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The Resources Agency
DEPARTMENT OF FISH AND GAME

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ANNUAL REPORT
OPERATIONS OF NONSTATE, COOPERATIVE, SALMON
AND STEELHEAD, ARTIFICIAL PROPAGATION PROGRAMS,
JULY 1, 1990 THROUGH JUNE 30, 1991

by

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Source:
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ABSTRACT

This report presents descriptions of operations of the nonstate, cooperative, salmon and steelhead, ,artificialpropagation projects which were active during the period July 1, 1990 through June 30, 1991.

The report presents narrative and tabular data regarding the trapping of adult salmonids and the rearing and planting of juvenile salmonids by each cooperative project.

During this report period, 310,000 chinook salmon, 170,233 coho salmon, and 237,392 steelhead were planted. A total of \$429,877 was expended, for an average cost per fish of \$0.60.

^{1/} Inland Fisheries Administrative Report No. 94-2.
Submitted September 1992. Edited by K.A. Hashagen,
California Department of Fish and Game, 1416 Ninth Street,
Sacramento CA 95814

BAR-0-BOYS RANCH

Proposition 99: \$35,000

Description of Facility and Operation

Bar-0-Boys Ranch is a detention facility aimed at the rehabilitation of juvenile delinquents from the ages of 13 to 18. It is located near the town of Gasquet, Del Norte County, on the Smith River. It is a nonprofit organization, with status as a sub-unit of State government. This facility maintains a yearly average of 102 boys from 22 northern California counties. All of the boys attend a full-time school on the Ranch. The goal is to educate the boys in the classroom as well as to give them "hands-on" experience in the rearing and stocking of salmonids into the Smith River System.

TABLE 1. Eggs and/or Fish Trapped or Received, 1990-91

<u>Source</u>	<u>Species</u>	<u>Number</u>	<u>Date</u>	<u>Size</u>
Rowdy Creek	SH	20,000	3/90	137/oz

TABLE 2. Planting Information, 1990-91

<u>Source</u>	<u>Species</u>	<u>Size</u> <u>(no./lb)</u>	<u>Number</u>	<u>Location,</u>
Rowdy Creek	SH	10	11,660	Smith River

NOTE:

The original contract was \$200,000. The Department of Fish and Game required the contractor to submit an acceptable operational plan to the U.S. Forest Service and Department of Fish and Game's Region 1 in order to receive an additional \$35,000 for the 1990-91 fiscal year.

CARMEL RIVER STEELHEAD ASSOCIATION

No State Funding

Description of Facility and Operation

Carmel River Steelhead Association is a nonprofit sportsmen organization primarily staffed by volunteers: it has been in operation since 1976. Their goal is to restore steelhead populations in the Carmel River. The organization had two rearing sites and one captive broodstock rearing site for Carmel River steelhead this season. One earthen pond rearing site was located on Garapatta Creek and one Doughboy-type pool rearing site was located at the Monterey Bay Salmon and Trout Project's Big Creek Facility. A captive broodstock site was located at the Department of Fish and Game's Granite Bay Marine Culture Laboratory.

During the 1990-91 fiscal year, the organization did not rescue any steelhead from the lower Carmel River; however, some adults, [REDACTED] Granite Bay [REDACTED] salt water, were transferred to a freshwater tank at Monterey Bay Salmon and Trout Project for maturation and spawning. Twenty-two female steelhead were spawned in 1990-91 by Monterey Bay Salmon and Trout Project personnel at the Big Creek Facility. Some yearling steelhead were returned to Granite Canyon Marine Culture Laboratory for saltwater rearing.

CENTRAL COAST SALMON ENHANCEMENT, INC.

Salmon Stamp: \$55,000

Description of Facility and Operation

Central Coast Salmon Enhancement Project (CCSE) is a nonprofit organization primarily staffed by volunteers. They have been propagating chinook salmon since 1984. CCSE raises and releases chinook salmon for the enhancement of ocean salmon fisheries in the San Luis Obispo area.

CCSE purchased 50,000 chinook salmon eggs from Oreauqua, a commercial aquaculture facility in Oregon. Eggs were quarantined at the Department's Silverado Fisheries Base for hatching. After disease clearance by a Department pathologist, the juveniles were transported to the project site. The fish were raised in floating net-pens in San Luis Obispo Harbor and released in the harbor.

CCSE also received an additional \$5,000 from Salmon Stamp funds to furnish and operate five classroom aquarium incubators in Santa Barbara and San Luis Obispo counties as part of the Salmon in the Classroom Project. In addition, an in-service day was provided to five teachers involved in the Salmon in the Classroom Project.

