

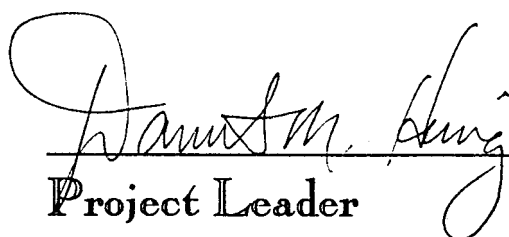
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Annual Report

Fiscal Year 1997

Lower Snake River Compensation Plan Office

Boise, Idaho



Project Leader

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I. INTRODUCTION

The Lower Snake River Compensation Plan Office was established with the closing of the Boise Area Office in September 1982. The Office's primary responsibility is to administer U.S. Fish and Wildlife Service (FWS) operations and maintenance funds (O&M) for cooperator fisheries operations under the Lower Snake River Fish and Wildlife Compensation Plan (LSRCP).

The LSRCP was authorized by the Water Resources Development Act of 1976 (90 Stat. 2917) to replace fish and wildlife losses caused by the construction and operation of Ice Harbor, Lower Monumental, Little Goose, and Lower Granite Lock and Dam projects on the lower 150 miles of the Snake River in Washington and Idaho. The plan described fish hatchery developments as well as improvements to the dams and powerplants to improve smolt passage.

Construction responsibility for the LSRCP was assigned to the Walla Walla District, U.S. Army Corps of Engineers (Corps), while responsibility for fish hatchery O&M funding was to be accomplished by "one of the Federal fisheries agencies." The question of O&M funding was settled in 1977 with the signing of an interagency agreement by the Corps, National Marine Fisheries Service (NMFS), and FWS; it stated that the FWS would budget for and administer O&M funds for LSRCP fish hatchery programs (responsibility for administration and O&M for fish passage and wildlife programs remains with the Corps).

Public Law 99-662, approved November 17, 1986, modified the Water Resources Development Act of 1976 in accordance with recommendations contained in a report from the Chief of Engineers, dated March 6, 1985. The Chief's 1985 report confirmed the 1977 NMFS/FWS agreement on Page 2, Section 4.d with a directive which stated: "The U.S. Fish and Wildlife Service should be designated to fund the operation and maintenance of all fish rearing facilities." Regarding ownership of property, the 1985 Report stated in Section 5.3: "Transfer of jurisdiction over all Compensation Plan fish hatcheries, appurtenant facilities and lands to the U.S. Fish and Wildlife Service for operation, maintenance, and replacement shall occur upon completion of construction by the Corps of Engineers." The Corps is transferring fee title of LSRCP hatcheries and associated satellite facilities to the FWS as they are completed and fully operational. Ownership of many hatcheries and satellites has been transferred to the FWS.

The Corps' estimated cost for construction of the authorized LSRCP off-project fisheries facilities (hatcheries and related satellite facilities) is \$177 million; the FWS costs for annual O&M now exceeds \$12 million. All anadromous fisheries compensation and most resident fisheries compensation are allocated to project power costs and are reimbursed to the U.S. Treasury with interest by the Bonneville Power Administration (BPA) from power revenues.

The LSRCP legislation authorized what was believed to be sufficient anadromous fish hatcheries and associated trapping and holding facilities to produce enough smolts to return 18,300 fall chinook adults, 58,700 spring and summer chinook adults, and 55,100 steelhead adults back to the project area, and sufficient resident fish hatcheries and stream enhancement projects to produce 93,000 pounds of trout annually to replace lost resident sport fisheries in Washington and

Idaho. The program required expansion or construction of 12 hatcheries and 11 satellite facilities in Idaho, Oregon, and Washington. Idaho Department of Fish and Game (IDFG) operates four hatcheries, Oregon Department of Fish and Wildlife (ODFW) operates three hatcheries, Washington Department of Fish and Wildlife (WDFW), formerly Washington Department of Wildlife and Washington Department of Fisheries, operates three hatcheries, and FWS two hatcheries. The Pittsburg Landing and Big Canyon Acclimation Facilities, authorized by a Congressional add-on to the Corps program, were completed in 1996 and 1997 respectively and are operated by the Nez Perce Tribe (NPT). A third site, Captain John Rapids, is scheduled for completion by the Corps in 1998.

II. PROGRAM HIGHLIGHTS FOR FY1997

LSRCP facilities continue to produce and release salmon, steelhead and resident trout as part of their mitigation responsibility. In FY1997, 8,718,504 salmon, steelhead and rainbow trout weighing 1,430,714 pounds were released from LSRCP facilities. The numbers, pounds of fish produced, release sites, and sizes were adjusted again in 1997 to reduce impacts on listed species.

The 1996-97 steelhead run above Lower Granite Dam was 86,898 fish compared to previous years totals of 79,321, 47,147, 97,000, 113,000, and 59,604. The run was comprised mostly of hatchery releases in 1995 and 1996. Returns of both salmon and steelhead were higher coastwide, and like many programs, the LSRCP portion is close to the adult steelhead mitigation goal of 55,100 steelhead adults back to the project area.

The 1997 spring, summer and fall chinook salmon runs were also substantially higher compared to last year and the ten year average. In 1997, 33,936 spring chinook, 10,834 summer chinook and 1,889 fall chinook were counted over Lower Granite Dam the mitigation area for the LSRCP. In 1996, 5,846 spring chinook, 3,551 summer chinook and 1,685 summer chinook were counted over Lower Granite Dam. The 10 year averages are 15,350, 4,394 and 1,056 respectively. The reason for the high returns this year were again attributed to excellent outmigrant conditions and excellent flows and temperatures during their return this year. In 1997 approximately 6,333,140 steelhead fingerlings and smolts (1,216,150 lbs) were released from LSRCP hatcheries compared to a release of approximately 6.76 million from these facilities in 1996. Magic Valley Fish Hatchery (FH) alone released 1,643,201 steelhead smolts this year weighing 364,775 pounds. The total 1997 salmon releases from LSRCP facilities was quite low compared to previous years, 1,721,113 weighing 115,586 lbs which was due to the low returns of BY1995 adults.

Considerable LSRCP staff time in FY1997 was spent on Endangered Species Act (ESA) consultations and modifications of biological assessments of hatchery production and release actions on listed Snake River spring/summer and fall chinook. Fish hatchery production was and will continue to be adjusted where appropriate to meet ESA requirements.

The LSRCP staff and cooperators entered into the third year of captive broodstock programs in Oregon and Idaho. These programs were measures initiated with LSRCP program funding to

conserve listed salmon stocks for future mitigation sources. Due to the lack of a LSRCP budget increase to cover costs associated with ESA related activities in FY1997, LSRCP cooperators applied for and obtained direct funding from BPA to continue these LSRCP programs. Without a LSRCP budget increase to cover costs associated with these programs, all future program approval and funding for the captive programs will fall under the NWPPC prioritization process.

A Chinook Technical Oversight Committee (TOC) was initiated in FY1997 to address technical issues dealing with the chinook captive broodstock programs. The Chinook TOC was modeled after the existing Sockeye TOC and is chaired by a BPA representative.

The LSRCP Office initiated discussions with NMFS and the FWS to identify conferencing and consultation requirements for LSRCP-funded actions to address the steelhead listing and the proposed bull trout listing. A meeting with all LSRCP cooperators in early FY1998 is scheduled to discuss LSRCP consultation issues and responsibilities.

III. STATION AND COOPERATOR OPERATIONS

The Boise LSRCP Office negotiated cooperative agreements with and administered funds to three state agencies, two Indian tribes and the FWS for operation and maintenance of fish hatcheries and to conduct hatchery monitoring and evaluation studies and fish health programs. A total of \$9,154,985 was obligated to WDFW, ODFW, and IDFG or transferred to Dworshak NFH, Hagerman NFH, and Dworshak Fish Health Center (DFHC) for operation and maintenance and fish health monitoring of 11 hatcheries, 14 associated satellite facilities, and a fish health lab. An additional \$3,225,525 was obligated to the same three state cooperators, Nez Perce and Umatilla tribes, Idaho Fisheries Resource Office (IFRO), and the Columbia River Coordinators Office for hatchery monitoring and evaluation studies and Section 7 consultation work. A total of 8,719,504 salmon, steelhead and rainbow trout weighing 1,430,714 pounds were stocked from LSRCP facilities in FY1997. Funding of cooperator disease monitoring programs at LSRCP facilities continued in FY1997. LSRCP pathologists met with the evaluation biologists during their annual meeting to discuss the status of their efforts.

Below are brief summaries of hatchery and evaluation activities in FY1997. Tables 1, 2, and 3 provide further data on funds obligated, fish stocked, production targets, construction costs, and hatchery/trap returns.

Clearwater Anadromous Fish Hatchery - Idaho

Clearwater Fish Hatchery was the last of the 12 hatcheries to be completed under the Corps' LSRCP construction program. The hatchery, operated by the IDFG and is located across the North Fork of the Clearwater River from Dworshak NFH, is designed to produce (with its three satellites) 1,369,500 spring chinook smolts weighing 91,300 pounds and 2,500,000 steelhead smolts weighing 350,000 pounds. The adult return goals for the program are 11,915 spring chinook salmon and 14,000 steelhead to the Snake River basin.

The Clearwater FH is located on land (17.5 acres) purchased by the Corps in 1989. Construction of Clearwater FH began in August 1989 and was completed by the end of 1991. The water supply line was tested in November 1991, and steelhead eggs from Dworshak NFH and rainbow trout for resident fisheries program were supplied to Clearwater in 1992 for the first rearing cycle.

The Clearwater FH receives its entire water supply from Dworshak Reservoir via two pipes. The primary (and largest) line takes water from just below the reservoir's surface while a secondary (smaller) line receives cold water from an intake deep below the water surface. A distribution tank near the hatchery allows mixing of the water from the two lines to select proper temperatures for various uses at Clearwater FH and also provides a water supply line to Dworshak NFH.

Three satellite fish facilities are associated with the hatchery: Red River, completed in November 1986; Powell, completed in the summer of 1989; and Crooked River, completed in the spring of 1990. Red River, Crooked River and Powell are now being operated as rearing, release, and trapping facilities using excess fish from either Sawtooth FH or, more recently, Dworshak NFH.

Red River trapped 280 spring chinook (42 wild and 238 hatchery origin) this year compared to 62 spring chinook collected last year. Fifty seven fish were released in Red River to spawn naturally. Crooked River was operational for the eighth year of trapping; a total of 1,034 spring chinook (38 wild and 996 hatchery origin) were trapped and 126 were released to spawn naturally in Crooked River. This compares to a Crooked River return of 299 spring chinook trapped in 1996. In 1997, Red River and Crooked River stocks were combined to make the South Fork Clearwater stock due to straying of hatchery chinook between the two drainages. A total of 562 females were spawned resulting in 1,810,913 green eggs. The Powell trap, on the Lochsa River, trapped a total of 718 chinook (5 wild and 713 hatchery origin) with 224 released to spawn naturally. This compares to only 186 fish trapped at Powell in 1996. Two hundred ninety two females were spawned resulting in 948,387 green eggs.

Five steelhead (3 wild males and 2 wild females) were trapped at the Crooked River trap in 1997, and all were released above the weir. No steelhead were trapped at Red River. Traps at both sites were pulled frequently due to high flows and debris.

