

State of California
The Resource Agency
DEPARTMENT OF FISH AND GAME

2000-2001 ANNUAL REPORT
RECREATIONAL ANGLER USE AND CATCH IN THE UPPER TRINITY RIVER,
TRINITY COUNTY, CALIFORNIA, NOVEMBER 2000-MARCH 2001
PROJECT 1g3

Prepared By

Patrick S. Garrison
Northern California - North Coast Region

Steelhead Research and Monitoring Program
April 2002

ABSTRACT

This paper presents the results of a California Department of Fish and Game study, designed to estimate the Trinity River recreational angling use and salmonid catch from November 16, 2000 through March 31, 2001. During the period, I estimate that 7,925 anglers fished 36,523 hours and caught 3,108 steelhead trout (*Oncorhynchus mykiss*), of which 75 were harvested. Of the three reaches surveyed, the upper reach (Lewiston) received by far the most angling pressure, with 3710 anglers fishing 20,175 hours. The lower section (Gorge) received the least angling pressure with 1347 anglers fishing 4,947 hours. Gear use also varied highly between reaches. 75% of all fishermen in the Lewiston reach were fly fishermen, while 69% of all fishermen in the gorge reach were bait fishermen. Overall catch per unit effort of steelhead for all three sections of the Trinity River was 0.087 fish per hour. Catch rates were highest in the Lewiston section (0.101 fish per hour) and peaked in February (0.136 fish per hour). The composition of steelhead with an adipose fin (presumed wild) varied by month, and averaged 26.3 % wild steelhead for the season.

INTRODUCTION

This report present results of creel census study 1g3, which serves to estimate angler use and catch of steelhead and other salmonid species on the Trinity River in the winter fishery from mid-November 2000 through March 2001. The Klamath River population of steelhead, including the Trinity River, is the State's most sought after steelhead resource for recreational fishing purposes (CDFG, 1998). Currently, limited information is available concerning the in-river sport harvest of steelhead in KMP rivers. The expansion of the Departments present creel survey to cover steelhead angling highly complements already existing adult steelhead escapement estimates. The Department has operated several weirs in the system since 1977 to obtain steelhead run size, sport harvest, and spawning escapement estimates (McEwan and Jackson, 1996). Historically, the Department has conducted several creel censuses within the basin, but few have focused on steelhead. One exception is the South Fork Trinity River steelhead creel censuses from 1990-1995, which provided excellent baseline information on pressure and angler harvest rates. Previous to the 1999/2000 season, no winter-run steelhead creel surveys had been conducted on the upper main-stem of the Trinity River.

This study was designed to estimate adult and sub-adult salmonid catch and harvest by species, month, and river reach; it was also designed to quantify wild versus hatchery steelhead harvest ratios. The Trinity River Hatchery (TRH) is located below Lewiston Dam at the Trinity River's terminal end, and was constructed in 1963 as a mitigation facility, which is funded by the Bureau of Reclamation. Yearlings are volitionally released into a impoundment below the hatchery in March. Since 1997, all hatchery steelhead have been marked with an adipose fin clip prior to release; this enables creel surveyors and anglers to discern three and four year old hatchery steelhead from wild steelhead. Before 1997, only a portion of hatchery steelhead were adipose fin clipped. Consequently, some five plus year old hatchery steelhead may not be adipose fin clipped.

SPECIES STATUS (FEDERAL)

Chinook (king) salmon within the Trinity River are considered part of the Southern Oregon/Northern California Coastal Evolutionarily Significant Unit (ESU), and Trinity River steelhead trout are within the Klamath Mountains Province ESU (NMFS 1998; NMFS 1999). The Southern Oregon/Northern California Coastal Chinook ESU was considered “not warranted” for Federal Endangered Species Act listing (NMFS 1999), as was Klamath Mountains Province Steelhead ESU (NMFS 2001). Coho salmon in the Trinity River belong to the Southern Oregon/Northern California Coast ESU, and are classified as “Threatened” (NMFS 1997), subsequently, no harvest is allowed (CDFG Regulations).