TABLE 1. Planting Information, 1990-91

Source	Species/ Strain	Number	Size (no./lb)	Date	Location
OREAQUA	CHIN	32,500	18.0	7-17-91	San Luis Harbor
OREAQUA	CHIN	13,000	12.7	8-7-91	San Luis Harbor
OREAQUA	CHIN	20,000	8.7	8-13-89	San Luis Harbor

CITY OF ARCATA WASTEWATER AQUACULTURE PROJECT

Proposition 99: 59,380

Description of Facility and Operation

The City of Arcata, in conjunction with Humboldt State University (HSU), is using a mixture of partially treated wastewater and sea water to raise coho salmon, steelhead, and coastal cutthroat trout. The goal is to restore and enhance the salmon fishery. This facility is located at the oxidation ponds owned by the City of Arcata, with a trap on Jolly Giant Creek. This facility has been in operation since 1969.

TABLE 1. Trapping and Spawning Data, 1990-91

<u>Species</u>	<u>Fish tramed</u>			<u>Fish spawned</u>		<u>Released alive</u>	<u>Eggs taken</u>
	<u>Male</u>	<u>Female</u>	<u>Grilse</u>	<u>Male</u>	<u>Female</u>		
SH	1	0	0	0	0	1	0

TABLE 2. Eggs and/or Fish Transferred, 1990-91

<u>Species</u>	<u>Number</u>	<u>Date</u>	<u>Transferred to</u>
CCT	20,000	4-1-90	Mad River Hatchery

TABLE 3. Eggs and/or Fish Received, 1990-91

<u>Source</u>	<u>Species</u>	<u>Number</u>	<u>Date</u>	<u>Size/.lb</u>
Prairie Creek	COHO	30,000	2-6-90	Eyed eggs
Prairie Creek	COHO	18,000	2-20-90	Eyed eggs
HSU	RT	1,715	5-16-90	85/lb
Shasta	RT	2,145	unknown	125/lb

TABLE 4. Planting Information, 1990-91

Source	Species/ Strain	Number	Size/lb	Location
HSU	RT	1,166	2.6	Klopp Lake
Prairie cr.	COHO	78 AD-CWT	7.0	Imprint Arcata Bay
Prairie cr.	COHO	7,802 AD-CWT	12.0	Imprint Arcata Bay

COUNTY OF HUMBOLDT, PRAIRIE CREEK HATCHERY

No State Funding for 1990/91

Description of Facility and Operation

Prairie Creek Hatchery began as a California Department of Fish and Game Hatchery in 1936 and has been in continuous operation, with the County of Humboldt assuming control in 1962. Their goal is to restore and enhance the sport and commercial fishery for salmonids.

The facility is a conventional salmon and steelhead hatchery located in the Redwood Creek drainage on Lost Man Creek near Highway 101, approximately 4 miles north of Orick, California. The primary trapping site is a weir and fish ladder located at the Hatchery, and the secondary trapping site is a weir and trap in Prairie Creek, located approximately 200 yards upstream from the mouth of Lost Man Creek.

TABLE 1. Trapping and Spawning Data, 1990-91

Species	Fish trapped			Fish spawned		Released alive	Eggs taken
	Male	Female	Grilse	Male	Female		
CHIN	15	10	2	12	8	17	60,000
COHO	20	72	107	20	59	139	140,000
SH	431	346	N/A	30	27	ALL	122,370
CCT	3	1	N/A	3	1	4	175

TABLE 2. Planting Information, 1990-91

Source	Species/ Strain	Number	Size/lb	Date	Location
Prairie and Lost Man Cr.	CHIN	52,000	8.0	12-12-90	Down Ladder
Lost Man Cr.	COHO	109,835	12.0	3-10-91	Down Ladder
Lost Man Cr.	SH	65,985	4.0	3-10-91	Down Ladder
Lost Man Cr.	CCT	260	3.1	3-15-91	Down Ladder

GUALALA RIVER STEELHEAD PROJECT

No State Funding

Description of Facility and Operation

Gualala River Steelhead Project is a nonprofit organization primarily staffed by volunteers. They have been propagating steelhead since 1981. Their goal is to restore steelhead populations in the Gualala River Basin to benefit sport fishing.

This group rears steelhead in two Doughboy-type pools located on Doty Creek near the town of Gualala. During this report period, all steelhead were rescued from Robinson Creek, which is a tributary to the Gualala River.