Clearwater FH spawned 7 females (BY1992-1993) from the Selway River spring chinook captive broodstock program resulting in 15,187 green eggs. Eleven adult Selway Captive Brood were transported to the Magruder Corridor of the Selway River and released to spawn naturally.

A total of 7,958 BY1995 chinook weighing 434 pounds were released from Red River and Powell satellite facilities and into the Selway River in April 1997. Approximately 1,426 spring chinook smolts were released in the Selway River, 3,549 were released from Powell, and 2,983 were released from Red River.

A total of 76,008 BY1995 N.F. Clearwater and Selway strain steelhead smolts (two year rearing program) weighing 13,477 pounds were released into Crooked River, 599,942 BY1996 North Fork Clearwater strain steelhead smolts weighing 103,536 pounds were released into Clear Creek

and the South Fork Clearwater River in 1997, and 48,370 BY1996 North Fork Clearwater strain steelhead (886 lbs) were released into the South Fork Red River in the fall of 1996. In addition 4,991 BY1996 N.F. Clearwater strain steelhead (555 lbs) were released into the South Fork Red River for supplementation studies.

The Clearwater FH is currently holding approximately 819,626 BY1996 spring chinook fingerlings and 703,022 BY1997 steelhead fingerlings for production and release from the hatchery and satellite facilities in 1998. In addition approximately 3,595,436 BY1997 spring chinook eggs/fry are on hand for transfer or release in 1998 and 1999.

Magic Valley Fish Hatchery - Idaho

Magic Valley FH is located on the Snake River near Filer, Idaho, and is operated by IDFG. It was completed in August 1987 and is designed to produce 2,000,000 steelhead smolts weighing 291,500 pounds annually. The return goal for Magic Valley FH is 11,660 adults back to the Snake River basin.

The hatchery was constructed on a commercial hatchery site that was purchased by the Corps in March 1981. Steelhead have been produced for the Magic Valley program since 1982. Until 1985, fish were produced onsite in a commercial facility; however, with the start of construction, fish production was transferred to unused raceways at Hagerman NFH (approximately 255,000 steelhead smolts were reared at Hagerman in 1986 for the Magic Valley program). Sawtooth FH and the East Fork Salmon River satellite serve as the juvenile release and adult trapping sites for the hatchery program.

Magic Valley FH completed its tenth rearing season this year, and released 661,935 Dworshak "B" (152,400 lbs), 131,220 East Fork Salmon River "B" (27,650 lbs), 765,340 Pahsimeroi "A" (167,175 lbs), and 84,715 Sawtooth "A" (17,550 lbs) strain BY1996 steelhead smolts in April 1997. The releases were distributed between the East Fork of the Salmon River, lower Salmon River, Slate Creek, North Fork Salmon River, and the Salmon River. Magic Valley currently has 1,674,416 BY1997 steelhead fingerlings on hand for release in 1998.

McCall Fish Hatchery - Idaho

Operated by IDFG, McCall FH was completed in 1981 and is located along the North Fork Payette River near McCall, Idaho. The program's adult trapping facility and the smolt release site are located on the South Fork of the Salmon River near Warm Lake (salmon do not have access to the Payette River system). McCall FH is designed to produce 1,000,000 summer chinook smolts weighing 61,300 pounds. McCall FH is the only LSRCP summer chinook facility and its adult return goal is 8,000 adults to the Snake River basin. McCall FH also has a concurrent federally-approved trout production program which is funded entirely by the IDFG.

The hatchery achieved considerable success with its summer chinook program from 1986 through 1993, ranging from 939 to 2,848 fish trapped each year. Typical of the lower chinook runs throughout the basin, McCall's returns decreased in 1994 and 1995 to only 517 and 408 fish. In 1996, 1,199 summer chinook (461 adults and 738 jacks) were trapped at the S. F. Salmon weir. In 1997, a total of 3,659 fish were trapped (3,614 adults and 45 jacks). Five hundred sixty one females were spawned producing 2,523,059 green eggs. A total of 545 fish were released above the weir to spawn naturally in 1997. A total of 1,193 AD-clipped adults were released below the weir for fisheries and natural spawning. Three hundred sixty two AD-clipped adults were also released into the Payette and Boise rivers for fisheries. The low jack count in 1997 may indicate an extremely low adult return in 1998.

The McCall FH staff released 238,367 BY1995 summer chinook salmon smolts weighing 13,923 pounds in the South Fork Salmon River in April 1997. This is slightly below one quarter the hatchery's release target of 1,000,000 smolts. McCall currently has 371,693 (reserve) and 23,049 (supplementation) BY1996 summer chinook fingerlings on hand for release in 1998 and 1,698,695 BY1997 eggs on hand for release in 1998 and 1999.

Sawtooth Fish Hatchery - Idaho

Sawtooth FH, located on the upper Salmon River near Stanley, was completed in January 1985 and is operated by IDFG. In addition to its primary mission of rearing 2,235,000 spring chinook salmon smolts weighing 149,000 pounds and trapping steelhead ("A" strain) for Hagerman NFH and Magic Valley FH, the staff operates a major satellite facility on the East Fork of the Salmon River. The satellite traps adult spring chinook for Sawtooth FH and steelhead ("B" strain) for Hagerman and Magic Valley and also serves as a direct stream release site. The program's goal for returns back to the Snake River basin is 19,455 adults.

A total of 1,243 steelhead returned to the Sawtooth trap in 1997 compared to 553, 532 and 338 in 1996, 1995 and 1994 respectively. The East Fork satellite facility trapped 149 steelhead, compared to 54 in 1996, 38 in 1995, and 73 in 1994. The second year of steelhead trapping at Slate Creek produced 13 steelhead trapped in 1997 compared to 38 steelhead trapped in 1996. A total of 429 females were spawned from Sawtooth and 85 females from both the East Fork Salmon and Slate Creek respectively resulting in 1,994,076 green eggs from Sawtooth, and a combined total of 435,954 green eggs from the East Fork Salmon and Slate Creek sites.

Sawtooth FH shipped a total of 792,500 BY1997 Sawtooth and 375,000 BY1997 Pahsimeroi steelhead eggs to Hagerman NFH, 325,000 BY1997 Pahsimeroi, 356,340 BY1997 East Fork "B" run, and 525,000 BY1997 Sawtooth, and 1,403,900 BY1997 Dworshak "B" run steelhead eggs to Magic Valley FH for rearing and release in 1998.

Spring chinook trapping at Sawtooth FH produced a total of 254 spring chinook trapped in 1997 compared to 156 in 1996, 37 in 1995, 96 in 1994 and 587 in 1993. Seven spring chinook were trapped at the East Fork site this year compared to 10 in 1996, 0 in 1995, 15 in 1994, 90 in 1993, 65 in 1992, and 62 in 1991. While numbers of chinook trapped were higher than the last few

years they continue to remain well below goals established for those facilities. As part of ESA Section 10 conditions for operation, the hatchery staff released 112 chinook above the Sawtooth weir (compared to 94 in 1996 and 20 in 1995) and all 7 collected at the East Fork Salmon weir. Fifty three females were spawned from Sawtooth FH returns resulting in 228,450 green eggs.

A total of 4,756 BY1995 chinook smolts (398 lbs) were split in two groups and released into the Salmon River at the hatchery weir and the Custer/Blaine County-line bridge. Sawtooth currently has a total of 43,356 BY1996 chinook (2,710 lbs) on hand for release in 1998 and 152,221 BY1997 chinook eggs and 51,079 BY1997 fry on hand for release in 1999.

This year marked the 3rd year of a captive rearing program for the Lemhi River, East Fork Salmon River, and West Fork of the Yankee Fork Salmon River. The strategy of the program is to prevent cohort collapse of the specific target populations by providing 20 pairs of captively reared adult spawners back to the natural environment on an annual basis. In the fall 1997, parr were once again collected from the West Fork Yankee Fork, East Fork Salmon River, and Lemhi River. In 1996, due to a lack of wild spring chinook, parr were only collected from the Lemhi River. (compared to parr collected from all three tributaries in 1995). All fish collected are reared initially at Sawtooth FH, transferred to Eagle FH, and then split between Eagle and Manchester. The progeny of these broodstock will be raised at Eagle FH for subsequent release as mature adults back into their rivers of origin.

In addition to the LSRCP program, the State cooperates with the Shoshone-Bannock Tribe, BPA, NMFS, and other agencies in a FWS-approved sockeye salmon restoration project at Sawtooth FH. The project is funded by BPA and is an effort to recover the endangered sockeye run. In 1995 a catchable trout holding and distribution program was instituted to stock local waters; that project was funded entirely by IDFG.

Irrigon/Wallowa Hatcheries - Oregon

Irrigon FH located on the Columbia River near Umatilla, Oregon; is operated by the ODFW and was completed in October 1985. Collector wells designed for 25,000 gallons per minute (gpm) supply water for the entire program of 1,677,000 steelhead smolts weighing 279,600 pounds. Irrigon FH's return goal is 11,200 adults back to the Snake River basin.

An expansion of ODFW's Wallowa State Hatchery was completed in May 1985; it serves as a final rearing, acclimation, and release site for about 600,000 steelhead smolts from Irrigon FH and has facilities for steelhead trapping and spawning. In 1997 a total of 1,473 steelhead (661 females and 812 males) returned to the Wallowa FH. A total of 208 females were spawned from Wallowa and Big Canyon steelhead returns resulting in 2,786,600 green eggs. No steelhead were transferred from the Cottonwood trap (WDFW) in 1997.

Two other advanced rearing and trapping sites, which are satellites of the Irrigon FH, were operational in 1992. Big Canyon satellite is located at the mouth of Deer Creek on the Wallowa River. It was completed in April 1987 and is capable of holding and releasing 225,000 smolts.

One thousand two hundred seventy seven adult steelhead (539 females and 738 males) returned to Big Canyon satellite in 1997. A total of 49 adult steelhead (24 females and 25 males) were released to spawn naturally.

The Little Sheep Creek satellite station in the Imnaha basin is used as an advanced rearing pond and release site for 250,000 steelhead smolts reared at Irrigon FH. The satellite was completed and became operational in August 1987. In 1997, 966 steelhead (439 females and 527 males) returned to the Little Sheep Creek trap with 77 (36 females and 41 males) released to spawn naturally. One hundred eighty eight females were spawned producing 865,349 green eggs.

Releases for 1997 of Irrigon-reared fish totaled 1,705,453 steelhead weighing 338,321 pounds. This included releases from Irrigon's satellites Big Canyon, Little Sheep Creek, Wallowa and Imnaha as well as various direct stream releases throughout the Grande Ronde basin. This number is similar to last year due in part to requirements under ESA to lessen impacts on listed salmon. Irrigon currently has 1,357,849 BY1997 Wallowa strain (84,338 lbs) and 115,961 BY1996 Imnaha strain steelhead (5,200 lbs) on hand.

In 1996 the Corps installed an oxygen supplementation system at Irrigon to offset the effect of reduced well water production from its Raney well system. Instead of the 25,000 GPM the wells were only producing about 20,000 GPM.

