

2011 Fall Chinook Salmon Spawning Ground Survey

Salmon-Scott Rivers Ranger District
Klamath National Forest



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ABSTRACT

Cooperative spawning ground surveys between the U.S. Forest Service, California Department of Fish and Game, Yurok Tribe, Karuk Tribe, Quartz Valley Indian Reservation, Salmon River Restoration Council, and local schools and volunteers have occurred on the Klamath National Forest since 1992. In addition to providing information to land managers in regard to where these fish spawn, these surveys are used to estimate the total in-river spawner escapement of fall Chinook salmon (*Oncorhynchus tshawytscha*) by the Klamath River Technical Team and the Pacific Fisheries Management Council for determination of harvest allocations for the subsequent year.

The Salmon River and Scott River are surveyed on an annual basis using both carcass mark-recapture and redd count techniques. Mark-recapture of carcasses (and in some cases, redd counts) are used for population estimations. Redd counts are utilized on the rivers' smaller tributaries, which may not be regularly visited during the spawning season. The 2011 cooperative survey began October 10th and ended December 1st, although effort continued on the Scott River by California Department Fish and Game for several additional weeks. All scheduled surveys were completed on the Scott River. In the Salmon River, overall survey effort was very good, although high water from a storm event forced cancellation of the first survey of the year and elevated flows at the end of November limited access. Surveys in both drainages also included drainages and upper elevation reaches not regularly visited.

Approximately 5,493 fish returned to the Salmon River and 5,515 fish returned to the Scott River. Run estimates, made by California Department of Fish and Game, are compiled through a combination of redd count and mark-recapture carcass surveys. The Scott River also employs weir videography. Using data collected since initiation of organized surveys in 1978, year 2011 returns appear to be above average [2nd highest] for the Salmon River, and about average for the Scott River.

INTRODUCTION

Since 1978, the California Department of Fish and Game (CDFG) has determined fall Chinook salmon spawner escapement in the Klamath River watershed using a combination of weirs, mark-recapture surveys, redd surveys, and hatchery return information. This data is used in the determination of stock size projections for the management of Klamath River fall Chinook salmon stocks by the Klamath River Technical Team and the Pacific Fisheries Management Council.

The CDFG, Six Rivers National Forest (SRNF), and Klamath National Forest (KNF) (the Forests are hereafter collectively referred to as USFS) have conducted Chinook spawner surveys for many years. Since missions differ among agencies, the objectives for these surveys were always slightly different. The USFS traditionally counted redds and live fish in order to estimate number and distribution of spawning Chinook salmon. Beginning in 1992, the CDFG and USFS joined together to accomplish spawner escapement surveys, partially due to shrinking budgets in both State and Federal programs, but also the desire to increase cooperative operations between agencies. These surveys now include collaboration with the Karuk Tribal Government, Yurok Tribal Government, Quartz Valley Tribal Government, Salmon River Restoration Council, Scott Valley Resource Conservation District, Mid-Klamath Watershed Council, Northern California Resource Center, and local volunteers and public schools. The cooperative effort has improved the accuracy of CDFG estimates by enabling surveys that are more extensive and frequent in nature.

In fall 2011, a combination of redd and mark-recapture counts were completed in the Salmon River and Scott River drainages, including mainstems and tributaries, in order to determine fall Chinook spawner escapement and distribution (**Table 1**). Occasionally, discharge conditions were unsafe on the Salmon River (mainstem/forks) for surveys, else snow prevented access by the KNF crew over Etna Pass. During those times, KNF crews were diverted to survey tributaries or performed additional reach surveys upon the Scott River. This report summarizes redd count surveys conducted from October 10th through December 1st on the KNF portion of the Salmon and Scott Rivers (i.e., within the Salmon-Scott Rivers Ranger District). The exception of this is Wooley Creek and the Salmon River below Nordheimer Creek, which were surveyed by SRNF personnel. Data from these locations will be covered in the KNF-wide compilation of spawning survey activities (which will also include the mainstem Klamath River and its tributaries).

A separate report is prepared by CDFG biologists for the escapement estimates to be used by the fisheries management councils. The most recent draft of the 2011 MegaTable has been included in **Appendix A** (CDFG 2012).