TABLE 1. Planting Information, 1990-91

<u>Source</u>	<u>Species/ Strain</u>	<u>Number</u>	<u>Size/lb</u>	<u>Location</u>
Gualala R.	SH	2,000	7.5	Robinson Creek

<u>Source</u>	<u>Species</u>	<u>Number</u>	<u>Date</u>	<u>Size/lb</u>
Mad River	COHO	23,809	6/11/90	110

LOUISIANA PACIFIC CORPORATION

No State Funding Provided

Description of Facility and Operation

This facility has three Doughboy-type pools for rearing chinook salmon, coho salmon, and steelhead trout at the Ukiah Mill near the town of Ukiah; this is the first year of operation. The goal of this facility is to provide a rearing facility for salmon and steelhead, which will be utilized to reseed tributaries where habitat restoration work has been completed within the Russian River Basin.

The Department provided excess chinook salmon from the inland waters planting project and steelhead from Warm Springs Hatchery as a test to see if water quality was adequate to rear salmonids.

No fish were planted from this facility during the 90/91 fiscal year.

MATTOLE WATERSHED SALMON SUPPORT GROUP

Proposition 70: \$15,000

Description of Facility and Operation

Mattole Watershed Salmon Support Group (MWSSG) is a nonprofit group consisting of local concerned citizens; it was created in 1980. The goal of this group is to emulate the natural processes and life-history patterns of the native salmonids in the Mattole River. Consequently, a strategy of mixed spring and fall releases makes good biological sense. Half the fish get the proven percentage survival boost of over-summer rearing and half avoid the unknown drawbacks of extended rearing.

The operation consisted of a trap site near Whitethorn. Coho salmon were reared in Doughboy-type pools at the Mill Creek rearing site.

TABLE 1. Trapping and Spawning Data, 1990-91

Species	Fish trapped			Fish spawned		Released alive	Eggs taken
	Male	Female	Grilse.	Male	Female		
CHIN	2		1	0	0	2	0
COHO	2	8		2	4	4	11,050
SH	19	23		0	0	ALL	

TABLE 2. Planting Information, 1990-91

Source	Species/ Strain	Number	Size/lb	Date	Location
Mattole R.	CHIN	5,000	14.7	12/17/90	Mattole R. mainstem at Jim Wilson's
Mattole R.	COHO	16	600	4/19/91	Blue Slide Cr. Class- room Incubator Project
Mattole R.	COHO	60	500	4/22/91	Mill Cr. Classroom Project
Mattole R.	COHO	24	600	4/22/91	Upper main- stem Mattole Classroom Project
Mattole R.	COHO	7,000	140	4/19-20/91	Scatter plants of pre-smolts at Thompson Cr., Upper Mattole mainstem, N. and S. Fork Bear Creek

MONTEREY BAY SALMON AND TROUT PROJECT

Salmon Stamp: \$59,998

Description of Facility and Operation

The Monterey Bay Salmon and Trout Project is a nonprofit sportsmen organization primarily staffed by volunteers: it has been propagating coho salmon and steelhead trout since 1976. Their goal is to restore coho salmon and steelhead populations through artificial propagation and seeding of under-populated tributaries where habitat restoration work has been completed.

The program includes adult coho salmon and steelhead trapping, spawning, egg incubation, and rearing operations. The primary facility is located at King Fisher Flat, which is on Big Creek near Davenport, Santa Cruz County. King Fisher Flat is the site for trapping, rearing, and egg incubation. Project personnel also rear fish in net pens at two other remote sites: in a pond on private property near Salinas and in a pond at Eagle Creek. They also trap adult coho salmon from the San Lorenzo River.

TABLE 1. Trapping and Spawning Data, 1990-91

Species	Fish trapped			Fish spawned		Released alive	Eggs taken
	Male	Female	Grilse	Male	Female		
SLR ^{*/} COHO	6	17	1	3	2	1	4,391
SLR SH	62	107	25	29	35	193	201,486
Scotts Cr. COHO	2	0	0	0	0	0	0
Scotts Cr. SH	2	5	2	2	2	10	9,309
Camel R. SH				13	22	35 ^{**/}	63,676

^{*/} San Lorenzo River

^{**/} Camel River SH spawners were from Granite Canyon. These fish originated from Camel River SH smolts rescued in 1989 and held at Granite Canyon. The 35 male and female SH spawned were returned to Granite Canyon.

