

ANNUAL REPORT

2005

**MID-COLUMBIA FISH DISTRICT
OREGON DEPARTMENT OF FISH AND WILDLIFE**



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Fish Liberations

Spring Chinook

Deschutes River: The 2005 release of 312,928 spring Chinook smolts into the Deschutes River was completed during April, 2005 (Table 1). This year's release is more than the 2004 release of 251,674 and represents the seventh consecutive year that the entire spring Chinook production was reared in the Pelton Ladder. As in past years, the entire production was marked ADCWT and was released immediately downstream from the Pelton Reregulation Dam at river mile 100.

Hood River: A total of 128,971 Deschutes stock spring Chinook smolts were released into the Hood River Subbasin from three acclimation locations (Table 1). The spring Chinook juveniles released into the Hood River in 2005 was less than the 2004 release of 160,033 smolts, but close to the target of 125,000. The CTWS continued acclimating smolts at various sites which included Jones Creek, Blackberry, and the Parkdale Facility.

Summer Steelhead

Deschutes River: Round Butte Hatchery raised and successfully released 156,939 Deschutes stock summer steelhead smolts into the Deschutes River at river mile 100 in early April, 2005 (Table 1). This release into the Deschutes is similar to the release in 2004. The 2004 summer steelhead release was fin marked ADLM.

Hood River: A total of 50,121 Hood River stock summer steelhead were transferred from Oaksprings Hatchery to the Blackberry Creek Acclimation site on the Hood River in 2005 (Table 1). Of the release group, 44,080 were volitionally released from the Blackberry Creek Acclimation site, and 4,911 non-migrants were released near the mouth of Hood River after failing to leave the acclimation ponds. Transfers from Oaksprings to Blackberry Creek occurred from late March until late April. Non-migrants releases near the mouth of Hood River occurred in early May. All fish were marked with an ADRM fin mark.

Additionally, a total of 31,269 lot 24 (Foster/Skamania stock) smolts were direct released into the main stem Hood River below Powerdale Dam on the 1st of March. This group was fin marked AD only and continued to represent a declining number of Skamania stock releases into the Hood River (Table 1).

Winter Steelhead

Hood River: A total 60,971 of winter steelhead smolts were transferred from Oaksprings Hatchery to East Fork Sand Trap and Parkdale Fish Facility acclimation sites on the Hood River in 2005 (Table 1). All smolts were marked ADRV fin mark. The East Fork Irrigation District sand trap facility received and acclimated a total of 39,971 winter steelhead smolts. Non-migrants were trucked from this site and not force released, similar to last year. Additionally,

two groups totaling 20,000 smolts were acclimated and released from the Parkdale Fish Facility. The average size of the non-migrants was substantially smaller than fish that migrated from the acclimation ponds.

Standing Water Bodies

Sixteen district lakes or reservoirs were stocked with rainbow trout during the calendar year (Table 2). We stocked a total of 211,733 rainbow legal in standing water bodies throughout the district in 2005.

Fingerling Releases: Four district lakes or reservoirs were stocked with rainbow fingerling this year which included Baker Pond, Pinehollow Reservoir, Rock Creek Reservoir, and Taylor Lake that totaled 73,042.

Legal Releases: Legal rainbow trout were released in all sixteen of the stocked district lakes of 2005. A total of 111,528 were released.

Brood Trout: Eleven district lakes or reservoirs were stocked with a total of 265 brood trout that were excess to the needs of Oak Springs Hatchery.

Air Stock Lakes: We stocked about 20,825 triploid brook trout in high lakes within the District in 2005 (Table 2).

District Streams: No fingerling or legal trout were stocked into district streams in 2004.

Warm water Game Fish

No warm water game fish were released into district waters during 2004.

FISH INVENTORY

SPRING CHINOOK

Deschutes River: The 2005 Deschutes River spring Chinook salmon run year was completed at Round Butte Hatchery (RBH) in September, 2005. A total of 1,498 adult spring Chinook returned to the Pelton Trap during the 2005 run year, which was dramatically higher than 2004 but below the five year average (Table 3). Jack spring Chinook returns to the Pelton Trap in 2005 were comparable to recent years (Table 4).

The 2005 return of hatchery origin adults to WSNFH was less than recent years and was weak compared to recent years (Table 5). A total of 1,035 adult and 128 jack hatchery origin spring Chinook were captured during the run year (Table 5).

A total of 677 wild adult spring Chinook were captured at the WSNFH barrier dam in 2005. This represents a weak run of wild adults and was well below the escapement goal of 1,300 wild

adults (Table 5). The capture of wild jack spring Chinook at WSNFH continued to decrease from recent run years (Table 5).

Wild spring Chinook redd counts in the Warm Springs River system were conducted by the Confederated Tribes of Warm Springs (CTWS) Department of Natural Resources during 2005. Surveyors counted 52 redds, which was the lowest redd count in the Warm Springs River on record (Table 6). The adult per redd ratio was very high which is likely a result of high pre-spawning mortality.

The annual pre-season prediction for spring Chinook run strength is calculated jointly by ODFW, CTWS and the US Fish and Wildlife Service. The pre-season prediction for 2005 was 1,800 wild spring Chinook. This prediction for the 2005 return indicated that the wild escapement goal of 1,300 adults across the barrier dam at WSNFH should be met or exceeded and that both WSNFH and RBH would return more hatchery origin adults than was needed for broodstock. The Lower Deschutes Subbasin Fish Management Plan goals and objectives for spring Chinook allow a sport fishery to proceed if the pre-season prediction suggests that the wild escapement goal will be met. The decision to allow a sport season for hatchery only, mandatory wild release and seven days per week was made in cooperation with CTWS although as a measure to allow for increased wild escapement. The 2005 sport fishery for spring Chinook was originally set to occur from April 15 to July 31, however, due to unexpected low returns to Bonneville Dam and WSNFH in April and early May, we declared an emergency closure to the sport fishery on May 15.

The Sherars Falls sport fishery was sampled using the traditional statistically expandable sampling schedule. Due to the emergency closure of the fishery on May 15, low numbers of anglers and angler hours resulted in the harvest of an estimated 417 spring Chinook adults (Table 7). Sport angler compliance with the wild spring Chinook release regulation was excellent.

The CTWS allowed tribal fishers unlimited harvest of hatchery and wild origin spring Chinook throughout the spring season. The fishery began April 15, 2005. The tribal dip net and hook and line fisheries were jointly sampled by ODFW and CTWS. Tribal fishers harvested a total of 504 adult hatchery and 133 wild spring Chinook (Table 8).

Hood River: The Powerdale Trap, similar to the trap used in the late 1960's and early 1970's was reconstructed and put into operation in the Powerdale Dam fish ladder in December 1991, to collect information on anadromous fish populations in the Hood River system. Powerdale Dam, a PacifiCorp dam used to divert water downstream three miles for power generation, is located at river mile 4 on the Hood River. This trap was operated continuously from December, 1991 until December, 1996 when the Bonneville Power Administration (BPA) funded Powerdale Dam adult salmon and steelhead trapping facility was completed. Data on Hood River anadromous species reported here were collected at these two trap facilities.

Initial spring Chinook captures at the Powerdale Trap are reported in Table 9. These data are reported on a provisional basis as the run progresses and are presented in monthly reports prior to the availability of final scale analysis data. Final run total summaries used by the BPA funded Hood River Production Project reported here and in annual reports for that project are calculated

from scale analysis for origin and age. Preliminary data may not correspond to the more detailed, age specific capture data presented by the BPA Hood River Production Project annual report.

The preliminary total number of 796 adult and jack, hatchery and wild spring Chinook returning to the Hood River in 2005 was higher than most years on record (Table 9).

Table 10 presents the more detailed bi-weekly spring Chinook returns to Powerdale Dam. A total of 111 naturally produced spring Chinook was the second highest number on record. The number of subbasin hatchery origin returns increased from the past two years was also one of the highest returns on record.

The age structure of 2005 adult returning natural spring Chinook and hatchery spring Chinook appeared to be different in the number of years spent in saltwater (Table 11). The most common ages for natural spring Chinook in 2005 was age four and five with two years spent in freshwater, which resulted in near equal numbers of two salt and three salt fish. In contrast, age four adult Deschutes stock hatchery returns made up 87% of the total adult Deschutes stock captured. We continued to see high rates of mini-jacks in the Deschutes stock returns.

The anticipated good return of adult spring Chinook to the Hood River allowed a sport harvest opportunity in 2005. An estimated 46 hatchery adult and 8 jack Chinook were harvested (Table 12). The Warm Springs Tribe also enacted a spring Chinook harvest opportunity for tribal members on the Hood River in 2004.

FALL CHINOOK

Deschutes River: A cumulative total of 258 adult fall Chinook were captured at the Pelton Trap during the 2005 run year (Table 13). This was a very high capture year for fall Chinook adults at the Pelton Trap and was well above the 5 year average of 142 adults. The 2005 run year capture of 188 jack fall Chinook was also high and above the 5 year average of 153 (Table 14).

Based on a pre-season prediction of an adult fall Chinook return considerably greater than the target escapement figures of 4,000 adults to the mouth of the Deschutes and 2,000 adults upstream from Sherars Falls, a sport harvest of unmarked fall Chinook was allowed by temporary rule from August 1, 2005 to October 31, 2005. Sport anglers and tribal fishers were sampled by ODFW on the standard statistical harvest schedule. Effort and catch for adult fall Chinook by sport anglers was comparable to recent years with an estimated 285 adults harvested (Table 15).

Tribal dip net fishers were jointly sampled by CTWS and ODFW, an arrangement that allows for greater coverage of the fishery. The joint sampling arrangement worked out very well this year.

Tribal fishers harvested an estimated 542 adult and 2 jack fall Chinook during their harvest season. Although this was a decrease from the previous three years, harvest was still relatively high (Table 16).

The Sherars Falls adult migrant fish trap was operated from June 20 to October 30, 2005. Adult and jack fall Chinook were trapped and tagged at this facility and standard biosampling was conducted. Tags are placed to facilitate later Peterson mark-recapture population estimates of the number of adult and jack fall Chinook passing Sherars Falls. All fall Chinook sampled at the trap were biosampled, tagged with two Floy tags and released to continue their journey.

A total of 615 adult fall Chinook were captured at an average rate of 0.80 fish per hour (Tables 17 and 18). We also captured a total of 152 jack fall Chinook at an average rate of 0.32 fish per hour, (Tables 19 and 20). It is important to note that catch per hour data from the Sherars Falls trap for both adult and jack fall Chinook are not good predictors of the final mark-recapture population estimates.

Peterson mark-recapture population estimates for both adult and jack fall Chinook passing Sherars Falls are made each year by tagging fall Chinook at the Sherars Falls trap and making later recoveries of both tagged and untagged fish at the Pelton Trap and from spawned out carcasses recovered by survey crews from the Pelton Reregulation Dam downstream to Trout Creek.

An estimated 4,278 adult fall Chinook passed above Sherars Falls in 2005 (Table 21). This estimate is one of the highest on record and is well above the target escapement of 2,000 adults contained in the Lower Deschutes River Fish Management Plan. An estimated 1,463 jack fall Chinook also passed Sherars Falls in 2005, a slight increase from the past few years and well within the range of previous estimates (Table 21).

Two aerial, helicopter conducted, fall Chinook redd counts were made in 2005. Fair counting conditions were experienced on the first flight from Trout Creek to the mouth on November 30, fog prohibited counting from Round Butte to Trout Creek. Water visibility was marginal on the second count, conducted on the 6th of December, for the entire 100 miles of river. As described in previous report, two independent counters are used to count redds in each reach on each of the flights. The largest of the four independent counts is used as the final figure for the year for each section and reach under the philosophy that it is easier to miss counting redds rather than mistaking something for a redd. A total of 738 redds were counted for the entire 100 mile reach (Table 22). It is important to note that the redd count is not a good indicator of run strength. The redd counts are necessary to determine the ratio of redds above Sherars to the redds below Sherars to expand the total spawner escapement.

The proportion of redds counted downstream from Sherars Falls decreased from the previous two years (Table 23).

Total run size and escapement estimates for adult fall Chinook were made for the 2005 run based on the estimated escapement of adults above Sherars Falls and redd count data both above and below Sherars Falls and harvest in the Deschutes River. An estimated 14,385 adult fall Chinook returned to the Deschutes during the 2005 run year, the largest estimated return for the period of record (Table 24). Since 2001, the number of fall Chinook estimated in the Deschutes has maintained greater than 11,100 adults which is unprecedented compared to previous years on

record. Both run to the river and escapement figures for 2005 are likely minimum values due to the incomplete nature of the redd counts.

Total run size estimates (fish to the mouth of the Deschutes) and escapement estimates for jack fall Chinook were made for the 2005 run based on estimated escapement of adult fall Chinook below Sherars Falls, the ratio of estimated jacks to adults above Sherars Falls and harvest in the Deschutes River. An estimated 4,769 jack fall Chinook returned to the Deschutes during the 2005 run resulting in escapement to the spawning grounds of 4,634 (Table 25). Both figures are comparable to recent years.

Hood River: Classification of spring and fall races is made based on a combination of factors including date of capture, body condition and confirmation, brightness, scale tightness and erosion, degree of ripeness relative to the time of year, and external parasite load. All fall Chinook captured at the Powerdale Trap are biosampled, tagged, and passed above the dam to continue their journey.

A total of 49 Chinook classified as fall Chinook were captured at the Powerdale Trap during 2005 (Table 26). In contrast to previous years and based upon scale analysis and fin mark, the majority of these fish appear to be of unnatural origin with a small percentage composed of natural origin fish. The natural origin fish appear to be primarily four years old with one year being spent in freshwater (Table 27). Three year old and five year old fish with one freshwater year are also common.

COHO

Deschutes River: We captured 10 coho at the Sherars Trap in 2005. This continues a recent unusual trend of capturing Coho in the Deschutes. There are no historical records that indicate they historically occurred. We captured a total of 35 unmarked and 1 marked hatchery Coho in 2004 and 48 unmarked and 1 marked Coho in 2003. Between 1995 and 2002 we only captured a total of 26 marked and unmarked Coho. Although the origin of these fish has not been documented, we believe most are likely unmarked hatchery origin strays. In fall 2004, an ODFW employee noticed numerous Coho staging at the mouth of Buckhollow Creek. Although undocumented, it is possible that natural production may be occurring.

Hood River: A total of 27 unmarked origin, 263 hatchery origin and 30 coho of unknown origin (as determined by scale analysis) entered the Powerdale Trap during 2005 (Table 28). All unmarked coho were passed upstream after biosampling and tagging. We believe many of the unmarked coho are strays from other Columbia Basin hatchery programs. Similar to past years, stray hatchery origin coho as determined by hatchery fin mark were not allowed to pass upstream into the spawning grounds. Hatchery origin coho were recycled back to the mouth of the Hood River.

Coho escapement to Powerdale Trap by age and origin is presented in Table 29. Analysis of freshwater growth scale patterns suggest these stray and natural coho possess a typical hatchery pattern common for a variety of Columbia Basin hatchery coho programs.

SUMMER STEELHEAD

Deschutes River 2004-05 Run Year: A total of 3,125 summer steelhead entered the Pelton Trap during the run year (June 1, 2004 to May 31, 2005). This total of all steelhead captured is less than the 5-year average of 4,715 (Table 30). A total of 501 Round Butte Hatchery origin fish were collected for broodstock. Round Butte Hatchery origin returns made up 68.9% of steelhead captures at the trap, a larger percentage than most of the recent run years (Table 31). The percentage of stray hatchery origin summer steelhead captured at the Pelton Trap, while lower than usual, was still high (Table 31). The percentage of wild fish captured remained about 3% of the total capture at Pelton Trap (Table 31).

Peterson mark-recapture population estimates for the various components of the 2004-05 summer steelhead run passing Sherars Falls were made after the completion of the run year on May 31, 2005. All summer steelhead captured at the Sherars Falls Trap during operation from June 21, 2004 to October 29, 2004 were biosampled, tagged with a Floy tag and released to continue their journey. Subsequent captures of both tagged and untagged individuals were made at both RBH and WSNFH and were used to calculate the estimated number of each component of the run passing Sherars Falls.

The estimated number of 4,354 RBH origin summer steelhead passing Sherars Falls decreased from the 03-04 run year and was lower than the five year average of 6,105 (Table 32). The estimated number of 4,972 stray hatchery origin summer steelhead was a continued decrease

from the previous nine years (Table 32). The estimated number of 3,161 wild summer steelhead was well below the management goal of 6,575 wild steelhead above Sherars Falls (Table 32).

Summer steelhead spawning ground surveys were conducted on Bakeoven and Buckhollow creeks in March and April of 2005. Flows were unusually low throughout much of the spawning period, therefore, most of the spawning activity was located in the lower reaches of these streams. In Bakeoven Creek, we counted 58 redds which was the lowest count in several years (Table 33). We counted a total of 114 redds in Buckhollow Creek which was also lower than most previous years (Table 34).

Summer steelhead spawning ground counts were not conducted on the Trout Creek system during March, April and May of 2005 due to low flow conditions early that was followed by extremely high flows (Table 35).

Deschutes River 2005-06 Run Year: The 2005-06 summer steelhead run year started at the Pelton Trap on August 2, 2005 but final results will not be available until May 31, 2006 when the run year accounting is complete.

Wild and hatchery origin summer steelhead were trapped and tagged at the Sherars Falls Trap from to facilitate later Peterson mark-recapture population estimates. All captured summer steelhead were biosampled, tagged with a Floy tag and released to the river. The mark-recapture population estimates for the 2005-06 run year will not be available until June 1, 2006 when the run year is complete and all captures of previously tagged fish are made at the Pelton Trap, WSNFH, and other upstream collection sites.

Catch rate, as measured in fish per hour, of wild and hatchery summer steelhead at the Sherars Trap provides an early suggestion of run strength, but does not always correlate well with the final Peterson mark-recapture population estimates for the run year. However, direction of trend between trap catch and population estimate are usually correlated.

Raw catch of wild summer steelhead during the 2005 trapping season was the lowest since 1997 and catch rates remained relatively low (Tables 36 and 37). The low catch and catch rate for hatchery origin summer steelhead followed a similar pattern as the wild steelhead (Tables 38 and 39).

A list of hatchery origin steelhead fin marks observed at the Sherars Falls Trap for the 2005 trapping season shows that stray hatchery origin steelhead, particularly adipose only marked fish, continue to make up a large percentage of all hatchery fish captured there (Table 40). In 2005, based upon fin marks 46% of the hatchery steelhead captured at the trap were out of basin hatchery strays, which was the lowest proportion since 1992 (Table 41).

Statistical harvest census of steelhead anglers was conducted in 2005 at the Heritage Landing (mouth west bank), and Macks Canyon Road site (river mile 0 and 42, respectively) from July 1 to October 31. The traditional statistically expandable collection procedure of stratifying the period into two-week blocks and further stratifying those periods into weekday and weekend

classifications was followed. Sample rate was targeted to not exceed an expansion rate of 3.0 for any stratification.