Lookingglass Fish Hatchery - Oregon

This hatchery is located on Lookingglass Creek north of Elgin, Oregon, and was completed in November 1982. It is operated by the ODFW and is designed to produce 1.4 million spring chinook smolts weighing 69,600 pounds. Two satellites, Big Canyon Creek (discussed above) and a renovation of Oregon's Imnaha trapping site, which was completed in 1989, are part of the hatchery program. The Snake River basin return goal for the Lookingglass FH program is 9,070 adults.

Adult spring chinook trapping at the Imnaha River trap totaled 471 (207 females and 264 males) compared to 1996 with only 244 fish collected (185 adults and 59 jacks). One hundred eighteen chinook (53 females and 65 males) were released to spawn naturally. Rapid River stock adults for the Lookingglass spring chinook program were again collected at Lower Granite Dam this year to reduce straying effects; 397 fish (213 females and 184 males) were collected and transported to Lookingglass and 32 fish (16 females and 16 males) were collected and transported to Wallowa FH. In addition 118 spring chinook (57 females and 61 males) returned to the Lookingglass FH ladder. The entire Rapid River program was transferred to Wallowa FH for holding and spawning to accommodate the indigenous brood program at Lookingglass FH.

Twenty one unmarked chinook (9 females and 12 males) were released above the weir into Lookingglass Creek to spawn naturally as a part of the CTUIR/ODFW reintroduction study. A total of 102 females (Rapid River stock) were spawned resulting in 412,355 green eggs and 58 females (Imnaha stock) were spawned resulting in 282,823 green eggs.

A total of 153,487 BY1995 Rapid River stock spring chinook smolts (8,107 lbs) and 7,230 BY1996 Rapid River stock spring chinook fry (41 lbs) were released into Lookingglass Creek in April and July 1997 respectively. An additional 50,911 Imnaha River stock spring chinook smolts (2,998 lbs) were released into the Imnaha River in April 1997. Lookingglass FH currently has a total of 35,354 BY1996 Imnaha fingerlings (1,783 lbs) for a 15 fish/lb release, 58,198 BY1996 fingerlings (1,966 lbs) for a 25 fish/lb release, 61,981 BY1996 Rapid River fingerlings (1,268 lbs) from unmarked parents, 311,617 BY1996 Rapid River fingerlings from marked parents, 206,711 BY1997 Imnaha eggs, and 12,054 BY1997 Lostine River stock eggs.

This year marked the 3rd year of the captive broodstock program for the Lostine River, Catherine Creek, and the upper Grande Ronde River. A total of 1,496 wild spring chinook parr were collected from the Lostine River (500 parr), Catherine Creek (499 parr), and the upper Grande Ronde River (497 parr) in 1997. This compares to 979 collected from the Lostine River and Catherine Creek in 1996 and 1,107 collected in the three tributaries in 1995. This is part of a conservation program to maintain various chinook populations for ultimate use in recovery of listed stocks under ESA and to enable the LSRCP to return to their mitigation responsibilities in the future. All are reared initially at Lookingglass FH and then transferred to either the Manchester facility (salt water) in Washington or Bonneville FH (freshwater) in Oregon for rearing to maturation. The progeny of these broodstock will be raised at Lookingglass FH for subsequent release as smolts back into their rivers of origin.

An endemic broodstock program was initiated in 1997 with Lostine River stock spring chinook adults trapped in the Lostine River. A total of 4 females were spawned resulting in 17,541 green eggs.

Lyons Ferry/Tucannon Fish Hatchery Complex - Washington

Located at the confluence of the Palouse and Snake rivers, the Lyons Ferry facility is two hatcheries in one. Phase I, completed in November 1983, was formally operated by WDW. It is designed to produce 1,169,500 steelhead trout smolts weighing 116,400 pounds and 45,000 pounds of rainbow trout. Its adult return goal to the basin is 4,656.

Phase II of Lyons Ferry facility, completed in November 1984, formally operated by WDF. It is designed to produce 9,162,000 fall chinook smolts weighing 101,800 pounds, and 132,000 spring chinook smolts weighing 8,800 pounds. Lyons Ferry FH's adult salmon return goals are 18,300 fall chinook and 1,148 spring chinook to the basin. Recently, the state of Washington combined WDW and WDF into a single agency, Washington Department of Fish and Wildlife (WDFW). These two facilities along with Tucannon FH are now under one complex manager and operated as a unit.

A renovation of Tucannon State Fish Hatchery was completed in November 1984 to rear an additional 41,000 pounds of rainbow trout for WDW and to serve as an adult trapping and smolt release site for their Tucannon River spring chinook program. The remaining 7,000 pounds of

rainbow trout production stipulated in the compensation plan (the total requirement is 93,000 pounds) is to come from stream enhancement structures funded by the Corps. These structures were constructed by WDW in the early 1980's.

The hatcheries along with the Phase I (steelhead) satellite facilities at Cottonwood Creek, Dayton Pond, and Curl Lake were completed from 1983 to 1986. The two fall chinook adult holding ponds at Lyons Ferry FH were found to be unmanageable and were rehabilitated by the Corps in 1993. Each pond were divided into two units by construction of a dividing wall down the center, providing much more versatility for handling and sorting adults. Additional office space at the Lyons Ferry steelhead facility was constructed in 1992 by adding 400 square feet onto the administration building. This work was done by the WDFW personnel. The road to the Marmes pump site, which was originally constructed with large cobbles was smoothed and graded by hatchery personnel.

Spring chinook returns to the Tucannon trap and weir totaled 259 in 1997 up from 135 in 1996, 40 in 1995, and 73 in 1994. One hundred sixty adults and 2 jacks were released above the weir to spawn naturally. Eighty seven adults and 2 jacks were retained for spawning and produced 149,500 green eggs. There are currently about 77,368 BY1996 Tucannon River chinook (27.0 fpp), and 147,589 BY1996 Spokane rainbow trout (6.9 fpp) on hand for release in 1998.

This year adult fall chinook were trapped at the Lyons Ferry FH and at Lower Granite and transported to Lyons Ferry FH for holding and spawning. A total of 1,311 fall chinook voluntarily entered the hatchery in 1997 compared to 2,256 in 1996, 956 in 1995, 972 in 1994 and 1,332 in 1993. An additional 293 were captured at Lower Granite Dam compared to 703 in 1996, and 327 in 1995. A total of 1,435,300 green eggs were collected in FY1997, only from known Lyons Ferry fall chinook. A considerable effort was necessary during spawning to ensure that only Snake River fall chinook adults were used for broodstock. All coded wire tags were read before spawning to ensure that the Snake River genetic stock is maintained. Strays from programs outside the basin were inadvertently used prior to 1990. The new concerted effort to spawn only Snake River stocks with each other is of particular importance because the fall chinook are listed as endangered under the ESA. All eggs from strays identified at spawning (182,592 eyed eggs) were shipped out of basin to another WDFW facility. Lyons Ferry currently has 1,039,806 BY1996 fall chinook (42.5 fpp) on hand for release in 1998.

Because of the potential for large numbers of stray steelhead that return to the Lyons Ferry ladder in the fall (when it remains open for fall chinook returns) all trapped steelhead are checked for Lyons Ferry brands. In FY1997, 5,598 steelhead returned to the hatchery compared to 5,920 in 1996 and 4,009 in 1995. A total of 1,090,638 green eggs were taken from the 286 females spawned. Four thousand seven hundred thirty-seven steelhead were released to spawn naturally. Approximately 604,376 BY1997 Lyons Ferry stock steelhead (22,384 lbs) remain on hand for release in 1998. In addition a total of 224 Wallowa stock steelhead were trapped at the Cottonwood Creek satellite facility compared to 430 in 1996 and 460 in 1995. One hundred eighty nine females were spawned for the WDFW program, resulting in 536,723 green eggs. About 317,590 fingerlings (3,650 lbs) are on hand for rearing and release in 1998.

In 1997 Lyons Ferry FH released a total of 456,776 BY1995 fall chinook smolts (49,168 lbs) and 333 BY1996 fingerlings (3.7 lbs) into the Snake River at Lyons Ferry. In addition, a total of 348,056 BY1995 smolts (28,696 lbs) and 338,376 BY1996 fingerlings (3,851 lbs) were transferred to acclimation sites and research projects for release. A total of 62,215 BY1995 spring chinook (1,352 lbs) were released into the Tucannon River as smolts.

A total of 761,715 steelhead smolts weighing 127,366 lbs and 205,469 steelhead fingerlings weighing 2,296 lbs were released from Lyons Ferry FH, hauled to the three satellite ponds, or trucked directly to streams. Lyons Ferry and Tucannon FH's combined, reared and released 665,234 catchable (8 to 9 inch) and sub-legal rainbow trout for Washington lakes and streams and the Idaho Program weighing 98,573 pounds.

Pittsburg Landing and Big Canyon Acclimation Sites

As noted above the Pittsburg Landing and Big Canyon fall chinook acclimation and release facilities were completed by the Corps in 1995 and 1996 and were operated by the NPT in cooperation with WDFW. The facilities receive fall chinook from Lyons Ferry FH for acclimation and release. In 1997, 148,054 BY1995 smolts (11,647 lbs) and 43,988 BY1996 fingerlings (511 lbs) were transferred to Pittsburg Landing for release and 200,002 BY1995 smolts (17,049 lbs) and 286,389 BY1996 fingerlings (3,242 lbs) were transferred to Big Canyon for release.

Dworshak National Fish Hatchery Expansion - Idaho

Dworshak NFH is located at the confluence of the North Fork and Clearwater rivers. An expansion of the existing Dworshak NFH steelhead facility for LSRCF spring chinook production was completed by the Corps in November 1982. The FWS facility is designed to produce 1,400,000 spring chinook smolts weighing 70,000 pounds. The adult return goal for Dworshak is 9,135 spring chinook to the Snake River basin. This increased Dworshak's chinook rearing potential by about 20,000 pounds, for a total of 90,000 pounds. This additional rearing effort was shifted to the Clearwater FH in FY1992.

Spring chinook runs in the Clearwater River in 1997 totaled 4,807 fish returning to the Dworshak/Kooskia Complex, compared to 1,165 in 1996, 165 in 1995 and 305 adults in 1994. In addition there were an estimated 738 Dworshak spring chinook taken in the sport harvest and 821 Dworshak spring chinook taken in the tribal harvest. Total sport and tribal harvest of Kooskia spring chinook is unknown at this time. A total of 858 females were spawned producing 2,596,227 green eggs. The Dworshak Program currently has approximately 1,939,237 BY1997 Dworshak and 732,875 BY1997 Kooskia spring chinook eggs on hand for release in 1999.

In 1997, Dworshak/Kooskia NFH personnel released 53,078 BY1995 spring chinook smolts weighing 4,187 pounds into the North Fork Clearwater River and 16,598 BY1995 spring chinook smolts into Clear Creek directly from Kooskia NFH.

Hagerman National Fish Hatchery - Idaho

Hagerman NFH, located on a 59°F spring water supply from the Snake River aquifer east of Hagerman, Idaho, was expanded by the Corps to rear 1,400,000 steelhead smolts weighing 340,000 lbs. Hagerman NFH also retained the capacity to produce 100,000 lbs of fish for FWS production commitments for programs other than LSRCP. The expansion was completed in April 1984 and the hatchery, is operated by the FWS. Hagerman NFH has a goal of returning 13,600 adult steelhead to the Snake River basin.