TABLE 2. Eggs and/or Fish Transferred, 1990-91

Species	Number	Date	Transferred to
Big Cr. SH	8,852	7/31/90	Eagle Creek, Henry Cowell State Park
Big Cr. SH	19,800	8/26/90	Simpervirons Reservoir Cage, Big Basin State Park
SLR SH	10,710	7/31/90	Powder Mill Creek doughboy pool, Paradise Park
SLR SH	30,226	9/19-27/90	Dufour Hatchery doughboy pool, Scotts Valley
SLR SH eggs	1,050	4/11/91	Classroom Incubator Educational Program
SLR COHO	25	11/7/90	Monterey Aquarium Fresh Water Display Stream
Camel R. brood SH	35	3/28-5/8/91	CDFG Granite Canyon Culture Laboratory
Camel R. SH	8,794	5/29/91	Garrapatta Creek Hatchery, Camel River SH Association

TABLE 3. Fish on Hand July 1, 1990

Species	Strain	Spawned	Number	Size/lb
COHO	Scotts Cr.	Jan. 1990	13,442	87
COHO	San Lorenzo R.	Jan. 1990	20,151	62
SH	Scotts Cr.	Jan. - Apr. 1990	33,777	304
SH	San Lorenzo R.	Jan. - Apr. 1990	110,639	304

TABLE 4. Planting Information, 1990-91

Source	Species/ strain	Number	Size/lb	Date	Location
San Lorenzo R.	SH	9,900	9	3/3	Paradise Park
Big Creek	SH	6,000	8	3/11	Henry Cowell
Scotts Creek	COHO	5,460	7	3/12	Big Creek
San Lorenzo R.	SH	10,000	8	3/16	Henry Cowell
San Lorenzo R.	SH	18,080	8	3/18	Soquel Creek
Scotts Creek	COHO	5,040	7	319	SLR, Boulder Cr.
San Lorenzo R.	COHO	4,400	8	3/19	Henry Cowell
San Lorenzo R.	COHO	5,600	8	3/20	Henry Cowell
San Lorenzo R.	SH	6,650	9.5	3/20	Pajaro River
San Lorenzo R.	COHO	5,200	8	3/21	SLR Fall Cr.
San Lorenzo R.	SH	6,650	9.5	3/21	Corralitos Cr.
San Lorenzo R.	SH	7,425	9.9	3/22	Salinas River
Big Creek	SH	5,191	5.8	3/22	Big Creek
San Lorenzo R.	COHO	4,800	a	3/23	SLR Camp Cambell
San Lorenzo R.	SH	6,650	9.5	3/23	Henry Cowell
San Lorenzo R.	SH	7,920	9.9	3/26	Salinas River
Big Creek	SH	4,488	6.6	4/5	SLR Brookdale
Big Creek	SH	7,260	6.6	4/6	SLR Boulder Cr.
San Lorenzo R.	SH	4,500	6	4/24	Pajaro Lagoon
San Lorenzo R.	SH	4,200	6	4/27	SLR Boulder Cr.
Big Creek	SH	3,384	4.7	4/27	Big Creek
San Lorenzo R.	SH	4,200	6	4/30	Henry Cowell
San Lorenzo R.	SH	4,200	6	5/4	Henry Cowell
Big Creek	SH	1,300	5	5/4	Henry Cowell
San Lorenzo R.	SH	4,200	6	5/7	Henry Cowell
San Lorenzo R.	SH	2,252	5.9	5/12	Henry Cowell
San Lorenzo R.	SH	816	3.4	6/17	Camp Harmon
San Lorenzo R.	SH	704	3.2	7/2	Camp Campbell

The following fin clips were used:

- a. A total of 1,300 Big Creek steelhead was right ventral clipped and planted into the San Lorenzo River at Henry. Cowell State Park on May 4, 1991.
- b. A total of 5,460 Scotts Creek coho salmon was right ventral clipped and planted into Big Creek on March 12, 1991.
- c. A total of 10,000 San Lorenzo River steelhead was adipose clipped and planted at Henry Cowell State Park on March 16, 1991.
- d. A total of 5,040 Scotts Creek coho salmon was right ventral clipped and planted in Boulder Creek, a tributary to the San Lorenzo River on March 19, 1991.
- e. A total of 5,191 Big Creek steelhead was right ventral clipped and planted into Big Creek on March 22, 1991.
- f. A total of 3,384 Big Creek steelhead was right ventral clipped and planted into Big Creek on April 27, 1991.