We estimated a total of 1,967 wild summer steelhead were released and 1,001 hatchery summer steelhead harvested at Heritage Landing (mouth west bank) (Table 42). Expanded effort and catch data suggests lower effort and total catch of both wild and hatchery origin summer steelhead than most years on record.

Angler effort and catch of both wild and hatchery origin summer steelhead at the Macks Canyon Road site was also relatively lower than the past few years. Both effort and catch were generally higher than the past two years. We estimated a total of 478 hatchery steelhead harvested in 2005 and 1,082 wild steelhead released (Table 43).

The expanded catch and effort data are more valuable for comparison purposes when converted to catch rate, in this case, fish per 100 angler hours. Both wild and hatchery origin steelhead were caught at comparable rates at Heritage Landing and Macks Canyon to the past several years with an average of 4.9 wild and 2.4 hatchery steelhead per 100 angler hours, respectively (Table 44).

The reach below Sherars Falls was open for both summer steelhead and fall Chinook during 2005 and the standard statistical harvest sampling of sport anglers and tribal fishers was conducted. Effort and steelhead catch by sport anglers was greater than 2003 and 2004 while angler success was also slightly higher (Table 45).

Tribal hook and line and dip net fishers at Sherars Falls, expended considerably more effort but kept fewer wild and hatchery steelhead than in recent years (Table 46).

Columbia River Anadromous: Anglers fishing for anadromous species in the Columbia River are sampled when they return to the Heritage Landing boat ramp. Angler effort continued to decline, and was the lowest on record but success for both fall Chinook and steelhead was good (Table 47). Angler effort off the mouth of the Deschutes has been declining since 2001.

Hood River 2004-05 Run Year: The Powerdale Trap, was operated throughout the entire report period, and represents total run size to the trap because all fish are sampled. All summer steelhead captured at the Powerdale Trap were scale sampled, examined for marks, measured to the nearest 0.5 cm fork length, and tagged with an individually numbered Floy tag. Following biosampling, fish are released above the dam, recycled to the mouth of the river, or collected for broodstock. All wild fish captured were released above the dam, with the exception of fish that were collected for broodstock. Hood River stock hatchery fish captured were released above dam in a ratio equal to that of wild fish, and hatchery fish in excess of the number allowed over the dam were recycled to the mouth of the Hood River.

Stock discrimination between winter and summer steelhead was made using a combination of phenotypic characteristics such as external coloration, degree of scale tightness and scale

erosion, state of sexual maturity relative to the time of year, external parasite load, and general appearance.

Total run year 2004-05 summer steelhead escapement to Powerdale dam by origin and stock were: 205 wild origin, 987 Hood River stock, 1,698 Skamania stock, and 26 stray hatchery steelhead. Numbers of wild summer steelhead continued to decline substantially from the previous years return (Table 48). Origin and age were determined by scale analysis and fin mark. Final run year data summaries are calculated from scale analysis data for origin and age and may not be comparable to results reported earlier.

Wild summer steelhead adults returning during the 2004-05 run year left the Hood River primarily as freshwater age 2 and 3 smolts and returned principally as 2-salt adults although both 1-salt and 3-salt adults are well represented in returns (Table 49). Subbasin hatchery adults returning during the 2004-05 run year were nearly all from smolts that migrated in the year they were released (freshwater age 1) (Table 49). Relatively high proportions of repeat spawners continued for wild fish.

Scale verified wild summer steelhead were collected for broodstock at the Powerdale Trap during the 2004-05 run year (2005 brood year) and delivered to the Parkdale Fish Facility for holding and spawning. Broodstock was collected throughout the entire temporal distribution of the run, using similar methodology as that has been used in past years. All fish were live spawned and released back to the Hood River following spawning. A total of 30 females and 10 males were collected as broodstock, of which 13 females and 7 males were utilized for spawning, resulting in a collection of 48,214 green eggs (Tables 50 and 51). A total of 34,096 fry were hatched from the egg take at the Oak Springs Fish Hatchery.

WINTER STEELHEAD

Hood River 2004-05 Run Year: The Powerdale Trap, was operated throughout the report period, and represents total escapement to the trap. All winter steelhead handled at the Powerdale Trap, follow the same methodologies described for Hood River summer steelhead.

A total of 333 wild, 452 Hood River stock hatchery origin, and 17 stray origin winter steelhead escaped to the Powerdale Trap for the 2004-05 run year. The 2004-05 run of wild fish continued a recent decline from the previous several years (Table 52). Age analysis suggested that most wild fish were four years of age with two years spent in saltwater, while three and five year old fish were also well represented in the age distribution (Table 53).

Using similar methodologies to those described for summer steelhead broodstock, scale verified wild winter steelhead were collected from the 2004-05 run year (2005 brood year) and delivered to the Parkdale Fish Facility for holding and spawning. A total of 12 females and 13 males were utilized for spawning, which resulted in a collection of 43,910 green eggs (Table 54). A total of 34,875 winter steelhead fry were hatched from the egg take. There were 35 females and 37 males that were originally collected for broodstock (Table 55).

Fifteen Mile Creek: Fifteenmile Creek steelhead spawning surveys were modified from the previous format in 2003. The primary purpose of modification was to improve the accuracy and precision of the surveys, in order to better monitor the actual abundance of spawners throughout the entire subbasin. Additionally, surveys were designed to monitor redd longevity, and gather additional run timing information. Primary changes to the traditional survey methodology included abandoning the index reaches, and adopting a comprehensive survey approach that represented the entire known steelhead spawning distribution of the subbasin. Representative index reaches of the former survey design were maintained at two miles in length in both Fifteenmile and Eightmile Creek, while a one-mile index reach was maintained in Fivemile Creek.

Survey design for 2005 consisted of stratifying the entire known steelhead spawning distribution of each stream in the Fifteenmile subbasin into various reaches. This stratification resulted in identifying 11 reaches in Fifteenmile Creek, 3 in Ramsey Creek, 7 in Eightmile Creek, and 4 in Fivemile Creek. A one-mile reach was selected randomly from within each of the five-mile reaches for survey. Next year, a different one-mile reach will be selected at random (drawn without replacement) for survey. Redds were individually marked with painted rocks, and flagged, so they would not be counted on subsequent surveys. Three independent redd counts were conducted in each random one mile reach which resulted in counting a total of 51 redds (Table 56). Not all of the one-mile random reaches were counted once during each of the count periods in 2005.

RESIDENT FISH

Deschutes River: Expanded effort and harvest of rainbow trout by trout anglers in the Deschutes was collected in conjunction with summer steelhead harvest census at both the Heritage Landing (Table 57) and Macks Canyon Road (Table 58) sites. Combined angler effort (number of anglers) from river mile 0 to 42 was about the same as 2004 with a slightly higher catch rate (Table 59). As noted in past years, the vast majority of trout landed in the Deschutes fisheries sampled by this work continue to be released.

Hood River: Bull trout were captured at the Powerdale Trap during the early 1960's and 1970's (Table 61). Bull trout have been captured each year since 1992 with the current trapping efforts at the Powerdale Fish Trap on Hood River. We captured a total of six bull trout ranging in size from 50 to 61 cm in 2005 (Table 62). Three of the six bull trout captured were recaptures from fish tagged in 2004 at Powerdale. One bull trout captured was reported to have hook scars which appears to be a perennial problem with the bull trout we capture at Powerdale Trap. All captured bull trout were biosampled and released upstream.

Table 1. Mid-Columbia District Anadromous Fish Liberations.

Reporting Period: ANNUAL, 2005

Lake or Stream	Species	Number Released	No/lb	Date Released	Mark / Miscellaneous
Deschutes River	StS	23,181	3.7	4/4/2005	100% ADLM
		27,540	3.6	4/4/2005	100% ADLM
		23,920	3.2	4/4/2005	100% ADLM
		27,380	3.7	4/4/2005	100% ADLM
		27,075	3.9	4/5/2005	100% ADLM
		<u>27,843</u>	3.7	4/5/2005	100% ADLM
	Total StS	156,939			
Deschutes River	ChS	80,467	8.3	4/4/2005	96.6% AD
		78,945	9.6	4/5/2005	96.7% AD
		79,404	8.9	4/11/2005	92.9% AD
		<u>74,112</u>	9.7	4/11/2005	97.7% AD
	Total ChS	312,928			
Hood River	StS	11,092	5.9	3/2/2005	99.1% AD
		11,847	5.9	3/1/2005	99.1% AD
		28,330	5.7	3/2/2005	99.1% AD
		15,341	5.8	3/24/2005	100% ADRM
		16,992	5.2	4/8/2005	100% ADRM
		11,747	4.8	4/26/2005	100% ADRM
		<u>4,911</u>	4.8	5/5/2005	100% ADRM
	Total StS	100,260			

Table continues.

Table 1 (continued). Mid-Columbia District Anadromous Fish Liberations

Lake or Stream	Species	Number Released	No/lb	Date Released	Mark / Miscellaneous
Hood River	ChS	20,060	13.6	3/17/2005	97.1% ADRM
		20,045	13.6	3/27/2005	100% ADRM
		20,130	12.2	4/7/2005	100% ADRM
		18,778	12.2	4/15/2005	100% ADRM
		20,115	12.2	4/15/2005	100% ADRM
		37	13.7	4/22/2005	100% ADLV
		29,650	13.7	4/22/2005	100% ADLV
		65	10.6	5/3/2005	100% ADRM
		<u>91</u>	14.0	5/3/2005	100% ADRM
	Total ChS	128,971			
Hood River	StW	13,000	7.7	3/29/2005	98% ADRV
		13,000	7.7	3/29/2005	98% ADRV
		1,971	8.9	3/29/2005	98% ADRV
		13,000	7.3	3/30/2005	98% ADRV
		10,000	7.6	3/30/2005	100% ADRV
		<u>10,000</u>	7.7	3/31/2005	100% ADRV
	Total StW	60,971			

Table 2. Mid-Columbia District Standing Water Body Fish Liberations.

Reporting Period: ANNUAL, 2005

Lake or Stream	Species	Number Released	Date Released	Mark / Miscellaneous
Baker Pond	RB Legal	989	3/11/2005	
Badger Lake	RB Legal	886	5/27/2005	
		840	6/28/2005	
		750	7/12/2005	
		750	7/26/2005	
		845	8/3/2005	
		682	8/9/2005	
		483	8/24/2005	
	RB Legal Total	5,236		
Bikini Pond	RB Legal	700	5/18/2005	
		102	5/26/2005	
	RB Legal Total	802		
	RB Broodstock	5	5/18/2005	
Clear Lake	RB Legal	3,200	4/26/2005	
		5,900	5/19/2005	
		5,913	5/31/2005	
	RB Legal Total	15,013		
		RB Broodstock	50	4/26/2005
		25	5/19/2005	
		75		
Frog Lake	RB Legal	2,760	5/5/2005	
		2,760	6/1/2005	
	RB Legal Total	5,520		
Horseshoe Lake	RB Legal	1,760	6/27/2005	

Table continues.

Table 2 (continued). Mid-Columbia District Standing Water Body Fish Liberations.

Lake or Stream	Species	Number Released	Date Released	Mark / Miscellaneous
Kingsley Reservoir	RB Legal	4,600	5/3/2005	
		<u>5,500</u>	6/3/2005	
	RB Legal Total	10,100		
Laurance Reservoir	RB Legal	3,500	5/6/2005	
		<u>3,507</u>	6/2/2005	
	RB Legal Total	7,007		AD
Lost Lake	RB Legal	4,900	5/4/2005	
		4,700	6/7/2005	
		<u>4,690</u>	6/28/2005	
	RB Legal Total	14,290		
Olallie Lake	RB Legal	3,100	6/10/2005	
		3,100	6/14/2005	
		3,080	6/29/2005	
		3,080	7/6/2005	
		<u>2,186</u>	8/10/2005	
	RB Legal Total	14,546		
	RB Broodstock	75	6/10/2005	
StS Fingerling	26,898	8/10/2005		
Pine Hollow Reservoir	RB Legal	3,500	3/11/2005	
		3,550	4/5/2005	
		3,500	4/12/2005	
		<u>3,220</u>	5/3/2005	
	RB Legal Total	13,770		
	RB Fingerling	9,046	4/13/2005	
		8,008	4/22/2005	
<u>10,988</u>		7/7/2005		
		28,042		

Table continues.

Table 2 (continued). Mid-Columbia District Standing Water Body Fish Liberations.

Lake or Stream	Species	Number Released	Date Released	Mark / Miscellaneous
	RB Broodstock	50	4/12/2005	
Rock Creek Reservoir	RB Legal	4,170	3/10/2005	
		4,000	4/12/2005	
		3,800	5/2/2005	
		3,680	5/10/2005	
	RB Legal Total	15,650		
	RB Fingerling	6,000	4/22/2005	
		14,000	4/22/2005	
			20,000	
	RB Broodstock	50	4/12/2005	
Smock Prairie Reservoir	RB Legal	790	5/25/2005	
		210	5/25/2005	
	RB Legal Total	1,000		
	RB Broodstock	10	5/25/2005	
Taylor Lake	RB Legal	250	3/1/2005	
		1,666	3/10/2005	
		1,666	4/13/2005	
		1,530	5/10/2005	
		1,722	10/14/2005	
	RB Legal Total	6,834		
	RB Fingerling	25,000	4/13/2005	
Total Rb Legal		111,528		
Total Broodstock		265		
Total Rb Fingerling		73,042		
Total StS Fingerling		26,898		

Lake or Stream	Species	Number Released	No/lb	Date Released	Mark / Miscellaneous
Breitenbush	BT	3000			
Gibson	BT	750			
Horseshoe	BT	1500			
View	BT	1000			
Upper	BT	500			
Timber	BT	1500			
Mangrif	BT	275			
Nup-te-pa	BT	275			
Russ	BT	2000			
Jude	BT	0			
Brook	BT	275			
Lower Twin	BT	750			
Upper Twin	BT	1750			
Catalpa	BT	500			
Little Boulder	BT	500			
Big Boulder	BT	250			
Jean	BT	500			
Warren	BT	500			
Bear	BT	500			
North	BT	500			
Rainey	BT	500			
Black	BT	500			
Scout	BT	500			
Wahtum	BT	2000			
Dublin	BT	500			
	Total	20,825			

Table 3. Pelton Trap adult spring Chinook capture, by month, by run year. Cumulative run year total (shown in parentheses).

Run Year	MONTH						Total
	Apr	May	Jun	Jul	Aug	Sept	
05	0	500	770	184	42	2	1,498
04	0	61	169	90	39	0	359
03	44	2,517	646	180	82	34	3,503
02	0	1,322	2,217	666	166	20	4,391
01	0	1,153	575	375	240	16	2,359
00	0	215	207	58	33	13	526
5-Year Average	9	1054	763	274	112	17	2,228

Cumulative disposition, current run year, adult and jack:

Tribes or food bank = 1,119
 Brood = 572
 River = 29
 DOA = 2

Table 4. Pelton Trap jack spring Chinook capture, by month, by run year.

Run Year	MONTH						Total
	Apr	May	Jun	Jul	Aug	Sept	
05	0	3	97	109	9	0	218
04	0	1	111	112	10	0	234
03	0	1	17	6	1	3	28
02	0	19	214	51	3	0	287
01	0	63	728	513	92	6	1,402
00	0	21	133	37	27	1	219
5-Year Average	0	21	241	144	27	2	434

Cumulative disposition, current run year, adult and jack:

Tribes or food bank = 1,119
 Brood = 572
 River = 29
 DOA = 2

Table 5. Hatchery and wild spring Chinook capture at the Pelton Trap (Round Butte Hatchery) and Warm Springs National Fish Hatchery Trap, by year.

Year	Pelton Trap				Warm Springs National				Total
	Wild a/ Adult Jack		Hatchery b/ Adult Jack		Wild c/ Adult Jack		Hatchery c/ Adult Jack		
1977	17	3	22	5	1,505	101	0	0	1,653
1978	9	1	11	3	2,584	76	0	0	2,684
1979	23	1	22	4	1,322	73	0	0	1,445
1980	12	6	42	42	968	34	0	0	1,104
1981	41	5	334	73	1,525	50	0	85	2,113
1982	23	2	347	91	1,408	46	895	21	2,833
1983	9	0	567	47	1,523	18	355	16	2,535
1984	15	6	257	326	1,192	98	789	203	2,886
1985	70	37	1,318	224	1,099	56	1,090	19	3,913
1986	40	4	1,509	311	1,656	55	161	188	3,924
1987	137	20	1,077	271	1,697	86	512	230	4,030
1988	50	5	1,101	371	1,578	69	483	341	3,998
1989	43	7	1,564	677	1,344	65	2,407	131	6,238
1990	40	5	2,043	168	1,821	46	1,252	59	5,434
1991	30	3	1,553	342	777	40	579	65	3,389
1992	39	3	1,887	137	1,050	15	785	6	3,922
1993	53	0	1,343	55	532	6	307	2	2,298
1994	49	2	542	61	425	10	44	8	1,142
1995	28	1	678	200	162	75	94	146	1,384
1996	45	0	684	35	1,261	26	624	83	2,758
1997	89	1	784	32	861	9	1,072	66	2,914
1998	16	1	290	52	248	23	536	118	1,283
1999	21	0	926	83	366	127	1,881	889	4,293
2000	57	19	469	200	2,623	82	6,567	207	10,195
2001	87	7	2,272	1,395	2,155	97	3,659	807	10,479
2002	50	0	4,300	287	1,440	52	5,020	321	11,470
2003	37	3	3,432	24	1,400	119	5,469	551	11,035
2004	19	0	359	234	2,351	78	3,263	125	6,402
2005	21	2	1,465	215	677	30	1,035	128	3,573

a/ Adult/jack determination by length. Adults are greater than 60 cm fork length.

b/ Adult/jack determination by fin mark and length.

c/ Adult/jack determination by scale analysis/CWT returns

Table 6. Wild spring Chinook redd counts in index areas Warm Springs River basin, by year. Adult and jack numbers determined by length frequency and scale analysis. This age breakdown may be different than the hatchery record of jack and adult numbers based solely on length.

