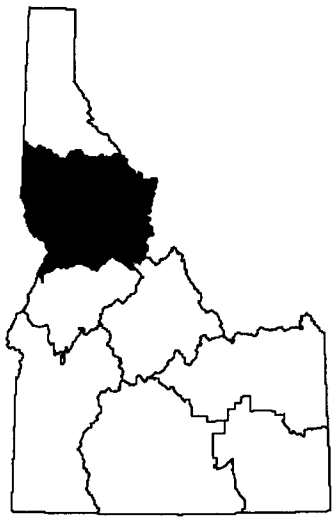
FISHERY MANAGEMENT INVESTIGATIONS

IDAHO DEPARTMENT OF FISH AND GAME

FISHERY MANAGEMENT ANNUAL REPORT

Cal Groen, Director



CLEARWATER REGION

2002

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2002 CLEARWATER REGION – MOUNTAIN LAKES INVESTIGATIONS

JOB PERFORMANCE REPORT

ABSTRACT

Regional personnel spent considerable time compiling 12 years of mountain lake management data into a comprehensive database/management plan. The plan addresses alpine lake management at the landscape level. Fifth and sixth code HUC's were chosen as the landscape scale for management purposes.

Ice Lake was resurveyed to determine effectiveness of brook trout *Salvelinus fontinalis* suppression by introduced tiger muskellunge *Esox lucius* x *E. masquinongy*.

Author:

Robert Hand
Regional Fishery Biologist

OBJECTIVES

To collect and maintain current information for fishery management decisions on mountain lakes, including angler use and success, fish population characteristics, spawning potential, stocking success, limnology, morphology, and notes on other aquatic life and develop appropriate management.

METHODS

Brook trout *Salvelinus fontinalis* were collected from Ice Lake as part of study to determine the effectiveness of tiger muskellunge as a method for removing brook trout from mountain lakes. A single 7-panel gillnet (mesh sizes 10 mm x 38 mm x 40 m long, Research Nets, Seattle, Wa) was set in the lake in early evening. Angling was also used to collect brook trout from the lake. Electrofishing was utilized to collect fish from the inlet and outlet. The gill net was removed the next morning after 12 hours, and all fish collected were measured for length and weight.

RESULTS

In 2002, one 12-hour net set, two angler hours, and 302 seconds of electrofishing in the inlet and outlet resulted in the capture of no brook trout (Figure 1) or tiger muskellunge. Additionally, no tiger muskellunge were observed in Ice Lake during sampling in 2002. This suggests that the combined efforts of electrofishing and tiger muskellunge may have been successful in removing brook trout from the lake.

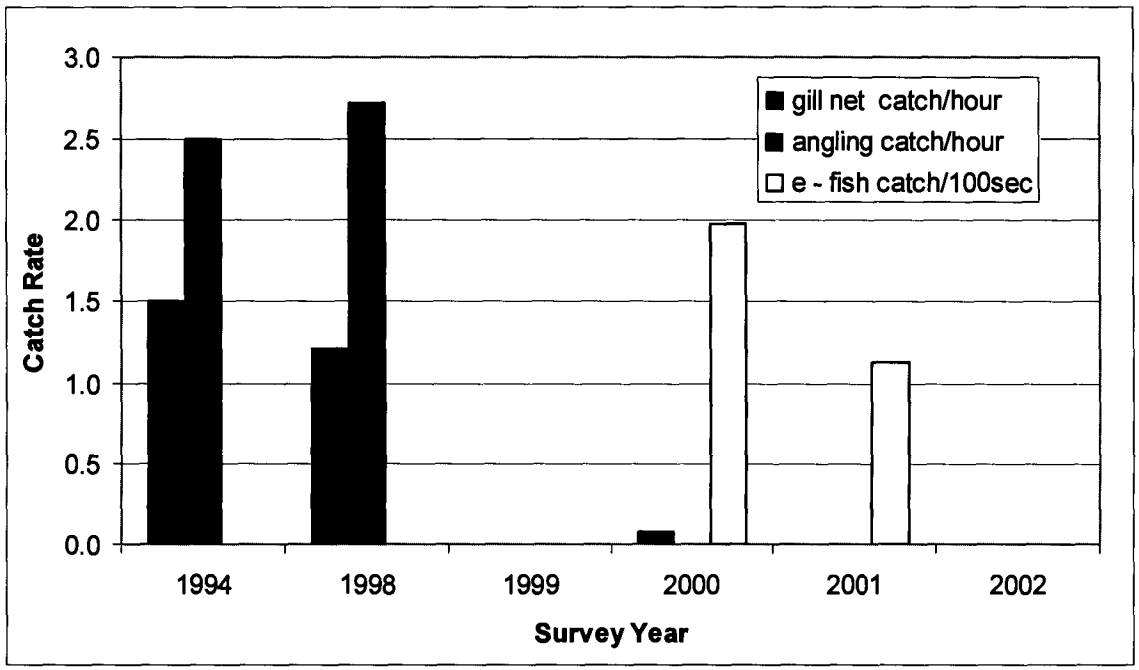

Figure 1. Estimated brook trout abundance in Ice Lake, 1994-2002, including lake inlet and outlet, 2000-2002.

2002 CLEARWATER REGION – LOWLAND LAKES INVESTIGATIONS

JOB PERFORMANCE REPORT

ABSTRACT

Clearwater Region fisheries management personnel and Conservation Officers checked 141 anglers that spent 260.5 hours fishing lakes, ponds and reservoirs and caught 459 game fish. Fishery enhancements were conducted by stocking approximately 25,080 fingerling size kokanee *Oncorhynchus nerka* and 243,401 catchable size rainbow trout *O. mykiss* in regional lowland lakes and ponds.

Clearwater Region fisheries management personnel conducted a smallmouth bass *Micropterus dolomieu* survey in Dworkshak Reservoir. Two hundred twenty fish were collected, ranging in length from 50 to 369 mm.

Author:

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OBJECTIVES

To collect and maintain current information for fishery management decisions on lowland lakes and reservoirs, including angler use, success, harvest and opinions, fish population characteristics, stocking success, return-to-the-creel for hatchery trout, limnology and develop appropriate management recommendations.

METHODS

We use tanker trucks of various sizes and standard stocking techniques to stock fish in streams, lakes, ponds and reservoirs. We collect fish for transplanting using standard electrofishing, trapping and netting techniques. The annual smallmouth bass survey of Dworshak Reservoir consists of electrofishing three shoreline sites in their entirety: Magnus Bay, Swamp Creek Bay, and the shoreline beginning directly across from the Dent Boat ramp up to the Dent Bridge. Electrofishing time is recorded for each section, and all fish are weighed in grams (g) and measured for total length to the nearest five millimeters (mm).

RESULTS

Fish Stocking and Population Management

We enhanced resident fish populations and sport fishing in lowland lakes and reservoirs of the Clearwater Region by stocking approximately 160,655 fingerling rainbow trout and 25,080 fingerling kokanee in 2002 (Table 1). Lakes, ponds and reservoirs were stocked with 243,401 catchable size rainbow trout in 2002 (Table 2).

Clearwater Region personnel collected 550 black crappie *Pomoxis nigromaculatus* from Mann Lake during April and May 2002, using electrofishing gear and trap nets. These fish were traded to the Washington Department of Fish and Wildlife (WDFW) for 68 tiger muskellunge, which were stocked into Winchester Lake to supplement the existing population.

Creel Census

Clearwater Region fisheries management personnel and conservation officers checked 145 anglers that spent 269.5 hours fishing lakes, ponds and reservoirs and caught 473 game fish in 2002 (Table 3). These sport fisheries provided a catch rate of 1.76 fish per hour. Salmonid fishes accounted for 81% of the catch. The remaining 19% of the catch was made up of bluegill *Lepomis macrochirus* and black crappie.

Table 1. Fingerling (75 – 150 mm) rainbow trout and kokanee stocked in the lowland lakes and reservoirs of the Clearwater Region, 2002.

Water	Month	Rainbow trout	Kokanee	Total
Mann Lake	May	39,,996	10,032	50,028
Soldiers Meadow Reservoir	May	20,000	5,016	25,016
Spring Valley Reservoir	May	59,994	0	59,994
Waha Lake	May	5,040	5,016	10,056
Winchester Lake	May	35,625	5,016	40,641
Total		**160,655**	**25,080**	**185,735**

Table 2. Catchable-size (200 mm+) rainbow trout stocked in lakes, ponds, and reservoirs of the Clearwater Region, 2002.

Water	April	May	June	July	August	September	October	Total
Camp Grizzly Pond			500					500
Campbell's Pond		5,015					570	5,585
Dworshak Reservoir		30,080		20,000				50,080
Elk Creek Reservoir			18,934	5,000				23,934
Fenn Pond		500		1,000				1,500
Five Mile Pond		500	1,000					1,500
Henrys Gulch Pond			500					500
Hordeman Pond	250							250
Karolyn's Pond		100	500					600
Levee Pond		600	400					1,000
Mann Lake	17,420	12,000					5,700	35,120
Moose Creek Reservoir		6,240	5,400				5,060	16,700
Powell Pond		2,000						2,000
Robinson Pond		4,007						4,007
Soldiers Meadow Reservoir		10,320	5,421					15,741
Spring Valley Reservoir		8,320	18,497				10,120	36,937
Waha Lake		9,000						9,000
Wilkins Pond			250					250
Winchester Lake		25,600	4,997				7,600	38,197
Total	**17,670**	**114,282**	**56,399**	**26,000**			**29,050**	**243,401**

Table 3. Clearwater Region impromptu creel surveys, lowland lakes and reservoirs, 2002.

Water/ Date	# Anglers	Total hours	Rainbow trout	Brook trout	Bluegill	Largemouth bass	Smallmouth bass	Kokanee	Yellow perch	Bull trout	Black crappie	Total	CPUE
Dworshak Reservoir													
7/3	31	76.5	3					202				205	2.68
Unkn.	6	13						27				27	2.08
subtotal	37	89.5	3					229				232	2.59
Spring Valley Reservoir													
2/20	4	9	14									14	1.56
4/26	20	34	2									2	0.06
6/2	69	120.5	90	12	63							165	1.37
6/17	15	16.5	33		22						5	60	3.64
subtotal	108	180	139	12	85						5	241	1.34
Season Totals	**145**	**269.5**	**142**	**12**	**85**	**0**	**0**	**229**	**0**	**0**	**5**	**473**	**1.76**

Lake Surveys

Dworshak Reservoir

Clearwater Region fisheries management personnel conducted a smallmouth bass *Micropterus dolomieu* survey in Dworshak Reservoir from June 12 to 14, 2002. We collected 220 smallmouth bass in 15,465 seconds of electrofishing. These fish ranged in length from 50 to 369 mm (Figure 1). The length frequency distribution is similar to the samples collected in 2000 and 2001. Proportional Stock Density (PSD) was 8.4, slightly above the PSD values seen in 2000 and 2001 (Figure 2). Relative weights were calculated for all fish over 150 mm in total length, and ranged from 59 to 137 g (Figure 3). Most of the smallmouth bass collected had relative weights in a range of 70 to 100 g.