TABLE 5. Eggs and/or Fish Received, 1990-91

Source	Species	Number	Date	Size
Camel River Rescued 1 lb to 3 lb fish for broodstock	SH	69	7/28/90	1 to 3 lb each
Camel River rescued smolts for future broodstock	SH	85	7/28/90	3.5 lb each
Camel River from Monterey Bay Aquarium, 1989 Rescue for broodstock	SH	11	11/7/90	0.3 lb each
Camel River broodstock from DFG- Granite Canyon Marine Culture lab	SH	19	2/4, 3/1, 4/5/91	0.4 lb each

TABLE 6. Fish on Hand June 30, 1991

Species	Strain	Date	Number	Size/lb
COHO	San Lorenzo R.	1/91	1,956	84
SH	San Lorenzo R.	4-5/91	164,311	472
SH	Scotts River	4/91	8,336	590
SH	Camel River	1-4/91	25,811	568

REMARKS:

Camel River steelhead rescued in July were heavily infested with Lernaea. A week-long salt bath treatment was used to kill the Lernaea larvae, which were reinfesting the fish. None of the smolts and only 29 of the larger fish survived the treatment; however, the survivors were all free of the parasites.

The Dufour Hatchery in Scotts Valley was acquired to expand our rearing capacity during the drought.

No disease problems occurred in the normal production fish. San Lorenzo River COHO and SH entering the river on the first light rains in December all died of some toxic event. An attempt was made to rescue some of these adults for breeding at the Hatchery. Of the 26 fish we attempted to rescue, only 3 males and 2 females COHO survived to spawn.

Scotts Creek Bar did not open until the heavy rains in March and only two fungused, dying, male coho salmon were found in the stream after the bar breached. Very few steelhead made it into the system.

MICHAEL D. MORFORD

Salmon Stamp: \$1,500 and Proposition 70: \$1,500

Description of Facility and Operation

Michael D. Morford uses these funds to furnish and operate classroom aquarium education programs in Mendocino County Schools: he has been working with these schools since 1989.

During this report period, 20 classrooms throughout Mendocino County participated in the program. The juvenile steelhead were collected from the classroom incubators, with the majority of them released into Reeves Canyon Creek, north of Ukiah. Fish from Mendocino and Anderson Valley were released in Robinson Creek, while fish from Ukiah schools were released into the Russian River and Orr Creek.

The teachers and students were delighted with the program and expressed a desire to participate again next year.

ORLEANS ROD AND GUN CLUB

DFG Preservation Fund: \$8,851

Description of Facility and Operation

The Orleans Rod and Gun Club is a nonprofit sportsmen's organization primarily staffed by volunteers. They started rearing rescued steelhead in 1989. Their goal is to augment Klamath River anadromous fish runs with high quality fish.

The Department of Fish and Game rescues stranded steelhead from various tributaries of the Klamath River and transports these fish to the Perch Creek facility for extended rearing and ultimate release back into the tributaries of origin. This facility rears fish in three tomato tub-type rearing ponds, which are located on Peach Creek near the town of Orleans, Humboldt County.

TABLE 1. Eggs and/or Fish Received, 1990-91

<u>Source</u>	<u>Species</u>	<u>Number</u>	<u>Date</u>	<u>Size/lb</u>
Scott River	SH	16,825	6/25/90	393

TABLE 2. Planting Information, 1990-91

<u>Source</u>	<u>Species</u>	<u>Number</u>	<u>Size/lb</u>	<u>Date</u>	<u>Location</u>
Scotts River	SH	11,219	9	3/26/91	Scott River

PACIFIC COAST FEDERATION OF FISHERMAN'S ASSOCIATION

(Eel River Project)

Salmon Stamp: \$45,612

Description of Facility and Operation

The Pacific Coast Federation of Fisherman's Association (PCFFA) project's primary trapping, spawning, and incubation site is on Redwood Creek near the town of Redway. Additional incubation and rearing sties are on Marshall Creek, Miller Creek, and Sprowel Creek. PCFFA is a nonprofit organization of commercial fishermen. They have been propagating fish in the South Fork of the Eel River since 1984. Their goal is to trap up to 40 adult chinook salmon females and rear their progeny to a size of 100/lb for release into their natal streams or be utilized as a donor source for underpopulated streams.

Note: Two male chinook, one male coho, and four female steelhead were trapped this season; no eggs were taken. A total of \$14,302 of the \$45,612 was used for the trapping of adults and downstream migrants.

