized the rivers of the Southern Oregon/Northern California Region during 1996-97. These guides were the targeted questionnaire recipients.

The survey was mailed to 388 fishing guides in August 1998 with a letter of explanation and a return envelope for the questionnaire. A second mailing of the survey was sent in November 1998 to the same guide list as a follow up. All guide data collected from questionnaires was entered into an Excel database. Excel was also used to complete the statistical analysis of the data.

Table 1: River Guide Residency by Community and County.

<u>California</u>			<u>Oregon</u>		<u>Other States</u>
Del Norte County:	Crescent City – 5		Curry County :	Brookings – 8	Alaska/Washington & Wyoming – 3
	Smith River – 5			Gold Beach – 21	
Humboldt County :	Eureka/Arcata/ Mckinnleyville – 5		Josephine County:	Grants Pass – 16	
	Other Humboldt Co. – 12		Jackson County:	Medford – 25	
Redding (Shasta Co.) – 5				Ashland - 10	
Other California Counties – 17			Douglas County:	Roseburg/Eugene/ Springfield – 9	
			Other Oregon Counties – 11		
Total: CA = 49			OR = 100		Other = 3

Years of Guiding:

Overall responses indicated a range of one to 43 years of permitted fishing guide experience with a mean of 15 years. Oregon guides had a range of 1 – 43 years experience with a mean of 16 years and California guides reflected a 1 – 28 year range with a mean of 12 years of experience.

Fishing Guide Association Membership:

Guides responded to this question with Yes – 102 (67%), No – 46 (30%) and four no responses (3%). Breakdown of the responses by California and Oregon showed that 76% of Oregon guides belong to an association and 54% of California guides are association members.

Age of River Guides:

The age of fishing guides ranged from 19 – 78 years with a mean age of 48 years. California guide age ranged from 23 – 65 years (47 year mean) and Oregon guides ranged from 19 – 78 years (48 year mean).

States in Which River Guides Operate:

Guides were asked in which states they operate as a fishing guide. The majority of guides (72%) responded that they operate only in one state (California or Oregon). Some guides (19%) operated in two states, which were predominately California and Oregon. About 9% of guides indicated that they operated in three states that included California, Oregon and Alaska (one guide indicated Oregon, Washington and Alaska).

River Guide Booking Techniques:

River guides were asked if they independently book their own trips, use a service (outfitter), or utilize both methods. Responses indicated that 60% of guides book independently, 39% use a service and independent bookings, and only 1% use only an outfitter service.

Multi-day Fishing Trips:

Guides that utilize the Klamath, Rogue and Trinity Rivers will often take clients on multi-day trips on the upper river systems (Rogue Canyon, upper Klamath and Trinity Gorge) during summer months. Responses indicated that 37% of guides used multi-day trips sometime during the year and 63% did not. The average fee for a multi-day trip was \$525.00 per client. The range was \$200.00 - \$925.00.

Responses to the question that asked, "how many multi-day trips were taken" was difficult to interpret. Some guides responded with the total number of trips taken, others responded with the total number of days. Multi-day trips ranged from 1 – 33 trips with a mean of 10 trips annually. A typical multi-day trip consists of three days (Personal communication with fishing guides).

Number of One Day Guided Fishing Trips:

River guides were asked to estimate the number of one day fishing trips they worked on each river in the Southern Oregon/Northern California region. The guides listed the days separately for the 1996 and 1997 fishing seasons. All 152 guides responded to this question.

Figure 3 shows the total number of one day trips fished by responding guides in 1996 and 1997 on each river in the study area (Sixes, Elk, Rogue, Chetco, Smith, Klamath, Trinity, Mad and Eel Rivers). The Rogue River dominated the results by 5 – 6 times over guided trips on the other rivers (approximately 5,500 trips per year).

The Chetco and Smith Rivers were 2nd and 3rd with approximately 1,000 trips each per year. The responses indicated annual trips on other rivers of 300 – 500 trips each, except for the Mad River which showed 30 – 40 guided trips per year. One day guided fishing trips as reported by respondents in the Southern Oregon/Northern California study area totaled 9,608 trips for 1996 and 9,813 trips for 1997.