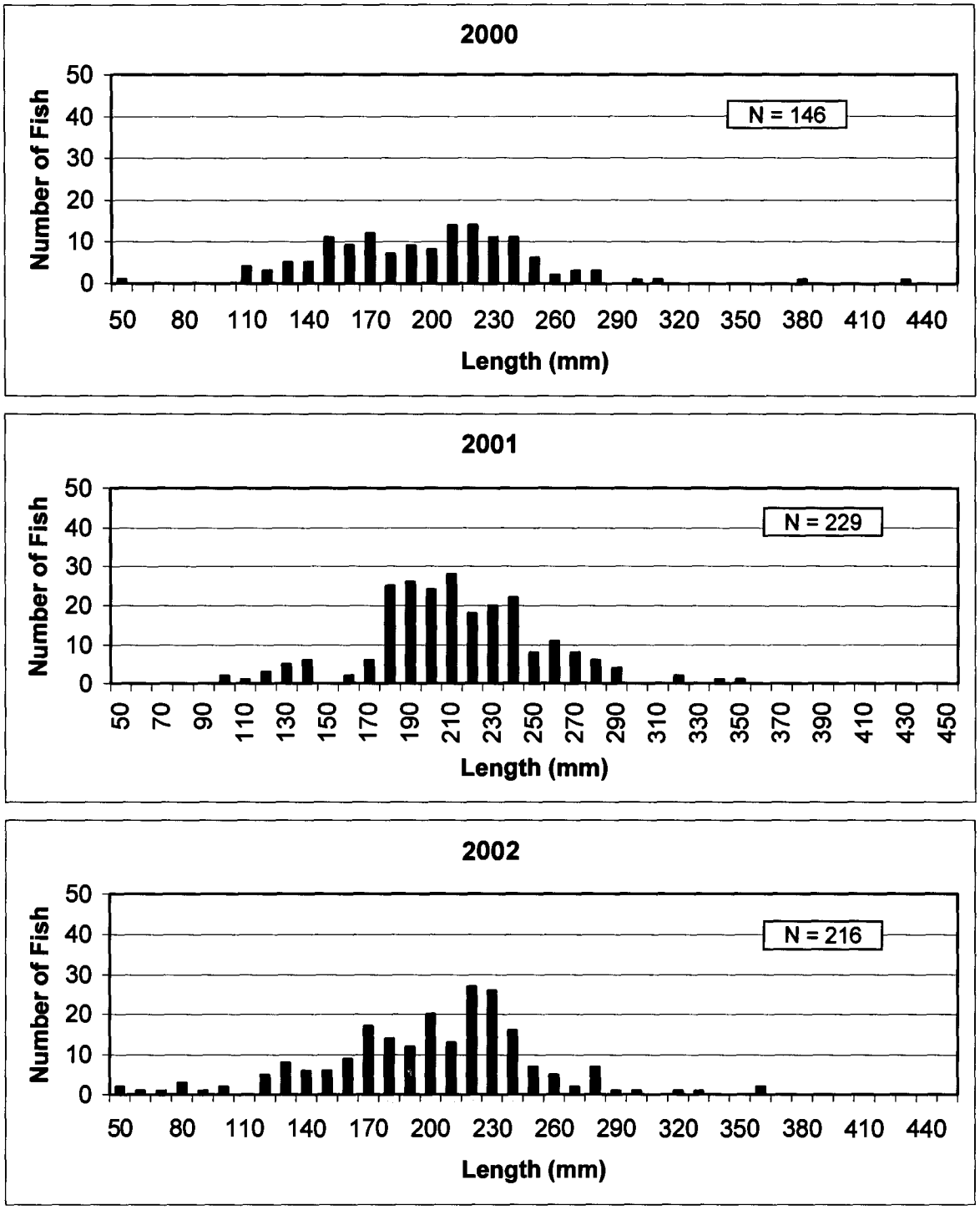

Figure 1. Length frequency distribution of smallmouth bass collected in Dworshak Reservoir, 2002.

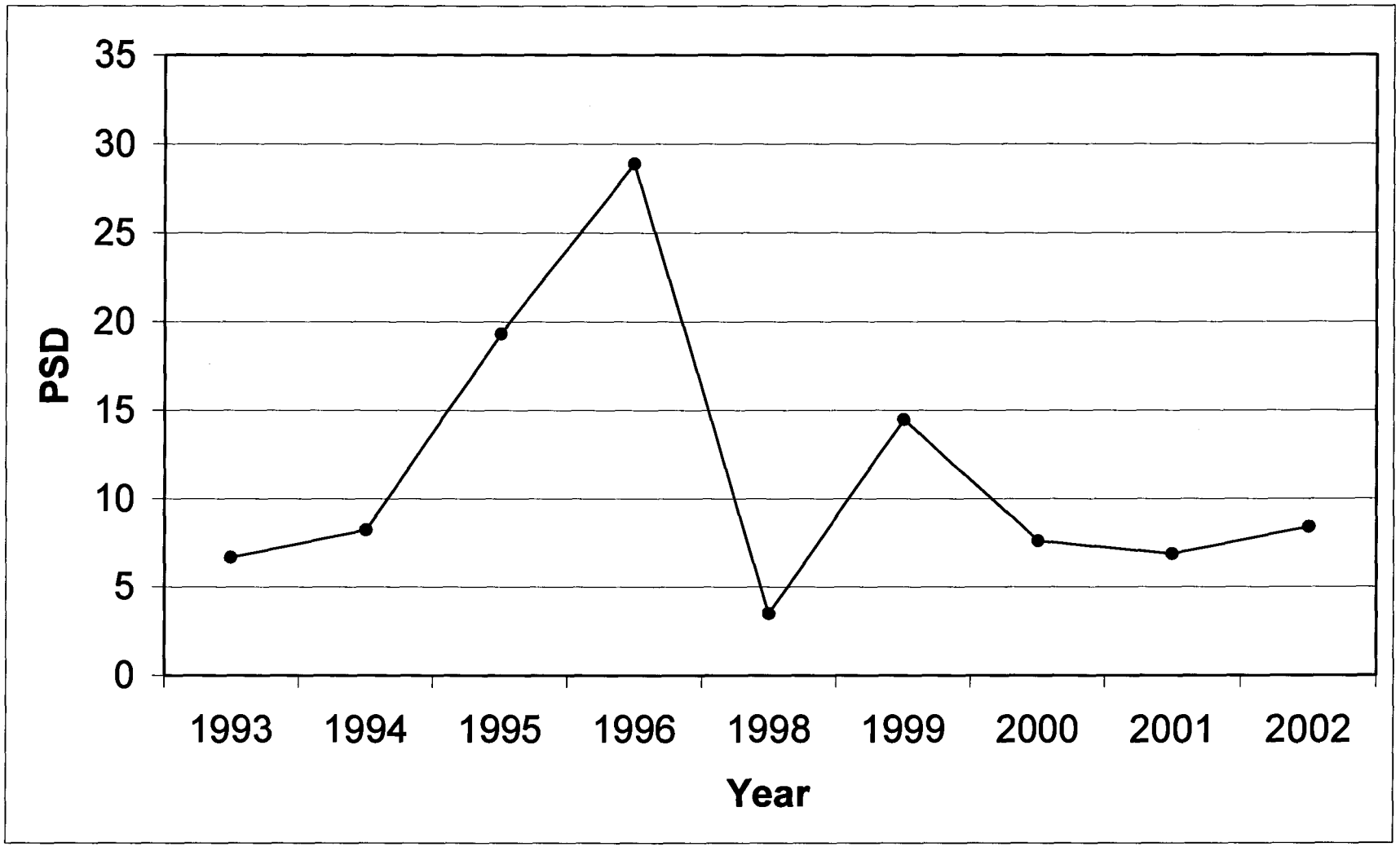

Figure 2. PSD for smallmouth bass collected on Dworshak Reservoir 1993-2002.

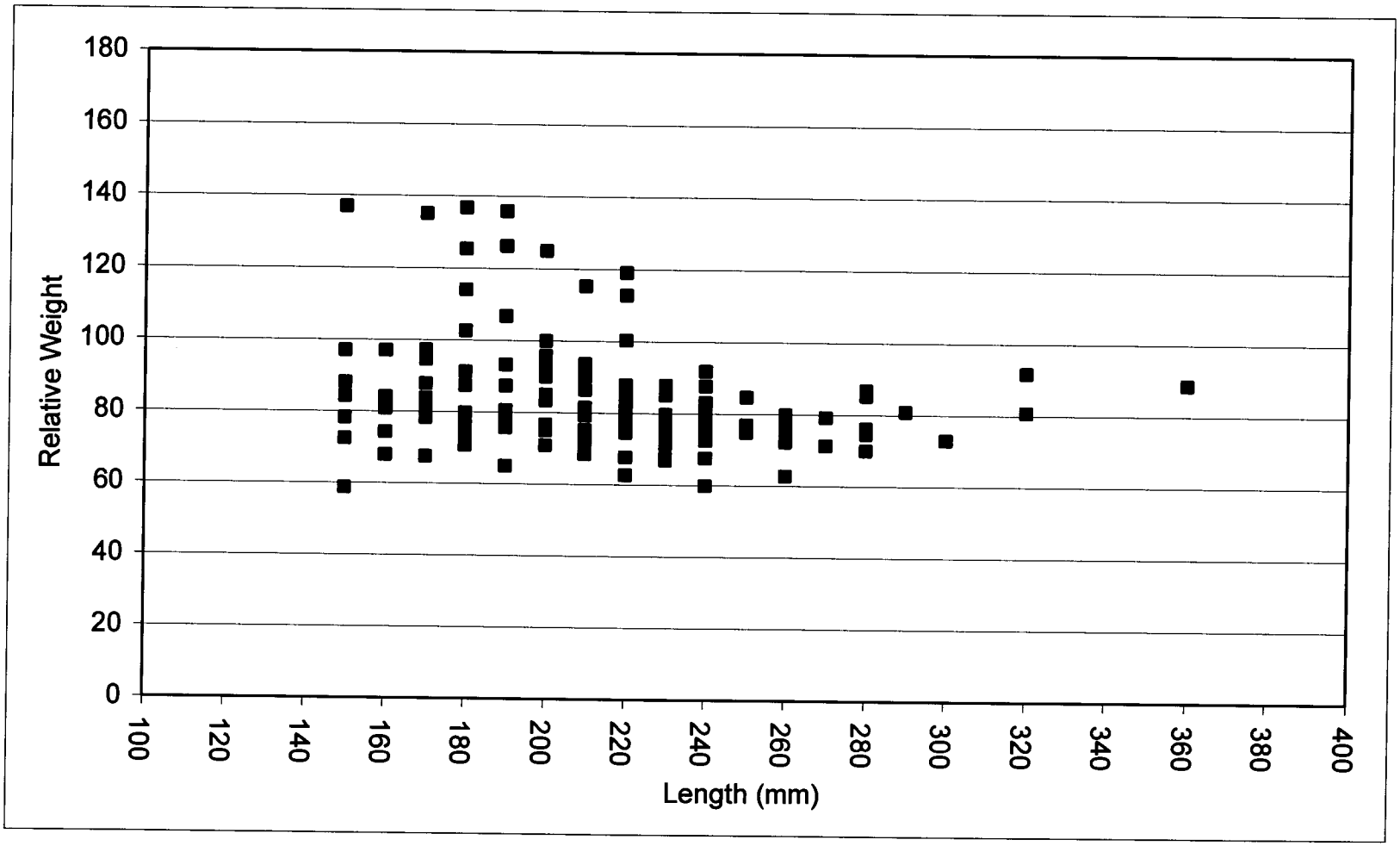

Figure 3. Relative weights of smallmouth bass collected in Dworshak Reservoir, 2002.