ANGLING RESTRICTIONS

Specific angling restrictions limit fishing season, areas fished, method of catch, and daily bag limits within the Trinity River Watershed. The Trinity River from Lewiston Dam to 250 feet downstream is closed to fishing year round. The Trinity River from 250 feet below Lewiston Dam to Old Lewiston bridge (fly-fishing only section) is open the least Saturday in April through September 15. The river from Old Lewiston bridge to the Highway 299 West bridge at Cedar Flat is open the fourth Saturday in May through March 31. The river from Cedar Flat downstream to the Hawkins Bar bridge is open the fourth Saturday in May through August 31 and November 16 through March 31.

Several gear restrictions exist on the Trinity River. Only barbless hooks may be used. Bait may be used only with single hooks having a gap between the point and shank between ½ and 1 inch, or with multiple hooks having a gap between the point and shank between ¼ and ½ inch. In areas closed to the take of adult salmon, anglers shall not remove any adult king salmon from the water by any means.

Daily bag limits included one hatchery steelhead or one hatchery trout, three chinook (king) salmon, with no more than one over 22 inches total length. For chinook salmon, a size restriction is imposed on the Trinity River when the Department has determined that 16.5 % of the allowable sport-fishery harvest for the Klamath River basin has been exceeded. Steelhead anglers are required to fill out steelhead report cards on a daily basis. The California Department of Fish and Game’s Sport Fishing Regulations handbook for 2000/2001 and corresponding supplements, have complete descriptions of angling restrictions.

DESCRIPTION OF STUDY AREA

The Trinity River is the largest tributary in the Klamath River system and drains into the Klamath River near the town of Weitchep, California. The watershed is a mountainous, semi-wilderness region of approximately 2,900 square miles, which lies almost entirely within Humboldt and Trinity counties. The creel census covers the entire

main-stem river accessible to steelhead above Hawkins Bar, California, where the majority of winter steelhead angling occurs.

For the purposes of this study, the Trinity River is divided into three reaches and covers most water open to fishing by the public. Some areas of the river are only accessible by private property or boat and are subsequently excluded from surveys.

Reach 1: Gorge	Hawkins Bar bridge (R.M. 40) to North Fork Trinity confluence (R.M. 72.5)
Reach 2: Middle	North Fork Trinity confluence (R.M. 72.5) to Indian Creek (R.M. 95.4)
Reach 3: Lewiston	Indian Creek (R.M. 95.4) to Lewiston Dam (R.M. 110)

METHODS

The Trinity River Creel Census for steelhead is a roving interview style creel census, where all anglers encountered are interviewed. Anglers not able to be interviewed are enumerated for effort calculations. This sampling protocol is similar to that used by SRAMP personnel on the Mad and Smith Rivers.

To ensure as complete of coverage as possible, the river is divided into three sections, to which each is assigned a creel clerk (scientific or seasonal aide). Sections were selected based on mileage to be covered and estimated angling pressure. Sampling days were randomly selected and stratified by weekday and weekend. Approximately 50% of weekdays and 60% of weekends were sampled. Two passes were made of each section each day. Each day was stratified into morning and evening shifts. Each pass constitutes approximately five to six hours of surveying effort. Effort estimates were calculated in hours by multiplying the average number of anglers enumerated during progressive rover counts by the legal fishing hours in the day.

Catch expansions were made weekly for each month using the following formula:

$$\text{Monthly catch} = j \quad A_d / (P) * ((C_d * F_d * (D_d / D_{ds})) + j \quad A_w / (P) * ((C_w * F_w * (D_w / D_{ws})))$$

A_d = anglers on weekdays

P = # of passes

C_d = Catch per hour

F_d = legal fishable hours in day during weekdays

D_d = weekdays in month

D_{ds} = weekdays sampled during month

A_w = anglers on weekend days

F_w = legal fishable hours in day during weekend days

D_w = weekend days in month

D_{ws} = weekend days sampled during month

RESULTS

Creel surveys began on November 17, 2000 and continued through March 31, 2001. Surveys were conducted on 73 of a possible 135 fishing days (54%). Sampling effort on weekends totaled 23 of 39 possible days (59%).