Hagerman NFH received a total of 1,403,878 BY1996 steelhead "A" eggs composed of Sawtooth and Pahsimeroi stocks this year. No Dworshak or East Fork "B" eggs were received. Overall survival from egg to smolt was 87% for Pahsimeroi stock and 92% for Sawtooth stock.

A surplus of 97,750 BY1996 Pahsimeroi stock steelhead (5,247 lbs) were stocked in C.J. Strike and Paddock reservoirs and 13,750 BY 996 Sawtooth stock steelhead (550 lbs) were stocked in C.J. Strike Reservoir in December, 1996. In April and May 1996 Hagerman NFH released 1,158,658 BY1996 steelhead smolts weighing 247,194 pounds into various streams in the Salmon River basin and to acclimation ponds at Sawtooth and Pahsimeroi FH's. Fish health for the entire history of steelhead production for BY1996 was excellent. Hagerman currently has 756,000 BY1997 Sawtooth stock (34,364 lbs) and 361,000 Pahsimeroi stock (16,409 lbs) on hand.

IV. LSRCP OFFICE OPERATIONS

A total of \$13,475,325 was obligated for LSRCP programs in FY1997 (\$1,919,625 from carryover funds). This total included \$3,225,555 for cooperator monitoring and evaluation studies and ESA requirements, \$385,580 for Boise LSRCP Office management and coordination, \$709,235 for the Regional Office and FWS administrative costs, \$8,706,435 for hatchery operations and maintenance and pathology, and \$448,550 for flood damage (the latter were not LSRCP appropriations). Eight cooperative agreements, were in affect for FY1997 to distribute \$11,102,977 in evaluation and operation and maintenance funding to non-federal entities. Two of these agreements, ODFW O&M and WDFW O&M, included the monies to repair facilities for damages caused by high spring run off.

V. EVALUATION STUDIES

In 1997 all five operating agencies and two Indian tribes had fully operational evaluation studies underway. By the end of the fiscal year, a total of \$2,511,764 had been obligated for studies being carried out by the IDFG, ODFW, WDFW, FWS Idaho Fishery Resource Office (IFRO), and the NPT and Confederated Umatilla Tribes (CTUIR). Below is an overview of the FY1997 evaluation program followed by a synopsis of state and tribal evaluation programs. The IFRO evaluation program is discussed in the next section, **FWS Cooperative Programs**. Results of

LSRCP-funded evaluation studies are available in our cooperator's annual reports; a listing of reports is found in Section XIII of this document.

The Evaluation Study Committee (ESC) is an eight-member workgroup consisting of the LSRCP Office evaluation studies coordinator and a single representative from each cooperating agency and tribe: IDFG, ODFW, WDFW, FWS, NPT, CTUIR, and Shoshone-Bannock Tribes (SBT). Each year since 1985 the group has met for an annual program review and issue discussion meeting; in addition, several partial committee meetings are held each year to discuss specific topics, such as ESA and review of study proposals. The annual meetings often include additional staff members from each agency/tribe and occasionally visiting experts.

The FY1997 ESC meeting was held in October 1996 near Troy, Oregon, and was attended by the cooperating agencies and tribes. The annual meeting's agenda was varied and included reviews of captive brood and rearing programs, acclimation programs and future plans, steelhead size-at-release issues, various steelhead conservation issues, cryopreservation plans, PIT tag issues, and Section 7 requirements. At that meeting, the coordinators decided to meet at a later date to discuss the feasibility of hosting a comprehensive review of the LSRCP Program. When a smaller committee met on a conference call in late January, they decided a review symposium would be held in late 1997 or 1998. Detailed planning began for the February 1998 symposium when the group met in early March in LaGrande.

The LSRCP Program received a Biological Opinion for 1995-1999 LSRCP Operations in 1995. Although the overall program was essentially the same, the LSRCP Endangered Species Coordinator, Joe Krakker, and the agency/tribal evaluation biologists dedicated a considerable amount of time to making modifications to the LSRCP Section 7 biological opinion in 1997.

A multi-agency effort was initiated in 1996 to form a Conservation Program Oversight Team (the CONSPOT) to guide the development of the LSRCP captive propagation effort for listed stocks. This team continued to function into early FY1997. By December 1997 the team had achieved its primary goal of coordinating initial development of plans (and permit applications) and implementation of the projects, and determined it was no longer necessary to meet as a group. Coordination of continued efforts is being done by the Oregon and Idaho technical teams and at the Snake River captive chinook technical committee meetings that are held in conjunction with similar sockeye salmon meetings.

IDFG's Evaluation Program

IDFG conducted their investigations under a single study in 1997, the **LSRCP Fish Hatchery Evaluations-Idaho**, which combines three projects--*Hatchery Evaluations*, *Hatchery-Wild Composition of the Idaho Steelhead Harvest*, and *Coded-Wire Tag Analyses*. Idaho's projects are being conducted to 1) ensure that accurate and adequate monitoring of hatchery practices occurs so the most cost effective mode of operation for each hatchery is implemented, and 2) assess the LSRCP contribution to fisheries and escapement. Specifically, the *Hatchery Evaluations* studies include monitoring and evaluation of hatchery rearing; size, time, and location

of releases; and adult returns. These types of studies are long-term because constant monitoring is required to identify problems before they result in catastrophic fish losses and to determine which hatchery rearing and release practices will result in the best adult returns. In 1997, the monitoring and evaluation of the captive rearing program continued as an element of the *Hatchery Evaluation* project.

Several evaluation studies initiated in previous years to address specific hatchery problems and needs were continued in 1997. Production groups of salmon from all LSRCP programs were PIT-tagged to determine migration timing and interrogation rates at Snake and Columbia river dams. IDFG collected scales from known chinook hatchery adults (i.e. those tagged as juveniles) and wild fish and used scale patterns to identify hatchery fish for broodstock and other management purposes. Production and test groups were marked (CWT'ed and fin clipped) and returns are used to assess survival rates (by sex and age). Survival determinations of Sawtooth FH high, medium, and low density chinook rearing conditions continued as adult return analyses were completed and final report preparation began. To assess effects of handling and CWTing, BY1988 through BY1990 summer chinook in one pond at McCall FH were marked with TM-100 for comparison to ad-clipped/CWT'ed fish in the adjacent pond. Preliminary analyses of data were completed and final report preparation begun.

IDFG evaluations and hatchery personnel continued natural rearing experimentation of chinook at Sawtooth and Clearwater FH's initiated in 1993. They will rely on CWT's and PIT's of BY1992 through BY1994 releases to assess effects of various raceway alterations and other rearing conditions on juvenile and adult survival. Late in 1997, IDFG began investigating the potential for testing some of the NMFS NATURES programs at Idaho LSRCP facilities; this will be further discussed in 1998. Volitional release studies at Sawtooth FH and the Crooked River facility occurred in 1994 and 1995, and in 1997 IDFG completed analyses of the PIT tag data associated with the releases.

IDFG has completed analyses of South Fork Salmon River summer chinook salmon time of release study data. Environmental "cue" data were compiled in 1997 and report preparation was begun. Also in 1997, IDFG reported results monitoring data compiled to evaluate of the efficacy of outplanting adult summer chinook to historic spawning grounds in the South Fork's Stolle Meadows area. The outplanting and monitoring of that effort continued in 1997.

A steelhead size-at-release experiment (Salmon River releases from Hagerman NFH) designed to identify the optimum size with the greatest survival and lowest residualism was completed with adult returns in 1995 and final report preparation began in 1997. Steelhead acclimation studies continued as adults returned from acclimated (21 days) and control groups reared at Hagerman NFH and released at Sawtooth FH. All fish were CWT and PIT tagged to determine juvenile interrogation and adult survival rates. A volitional release study was designed (to reduce residualism in the river), a pilot study used PIT-tagged fish was completed in 1996, and a similar study was carried out in 1997. In related activities, IDFG evaluation personnel participated on an

oversight team formed to help plan an acclimation pond being funded by NMFS for Squaw Creek. A 2-year rearing cycle pilot project at Sawtooth FH and rearing methods study at Hagerman are being monitored with FH personnel.

In late 1984 Idaho began an angler survey to assess the LSRCP contribution to Idaho's steelhead fishery, estimate the total escapement of LSRCP fish, recover information on marked fish, and obtain data for managing the fishery while protecting wild stocks. In 1997 pre- and in-season run projections were provided. This survey is also the major means of recovering adult steelhead tagged as fingerlings under other evaluation studies. These efforts were funded through 1997 and will be continued annually (at some level) until compensation goals have been met, and periodically thereafter. In 1997 a similar survey effort was conducted to monitor a fishery on hatchery-reared adult chinook salmon produced at two LSRCP facilities, McCall FH and Dworshak NFH.

The process of reading tags and analyzing marks was first funded in 1992 as part of the evaluation study, whereas actual marking costs remain a part of each hatchery's budget. In 1997 several hundred tags (many recovered under the Harvest Study described above) from several state and tribal LSRCP programs were removed from fish and decoded at IDFG's Lewiston lab.

As in 1995 and 1996, IDFG and SBT evaluation personnel collaborated to collect juvenile spring chinook salmon from three Idaho streams to continue a captive propagation effort to conserve those threatened populations. Detailed planning, initiated by the CONSPOT (which includes IDFG's evaluation biologists) to help define the long range captive program goals and identify all future activities, facility needs, and funding requirements, was implemented. IDFG's technical team, the Idaho Integrated Team, which is made up of biologists, fish culturists, and pathologists of IDFG, FWS, and the NPT and SBT, continued to meet, to guide the local captive rearing program, and to coordinate rearing with the NMFS's Manchester facility where half of the Idaho stocks are held.

ODFW's Evaluation Study Program

ODFW conducts their evaluations under one study, **An Evaluation of the LSRCP Program in Oregon**. The ODFW evaluation program encompasses monitoring and evaluating of hatchery practices; investigating size, time, and location of release of hatchery-reared juveniles; marking activities (CWTing, branding); assisting with disease monitoring efforts; determining the LSRCP contribution to Oregon's steelhead fishery (while recovering tagged fish); determining the effects on natural spawning populations; determining the success of maintaining the genetic integrity of native wild stocks potentially effected by the LSRCP program (through spawning ground carcass recovery); and, added in 1996, detailed monitoring and evaluating the ongoing captive broodstock program in Oregon. In addition to being the evaluation studies coordinator, the principal LSRCP investigator in Oregon also coordinates broodstock selection, egg-taking programs, and outplanting of juveniles with ODFW's regional personnel. The following paragraphs describe specific studies beyond the routine juvenile rearing, adult return, spawning ground, and ESA monitoring and reporting duties.

ODFW compared the influence of size-at-release (4 versus 5 per pound) on survival to adult of summer steelhead released at Wallowa FH. BY's 1986 through 1990 were tested, the last adults returned in 1995, and harvest information was finalized in 1996. In 1997, data were summarized, statistics were completed, and report preparation was initiated.

In 1996, ODFW completed its sixth release of acclimated versus direct stream releases of steelhead at Little Sheep and Big Canyon creeks. Similar studies at Wallowa FH were completed with the release of smolts in 1991. Adult return data from previous releases were compiled and assessed in 1997. The last returns resulting from size at release studies at Wallowa FH were in 1994 and the results of that study are in the final stages of report preparation. The last returns from the Big Canyon and Little Sheep releases will arrive in 1999 or 2000.