PACIFIC COAST FEDERATION OF FISHERMAN'S ASSOCIATION

(Horse Linto Creek)

Salmon Stamp: \$30.000

Description of Facility and Operation

The Pacific Coast Federation of Fisherman's Association (PCFFA) is a nonprofit sportsmen's organization primarily staffed with volunteers. This facility has been in operation since 1984. Their goal is to maintain a spawning population of late fall-run chinook salmon adults to Horse Linto Creek.

This project traps, spawns, and rears chinook salmon in two tomato tub-type rearing ponds and one wash-out earthen pond. Approximately one half of the fish are released as smolts and the remainder are released as yearlings. The facility is located on Horse Linto Creek, approximately 1 mile upstream from the confluence of the Trinity River near the town of Willow Creek, Humboldt County.

TABLE 1. Trapping and Spawning Data, 1990-91

Species	Fish trapped			Fish spawned		Released alive	Eggs taken
	Male	Female	Grilse	Male	Female		
CHIN	25	20	61	16	12	30	31,900

TABLE 2. Planting Information, 1990-91

Source	Species/ strain	Number	Size/lb	Date	Location
Horse Linto	CHIN	20,600	Smolt	11/13/90	Horse Linto Creek Tag 61832

Note:

All of the fish released were tagged with coded-wire tag Number 61832.

PACIFIC COAST FEDERATION OF FISHERMAN'S ASSOCIATION
(Little River Project)

Salmon Stamp: s31.000

Description of Facility and Operation

Pacific Coast Federation of Fisherman's Association's (PCFFA) Little River facility is staffed primarily by volunteers. The facility is located on property owned by the Louisiana Pacific Lumber Company east of the town of Trinidad, and has been in operation since 1985. Their goal is to restore chinook and coho salmon populations within the Little River Basin. When the salmon are approximately 100 fish per pound, they are released into under-populated tributaries where habitat restoration work has been completed.

The spawning and rearing facilities are located approximately 3 miles up-river from the check station. The facility has three 10-foot circular fiberglass tanks, two troughs, and two hatch boxes for incubating eggs.

TABLE 1. Trapping and Spawning Data, 1990-91

Species	Fish trapped			Fish spawned		Released alive	Eggs taken
	Male	Female	Grilse	Male	Female		
CHIN	0	6	9	9	6	10	20,706
COHO	21	17	2	9	14	15	34,560
SH	28	29		0	0	57	none

Note: All male CHIN were adipose clipped

TABLE 2. Planting Information, 1990-91

Source	Species	Number	Size/lb	Date	Location
Little R.	CHIN	3,914	260	6/20/91	Little River
Little R.	COHO	4,000	6	6/28/91	Railroad Cr.
Little R.	COHO	3,000	14	6/28/91	Unnamed Trib
Little R.	COHO	1,500	140	6/29/91	C-line Creek
Little R.	CHIN	1,000	140	6/30/91	Falls Creek
Little R.	COHO	4,000	125	7/3/91	Upper S. Fork Little River
Little R.	COHO	2,250	125	7/5/91	Unnamed Trib
Little R.	COHO	4,492	125	7/5/91	Mainstem Little River
Little R.	COHO	767	300	7/5/91	Freeman Cr.

Note: A total of 21,009 COHO was tagged with coded-wire tag
#06-01-08-01-06

PACIFIC LUMBER COMPANY

No State Funding

Description of Facility and Operation

Pacific Lumber Company (PALCO) has been propagating salmonids since 1976. Their goal is to restore Eel and Van Duzen River salmon and steelhead populations through habitat restoration and artificial propagation. The Scotia facility has two raceways, with a capacity of approximately 20,000 yearlings. This facility rears excess Mad River steelhead or steelhead from eggs taken in Yager Creek, using the mill's industrial water supply. Yager Creek has the capacity to rear approximately 50,000 smolts and 25,000 yearlings. The Yager Creek facility has two raceways and is also utilized for trapping and spawning of adult chinook, coho, and steelhead. Eggs are incubated at the Yager Creek facility and reared at Yeager Creek or Scotia until time of release.

TABLE 1. Fish Received, 1990-91

Source	Species	Number	Date	Size/lb
Mad River	SH	15,000	8/17/91	200
Mad River	SH	5,040	9-18-91	24

TABLE 2. Planting Information, 1990-91

Source	Species/ Strain	Number	Size/lb	Date	Location
Mad River	SH	9,460	44	3/21/91	Eel River at Scotia
Mad River	SH	3,570	7	3/28/91	Van Duzen River at the confluence of Yager Creek

Remarks: One male and one female chinook salmon were trapped at the Cooper Mill trap site and 53 eggs taken: all the eggs died.