Year	Run to WSNFH		Passed Upstream		Total Redds	Fish/Redd	Adults/Redd
	Adults	Jacks	Adults	Jacks			
1982	1408	46	1587 a/	46	421	3.9	3.8
1983	1523	18	1251	34	433	3.0	2.9
1984	1192	98	1322 a/	164	415	3.6	3.2
1985	1099	56	1264 a/	56	377	3.5	3.4
1986	1656	55	1211	55	417	3.0	2.9
1987	1697	86	1550	86	478	3.4	3.2
1988	1578	69	1259	69	396	3.4	3.2
1989	1344	65	1254	65	407	3.2	3.1
1990	1821	46	1721	46	535	3.3	3.2
1991	777	40	777	40	242	3.4	3.2
1992	1050	15	959	14	161	6.0	6.0
1993	532	6	528	6	142	3.8	3.7
1994	425	10	425	10	157	2.8	2.7
1995	162	75	160	75	62	3.8	2.6
1996	1261	26	1222	23	303	4.1	4.0
1997	861	9	859	9	352	2.5	2.4
1998	248	23	262 b/	29 c/	122 d/	2.4	2.1
1999	366	127	365 e/	126 f/	121	4.1	3.0
2000 g/	2,623	82	2,551	79	658	4.0	3.9
2001	2,155	97	2,154	97	751	3.0	2.9
2002	1,440	52	1,440	52	221	6.8	6.5
2003	1,400	119	1,359	117	262	5.6	5.2
2004	2,351	78	2,320	65	428	5.6	5.4
2005	677	30	704	30	52	14.1	13.5

a/ Includes some hatchery origin spring Chinook passed upstream.

b/ Includes 15 hatchery origin adults

c/ Includes 6 hatchery origin jacks

d/ Includes 2 redds below WSNFH

e/ Includes 26 hatchery origin adults upstream

f/ Includes 6 hatchery origin jacks upstream

g/ Does not include 285 hatchery adults and jacks upstream

Table 7. Expanded statistical sport harvest estimates of spring Chinook (April 16 – June 15) at Sherars Falls, Deschutes River, by year. Data does not include released fish. In years where zeroes appear no sport fishery was allowed.

Year	Anglers/Fishers	Hours	Wild		Hatchery		Fish Per Hour
			Adult	Jack	Adult	Jack	
1980	2,481	13,845	298	39	8	52	0.03
1981	0	0	0	0	0	0	
1982	4,093	20,894	445	57	429	106	0.05
1983	3,148	16,487	303	52	242	51	0.04
1984	0	0	0	0	0	0	
1985	4,193	22,321	652	53	720	208	0.07
1986	1,184	7,705	113	9	111	73	0.04
1987	3,790	22,916	466	35	549	210	0.05
1988	4,087	19,603	566	63	975	336	0.10
1989	3,768	16,456	497	22	1,283	313	0.13
1990	6,046	30,861	725	50	1,169	113	0.07
1991	5,926	26,453	441	44	1,206	387	0.08
1992	5,458	24,429	548	16	1,472	80	0.09
1993	5,206	22,378	222	29	565	55	0.04
1994	0	0	0	0	0	0	
1995	0	0	0	0	0	0	
1996	2,495	14,128	2	0	304	39	0.02
1997	0	0	0	0	0	0	
1998	0	0	0	0	0	0	
1999	0	0	0	0	0	0	
2000	6160	36,558	8	6	2,454	348	0.08
2001	4998	24,493	0	5	1,550	941	0.10
2002	6254	20,590	3	0	2,101	207	0.11
2003	3,912	20,857	0	0	1,339	72	0.07
2004	4,540	19,021	0	0	1,005	197	0.06
2005	1,589	7,879	0	0	417	0	0.05

Table 8. Expanded statistical Tribal harvest estimates of spring Chinook (April 16 – June 15) at Sherars Falls, Deschutes River, by year. The estimates include dip net, hook and line, and snagging (1987 snagging only). Does not include released fish. In years where zeroes appear no Tribal fishery was allowed.

Year	Anglers/Fishers	Hours	Wild		Hatchery		Fish Per Hour
			Adult	Jack	Adult	Jack	
1980	393	958	113	0	0	0	0.12
1981	0	0	0	0	0	0	
1982	332	744	197	4	126	12	0.46
1983	585	1,599	188	2	106	19	0.20
1984	0	0	0	0	0	0	
1985	320	1,862	126	5	125	29	0.15
1986	145	1,327	22	0	27	8	0.04
1987	441	2,524	397	11	321	52	0.31
1988	402	2,549	228	13	280	65	0.23
1989	309	1,579	240	25	457	32	0.48
1990	497	2,407	291	6	406	19	0.30
1991	399	2,092	99	12	216	69	0.19
1992	393	2,321	140	2	374	6	0.22
1993	211	1,023	122	4	191	4	0.31
1994	0	0	0	0	0	0	
1995	95	442	3	1	35	0	0.09
1996	296	1,431	57	0	130	6	0.13
1997	0	0	0	0	0	0	
1998	203	1,067	45	0	53	0	0.09
1999	30	252	0	0	8	11	0.08
2000	463	2,428	299	27	491	72	0.37
2001	323	1,498	169	1	352	31	0.37
2002	254	1,228	179	5	703	12	0.73
2003	342	1,707	7	0	316	4	0.19
2004	389	1,573	202	8	156	10	0.24
2005	400	1,830	133	0	504	73	0.39

Table 9. Powerdale Dam adult fish trap unmarked and marked spring Chinook catch. Data may not coincide with final scale verified data summary. Cumulative counts (shown in parentheses). Mini-jacks not included in totals.

Run Year	Month								Run Total
	March	April	May	June	July	August	Sept	Oct	
2005	0	11	580	167	29	6	3	0	796
2004	0	5	124	221	54	27	7	0	438
2003	0	1	279	117	17	3	5	0	422
2002	0	0	348	657	111	22	5	0	1143
2001	0	24	681	270	83	36	18	0	1112
2000	0	1	76	91	8	13	11	0	200
1999	0	0	20	46	23	18	14	0	121
1998	0	0	14	39	17	4	24	3	101
1997	0	0	49	227	59	31	0	0	366
1996	0	0	9	70	20	18	2	0	119
1995	0	0	8	50	24	4	6	0	92
1994	0	6	206	37	39	7	15	0	310
1993	0	1	240	153	87	22	7	0	510
1992	0	12	244	157	27	7	5	1	453

Table 10. Bi-weekly counts of upstream migrant spring Chinook (adults and jacks, excluding minijacks) salmon at Powerdale Dam, by run year.

Origin, Run Year	April		May		June		July		August		September		October		Total
	01-15	16-30	01-15	16-31	01-15	16-30	01-15	16-31	01-15	16-31	01-15	16-30	01-15	16-31	
Natural,															
1992	0	0	1	8	5	11	4	4	0	0	0	1	0	0	34
1993	0	0	1	4	3	9	6	8	2	6	2	0	0	0	41
1994	0	0	1	5	0	1	3	8	1	2	0	12	0	0	33
1995	0	0	0	2	4	2	4	4	0	0	1	1	0	0	18
1996	0	0	1	7	50	4	9	3	8	6	1	0	0	0	89
1997	0	0	1	8	29	14	5	12	10	1	0	0	1	0	81
1998	0	0	3	7	18	9	7	7	4	2	6	16	3	0	82
1999	0	0	0	0	1	4	4	1	1	1	4	7	0	0	23
2000	0	0	3	10	6	13	9	2	0	12	5	4	0	0	64
2001	0	0	1	13	6	1	2	5	2	3	5	3	0	0	41
2002	0	0	0	5	6	13	9	14	12	6	5	0	0	0	70
2003	0	1	9	15	17	9	17	15	2	0	2	1	0	0	88
2004	0	3	10	14	9	23	6	16	13	5	6	27	4	0	136
2005	0	1	23	34	12	17	12	1	1	2	2	0	1	0	111
Subbasin Hatchery,															
1992	0	9	77	145	75	63	15	4	4	1	2	2	1	0	398
1993	0	1	25	206	89	51	51	17	5	9	5	0	0	0	459
1994	0	6	34	166	28	7	4	17	1	0	1	1	0	0	265
1995	0	0		6	28	10	9	1	0	1	1	0	0	0	54
1996	0	0	0	0	10	4	1	0	0	0	0	0	0	0	15
1997	0	0	1	33	107	65	34	6	15	8	0	0	0	0	269
1998	0	0	1	1	10	1	2	0	0	0	0	0	0	0	15
1999	0	0	0	20	30	11	8	6	4	6	2	0	0	0	87
2000	0	1	6	58	58	19	4	0	0	2	0	0	0	0	148
2001	0	23	76	595	193	70	67	6	7	10	3	0	0	0	1,050
2002	0	0	50	276	417	210	63	14	5	1	3	0	0	0	1,039
2003	0	0	92	145	58	12	11	1	1	2	1	1	0	0	324
2004	0	4	36	48	89	56	6	7	1	10	3	0	0	0	260
2005	0	9	241	257	79	46	9	2	2	1	2	0	0	0	648

Table continues

Table 11. Spring Chinook salmon escapements to the Powerdale Dam trap by origin, run year, and age category. Fish of unknown origin were allocated to origin categories based on scale analysis and the ratio of fish of known origin. Total escapement shown excludes minijacks (age 2.2).

Origin, Stock, Run Year	Total Escapement	Freshwater.Total Age									
		1.2	1.3	1.4	1.5	2.2	2.3	2.4	2.5	2.6	3.5
Natural, Hood River, a/											
1992	35	0	1	22	1	0	0	8	3	0	0
1993	42	0	1	15	10	1	0	8	8	0	0
1994	34	1	2	14	5	0	0	5	6	1	0
1995	20	0	4	1	4	0	0	2	9	0	0
1996	97	1	4	7	0	0	0	83	1	0	1
1997	73	0	0	6	1	13	1	24	41	0	0
1998	81	0	11	14	1	5	1	16	37	1	0
1999	24	0	2	5	3	1	3	9	2	0	0
2000	66	0	6	3	0	3	0	54	3	0	0
2001	45	1	6	3	0	1	2	21	12	0	0
2002	63	1	1	8	3	0	1	41	18	0	0
2003	97	0	2	4	0	2	11	31	49	0	0
2004	151	0	1	36	6	7	13	74	11	3	0
2005	110	1	4	4	0	0	6	53	47	2	0
Subbasin hatchery, Carson											
1992	417	--	--	--	--	0	3	396	18	0	--
1993	461	--	--	--	--	--	15	213	233	0	--
1994	261	--	--	--	--	--	--	244	17	0	--
1995	36	--	--	--	--	--	--	--	35	1	--
Deschutes, d/											
1993	0	--	--	--	--	4	--	--	--	0	--
1994	5	--	--	--	--	b/	5	--	--	0	--
1995	31	--	--	--	--	4	b/	27	--	0	--
1996	17	--	--	--	--	0	15	b/	2	0	--
1997	281	--	--	--	--	11	1	280	--	0	--
1998	17	--	--	--	--	14	1	12	3	0	--
1999	93	--	--	--	--	182	5	88	0	0	--
2000	148	--	--	--	--	916	128	18	2	0	--
2001	1,056	--	--	--	--	32	496	560	0	0	--
2002	1,054	--	--	--	--	2	24	1,009	19	0	--
2003	346	--	--	--	--	14	15	197	133	1	--
2004	502	--	--	--	--	168	182	138	14	0	--
2005	587	--	--	--	--	71	76	578	8	1	--

Table continues

Table 11 (cont.). Spring Chinook salmon escapements to the Powerdale Dam trap by origin, run year, and age category, Fish of unknown origin were allocated to origin categories based on scale analysis and the ratio of fish of known origin. Total escapement shown excludes minijacks (age 2.2).

Origin Stock, Run Year	Total Escapement	Freshwater.Total Age										
		1.2	1.3	1.4	1.5	2.2	2.3	2.4	2.5	2.6	3.5	
Stray hatchery, Unknown,												
1992	1	-	-	1	0	0	0	0	-	-	-	-
1993	2	-	-	2	0	0	0	-	-	-	-	-
1994	0	-	-	0	0	10	0	-	-	-	-	-
1995	5	-	-	0	0	0	3	1	1	-	-	-
1996	16	-	-	2	1	0	0	13	0	-	-	-
1997	6	-	-	0	0	0	1	0	6	-	-	-
1998	3	-	1	0	0	0	1	1	0	-	-	-
1999	1	-	-	0	0	6	0	0	1	-	-	-
2000	3	-	-	0	0	4	1	2	-	-	-	-
2001	30	-	-	0	0	52	5	21	4	-	-	-
2002	23	-	-	0	0	10	2	6	5	-	-	-
2003	30	-	-	0	0	0	5	21	4	-	-	-
2004	28	-	1	0	0	17	5	5	0	0	-	-
2005	17	-	0	0	0	4	3	14	3	0	-	-

a/ Developed from Deschutes and Carson stock hatchery production releases.

b/ Hatchery returns in this age category would be progeny of 1992 brood. No hatchery fish were released into the Hood River subbasin from this brood.

c/ Data analysis incomplete.

d/ Hood River returns were used, at least in part, as broodstock some years.

Table 12. Estimated harvest of natural and Hood River hatchery origin (as determined by CWT analysis) adult and jack spring Chinook from April 1 to September 15, in the Hood River sport fishery, by year. Estimates from Hood River Production Project statistical harvest sample. Does not include released fish. In years where no spring Chinook fishery occurred zeroes are in place for anglers and angler hours.

Year	Hours/Fish	Naturally Produced		Hatchery Origin	
		Adult	Jack	Adults	Jacks
1996	554	45	7	5	7
1997	176	40	0	25	3
1998	503	8		3	8
1999	0	0	0	0	0
2000	430	8	0	0	20
2001	198	0	4	23	31
2002	48	0	0	279	10
2003	0	0	0	0	0
2004	0	0	0	0	0
2005	115	0	0	46	8

Table 13. Pelton Trap adult wild fall Chinook capture, by month, by run year.

Run Year	Month								Run Total
	June	July	August	September	October	November	December	January	
2005	0	6	3	1	47	133	55	13	258
2004	0	2	2	3	71	118	22	2	220
2003	0	14	7	2	40	45	46	16	170
2002	1	21	2	18	60	88	39	2	231
2001	--	12	7	8	31	69	22	0	149
2000	--	1	3	2	30	33	11	0	80
1999	--	1	2	4	25	30	18	0	80
5-Year Average	--	10	4	7	37	53	27	4	142

Table 14. Pelton Trap wild jack fall Chinook capture, by month, by run year. Cumulative run year total (shown in parentheses).

Run Year	Month								Run Total
	June	July	August	September	October	November	December	January	
2005	0	0	0	0	38	141	9	0	188
2004	0	0	0	1	26	54	10	1	92
2003	0	0	0	0	6	23	36	1	66
2002	1	21	2	18	60	88	39	2	231
2001	--	0	0	6	37	139	36	0	218
2000	--	0	0	1	45	102	11	0	159
1999	--	2	0	1	17	47	24	0	91
5-Year Average	--	5	0	5	33	80	29	1	153

Table 15. Deschutes River expanded sport harvest data on wild fall Chinook at Sherars Falls (June 16– October 31) by year. Does not include released fish or hatchery fish. In years where zeroes appear no sport fishery was allowed.

Year	Anglers/		Adult	Jack	Adult Per Hour
	Fishers	Hours			
1980	4,120	21,171	277	908	0.01
1981	4,869	22,837	355	684	0.02
1982	5,247	26,061	474	930	0.02
1983	3,906	19,411	264	290	0.01
1984	3,522	17,503	172	581	0.01
1985	4,423	20,262	145	638	0.01
1986	4,447	20,240	215	1,077	0.01
1987	4,607	20,528	408	186	0.02
1988	3,726	19,514	407	183	0.02
1989	4,152	17,737	292	82	0.02
1990	3,130	11,837	152	89	0.01
1991	890	3,833	66	41	0.02
1992	0	0	0	0	0.00
1993	0	0	0	0	0.00
1994	0	0	0	0	0.00
1995	0	0	0	0	0.00
1996	0	0	0	0	0.00
1997	0	0	0	0	0.00
1998	2,110	11,738	139	49	0.01
1999	1,592	11,139	127	56	0.01
2000	2,956	14,153	118	96	0.01
2001	0	0	0	0	0.00
2002	5,079	15,640	283	74	0.02
2003	2,439	10,943	175	57	0.02
2004	2,759	12,287	219	3	0.02
2005	2,010	8,638	285	117	0.03

Table 16. Deschutes River expanded Tribal harvest data on wild fall Chinook at Sherars Falls (June 16– October 31) by year. Does not include released fish, hatchery fish, snagged fish by tribal fishers, or tribal fishers leaving before sampling begins (0700 hours). Data is Tribal dip net and hook and line fishery combined.

Year	Anglers/ Fishers	Hours	Adult	Jack	Adult ChF Per Hour
1981	605	5025	1,389	364	0.28
1982	516	4628	1,425	364	0.31
1983	953	5131	1,160	369	0.23
1984	714	6277	786	417	0.13
1985	710	6126	656	789	0.11
1986	523	5848	923	344	0.16
1987	724	4736	1,622	56	0.34
1988	744	5978	1,824	60	0.31
1989	973	6347	1,385	61	0.22
1990	548	3929	744	29	0.19
1991	174	931	88	7	0.09
1992	36	332	37	4	0.11
1993	64	246	11	0	0.04
1994	81	401	70	4	0.17
1995	114	425	33	16	0.08
1996	80	355	78	6	0.22
1997	238	1001	202	8	0.20
1998	303	1142	332	27	0.29
1999	275	1451	236	20	0.16
2000	303	1225	272	10	0.22
2001	261	1106	334	26	0.30
2002	345	1984	692	1	0.35
2003	411	1809	762	15	0.42
2004	478	1918	771	49	0.40
2005	271	1201	542	2	0.45

Table 17. Number of wild fall Chinook adults (> 54 cm) captured at the Sherars Falls Trap, by two week period, by year.

Year	June	July		August		September		October		Total
	16-30	1-15	16-31	1-15	16-31	1-15	16-30	1-15	16-31	
1977	14	27	115	177	60	48	304	73	38	856
1978	17	17	69	87	94	137	314	271	35	1,041
1979	7	19	25	42	14	66	291	97	24	589
1980	10	10	11	13	20	81	89	157	29	420
1981	1	12	17	28	48	152	122	118	28	526
1982	-	3	10	11	69	57	64	49	20	283
1983	-	-	-	5	24	41	39	96	23	228
1984	-	-	1	3	14	4	9	7	2	40
1985	-	-	10	13	23	23	20	28	0	117
1986	-	-	20	30	24	26	32	51	15	198
1987	-	-	-	21	38	70	68	90	15	302
1988	0	16	13	16	20	57	140	57	9	328
1989	9	14	9	10	15	17	30	64	37	205
1990	8	6	10	7	7	15	20	15	32	120
1991	3	6	5	8	11	20	16	8	7	84
1992	8	2	5	4	11	15	61	32	22	160
1993	1	8	8	5	7	8	18	56	12	123
1994	-	0	0	7	2	6	27	20	22	82
1995	1	2	7	5	9	22	55	60	40	201
1996	-	-	14	15	22	75	50	196	16	388
1997	-	-	15	12	27	71	125	51	16	317
1998	0	12	5	10	32	79	88	69	12	307
1999	-	-	-	4	14	14	107	61	36	236
2000	0	4	2	9	25	30	128	81	25	304
2001	3	10	7	26	30	106	128	143	55	508
2002	2	12	16	9	29	37	169	144	48	459
2003	4	8	4	11	19	75	227	196	103	647
2004	1	8	11	4	11	38	172	226	93	564
2005	-	1	5	4	9	30	129	168	269	615

Table 18. Catch rate (fish/hour) of wild fall Chinook adults (>54 cm) at the Sherars Falls trap, by period, by year.