2002 CLEARWATER REGION – RIVERS AND STREAMS INVESTIGATIONS

JOB PERFORMANCE REPORT

ABSTRACT

Clearwater Region fisheries management personnel and Conservation Officers checked 25 anglers that spent 26.5 hours fishing rivers and streams and caught 24 game fish. Clearwater Region fishery management personnel snorkeled or coordinated data collection from stream transects throughout the Clearwater and Salmon river drainages to obtain data for the long-term database. In the Selway River, 88 adult spring chinook salmon *O. tschawytscha* redds were counted in traditional aerial spawning ground counts and 65 redds were counted in ground counts. Only ground counts were conducted on the Lochsa River and the South Fork of the Clearwater River. One hundred twenty seven adult spring chinook salmon redds were counted in the Lochsa River, and 353 were counted on the South Fork of the Clearwater River. Hook and line surveys were conducted for westslope cutthroat trout *O. clarkii lewisi* in the Selway River and for smallmouth bass and Kamloop rainbow trout in lower Salmon River.

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OBJECTIVES

To collect and maintain current information for fishery management decisions on rivers and streams, including angler use, success, harvest and opinions, fish population characteristics, spawning success, habitat characteristics, return-to-the-creel for hatchery trout and develop appropriate management recommendations.

METHODS

Creel Census

Region 2 fish management personnel and conservation officers performed spot check creel surveys throughout the region in 2002. Fish were separated by species on the creel form.

Salmonid Population Trend Monitoring

We used standard snorkeling techniques to monitor fish densities at established monitoring sites in regional rivers and streams. Snorkeling was conducted when stream flows were low, clear and accessible. Small streams were snorkeled upstream with one to five observers, depending on stream width. Larger streams and river corridors were snorkeled either upstream or free-floating downstream with the number of observers dependent on corridor width and water depth. Population abundance is presented as fish per 100 m^2.

RESULTS

Creel Census

Clearwater Region fisheries management personnel and conservation officers checked 25 anglers that spent 26.5 hours fishing rivers and streams and caught 24 game fish in 2002 (Table 1). These sport fisheries provided a catch rate of 0.91 fish per hour. Native westslope cutthroat trout accounted for 96% of the catch.

Salmonid Population Trend Monitoring

Lower Clearwater River

Three tributaries were snorkeled in the drainage: Big Canyon Creek, Mission Creek and the East Fork Potlatch River. Steelhead were the most abundant species observed (Table 2). Brook trout and westslope cutthroat trout were observed in the East Fork Potlatch River. Coho salmon *O. kisutch* were not observed in the snorkeled transects.

South Fork Clearwater River

Natural spring chinook salmon and steelhead juveniles were the most abundant species observed while snorkeling in 76 traditional transects on eight streams in the South Fork Clearwater River drainage (Table 3). Average historical westslope cutthroat trout densities from snorkel surveys are summarized in Figure 1. Bull trout *Salvelinus confluentus* were observed in Crooked River, West Fork Crooked River, and Red River. Cutthroat trout, brook trout, and mountain whitefish *Prosopium williamsoni* were also observed in these streams. A total of 353 spring chinook salmon redds were counted on the South Fork of the Clearwater River using ground counts (Table 4).

North Fork Clearwater River

Average historical westslope cutthroat trout densities from snorkel surveys are summarized in Figure 2.

Lochsa River

Fish densities (per 100 m^2) as determined by snorkeling 16 transects in the Lochsa River drainage are shown in Table 5. Steelhead trout were the most abundant fish species observed in the Lochsa River drainage surveys. Westslope cutthroat trout and spring chinook salmon were the next most abundant species. The least abundant species seen in the Lochsa River drainage was bull trout, which was observed only in Brushy Fork Creek. Brook trout were not observed in the Lochsa River drainage snorkel surveys. Average historical westslope cutthroat trout densities from snorkel surveys are summarized in Figure 3.

Spring chinook salmon aerial spawning ground counts were not conducted. Ground counts found 127 redds in the Lochsa River drainage (Table 6).

Selway River

Fish densities (per 100 m^2) as determined by snorkeling 20 transects in the Selway River drainage are shown in Table 7. Spring chinook salmon were the most abundant species observed, followed by westslope cutthroat trout and steelhead. Mountain whitefish and bull trout were also observed, while no brook trout present. Historical westslope cutthroat trout densities from snorkel surveys are summarized in Figure 4. Aerial spring chinook salmon spawning ground counts revealed 88 redds, while ground counts revealed 65 redds (Table 8).

A hook-and-line survey of westslope cutthroat trout was conducted in conjunction with the snorkel survey. A total of 607 cutthroat trout were collected over six days of sampling. These fish ranged in length from 130 to 426 mm (Figure 5).

Table 1. Clearwater Region impromptu creel surveys, rivers and streams, 2002

Water/ Date	Anglers	Hours Fished	Cutthroat trout	Rainbow trout	Mountain whitefish	Brook trout	Steelhead	Smallmouth bass	Chinook salmon	Total	CPUE
Lochsa River											
6/1	2	1	10							10	10.0
6/12	2	3								0	
6/22	5	3								0	
7/21	7	12	7	1						8	0.67
7/26	6	5.5	6							6	1.09
Subtotal	22	24.5	23	1						24	0.98
Selway River											
6/12	3	2								0	0.00
Subtotal	3	2								0	0.00
Season Total	**25**	**26.5**	**23**	**1**						**24**	**0.91**

Table 2. Summary of fish densities (fish/100 m^2) as determined by snorkeling the lower Clearwater River drainage, 2002.

			Steelhead				Cutthroat trout					
Stream	Section	Survey Date	Age 0	Age 1	Age 2	Age >2	<305 mm	>305 mm	Chinook salmon	Mountain whitefish	Bull trout	Brook trout
Big Canyon Cr	1	6/27	8.52	17.92	0.66	--	--	--	--	--	--	0.00
Mission Cr	1	6/27	20.71	7.53	2.35	--	--	--	--	--	--	0.00
Mission Cr	2	6/27	21.91	6.77	0.00	--	--	--	--	--	--	0.00
Potlatch R	1	6/29	0.16	0.21	0.05	--	--	--	--	--	--	0.05
Potlatch R	Kendrick	6/29	0.00	0.65	0.90	0.26	--	--	--	--	--	0.13
Potlatch R, E Fk	1	6/30	0.00	0.00	0.00	0.00	--	--	--	--	--	0.00
Potlatch R, E Fk	2	8/7	12.72	2.29	1.88	0.21	--	--	--	--	--	0.42
Potlatch R, E Fk	2	6/30	0.00	4.59	0.00	--	--	--	--	--	--	1.67
Potlatch R, E Fk	3	7/1	0.88	15.89	0.88	--	--	--	--	--	--	3.09
Potlatch R, E Fk	3	8/7	8.95	11.58	3.68	--	--	--	--	--	--	3.16
Potlatch R, E Fk	PFI 1	6/28	1.86	24.19	6.05	0.47	--	--	--	--	--	2.79
Potlatch R, E Fk	PFI 1	8/7	0.00	2.33	5.58	--	--	--	--	--	--	3.72
Potlatch R, E Fk	PFI 2	8/7	22.72	6.42	1.48	0.99	--	--	--	--	--	5.93
Potlatch R, E Fk	PFI 2	6/28	2.47	12.35	2.47	--	--	--	--	--	--	6.42
Potlatch R, E Fk	PFI 3	6/28	0.00	6.00	0.00	--	--	--	--	--	--	0.50
Potlatch R, E Fk	PFI 3	8/7	2.50	0.50	1.50	--	--	--	--	--	--	2.00
Potlatch R, E Fk	PFI 4	6/28	1.04	15.67	0.00	--	--	--	--	--	--	7.83
Potlatch R, E Fk	PFI 4	8/7	14.74	12.63	1.58	--	--	--	--	--	--	7.89
Potlatch R, E Fk	PFI 5	8/7	9.07	0.50	0.50	--	--	--	--	--	--	2.02
Potlatch R, E Fk	PFI 5	6/28	1.01	7.05	0.50	--	--	--	--	--	--	1.51
Potlatch R, E Fk	PFI 6	6/28	0.00	3.22	1.38	--	--	--	--	--	--	1.38
Potlatch R, E Fk	PFI 6	8/7	21.36	6.36	2.73	--	--	--	--	--	--	1.36
Potlatch R, E Fk	PFI 7	6/28	0.70	10.53	1.40	--	--	--	--	--	--	14.74
Potlatch R, E Fk	PFI 7	8/7	2.81	0.70	1.40	0.70	--	--	--	--	--	2.11
Potlatch R, E Fk	PFI 8	6/28	3.37	5.30	1.93	0.00	--	--	--	--	--	1.45
Potlatch R, E Fk	PFI 8	8/7	5.24	6.67	2.86	0.48	--	--	--	--	--	1.90
Potlatch R, E Fk	PFI 9	6/28	1.85	6.16	1.85	0.00	1.23	--	--	--	--	0.00
Potlatch R, E Fk	PFI 9	8/7	12.50	7.50	0.63	0.63	--	--	--	--	--	3.13

Table 3. Summary of fish densities (fish/100 m^2) as determined by snorkeling the South Fork Clearwater River drainage, 2002.