Anglers fished an estimated 36,523 hours, while harvesting an estimated 73 steelhead and 24 chinook salmon, and releasing an estimated 3035 steelhead and 24 chinook salmon (Table 1). All steelhead harvested were of hatchery origin. Fishing effort peaked in December and January, while steelhead catch peaked in January. No chinook were observed caught in the creel after December 13.

Table 1. Overall expanded catch by month, all sections, (November 2000-March 2001)

Effort			Harvest		Release	
Month	Trips	Hours fished	Steelhead	Chinook	Steelhead	Chinook
Nov	913	4615	9	24	115	5
Dec	2072	9621	9	0	699	19
Jan	2014	10320	7	0	1148	0
Feb	1012	4484	7	0	605	0
Mar	1914	7483	43	0	468	0
Total	7925	36523	75	24	3035	24

The gorge section begins at Hawkins Bar and extends 32.5 miles upstream to the confluence of the North Fork Trinity (Helena). Anglers fishing at the confluence of the North Fork are included in the gorge section. Anglers in the gorge section harvested only six steelhead, all in the month of December (Table 2). Gorge anglers released 305 steelhead or 10% of all steelhead released on the Trinity during the season. Angler effort peaked in December, while steelhead catch peaked in February.

Table 2. Expanded catch by month, gorge section, (November 2000-March 2001)

Effort			Harvest		Release	
Month	Trips	Hours fished	Steelhead	Chinook	Steelhead	Chinook
Nov	238	952	0	0	5	5
Dec	411	1802	6	0	61	13
Jan	233	998	0	0	76	0
Feb	98	363	0	0	86	0
Mar	366	832	0	0	77	0
Total	1347	4947	6	0	305	18

The middle section begins at the confluence with the North Fork and extends 22.9 miles upstream to the confluence with Indian Creek. Anglers fishing at the Indian Creek confluence pool are included in the middle section. Angler fishing the middle section harvested 16 steelhead and 24 chinook salmon, while releasing 752 steelhead (Table 3). Angler effort peaked in December, while steelhead catch peaked in January.

Table 3. Expanded catch by month, middle section, (November 2000-March 2001)

Effort			Harvest		Release	
Month	Trips	Hours fished	Steelhead	Chinook	Steelhead	Chinook
Nov	333	1904	4	24	13	0
Dec	989	3993	0	0	151	3
Jan	507	2030	7	0	193	0
Feb	546	1742	0	0	248	0
Mar	495	1732	5	0	147	0
Total	2869	11400	16	24	752	3

The Lewiston section starts at Indian Creek and extends 14.6 miles upstream to Old Lewiston Bridge. The upper mile of river below the dam (fly-fishing only section) closes to angling on September 15. The Lewiston section is by far the most popular destination on the upper Trinity River. Overall, this section produces 65% of all steelhead caught on the upper river (above Hawkin's Bar), while enduring 55 % of total angling effort. Anglers in the Lewiston section fished a total of 20,175 hours, while harvesting 51 steelhead and releasing 1,978 steelhead. (Table 4)

Table 4. Expanded catch by month, Lewiston section, (November 2000-March 2001)

Effort			Harvest		Release	
Month	Trips	Hours fished	Steelhead	Chinook	Steelhead	Chinook
Nov	342	1759	5	0	98	0
Dec	672	3826	3	0	486	3
Jan	1274	7292	0	0	879	0
Feb	367	2379	7	0	270	0
Mar	1054	4919	38	0	245	0
Total	3710	20175	51	0	1978	3