Year	June	July		August		September		October		Average
	16-30	1-15	16-31	1-15	16-31	1-15	16-30	1-15	16-31	
1977	0.57	0.38	1.76	2.19	1.27	1.19	4.15	4.20	1.78	1.94
1978	0.30	0.34	0.82	0.69	0.66	0.75	2.65	2.49	0.58	1.28
1979	0.10	0.19	0.25	0.41	0.24	0.91	2.97	1.09	0.29	0.76
1980	0.12	0.16	0.10	0.15	0.27	0.96	0.87	1.74	0.36	0.54
1981	0.02	0.14	0.20	0.39	0.52	1.65	1.99	1.18	0.44	0.76
1982	-	0.09	0.24	0.21	0.81	0.78	0.93	0.59	0.30	0.56
1983	-	-	-	0.11	0.28	0.59	0.56	1.49	0.43	0.59
1984	-	-	0.10	0.04	0.20	0.08	0.19	0.16	0.04	0.12
1985	-	-	0.16	0.15	0.28	0.28	0.31	0.36	0.00	0.25
1986	-	-	0.18	0.37	0.28	0.26	0.42	0.52	0.15	0.31
1987	-	-	-	0.38	0.56	0.97	0.89	1.38	0.33	0.79
1988	0.00	0.22	0.17	0.19	0.24	0.82	1.41	1.15	0.16	0.52
1989	0.12	0.22	0.11	0.15	0.17	0.20	0.36	0.93	0.42	0.29
1990	0.10	0.08	0.11	0.10	0.10	0.21	0.22	0.18	0.34	0.16
1991	0.05	0.08	0.06	0.12	0.15	0.27	0.17	0.10	0.08	0.12
1992	0.11	0.03	0.06	0.05	0.15	0.20	0.71	0.30	0.28	0.23
1993	0.01	0.11	0.11	0.07	0.07	0.11	0.21	0.84	0.20	0.18
1994	-	0.00	0.00	0.09	0.03	0.03	0.34	0.26	0.26	0.15
1995	0.02	0.05	0.08	0.06	0.10	0.31	0.60	0.81	0.51	0.30
1996	-	-	0.16	0.20	0.29	0.84	0.87	2.20	0.23	0.72
1997	-	-	0.17	0.18	0.38	0.85	1.53	0.70	0.26	0.60
1998	0.00	0.18	0.08	0.16	0.43	1.07	0.78	0.72	0.17	0.50
1999	-	-	-	0.09	0.17	0.17	0.91	1.01	0.36	0.49
2000	0.00	0.10	0.03	0.11	0.29	0.46	1.77	1.17	0.31	0.53
2001	0.12	0.13	0.11	0.37	0.36	1.47	1.66	2.18	0.87	0.85
2002	0.28	0.23	0.26	0.09	0.38	0.52	1.81	1.96	0.67	0.77
2003	0.07	0.19	0.06	0.14	0.34	0.85	2.79	2.83	1.14	1.03
2004	0.02	0.12	0.14	0.04	0.06	0.50	1.40	2.71	1.17	0.68
2005	-	0.01	0.05	0.04	0.08	0.29	1.42	2.03	2.51	0.80

Table 19. Number of wild fall Chinook jacks (< 54 cm) captured at the Sherars Falls Trap, by two-week period, by year.

Year	June		July		August		September		October		Total
	16-30	1-15	16-31	1-15	16-31	1-15	16-30	1-15	16-31		
1977	1	4	9	22	19	48	150	17	11	281	
1978	1	0	3	9	12	18	101	135	16	295	
1979	1	1	14	28	8	67	277	122	5	523	
1980	0	1	10	9	17	60	110	173	9	389	
1981	1	4	11	14	32	116	171	79	19	477	
1982	-	0	0	1	19	22	31	28	9	110	
1983	-	-	-	0	5	5	14	30	4	58	
1984	-	-	0	0	2	5	1	4	2	14	
1985	-	-	1	4	7	15	14	45	1	87	
1986	-	-	6	5	5	16	13	20	3	68	
1987	-	-	-	15	19	47	37	36	3	157	
1988	0	2	3	6	22	49	92	42	6	222	
1989	1	1	8	4	12	5	16	38	35	120	
1990	0	1	1	7	2	12	14	15	19	71	
1991	0	2	0	3	12	27	38	26	16	124	
1992	2	0	3	1	2	5	18	30	20	81	
1993	0	0	0	0	1	8	15	11	3	38	
1994	-	0	0	4	3	17	16	18	12	70	
1995	0	1	1	3	5	15	37	48	39	149	
1996	-	-	1	2	2	5	9	23	0	42	
1997	-	-	0	0	1	4	12	4	2	23	
1998	0	0	0	2	1	13	42	18	4	80	
1999	-	-	-	1	8	6	25	29	22	91	
2000	0	0	0	5	7	15	59	40	8	134	
2001	0	3	0	8	19	29	76	70	33	238	
2002	0	0	1	2	1	6	35	27	12	84	
2003	0	0	0	3	1	12	35	62	66	177	
2004	1	0	3	1	2	5	31	46	9	98	
2005	-	-	-	-	3	14	34	45	56	152	

Table 20. Catch rate (fish/hour) of wild fall Chinook jacks (< 54 cm) at the Sherars Falls Trap, by two-week period, by year.

Year	June		July		August		September		October		Average
	16-30	1-15	16-31	1-15	16-31	1-15	16-30	1-15	16-31		
1977	0.04	0.06	0.14	0.27	0.40	1.19	2.05	0.98	0.52	0.64	
1978	0.02	0.04	0.04	0.07	0.08	0.17	1.25	1.24	0.15	0.36	
1979	0.01	0.01	0.14	0.27	0.14	0.93	2.83	1.37	0.06	0.68	
1980	0.00	0.02	0.09	0.11	0.23	0.71	1.08	1.92	0.11	0.50	
1981	0.02	0.05	0.13	0.20	0.34	1.26	2.79	0.76	0.30	0.64	
1982	-	0.00	0.00	0.02	0.22	0.30	0.45	0.34	0.14	0.22	
1983	-	-	-	0.00	0.06	0.07	0.20	0.47	0.07	0.15	
1984	-	-	0.00	0.00	0.03	0.09	0.02	0.09	0.04	0.04	
1985	-	-	0.02	0.07	0.08	0.19	0.22	0.58	0.05	0.18	
1986	-	-	0.06	0.06	0.06	0.16	0.17	0.20	0.03	0.11	
1987	-	-	-	0.27	0.28	0.65	0.48	0.55	0.07	0.41	
1988	0.00	0.03	0.04	0.07	0.26	0.71	0.93	0.85	0.11	0.35	
1989	0.01	0.02	0.10	0.06	0.13	0.06	0.19	0.55	0.40	0.17	
1990	0.00	0.01	0.01	0.10	0.03	0.17	0.15	0.18	0.20	0.10	
1991	0.00	0.01	0.00	0.04	0.16	0.37	0.41	0.31	0.19	0.18	
1992	0.03	0.00	0.04	0.01	0.03	0.07	0.21	0.28	0.26	0.12	
1993	0.00	0.00	0.00	0.00	0.01	0.11	0.17	0.17	0.05	0.06	
1994	-	0.00	0.00	0.05	0.04	0.28	0.20	0.23	0.16	0.13	
1995	0.00	0.02	0.01	0.04	0.06	0.21	0.41	0.65	0.50	0.22	
1996	-	-	0.01	0.03	0.03	0.06	0.16	0.26	0.00	0.08	
1997	-	-	0.00	0.00	0.01	0.05	0.16	0.06	0.03	0.04	
1998	0.00	0.00	0.00	0.03	0.01	0.18	0.37	0.19	0.06	0.13	
1999	-	-	-	0.02	0.10	0.07	0.21	0.48	0.22	0.19	
2000	0.00	0.00	0.00	0.06	0.08	0.23	0.81	0.58	0.10	0.23	
2001	0.00	0.04	0.00	0.12	0.23	0.40	0.99	1.07	0.52	0.40	
2002	0.00	0.00	0.02	0.02	0.01	0.10	0.41	0.37	0.21	0.14	
2003	0.00	0.00	0.00	0.04	0.02	0.14	0.39	0.90	0.73	0.28	
2004	0.02	0.00	0.04	0.01	0.02	0.07	0.25	0.55	0.11	0.12	
2005	-	-	-	-	0.03	0.13	0.37	0.54	0.52	0.32	

Table 21. Estimated escapement of adult (≥ 54 cm) and jack (< 54 cm) fall Chinook salmon in the Deschutes River above Sherars Falls, by year.

Year	Age	Population estimate (95% C.I.)		Tagged	Examined For Tags	Recaptured
1977	Adults	3,927	(3,277-4,705)	811	560	115
	Jacks	1,482	(890-2,626)	272	75	13
1978	Adults	3,564	(3,177-4,706)	992	760	211
	Jacks	2,323	(1,462-3,871)	320	122	16
1979	Adults	2,308	(1,919-2,774)	567	454	111
	Jacks	3,042	(2,062-4,680)	489	148	23
1980	Adults	2,009	(1,640-2,461)	427	431	91
	Jacks	1,505	(1,003-2,366)	398	82	21
1981	Adults	2,495	(2,104-2,959)	542	601	130
	Jacks	2,922	(1,812-4,973)	440	105	15
1982	Adults	3,820	(2,940-4,957)	286	731	54
	Jacks	2,625	(1,071-6,563)	99	104	3
1983	Adults	3,152	(2,265-4,522)	228	467	33
	Jacks	738	(301-1,844)	58	49	3
1984	Adults	1,582	(785-3,460)	48	225	6
	Jacks	966	a/	14	43	0
1985	Adults	1,576	(1,060-2,449)	113	317	23
	Jacks	3,208	a/	82	120	2
1986	Adults	3,137	(2,231-4,563)	197	506	31
	Jacks	4,846	a/	66	178	2
1987	Adults	3,201	(2,406-4,357)	302	485	45
	Jacks	1,184	(634-3,133)	158	66	8
1988	Adults	2,477	(1,735-3,487)	324	220	28
	Jacks	1,305	b/	218	12	2
1989 c/	Adults	1,252	(911-1,782)	204	225	36
	Jacks	375	(244-570)	120	61	19
1990 c/	Adults	1,101	(674-1,771)	117	139	14
	Jacks	360	(199-670)	71	39	7
1991 c/	Adults	983	(542-1,718)	83	116	9
	Jacks	486	(277-1,082)	114	37	8
1992 c/	Adults	670	(441-1,010)	159	87	20
	Jacks	599	(265-1,180)	80	36	4

Table continues

Table 21 (cont). Estimated escapement of adult (≥ 54 cm) and jack (< 54 cm) fall Chinook salmon in the Deschutes River above Sherars Falls, by year.

Year	Age	Population estimate (95% C.I.)		Tagged	Examined For Tags	Recaptured
1993 c/	Adults	1,035	(600-1,742)	122	100	11
	Jacks d/	--		38	5	0
1994 c/	Adults	410	(261-637)	82	88	17
	Jacks	1,073	(515-1,913)	69	137	8
1995 c/	Adults	1,072	(574-1,914)	200	47	8
	Jacks	1,006	(409-2,012)	148	26	3
1996 c/	Adults	2,328	(1,466-3,651)	387	101	16
	Jacks	453	(164-889)	39	33	2
1997 c/	Adults	3,764	(2,338-5,975)	316	189	15
	Jacks	183	(66-362)	24	21	2
1998 c/	Adults	4,094	(2,972-4,659)	303	201	14
	Jacks	2,608	(1,884-4,025)	79	162	4
1999 c/	Adults	1,888	(1,265-2,798)	230	187	22
	Jacks	1,185	(576-1,761)	91	102	7
2000 c/	Adults	1,875	(1,473-2,385)	300	404	64
	Jacks	3,954	(1,961-7,420)	134	204	6
2001 c/	Adults	4,278	(3,391-5,377)	467	648	70
	Jacks	4,043	(2,791-5,828)	382	284	26
2002 c/	Adults	3,940	(3,160-4,908)	459	667	77
	Jacks	1,169	(647-2,135)	84	109	7
2003	Adults	3,884	(3,300-4,569)	647	862	143
	Jacks	1,007	(650-1,547)	173	109	18
2004	Adults	2,991	(2,449-3,651)	555	510	94
	Jacks	999	(591-1,664)	111	115	12
2005	Adults	4,278	(3,517-5,201)	668	632	98
	Jacks	1,463	(963-2,205)	196	155	20

a/ Estimated by relationship between number of carcasses examined for tags and escapement, 1977-83. Insufficient number recaptured to use Petersen estimate.

b/ Estimated by relationship between Pelton trap count, July-December, and escapement of jack fall Chinook salmon above Sherars Falls, 1977-86. Insufficient number of recaptures to use Petersen estimate. 95% CI not possible.

c/ Calculated using combined Pelton Trap and carcass recovery examined for tags and recaptured.

d/ No jack estimate possible due to insufficient recaptures of tagged fish

Table 22. Deschutes River helicopter fall Chinook redd counts by year.

Year	Remarks	Miles Surveyed	Redds	Redds / Mile
				Year Average
1974	A	25.5	716	28.1
1975	B	25.5	926	36.3
1976	A	25.5	1,139	44.7
1978	B	25.5	366	14.4
1979	C	25.5	650	25.5
1980	C	25.5	787	30.9
1981	C	25.5	538	21.1
1982				
1983	A	25.5	229	9.0
1984				
1985	A	25.5	285	11.2
1986	B	25.5	229	9.0
1987				
1988	A	25.5	236	9.3
1989	D	100.0	682	
1989	A	25.5	324	12.7
1990	C	100.0	204	
1990	D	25.5	101	4.0
1991	A	100.0	194	
1991	A	25.5	98	3.8
1992	A	100.0	431	
1992	A	25.5	242	9.5
1993	A	100.0	732	
1993	A	25.5	332	13.0
1994	A	100.0	785	
1994	A	25.5	302	11.8
1995	A	100.0	453	
1995	A	25.5	179	7.0
1996	B	100.0	399	
1996	B	25.5	190	7.5

(Table continues)

Table 22 (cont.). Deschutes River helicopter fall Chinook redd counts by year.

Year	Remarks	Miles Surveyed	Redds	Redds / Mile
				Year Average
1997	A	100.0	1,725	
1997	A	25.5	728	28.6
1998	B	100.0	443	
1998	B	25.5	212	8.3
1999	A	100.0	318	
1999	A	25.5	126	4.9
2000	A	100.0	499	
2000	A	25.5	274	10.8
2001	A	100.0	1,194	
2001	A	25.5	697	27.3
2002	A	100.0	1,418	
2002	A	25.5	798	31.3
2003	B	100.0	1,047	
2003	B	25.5	451	17.7
2004	C	100	1,672	
2005	E	100	738	

A = October – November counts combined,

B = October counts only,

C = November counts only,

D = Total count – November only

E = November-December counts

Table 23. The number of fall Chinook redds counted above Sherars Falls, below Sherars Falls, and total in the Deschutes River, by year.

	Redds			Ratio
	Above Sherars	Below Sherars	Total	Below/Above
1990	101	103	204	1.02:1
1991	54	140	194	2.59:1
1992	104	327	431	3.14:1
1993	92	640	732	6.96:1
1994	59	726	785	12.31:1
1995	64	389	453	6.08:1
1996	106	293	399	2.76:1
1997	314	1411	1725	4.49:1
1998	166	277	443	1.67:1
1999	92	216	318	2.35:1
2000	235	264	499	1.12:1
2001	457	737	1194	1.61:1
2002	456	962	1418	2.11:1
2003	323	724	1047	2.24:1
2004	421	1251	1672	2.97:1
2005	233	505	738	2.17:1

Table 24. Run size of adult fall Chinook salmon in the Deschutes River, by year.

Year	Harvest	Escapement	Run
1977	1,861	5,631	7,492
1978	1,971	4,154	6,125
1979	1,592	3,291	4,883
1980	1,951	2,542	4,493
1981	1,837	3,183	5,020
1982	2,016	4,890	6,906
1983	1,496	3,669	5,165
1984	970	2,025	2,995
1985	807	2,645	3,452
1986	1,153	3,801	4,954
1987	2,057	4,097	6,154
1988	2,391	3,520	5,911
1989	1,730	4,770	6,500
1990	970	2,224	3,194
1991	154	3,532	3,686
1992	37	3,776	3,813
1993	11	8,239	8,250
1994	69	5,455	5,524
1995	36	7,588	7,624
1996	78	8,763	8,841
1997	133	20,678	20,811
1998	507	10,925	11,432
1999	373	6,527	6,900
2000	407	3,981	4,388
2001	334	11,177	11,511
2002	992	12,252	13,244
2003	1,078	12,590	13,668
2004	1,224	11,879	13,102
2005	835	13,550	14,385

Table 25. Run size of jack fall Chinook salmon in the Deschutes River, by year.

Year	Harvest	Escapement	Run
1977	1,672	2,125	3,797
1978	1,597	2,708	4,305
1979	2,000	4,338	6,338
1980	1,507	1,904	3,411
1981	1,294	3,728	5,022
1982	1,506	3,360	4,866
1983	678	859	1,537
1984	987	1,237	2,224
1985	1,454	5,384	6,838
1986	1,428	5,872	7,300
1987	242	1,515	1,757
1988	245	1,859	2,104
1989	150	1,486	1,636
1990	140	727	867
1991	59	1,746	1,805
1992	4	2,483	2,486
1993	0	NO ESTIMATE	
1994	8	14,276	14,284
1995	19	7,121	7,138
1996	6	1,705	1,711
1997	7	1,005	1,012
1998	78	6,960	7,038
1999	76	4,097	4,173
2000	127	8,395	8,522
2001	27	10,563	10,590
2002	72	3,635	3,707
2003	78	3,264	3,342
2004	153	3,968	4,121
2005	135	4,634	4,769

Table 26. Bimonthly counts of upstream migrant jack and adult fall Chinook salmon captured at the Powerdale Dam trap, by origin and run year.

Origin, Run Year	July		August		September		October		November		December		Total
	01-15	16-31	01-15	16-31	01-15	16-30	01-15	16-31	01-15	16-30	01-15	16-31	
Natural,													
1992	0	0	4	1	2	7	1	1	0	0	0	0	16
1993	0	0	3	1	2	0	0	0	0	0	0	0	6
1994	0	6	2	0	0	13	3	1	0	0	0	0	25
1995	0	4	0	1	3	0	0	1	0	0	0	0	8
1996	1	1	0	7	3	0	0	1	0	0	0	0	13
1997	0	4	7	2	9	2	0	0	0	0	0	0	24
1998	0	0	9	3	9	9	4	0	0	0	0	0	34
1999	0	0	3	4	3	1	3	1	1	0	0	0	16
2000	2	2	2	2	13	10	1	0	0	0	0	0	32
2001	2	3	3	5	3	3	9	1	0	0	0	0	29
2002	0	0	1	1	9	14	6	1	1	0	0	0	33
2003	0	1	5	9	6	16	14	19	0	0	0	0	70
2004	0	2	1	1	4	6	7	10	0	0	0	0	31
2005	0	0	1	1	2	2	1	0	0	0	0	0	7
Stray Hatchery,													
1992	0	0	0	0	2	1	2	1	0	0	0	0	6
1993	0	0	0	0	2	1	1	0	0	0	0	0	4
1994	0	0	0	0	0	6	1	0	0	0	0	0	7
1995	0	0	0	0	2	2	0	0	0	0	0	0	4
1996	0	0	0	0	1	0	1	0	0	0	0	0	2
1997	0	0	0	0	2	0	0	0	0	0	0	0	2
1998	0	0	0	0	1	1	2	0	0	0	0	0	4
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	2	0	0	0	0	0	0	2
2001	1	2	2	0	1	0	2	1	1	0	0	0	10
2002	0	0	2	0	1	0	1	0	0	0	0	0	4
2003	0	0	0	3	0	0	1	2	0	0	0	0	6
2004	0	0	0	0	0	1	1	1	0	0	0	0	3
2005	0	0	1	3	1	5	3	23	1	0	0	0	39

Table 26 (cont.). Bimonthly counts of upstream migrant jack and adult fall Chinook salmon captured at the Powerdale Dam trap, by origin and run year.