ODFW began pilot studies in FY1996 with BY1995 fish to compare smolt-to-adult survival and juvenile outmigration performance of summer steelhead smolts released volitionally with standard releases. These efforts is an offshoot of ODFW's 1991 through 1995 studies to monitor the characteristics and interaction of residual steelhead on listed natural chinook in several N.E. Oregon streams, determine strategies to reduce the number of residual steelhead, and develop a strategy to implement new steelhead management plans. Field studies associated with this pilot project will continue with ODFW's effort to characterize yearly variation in the relative abundance of juvenile residual steelhead in index areas and to describe the characteristics of steelhead which residualize. Detailed volitional studies began with the release of BY1996 fish in 1997 and will continue through BY2000 at Wallowa FH and the Big Canyon facility.

New steelhead evaluation initiatives in 1997 included monitoring natural spawning of summer steelhead in NE Oregon and assessing the relationship between anadromous and resident forms of *O. mykiss*. In the first study, ODFW hopes to learn more about the fate of hatchery adults that escape to their river of release but are not caught and do not return to a trap. Results from the latter study will help determine if endemic anadromous populations can be derived from local resident populations.

Chinook acclimation versus direct stream release studies, initiated at Imnaha facility with BY1990 progeny releases, continued with releases of BY1993 juveniles in 1995. Data from adult returns of BY1990 releases were collected and analyzed. Lack of sufficient fish prevented this study from continuing with BY's 1994, 1995, and 1996. The 1997 brood should be sufficient to continue comparisons.

Spring chinook size at release (25 vs 15 fpp) experiments initiated with BY1988 Imnaha fish and, with the exception of BY1993 releases, were continued with releases of BY1995 smolts in 1997. The last size at release experiments from Lookingglass FH (Rapid R. stock) occurred in 1992; Imnaha studies are planned through BY1996. Outmigration timing and survival and adult return rates of past releases are currently being compiled and evaluated for both Imnaha and Rapid River stocks.

ODFW began a pilot study in 1995 to determine the influence of exercise on the physiology, outmigration performance, and survival to adult for Rapid River fish reared at Lookingglass FH. This effort continued in 1997 until high mortalities required changes in protocol; the tests will continue through BY1998.

Although a density experiment using Rapid River stock chinook reared at 50 percent of normal densities was not continued with releases in 1995 or 1996, collection of adults released as juveniles in 1993 and 1994 continued at Lookingglass FH. A similar study was initiated in 1995 using BY1994 Imnaha stock at Lookingglass FH to compare rearing densities from 1/4 to 1/8 of normal. Although this effort continued with BY1996 fish, full production will prevent tests from continuing with the 1997 brood. The future of density studies using Imnaha stock is uncertain.

In 1990 a study was initiated to develop a discriminate function model based on scale growth patterns to allow identification of hatchery and wild-origin adult salmon at Lower Granite Dam and points above (e.g. hatchery racks, spawning grounds). This effort was continued in FY1997.

ODFW, CTUIR, and NPT personnel continued their collaborative effort to collect juvenile spring chinook salmon from three Oregon streams and maintain the captive propagation program initiated in 1995. As noted above, ODFW evaluation personnel joined other LSRCF cooperators in 1996 to form the CONSPOT for dealing with LSRCF-funded captive propagation efforts and formed a local integrated team to serve the coordination needs for the effort in Oregon. ODFW evaluation personnel took the lead on monitoring and evaluating the Oregon captive populations in 1995 and continued this effort in 1997, participating the joint chinook technical meetings held in conjunction with the sockeye meeting.

WDFW's Salmon Evaluation Study Program

WDFW's evaluations of fall and spring chinook are combined under one multiple-objective study including: 1) monitoring and evaluation of hatchery practices, juvenile outputs, adult returns (including homing studies), and contribution to fisheries; 2) time, size, and location of release (including acclimation) studies; and 3) evaluation of effects of hatchery releases on naturally producing chinook stocks (including parr density monitoring and spawning ground counts). Because the hatchery stocks are comprised entirely of endemic fall and spring chinook stocks, special attention is being paid to quantifying and monitoring genetic variables in each population. The following paragraphs summarize some of WDFW's efforts in 1997 beyond their ongoing fish culture monitoring programs and ESA monitoring and reporting duties.

WDFW evaluation and hatchery staffs continued efforts to ensure that fall chinook broodstocks retained at Lyons Ferry FH contain no non-endemic fish by identifying the origin of fall chinook broodstock captured at Lower Granite Dam and returning to the hatchery ladder. All Lyons Ferry FH fall chinook releases are being marked so Lyons Ferry origin adults can be identified in future returns.

WDFW continued their ongoing efforts to determine smolt outmigration timing and relative survival from Lyons Ferry (fall chinook) and Tucannon (spring chinook) FH's. Their fall chinook efforts were expanded in 1996 and continued in 1997 to include monitoring and evaluating outplants from the Pittsburg Landing facility. In addition to continuing the monitoring and evaluating at Pittsburg Landing in 1997, second site was investigated on the Snake River at Captain Johns Landing. The first adult returns from the Pittsburg outplants will occur in 1998. The evaluation of these sites and another at Big Canyon (on the Clearwater) is a joint WDFW/FWS/NPT effort and will continue for one more year at Pittsburg Landing and for several years at other sites.

A study was initiated in 1993 to evaluate the effectiveness of outplanting spring chinook adults and presmolts to increase spawner density in the upper Tucannon River. In 1996 all adults were collected at the Tucannon River weir and retained for hatchery spawning and rearing; therefore, no adults were outplanted above the weir. A larger run in 1997 allowed outplanting of radioed adults, which were monitored through the spawning season. Direct stream fingerling releases were evaluated in the fall of 1994; and, in the spring 1996, yearling juveniles were released from portable acclimation ponds above Tucannon FH, directly into the river above Tucannon FH, and from the Tucannon FH ponds using a volitional release strategy. In 1997 juveniles were released from Tucannon FH and Curl Lake. Juvenile migration success and adult survival of all release strategies will be compared.

As noted above, all Tucannon River spring chinook returning to the weir were collected and spawned in the hatchery; their eggs were used to conduct a controlled mating study. WDFW is attempting to determine if there are measurable genetic or survival differences between progeny of hatchery x hatchery and natural x natural single pair matings. As in previous years, these crosses will be compared through the hatchery rearing period and uniquely marked to determine adult return rates. Adults from previous releases were collected and analyzed in 1997.

Other studies initiated in previous years and continued in 1997 included 1) documenting juvenile rearing, releases, outmigration timing (both in the Tucannon River and downstream), and relative survival; 2) determining the extent and cause of prespawning mortalities of adult spring chinook; 3) estimating production and migration timing of naturally-produced Tucannon R. spring chinook; 4) collecting spring and fall chinook stock profile data (meristic, morphometric, electrophoretic monitoring); and 6) evaluating success of cryopreserving spring and fall chinook milt. WDFW evaluation personnel assisted with designing temporary and new weirs to replace the Tucannon weir blown out by the February 1996.

WDFW's Trout Evaluation Study Program

WDFW's trout evaluation program, **Lyons Ferry FH Evaluation Study - Steelhead**, is a long term program that includes objectives for evaluating both the steelhead and resident trout hatchery programs, with the steelhead objectives having the highest priority and requiring the most funding. The hatchery evaluations and related field studies at Lyons Ferry and Tucannon FH's have been underway since 1983 when the steelhead and trout production programs were

initiated. The 1997 objectives continued the directions initiated in 1990 regarding developing new broodstocks, improving hatchery management practices, and modifying juvenile steelhead release strategies.

In an effort to directly reduce residualism in the Tucannon River and downstream, WDFW prevents further emigration from Curl Lake during the volitional release when 80% of the fish remaining in the pond are males and a high percent are precocious. This approach has been used and monitored at Curl Lake from 1993 through 1996 and continued in 1997. Ponds on the Touchet and Grande Ronde rivers were assessed in 1997 to determine the applicability of these methods.

As noted above, development of endemic wild broodstocks is a recent goal of the program which should help reduce residualism and improve homing to the rivers of release. WDFW captured wild broodstock on the Tucannon River in 1992 and 1993 for rearing, release, and comparison to existing hatchery broods during migration (with PIT tags) and at adult return. No adults were collected in 1994 or 1995 when efforts to trap adults in Cummings Creek (a Tucannon River tributary) failed due to high flows. Although a similar program was delayed for Touchet River in 1992, the logistics of trapping and handling fish were tested there in 1993, 1994 and again in 1995. In 1996 flood problems eliminated any attempts and no fish were trapped in 1997.

Other studies initiated in previous years and continued in 1997 included: 1) estimating percent residualism of hatchery steelhead in the Tucannon River; 2) estimating adult returns to fisheries, Lower Granite Dam, Lyons Ferry FH, and tributary spawning areas; 3) collecting baseline genetic information on wild steelhead populations; and 4) estimating juvenile population densities in index streams effected by LSRCP programs.

Nez Perce Tribe

The Nez Perce Tribe (NPT) initiated the **Nez Perce Tribe LSRCP Evaluation Study** in 1986 and continued it in 1997 to develop tribal stocking and outplanting priorities; monitor tribal harvest; evaluate effects of hatchery plants on native production; assist IDFG, ODFW, and FWS in their evaluation studies; and collect and preserve adult male chinook salmon sperm plasm. NPT evaluation personnel joined the LSRCP Office and other LSRCP cooperators in 1996 to form the CONSPOT for dealing with LSRCP-funded captive propagation efforts and, with the Oregon co-managers, formed a local team to serve the coordination needs for the captive program in Oregon. This effort continued until early 1997 when the CONSPOT determined regular meetings were not needed.

In 1997 the NPT began a new study to monitor and evaluate releases of fall chinook from Pittsburg Landing and Big Canyon on the Clearwater River. The objectives of the study are to compare pre-lease and release conditions, post-release behavior, migration timing, and survival of yearling fall chinook released at Pittsburg Landing, Big Canyon, and Lyons Ferry FH. Contribution and distribution of adult returns and smolt-to-adult survivals will be monitored and compared in cooperation with WDFW and FWS investigators. Because the NPT now operates

the Pittsburg Landing facility, their efforts in this study now include solving fish culture problems, as well as monitoring and evaluating the implementation and success of their overall program.

As in recent years, the Tribe's major field activities in 1997 involved the long term Imnaha River study. NPT continues to use two rotary screw traps in the Imnaha River to capture and PIT tag juvenile chinook. The Imnaha River study objectives in 1997 were to 1) determine the outmigration timing, travel time and recapture rate of spring migrating natural and LSRCP FH-produced chinook salmon and steelhead from the lower Imnaha River trap through the Snake River to Lower Granite Dam and 2) determine and compare timing, travel time, and recapture rates at Lower Granite Dam and other dams of natural chinook salmon that overwinter in the Snake River versus those that overwinter in the Imnaha River.

Other studies initiated in previous years and continued in 1995 included coordinating planning, evaluation studies, and management recommendations; monitoring tribal chinook harvest of LSRCP stocks; conducting chinook salmon spawning ground surveys in selected streams; collecting and preserving male chinook gametes in Snake River tributaries using cryopreservation techniques; and monitoring the abundance of juvenile chinook and steelhead in stocked and unstocked streams in Idaho and Oregon.