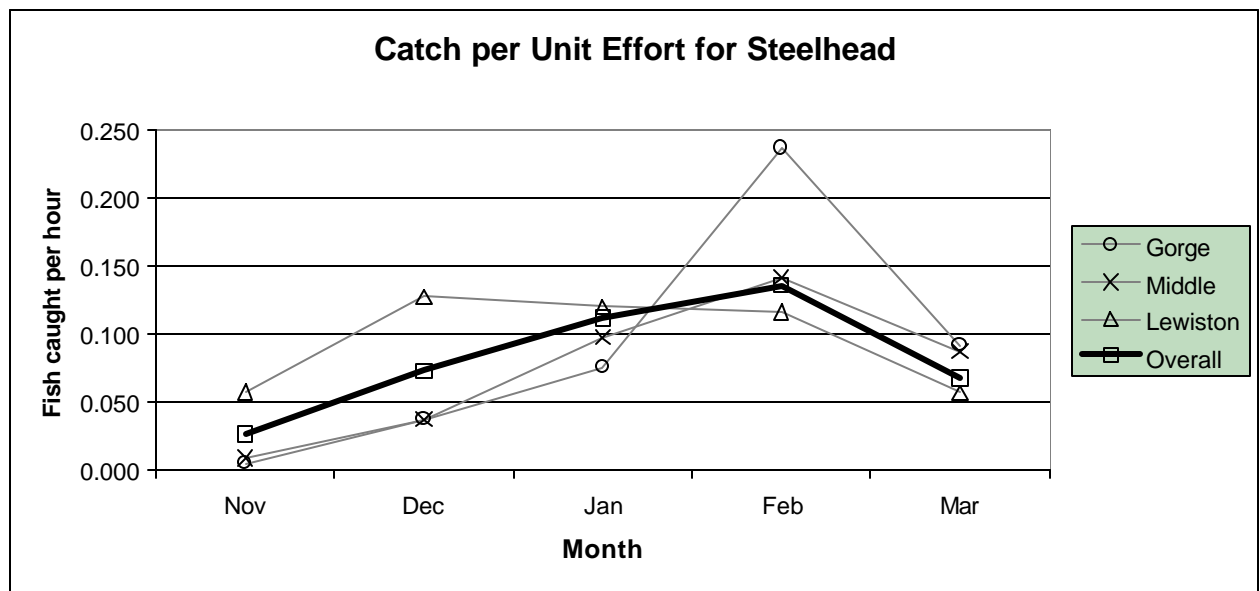
Overall catch per unit effort for steelhead for the entire season was 0.087 fish per hour (Table 5). Catch rates for steelhead varied by month, and peaked in February (Figure 1). Catch per unit effort for all fished peaked in March, because of the hatchery release of juvenile steelhead and coho salmon on March 15; over seven thousand juvenile fish were caught and released in March. Spatially, catch rates for steelhead and all species were highest in the Lewiston section, with a steelhead catch CPUE of 0.101 fish per hour. Catch rates for steelhead were observably higher in February in all sections except Lewiston. Lewiston had similar steelhead catch rates for December, January and February.

All anglers were asked to identify steelhead caught by wild or hatchery origin. Hatchery fish are identified by absence of an adipose fin. All TRH raised steelhead have been 100% adipose fin clipped since brood year 97 (Wade Sinnen, personal communication). Therefore, for the 2000/2001 season, all three and four year old hatchery steelhead are adipose fin clipped. Some hatchery fish of the five year old plus component remain with an adipose fin intact.

Table 5. Catch per unit effort (per hour) for steelhead and all fish species by section and month, (November 2000-March 2001)

Gorge		
Month	CPUE Steelhead	CPUE all fish
Nov	0.005	0.023
Dec	0.037	0.091
Jan	0.076	0.198
Feb	0.238	0.476
Mar	0.092	0.319
Total	0.063	0.166
Middle		
Nov	0.009	0.064
Dec	0.038	0.083
Jan	0.098	0.195
Feb	0.142	0.420
Mar	0.088	0.215
Total	0.067	0.171
Lewiston		
Nov	0.058	0.101
Dec	0.128	0.164
Jan	0.121	0.133
Feb	0.116	0.136
Mar	0.057	1.591
Total	0.101	0.492
Overall	0.087	0.343

Figure 1. Catch per unit effort (per hour) for steelhead by section and month, (November 2000-March 2001)



Overall, anglers on the river had a wild/hatchery recognition rate of 63.17%. Anglers in Lewiston were the most attentive (82.82% recognition rate), while anglers in the middle section paid the least attention (20.33% recognition rate). Wild steelhead catch percentages varied by month and section (unknown fish are excluded from analysis). The gorge had the highest percentage of wild steelhead caught at 44.12%, while overall, just over 25% of all steelhead landed were of wild origin.