Origin, Run Year	July		August		September		October		November		December		Total
	01-15	16-31	01-15	16-31	01-15	16-30	01-15	16-31	01-15	16-30	01-15	16-31	
Unknown,													
1992	--	--	--	--	--	--	--	--	--	--	--	--	0
1993	--	--	--	--	--	--	--	--	--	--	--	--	0
1994	0	0	0	0	0	3	2	1	1	0	0	0	7
1995	--	--	--	--	--	--	--	--	--	--	--	--	0
1996	0	0	0	0	1	0	0	0	0	0	0	0	1
1997	0	0	1	2	2		1	0	0	0	0	0	4
1998	0	0	0	0	0	2	0	0	0	0	0	0	2
1999	0	0	0	1	0	0	1	0	1	0	0	0	3
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	1	0	0	0	0	0	0	1
2003	0	0	0	1	0	3	0	1	0	0	0	0	5
2004	0	0	0	0	0	1	0	0	0	0	0	0	1
2005	0	0	0	0	0	0	1	2	0	0	0	0	3

Table 27. Jack and adult fall Chinook escapements to the Powerdale Dam trap by origin, run year, and age category, by year. Fish of unknown origin were allocated to origin categories based on scale analysis and the ratio of fish of known origin.

Origin, Stock, Run Year	Total Escapement	Freshwater.Total Age							
		1.2	1.3	1.4	1.5	1.6	2.3	2.4	2.5
Natural,									
1992	16	2	2	10	1	1	0	0	0
1993	6	0	1	3	2	0	0	0	0
1994	32	2	4	19	2	0	1	2	2
1995	8	1	0	1	1	0	1	2	2
1996	14	0	1	10	0	0	1	2	0
1997	28	0	7	9	0	0	2	7	3
1998	36	4	11	4	10	0	0	4	3
1999	19	1	5	4	1	0	0	6	2
2000	32	1	10	12	5	0	1	3	0
2001	29	1	11	14	0	0	0	3	0
2002	34	4	12	17	0	0	0	1	0
2003	75	4	11	40	11	0	0	7	2
2004	32	1	8	11	7	0	0	5	0
2005	8	1	1	4	0	0	0	0	2
Stray Hatchery,									
1992	6	1	3	2	0	--	0	0	
1993	4	0	1	2	1	--	0	0	0
1994	7	0	0	5	0	--	0	2	0
1995	4	0	0	1	0	--	0	3	0
1996	2	0	0	0	0	--	1	1	0
1997	2	0	0	1	0	--	0	1	0
1998	4	0	1	1	1	--	0	1	0
1999	0	0	0	0	0	--	0	0	0
2000	2	0	1	1	0	--	0	0	0
2001	10	0	3	1	0	--	0	6	0
2002	4	1	0	1	0	--	0	1	1
2003	6	0	0	2	0	--	0	2	1
2004	3	1	0	0	0	--	0	1	1
2005	42	1	11	21	6	1	0	0	2

Table 28. Bi-monthly counts of upstream migrant coho salmon at Powerdale Dam, by run year.

Origin, Run Year	August		September		October		November		December		Total
	01-15	16-31	01-15	16-30	01-15	16-31	01-15	16-30	01-15	16-31	
Unmarked,											
1992	0	0	1	11	5	4	1	0	0	0	22
1993	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	1	0	0	0	0	0	1
1995	0	0	3	1	4	3	0	0	0	0	11
1996	0	0	0	1	4	1	0	0	0	0	6
1997	0	0	0	3	2	1	0	0	0	0	6
1998	0	0	0	1	3	0	0	1	0	0	5
1999	0	0	0	1	4	1	3	0	1	0	10
2000	0	0	2	1	0	4	1	0	0	0	9
2001	0	0	0	3	5	5	7	0	0	0	20
2002	0	0	1	3	3	2	2	4	2	10	27
2003	0	0	0	13	10	12	2	1	3	0	41
2004	0	0	6	39	32	32	9	5	3	0	126
2005	0	0	2	0	11	11	3	0	0	0	27
Marked Stray Hatchery,											
1992	0	1	6	37	12	12	11	0	0	0	79
1993	0	0	0	3	10	10	0	3	2	0	28
1994	0	0	3	15	11	23	0	0	0	0	52
1995	0	1	0	12	15	11	0	0	0	0	39
1996	0	0	0	3	12	5	0	0	0	0	20
1997	0	0	0	1	2	3	0	0	0	0	6
1998	0	0	0	10	10	9	8	7	0	0	44
1999	0	0	0	7	6	3	0	0	3	0	19
2000	0	0	5	14	4	8	2	0	0	0	33
2001	0	0	2	18	208	475	173	101	0	0	977
2002	0	0	0	3	7	16	22	18	0	0	66
2003	0	0	4	24	36	74	2	10	3	0	153
2004	0	1	9	31	68	225	105	22	5	0	466
2005	0	0	6	19	91	99	41	7	0	0	263

Table 28 (cont.). Bi-monthly counts of upstream migrant coho salmon at Powerdale Dam, by run year.

Origin, Run Year	August		September		October		November		December		Total
	01-15	16-31	01-15	16-30	01-15	16-31	01-15	16-30	01-15	16-31	
Unknown,											
1992	0	0	0	1	0	1	0	0	0	0	2
1993	0	1	1	1	0	0	0	0	1	0	5
1994	0	0	1	0	0	2	0	0	0	0	3
1995	0	0	0	0	1	0	0	0	0	0	1
1996	0	0	0	0	1	0	0	0	0	0	1
1997	0	0	1	0	0	0	0	0	0	0	1
1998	0	0	0	0	1	2	3	4	0	0	10
1999	0	0	0	0	1	0	0	1	0	0	2
2000	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	1	7	6	6	3	0	0	23
2002	0	0	0	0	1	1	1	1	0	0	4
2003	0	0	1	7	3	2	0	0	0	0	13
2004	0	0	0	2	5	12	7	1	0	0	27
2005	0	0	0	1	15	8	4	2	0	0	30

^a Trap was inoperable from 27 October, 1994 through 7 November, 1994 because of flood damage.

^b Trap was inoperable from 11-13 November, 1995 and 20-24 November, 1995 because of flood damage and from 28 November, 1995 through 27 February, 1996 for modifications to the adult fish ladder.

Table 29. Coho salmon escapements to the Powerdale Dam trap by origin, run year, and age category. Fish of unknown origin were allocated to origin categories based on scale analysis and the ratio of fish of known origin.

Origin, Run year	Total Escapement	Freshwater.Total Age				
		1.2	1.3	2.2	2.3	2.4
Unmarked,						
1992	23	--	--	0	23	0
1993	0	--	--	0	0	0
1994	1	--	--	0	1	0
1995	11	--	--	0	10	1
1996	6	--	--	0	6	0
1997	6	--	--	0	6	0
1998	12	--	--	0	12	0
1999	11	--	--	0	11	0
2000	9	--	--	1	8	0
2001	24	--	--	4	20	0
2002	30	--	--	3	27	0
2003	43	--	--	12	31	0
2004	133	--	--	5	128	0
2005	30	--	--	6	24	0
Stray Hatchery,						
1992	80	0	0	13	67	--
1993	33	0	0	0	33	--
1994	55	0	0	3	52	--
1995	40	0	0	4	36	--
1996	10	0	0	1	20	--
1997	7	0	0	0	7	--
1998	47	0	0	1	46	--
1999	20	0	0	1	19	--
2000	33	1	8	13	20	--
2001	996	0	0	7	989	--
2002	67	0	1	8	58	--
2003	164	1	0	22	141	--
2004	486	0	0	18	468	--
2005	290	0	0	17	273	--

Table 30. Pelton trap summer steelhead capture, by month, by run year.

Run Year	Month												Total Run
	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	
04 - 05	0	3	5	103	670	257	565	565	410	502	45	0	3,125
03 - 04	0	0	0	3	530	397	1054	685	704	225	57	1	3,656
02 - 03	0	2	1	41	822	983	1423	1181	1270	486	106	7	6,322
01 - 02	0	1	2	135	1975	2084	1444	1475	848	481	435	8	8,888
00 - 01	0	1	1	58	479	395	247	529	436	499	136	29	2,810
99 - 00	0	0	0	66	337	371	533	245	225	95	19	10	1,901
5-Year Average	0	1	1	61	829	846	940	823	697	357	151	11	4,715

Cumulative disposition for captured steelhead for the current year. Includes recaptures:

Given Away = 1,759
 Broodstock = 501
 Released into river = 79
 Dead or killed = 786

Table 31. Number and percent of wild, stray, and Round Butte Hatchery origin summer steelhead returning to the Pelton Trap, by run year. Includes 3-salts from Round Butte Hatchery.

Run Year	Wild Origin		Stray Hatchery		Round Butte Hatchery	
	Number	%	Number	%	Number	%
81-82	245	11.3	156	7.4	1,760	81.3
82-83	344	16.7	167	8.8	1,547	74.6
83-84	814	17.3	1,452	33.0	2,439	49.7
84-85	603	12.9	795	17.0	3,278	71.1
85-86	686	14.4	943	19.7	3,153	65.9
86-87	467	10.7	1,538	33.4	2,640	57.6
87-88	160	6.6	796	32.1	1,484	61.3
88-89	123	7.4	300	17.7	1,247	74.9
89-90	136	9.1	524	35.2	829	55.7
90-91	82	7.4	428	35.8	606	56.8
91-92	101	4.4	849	36.7	1,365	58.9
92-93	59	3.6	427	26.0	1,157	70.4
93-94	65	12.0	288	53.0	190	35.0
94-95	27	2.0	642	53.0	753	45.0
95-96	32	1.6	976	48.6	1,000	49.8
96-97	126	2.2	2,001	34.9	3,605	62.9
97-98	194	3.8	2,459	48.3	2,440	47.9
98-99	155	6.0	1,284	49.9	1,135	44.1
99-00	83	4.4	768	40.4	1,050	55.2
00-01	114	4.1	1,103	39.2	1,593	56.7
01-02	282	3.2	3,674	41.3	4,942	55.5
02-03	207	3.3	1,787	28.5	4,284	68.2
03-04	104	2.8	967	26.3	2,605	70.9
04-05	79	2.5	903	28.9	2,143	68.9

Table 32. Population estimates of summer steelhead escapement over Sherars Falls, Deschutes River by run year.

Run Year	Wild	Hatchery Component		
		Total Hatchery	Round Butte	Strays
82-83	6,567	4,773	3,524	--
83-84	8,228	15,443	7,250	7,684
84-85	7,721	11,770	7,563	3,824
85-86	9,624	12,106	7,382	5,056
86-87	6,207	18,358	9,064	9,803
87-88	5,367	17,623	9,209	8,367
88-89	3,546	6,336	3,849	2,909
89-90	4,278	6,504	2,758	3,659
90-91	3,653	4,876	1,990	2,852
91-92	4,862	11,859	3,778	8,409
92-93	904	6,088	2,539	4,261
93-94	1,487	5,476	1,159	4,293
94-95	482	6,126	1,781	4,391
95-96	1,662	12,828	2,708	11,855
96-97	3,458	28,416	5,932	23,618
97-98	1,820	22,511	5,042	17,703
98-99	3,800	15,120	3,527	11,110
99-00	4,790	15,219	2,628	13,785
00-01	8,985	19,310	4,380	15,072
01-02	8,749	31,784	9,373	25,263
02-03	9,363	23,004	8,880	15,203
03-04	5,524	11,511	5,265	6,542
04-05	3,161	9,356	4,354	4,972

Table 33. Summer steelhead redd counts, Bakeoven Creek, by section, by year.

Date	Section	Redds
03/14/90	Cottonwood/Sugarloaf	2
	Sugarloaf/Powerline	1
	Powerline/mouth	<u>21</u>
	Total	24
03/08/91	Sugarloaf/Powerline	0
	Powerline/Mouth	<u>8</u>
	Total	8
03/24/92	Powerline/Mouth	<u>9</u>
	Total	9
04/08/93	Sugarloaf/Powerline	2
	Powerline/Mouth	<u>19</u>
	Total	21
04/08/94	Powerline/Mouth a/	<u>13</u>
	Total	13
03/03/95	Sugarloaf/Powerline	7
	Powerline/Mouth	<u>13</u>
	Total	20
03-29-96	Sugarloaf/Powerline	14
	Powerline/Mouth	<u>21</u>
	Total	35
04-02-97	Sugarloaf/Powerline	18
	Powerline/Mouth	<u>39</u>
	Total	57
03-30-98	Sugarloaf/Powerline	11
	Powerline/Mouth	<u>57</u>
	Total	68

Table continues

Table 33. (cont.). Summer steelhead redd counts, Bakeoven Creek, by section, by year.

Date	Section	Redds
03/19/99	Sugarloaf/Powerline	33
	Powerline/Mouth	<u>56</u>
	Total	89
03/21/00	Sugarloaf/Powerline	22
	Powerline/Mouth	<u>61</u>
	Total	83
03/22/01	Sugarloaf/Powerline	154
	Powerline/Mouth	<u>326</u>
	Total	480
03/20/02	Sugarloaf/Powerline	23
	Powerline/Mouth	<u>191</u>
	Total	214
03/20/03	Sugarloaf/Powerline	18
	Powerline/Mouth	<u>99</u>
	Total	117
04/01/04	Sugarloaf/Powerline	29
	Powerline/Mouth	<u>58</u>
	Total	87
04/11/05	Sugarloaf/Powerline	9
	Powerline/Mouth	<u>49</u>
	Total	58

Table 34. Summer steelhead redd counts, Buckhollow Creek, by section, by year.

Date	Section	Redds
03/16/90	Macken/Bronx	0
	Bronx/Mays	5
	Mays/Powerline*	7
	Powerline/Mouth	73
	Total	85
03/15/91	Powerline/Mouth*	72
03/24/92	Powerline/Mouth * **	34
04/07/93	Bronx/Mays	3
	Mays/Powerline*	5
	Powerline/Mouth**	40
	Total	48
03/30/94	Mays/Powerline*	1
	Powerline/Mouth	7
	Total	8
03/29/95	Bronx/Mays	0
	Mays/Powerline	5
	Powerline/Mouth	64
	Total	69
04/05/96	Spears/Bronx	5
	Bronx/Mays	3
	Mays/Powerline	9
	Powerline/Mouth	48
	Total	65
04/04/97	Hauser/Bronx*	4
	Bronx/Mays	7
	Mays/Powerline	63
	Powerline/Mouth	62
	Total	136

Table continues

Table 34 (cont.). Summer steelhead redd counts, Buckhollow Creek, by section, by year.

Date	Section	Redds
03/26/98	Hauser/Bronx*	0
	Bronx/Mays	10
	Mays/Powerline	36
	Powerline/Mouth	133
	Total	179
03/26/99	Hauser/Bronx*	2
	Bronx/Finnegan	1
	Finnegan/Mays	5
	Mays/Powerline	37
	Powerline/Mouth	107
Total	152	
03/27/00	Hauser/Bronx*	5
	Bronx/Finnegan	2
	Finnegan/Mays	5
	Mays/Powerline	64
03/21/00	Powerline/Mouth	34
	Total	110
03-26-01	Hauser/Bronx	
	Bronx/Finnegan	1
	Finnegan/Mays	39
	Mays/Powerline	164
	Powerline/Mouth	241
04-12-01	Total	445
03-25-02	Hauser/Bronx	
	Bronx/Finnegan	3
	Finnegan/Mays	1
	Mays/Powerline	78
	Powerline/Webb fence	139
04-05-02	Webb fence/mouth	
	Total	221

Table 34 (cont.). Summer steelhead redd counts, Buckhollow Creek, by section, by year.

Date	Section	Redds
	Hauser/Bronx	
03-24-03	Bronx/Finnegan	5
03-24-03	Finnegan/Mays	22
03-24-03	Mays/Powerline	63
04-04-03	Powerline/Webb fence	89
04-04-03	Webb fence/mouth	43
	Total	222
	Hauser/Bronx	
03-30-04	Bronx/Finnegan	11
03-30-04	Finnegan/Mays	15
03-30-04	Mays/Powerline	44
03-30-04	Powerline/Webb fence	69
03-30-04	Webb fence/mouth	75
	Total	211
	Hauser/Bronx	Not surveyed
04-04-05	Bronx/Finnegan	0
04-04-05	Finnegan/Mays	6
04-04-05	Mays/Powerline	26
04-04-05	Powerline/Webb fence	40
04-04-05	Webb fence/mouth	42
	Total	114

Table 35. Summer steelhead redd surveys in the Trout Creek drainage, by year. Data should not be compared before and after 1993 due to differences in methodology and location.

Year	Miles Surveyed	Live Fish	Redds	Fish/Mile	Redds/Mile
1988	9.4	17	23	1.8	2.5
1989	10.5	24	23	2.8	2.2
1990	14.4	22	42	1.5	2.9
1991	16.9	3	16	0.2	1.1
1992	16.4	6	6	0.4	0.4
1993	28.2	4	15	0.1	0.5
1994	16.25	0	0	0.0	0.0
1995	18.25	0	8	0.0	0.4
1996	21.75	4	5	0.2	0.2
1997	23.6	21	50	0.9	2.1
1998	28	13	44	0.5	1.6
1999	28.65	12	59	0.4	2.1
2000 a/	54.1	39	461	0.7	8.5
2001	36.6	56	595	1.5	16.3
2002	65.2	95	866	1.5	13.3
2003	65.4	48	789	0.7	12.1
2004	64.1	11	277	0.2	4.3
2005	No Surveys Due To High Water				

a/ Starting in 2000, redd counts were conducted generally later in the season and timed to capture peak count. Succeeding years utilized the same methodology.

Table 36. Number of wild summer steelhead captured at the Sherars Falls Trap, by two-week period, by year.