				Steelhead				Cutthroat trout					
Stream	Strata	Section	Survey Date	Age 0	Age 1	Age 2	Age >2	<305 mm	>305 mm	Chinook salmon	Mountain whitefish	Bull trout	Brook trout
American R	1	0.75U	7/14	83.33	0.98	--	--	1.47	--	3.43	1.47	--	0.49
American R	1	1.25U	7/14	60.61	3.03	--	--	6.06	--	11.11	3.03	--	0.00
American R	1	1.75U	7/14	48.53	2.13	--	--	1.60	--	4.27	1.07	--	0.00
American R	1	2.25U	7/14	54.09	0.63	--	--	3.14	--	42.14	1.89	--	0.63
American R	1	2.65U	7/14	102.56	0.00	--	--	0.00	--	13.19	1.47	--	0.00
American R	1	Gravel Pit	7/14	95.33	1.35	1.35	0.68	0.68	1.35	2.03	2.03	--	0.00
American R	2	1	7/14	29.72	2.32	0.21	0.00	1.05	--	2.53	2.74	--	0.00
American R	2	1/8M Above E Fk	7/14	64.31	3.15	0.63	0.00	0.00	--	0.00	1.26	--	1.89
American R	2	Above Cattle Guard	7/13	74.30	1.24	0.62	0.00	0.00	--	13.62	6.19	--	1.24
American R	2	Btwn Bound/Stump	7/14	75.66	3.29	0.00	0.00	2.47	--	8.22	9.87	--	4.11
American R	2	Cross River Lwr	7/14	97.16	1.75	0.39	0.00	0.39	--	11.08	7.00	--	0.58
American R	2	Cross River Upr	7/14	54.15	0.47	0.47	0.00	0.00	--	11.20	3.27	--	1.40
American R	2	Flat Iron Ridge	7/13	32.63	3.22	--	1.38	0.00	--	19.30	2.76	--	0.00
American R	2	Guntleys	7/14	70.18	4.13	--	0.00	0.00	--	8.77	11.87	--	1.55
American R	2	Stump Lane	7/14	54.60	2.87	0.41	0.00	0.82	0.41	13.55	2.05	--	0.82
American R	3	0.5BEBoxsin	7/13	81.77	3.29	--	--	--	--	15.04	2.82	--	0.00
American R	3	2	7/13	71.63	2.01	0.86	0.00	0.29	--	7.75	2.01	--	0.43
American R	3	Below Kirks Fork	7/13	60.27	9.13	2.74	0.46	1.37	0.46	1.83	1.37	--	0.46
American R	3	Buffalo Pit	7/13	68.62	4.86	0.61	0.40	0.00	--	2.02	1.42	--	0.00
American R	3	Stock Sign	7/13	99.65	2.46	1.64	3.00	0.00	--	5.73	2.46	--	0.00
American R	3	Stop Sign	7/13	36.70	4.19	--	--	--	--	1.83	0.00	--	0.00
Crooked R	1	Boulder-A	7/16	0.75	3.17	8.76	0.75	1.49	--	8.76	1.68	--	0.00
Crooked R	1	Control-A	7/16	3.17	2.98	3.73	0.93	0.37	--	5.96	0.93	--	0.00
Crooked R	1	Control-B	7/16	0.00	3.72	3.21	0.17	0.17	--	0.17	0.00	--	0.17
Crooked R	1	Sill-Log-B	7/16	0.44	4.23	5.97	0.15	1.60	--	3.06	0.15	--	0.15
Crooked R	2	Control1	7/15	2.42	4.48	6.29	0.24	0.00	--	2.54	0.85	--	0.00
Crooked R	2	Control2	7/15	4.01	1.87	6.86	1.34	0.36	0.18	7.03	0.71	--	0.00

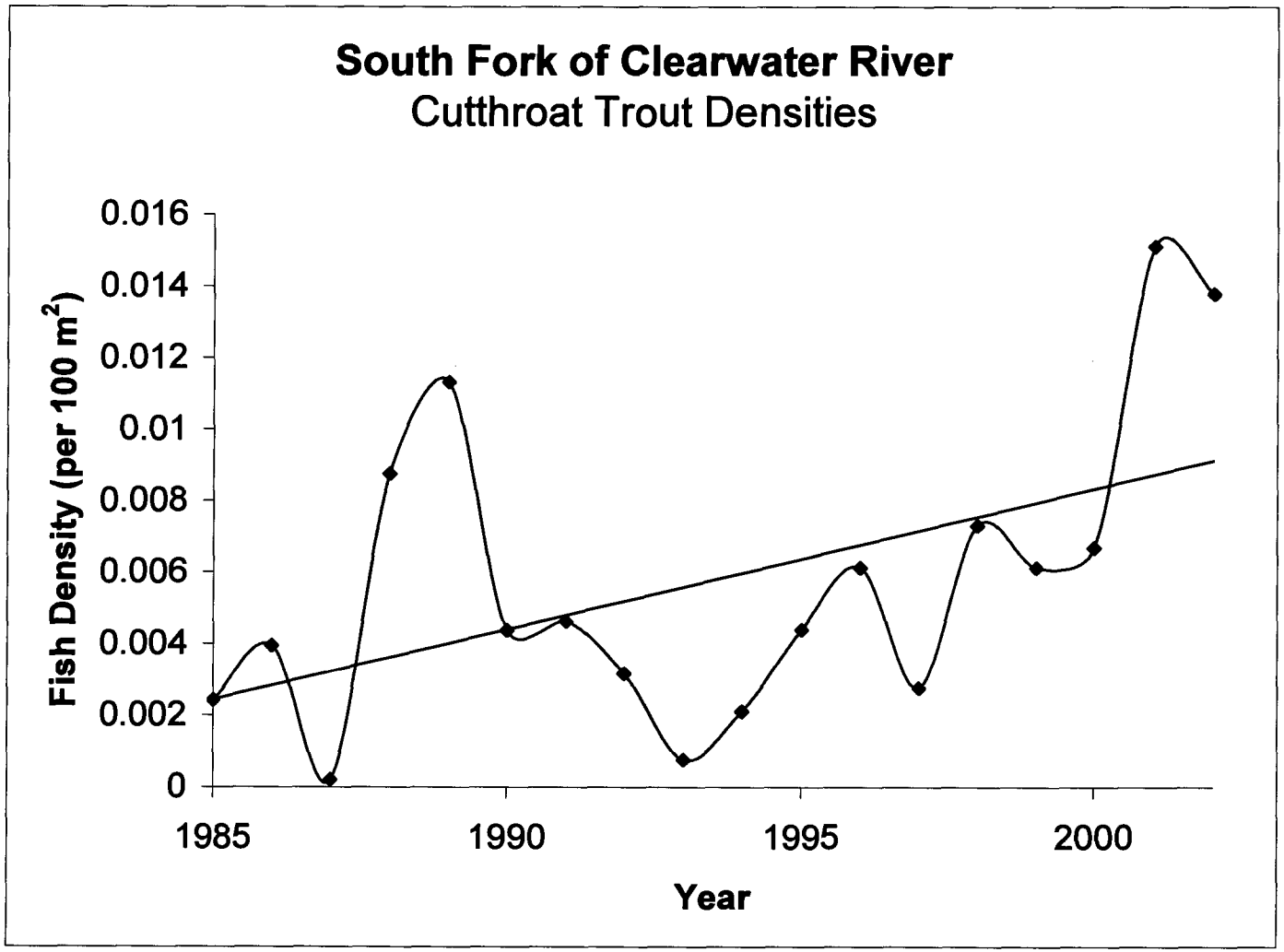
Table 3 (Continued).

Stream	Strata	Section	Survey Date	Steelhead Age 0	Steelhead Age 1	Steelhead Age 2	Steelhead Age >2	Cutthroat trout <305 mm	Cutthroat trout >305 mm	Chinook salmon	Mountain whitefish	Bull trout	Brook trout
Crooked R	2	Pond U	7/15	0.00	41.79	33.43	---	---	---	0.98	0.00	0.00	0.00
Crooked R	2	Treat2	7/15	9.69	1.61	8.77	1.50	0.58	---	15.69	1.15	0.35	0.00
Crooked R	3	Natural1	7/15	7.08	1.54	2.15	0.41	0.72	---	7.49	1.03	0.10	0.21
Crooked R	3	Natural3	7/15	8.32	10.05	3.77	0.31	0.94	0.16	4.55	2.35	0.00	0.31
Crooked R	4	Meander1	7/15	15.77	0.49	0.37	---	0.25	---	24.02	1.48	0.00	0.12
Crooked R	4	Pond S1	7/15	0.21	0.00	0.42	---	0.00	---	2.10	1.47	0.00	0.42
Crooked R	C	Can1	7/15	3.62	2.26	5.59	1.21	0.75	0.15	4.38	3.17	0.15	0.15
Crooked R	C	Can2	7/15	6.16	1.08	4.47	0.31	0.46	---	4.01	1.23	0.31	0.62
Crooked R	C	Can3	7/15	0.59	1.07	1.07	0.12	0.00	---	6.40	1.90	0.24	0.00
Crooked R, E Fk	H	EF1	7/16	0.00	0.00	0.32	---	2.26	---	0.00	0.00	0.00	0.00
Crooked R, E Fk	H	EF2	7/16	0.48	0.48	0.96	0.24	3.86	---	0.00	0.00	0.00	0.00
Crooked R, W Fk	H	WF1	7/16	0.54	1.08	1.62	---	10.28	---	0.00	0.00	0.00	0.00
Crooked R, W Fk	H	WF2	7/16	0.23	0.47	1.16	0.47	2.80	---	0.00	1.86	1.40	0.00
Five Mile Cr	1	1B	7/16	0.00	2.86	3.43	---	8.58	---	0.00	0.00	0.00	0.00
John Day Cr	-99	2	7/31	0.00	1.71	0.43	0.43	0.00	---	0.00	0.00	0.00	0.00
Red R	1	Control 1	7/12	0.49	3.92	0.98	---	6.37	0.49	5.88	4.90	0.49	8.33
Red R	1	Control 2	7/12	3.59	6.15	5.38	0.51	0.00	---	2.56	1.79	0.00	5.38
Red R	1	CSUP 1	7/12	2.12	1.32	0.26	---	0.00	---	1.06	2.12	0.00	8.73
Red R	1	Goose Box	7/12	9.76	1.01	1.35	---	0.00	---	0.00	6.73	0.00	8.08
Red R	1	Upper Shissler	7/12	0.00	0.00	---	---	6.25	---	0.00	0.00	0.00	0.69
Red R	2	Control 2	7/12	0.00	0.35	0.12	---	0.23	0.12	0.12	0.58	0.00	0.00
Red R	2	CSUP 1	7/12	2.60	4.69	0.87	---	1.39	0.00	1.21	0.00	0.00	0.17
Red R	2	CSUP 3	7/12	11.91	1.35	3.60	0.45	2.70	0.00	8.54	1.12	0.22	1.57
Red R	2	CSUP 4	7/12	3.59	1.54	1.54	0.26	0.77	1.03	1.03	0.77	0.00	1.03
Red R	2	CSUP 6	7/12	6.01	1.20	0.96	0.48	1.44	0.24	1.92	0.96	0.00	0.24
Red R	2	Treat 2	7/12	8.58	0.63	0.25	---	2.40	0.13	4.92	0.50	0.00	0.50
Red R	3	1150	7/12	1.15	6.12	3.44	0.38	0.19	---	0.96	0.57	0.00	0.00

Table 3 (Continued).

