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To: LSRCP Boise Office  
From: Larry Barrett, Jon Hansen, Chris Harrington, Paul Kline, Brian Leth  
Subject: 2007 LSRCP Quarterly Narrative (April-June)

***Hatchery Evaluation Studies (HES – Kline, Harrington, Leth) –******Reports***

- The Combined 92-99 Chinook is available for distribution.
- The 2002 Chinook report is in the printing process (Leth)
- The 2003 Chinook report is nearing completion (Leth)
- The 2002, 2003, and 2004 annual reports for steelhead are being reviewed (Harrington).

***Meetings and Coordination***

On April 19, Paul, Chris and Brian attended a Hatchery Database Technical committee meeting at the IDFG HQ office. This meeting focused on the remaining issues with the adult trapping entry screen and development of the spawning and adult disposition entry screens. Minutes from the meeting are available on request.

In late April (24-26), Brian, Paul, and Chris H. traveled to Warm Springs, Oregon to attend the PSMFC RMIS mark meeting.

On June 6, Chris H attended a Hagerman Hatchery Evaluation Team meeting to go over edits of the Hagerman Production Capacity Assessment report and hold a preliminary discussion about the upcoming USFWS Hatchery Review Team visit to Hagerman National Fish Hatchery.

On June 8, Brian, Chris H and John Haines met to discuss the spawning and adult disposition entry screen development for the hatchery database. John showed the progress he made towards developing screens using the drag-and-drop concept that was discussed at the 4/19 meeting. Minutes of this meeting are available on request

Paul, Chris H and Brian attended the IDFG In Service Training Session in Boise on May 22-23.

Brian assisted IDFG staff in installing the temporary adult weir on Crooked Fork Creek. This trap is operated by staff associated with the Idaho Salmon Supplementation Study. The weir is used both to enumerate the number of natural-origin adults escaping into Crooked Fork Creek as well as to prevent adults that stray from the nearby Powell Pond release site.

In June, Paul participated in a teleconference call with the LSRCP program manager and LSRCP coordinators to discuss the potential of increasing the PIT tagging effort for steelhead to provide escapement estimates to the project area across all LSRCP facilities. The main topic of discussion was the appropriate tagging level that would be required to provide estimates with an acceptable level of precision and accuracy.

### ***CWT Lab Activities***

Chris Larsen accepted a new job with Idaho Power Company and left IDFG in May. During the three years that Chris worked in the CWT lab he instituted several new procedures that have improved the reliability and effectiveness of lab operations. Of primary importance has been the speed of processing snouts, which has allowed for almost real-time reading of tags during salmon fishing seasons.

Prior to Chris's departure, much of the activity in the lab was focused on getting snout bags assembled and distributed to hatcheries for the Chinook fishery and trapping seasons, as well as providing additional bags to some of the steelhead trapping facilities that recovered more wire than was anticipated.

The last part of the quarter was spent hiring a replacement to keep the lab working. Chris Sullivan, who has a fairly extensive history of working on various IDFG projects, and who is looking for more experience with anadromous species, accepted the position in the last week of June, and will begin work in mid-July. The departure of Chris Larsen slowed snout processing in the lab, but the addition of Chris Sullivan is expected to return the lab to a high level of efficiency.

### ***General***

#### **Squaw Pond Research**

The Squaw Pond project occupied most of Chris H's time during the month of April. The 2007 trapping year started with water high enough that past trap locations were already unusable. By the time the trap was installed at a new site, a sizeable portion of the run had already passed the trap site (based on observations of adults upstream of the weir). However, despite missing a large number of fish, and despite high water and ice lifting the trap box out of the water for days at a time, the total trapping still was over three times the most optimistic pre-season forecast. These high recoveries in the last two years suggest that high spring flows, the new release site, or both contributed to the good adult return to Squaw Creek.

Juvenile releases from Squaw Creek were severely impacted by some form of blockage in the water intake which resulted in a loss of approximately 25,000 smolts (20% of the pond total) towards the end of the release period. This mortality event invalidated any examination of late migrant fish, so no precocity sampling, or PIT tagging of non-migrants, was performed. The cause of the blockage could not be adequately determined during pond operations due to hazardous conditions, but an examination of the intake will take place at a suitable time during the late summer.