Months of Guided Fishing Trips:

Responses indicated that guides work 12 months of the year on Southern Oregon/Northern California coastal rivers. Locations targeted by guides vary by species being pursued, water conditions and river closures. The percentage of guides fishing in any given month (Figure 4) ranged from 53% - 78% with a mean of 67%. The lowest use months were April and July and the highest use months were September and October.

The question did not distinguish how many times per month a guide took trips, only that they fished at least once in a given month. Therefore, the results show the percentage of seasonal use by guides and does not indicate frequency or effort.

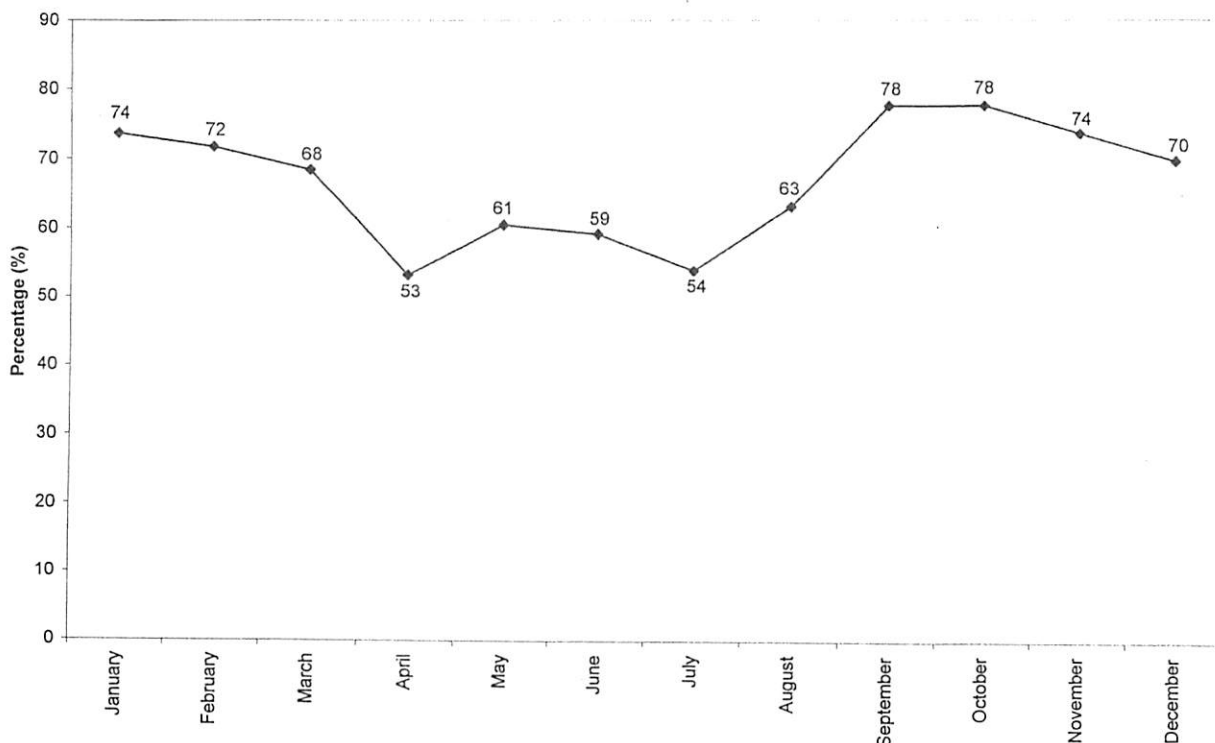


Figure 4: Monthly percentage of river guides using the Southern Oregon/Northern California rivers during 1996 – 1997.

Fishery Management Issues:

Four questions were asked of fishing guides pertaining to specific fishery management issues. The responses are tabulated as percentages or are listed in Appendix 2.

Hatchboxes:

Participation in hatchbox programs were tabulated overall as 43% Yes and 57% No. The breakdown by Oregon and California guides showed that 47% in Oregon participated in hatchbox projects and 3% in California. When asked if hatchbox programs are worthwhile, the overall response was 99% Yes.

Mass Marking:

The responses to the mass marking of all salmon and steelhead resulted in 89% saying Yes and 11% saying No. However, a breakdown by state (California and Oregon) did reflect some differences in opinion with 97% of California guides saying Yes and 85% of Oregon guides saying Yes.