Stream	Strata	Section	Survey Date	Steelhead Age 0	Steelhead Age 1	Steelhead Age 2	Steelhead Age >2	Cutthroat trout <305 mm	Cutthroat trout >305 mm	Chinook salmon	Mountain whitefish	Bull trout	Brook trout
Red R	3	Below Weir	7/12	11.32	15.80	3.54	0.24	0.71	1.42	0.24	1.89	---	---
Red R	3	Mid of Structure	7/12	0.00	11.03	6.06	0.62	3.42	0.47	0.47	1.24	---	---
Red R	3	Old Bridge	7/12	8.38	4.45	3.08	---	0.68	---	5.47	0.17	---	---
Red R	4	1188	7/12	4.75	10.45	11.08	1.90	---	---	0.00	---	---	0.32
Red R	4	Boulder Pool	7/12	30.75	5.62	2.98	---	---	0.33	19.18	1.65	---	---
Red R	4	Control 2	7/12	15.43	1.10	0.55	---	0.00	---	8.68	0.69	---	---
Red R	4	Log Island	7/12	13.63	10.75	3.93	0.79	---	---	8.65	1.05	---	---
Red R	4	Treat 2	7/12	8.84	2.17	1.16	---	---	---	5.22	0.87	---	---
Red R	5	Control 2	7/11	8.58	1.86	0.65	0.09	0.28	---	1.40	6.06	---	---
Red R	5	Gibler 2	7/11	5.88	1.85	0.84	---	---	---	0.17	1.18	---	0.17
Red R	5	Gibler 3	7/11	14.16	4.34	1.77	---	---	---	0.00	0.48	---	---
Red R	5	Johnson Up	7/11	20.45	0.37	1.46	---	---	---	0.49	0.61	---	---
Red R	5	Johnson Down	7/11	11.39	0.11	0.05	---	---	---	7.66	1.44	---	---
Red R	5	Treat 2	7/11	7.86	0.77	1.79	0.10	0.26	---	2.25	1.02	---	0.10
Red R	6	CSUP 1	7/11	31.48	1.60	1.20	0.40	0.20	---	1.00	0.00	---	0.20
Red R	6	CSUP 2	7/11	40.50	0.59	2.06	0.15	0.88	---	3.68	1.18	0.29	0.15
Red R	6	CSUP 3	7/11	10.35	1.27	0.32	---	0.16	---	0.00	---	---	---
Red R	6	CSUP 4	7/11	18.24	1.58	1.35	0.45	1.58	0.23	0.23	1.35	---	0.23
Red R	6	CSUP 5	7/11	40.85	4.10	1.20	---	0.51	---	0.51	1.20	0.17	---
Red R	6	CSUP 6	7/11	49.27	1.63	0.23	---	0.23	---	0.00	1.17	---	---
Relief Cr	1	1A	7/15	9.33	1.59	9.52	0.40	---	---	2.38	1.19	---	---
Relief Cr	2	2A	7/15	0.33	0.00	---	---	6.26	---	0.00	0.33	---	---

Figure 1. Average westslope cutthroat trout densities in the South Fork Clearwater River as determined from snorkel transects, 1985-2002.



Salmon River

Ten tributaries of the lower Salmon River were surveyed by snorkeling in 2002 (Table 9). Steelhead were the most abundant fish observed in these tributaries. Spring chinook salmon were the next most abundant fish, followed by mountain whitefish, westslope cutthroat trout and bull trout. Bull trout were observed in Big Mallard Creek, Jersey Creek, Sheep Creek, and Little Slate Creek. No brook trout were observed during snorkel surveys.

The Idaho Department of Fish and Game annually stocks resident rainbow trout into the lower 100 km of the Salmon River. This stocking is funded by the Lower Snake River Compensation Plan (LSRCP) as part of their resident fisheries mitigation program. These fish are sampled annually by hook and line to collect population and food habit information. From August 18-21, 2002, approximately 200 rod hours resulted in the collection of eight domestic Kamloops by Clearwater Region personnel (Table 10). Additionally, 20 hatchery steelhead, one unspecified hatchery rainbow trout, and one wild rainbow trout were collected.

Additionally, 315 smallmouth bass were collected during this sampling period. These fish ranged in total length from 100 to 520 mm (Figure 6). Only 142 fish were collected from the same section of river in 2001. A comparison of the length frequency distributions from 2001 and 2002 shows not only the increase in the number of fish collected, but an increase in average length as well (Figure 6).

Table 4. South Fork Clearwater River spring chinook salmon spawning ground survey summary, 2002.

Drainage	Reach	Type	Description	Date	Method[a]	Redds	Fish	
							Live	Dead
Red River	NC-1	T	Weir to Cole 66 Bridge	9/5-6	Ground	75	ND	ND
		ISS&C	Strata 1 and Strata 2 (Weir to Shissler Cr)	Not done	Aerial			
	NC-2a		Strata 1: Red River Campground-Shissler Creek	8/23	Ground	1	5	2
				9/6	Ground	15	1	12
				9/20	Ground	10	0	0
	NC-2b		Strata 2: Weir-Red River Campground	8/23	Ground	1	7	0
				9/6	Ground	7	1	14
				9/20	Ground	1	0	0
		ISS&C	Strata 3 (Little Moose Cr to weir)	Not done	Aerial			
			IDFG personnel	8/23	Ground	30	13	4
				9/6	Ground	28	4	23
				9/19	Ground	0	1	0
		ISS&C	Strata 4 (Dawson Cr to Little Moose Cr)	Not done	Aerial			
				8/23	Ground	6	7	5
				9/5	Ground	10	2	2
				9/19	Ground	8	0	0
		ISS&C	Strata 5 (Gold Point to Dawson Cr)	Not done	Aerial			
				8/22	Ground	1	6	0
				9/5	Ground	15	1	13
				9/19	Ground	0	0	0

Table 4 (Continued).

Drainage	Reach	Type	Description	Date	Method	Redds	Fish Live	Fish Dead
Red River		ISS&C	Strata 6 (Mouth to Gold Point)	Not done	Aerial			
				8/22	Ground	0	5	1
				9/5	Ground	2	1	4
				9/19	Ground	1	0	0
SF Red River	NC-3	NT	Mouth to Trapper Creek	Not done	Ground			
				Not done	Ground			
				Not done	Ground			
			Red River Ground Count Total			**136**	**54**	**80**
			Red River Aerial Count Total			**ND**	**ND**	**ND**
American River	NC-4	T	Lick Creek to Kirks Fork	ND	Ground			
		ISS&C	Strata 1 (Corrals to Limber Luke)	Not done	Aerial			
				8/26	Ground	46	10	2
				9/13	Ground	0	0	19
				9/27	Ground	0	0	0
		ISS&C	Strata 2 (Box Sing Cr to Corrals)	Not done	Aerial			
				8/28	Ground	16	19	1
				9/8	Ground	34	5	11
				9/21	Ground	32	0	0
		ISS&C	Strata 3 (Mouth to Box Sing Creek)	Not done	Aerial			
				8/27	Ground	17	25	1
				9/7-9	Ground	46	3	19
				9/20-22	Ground	8	0	0
			American River Ground Count Total			**199**	**62**	**53**
			American River Aerial Count Total			**ND**	**ND**	**ND**

Table 4 (Continued).

Drainage	Reach	Type	Description	Date	Method	Redds	Fish Live	Fish Dead
Crooked River	NC-5	C	Relief Cr. to upper end of airstrip Not done					
	NC-6	T	Mouth to forks above Old Orogrande	9/7	Ground	10	ND	ND
			Mouth to weir	Not done	Ground			
				Not done	Ground			
				Not done	Ground			
			Strata 3-lower (weir to bottom of meanders)	8/24	Ground	0	2	0
				9/7	Ground	1	1	0
				9/21	Ground	0	0	0
			Strata 4 (the meanders)	8/24	Ground	2	3	1
				9/7	Ground	3	0	2
				9/21	Ground	0	0	0
			Strata 3-upper (top of meanders to narrows)	8/24	Ground	0	0	0
				9/7	Ground	1	0	0
				9/21	Ground	0	0	0
			Strata Canyon (the narrows)	8/24	Ground	2	2	0
				9/7	Ground	1	0	0
				9/21	Ground	0	0	0
			Strata 2 (top of narrows to bridge)	8/24	Ground	2	7	0
				9/7	Ground	0	0	0
				9/21	Ground	0	0	0
			Strata 1 (bridge to forks)	8/24	Ground	1	3	1
				9/7	Ground	3	0	2
				9/21	Ground	2	0	0
			Crooked River Ground Count Total			**18**	**18**	**6**
			Crooked River Aerial Count Total			**ND**	**ND**	**ND**

Table 4 (Continued).

Drainage	Reach	Type	Description	Date	Method	Redds	Fish Live	Fish Dead
Newsome Cr.	NC-7	C	Nugget Cr. to Beaver Cr.		Not done			
	NC-8	T	Mouth to Glory Hole (just below Radcliff Cr, Nez Perce Tribe)		Ground			
		C	Radcliff Cr to headwaters	9/8	Not done			
SF Clearwater River	new 1995	ISS&C	Mouth to Stites	Not done	Aerial			
		ISS&C	Stites to Harpster	Not done	Aerial			
		ISS&C	Harpster to Mt Idaho	Not done	Aerial			
		ISS&C	Mt Idaho to Johns Cr	Not done	Aerial			
		ISS&C	Johns Cr to Tenmile Cr	Not done	Aerial			
		ISS&C	Tenmile Cr to Newsome Cr	Not done	Aerial			
		ISS&C	Newsome Cr to Crooked R	Not done	Aerial			
		ISS&C	Crooked R. to Red River	Not done	Aerial			
Tenmile Creek	new 1995	ISS&C	Mouth to Morgan Cr.	Not done	Aerial			
		ISS&C	Morgan Cr to headwaters	Not done	Aerial			
Johns Creek	new 1995	ISS&C	Mouth to Frank Brown Cr	Not done	Aerial			
		ISS&C	Frank Brown to headwaters	Not done	Aerial			
			South Fork Drainage Ground Count Total			**353**	**134**	**139**
			South Fork Drainage Aerial Count Total			**ND**	**ND**	**ND**

[a]Only ground counts were conducted in 2002. The number of redds and carcasses reported for the trend counts include those counted up to and including the survey data. Live fish are for those only observed on the survey date.
NOTE: Ground counts in nontrend areas on subsequent dates are new redds only.