Confederated Tribes of the Umatilla Indian Reservation

The Confederated Tribes of the Umatilla Indian Reservations (CTUIR) became cooperators in the LSRCP Program for the first time in FY1987. The CTUIR biologist assigned to the LSRCP program continues to be supervised by the LSRCP ODFW research coordinator because of the close coordination required for their joint studies in Oregon. In 1991 CTUIR initiated a program to evaluate the success of reestablishing a naturally reproducing population of spring chinook in Lookingglass Creek. A study plan was drafted in FY1992 and continued to undergo review and revision in 1993. The field program was initiated in 1992 with the release of Lookingglass FH/Rapid River stock above the weir and the monitoring of their movements and spawning effort.

The Lookingglass Creek study objectives in 1997 were to: 1) determine the reproductive success of Rapid River adults released to spawn naturally in Lookingglass Creek, 2) determine the survival of naturally-produced outmigrants from Lookingglass Creek to adult, 3) assess the long-term performance of Rapid River stock for reintroduction to develop natural production, and 4) assess aspects of ecological interactions between naturally-produced chinook and their biotic and abiotic environment. Forty-nine pairs of adults and about 7,200 Lookingglass-reared juveniles were released above the Lookingglass weir in 1997. The latter were used to determine the best size, weight, and condition factor for juvenile releases and to assess the effects of PIT tagging. The tribes monitored and evaluated these releases and helped remove the spawned-out adults to reduce disease concerns.

VI. FWS COOPERATIVE PROGRAMS

The LSRCP program funded a variety of studies with other FWS stations. Most can be categorized as evaluation studies and were funded to investigate and solve specific hatchery production problems or assist with ESA-related activities.

The IFRO was funded by the LSRCP program in FY1997 to conduct hatchery monitoring and evaluation studies at Dworshak and Hagerman NFH's. IFRO's on-hatchery program is similar to those conducted by the state agencies and tribes is closely coordinated with IDFG and the NPT. Their study, **Evaluation and Technical Coordination for FWS LSRCP Hatchery Programs**, is a long-term effort designed to: 1) define and solve cultural and management problems affecting LSRCP success (adult returns), 2) provide intra- and interagency coordination, 3) determine fishery contribution and escapements of Dworshak and Hagerman NFH's LSRCP programs, and 4) aid the NFH's with the development and maintenance of a database system for hatchery management. The IFRO's LSRCP-funded studies are summarized in their annual report.

LSRCP funds were provided to the Dworshak Fish Health Center for diagnostic activities at Dworshak and Hagerman NFH's and for health monitoring coordination between State and Federally-operated LSRCP hatcheries. Additional monies were obligated in 1997 so the Center could assist the WDFW and NPT with their health monitoring at Lyons Ferry FH and Pittsburg Landing. FY1997 monies were also obligated to FWS's Office of the Columbia River Coordinator for their assistance to the LSRCP office on regional issues.

VII. OTHER COOPERATIVE PROGRAMS

IDFG, the SBT, BPA, NMFS, and others are attempting to restore sockeye salmon runs to Redfish Lake. To assist in the restoration effort, facilities at Sawtooth FH are being made available for the sockeye salmon propagation program which is funded by BPA. IDFG and the LSRCP Office also entered into an informal agreement which allowed the Sawtooth FH to act as a distribution point for catchable trout stocking in surrounding waters.

ODFW utilized several raceways at Irrigon FH to hold rainbow trout for release in eastern Oregon and to serve as a catchable trout distribution point under the state's catchable trout program.

Cooperative agreements are in place with all State agencies for the temporary loan of equipment and vehicles between programs.

VIII. CORPS CONSTRUCTION ACTIVITIES

The U.S. Army Corps of Engineers (Corps), Walla Walla District completed most cleanup items in the remaining facilities to be transferred in FY1996. Preacquisition contaminants surveys were

completed at Lookingglass, Lyons Ferry, Tucannon and Magic Valley Fish Hatcheries and several acclimated satellite facilities this year. No contaminant problems were noted, but the Service is reluctant to accept transfer of these facilities because of our campaign to remove underground storage tanks. The Service is working with the Corps in an attempt to reach a mutually acceptable arrangement to correct deficiencies before accepting transfer of any facilities that are currently or will be out of compliance in the near future. Requests for transfer for several facilities remain in the secretary's office until these deficiencies are rectify. An underground storage tank agreement has been negotiated with the Corps (see Section X).

The Corps received a \$5.0 million add on to the LSRCP construction program to build the fall chinook acclimation facilities for Nez Perce Tribal programs. One temporary acclimation facility consisting of 16 20-foot circular tanks and associated plumbing was put into operation in 1996 on U.S. Forest Service land at Pittsburg Landing on the Snake River approximately 40 miles below Hells Canyon Dam. A second site with similar facilities began operation in early 1997 at Big Canyon Creek on the Clearwater River near Peck, Idaho; and a third site should be in operation in the Snake River below the Grande Ronde River by 1998. In addition, the Service, the CTUIR, and ODFW have been working with Corps in an attempt to obtain pathogen-free water through ozonation or underground water sources at Lookingglass FH. To date, the estimates for ozonation have been extremely high and alternatives are being explored. Once all additional construction has been completed the Corps will be required to transfer these facilities to the LSRCP program. The Corps installed an oxygen supplementation system at Irrigon FH to offset the lack of sufficient water from its Raney well. The well was designed to produce 25,000 GPM and is only producing 20,000 GPM.

IX. STAFFING

A total of 4.0 permanent full time (FTE) staff years are now being utilized for operation of the LSRCP Office. One FTE, the Cooperative Agreement Assistant position was vacated during the year and will be filled in FY1997.

LSRCP Boise Office employees as of September 30, 1997

Edouard J. Crateau, LSRCP Coordinator, GM-13

Daniel M. Herrig, Evaluation Study Coordinator, GS-12

Joseph J. Krakker, Fishery Biologist, GS-11

Tammy A. Froscher, Secretary, GS-6

X. FUTURE OUTLOOK

Although still a relatively new program in the Columbia River basin, the Lower Snake River Compensation Plan Program is now fully underway. The Corps has in most cases done an excellent job in constructing and equipping LSRCP hatcheries and satellites facilities and, where problems have been experienced, the Corps have made the necessary repairs and changes in an

attempt to help the hatcheries reach their full capability. With the exception of the new facilities, the Corps advertised clean-up contracts on 11 facilities in FY1991, 1992, 1993, and 1994 and most major changes and repairs were completed in 1995. The Corps and the LSRCP Office have reached an agreement to replace all underground storage tanks by December 1998. The Corps will be responsible for removing all UST's, cleaning up the sites, and replacing all UST's with above ground tanks of 1,100 gallons and larger. The LSRCP will replace all UST's less than 1,100 gallons with above ground tanks.

Steelhead returns in 1995 and 1996 were low coastwide but close to meeting our goals for the LSRCP mitigation program. Getting steelhead to return back at the right time and to the right place still remains as a problem in some areas. The proposed listing of Snake River steelhead will require conferencing in FY1997 on all LSRCP funded actions until a final determination has been made for the species. How current and future LSRCP steelhead programs are affected will be determined during the conferencing period and during consultations if Snake River steelhead are listed.

As evidenced by the listing of naturally-produced fall and spring/summer chinook, we are still experiencing difficulties in achieving programmed rates of return for hatchery chinook salmon. Changes are being made in rearing and release strategies which we hope will improve this situation, and research is underway to solve outmigration and disease problems that we hope will further improve our performance. Most LSRCP chinook facilities are now operating and are likely to continue operating under Section 10 enhancement and/or research permits under the ESA. These efforts to save listed stocks will also help to increase hatchery adult return rates. It is doubtful if we will ever achieve our adult mitigation goals unless drastic changes are undertaken in the hydrosystem operations or the dams are removed.

Two years ago the LSRCP embarked on captive rearing/broodstock programs in Oregon and Idaho as gene conservation measures to assist in recovery when mainstem passage improves and to use as future broodstock sources for compensation. The ODFW program was designed as a full term captive broodstock program to release smolts back into their streams of origin; whereas the IDFG program was designed as a captive rearing program to release mature adults back into their streams of origin for natural spawning. In 1995, ODFW collected listed BY1994 spring chinook juveniles from the Lostine River, Catherine Creek, and upper Grande Ronde River and in 1996 from the Lostine River and Catherine Creek. Collection of parr continued in all six streams in late summer 1997. IDFG collected listed BY1994 juvenile spring chinook in 1995 and 1996 in the Lemhi River, East Fork Salmon River, and West Fork Yankee Fork and BY1995 juveniles in 1996 in the Lemhi River. No BY1995 juveniles were collected in the West Fork Yankee Fork Salmon River and East Fork Salmon River in 1996 or in spring 1997 due to low natural escapement. The ODFW program initially rears captured juveniles at Lookingglass FH prior to splitting brood year groups between Bonneville FH (freshwater) and the NMFS's Manchester for rearing to final maturation. IDFG initially rears captured juveniles at Sawtooth FH prior to splitting brood years between Eagle FH (freshwater) and Manchester (saltwater) for rearing to maturation. The LSRCP Office will continue to participate in the CONSPOT and technical teams to address ongoing captive broodstock issues and other ESA issues as needed. The LSRCP will

continue efforts to maintain nonlisted chinook salmon programs under Section 7 of the ESA for future mitigation options (Rapid River stock at Lookingglass FH in Oregon). We will also continue our effort to assist in the conservation and future recovery of listed populations where those hatchery populations represent an important component of the Evolutionary Significant Unit of the listed populations (e.g., Pittsburg Landing and Big Canyon acclimation sites on the Snake and Clearwater rivers for Lyons Ferry fall chinook).

Hatchery monitoring and evaluation programs are being improved, redesigned, and refined each year to assist hatcheries in providing the best rate of return of released hatchery smolts. Where possible and practical we will employ natural rearing strategies on LSRCP facilities. We substantially increased funding for this phase of the LSRCP program in BY1993 and continued funding will be needed for an adequate hatchery evaluation program which ensures protection and enhancement of naturally reproducing populations.

As noted above, the LSRCP is a relatively new program with the average age of hatcheries at only 12 to 13 years and satellite facilities about 11 years. This translates to a little over two full chinook life cycles and about three for steelhead. We are optimistic about the future of the LSRCP Program and the general trends indicate that, with normal precipitation, snow packs, etc., increases in the return rates of steelhead which may exceed model predictions. The chinook salmon return rates and adult returns to the basin are currently much below the level anticipated and used to design the LSRCP facilities. This year the adult returns were much higher than in previous years and the 10 year average. Next years returns are expected to be quite disappointing as indicated by the low number of jacks in 1997 returns. Improved adult chinook return rates are expected in the future with changes in production release strategies, increased disease treatment and prevention, and improvements in smolt emigration. Captive broodstock efforts, if successful, will develop critical culture expertise needed in the immediate future for conservation of listed Snake River species. If regional managers can implement measures that significantly increase the productivity of listed populations, these efforts may be used in the future to assist in recovery and also as a brood source for LSRCP compensation programs.