## Hatchery Database Development

During the third quarter, John Haines made significant progress towards completing the adult trapping entry program. He successfully incorporated all requested changes from the technical and user groups that tested the program in 2006 and the spring of 2007. He also incorporated a web-based tool that automatically checks for program updates every time the user is connected to the internet. The data transfer protocols have been developed to transfer from the trapping sites via the internet to the server located at IDFG HQ.

A web-portal is being developed concurrently with the entry programs that allow access to the raw data and to a selection of dynamic data summary tables.

John has made significant progress on the spawning and disposition entry screens and we hope to have an entry programs ready for testing by the end of August 2007. This new spawning and disposition section will incorporate both drag and drop icon based data entry, as well as some grid-based data entry as an alternative.

The Data-Coordinator position for the hatchery database was vacated in March and the subsequent recruiting process was prolonged due to a lack of qualified applicants. The position is finally filled and the new data coordinator will begin work on July 9. Due to the prolonged vacancy in the position, we have fallen behind schedule in getting historic trapping data uploaded into the new database.

## Migration Year 2007 Juvenile Chinook Salmon and Steelhead Smolt Survival

In February and March of 2007, representative groups of Chinook salmon and steelhead were PIT tagged by IDFG at LSRCP and IPC hatchery facilities in Idaho. A total of 164,324 PIT tagged Chinook salmon and 9,204 PIT tagged steelhead were released from Idaho fish hatcheries in the spring of 2007 (Table 1). The biggest difference in the PIT tagging effort in 2007 compared to 2006 included the tagging of 14,934 Chinook salmon raised at Sawtooth Fish Hatchery. This expanded tagging effort was initiated to provide information for estimating adult escapement to the project area in addition to the juvenile survival estimates that have been done since the early 1990s. These larger tag groups also provide fisheries managers in Idaho a tool to assess in-season adult return expectations for management of potential Chinook salmon fisheries.

Survival estimates of juvenile Chinook salmon and steelhead to Lower Granite Dam were generated for all release groups listed in Table 1 and are based on PIT tag interrogations at the Lower Snake and Columbia River PIT tag detection facilities. The computer program SURPH (Version. 2.2b)<sup>1</sup> was used to generate the survival estimates.

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<sup>1</sup> SURPH is available from the School of Aquatic and Fishery Sciences at the University of Washington. [www.cbr.washington.edu/paramest/surph/](http://www.cbr.washington.edu/paramest/surph/)

Table 1. Number of salmon and steelhead PIT tagged and released from Idaho fish hatchery facilities in 2007.

<b>Species</b>	<b>Rearing Hatchery</b>	<b>Release Site</b>	<b>Life Stage</b>	<b># Pit Tagged</b>
<b>Chinook Salmon</b>				
	Clearwater	Crooked River- Lower	Smolt	14,968
	Clearwater	Crooked River- Upper	Smolt	499
	Clearwater	Red River Pond	Smolt	14,969
	Clearwater	Powell Pond	Smolt	14,969
	Rapid River	Rapid River Pond	Smolt	51,761
	McCall	Knox Bridge	Smolt	51,726
	Pahsimeroi*	Pahsimeroi Ponds	Smolt	498
	Sawtooth	Sawtooth Weir	Smolt	14,934
		<b>Chinook Total</b>		<b>164,324</b>
* Early rearing was conducted at Sawtooth Hatchery				
<b>Steelhead</b>				
	Magic Valley	Little Salmon R.	Smolt	300
	Magic Valley	Slate Cr. - Upper Salmon R.	Smolt	586
	Magic Valley	Squaw Creek	Smolt	972
	Magic Valley	Squaw Pond	Smolt	497
	Magic Valley	E.F. Salmon R.	Smolt	300
	Magic Valley	Salmon R. @ Red Rock	Smolt	293
	Magic Valley	Yankee Fork Salmon R.	Smolt	298
	Magic Valley	Salmon R. @ Colston Corner	Smolt	300
	Magic Valley	Salmon R. @ McNabb	Smolt	297
	Magic Valley	Valley Creek	Smolt	299
	Niagara Springs	Hells Canyon	Smolt	289
	Niagara Springs	Pahsimeroi Weir	Smolt	297
	Niagara Springs	Little Salmon R. (Oxbow A)	Smolt	295
	Niagara Springs	Little Salmon R. (Pahsimeroi A)	Smolt	297
	Hagerman National	Sawtooth Weir	Smolt	298
	Hagerman National	Little Salmon R. (Pahsimeroi A)	Smolt	300
	Hagerman National	Little Salmon R (Dworshak B)	Smolt	297
	Hagerman National	Yankee Fork	Smolt	300
	Hagerman National	E. Fk. Salmon R.	Smolt	290
	Clearwater	Crooked R.	Smolt	599
	Clearwater	Red R.	Smolt	600
	Clearwater	S. Fk. Clwtr R @ Red House Hole	Smolt	300
	Clearwater	Mill Cr.	Smolt	300
	Clearwater	Meadow Cr.	Smolt	300
	Clearwater	Lolo Creek	Smolt	300
		<b>Steelhead Total</b>		<b>9,204</b>