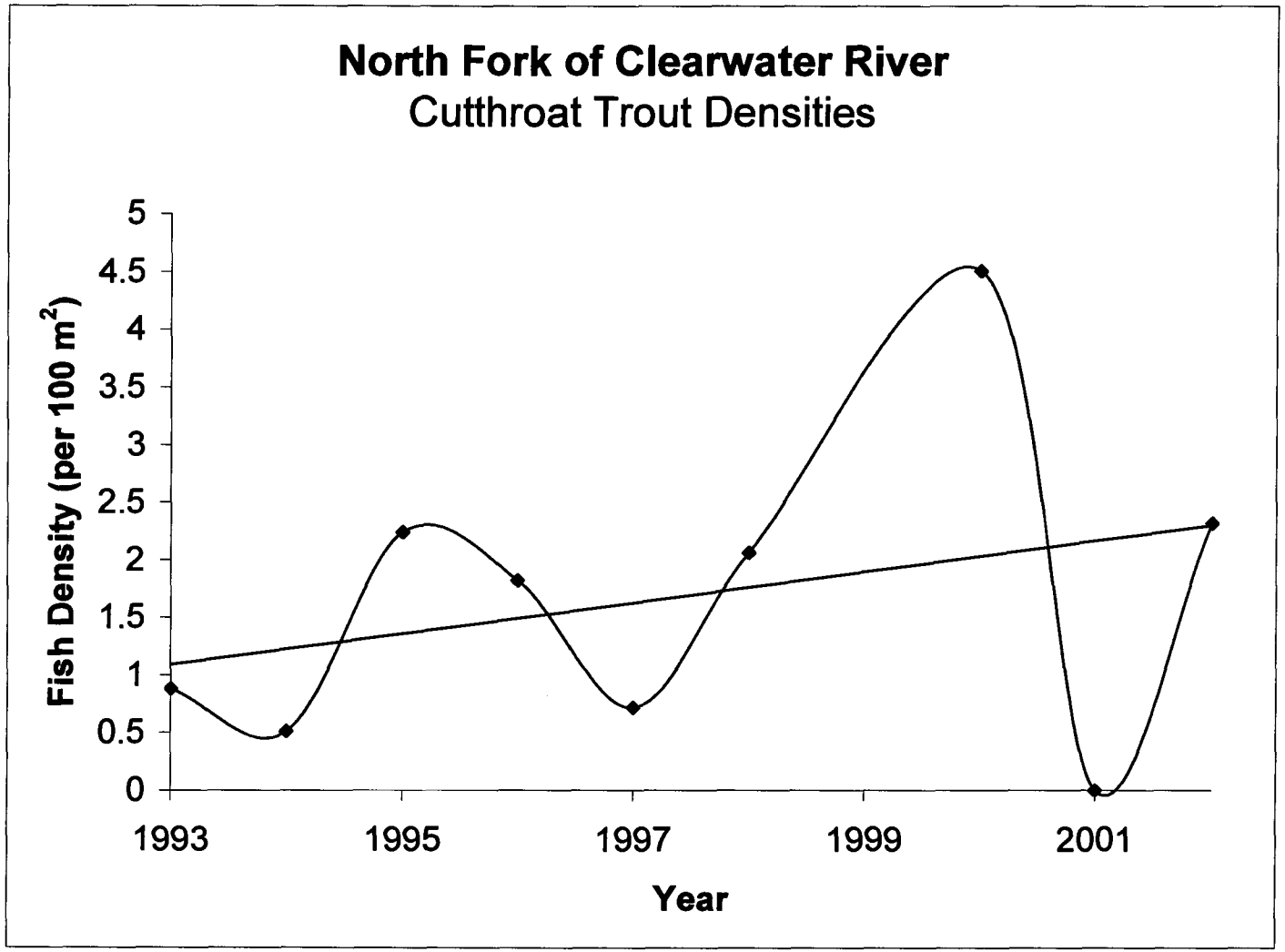


Figure 2. Average westslope cutthroat trout densities in the North Fork Clearwater River as determined from snorkel transects 1993-2002.

Table 5. Summary of fish densities (fish/100 m^2) as determined by snorkeling the Lochsa River drainage, 2002.

				Steelhead				Cutthroat trout					
Stream	Strata	Section	Survey Date	Age 0	Age 1	Age 2	Age >2	<305 mm	>305 mm	Chinook salmon	Mountain whitefish	Bull trout	Brook trout
Brushy Fk Cr	3	1	8/10	0.00	2.63	3.28	1.31	1.31	0.00	1.31	1.97	0.00	---
Brushy Fk Cr	3	2	8/10	0.00	2.29	2.47	0.53	0.18	0.35	13.40	0.18	0.18	---
Colt Cr	-99	Bridge	8/9	0.74	2.23	0.00	0.00	2.60	0.00	0.00	0.00	0.00	---
Colt Killed Cr	-99	Lwr Monitor	8/9	0.00	0.24	0.42	0.12	0.03	0.03	0.36	0.00	0.00	---
Crooked Fk Cr	1	2A	8/11	0.00	1.37	3.66	0.00	1.37	0.00	0.00	0.00	0.00	---
Crooked Fk Cr	2	3A	8/11	0.00	0.22	0.00	0.00	2.89	0.00	0.00	0.00	0.00	---
Crooked Fk Cr	2	4A	8/11	0.00	0.75	0.00	0.00	1.12	0.37	0.00	0.00	0.00	---
Crooked Fk Cr	3	1	8/10	0.00	0.14	1.22	0.27	0.54	0.41	1.22	0.95	0.14	---
Crooked Fk Cr	3	2	8/10	0.00	0.00	0.13	0.00	0.26	0.39	1.97	0.53	0.00	---
Crooked Fk Cr	3	2B	8/10	0.00	0.14	0.17	0.00	0.03	0.00	0.24	0.21	0.00	---
Crooked Fk Cr	4	1B	8/10	0.00	0.00	0.00	0.05	0.11	0.44	0.00	0.77	0.00	---
Hopeful Cr	1	1-Boogie Dn	8/11	0.00	0.33	1.67	0.17	1.33	0.00	0.00	0.00	0.00	---
Lochsa R	-99	1	8/9	0.04	0.00	0.04	0.02	0.09	0.06	0.13	0.45	0.00	---
Lochsa R	-99	2	8/9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.33	0.00	---
Lochsa R	-99	3	8/9	0.01	0.00	0.13	0.00	0.30	0.69	0.00	1.11	0.00	---
Lochsa R	-99	4	8/9	0.00	0.08	0.12	0.10	0.37	0.21	0.37	0.29	0.00	---

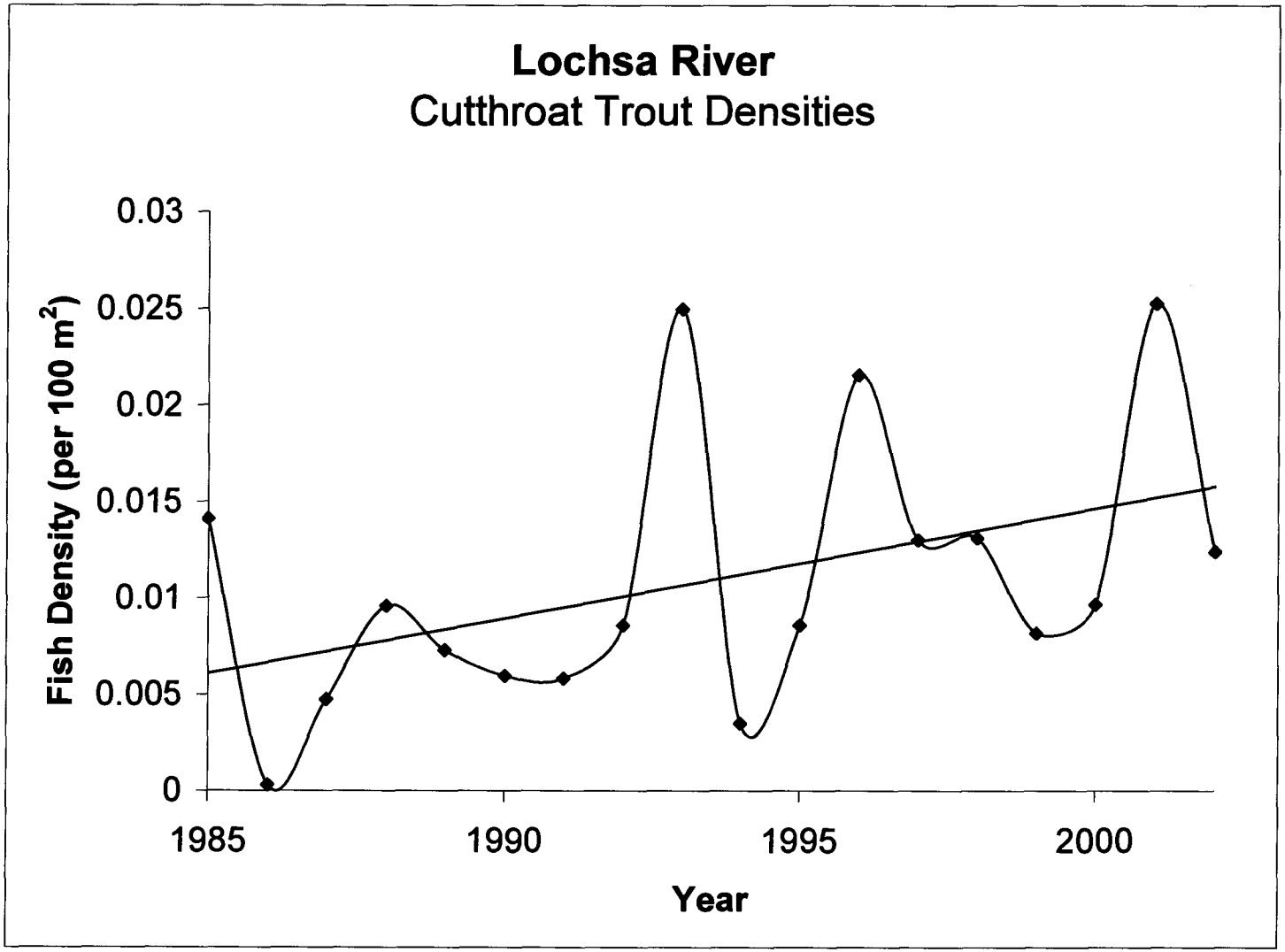


Figure 3. Average westslope cutthroat trout densities in the Lochsa River as determined from snorkel transects, 1985-2002.

Table 6. Lochsa River spring chinook salmon spawning ground survey summary, 2002.

The number of redds and carcasses reported for the trend counts include those counted up to and including the survey data. Live fish are for those only observed on the survey date. Only ground counts were conducted in the Lochsa drainage in 2002.

							Fish	
Drainage	Reach	Type	Description	Date	Method	Redds	Live	Dead
Crooked Fk.	NC-9	NT	Mouth to Hopeful Cr.	Not done	Aerial			
	NC-10	T	Rock Cr. to cliff hole	9/11	Ground	52	0	29
Brushy Fk.	NC-11	T	Low Gap Br to one mile downstream	9/9	Ground	35	0	16
Colt Killed Cr (White Sands Cr)	NC-13	NT	Mouth to Big Flat Cr.	9/2-5	Ground	40	16	13
			Lochsa Drainage Ground Count Total			**127**	**16**	**58**

Table 7. Summary of fish densities (fish/100 m^2) as determined by snorkeling the Selway River drainage, 2002.