Table 6. Wild versus hatchery steelhead catch by section (true data, non-expanded)

Section	Harvested*	C&R Wild	C&R Hatchery	C&R Unknown	Recognition Rate	Percent Wild
Gorge	2	15	17	60	34.78%	44.12%
Middle	5	16	21	145	20.33%	38.10%
Lewiston	13	102	335	90	82.92%	22.67%
Overall	20	133	373	295	63.17%	25.29%

*All steelhead harvested were hatchery fish

Gear use varied highly by section and month. Fly-fishing was most popular in Lewiston (75% of all anglers), while bait fishing was most popular in the gorge section (69% of all anglers). Overall, shore angling was much more popular than boat angling, with 81% of all anglers fishing from the shore.

Table 7. Gear use by section by month; Total anglers interviewed (% of anglers using that method)

Gorge					
Month	Fly	Lure	Bait	Shore	Boat
Nov	13 (22%)	22 (37%)	29 (48%)	57 (95%)	3 (5%)
Dec	58 (28%)	49 (23%)	141 (67%)	200 (96%)	11 (5%)
Jan	29 (20%)	18 (12%)	117 (80%)	145 (99%)	5 (3%)
Feb	17 (26%)	17 (26%)	40 (61%)	66 (100%)	0 (0%)
Mar	5 (9%)	14 (25%)	43 (78%)	56 (100%)	0 (0%)
Total	122 (23%)	120 (22%)	370 (69%)	524 (98%)	19 (4%)
Middle					
Month	Fly	Lure	Bait	Shore	Boat
Nov	39 (40%)	29 (30%)	52 (53%)	83 (85%)	19 (19%)
Dec	121 (47%)	82 (32%)	94 (37%)	211 (82%)	52 (20%)
Jan	103 (46%)	70 (31%)	99 (44%)	182 (82%)	48 (22%)
Feb	33 (28%)	49 (42%)	72 (62%)	93 (79%)	25 (21%)
Mar	57 (51%)	44 (39%)	50 (45%)	97 (87%)	20 (18%)
Total	353 (44%)	274 (34%)	367 (45%)	666 (83%)	164 (20%)
Lewiston					
Month	Fly	Lure	Bait	Shore	Boat
Nov	97 (80%)	19 (16%)	36 (30%)	97 (80%)	52 (43%)
Dec	317 (78%)	68 (17%)	94 (23%)	282 (69%)	170 (42%)
Jan	270 (78%)	51 (15%)	77 (22%)	241 (70%)	145 (42%)
Feb	149 (86%)	19 (11%)	37 (21%)	130 (75%)	68 (39%)
Mar	180 (60%)	94 (31%)	54 (18%)	251 (83%)	69 (23%)
Total	1013(75%)	251 (19%)	298 (22%)	1001 (74%)	504 (37%)
Overall	1488 (55%)	645 (24%)	1035 (38%)	2191 (81%)	687 (26%)

Catch rates varied highly by gear and method of take (boat or shore). Fly fishermen were by far the most productive anglers on the river, catching 0.185 steelhead per hour (Table 8). Bait and lure fishermen were less successful, catching only 0.05 steelhead per hour. Boat anglers out-fished shore anglers almost 2 to 1, catching 0.116 steelhead per hour versus 0.066 steelhead per hour, respectively.

Table 8. Catch per unit effort for steelhead by gear and method (true data, non-expanded)

Gear	# anglers interviewed	Steelhead Harvested	Steelhead Released	CPUE (fish per hour)
Fly	1489	5	611	0.185
Lure*	646	7	97	0.056
Bait*	1036	10	156	0.058
Shore	2191	13	371	0.066
Boat**	687	7	342	0.116
Overall	2899	20	801	0.087

*Some anglers used several gear and are included in each for analysis

**Shore anglers who utilize a boat are included as boat anglers

Most anglers fishing the upper Trinity River from November through March are targeting adult steelhead and chinook salmon. Two other species of salmonids, as well as juvenile fish, are frequently caught during this time period, and considered incidental catch (Table 9). Brown trout (*Salmo trutta*) and coho salmon (*Oncorhynchus kisutch*) are frequently reported in Trinity River catches. A total of 310 brown trout were caught and released during the 2000-2001 season. Brown trout must be released immediately upon capture, due to their non-hatchery status. On the Trinity River, only hatchery trout may be harvested (CDFG 2000 Sportfishing regulations). Only three coho salmon were caught during the season and all were released. Juvenile salmonid catches varied throughout the season, and peaked in the Lewiston section in March, corresponding with the hatchery release of over one million steelhead and coho smolts.