During FY1998 the LSRCP Office and its cooperators will conduct a LSRCP program review. The program review will be an analysis of what the LSRCP program has achieved through FY1997. The review will be used as a basis for determining how successful we have been in meeting LSRCP goals in the past and what steps we can initiate in the future to meet our mitigation, ESA, and Tribal Trust responsibilities.

XI. MEETINGS ATTENDED IN FY1997

- 10/01/96 Meeting with WDFW, NPT, FWS to discuss fall chinook studies, Dan
- 10/01/96 Meeting with DARD, FWS regarding LSRCP budget developments and BPA direct funding MOA agreements, Ed
- 10/02/96 Section 10 meeting, regarding permit application and issuance procedures, Portland, OR, Joe
- 10/03/96 Oregon Captive Broodstock meeting, Bonneville FH, OR, Joe
- 10/10/96 Attend NWPPC work sessions on Snake River Projects, Ed
- 10/17/96 Meet with Ed Curtis, Walla Walla District Corps, regarding Hatfield LSRCP add-on, Walla Walla, WA, Ed
- 10/22/96 Meet with Carl Burger, Abernathy Fish Development Center, Boise, ID, Ed, Joe, Dan
- 10/25/96 CONSPOT meeting with IDFG, ODFW, WDFW, NPT, CTUIR regarding captive broodstock program, Ed, Dan, Joe
- 10/30-11/1/96 Evaluation studies coordination meeting, Troy, OR, Dan, Joe
- 11/13-14/96 Assessing extinction risk for west coast salmon workshop, Seattle, WA, Joe
- 11/15/96 Attend meeting to discuss BPA/FWS MOA in Portland, Dan
- 11/19/96 Dworshak Coordination Meeting, Ahsahka, ID, Ed
- 01/14/97 Public Information Workshop on the Draft Programmatic EIS on Impacts of Artificial Salmon and Steelhead Production Strategies in the Columbia River Basins, with Dave Riley, Wally Stueke (subcontractors for CBFWA) Boise, Joe
- 01/15/97 AOP Meeting for LSRCP Program, with ODFW, CTUIR, LaGrande, OR, Joe
- 01/14-16/97 Fisheries Project Leaders Meeting, with FWS, Reno, NV, Ed, Dan
- 01/16/97 Public Information Workshop on the Draft Programmatic EIS on Impacts of Artificial Salmon and Steelhead Production Strategies in the Columbia River Basin, with Dave Riley, Wally Stueke (subcontractors for CBFWA), Pasco, WA, Joe

01/23/97 Second site on Snake River for fall chinook acclimation and release - preferred site Captain John Rapids, with Corps, WDFW, Walla Walla, WA, Ed

01/30/97 Open House for new building dedication for FWS/BLM/NMFS/USFS/SSA.

01/31/97 Meet with Si Whitman, Paul Kucra of the Nez Perce Tribe

02/03/97 Interviewed by IDFG officer regarding our I&E program, Ed.

02/4-6/97 Eco-region project leaders meeting, Reno, NV, Ed

02/05-06/97 Clearwater FH programs meeting, with IDFG, NPT, Ahsahka, ID, Dan

02/07/97 Managing healthy forests with fire and selective cutting, a public meeting with Bruce Babbitt, Boise, ID, Ed

02/12/97 Hagerman NFH Coordination Meeting, with FWS, IDFG, Hagerman, ID, Ed

02/18/97 Proposal to modify 1995-1999 Biological Opinion on hatchery operation to increase size at release of steelhead, conference call, with ODFW, IDFG, WDFW, Joe

02/25/97 Under ground storage tank removal and contamination monitoring and clean-up, with Corps, FWS, Portland, OR, Ed

02/26/97 Fish Nutrition Workshop, with U of I, Abernathy, Bozeman, FWS personnel, Boise, Dan, Joe

02/27-3/1/97 Idaho Chapter AFS Annual meeting, Boise, Dan, Joe

03/3-5/97 Attend genetic effects of Salmon Hatcheries Workshop, Juneau, AK, Joe

03/04-05/97 LSRCP program review and evaluation, with FWS, IDFG, ODFW, WDFW, LaGrande, OR, Ed, Dan

03/07/97 BPA direct funding, with BPA, Corps, Portland, OR, Ed

03/12-13/97 Attend tribal trust workshop, Portland, OR, Joe, Dan

03/25-26/97 BPA 1998 Project Review, with Agencies and Tribes and NWPPC Council, Portland, OR, Dan

04/08/97 Attend 'Salmonids in Peril' symposium, with Blue Mountain National Resource Institute, La Grande, OR, Dan

04/09/97 Seminar on energy use reduction and efficiency, with NW Earth Institute, Boise, Dan

04/09/97 Northern Rockies Preservation project debate regarding management of public lands, Ed

04/11/97 Meet with Nez Perce biologist at Pittsburg Landing site, Ed

04/15/97 Meet with McCall FH staff, Ed

05/01/97 Steelhead listing and conferencing/consultation issues, with NMFS, Portland, OR, Ed, Dan, Joe

05/01/97 Steelhead proposed listing - need for conferencing and potential consultation needs, with NMFS, Portland, OR, Ed, Dan, Joe

05/06/97 Chinook TOC Development Meeting, LaGrande, OR, Joe

05/07/97 Formation of the Chinook Technical Oversight Committee, with ODFW, IDFG, NMFS, SBT, BPA, La Grande, OR, Joe

05/13-15/97 Meet with LSRCP cooperators re-status review symposium, Ed, Dan, Joe

05/07/97 BPA MOU and direct funding, with BPA, NWPPC, Corps, NMFS, CBFWA, Portland, OR, Ed

05/19/97 Meet with new IDFG Director, Steve Mealey, Boise, Ed

05/21/97 Spring Chinook Program, with Dworshak NFH personnel, Ahsahka, ID, Ed

05/21/97 Hatchery operations, captive broodstock, with Clearwater FH personnel, Ahsahka, ID, Ed

05/21/97 Chinook TOC meeting, Stanley, ID, Joe

05/22/97 Hatchery visit to Lyons Ferry FH, with WDFW, NOAA, NMFS, Starbuck, WA, Ed

05/23/97 Salmon Festival Meeting, with Leavenworth FH personnel, Leavenworth, WA, Ed

5/28/97 LSRCP/BPA funding agreement meeting with BPA, Ed, Dan

05/29/97 Captain John Rapids acclimation pond, Lookingglass FH problems, with Corps, ODFW, NPT, Walla Walla, WA, Ed

06/10/97 Attended DEIS Forest Plan Seminar in Boise, Ed

06/13/97 Attend CBFWA meeting in Portland, OR, Ed

06/14/97 Dworshak Open House and Natural Fishery Day event, Ed

06/18/97 LSRCP status review symposium meeting, with WDFW, ODFW, IDFG, NPT, SBT, CTUIR, LaGrande, OR, Ed, Dan, Joe

06/23-25/97 Federal property inventories at Washington facilities (Lyons Ferry FH, Tucannon FH, WDFW evaluation), Tammy

06/24-25/97 Fish hatchery managers meeting, Vancouver and Abernathy FH, Ed, Dan, Joe

06/26/97 Chinook TOC meeting, Boise, ID, Joe

06/30/97 NMFS steelhead listing review, Ed

07/7-10/97 Fisheries ARD meeting - Spearfish, S.D., Ed

07/17/97 ESA Meeting with NMFS, IDFG, NPT, Seattle, WA, Dan

07/21/97 LSRCP funding, Governor's Office, Boise, Ed

07/23/97 Cryopreservation Workshop, Moscow, Dan

07/29/97 Storage tanks at facilities, with Corps, ODFW, WDFW, Walla Walla, WA, Ed

08/4-7/97 Federal property inventories at Oregon Facilities, Lookingglass FH, Irrigon FH and Wallowa FH, Tammy

08/07/97 Upper Salmon River ESA issues with IDFG, SBT, Dan

08/11/97 Salmon and Steelhead Festival Meeting, USFS, BLM, FWS, IDFG, BOR, Boise, Ed, Dan

08/14-15/97 Tour LSRCP facilities with Don Campton geneticist, Ed, Dan, Joe

08/19/97 Dworshak coordination meeting, Ahsahka, ID, Ed

08/25-26/97 Oregon spawning ground surveys, Dan

08/27/97 Salmon and Steelhead Festival meeting with Boise High School Drama Class, Boise, Ed

08/26/97 Salmon and Steelhead festival, with salmon and steelhead supporters, various federal agencies, state and private entities, Boise, Ed

09/08/97 Salmon and Steelhead Festival planning meeting, Boise, Ed, Dan

09/8-12/97 Salmon carcass surveys, OR, Joe

09/11-13/97 Salmon and Steelhead Festival, Boise, Ed, Dan, Tammy

09/15-18/97 Fisheries Information System Work Group, Shepardstown, VA, Ed

09/18/97 ESA section 7 consultation for steelhead, with Steve Smith/Herb Pollard, Boise, Dan, Joe

XII. Training

Ed Crateau

Negotiation Strategies & Techniques 11/12-14/96

Congressional Operations Seminar 03/17-21/97

Dan Herrig

Administrative Training 2/11-13/97

FWS Trust Responsibility to Native Americans 3/12-13/97

Joseph Krakker

New Salmon Genetics Research 3/3-5/97

FWS Trust Responsibility to Nave Americans 3/12-13/97

Tammy Froscher

Paradox Budget Tracking System 11/12-15/96

Automated Time and Attendance training 12/4/96

Federal Financial System 4/14-18/97

XIII. AVAILABLE REPORTS

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- Clemens, K. 1995. Annual Report, FY1995, Dworshak Fish Health Center. U.S. Fish and Wildlife Service, Ahsahka, Idaho. 63 pp.
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Table 2. Pertinent Data for Lower Snake River Fish and Wildlife Compensation Plan Fish Hatchery Facilities.

Hatchery (Operator) ^a	Fish Type	Pound	Total Cost (\$1,000)	Satellite Facilities	Date of Completion
Lookingglass (ODFW)	Spring Chinook	69,600	\$ 8,993	Big Canyon Ck. Imnaha	Nov. 82
			\$ 2,763		Apr. 87
			\$ 1,525		Jul. 89
Irrigon/Wallowa (ODFW)	Steelhead	279,600	\$15,646	(Wallowa) ^b Little Sheep Ck (Big Canyon Ck)	Oct. 85
			\$ 3,230		May 85
			\$ 2,545		Aug. 87
Lyons Ferry:			\$31,831 ^c		
Phase I (WDW)	Steelhead	116,400		Cottonwood Dayton Pond	Nov. 83
	Trout	45,000			Feb. 85
Phase II (WDF)	Trout	41,000	\$ 801	Tucannon FH Curl Lake	Oct. 86
			\$ 1,182		Nov. 84
			\$ 4,235		Feb. 85
	Fall Chinook	101,800	\$ 230		Nov. 84
	Spring Chinook	8,800			
Sawtooth (IDFG)	Spring Chinook	149,000	\$13,543	E.Fk. Salmon R.	Jan. 85
			\$ 2,067		Nov. 83
Dworshak (FWS)	Spring Chinook	70,000	\$ 2,234		Nov. 82
Clearwater (IDFG)	Steelhead	350,000	\$37,128	Red River Crooked River Powell	Dec. 91
					Nov. 86
	Spring Chinook	91,300	\$ 1,651		May 90
			\$ 2,054		Aug. 89
			\$ 2,320		
Magic Valley (IDFG)	Steelhead	291,500	\$19,520	(Sawtooth) (East Fork)	Aug. 87
Hagerman (FWS)	Steelhead	340,000	\$ 9,801	(Sawtooth) (East Fork)	Apr. 84
McCall (IDFG)	Summer Chinook	61,300	\$ 5,741	S.Fk. Salmon R.	Sep. 81
			\$ 1,149		Jul. 80
Eagle Lab (IDFG)	Disease Diagnostic		\$ 1,300		Apr. 89

^a ODFW - Oregon Department of Fish and Wildlife
WDFW - Washington Department of Wildlife
WDFW - Washington Department of Fisheries
IDFG - Idaho Department of Fish and Game
FWS - U.S. Fish and Wildlife Service

^b Parentheses used when dual-use hatchery/satellite is listed a second or third time.