				Steelhead				Cutthroat trout					
Stream	Strata	Section	Survey Date	Age 0	Age 1	Age 2	Age >2	<305 mm	>305 mm	Chinook salmon	Mountain whitefish	Bull trout	Brook trout
Bear Cr.	-99	1	8/2	---	0.19	0.19	0.48	0.48	0.29	5.58	1.15	---	---
Bear Cr.	-99	2	8/2	0.10	0.31	0.31	---	0.51	0.21	29.45	0.31	---	---
Deep Cr.	-99	Cactus	8/30	2.37	0.53	1.05	---	7.11	---	0.26	0.26	---	---
Deep Cr.	-99	Scimitar	8/30	0.41	2.03	0.20	---	2.84	---	2.64	0.20	---	---
Moose Cr.	-99	1	8/4	---	0.66	0.27	---	1.13	0.07	---	2.79	---	---
Moose Cr.	-99	2	8/4	---	0.05	---	---	---	---	0.39	0.00	---	---
Moose Cr,E Fk	-99	3	8/4	---	0.78	0.44	0.24	1.17	0.29	2.15	0.34	---	---
Moose Cr,E Fk	-99	4	8/4	---	0.13	0.08	---	0.42	0.13	---	0.46	---	---
Running Cr.	-99	1	8/1	---	---	---	---	0.28	---	0.85	---	---	---
Running Cr.	-99	2	8/1	---	---	---	---	0.40	0.13	0.13	0.27	---	---
Selway R	-99	Badluck Cr.	8/30	---	0.33	0.61	0.05	1.31	0.05	58.05	1.08	0.28	---
Selway R	-99	Hellshalf	8/30	---	0.51	1.27	0.34	0.67	0.08	1.01	0.84	0.17	---
Selway R	-99	Little-Cw	8/30	---	0.69	1.15	0.08	1.15	0.15	16.79	1.30	---	---
Selway R	-99	Mag-Xing	8/30	---	0.57	0.59	0.22	0.62	0.05	2.57	0.46	0.03	---
Selway R	-99	Running Cr.	8/2	---	---	---	---	0.13	0.09	---	0.79	---	---
Selway R	-99	@ Northstar	8/2	---	---	---	---	1.02	0.20	---	4.92	---	---
Selway R	-99	@ Lowr Tango	8/1	---	0.09	0.17	0.01	0.23	0.08	0.01	0.65	---	---
White Cap Cr.	3	1	8/31	0.13	0.60	1.01	0.27	1.41	---	3.36	0.40	---	---
White Cap Cr.	3	2	8/31	---	0.35	0.53	---	0.41	---	0.70	0.35	---	---
White Cap Cr.	3	3	8/31	---	0.31	1.09	---	1.48	0.23	14.13	0.78	---	---

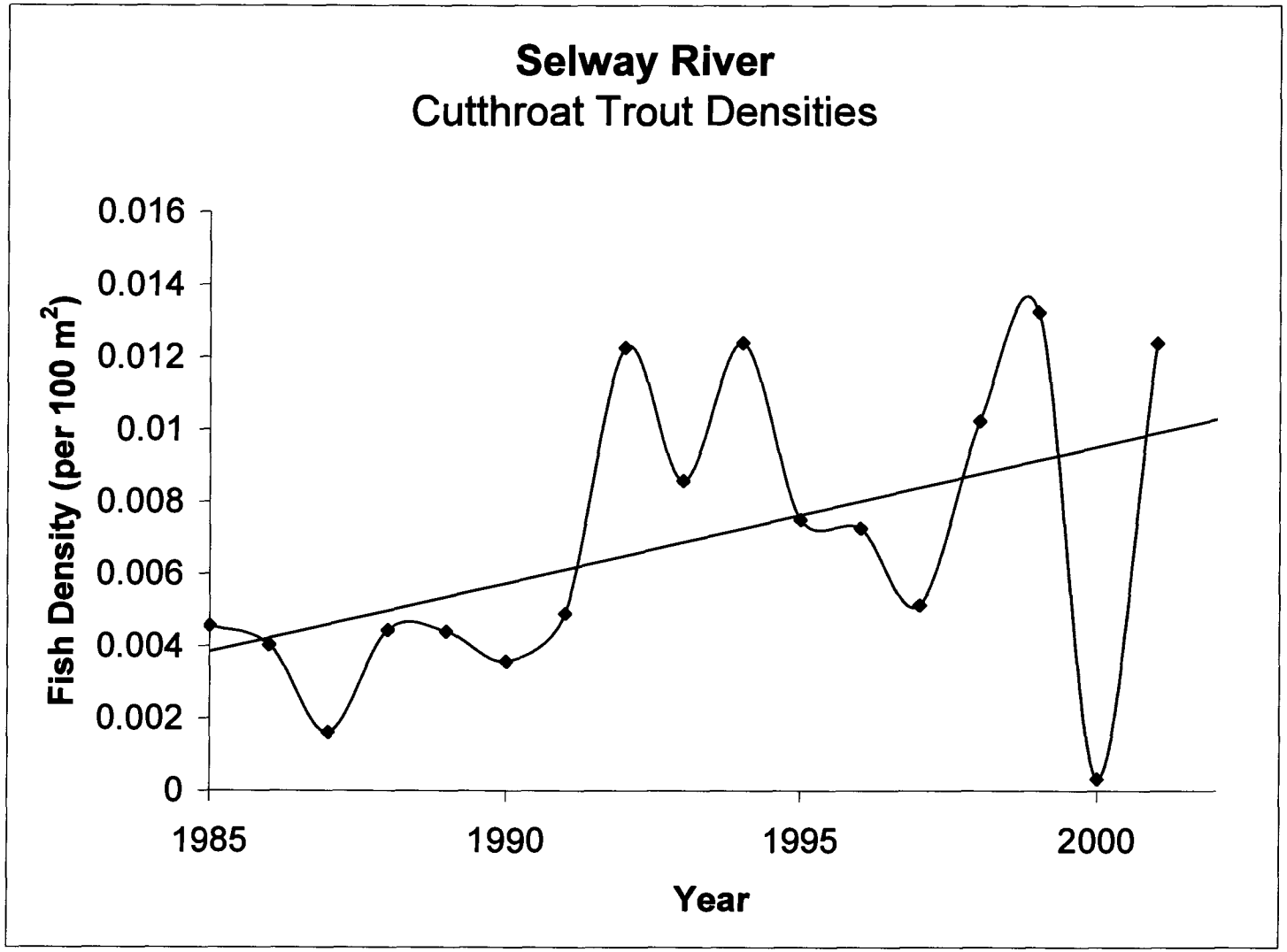


Figure 4. Average westslope cutthroat trout densities in the Selway River as determined from snorkel transects, 1985-2001.

Table 8. Selway River spring chinook salmon spawning ground survey summary, 2002.

Drainage	Reach	Type	Description	Date	Method	Redds	Fish Live	Fish Dead
White Cap Cr.	WC-1	T	Mouth to Coopers Flat	9/5	Aerial	3	0	0
Bear Cr.	WC-2	T	Mouth to Cub Cr.	9/5	Aerial	12	0	0
Moose Cr.	WC-3	T	Mouth to Cedar Cr.	9/5	Aerial	11	3	0
Running Cr.	WC-4	T	Mouth to two miles above Eagle Creek and lower one mile of Eagle Cr.	9/5	Aerial	0	0	0
Selway	WC-5	T	Thompson Flat to Magruder RS	9/5	Aerial	7	0	0
Selway	WC-6	T	Magruder RS to Magruder Crossing[a]	9/5	Aerial	2	0	0
Selway	WC-7 8	T	Magruder Crossing to Little Clearwater River		8/30 Ground		65	29
				9/5	Aerial	47	1	0
Selway	WC-8	T	Little Clearwater R. to White Cap Cr	9/5	Aerial	2	0	0
Selway	WC-9	T	White Cap Cr. to Bear Cr.	9/5	Aerial	4	0	0
			Selway Drainage Ground Count Total			**65**	**29**	**8**
			Selway Drainage Aerial Count Total			**88**	**4**	**0**