Table 1. The 2011 survey schedule for KNF crews for the Salmon River and Scott River.

| Survey Week | Scott River (Monday) | Salmon River (Tuesday) | No surveys on Wednesday | Scott River (Thursday) | Salmon River (Friday) | |
|-------------|--------------------------|--------------------------|-------------------------|------------------------|--------------------------|-----------------------------------|
| 1 | Oct-10 (ns - holiday) | Oct-11 (Salmon tribs) | | | Oct-13 | Oct-14 |
| 2 | Oct-17 | Oct-18 | | | Oct-20 | Oct-21 |
| 3 | Oct-24 | Oct-25 | | | Oct-27 | Oct-28 |
| 4 | Oct-31 | Nov-01 | | | Nov-03 | Nov-04 |
| 5 | Nov-07 | Nov-08 | | | Nov-10 | Nov-11 (ns - holiday) |
| 6 | Nov-14 | Nov-15 | | | Nov-17 | Nov-18 (extra Scott R reaches) |
| 7 | Nov-21 | Nov-22 (Scott tribs) | | | Nov-24 (ns - holiday) | Nov-25 (ns - holiday) |
| 8 | Nov-28 | Nov-29 | | | Dec-01 | |

*ns - no survey

METHODS

In 2011, redd surveys were conducted on the Salmon River and Scott River, as well as various tributaries. **Table 2** summarizes each reach for 2011, including reach number and length, number of times surveyed, and total number of redds counted over the course of the survey season.

- Salmon River was surveyed twice weekly from mile marker 6 on the North Fork (NF) to the confluence with the South Fork (SF); Matthews Creek campground on the SF to the confluence with the NF; and the mainstem Salmon River from the confluences to Nordheimer Creek. The mainstem below Nordheimer Creek and Wooley Creek were surveyed on a differing schedule by SRNF personnel, and is detailed in a separate report.
 - The NF also included occasional surveys from mile marker 16 to mile marker 6.
 - Tributaries surveyed included Indian Creek, Knownothing Creek (including West Fork and East Fork), Little North Fork Salmon River, Methodist Creek, Nordheimer Creek, Plummer Creek, and St. Claire Creek.
- Scott River was surveyed from Fay Lane in the upper Scott Valley to the confluence of the Klamath River. Lack of access across or through private property excluded some segments or portions within reaches from survey.
 - Surveys also included upper South Fork Scott River and its Boulder Creek tributary.

The USFS and CDFG held two training sessions for agency employees, Tribal employees, and volunteers. On October 3rd, the redd survey/carcass mark-recapture training was held at Indian Scotty Group campground on the Scott River. Similar training was held at Oak Bottom River Access on the mainstem Salmon River on September 26th. Topics discussed at the trainings

comprised redd and fish identification; carcass marking, including the explanation of Petersen mark-recapture estimates; scale, tissue, and otolith sampling; data collection; salmonid life cycles; and survey safety procedures. An expanded swift-water training and safety session was held on October 7th at Indian Scotty campground.

Table 2. Fall Chinook spawning survey reach descriptions for Salmon River and Scott Rivers in 2011. Salmon River reaches surveyed by Six Rivers National Forest not included.