^c Total cost of Lyons Ferry Phases I and II

Table 3. Hatchery or trap rack returns to LSRCP hatcheries operating in 1996 and 1997.

Species/Hatchery	Hatchery/Trap Adults	Returns Jacks
Summer Chinook		
McCall FH/South Fork	3,614	45
Spring Chinook		
Clearwater FH ¹	2,024	8
Sawtooth FH	245	9
East Fork Trap	7	0
Lookingglass FH ²	507	8
Imnaha Trap	462	9
Big Canyon Trap	0	0
Grande Ronde River ³	1	
Lostine River ³	23	
Dworshak NFH ⁴	4,788	19
Tucannon FH	256	3
Fall Chinook		
Lyons Ferry FH ⁵	1,108	496
Steelhead Trout		
Irrigon FH:		
Wallowa FH	1,473	
Little Sheep Trap	966	
Big Canyon Trap	1,277	
Lyons Ferry FH	5,598	
Cottonwood Creek Trap, WA	233	
Hagerman NFH/Magic Valley FH ⁶	1,405	
Crooked River Trap, ID	5	

¹ Returns to Powell, Red River and Crooked River traps only.

² Includes those trapped at Lower Granite Dam and at the Lookingglass FH trap.

³ Endemic broodstock program.

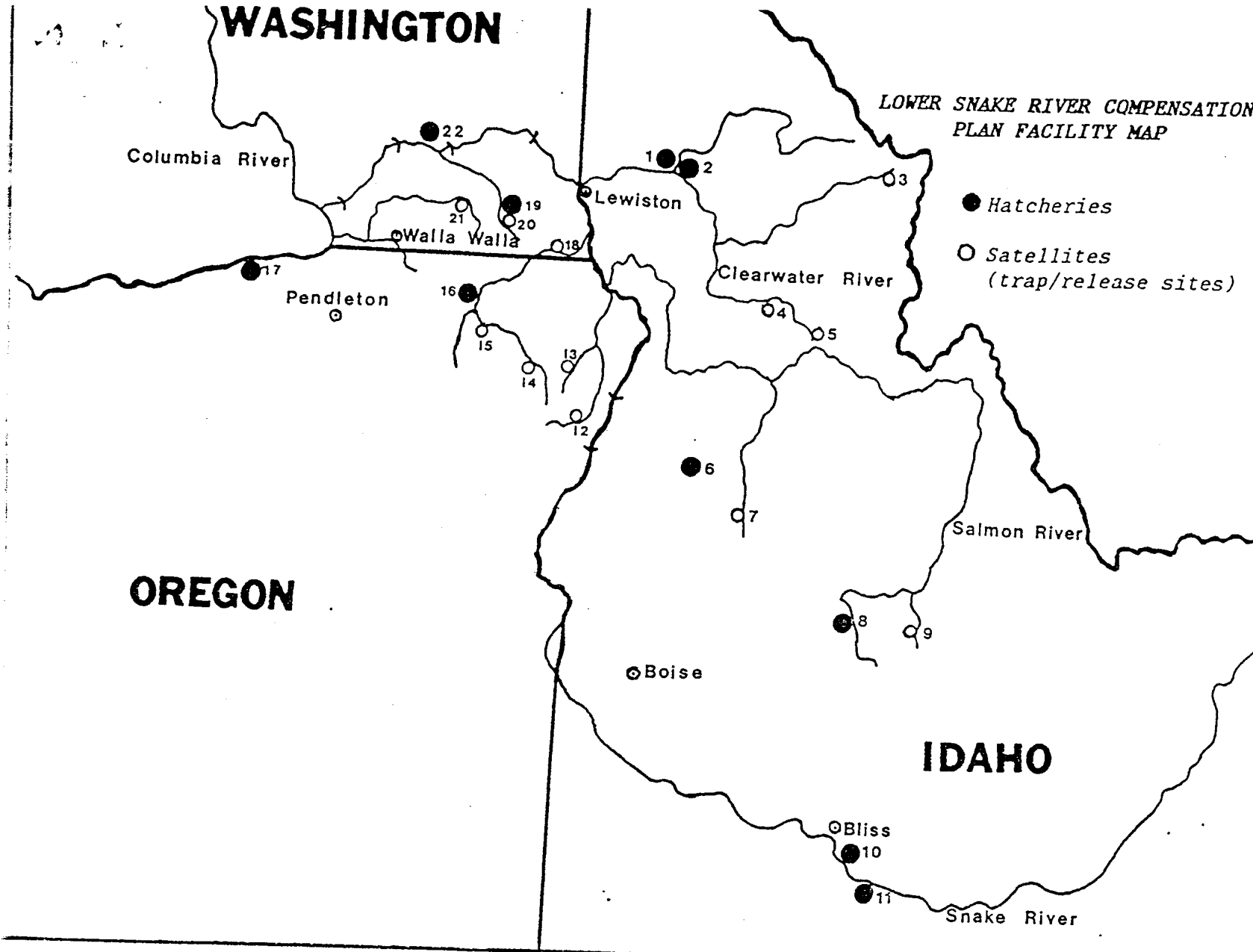
⁴ Dworshak and Kooskia returns.

⁵ Includes ladder returns plus Lower Granite trapping (including strays).

⁶ Includes returns to East Fork, Slate Ck., and Sawtooth FH racks.

WASHINGTON

LOWER SNAKE RIVER COMPENSATION PLAN FACILITY MAP



● Hatcheries
○ Satellites
(trap/release sites)

OREGON

IDAHO

OPERATING AGENCIES

Idaho Department of Fish and Game

- 1. Clearwater Fish Hatchery
- 3. Powell Satellite Facility
- 4. Crooked River Satellite Facility
- 5. Red River Satellite Facility
- 6. McCall Fish Hatchery
- 7. South Fork Satellite Facility
- 8. Sawtooth Fish Hatchery
- 9. East Fork Satellite Facility
- 11. Magic Valley Fish Hatchery
- 23. Eagle Fish Disease Lab

U.S. Fish and Wildlife Service

- 2. Dworshak NFH Expansion
- 10. Hagerman NFH

Oregon Department of Fish and Wildlife

- 12. Imnaha Satellite Facility
- 13. Sheep Creek Satellite Facility
- 14. Wallowa Fish Hatchery
- 15. Big Canyon Satellite Facility
- 16. Lookingglass Fish Hatchery
- 17. Irrigon Fish Hatchery

Washington Department of Fish and Wildlife

- 18. Cottonwood Creek Satellite Facility
- 19. Tucannon Fish Hatchery
- 20. Curl Lake Satellite Facility
- 21. Dayton Pond Satellite Facility
- 22. Lyons Ferry Fish Hatchery

Station:

OPERATIONS/MAINTENANCE COST DATA

Fiscal Year: 1997

- 1. Salaries, Permanent (Including Benefits):
- 2. Salaries, Temporary (Including Benefits):
- 3. Operating Costs:

A. Utilities

- 1. Telephone
- 2. Electricity
- 3. Heating Oil
- 4. Natural Gas
- 5. Other

B. Vehicle Maintenance

- 1. Distribution Vehicles

Total Mileage:

Funding Source			
Operations (Fisheries) 1	Cyclical Maintenance (Fisheries) 2	Quarters Maintenance 3	Other Funding 4
\$228,168			
24,914			
5,853			

Station:

OPERATIONS/MAINTENANCE COST DATA

Fiscal Year: 1997

Funding Source				
	Operations (Fisheries) 1	Cyclical Maintenance (Fisheries) 2	Quarters Maintenance 3	Other Funding 4
3. B. Vehicle Maintenance (continued)				
<u>2. Non-Distribution Vehicles</u>				
Total Mileage: 3 Vehicles	12,129			
C. Fuel for Vehicles/Equipment	1,691			
D. Supplies				
1. Fish Food				
2. Chemicals/Drugs				
3. Fertilizer				
4. Tags and Tagging Supplies				
5. Office Supplies/Custodial/Other Supplies	6,496			
E. Travel	17,052			

Station:

OPERATIONS/MAINTENANCE COST DATA

Fiscal Year: 1997

3. F. Moving Expense

G. Miscellaneous (List)

Cooperative agreements (states and tribes),
capital equipment under \$1000, and vehicle
rentals

- 4. Operations (Total: Lines 1, 2, 3A-G)
- 5. Vehicles/Equipment Purchased (Over \$1,000)
- 6. Cyclical Maintenance
- 7. Quarters Maintenance
- 8. Total Maintenance (Total: Lines 5, 6, and 7)
- 9. Column Totals (Total: Lines 4 and 8)
- 10. Total Expenditures (Add Totals of Column 1-4)

Funding Source			
Operations (Fisheries) 1	Cyclical Maintenance (Fisheries) 2	Quarters Maintenance 3	Other Funding 4
7,300,292			
7,584,466			
25,437			
6,159			
7,616,062			
\$ 7,616,062			

PUBLIC RELATIONS

Station: LSRCP Office

Fiscal Year: 19 97

1. Presentations:	Number of Groups	Number of People
On Site	<u>0</u>	<u>0</u>
Off Site	<u>2</u>	<u>15</u>
2. Number of Visitors:		
Official		<u>100</u>
Public		<u>40</u>
3. Other Public Relation Activities:		
Type of Activity		
<u>Participation in "Free Fishing" day at</u>		<u>1,200</u>
<u>Dworshak NFH - June 1997</u>		
<u>Partner in planning for and implementing</u>		<u>4,000</u>
<u>Idaho Salmon & Steelhead Days</u>		

Remarks:

Station: LSRCP Office

REPORT OF STATION PERSONNEL

Fiscal Year: 1997

Part I - Permanent Personnel (FTE's: 4)

Name Of Employee	Functional Title	Grade	Period Worked	Remarks
Edouard J. Crateau	LSRCP Coordinator	GM-13	10/1/96 - 9/30/97	
Daniel M. Herrig	LSRCP Evaluation Coordinator	GS-12	10/1/96 - 9/30/97	
Joseph J. Krakker, Jr.	Fisheries Biologist	GS-11	10/1/96 - 9/30/97	
Tammy A. Froscher	Secretary	GS-06	10/1/96 - 9/30/97	

Part II - Temporary Personnel (FTE's: 1)

Name Of Employee	Functional Title	Grade	Period Worked	Remarks
Virginia M. Neunaber	Coop. Agreement Assistant	GS-07	02/02/97 - 9/30/97	