Year	June		July		August		September		October		Total
	16-30	1-15	16-31	1-15	16-31	1-15	16-30	1-15	16-31		
1977	4	30	125	158	29	66	163	63	35	673	
1978	12	23	83	59	32	37	81	74	36	437	
1979	14	16	26	25	23	44	134	67	37	386	
1980	0	4	41	17	20	88	124	135	32	461	
1981	0	8	43	42	54	155	171	159	54	686	
1982	1	2	8	13	26	31	84	45	42	362	
1983	-	-	-	6	33	97	84	161	36	417	
1984	-	-	1	19	24	47	76	29	12	238	
1985	-	-	10	11	27	66	104	138	8	364	
1986	-	-	16	17	9	64	108	167	31	412	
1987	-	-	-	25	27	51	83	137	49	372	
1988	1	5	7	11	21	31	188	83	27	374	
1989	0	3	11	7	11	24	103	139	157	455	
1990	1	1	13	12	6	38	58	65	100	294	
1991	2	0	13	13	21	53	109	36	46	293	
1992	3	2	9	1	20	27	67	38	29	196	
1993	1	1	3	4	6	26	65	60	24	190	
1994	-	0	3	7	3	6	12	7	17	55	
1995	0	0	6	5	12	18	31	73	39	184	
1996	-	-	5	6	12	54	70	145	7	299	
1997	-	-	9	2	7	37	78	22	11	166	
1998	0	1	5	1	10	75	209	81	9	391	
1999	-	-	-	5	41	73	307	161	108	695	
2000	1	5	16	23	39	73	396	326	52	931	
2001	1	9	13	33	29	131	346	228	167	957	
2002	0	10	19	19	28	54	313	274	150	867	
2003	1	2	7	11	11	65	151	151	165	590	
2004	0	1	5	7	1	146	81	38	293	572	
2005	1	3	6	10	18	43	114	115	62	372	

Table 37. Catch rate (fish/hour) of wild summer steelhead at the Sherars Falls Trap, by two week period, by year.

Year	June		July		August		September		October		Average
	16-30	1-15	16-31	1-15	16-31	1-15	16-30	1-15	16-31		
1977	0.16	0.44	1.90	1.89	0.57	1.60	2.05	3.56	1.85	1.56	
1978	0.21	0.26	1.00	0.47	0.22	0.36	0.99	0.68	0.58	0.55	
1979	0.21	0.15	0.26	0.24	0.39	0.29	1.36	0.75	0.44	0.49	
1980	-	0.06	0.39	0.20	0.26	1.00	1.20	1.14	0.45	0.62	
1981	-	0.10	0.51	0.56	0.58	1.68	2.69	1.60	0.85	1.07	
1982	0.03	0.06	0.19	0.24	0.31	0.42	1.22	0.54	0.64	0.41	
1983	-	-	-	0.13	0.38	1.39	1.21	2.51	0.67	1.05	
1984	-	-	0.10	0.26	0.35	0.88	1.64	0.67	0.23	0.59	
1985	-	-	0.16	0.13	0.32	0.81	1.64	1.77	0.38	0.74	
1986	-	-	0.14	0.21	0.11	0.68	1.43	1.67	0.34	0.65	
1987	-	-	-	0.45	0.40	0.71	1.08	2.11	1.08	0.97	
1988	0.02	0.07	0.09	0.13	0.25	0.45	1.90	1.68	0.49	0.62	
1989	0.00	0.05	0.14	0.10	0.12	0.28	1.23	2.01	1.78	0.65	
1990	0.01	0.01	0.14	0.16	0.09	0.53	0.64	0.80	1.07	0.40	
1991	0.03	0.00	0.06	0.19	0.28	0.73	1.17	0.44	0.55	0.43	
1992	0.04	0.03	0.11	0.01	0.28	0.36	0.78	0.36	0.37	0.28	
1993	0.01	0.01	0.04	0.05	0.06	0.34	0.76	0.90	0.40	0.28	
1994	-	0.00	0.04	0.09	0.04	0.10	0.15	0.09	0.22	0.10	
1995	0.00	0.00	0.06	0.06	0.14	0.25	0.34	0.98	0.50	0.27	
1996	-	-	0.06	0.08	0.16	0.61	1.21	1.63	0.10	0.55	
1997	-	-	0.10	0.03	0.10	0.44	0.95	0.30	0.18	0.32	
1998	0.00	0.02	0.08	0.02	0.13	1.02	1.84	0.85	0.13	0.64	
1999	-	-	-	0.12	0.50	0.87	2.63	2.66	1.08	1.43	
2000	0.10	0.13	0.23	0.29	0.46	1.12	5.46	4.70	0.65	1.63	
2001	0.04	0.12	0.20	0.48	0.35	1.81	4.49	3.48	2.63	1.61	
2002	0.00	0.19	0.31	0.19	0.36	0.94	3.35	3.72	2.09	1.46	
2003	0.02	0.05	0.11	0.14	0.19	0.73	1.85	2.18	1.82	0.94	
2004	0.00	0.02	0.06	0.07	0.01	0.18	1.19	0.97	0.48	0.33	
2005	0.01	0.02	0.06	0.11	0.16	0.41	1.25	1.39	0.57	0.44	

Table 38. Number of hatchery summer steelhead captured at the Sherars Falls Trap, by period, by year.

Year	June		July		August		September		October		Total
	16-30	1-15	16-31	1-15	16-31	1-15	16-30	1-15	16-31		
1977	3	11	66	146	38	137	245	67	31	744	
1978	11	19	97	101	69	102	190	140	43	772	
1979	1	22	98	87	63	211	430	195	44	1,142	
1980	3	12	80	60	45	273	313	257	59	1,102	
1981	7	19	35	43	75	232	210	139	27	778	
1982	2	3	8	8	52	56	103	60	28	320	
1983	-	-	-	11	84	253	270	268	48	934	
1984	-	-	1	44	59	131	76	24	14	422	
1985	-	-	10	18	73	174	237	223	32	767	
1986	-	-	42	57	49	314	430	450	82	1,424	
1987	-	-	-	35	26	133	285	248	58	785	
1988	6	12	19	18	37	138	527	154	79	992	
1989	2	3	14	5	22	137	379	414	311	1,287	
1990	0	14	21	19	15	99	191	204	238	801	
1991	1	4	20	34	50	151	592	251	175	1,278	
1992	6	12	32	31	55	161	398	316	109	1,120	
1993	0	9	4	16	18	103	393	313	135	991	
1994	-	0	6	4	10	44	115	119	100	398	
1995	2	1	8	13	45	134	576	697	290	1,766	
1996	-	-	14	16	45	379	669	1136	52	2,311	
1997	-	-	13	10	43	359	606	140	47	1,218	
1998	-	1	5	12	21	237	997	331	41	1,645	
1999	-	-	-	6	72	206	1041	426	188	1,939	
2000	0	0	13	20	50	221	859	400	72	1,635	
2001	2	14	18	61	76	642	1828	883	380	3,904	
2002	0	16	20	50	92	344	1609	851	354	3,336	
2003	1	8	20	33	35	354	646	389	269	1,755	
2004	3	3	7	11	24	59	500	231	78	916	
2005	-	2	14	24	59	226	590	406	241	1,562	

Table 39. Catch rate (fish/hour) of hatchery summer steelhead at the Sherars Falls Trap, by two-week period, by year.

Year	June		July		August		September		October		Average
	16-30	1-15	16-31	1-15	16-31	1-15	16-30	1-15	16-31		
1977	0.12	0.14	1.55	1.77	0.79	3.27	3.27	3.16	1.64	1.75	
1978	0.19	0.38	1.15	0.79	0.49	0.99	2.33	1.31	0.72	0.93	
1979	0.01	0.23	0.88	0.85	1.24	2.89	4.40	2.19	0.56	1.47	
1980	0.04	0.21	0.84	0.70	0.61	3.25	3.07	2.59	0.82	1.35	
1981	0.17	0.22	0.42	0.56	0.81	2.48	3.05	1.14	0.42	1.03	
1982	0.05	0.09	0.19	0.14	0.46	0.75	0.93	0.73	0.43	0.42	
1983	-	-	-	0.24	0.98	3.61	3.90	4.17	0.89	2.30	
1984	-	-	0.10	0.60	0.85	2.46	1.64	0.56	0.27	0.93	
1985	-	-	0.16	0.21	0.88	2.15	3.73	2.86	1.52	1.64	
1986	-	-	0.36	0.69	0.57	3.34	5.70	4.56	0.90	2.30	
1987	-	-	-	0.63	0.38	1.84	3.71	3.82	1.27	1.94	
1988	0.14	0.17	0.25	0.22	0.44	1.99	5.32	3.11	1.44	1.45	
1989	0.03	0.05	0.19	0.07	0.25	1.62	4.52	6.00	3.52	1.84	
1990	0.00	0.08	0.23	0.26	0.21	1.38	2.11	2.51	2.55	1.09	
1991	0.02	0.05	0.25	0.51	0.66	2.07	6.37	3.04	2.11	1.86	
1992	0.08	0.16	0.40	0.42	0.77	2.14	5.54	2.98	1.41	1.59	
1993	0.00	0.12	0.05	0.22	0.18	1.36	4.56	4.71	2.22	1.45	
1994	-	0.00	0.08	0.05	0.14	0.71	1.44	1.54	1.31	0.74	
1995	0.03	0.02	0.09	0.17	0.52	1.87	6.31	9.38	3.69	2.62	
1996	-	-	0.16	0.22	0.60	4.23	11.57	12.78	0.75	4.26	
1997	-	-	0.15	0.15	0.61	4.28	7.41	1.91	0.76	2.32	
1998	-	0.02	0.08	0.20	0.28	3.22	8.78	3.48	0.58	2.69	
1999	-	-	-	0.14	0.87	2.47	6.24	7.03	1.87	3.99	
2000	0.00	0.00	0.18	0.25	0.59	3.38	11.85	5.76	0.91	2.86	
2001	0.08	0.19	0.28	0.88	0.91	8.89	23.71	13.48	5.98	6.55	
2002	0.00	0.30	0.33	0.49	1.19	6.00	17.23	11.56	4.92	5.32	
2003	0.02	0.19	0.31	0.42	0.62	4.00	7.93	5.62	2.97	2.80	
2004	0.05	0.04	0.10	0.12	0.22	0.78	4.08	2.77	0.98	1.02	
2005	-	0.03	0.15	0.27	0.53	2.16	6.49	4.91	2.25	2.10	

Table 40. Number and percent of total for hatchery origin summer steelhead captured at the Sherars Falls trap, 2005 trap year.

Mark	Mark Code	Hatchery of Origin	Number Captured	Percent of Total
ADRV	035		5	<1
ADLM	038		428	29
ADRM	039		357	24
Sub-total			790	
AD	003	Stray hatchery	475	33
ADLV	034	Stray hatchery	62	4
ADLP	036	Stray hatchery	20	1
ADLVRV	345	Stray hatchery	20	1
	367	Stray hatchery	3	<1
	349	Stray hatchery	1	<1
ADRP	037	Stray hatchery	10	<1
	389	Stray hatchery	2	<1
ADLVRVRPLP	34567	Stray hatchery	1	<1
DD	022	Stray hatchery	76	5
Sub-total			670	
Grand Total			1,460	

Table 41. Number and percent of Round Butte Hatchery origin and stray hatchery origin summer steelhead as determined by fin mark captured at the Sherars Falls trap, by year.

Trap Year	Round Butte Hatchery		Stray Hatchery Origin	
	Number	% Total Catch	Number	% Total Catch
1988	665	67.2	324	32.8
1989	521	40.5	776	59.5
1990	352	44.0	448	56.0
1991	417	32.6	861	67.4
1992	506	45.2	614	54.8
1993	196	19.8	795	80.2
1994	118	29.7	280	70.3
1995	458	25.9	1,308	74.1
1996	649	28.1	1,662	71.9
1997	280	23.0	936	77.0
1998	423	25.8	1,220	74.3
1999	465	24.0	1,474	76.0
2000	483	29.6	1,147	70.4
2001	1,262	32.3	2,642 a/	67.7
2002	1,354	40.6	1,982 a/	59.4
2003	812	46.6	940 a/	53.4
2004	440	44.8	543	55.2
2005	790	54.1	670	45.9

a/ Includes deformed dorsal, adipose present hatchery origin steelhead

Table 42. Deschutes River expanded hatchery summer steelhead harvest and wild summer steelhead release data from the mouth, west bank, July 1 – October 31, by year. Does not include voluntarily released hatchery fish.

Year	Anglers	Hours	Bank		Boat		Total	
			Wild	Hatchery	Wild	Hatchery	Wild	Hatchery
1977	10,571	54,724	933	225	1,643	478	2,576	703
1978				Season Closed				
1979				No Sample				
1980	6,984	42,819	1,322	435	1,946	600	3,268	1,035
1981	7,435	56,537	704	215	3,300	686	4,004	901
1982	6,937	47,622	691	142	2,751	629	3,442	771
1983	8,752	60,353	932	308	4,716	1,315	5,648	1,623
1984a/				No Sample				
1985a/				No Sample				
1986a/				No Sample				
1987	11,856	87,799	922	314	7,416	1,536	8,338	1,850
1988a/				No Sample				
1989	10,407	73,841	407	305	3,600	1,833	4,007	2,138
1990	6,568	44,300	205	200	1,185	939	1,386	1,139
1991	8,855	61,362	667	465	3,121	1,568	3,788	2,033
1992	6,837	44,265	153	281	1,352	1,097	1,505	1,378
1993	6,604	45,505	264	243	1,520	1,044	1,788	1,287
1994	5,980	36,488	103	209	758	1,166	861	1,375
1995	6,447	40,080	180	381	1,126	1,639	1,306	2,020
1996	6,813	46,080	208	558	1,785	3,099	1,993	3,657
1997	7,491	51,283	289	399	1,926	1,980	2,215	2,379
1998	4,877	27,909	77	115	867	470	944	585
1999	6,905	44,262	373	232	2,360	1,359	2,733	1,591
2000	7,318	53,208	259	186	3,157	1,485	3,146	1,671
2001	8,097	62,240	484	361	4,213	2,532	4,697	2,893
2002	7,926	56,327	340	310	3,219	2,546	3,559	2,856
2003	4,561	38,301	158	121	1,799	833	1,957	954
2004	5,198	41,164	203	226	2,205	1,067	2,408	1,293
2005	4,265	34,061	118	96	1,849	905	1,967	1,001

c/ No sample.

Table 43. Deschutes River expanded hatchery summer steelhead harvest and wild summer steelhead release data from Macks Canyon Road July 1 to October 31, by year. Does not include voluntarily released hatchery fish. Sport Harvest for wild summer steelhead closed in 1978.

Year	Anglers	Hours	Bank		Boat		Total	
			Wild	Hatchery	Wild	Hatchery	Wild	Hatchery
1977	7,774	41,110	853	379	524	205	1,377	584
1978	3,976	24,277	296	301	71	71	367	404
1979	4,755	26,596	877	545	467	292	1,344	837
1980	5,130	36,714	778	462	826	331	1,604	793
1981	5,876	40,405	1,567	395	1,114	207	2,681	602
1982	5,042	37,367	665	236	1,184	332	1,849	568
1983	5,405	36,170	788	383	1,504	466	2,292	849
1984				No Sample				
1985				No Sample				
1986				No Sample				
1987	7,508	50,419	1,210	266	1,697	352	2,898	618
1988								
1989	4,893	34,705	530	228	489	127	1,019	355
1990	3,073	22,679	261	113	317	103	578	216
1991				No Sample				
1992	3,058	21,914	157	134	347	116	504	250
1993	2,722	22,083	186	112	168	78	354	190
1994	2,326	16,984	138	121	193	149	331	270
1995	2,877	19,965	268	212	319	397	587	609
1996	3,806	28,333	230	690	451	773	681	1,463
1997	4,856	35,326	316	376	493	408	809	784
1998	2,444	15,549	206	137	314	57	520	194
1999	5,242	35,995	649	310	527	190	1,176	500
2000	5,315	39,239	541	229	828	229	1,369	458
2001	7,912	30,795	1,034	638	794	332	1,828	970
2002	7,794	30,755	699	377	1088	521	1,787	898
2003	5,637	22,458	460	147	852	151	1,312	298
2004	3,695	21,189	394	185	195	165	589	350
2005	3,820	26,691	356	199	726	279	1,082	478

Table 44. Number of wild and hatchery summer steelhead captured per 100 angler hours, by year. Does not include hatchery steelhead voluntarily released. Weekday and weekend data expansions are combined.

Year	Fish per 100 Angler Hours				Total W : H
	Mouth		Macks Canyon		
	Wild	Hatchery	Wild	Hatchery	
1977	4.71	1.28	3.35	1.42	N/A
1978	No Sample		1.51	1.66	N/A
1979	No Sample		5.05	3.15	N/A
1980	7.63	2.42	4.37	2.16	N/A
1981	7.08	1.59	6.64	1.49	N/A
1982	7.23	1.62	4.95	1.52	N/A
1983*	9.36	2.69	6.34	2.35	N/A
1984	No Sample		No Sample		N/A
1985	No Sample		No Sample		N/A
1986	No Sample		No Sample		1.94 : 1
1987	9.50	2.28	5.75	1.23	4.08 : 1
1988*	Incomplete Sample		No Sample		3.30 : 1
1989	6.01	3.69	2.94	1.02	1.93 : 1
1990	3.13	2.60	2.55	0.95	1.31 : 1
1991	6.17	3.31	No Sample		1.68 : 1
1992	3.40	3.11	2.30	1.32	1.02 : 1
1993	3.93	2.83	1.60	0.86	1.45 : 1
1994	2.36	2.96	1.95	0.94	0.96 : 1
1995	3.30	3.96	2.62	2.27	0.91 : 1
1996	4.33	8.00	2.40	5.16	0.52 : 1
1997	4.29	4.61	2.29	2.22	0.96 : 1
1998	3.38	2.10	2.02	0.37	1.88 : 1
1999	6.17	3.60	3.43	1.52	1.85 : 1
2000	5.91	3.14	3.49	1.17	2.12 : 1
2001	7.55	4.65	5.93	3.15	1.69 : 1
2002	6.32	5.07	5.81	2.92	1.15 : 1
2003	5.11	2.49	3.43	0.78	2.61 : 1
2004	5.85	3.14	2.78	1.65	1.82 : 1
2005	5.77	2.94	4.05	1.79	2.06 : 1

* Not all statistically expanded creel.

Table 45. Deschutes River expanded hatchery summer steelhead sport harvest and wild summer steelhead sport release data for Sherars Falls, by year (June 16 – October 31). Sport harvest of wild steelhead prohibited after 1978.

Year	Anglers	Hours	Wild	Hatchery
1980	4,120	21,171	446	364
1981	4,869	22,837	473	254
1982	5,247	26,061	538	312
1983	3,906	19,411	434	805
1984	3,522	17,503	528	454
1985	4,423	20,262	515	559
1986	4,447	20,240	274	471
1987	4,607	20,528	402	226
1988	3,726	19,514	196	240
1989	4,152	17,737	135	177
1990	3,165	12,059	79	185
1991	890	3,833	59	216
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	2,110	11,738	3	110
1999	1,592	11,139	127	56
2000	2,956	14,154	237	224
2001	2,531	11,883	206	255
2002	5,079	15,640	227	346
2003	2,439	10,943	111	88
2004	2,759	12,288	78	114
2005	3,599	16,847	127	131

Table 46. Deschutes River expanded summer steelhead tribal harvest data for Sherars Falls, by year (June 16 – October 31). Harvest estimates are the dip net and hook and line fisheries combined.