### Juvenile Chinook Salmon Survival

Estimated survival of hatchery-origin Chinook salmon from release to Lower Granite Dam in 2007 ranged from 53-82% (Figure 1). Estimated survival rates for 2007 were similar to those observed in 2005 and 2006 with the exception of the Pahsimeroi and Red River releases which were both higher than the 2005 and 2006 estimates.

### Juvenile Steelhead Survival

Estimated survival of steelhead smolts from release to Lower Granite Dam in 2007 averaged 82.3% across all release groups (Figure 2), an increase over both the 2005 and 2006 estimates. However, the precision of the 2007 estimates were lower than the previous two years. It is suspected that the relatively high spill rate at Lower Granite Dam in 2007 resulted in the decreased probability of capture at the Lower Granite Dam collection facilities.

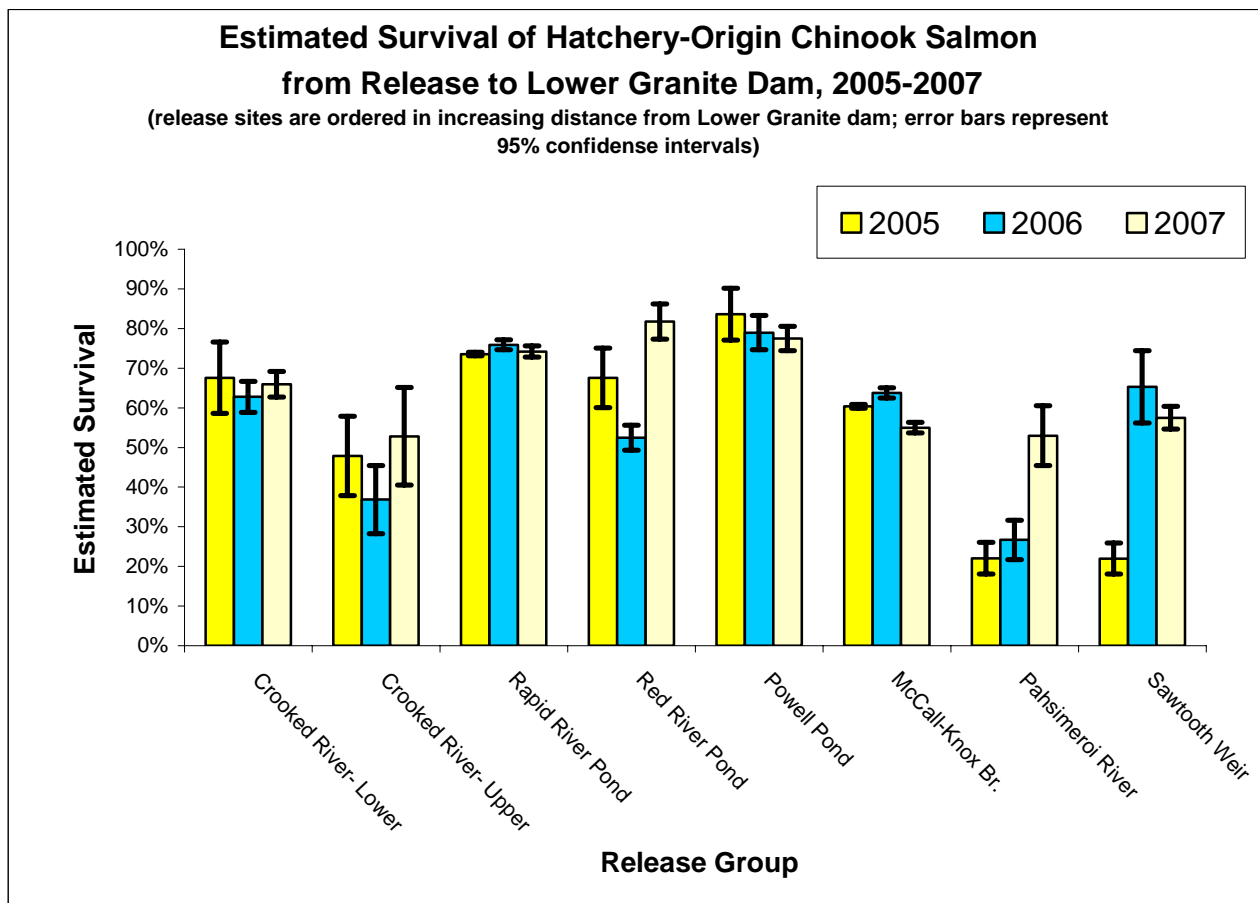


Figure 1. Estimated survival of PIT-tagged juvenile Chinook salmon from release to Lower Granite Dam, 2005-2007.