[a] indicates very poor visibility

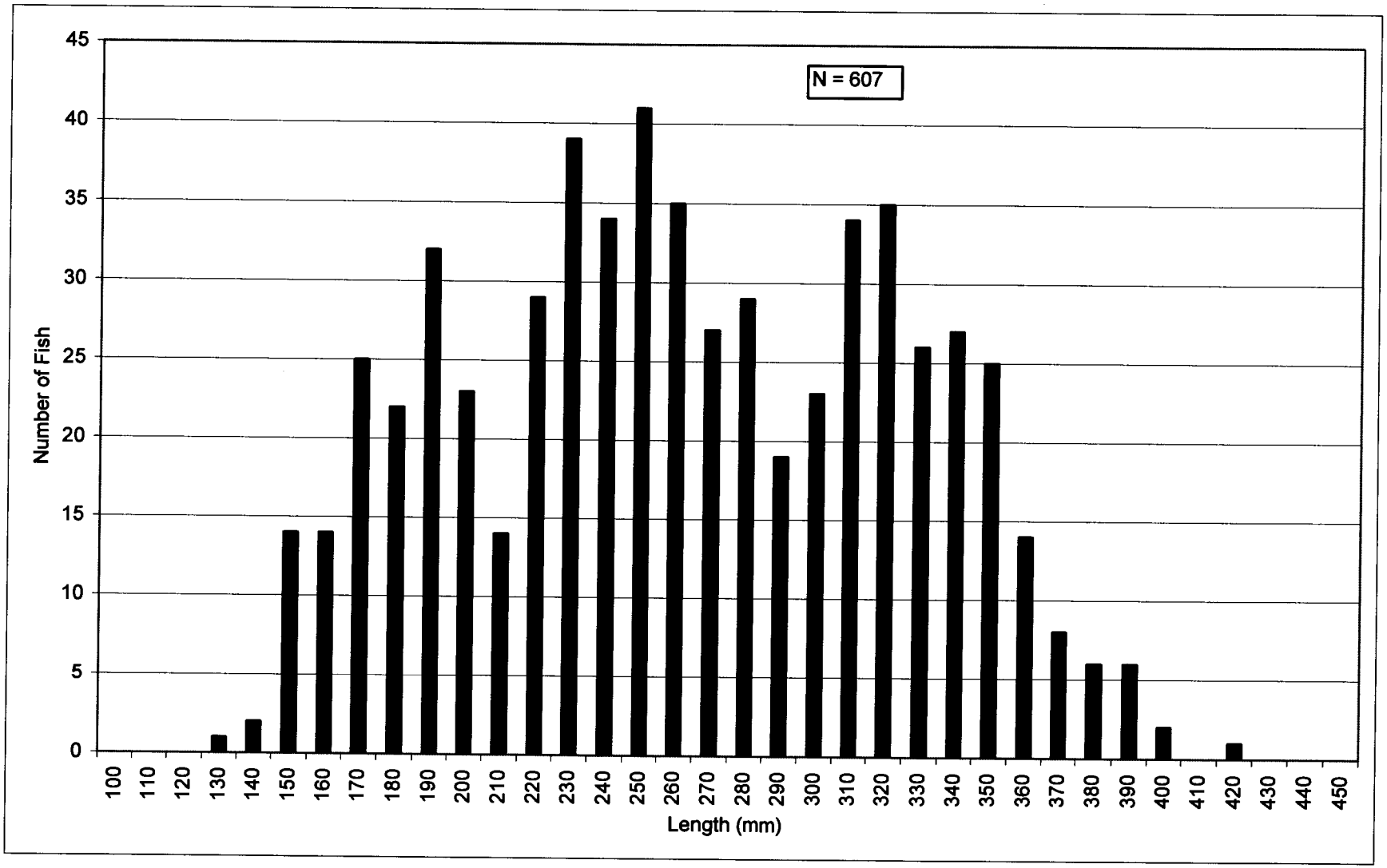


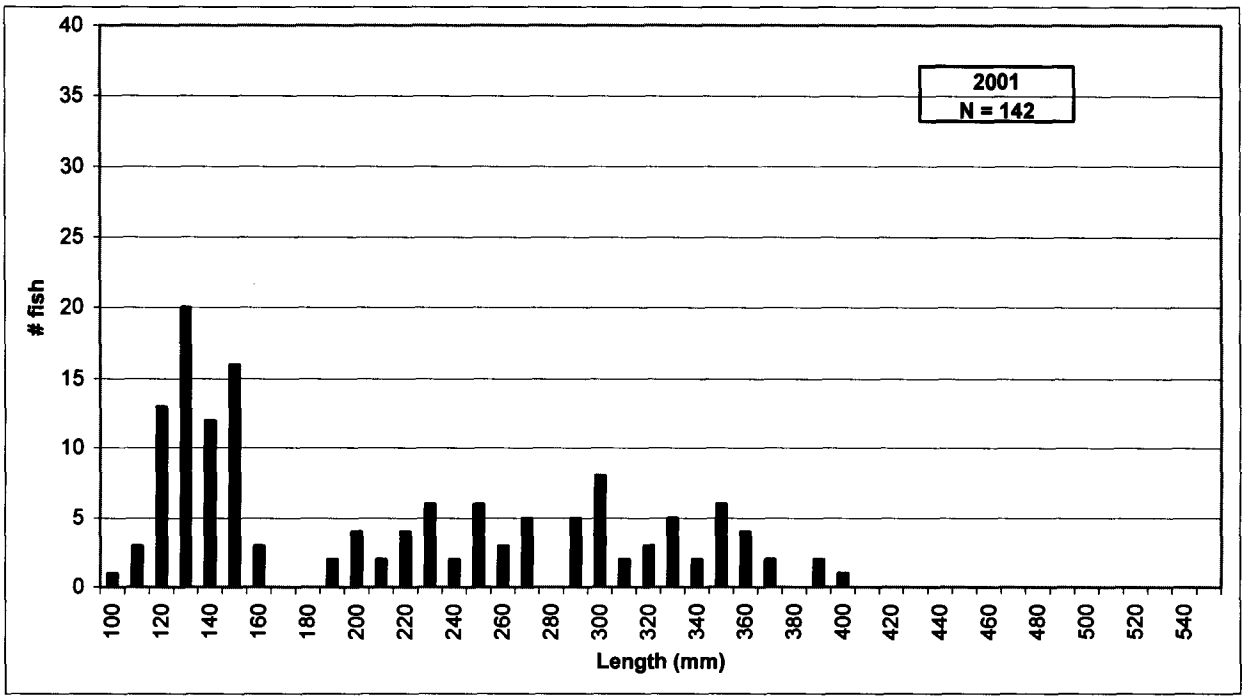
Figure 5. Length frequency distribution for westslope cutthroat trout caught by hook and line in the Selway River, 2002.

Table 9. Summary of fish densities (fish/100 m^2) as determined by snorkeling the Salmon River drainage, 2002.

			Steelhead trout				Cutthroat trout					
Stream	Section	Survey Date	Age 0	Age 1	Age 2	Age >2	<305 mm	>305 mm	Chinook salmon	Mountain whitefish	Bull trout	Brook trout
Bargamin Cr	1	7/28	0.12	4.46	3.25	0.48	0.96	0.36	0.84	1.57	---	---
Bargamin Cr	2	7/28	0.79	3.58	2.25	0.26	1.06	0.93	0.40	0.13	---	---
Big Mallard Cr	1	7/28	1.95	5.19	3.90	1.62	3.25	---	5.52	0.65	0.97	---
Big Mallard Cr	2	7/28	3.13	1.34	1.57	0.45	2.46	---	0.89	0.22	0.67	---
Crooked Cr	1	7/30	0.26	0.77	0.26	0.26	0.26	---	0.13	0.64	---	---
Crooked Cr	2	7/30	5.30	1.67	1.36	0.15	---	---	5.30	1.06	---	---
Jersey Cr	1	7/29	1.67	5.00	3.89	0.56	0.56	---	5.56	---	0.56	---
Sheep Cr	1	7/29	1.87	3.74	4.02	0.29	1.01	0.29	9.20	3.88	0.43	---
Sheep Cr	2	7/29	2.80	7.07	3.47	0.13	0.93	---	1.33	1.87	---	---
Little Slate Cr	Transect 7	7/31	1.52	4.24	3.94	0.30	---	---	7.27	---	0.30	---
Skookumchuck Cr	1	7/31	10.73	10.73	7.51	0.72	---	---	2.15	---	---	---
Slate Cr	1	7/31	0.69	4.51	2.08	0.52	---	---	19.10	0.52	---	---
Slate Cr	2	7/31	1.29	4.29	2.86	---	---	---	4.00	---	---	---
Slate Cr	4	7/31	0.00	5.80	10.71	0.89	---	---	6.70	---	---	---
Slate Cr	5	7/31	4.88	6.44	1.37	0.59	---	---	4.68	0.20	---	---
Slate Cr	6	7/31	0.29	3.78	3.20	0.29	---	---	5.23	---	0.29	---
Whitebird Cr	1	7/30	44.81	46.75	23.38	0.97	---	---	3.90	---	---	---
Whitebird Cr, S Fk	SF-#2	7/30	16.39	27.55	8.02	0.35	---	---	8.02	---	---	---

Table 10. Length frequency of rainbow trout collected by hook and line in the lower Salmon River, August 18-21, 2002.

Length (mm)	Hatchery Steelhead (AD clip)	Unspecified HATCHERY Rainbow	Colorado/ SPOKANE Strain (RV clip)	Kamloop RAINBOW (LV clip)	Wild Rainbow	Total
140-159						0
160-179						0
180-199						0
200-219	1					1
220-239	1					1
240-259	3					3
260-279	5					5
280-299	5					5
300-319	3					3
320-339	2	1		2		5
340-359				1		1
360-379						0
380-399				1		1
400-419				2	1	3
420-439				2		2
440-459						0
460-479						0
TOTAL	20	1	0	8	1	30



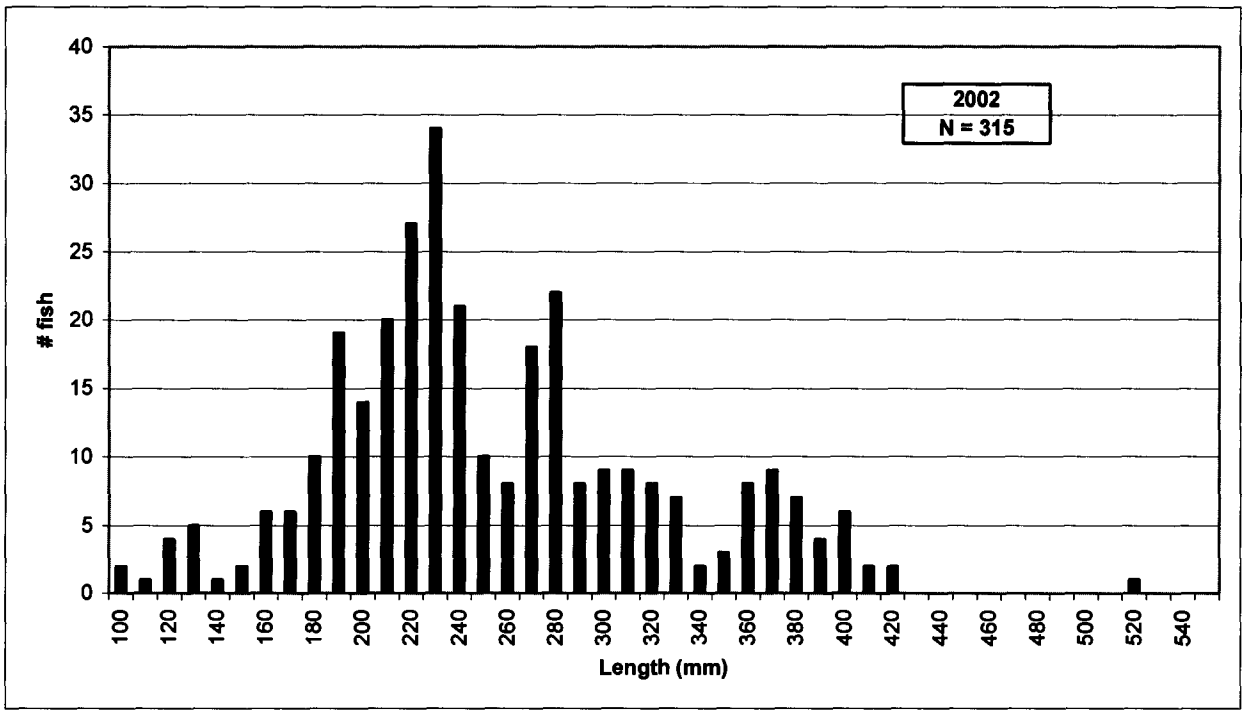


Figure 6. Smallmouth bass length frequency distributions in the lower Salmon River as determined by hook and line sampling, 2001 and 2002.

2002 CLEARWATER REGION – HABITAT MANAGEMENT

JOB PERFORMANCE REPORT

ABSTRACT

The development of two new fishing waters in the Clearwater Region began in 2002. Construction has begun on Deer Creek Reservoir. This new reservoir on Deer Creek near the town of Pierce will be approximately 41 ha in size upon its completion. Prison labor was contracted to clear brush and sub-merchantable timber, while Potlatch Corporation cleared the merchantable timber from the reservoir location. Slash piles were created with the resulting waste for burning. Some trees were left within the high water mark to provide habitat for wildlife. Additionally, an access road has been constructed and surfaced. The second new fishing water will be Deyo Pond, constructed at the site of the old Schmidt Mill Pond. The Idaho Department of Fish and Game is in the process of entering into an agreement with the landowner to obtain the land by donation. Water quality and geophysical assessments of the location have been conducted. The new Deyo Pond would be approximately 20 ha in size upon completion.

Fish habitat and water quality issues in Winchester Lake are being addressed through the implementation of a hypolimnetic aeration system. This project is primarily funded by the Idaho Department of Environmental Quality through a 319 Water Quality Grant. Construction was begun on eight aeration units which will draw water from the bottom of the lake, aerate it in a tub at the surface, and return the water to the bottom of the lake to prevent destratification. The increase in oxygen in the hypolimnion will increase habitat available for fish, and reduce the levels of phosphorous in the water by preventing it from being released from the lake substrates. The reduction in phosphorous will in turn reduce the levels of aquatic vegetation and algae that are a nuisance in the summer and fall months.

Fish habitat was also addressed in Robinson's Pond. This small pond, located near Kamiah, is primarily utilized as a put and take rainbow trout fishery. In 2002, 4,007 catchable rainbow trout were stocked into Robinson's Pond. Its water source is a natural spring. This source water must travel approximately 0.4 km through a roadside ditch before entering the pond. During June 2002, vegetation and debris filled the ditch preventing water from reaching the pond. This resulted in low water levels and an increase in water temperature above the range tolerated by rainbow trout. Clearwater Region personnel, with the assistance of a prison labor crew from Orofino, cleaned out the ditch to allow water to flow into the pond. We then attached a sediment trap/debris screen to a road culvert near the spring. Plastic culvert pipe was then installed in the ditch from the debris screen to the pond. This reduced water loss through evaporation, uptake by vegetation, and seepage into the ground. Water flow was mostly restored, allowing for the continued stocking of rainbow trout into Robinson's Pond.

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