RED CREST PONDS
(Chad Creek)

No State Funding

Description Of Facility and Operations

Red Crest Pond is operated by Mr. Ed Lewis and is located on Chad Creek, which is a tributary to the South Fork of the Eel River near the town of Redcrest. It has been in operation since 1987. The rearing facility is a wash-out type pond. The fish are released on the first high water in October or November as yearlings. Excess salmon or steelhead are provided to this cooperator by either the Department of Fish and Game or the Pacific Coast Federation of Fishermen's Association's Eel River Project.

The goal of the project is to rear salmon or steelhead to assist in the restoration of Eel River salmonid populations.

TABLE 1. Fish Received, 1990-91

<u>Source</u>	<u>Species</u>	<u>Number</u>	<u>Date</u>	<u>Size/lb</u>
Redwood Cr.	COHO	4,500	5/90	150

TABLE 2. Planting Information, 1990-91

<u>Source</u>	<u>Species</u>	<u>Number</u>	<u>Size/lb</u>	<u>Date</u>	<u>Location</u>
Redwood Cr.	COHO	4,042	10	11/90	Chad Creek

REIELS AND REIELS
(Tule Creek Rescue Rearing)

Proposition 99: \$33,131

Description of Facility and Operation

This rearing facility is located on the East Fork of Tule Creek, near the town of Hayfork. It has been in operation since 1988. The facility has two tomato tub-type rearing ponds and rears steelhead rescued from upper South Fork Trinity River tributaries. The steelhead are trapped by Region One Screen shop personnel in May, June, and July. The steelhead are reared to yearlings and planted back into their natal tributaries by Department of Fish and Game Region 1 personnel.

The goal is to rescue stranded steelhead trout for extended rearing until water conditions are optimal for survival.

TABLE 1. Fish Rescued, 1990-91

<u>source</u>	<u>Species</u>	<u>Number</u>	<u>Date</u>	<u>Size/lb</u>
Big Cr. and Tule Cr.	SH	1,932	4/7/90	50

TABLE 2. Planting Information, 1990-91

<u>Source</u>	<u>Species</u>	<u>Number</u>	<u>Size/lb</u>	<u>Date</u>	<u>Location</u>
Tule, Salt and Big Cr.	SH	1,401	30	6/90	Tule, Salt, and Big Cr.

ROWDY CREEK FISH HATCHERY

Salmon Stamp: \$65,000

Description of Facility and Operation

Rowdy Creek Hatchery is located at the confluence of Rowdy Creek and Domini Creek. It is adjacent to Highway 101 in the town of Smith River and has been in operation since 1968. The Hatchery traps, spawns, incubates, and rears chinook salmon, coho salmon, and steelhead trout. This facility has the capacity to hatch approximately 1,200,000 eggs and rear 600,000 spring salmon smolts, 200,000 yearling salmon, and 200,000 yearling steelhead. Eggs are provided for educational programs in the local area. Juvenile steelhead are transferred to Bar-0-Boys Ranch for over-summering, and release back into the lower Smith River. This Hatchery is in continuous operation.

The goal of Rowdy Creek Hatchery is to enhance sport and commercial fishing opportunities, as well as restore salmon and steelhead populations within the Smith River basin.

TABLE 1. Trapping and Spawning Data, 1990-91

Species	Fish trapped			Fish spawned			Released alive	Eggs taken
	Male	Female	Grilse	Male	Female	Grilse		
CHIN	117	69	94	56	50		4	194,700
COHO	3	4	1	2	4		0	8,000
SH	17	44	0	2	33		20	137,500
CCT*							8	0

* coastal cutthroat

TABLE 2. Eggs and/or Fish Transferred, 1990-91

Species	Number	Date	Transferred to
CHIN	160	2/7/91	Del Norte Schools
SH	250	4/23/91	Del Norte Schools

TABLE 3. Planting Information, 1990-91

Source	Species Strain	Number	Size/lb	Location
Rowdy Creek	CHIN	30,000	15	Rowdy Creek
Rowdy Creek	CHIN	48,400	11	Rowdy Creek
Rowdy Creek	SH	6,000	6	Rowdy Creek
Rowdy Creek	SH	15,900	6	S.F. Smith River
Rowdy Creek	SH	57,000	6	Smith River

REMARKS:

Furunculosis caused a 15% loss in the steelhead and salmon during September.