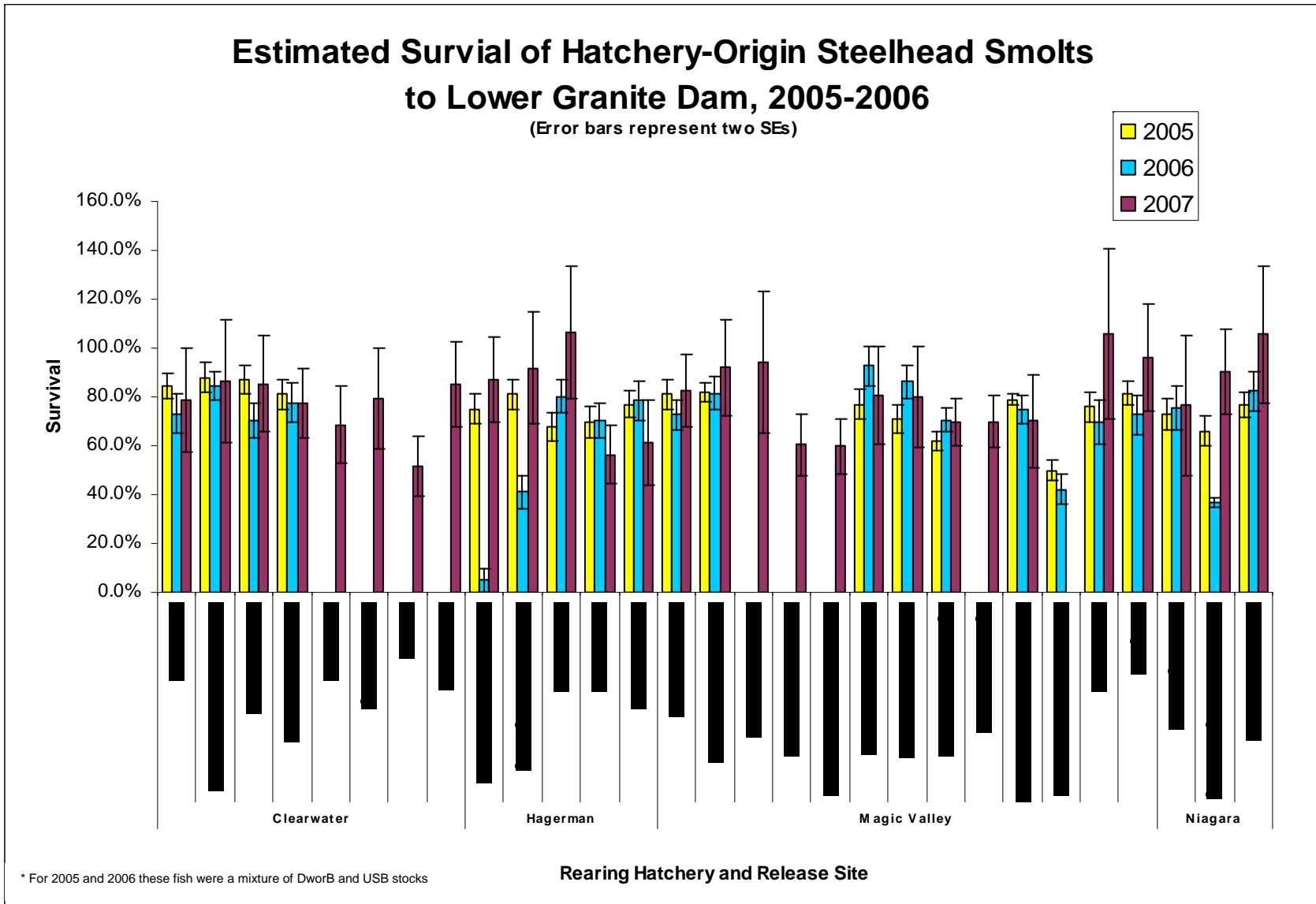


Figure 2. Estimated survival of PIT-tagged juvenile steelhead from release to Lower Granite Dam, 2005-2007.

### ***Harvest Monitoring Program (HMP – Barrett) –***

We conducted a creel survey this spring on the South Fork Clearwater River to generate an estimate of angler effort and catch there for the spring 2007 steelhead season. Overall for the spring season in the South Fork Clearwater River we estimated anglers fished 54,490 hours to catch 12,524 steelhead, of which 3,641 were harvested. Of the estimated 8,892 fish released, 5,953 were non-adipose clipped and 2,939 were adipose clipped. The average catch rate for all fish caught during the season was 4.4 hours/fish and for fish harvested was 15 hours/fish.

During the course of the survey we contacted 3,221 anglers who reported fishing 14,229 hours to catch 3122 steelhead, of which they reported harvesting 943. We checked 799 of those fish harvested. Anglers reported catching and releasing 573 adipose fin clipped steelhead and 1606 non adipose fin-clipped steelhead. From the 799 steelhead we checked, we collected 69 snouts with positive cwt indications.

It felt like *deja vu* all over again for the spring chinook run this year, as for the third year in a row we were presented with harvest shares of less than 1,000 fish each for Clearwater drainage hatchery facilities and Rapid River hatchery. To try to offer as much fishing opportunities as possible, as in the past two years the season framework was restricted to four days a week (Friday through Monday) fishing, with a one fish daily bag limit. On the Clearwater, the mainstem from Cherrylane Bridge upstream to the Orofino Bridge was not opened, nor was the City Park Hole stretch of the mainstem Salmon River between the mouth of the Little