Year	Anglers/ Fishers	Hours	Tribal*	
			Wild	Hatchery
1980	944	7,357	981	1,309
1981	605	5,025	688	772
1982	516	4,628	549	1,066
1983	954	5,131	903	3,286
1984	576	5,553	1,600	2,730
1985	710	6,126	1,463	2,728
1986	523	5,848	1,225	3,729
1987	724	4,736	972	1,800
1988	744	5,978	339	939
1989	973	6,347	529	1,294
1990	602	4,232	301	1,300
1991	175	930	75	565
1992	36	332	10	65
1993	64	246	15	79
1994	82	400	12	130
1995	114	417	1	85
1996	80	355	1	155
1997	238	1,001	27	428
1998	304	1,123	135	760
1999	275	1,451	0	419
2000	303	1,225	42	616
2001	261	1,106	65	700
2002	345	1,984	17	585
2003	411	1,809	22	287
2004	478	1,919	69	546
2005	671	3,031	23	505

Table 47. Expanded harvest data from Columbia River anglers sampled at Heritage Landing (Deschutes River), July 1 – October 31, by year. Chinook seasons vary among years. Wild steelhead releases all years.

Year	Anglers	Hours	Chinook				Steelhead	
			Wild		Hatchery		Wild	Hatchery
			Adult	Jack	Adult	Jack		
1987	4,765	23,059	234	30	11	0	157	123
1988								
1989	8,594	42,054	601	24	23	0	238	486
1990	4,627	25,736	389	121	21	0	92	451
1991	4,983	32,854	398	37	31	0	529	807
1992	5,059	28,405	226	11	7	0	378	1,217
1993	6,923	42,948	532	17	11	0	434	1,250
1994	4,296	24,955	53	15	4	2	198	699
1995	6,189	40,035	366	54	19	0	280	1,300
1996	4,871	31,258	220	2	11	2	228	752
1997	5,388	34,014	371	13	9	0	216	727
1998	5,560	32,725	509	6	42	6	161	374
1999	6,590	31,640	191	2	0	0	440	604
2000	6,229	32,490	182	33	12	0	686	744
2001	8,946	45,609	478	33	81	2	1,530	1,393
2002	6600	32,472	337	15	6	0	746	684
2003	5,456	27,117	614	4	46	0	429	286
2004	4,608	20,477	396	2	37	1	236	186
2005	4,002	18,458	518	10	12.7	0	546	384

Table 48. Migration timing of summer steelhead captured at the Powerdale Dam trap by origin and run year. Bi-monthly counts are reported from March through December.

Origin, Run Year	March		April		May		June		July		August		September		October		November		December		Jan- May	Total
	01-15	16-31	01-15	16-30	01-15	16-31	01-15	16-30	01-15	16-31	01-15	16-31	01-15	16-30	01-15	16-31	01-15	16-30	01-15	16-31		
Wild,																						
1992-93	0	1	12	6	7	21	31	68	49	49	37	18	17	55	25	24	38	12	2	1	4	477
1993-94	0	1	10	5	8	21	13	21	25	26	14	10	8	5	11	8	1	1	10	0	30	228
1994-95	0	1	3	4	9	7	22	25	32	33	11	1	4	8	2	7	5	0	0	0	9	183
1995-96	0	0	0	0	2	1	4	6	37	19	16	2	5	5	2	8	0	8	0	0	7	122
1996-97	0	0	0	1	3	3	12	17	31	32	14	6	6	5	17	10	7	0	0	1	5	170
1997-98	0	0	0	0	1	1	1	4	6	6	14	2	4	7	9	2	8	0	0	0	0	65
1998-99	0	0	0	1	3	2	5	13	15	17	7	5	5	7	7	4	3	13	1	0	10	118
1999-00	0	0	1	0	1	5	7	6	19	28	11	5	0	8	8	2	35	8	6	0	24	175
2000-01	0	0	1	3	2	12	13	39	20	22	14	9	10	23	3	26	1	0	0	0	4	202
2001-02	1	0	8	19	10	43	37	27	51	35	23	16	11	11	15	48	52	28	7	6	34	447
2002-03	0	2	2	2	10	18	34	38	74	61	27	18	16	23	42	15	28	65	0	13	158	650
2003-04	1	3	5	4	4	15	31	9	24	21	9	21	17	23	10	32	2	8	2	5	9	245
2004-05	1	0	0	1	6	2	8	19	15	17	14	12	12	25	21	23	5	3	2	5	14	205
Subbasin Hatchery, Foster																						
1992-93	0	8	48	82	131	190	136	279	253	220	136	28	26	55	24	10	15	4	1	4	19	1,669
1993-94	0	1	13	38	83	120	75	151	188	166	113	33	23	8	16	10	0	1	11	0	19	1,069
1994-95	0	4	13	79	124	164	269	299	324	166	26	10	13	17	17	12	12	4	0	0	20	1,573
1995-96	0	0	4	0	5	12	30	31	211	101	52	13	15	5	9	4	1	10	0	2	6	511
1996-97	0	2	39	29	123	153	305	188	259	120	26	15	3	3	9	7	4	0	0	1	7	1,293
1997-98	0	0	0	11	36	59	23	66	109	68	112	21	17	25	9	3	2	0	0	0	3	564
1998-99	0	1	2	21	20	25	88	60	111	103	16	12	19	15	5	7	2	10	0	0	7	524
1999-00	0	0	3	9	2	31	20	64	75	121	65	20	3	3	7	2	10	1	3	0	21	460
2000-01	2	11	43	68	77	179	155	228	170	111	41	22	19	8	0	9	2	0	0	0	5	1,151
2001-02	3	22	48	238	192	323	226	205	162	102	48	16	4	7	14	32	29	54	3	7	29	1,735
2002-03	0	5	21	42	114	142	272	296	298	154	48	27	15	5	27	7	5	16	0	8	68	1,565
2003-04	1	10	54	95	113	170	224	169	137	83	25	17	15	28	29	14	2	2	1	2	33	1,225
2004-05	0	3	37	92	188	161	286	383	215	125	40	28	17	37	22	9	9	4	1	4	37	1,698
Hood River																						
2000-01	0	0	0	0	0	0	0	0	0	0	1	1	3	1	0	1	0	0	0	0	0	7
2001-02	0	0	0	3	2	10	16	17	30	25	31	9	8	29	35	72	80	26	0	3	29	396
2002-03	0	0	0	3	10	11	36	64	109	90	46	52	43	41	75	20	51	113	2	27	111	904
2003-04	2	0	1	1	10	14	49	38	79	49	22	17	25	52	67	62	5	16	11	9	111	638
2004-05	0	0	0	4	10	5	33	140	122	86	50	40	39	145	99	91	37	13	7	23	43	987

Table 48 (cont). Migration timing of summer steelhead captured at the Powerdale Dam trap by origin and run year. Bi-monthly counts are reported from March through December.

Origin, Run Year	March		April		May		June		July		August		September		October		November		December		Jan- May	Total
	01-15	16-31	01-15	16-30	01-15	16-31	01-15	16-30	01-15	16-31	01-15	16-31	01-15	16-30	01-15	16-31	01-15	16-30	01-15	16-31		
Stray Hatchery,																						
1992-93	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	5
1993-94	0	0	0	1	0	0	2	2	3	0	1	2	0	0	1	0	1	0	1	0	1	13
1994-95	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4
1995-96	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	5
1996-97	0	0	0	0	0	0	2	1	2	0	0	2	0	0	1	4	0	0	0	0	2	15
1997-98	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	2	0	1	0	0	0	6
1998-99	0	0	0	0	0	0	0	0	0	1	0	0	2	5	1	0	0	0	0	0	1	11
1999-00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
2000-01	0	0	0	1	1	0	0	0	0	0	0	0	5	0	2	0	0	0	0	0	0	49
2001-02	0	0	0	0	0	0	3	3	1	3	2	0	1	1	1	16	11	0	0	0	2	24
2002-03	0	0	0	0	0	0	1	0	1	4	0	0	1	2	2	1	3	7	0	6	6	26
2003-04	0	0	1	0	2	3	3	0	0	1	1	0	0	0	1	1	0	0	0	0	0	13
2004-05	0	0	1	1	0	1	1	1	2	1	2	0	0	1	1	1	0	0	1	0	12	26
Unknown,																						
1992-93	1	2	1	0	3	4	1	3	8	4	4	1	4	17	2	4	7	0	0	1	3	70
1993-94	0	0	0	0	1	0	0	8	16	3	3	4	1	1	0	0	0	0	0	2	7	46
1994-95	0	0	1	5	6	11	17	16	16	10	1	0	11	0	1	1	2	0	0	0	1	99
1995-96	0	0	0	0	0	0	1	4	15	6	13	0	0	1	1	1	0	5	0	0	1	47
1996-97	0	0	1	0	2	6	14	5	14	17	5	1	3	2	0	3	0	0	0	0	1	75
1997-98	0	0	1	0	4	4	2	5	7	4	9	1	2	1	1	0	2	0	1	0	0	44
1998-99	0	0	0	4	5	3	3	3	4	6	2	0	0	1	1	2	2	3	1	1	3	45
1999-00	0	0	0	0	0	1	2	2	12	8	2	0	0	1	2	0	3	1	1	0	3	36
2000-01	0	0	0	2	3	2	1	9	3	3	0	3	1	3	1	1	2	0	0	0	4	41
2001-02	0	0	3	9	7	15	13	10	7	4	2	0	1	0	0	4	0	0	0	0	11	79
2002-03	0	0	1	1	3	4	12	15	12	6	5	9	1	1	7	6	4	19	0	4	44	154
2003-04	1	1	5	3	9	13	29	10	18	9	4	3	5	3	4	10	1	2	0	2	10	142
2004-05	0	0	6	24	25	11	36	25	5	2	2	1	0	9	3	5	2	1	0	2	16	175

Table 49. Summer steelhead escapements to the Powerdale Dam trap by origin, run year, and age category. Fish of unknown origin were allocated to origin categories based on scale analysis and the ratio of fish of known origin.

Origin, Run Year	Total Escapement	Freshwater/Ocean Age														Repeat Spawners
		1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	5/2	1/3	2/3	3/3	1/4	2/4	
Wild																
1992-93	490	0	26	6	0	5	309	77	1	0	0	48	0	0	0	18
1993-94	245	0	11	5	0	1	109	44	0	0	2	53	7	0	3	10
1994-95	218	0	5	2	0	0	81	70	0	0	0	33	12	0	0	15
1995-96	132	0	14	3	0	0	82	11	0	0	0	18	1	0	0	3
1996-97	184	0	6	2	0	2	129	22	0	0	0	14	2	0	0	7
1997-98	81	0	8	1	0	1	44	13	0	0	0	7	0	0	0	7
1998-99	132	0	13	1	0	2	75	15	0	0	0	14	0	0	0	12
1999-00	188	2	26	6	0	1	107	16	0	0	0	19	1	0	0	10
2000-01	221	0	23	6	0	4	101	59	1	0	2	6	2	0	0	17
2001-02	495	4	72	36	0	1	314	33	0	0	1	12	4	0	1	17
2002-03	707	2	52	17	0	24	320	180	4	1	3	49	14	0	0	41
2003-04	266	0	41	12	0	3	111	58	0	0	1	13	4	0	0	23
2004-05	233	0	13	8	0	3	120	50	0	0	0	16	2	0	0	21
Subbasin Hatchery, Foster																
1992-93	1,726	48	0	0	0	1,513	0	0	0	0	150	1	0	1	0	13
1993-94	1,098	35	0	0	0	818	0	0	0	0	235	0	0	3	0	7
1994-95	1,624	12	0	0	0	1,343	1	0	0	0	256	0	0	0	0	12
1995-96	546	59	0	0	0	419	1	0	0	0	57	0	0	0	0	10
1996-97	1,344	8	0	0	0	1,240	6	0	0	0	76	0	0	0	0	14
1997-98	594	10	0	0	0	543	0	0	0	0	36	0	0	0	0	5
1998-99	556	25	0	0	0	374	0	0	0	0	140	0	0	0	0	17
1999-00 a/	485	33	3	0	0	360	0	0	0	0	76	0	0	1	0	12
2000-01 a/	1,176	34	0	0	0	1,077	2	0	0	0	49	0	0	0	0	14
2001-02	1,879	77	9	0	0	1,442	135	0	0	0	188	5	0	0	0	23
2002-03	1,655	116	5	0	0	1,408	21	0	0	0	75	1	0	0	0	29
2003-04	1,327	65	1	0	0	1,123	5	0	0	0	103	0	0	0	0	30
2004-05	1,835	26	1	0	0	1,680	8	0	0	0	95	1	0	1	0	23

Hood River

2000-01	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2001-02	417	110	19	0	0	288	0	0	0	0	0	0	0	0	0	0
2002-03	910	31	1	0	0	626	128	0	0	0	100	0	0	0	0	24
2003-04	656	191	2	0	0	368	0	0	0	0	80	0	0	0	0	15
2004-05	996	52	0	0	0	861	1	0	0	0	66	0	0	0	0	16

Table continues

Table 49 (cont). Summer steelhead escapements to the Powerdale Dam trap by origin, run year, and age category. Fish of unknown origin were allocated to origin categories based on scale analysis and the ratio of fish of known origin.

Origin, Run Year	Total Escapement	Freshwater/Ocean Age														Repeat Spawners
		1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	5/2	1/3	2/3	3/3	1/4	2/4	
Stray Hatchery, Unknown																
1992-93	5	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0
1993-94	13	1	0	0	0	10	0	0	0	0	2	0	0	0	0	0
1994-95	4	0	0	0	0	1	0	0	0	0	3	0	0	0	0	0
1995-96	5	2	0	0	0	0	0	0	0	0	2	0	0	0	0	1
1996-97	18	1	0	0	0	16	0	0	0	0	1	0	0	0	0	0
1997-98	6	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0
1998-99	11	1	0	0	0	8	0	0	0	0	2	0	0	0	0	0
1999-00 a/	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
2000-01 a/	11	0	0	0	0	9	1	0	0	0	1	0	0	0	0	0
2001-02	29	0	0	2	0	0	8	0	0	0	14	0	0	0	0	5
2002-03	25	3	0	0	0	9	1	1	0	0	0	4	0	0	0	7
2003-04	12	1	0	0	0	6	1	0	0	0	3	0	0	0	0	1
2004-05	27	6	0	0	0	19	0	0	0	0	1	0	0	0	0	1

Table 50. Number of wild summer steelhead at collected at Powerdale Dam on the Hood River for brood, spawned, and those that were pre-spawning mortalities, by sex, by brood year.

Brood Year	FEMALES			MALES		
	Taken	Died	Spawned	Taken	Died	Spawned
1998	11	3	8	5	3	2
1999	21	7	14	13	2	11
2000	21	0	21	12	0	12
2001	16	3	13	11	0	11
2002	33	10	23	33	8	25
2003	44	22	22	37	13	24
2004	26	8	18	15	6	9
2005*	30	3	13	10	2	7

* 14 Of the 40 brood collected were either unacceptable dna, hatchery fish or StW

Table 51. Summary of summer steelhead spawning, Hood River by brood year. Number of smolts represents number transferred to acclimation rather than release.

Year	Number Females	Number Males	Family Groups	Number Spawnings	Total Green Eggs	Number Smolts <u>a/</u>	Egg to Smolt %
1998	7	2	10	5	30,218	19,532	64.6%
1999	16	11	22	8	39,727	33,899	85.3%
2000	13	10	26	9	49,789	37,688	75.7%
2001	13	10	27	8	55,145	45,767	83.0%
2002	16	22	32	7	56,936	47,621	83.6%
2003	15	19	29	9	61,828	40,429	65.4%
2004	13	7	36	8	81,214	62,405	76.8%
2005	13	7	26	6	48,820	34,096	69.8%

a/ Egg to smolt survival calculated on transfer number not liberated from acclimation. Number of smolts shown is number delivered to acclimation, not number liberated from acclimation.

Table 52. Bi-monthly counts of upstream migrant adult winter steelhead at Powerdale Dam, Hood River, by run year.

Origin, Run Year	November		December		January		February		March		April		May		June		Total
	01-15	16-31	01-15	16-31	01-15	16-29	01-15	16-31	01-15	16-30	01-15	16-30	01-15	16-31	01-15	16-30	
Wild,																	
1991-92	0	0	0	0	0	24	28	32	75	98	153	149	88	29	2	0	678
1992-93	0	0	0	4	0	2	3	0	28	61	99	78	86	30	3	2	396
1993-94	0	0	0	0	4	7	0	6	23	25	77	128	76	21	11	0	378
1994-95	0	0	0	0	0	0	9	0	6	2	55	15	52	44	10	1	194
1995-96	0	0	0	0	0	0	0	0	17	4	93	40	69	36	11	0	270
1996-97	0	0	0	2	1	0	3	13	5	22	52	72	68	33	3	0	274
1997-98	1	0	1	0	1	1	6	0	7	12	23	107	36	8	5	1	208
1998-99	0	0	0	0	13	0	4	2	8	32	47	121	22	33	7	2	291
1999-00	0	0	8	1	0	2	15	16	69	111	320	225	115	26	1	0	909
2000-01	0	0	0	0	0	0	1	7	50	143	314	381	86	19	0	1	1,002
2001-02	1	2	3	0	9	3	13	63	71	198	282	267	104	21	7	0	1,041
2002-03	0	0	0	1	3	3	9	14	68	228	250	88	43	10	0	0	717
2003-04	0	1	0	7	0	2	8	41	69	115	154	126	49	5	1	0	578
2004-05	0	5	0	8	0	15	2	0	36	51	81	88	36	9	2	0	333
Subbasin Hatchery, a/																	
1991-92	0	0	0	5	11	94	54	42	30	5	2	2	0	0	0	0	245
1992-93	0	0	2	13	0	31	44	0	39	31	17	13	3	0	0	0	194
1993-94	0	0	0	0	25	31	8	36	32	6	3	2	0	0	0	0	143
1994-95	0	0	0	0	0	6	28	18	11	4	22	3	7	1	0	0	100
1995-96	0	2	2	0	0	0	0	0	19	8	93	47	66	21	3	0	259
1996-97	0	0	0	0	0	1	2	38	20	54	128	171	141	54	8	0	671
1997-98	5	1	6	0	1	0	6	5	26	55	85	146	27	5	1	0	363
1998-99	3	5	18	0	1	10	4	0	6	65	75	88	12	23	1	2	304
1999-00	5	1	8	0	2	1	12	13	35	45	83	53	228	10	0	0	290
2000-01	0	0	0	0	2	0	2	10	71	224	308	217	51	11	1	0	895
2001-02b/	0	3	3	0	27	22	40	70	102	178	243	172	42	3	2	0	904
2002-03	0	1	1	0	1	8	14	13	47	163	133	64	19	6	0	0	469
2003-04	0	1	2	20	0	14	22	52	103	206	186	183	101	26	5	1	922
2004-05	1	9	5	28	1	55	2	0	31	67	95	97	49	10	1	1	452

Table continues

Table 52 (cont). Bi-monthly counts of upstream migrant adult winter steelhead at Powerdale Dam, Hood River, by run year.