Discussion

The questionnaire return rate of 42% was excellent for this survey method (Pollock *et al.*, 1994). The mailing percentages by state (Oregon – 62%; California – 36% and other states – 2%) were not significantly different than the return rates of questionnaires by state (Oregon – 66%; California – 32% and other states – 2%). Therefore, it was assumed that the questionnaire responses were not biased by state of residency.

Residency:

The breakdown of residency by state and community (Table 1) indicated most guides resided in communities that were 50 – 100 miles from the rivers that they guided on. California guides showed a higher percentage (34%) of “out of the area” guides utilizing the study area rivers than Oregon guides (20%).

Experience and Age:

Oregon guides averaged 16 years of experience and California guides averaged 12 years. This difference may be a reflection of the cost of doing business in each state (guide license fees, insurance rates, liability, equipment costs). It may also be a sociological factor that reflects a deeper endearment of river guiding to Oregon's economy. However, none of these factors were approached in this survey.

The average age of river guides was almost the same in both states (California – 47 years and Oregon – 48 years). This is probably a direct reflection of the endurance, experience and will it takes to be a fishing river guide. It may also reflect the worker transition 10 – 15 years ago from other natural resource industries (i.e., timber and commercial fishing).

River Guide Fees:

The distribution of 1996-97 fees charged by river guides (Figure 2) shows a mean of \$128.73 per client. This estimate will be used for the economic impact analysis presented later in this paper. The assumption that two clients were guided per one day trip will be utilized for this analysis. This equates to \$257.46 (\$257 rounded) per guided one-day fishing trip. These estimates are in 1998 dollars and no effort will be made to convert that to 2008 economic values.

Multi-day guided fees varied greatly and a mean of \$525 per client per trip was determined. It was assumed that these trips had two clients per trip. Therefore, an average multi-day guided trip represented a guide fee of \$1,050.

Combining the annual economic estimates of one-day and multi-day guided fishing trips you obtain the following direct economic benefits (income) to the guide industry and communities for the 1996 and 1997 seasons:

1996 = \$7,278,782

1997 = \$7,404,198

There are no determined economic multipliers that have been assigned to the guided fishing industry. However, economic multipliers of 3.0 – 3.5 have been utilized in past input-output economic studies conducted in coastal communities with relationship to commercial fishing, seafood processing and ocean recreational fishing.

It seems reasonable to utilize an economic multiplier of 3.0 for the river guide industry. Often an economic multiplier of 6 – 7 is used in coastal tourism studies. This does not seem appropriate for this analysis. Using the economic multiplier of 3.0 for the results of this study, it can be determined that the 1996 – 1997 coastal river guide industry had a minimum (direct income only) estimated economic value of \$21,900,000 to \$22,200,000 (1998 dollars).

The estimates for fishing guides income impacts were determined for the region. Since there were overlaps of guides using different rivers, the study made estimates for the entire Southern Oregon/Northern California study area. However, one could make economic impact estimates for individual rivers by using trip results in Figure 3 and applying the appropriate economic impact formula.

Months of Guided Fishing Trips:

The results of Figure 4 show that all months of the year indicate relatively high use of coastal rivers by guides. The lows of 53% - 63% in April through August reflect the time period (April and May) of certain river closures to fishing, or fewer runs of available salmon and steelhead (i.e., Elk, Sixes, Chetco, Smith, Mad and Eel rivers). The rivers that are open the entire year (Rogue, Klamath and Trinity) are still heavily used during this period for spring Chinook and summer steelhead.

The higher percentages of guide use by month range from 68% to 78% from September through March when fall Chinook and winter steelhead are plentiful in all coastal rivers. The monthly percentages of river guide use was surprisingly high throughout the year.

Changes in Fishing Regulations:

The responses to the fishing regulation questions were reflective of the period when this survey was performed, directly after the new California and Oregon regulations resulted from a 1995 ESA proposed listing of steelhead in the Klamath Province. The responses to those same questions would be quite different some 10 years later.