Salmon River and the Time Zone Bridge. Both of these measures were intended to slow the harvest down and allow for the seasons to run as long as possible. Based on Rapid River and Dworshak Hatcheries PIT tags at Lower Granite Dam, three salt fish comprised over 40% of the run of hatchery spring chinook this year.

The Clearwater River drainage salmon season opened May 11 on the mainstem Clearwater River from the Camas Prairie Railroad Bridge upstream to the Cherrylane Bridge, the North Fork Clearwater River below Dworshak Dam, the mainstem Clearwater River from the Orofino Bridge upstream to the Kamiah Bridge, and the South Fork Clearwater River. The Lochsa River opened on May 26. Because of a low runsize estimate of fish to Kooskia National Fish Hatchery, no fishing season was opened above the Kamiah Bridge. Because of concern for Dworshak escapement, the fishery on the lower mainstem and North Fork Clearwater Rivers closed after three intervals on May 28. The fisheries on the upper mainstem Clearwater, South Fork Clearwater and Lochsa Rivers ran an additional two intervals and closed on June 11. Overall, we estimated anglers fished 26,349 hours to catch 1,234 salmon, of which 724 were harvested. 165 of the 724 fish harvested (23%), and 400 of the 1,234 fish caught (32%) were jacks. 377 of the 559 adults harvested (67%) were caught below the Cherrylane Bridge. The season average catch rate was 21 hours/fish caught and 36 hours/fish harvested. Despite the small runsize this year, we saw some sub 10 hours/fish catch rates in the free-flowing stretch above Lewiston. Overall, the effort and catch were very similar to last year, with the striking exception of the large number of jacks caught. Hopefully the old adage “Better luck next year” will ring true for the 2008 spring chinook run.