Origin, Run Year	November		December		January		February		March		April		May		June		Total	
	01-15	16-31	01-15	16-31	01-15	16-29	01-15	16-31	01-15	16-30	01-15	16-30	01-15	16-31	01-15	16-30		
Stray																		
Hatchery,																		
1991-92	0	0	0	0	0	2	2	1	5	4	7	1	0	0	0	0	22	
1992-93	0	0	0	0	0	1	2	0	2	9	7	1	0	0	0	0	22	
1993-94	0	0	0	0	1	0	0	0	1	1	11	6	0	0	0	0	20	
1994-95	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3	
1995-96	0	0	0	0	0	0	0	0	3	1	2	0	0	0	0	0	6	
1996-97	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	
1997-98	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	3	
1998-99	0	0	0	0	1	0	0	0	0	2	1	2	0	0	0	0	6	
1999-00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
2000-01	0	0	0	0	0	0	0	3	3	15	7	8	2	0	0	0	38	
2001-02	0	0	0	1	8	3	7	12	11	17	25	10	2	1	0	0	97	
2002-03	0	0	0	0	0	3	2	4	6	18	23	9	1	0	0	0	66	
2003-04	0	0	0	2	0	0	1	1	7	10	7	7	2	0	0	0	37	
2004-05	1	0	0	0	0	2	0	0	0	2	5	4	3	0	0	0	17	
Unknown																		
1991-92	0	0	1	4	4	22	9	7	6	5	3	9	4	2	0	0	71	
1992-93	0	0	0	0	0	7	7	0	6	5	4	2	3	0	0	0	39	
1993-94	0	0	0	1	6	3	0	1	6	8	5	5	3	2	0	0	39	
1994-95	0	0	0	0	0	0	5	3	0	0	4	1	2	2	2	0	20	
1995-96	0	0	0	0	0	0	0	0	2	1	9	5	5	3	0	0	25	
1996-97	0	0	0	0	0	0	0	5	1	6	8	8	7	4	1	0	40	
1997-98	0	0	0	0	0	0	0	4	9	5	11	11	5	1	0	0	46	
1998-99	0	0	1	0	1	1	0	0	1	2	7	7	1	2	0	0	23	
1999-00	0	1	1	0	0	0	0	3	0	2	5	5	6	0	0	0	27	
2000-01	0	0	0	0	0	0	0	0	4	6	15	9	1	0	0	0	35	
2001-02	0	0	0	0	2	0	6	4	6	11	19	13	2	0	0	0	63	
2002-03	0	0	0	0	1	1	0	5	10	10	20	14	3	3	0	0	67	
2003-04	0	0	0	1	0	2	2	9	13	20	25	18	2	4	1	0	97	
2004-05	0	0	0	3	0	4	0	0	3	8	10	12	3	0	0	0	43	

a/ Subbasin hatchery includes Big Creek stock 1991-92 through 1994-95, mixed Big Creek x Hood River stock 1992-93 through 1995 and Hood River stock 1993-94 through present run.

b/ Includes steelhead with winter fin marks classified as summer steelhead.

Table 53. Winter steelhead escapements to the Powerdale Dam trap by origin, stock, run year, and age category. Fish of unknown origin were allocated to origin categories based on scale analysis and the ratio of fish of known origin.

Origin, Stock, Run Year	Total Escapement	Freshwater/Ocean Age										Repeat Spawners				
		1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2		3/3	3/4	4/2	
Wild,																
Hood River,																
1991-92	698	--	3	4	0	9	424	76	0	1	111	17	0	1	52	
1992-93	412	--	2	6	0	36	174	123	1	1	20	17	0	0	32	
1993-94	405	--	2	6	0	9	274	79	0	1	17	4	0	0	13	
1994-95	206	--	1	1	0	28	107	34	1	3	9	3	1	0	18	
1995-96	278	--	12	1	1	18	183	29	0	1	22	6	0	0	7	
1996-97	280	--	1	1	0	12	199	34	0	1	24	7	0	1	7	
1997-98	227	--	1	0	0	13	134	42	0	3	20	4	0	0	11	
1998-99	300	--	8	0	0	55	156	38	0	2	23	10	0	0	8	
1999-00	927	--	4	1	0	6	795	45	1	1	41	2	0	0	31	
2000-01	1,017	--	3	1	0	21	587	128	1	16	111	13	0	1	134	
2001-02	1,061	--	12	5	0	23	609	139	0	9	204	24	0	0	36	
2002-03	711	--	12	5	0	12	411	171	0	3	69	31	0	0	39	
2003-04	599	--	18	4	0	7	359	88	1	0	73	21	0	0	28	
2004-05	344	--	4	12	0	8	196	59	0	2	47	7	0	0	9	
Subbasin hatchery,																
Big Creek,																
1991-92	296	--	279	5	--	--	5	1	--	--	--	--	--	--	5	
1992-93	201	--	63	138	--	--	0	0	--	--	--	--	--	--	8	
1993-94	137	--	0	65	--	--	66	0	--	--	--	--	--	--	4	
1994-95	10	--	0	0	--	--	0	7	--	--	--	--	--	--	3	
Mixed, a/																
1992-93	6	6	0	0	--	--	0	--	--	--	--	--	--	--	--	
1993-94	14	0	14	0	--	--	0	--	--	--	--	--	--	--	--	
1994-95	8	0	0	2	--	--	6	--	--	--	--	--	--	--	--	

Table continues

Table 53 (cont). Winter steelhead escapements to the Powerdale Dam trap by origin, stock, run year, and age category. Fish of unknown origin were allocated to origin categories based on scale analysis and the ratio of fish of known origin.

Origin, Stock, Run Year	Total Escapement	Freshwater/Ocean Age												Repeat Spawners		
		1/1	1/2	1/3	1/4	2/1	2/2	2/3	2/4	3/1	3/2	3/3	3/4		4/2	
Hood River, b/																
1993-94	1	1	0	0	0	0	0	0	--	--	--	--	--	--	--	0
1994-95	90	12	77	0	0	0	0	0	--	--	--	--	--	--	--	1
1995-96	274	10	246	17	0	0	0	0	--	--	--	--	--	--	--	0
1996-97	637	6	524	100	0	0	4	0	--	--	--	--	--	--	--	4
1997-98	390	4	242	128	0	0	3	1	--	--	--	--	--	--	--	12
1998-99	311	12	165	120	1	1	8	0	--	--	--	--	--	--	--	11
1999-00	299	6	218	51	1	0	8	5	1	--	--	--	--	--	--	15
2000-01	915	7	704	159	0	2	6	0	--	--	--	--	--	--	--	36
2001-02	936	3	715	196	0	3	7	0	--	--	--	--	--	--	--	12
2002-03	503	11	285	185	0	1	8	3	--	--	--	--	--	--	--	10
2003-04	998	3	857	119	1	1	5	0	--	--	--	--	--	--	--	12
2004-05	482	16	236	207	1	0	3	0	0	--	--	--	--	--	--	19
Stray hatchery,																
Unknown,																
1991-92	22	0	8	13	0	--	0	--	--	--	--	--	--	--	--	1
1992-93	22	0	15	5	0	--	0	--	--	--	--	--	--	--	--	2
1993-94	24	1	2	21	1	--	1	--	--	--	--	--	--	--	--	1
1994-95	3	1	1	2	0	--	0	--	--	--	--	--	--	--	--	0
1995-96	6	0	5	0	0	--	0	--	--	--	--	--	--	--	--	1
1996-97	3	0	3	0	0	--	0	--	--	--	--	--	--	--	--	0
1997-98	3	1	2		0	--	1	--	--	--	--	--	--	--	--	0
1998-99	6	0	2	4	0	--	0	--	--	--	--	--	--	--	--	0
1999-00	1	0	0	0	1		0									0
2000-01	38	0	16	10	0	1	9	1	--	--	--	--	--	--	--	1
2001-02c/	103	0	39	51	0	0	36	6	--	--	--	--	--	--	--	8
2002-03	68	0	39	19	0	0	1	3	--	--	--	--	--	--	--	6
2003-04	37	0	12	13	1	0	2	1	--	--	--	--	--	--	--	8
2004-05	17	2	4	8	0	0	0	0	--	--	--	--	--	--	--	3

a/ Returns from the 1991 brood are progeny of wild x Big Creek stock hatchery crosses.

b/ The 1993-94 run year is the first run year in which the native Hood River stock (1992 brood) would have had the potential for returning as adults to Powerdale Dam. These fish would have returned as age category 1/1 adults. None were sampled at the trapping facility.

c/ Includes steelhead with winter fin marks classified as summer steelhead.

Table 54. Summary of winter steelhead spawning, Hood River by brood year. Number of smolts represents number transferred to acclimation rather than release.

Year	Number Females	Number Males	Family Groups	Number Spawning	Total Green Eggs	Number Smolts <u>b/</u>	Egg to Smolt %
1991 <u>a/</u>	3	1	3	2	11,858	4,600	38.8%
1992	18	21	57	6	53,308	48,985	91.9%
1993	16	18	78	6	62,150	38,034	61.2%
1994	26	28	70	8	95,043	42,898	45.1%
1995	18	19	47	8	63,793	51,022	80.0%
1996	25	29	60	10	85,497	60,318	70.6%
1997 <u>c/</u>	26	28	51	8	91,000	62,136	68.2%
1998	21	20	37	8	80,620	50,915	63.2%
1999 <u>d/</u>	28	33	55	9	96,525	66,056	68.4%
2000	20	20	21	8	83,510	56,586	61.8%
2001	24	35	38 <u>e/</u>	10	89,756 <u>f/</u>	50,948	56.8%
2002	21	25	43	8	83,992	51,569	61.4%
2003	22	22	34	8	87,339	--	--
2004	22	24	43	8	89,759	79,486	88.6%
2005	12	13	23	6	43,910	34,875	79.4%

a/ Angler captured brood stock.

b/ Egg to smolt survival calculated on transfer number not liberated from acclimation. Number of smolts shown is number delivered to acclimation, not number liberated from acclimation.

c/ 102,465 green eggs transferred to Umatilla Hatchery. INH positives and scale read hatchery eggs culled down to 91,000 eyed eggs.

d/ Total egg take was 112,302. Culled down to 96,525 and that number was used to calculate egg to smolt survival.

e/ Started with 50 family groups but culled 6 family groups (3 females) that were 100% non-fertile and 6 family groups from 2 females determined to be hatchery origin and 1 female determined to be a summer steelhead.

Table 55. Number of winter steelhead collected for brood, spawned, and those that were prespawning mortalities, by sex, by brood year. Number in parentheses () is the number of wild winter steelhead in the total.

Brood Year	FEMALES						MALES					
	Taken		Spawned		Died		Taken		Spawned		Died	
1991	13	(7)	3	(1)	10	(7)	5	(5)	1	(1)	4	(4)
1992	52	(52)	18	(18)	0	(0)	51	(51)	21	(21)	0	(0)
1993	28	(28)	16	(16)	2	(2)	29	(29)	18	(18)	7	(7)
1994	45	(45)	26	(26)	3	(3)	34	(34)	28	(28)	1	(1)
1995	20	(20)	18	(18)	2	(2)	22	(22)	19	(19)	0	(0)
1996	43	(34)	24	(19)	2	(2)	46	(34)	29	(17)	5	(5)
1997	41	(26)	27	(17)	5	(4)	41	(22)	28	(15)	8	(5)
1998	45	(23)	21	(11)	13	(7)	34	(19)	20	(12)	10	(4)
1999	42	(21)	29	(14)	0	(0)	33	(20)	33	(20)	0	(0)
2000	53	(27)	20	(10)	1	(0)	30	(20)	20	(15)	0	(0)
2001	65	(65)	24	(24)	0a/	(0a/)	69	(69)	35	(35)	0	(0)
2002	39	(39)	21	(21)	7a/	(7a/)	35	(35)	25	(25)	1b/	(1b/)
2003	35	(33)	22	(21)	1	(1)	31	(30)	22	(22)	9	(8)
2004	42	(36)	22	(36)	0	(0)	41	(39)	24	(40)	0	(0)
2005	35	(29)	14	(12)	2	(2/d)	37	(30)	16	(13)	2	(2c)

a/ Three additional females were post spawn mortality.

b/ Three additional males were post spawn mortality.

c/ 1 pre-spawn and 1 post spawn mortality

d/ 1 pre-spawn and 1 post spawn female mortality

Table 56. Winter steelhead redd counts in the Fifteenmile Creek sub basin, by stream, reach, and random section length, 2005.

Stream	Sub Reaches	Length (mi.)	Number of Redds				Redds/mi.
			Pass 1	Pass 2	Pass 3	Total	
Eightmile Creek	8 1-5	0.49	0	0	0	0	
	8 2-1	0.71	3	1	0	4	
	8 3-3	1.19	0	0	0	0	
	8 3-4	1.24	0	2	0	2	
	8 4-1	0.44	0	0	0	0	
	8 4-2	0.88	0	0	1	1	
	8 5-3	0.99	2	3	0	5	
Subtotal		5.95				12	2.0
Fivemile Creek	5 1-5	1.17	1	0	0	1	
	5 2-5	0.75	0	0	1	1	
	5 3-1	1.08	0	0	0	0	
	5 4-4	0.82	0	0	0	0	
Subtotal		3.81				2	0.5
Fifteenmile Creek	15 1-1	1.00	0	0	0	0	
	15 2-5	1.38	0	2	0	2	
	15 3-1	0.85	0	0	0	0	
	15 4-3	1.02	0	0	0	0	
	15 5-2	1.02	1	0	0	1	
	15 6-2	0.98	1	1	0	2	
	15 7-1	0.77	2	0	0	2	
	15 7-3	1.46	2	0	1	3	
	15 8-3	1.24	7	0	10	17	
	15 8-4	0.77	0	7	3	10	
15 9-5	1.30	0	0	0			
Subtotal		11.78				37	3.1
Ramsey Creek	R 1-2	1.06	0	0	0	0	
	R 1-5	1.00	0	0	0	0	
	R 2-3	1.00	0	0	0	0	
Subtotal		3.06				0	0.0
Total		24.60				51	2.1

Table 57. Deschutes River rainbow angler effort and harvest data sampled at the mouth, west bank (Heritage Landing), July 1 – October 31, by year.

Year	Anglers	Hours	Rainbow Trout			
			Kept	Released	Total	Fish/Hour
1989	234	1,398	65	1,319	1,384	0.99
1990	95	1,079	21	470	491	0.46
1991	214	1,690	33	1,359	1,392	0.82
1992	188	1,578	13	1,453	1,466	0.93
1993	392	3,071	34	1,453	1,487	0.47
1994	355	2,207	13	1,055	1,068	0.48
1995	354	1,790	6	1,142	1,148	0.64
1996	272	1,343	6	603	609	0.45
1997	223	1,162	2	478	481	0.41
1998	250	973	3	634	637	0.65
1999	220	1,475	0	1,727	1,727	1.17
2000	291	1,671	19	1,573	1,592	0.95
2001	410	2,149	33	2,116	2,149	1.00
2002	323	967	14	1,146	1,160	1.20
2003	149	2,289	7	694	701	0.31
2004	150	950	0	982	982	1.03
2005	250	824	3	552	555	1.48

Table 58. Deschutes River expanded rainbow trout angler effort and harvest data from Macks Canyon Road sample, July 1 to October 31, by year.

Year	Anglers	Hours	Rainbow Trout			Fish/Hour
			Kept	Released	Total	
1989	2,198	10,601	515	6,909	7,424	0.70
1990	1,941	9,180	443	6,037	6,480	0.71
1991						
1992	1,246	7,188	153	3,160	3,313	0.46
1993	1,772	8,781	98	3,887	3,985	0.45
1994	2,268	10,456	151	6,538	6,690	0.64
1995	2,985	15,225	172	7,189	7,361	0.48
1996	2,431	12,591	106	5,800	5,906	0.46
1997	2,466	11,647	84	5,147	5,231	0.45
1998	1,790	7,395	55	4,555	4,610	0.62
1999	2,609	9,910	102	5,785	5,887	0.59
2000	2,936	12,523	71	7,879	7,950	0.64
2001	2,844	7,794	152	7,490	7,642	0.98
2002	2,870	8,375	135	8,098	8,233	0.98
2003	2,279	7,568	130	6,406	6,536	0.86
2004	1,476	8,022	26	3,920	3,946	0.49
2005	1,493	7,367	35	4,708	4,743	0.64

Table 59. Deschutes River expanded rainbow trout angler use and harvest data, river mile 0–42, July 1 to October 31, by year.

Year	Anglers	Hours	Rainbow Trout			Fish/Hour
			Kept	Released	Total	
1989	2,432	11,999	580	8,228	8,808	0.73
1990	2,036	10,259	464	6,507	6,971	0.68
1991	INCOMPLETE SAMPLE					
1992	1,434	8,766	156	4,613	4,769	0.54
1993	2,164	11,852	132	5,340	5,472	0.46
1994	2,623	12,663	164	7,593	7,758	0.61
1995	3,339	17,015	178	8,331	8,509	0.50
1996	2,703	13,934	112	6,403	6,515	0.46
1997	2,689	12,809	86	5,625	5,712	0.45
1998	2,040	8,368	58	5,189	5,247	0.63
1999	2,829	11,385	102	7,512	7,614	0.67
2000	3,227	14,194	90	9,452	9,542	0.67
2001	3,254	9,943	185	9,606	9,791	0.98
2002	3,193	9,342	149	9,244	9,393	1.01
2003	2,428	9,857	137	7,100	7,237	0.73
2004	1,626	8,846	26	4,902	4,928	0.56
2005	1,743	8,191	38	5,260	5,298	0.65

Table 60. Bull trout capture at the Powerdale Trap, 1963 through 1971. Data does not represent continuous trapping efforts.

Year	Period	Number
1963	April-May	3
	May-June	2
	June-July	1
1964	May-June	5
	Unknown	4
1965	June-July	1
	Unknown	2
1966	Unknown	1
1967	May-June	1
	June	2
	July	1
	September	1
	October-November	1
	Unknown	6
1968	May-June	6
	June-July	3
1969	May-June	5
1970		0
1971	May-June	1

Table 62. Number of bull trout captured, range length and mean in centimeters at the Powerdale Fish Trap, by year.

Year	Captured	Length	
		Range	Mean
1992	6	40-56.5	49.0
1993	2	48-55.5	51.8
1994	11	24.3-55.5	39.9
1995	11	39.0-51.5	47.3
1996	18	48.5-55.5	51.5
1997	6	42.0-61.5	49.2
1998	18	35.5-60.0	42.5
1999	28	38.0-55.5	49.4
2000	27	38.0-63.0	51.3
2001	12	35.0-55.0	46.7
2002	6	33.5-59.0	50.6
2003	4	43.0-61.0	50.0
2004	4	50.0-56.0	52.5
2005	6	50.0-60.5	55.1