DISCUSSION

This year's creel census was highly successful in accomplishing the goals set forth in its proposal. Two years of baseline data have now been recorded documenting angling pressure, catch rate and harvest of Trinity River steelhead.

Angler effort on the upper Trinity River for the 2000/2001 season was nearly three times that of the 1999/2000 season. Some of this dichotomy may be attributed to revision of the effort estimate calculation for the 2000/2001 season. The 1999/2000 season effort estimate was negatively biased; the revised effort estimate attempts to remove this bias by converting progressive angler counts to instantaneous counts and then computing effort in hours by multiplying by fishable hours in the day. Several factors should be acknowledged that possibly contributed to the extreme difference in angler effort between seasons. Intuitively, perceived fishing success and the size of run has a definite impact on number of angler trips. Other factors include weather, river flows, and size restrictions for other species. In 1999, no size restriction was implemented for salmon on the Trinity River; in 2000, a size restriction for chinook salmon was implemented in early

October. Many fishermen had their salmon season cut short due to a “robust” salmon run and less than generous quota, these same fishermen more than likely returned to take advantage of an exceptional winter steelhead run.

Table 9. Expanded catch and release by section of incidental species, (November 2000-March 2001)

Gorge			
Month	Coho Salmon	Brown Trout	Juvenile Salmonids
Nov	0	0	12
Dec	0	4	79
Jan	0	4	118
Feb	0	12	75
Mar	0	0	188
Total	0	20	472
Middle			
Nov	0	0	81
Dec	0	69	108
Jan	0	23	174
Feb	0	24	459
Mar	0	28	192
Total	0	145	1014
Lewiston			
Nov	0	5	70
Dec	3	13	121
Jan	0	25	68
Feb	0	36	10
Mar	0	67	7476
Total	3	146	7746
Overall	3	310	9320

Table 10. Comparison of angler trips and hours fished by season

Reach	1999/2000 Steelhead Season		2000/2001 Steelhead Season	
	Trips	Hours	Trips	Hours
Gorge	169	359	1347	4947
Middle	812	2508	2869	11400
Lewiston	2242	9810	3710	20175
Overall	3223	12678	7925	36523

Catch and harvest estimates were highly different between seasons. Almost three times as many steelhead were caught in the 2001 versus 2000 season. Some of this variation could be attributed to a slightly different methodology for estimating effort. But catch rate estimates (Table 12) appear to validate harvest estimates from both seasons; overall, catch rates were considerably higher for the 2000/2001 season.

Table 11. Comparison of expanded steelhead catches by season

Reach	1999/2000 Steelhead Season		2000/2001 Steelhead Season	
	C&R	Harvest	C&R	Harvest
Gorge	16	13	305	6
Middle	123	6	752	16
Lewiston	580	20	1978	51
Overall	719	39	3035	73

Catch per unit varied highly between seasons and sections. Some variability between years could be contributed to adjusted sections boundaries at the end of the 1999/2000 season. The upper gorge boundary was moved from Cedar Flat to Helena, and the upper middle boundary was moved from the end of Evan's Bar Road to Indian Creek. These changes lengthened the gorge section and shifted the middle section up. Overall, catch rates were highest during the 2000/2001 season, with anglers fairing best in Lewiston.

Table 12. Comparison of steelhead trout CPUE by reach for study years 1999/2000 and 2000/2001

Reach	1999/2000 Steelhead CPUE (fish per hour)	2000/2001 Steelhead CPUE (fish per hour)
Gorge	0.081	0.063
Middle	0.051	0.067
Lewiston	0.061	0.101
Overall	0.059	0.087

When interpreting the results of a creel census, it is important to recognize any possible shortcomings of sample design. By identifying these problems, or possible sources of error/bias, we hope to put results in their proper context as well as improve future year's creel census design. Two possible sources of uncertainty exist when estimating species catch/harvest and angler use: quantifying effort and catch rate.