The Salmon River also opened May 11 on the mainstem from the Hammer Creek boat ramp upstream to the Time Zone Bridge. Anglers did not begin catching salmon there until May 18. The season ran for three and a half Friday through Monday intervals, and closed on June 2. Overall, we estimated anglers fished 6,879 hours to catch 620 salmon, of which 415 were harvested. 88 of the

415 fish harvested (21%) of the fish harvested were jacks, and 210 of the 620 total fish caught (34%) were jacks. Of the 205 salmon released, 25 were ad-clipped adults, 110 were ad-clipped jacks, 58 were unmarked adults, and 12 were unmarked jacks. The season average catch rate was 11 hours/fish caught and 17 hours/fish kept. Angler effort on the lower Salmon River was less than one third of that we saw last year, likely as a result of not having the City Park Hole open. Over 65% of the harvest occurred over the Memorial Day weekend. The catch rate for that interval was under 10 hrs/fish.

### ***Harvest Monitoring Program (HMP – Hansen) –***

The following is a brief report of activities that occurred within the Harvest Management Program during the months of April, May, and June, 2007. Our program technicians continued work on tables and appendices for the 2004 – 2007 annual report. We invested considerable time developing safety protocols for our creel employees to help avoid conflicts or accidents in the field. We continued to develop methods to help our program obtain 20 percent sample rates per river section. We will meet with Clearwater Region personnel to discuss progress to date regarding sampling schemes during July.

We interviewed 15,252 steelhead anglers this spring – which was our greatest number of anglers interviewed during a spring season since the “big run of 01” (Table 1). Our intensified creel efforts definitely increased the number of anglers interviewed and we should reach our sample rate goal in a number of river sections. In some river sections, it appears that an increase in the number of anglers interviewed doesn’t necessarily lead to an increase in the number of fish checked for marks possibly because of the proportion of non-adipose clipped fish in the fishery. We will know more information with regards to sample rates after the IDFG statewide steelhead harvest estimate is released in July or August.

We interviewed 15,252 anglers who fished a total of 81,437 hours this spring. Anglers kept 4,635 fish and released 4,066 wild-natural-hatchery fish. Statewide, anglers fish 7 hours for each steelhead caught and 18 hours for each steelhead kept. (Our steelhead angler effort and fish data is unexpanded.) Pahsimeroi Hatchery trapped 5,964 steelhead this spring. Sawtooth Fish Hatchery trapped 4,049.

Table 1.





Table 1. IDFG unexpanded steelhead creel summaries by river section, Spring 2007<sup>a</sup>.

RIVER SECTION	ANGLERS	HOURS	KEPT	HATCHERY RELEASED	WILD <sup>b</sup> RELEASED	TOTAL	HOURS / CAUGHT	HOURS / KEPT
03	1272	6192	378	55	264	697	9	16
04	849	3882	265	62	160	487	8	15
05	631	2329	147	70	53	270	9	16
07	3130	14056	934	542	1593	3069	5	15
10	94	550	25	4	5	34	16	22
11	198	862	28	6	28	62	14	31
12	810	4207	120	20	95	235	18	35
13	35	385	19	12	17	48	8	20
14	250	3358	120	34	107	261	13	28
15	1420	12843	507	326	194	1027	13	25
16	920	3159	193	81	44	318	10	16
17	1999	13388	932	848	133	1913	7	14
18	1139	5149	175	250	39	464	11	29
19	1490	6854	546	1019	245	1810	4	13
20	1015	4223	246	62	1089	1397	3	17
<b>TOTAL</b>	<b>15,252</b>	<b>81,437</b>	<b>4,635</b>	<b>3,391</b>	<b>4,066</b>	<b>12,092</b>	<b>7</b>	<b>18</b>

a Includes data from January 1 through April 30, 2007.

b Includes wild, naturally produced, and hatchery fish without an adipose fin clip.