The 1998 response to the catch and release question showed a marked difference between Oregon and California guides. The Oregon guides indicated that 56% of them did not prefer catch and release, while California guides indicated 71% of them did prefer this method. This large difference of opinion is probably a direct

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APPENDIX 1

Southern Oregon/Northern California
Salmon and Steelhead River Guide
Economic User Questionnaire

FISHERY MANAGEMENT ISSUES:

11. Have you participated in hatch box projects? ☐ Yes; ☐ No
Are hatch box programs worthwhile? ☐ Yes; ☐ No

12. Should all hatchery produced salmon and steelhead be mass marked (fin clipped) to identify them from natural stocks?
☐ Yes ☐ No

13. Recent changes in fishing regulations have banned the taking of wild steelhead on most river systems (Rogue and Smith Rivers presently allow 1 wild steelhead).

Do you prefer catch and release only for wild steelhead?
☐ Yes ☐ No

If no, please list other rivers where you feel wild steelhead could be kept. _____

How many per season? ☐ 1 fish ☐ 2 fish
☐ 5 fish ☐ Other # _____

14. Should fishery regulations (gear and fish limits) be the same for California and Oregon salmon/steelhead rivers?
☐ Yes ☐ No

Recommendations for equal regulations:

Fish limits: _____

Gear: _____

Seasons: _____

* Please mail this completed survey in the enclosed self-addressed envelope (a stamp is required). Thank you for taking the time to participate in our economic resource survey.

SOUTHERN OREGON / NORTHERN CALIFORNIA SALMON AND STEELHEAD RIVER GUIDE ECONOMIC SURVEY

The Oregon State Sea Grant Extension program is conducting an economic status survey of the fishing guide industry. The survey results will inform southern Oregon and northern California communities about the economic value of the salmon and steelhead guide industry. We are also asking each guide to comment on certain fishery management changes occurring from potential salmon/steelhead ESA listings.

Send the completed survey to: **Jim Waldvogel, Sea Grant Agent**
(Envelope enclosed) **981 H Street, Room 2**
Crescent City, CA 95531

Please answer the following questions as factually as possible. Many responses require only a check mark, others need short numerical responses.

Do not put your name on the questionnaire.

1. Place of residence: City _____ State _____

2. How many years have you operated as a permitted fishing river guide on southern Oregon / northern California rivers (Sixes, Elk, Rogue, Chetco, Smith, Klamath, Trinity, Mad, or Eel Rivers)?
_____ years

3. Do you belong to a Fishing Guides Association? ☐ Yes; ☐ No

4. Your age: _____ years

APPENDIX 2

Responses by fishing guides to recommendations for
equal regulations (Listed by category)

Fish Limits:Number of Responses:

Steelhead:

One adult/day (either)	12
One adult/day (no wild)	7
Two adults/day	12
Two adults/day (one wild/one hatchery)	6
Two adults/week	1
One wild adult/season	1
Two wild adults/season	4
Three wild adults/season	2
Five wild adults/season	7
Six wild adults/season	1
10 wild adults/season	2
One adult over 34"/season	1
15 hatchery adults/season	1
20 adults/season	4
Catch and release all wild adults	5
No fish for guides	1

Salmon:

Two hatchery adults/day	5
Five hatchery adults/day	1
Two adults/day (8 per week)	1
Three salmon/day	1
One adult – three jacks/day	2
Two adults or jacks/day	4
Two adults and five jacks/day	1
Five salmon/season	1
20 salmon/season	4

Gear Types:Number of Responses:

Barbless hooks only	19
Artificial only	4
No treble hooks	3
No restrictions	6
Keep regulations "as is"	13
No bait	8
Barbed hooks allowed	7
No worms	2
Bait, lures and flies allowed	7
Fly fishing only	2
Two rods per person	1
Same hook sizes	1

(#4 or #2 for steelhead)	
(#2/o or #2 for salmon)	
Larger hooks only (over #2)	1
Any regulations that are legal	1

Seasons

Number of Responses:

Same as present	11
All year (Rogue/Klamath)	14
Weather dictates	1
Fall/Winter	4
Each river is different	8
Depends on number of fish in river	4
Months of fishing for smaller rivers	
August – March	4
May – April	1
October – May	1
September – April	2
September – February	1
December – April (steelhead)	1

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