Problems estimating effort include loss of enumeration time due to interviews or searching for fishermen, inequality of sections, the inability to enumerate anglers due to poor access, and lack of compliance by poachers. Section boundaries were modified previous to the start of the 2000/2001 season to more evenly spread interview effort along the river. This resulted in the gorge section receiving considerably more interviews than in 1999/2000 season, and made creeling the Lewiston section manageable. Poachers were not perceived as a problem in the 2000/2001 season; undoubtedly, they moved their poaching effort to water left unmonitored by the Department. Most problems with estimating effort result in a negatively biased estimate.

Problems estimating catch rate include reliance upon anglers for valid data, the ability of the angler to identify adult salmonids to species, and the undersampling of boat anglers due to problems with access. In a predominantly catch and release fishery, catch rate data relies exclusively upon an angler's memory and integrity concerning their catch. Often times, anglers forget how many of each species they had released, or whether those

fish were of wild or hatchery origin. Also, many anglers cannot distinguish an adult steelhead from a chinook or coho salmon, let alone juvenile fish.

RECOMMENDATIONS

The SRAMP program needs to consider re-implementation of a reduced effort creel survey for the 2002/2003 steelhead season. This could be accomplished by one creel clerk conducting a roving/interview style survey, and sub-sampling sections for catch and use. I have been contacted by many members of the angling public who were quite concerned over lack of a creel census for the 2001/2002 season. Many people have asserted that they feel a creel census is extremely important on the Trinity River; they feel that the visibility and educational opportunities provided by an active creel survey are necessary to reduce illegal angling activities on the river.

A regional educational program should be implemented to educate the average fishermen to differentiate wild from hatchery steelhead. The steelhead report card requires catch be reported as wild or hatchery fish, and with recognition rates around 20% in the lower two sections, this most likely is not happening. Even with constant educational efforts by creel clerks, the same fishermen refuse or forget to check for the presence/absence of an adipose fin before they release a fish. I believe posters, regional meetings, and stricter regulations could be implemented to help anglers recognize wild versus hatchery fish.

Finally, in order to reduce wasted sampling effort, a protocol should be implemented to cancel sampling days when little or no angling effort on the river exists. This pertains mainly to days of heavy snow, rain, or extremely high flows.

LITERATURE CITED

- CDFG. 1991-1996. Annual Reports Trinity Basin Salmon and Steelhead Monitoring Project 1989-1995 seasons. Inland Fisheries Division.
- CDFG. 1998. Strategic plan for management of Klamath Mountains Province steelhead trout. Prepared for the National Marine Fisheries Service by the Resources Agency, 15 pp.
- CDFG. 2000. Sportfishing Regulations Booklet. 64 pp.
- Gutherie, D., J.M. Hoenig, M. Holliday, C.M. Jones, M.J. Mills, S.A. Moberly, K.H. Pollock, and D.R. Talhelm, editors. 1991. Creel and angler surveys in fisheries management. American Fisheries Society Symposium 12.
- McEwan, D., T.A. Jackson. 1996. Steelhead Restoration and Management Plan for California. Inland Fisheries Division. Sacramento. 234 pp.

NMFS and NOAA. 2001. Final Rule: Endangered and Threatened Species: Final Listing Determination for Klamath Mountains Province Steelhead. Federal Register, Vol. 66, No. 65, April 4, 2001, pp. 17845.

Pollock, K.H., C.M. Jones, and T.L. Brown. 1994. Angler survey methods and the applications in fisheries management. American Fisheries Society Special Publication 25.

ACKNOWLEDGEMENTS

I'd like to acknowledge several people who aided in the completion of this study. A special thanks goes out to Linda Peak, whose determination and friendly demeanor enchanted many Lewiston fishermen. I'd also like to thank Paula Whitten for her effort conducting quality control of the data, and Ellen Corey for her patience and diligence while sorting data for analysis.