Major construction included:

1. Hydraulically operated dam on Domini Creek
2. Fifteen new circular fry tanks and piping
3. New river intake pump

SALMON RESTORATION ASSOCIATION OF CALIFORNIA
(Hollow Tree Creek)

Salmon Stamp: \$20.000

Description of Facility and Operation

The Hollow Tree Creek operation is located on Hollow Tree Creek, a tributary to the South Fork Eel River near the community of Hales Grove; it has been in operation since 1979. The Hatchery has the capacity to rear approximately 350,000 chinook salmon in two tomato tub-type ponds and 10-ft diameter circular tanks. Thus hatchery has four incubator stacks for egg incubation.

The Salmon Restoration Association of California is a nonprofit organization of mostly commercial fishermen. Their goal is to restore and enhance salmon populations in the South Fork Eel River Basin for sport and commercial fishing opportunities.

TABLE 1. Trapping and Spawning Data, 1990-91

Species	Fish tramed			Fish spawned			Released alive	Eggs taken
	Male	Female	Grilse	Male	Female	Grilse		
CHIN	14	0	1	0	0		15	0
COHO	17	21	1	0	0		39	0
SH	2	5	0	0	0		7	0

Remarks:

Low water flows in the fall of 1989 affected the number of broodfish returning to the facility; as a result, no eggs were taken.

**SALMON RESTORATION ASSOCIATION OF CALIFORNIA
(Ten Mile River)**

No State Funding for Steelhead

Description of Facility and Operation

This facility is staffed primarily by volunteers and has been in operation since 1980. The Facility was renovated in 1989/90. A new Hatchery and rearing facility was built, consisting of two health incubator stacks, two tomato tub-type rearing ponds and two 10-ft circular rearing tanks. The target species is chinook salmon, however, sport caught steelhead are spawned, the eggs hatched and reared to yearlings for release into Ten Mile River.

The goal of this facility is to restore salmon and steelhead populations in the Ten Mile River Basin.

TABLE 1. Eggs and/or Fish Transferred, 1990-91

<u>Source</u>	<u>Species</u>	<u>Number</u>	<u>Eggs taken</u>
Ten Mile River	SH	5	15,000

TABLE 2. Planting Information, 1990-91

<u>Source</u>	<u>Species</u>	<u>Released</u>	<u>Date</u>	<u>Location</u>
Ten Mile River	SH	10,000	5/91	Ten Mile River

TYEE CLUB OF SAN FRANCISCO

Received No State Funding

Description of Facility and Operation

Tyee Club of San Francisco's pen rearing facility is located at the Center for Environmental and Ecological Studies on San Francisco Bay near Tiburon. Excess Feather River chinook are reared in salt water pens and released on site. This facility consists of two net pens suspended from a floating structure in San Francisco Bay. There is also a small rearing facility for coho salmon on San Geronimo Creek at San Geronimo.

This is a nonprofit sportsmen club which has been rearing chinook salmon and coho salmon on a volunteer basis since 1982. Their goal is to enhance commercial and sport fishing in the ocean and San Francisco Bay area.

TABLE 1. Eggs and/or Fish Received, 1990-91

<u>Source</u>	<u>Species</u>	<u>Number</u>	<u>Date</u>	<u>Size/lb</u>
Feather River Salmon and Steelhead Hatchery	CHIN	50,000	6/7/90	36

TABLE 2. Planting Information, 1990-91

<u>Source</u>	<u>Species</u>	<u>Number</u>	<u>Size/lb</u>	<u>Date</u>	<u>Location</u>
S.F. Bay	CHIN	48,000	5	10/91	NMFS-Tiburon

UNITED ANGLERS OF CALIFORNIA
(Ventura Chapter)

No State Funding

Description of Facility and Operation

This facility is staffed by volunteers and students. This is the first season of operation for this facility. The project is located at the Cisco Landing Pier and is a salt water pen rearing project, consisting of two net pens suspended from a floating structure and tied to the pier with rope.

The goal of this facility is to establish a sport and commercial fishery for chinook salmon off of the Ventura Coast.

TABLE 1. Eggs and/or Fish Received, 1990-91

Source	Species	Number	Date	Size/lb
Oregon	CHIN	60,000	6/2/90	84

TABLE 2. Planting Information, 1990-91

Source	Species	Number	Date	Size/lb	Location
Oregon	CHIN	40,000	9/11/90	8.5	Ocean off of Oxnard

Note:

These fish were reared from eggs to fish averaging 84/lb at Silverado Fisheries Base, vaccinated against vibrio, and delivered to Oxnard by Region 3 and cooperative fish rearing personnel.