| Stream Name | Reach Name | Reach Number | Miles | Number of Times Surveyed ¹ | Total Number of Redds Surveyed... |
|---------------------|--------------------------------|--------------|-------|---------------------------------------|-----------------------------------|
| Salmon River | | | | | |
| Mainstem | Otter Bar to Nordheimer Ck | 4A | 1.6 | 9 | 67 |
| | Forks of Salmon to Otter Bar | 4B | 2.4 | 9 | 111 |
| North Fork | Mile 2 to Forks of Salmon | 9A | 2.0 | 11 | 108 |
| | Mile 4 to Mile 2 | 9B | 2.0 | 11 | 82 |
| | Mile 6 to Mile 4 | 10A | 2.0 | 11 | 50 |
| | Mile 8 to Mile 6 | 10B | 2.0 | 4 | 65 |
| | Mile 10 to Mile 8 | 11A | 2.0 | 4 | 54 |
| | Mile 12 to Mile 10 | 11B | 2.0 | 2 | 32 |
| | Mile 16 to Mile 12 | 12 | 4.0 | 1 | 3 |
| South Fork | Henry Bell to Forks of Salmon | 5A | 3.0 | 8 | 118 ² |
| | O'Farrell Gulch to Henry Bell | 5B | 2.0 | 9 | 126 |
| | Indian Ck to O'Farrell Gulch | 6A | 3.0 | 8 | 102 |
| | Matthews Ck to Indian Ck | 6B | 2.2 | 7 | 69 |
| Tributaries | Indian Creek | | 1.5 | 1 | 0 |
| | Knownothing Creek | | 2.5 | 3 | 12 |
| | EF Knownothing Creek | | 0.8 | 1 | 4 |
| | WF Knownothing Creek | | 0.4 | 1 | 4 |
| | Little NF Salmon River | | 3.0 | 1 | 11 |
| | Methodist Creek | | 1.3 | 2 | 12 |
| | Nordheimer Creek | | 2.5 | 1 | 22 |
| | Plummer Creek | | 0.4 | 1 | 1 |
| | St. Claire Creek | | 0.5 | 1 | 0 |
| Scott River | | | | | |
| | Midpoint to Confluence | 1 | 2.5 | 15 | 49 |
| | Trabucco to Midpoint | 2 | 2.5 | 15 | 31 |
| | George Allen to Trabucco | 3 | 1.9 | 15 | 20 |
| | Tompkins Creek to George Allen | 4 | 2.5 | 14 | 25 |

| Stream Name | Reach Name | Reach Number | Miles | Number of Times Surveyed ¹ | Total Number of Redds Surveyed... |
|-------------|--------------------------------|--------------|-------|---------------------------------------|-----------------------------------|
| | Bridge Flat to Tompkins Creek | 5 | 4.0 | 14 | 24 |
| | CDFG Weir to Bridge Flat | 6 | 3.8 | 14 | 40 |
| | USGS Gauge to CDFG Weir | 7 | 3.5 | 10 | 41 |
| | Meamber Bridge to USGS Gauge | 8 | 3.5 | 16 | 246 |
| | Dunlap to Meamber Bridge | 9 | 3.0 | 0 | Not surveyed |
| | Hwy 3 to Dunlap | 10 | 3.0 | 0 | Not surveyed |
| | Eller Lane to Hwy 3 | 11 | 7.0 | 0 | Not surveyed |
| | Sweezy to Eller Lane | 12 | 2.5 | 6 | 16 ³ |
| | Horn Lane to Sweezy | 13 | 3.0 | 7 | 50 ³ |
| | Young's Dam to Horn Lane | 14 | 2.0 | 13 | 107 ³ |
| | Fay Lane to Young's Dam | 15 | 3.5 | 12 | 104 ³ |
| | Top of Barnes to Fay Lane | 16 | 1.0 | 0 | Not surveyed |
| Tributaries | Boulder Creek (SF Scott River) | | 1.0 | 1 | 0 |
| | SF Scott River | | 1.3 | 1 | 0 |

¹Flagging marking redds was removed prior to end of carcass surveys. "Times Surveyed" includes ALL surveys, even those performed end-of-season when redds were no longer counted.

²Reach 5A (Henry Bell to Forks of Salmon) is not flagged. Number reported is the maximum number of observed redds (11/1/11).

³Reaches 12 through 15 of the Scott River are not flagged. Number reported is the maximum number of observed redds. See the text and associated Table 3 for additional information, including date of maximum observance.

On the Salmon and Scott Rivers, crews conducted two concurrent surveys on survey reaches, using redd counts and carcass counts (CDFG 2011). A typical crew consisted of two people. Each crew walked two to five miles of river each survey day unless health or safety concerns limited ability to survey. The number of times a reach was surveyed was directly related to the number of people available on the survey dates. When a lack of available surveyors was a concern, the reaches to be surveyed were determined by the level of activity observed on the prior survey date and personnel knowledge of the system. Access to private land was also a concern on the Scott River. An attempt was made to have people survey different reaches throughout the season so as to reduce estimator bias.

On both rivers, all redds were counted, flagged, and location marked on a topographic map, with total number of redds tallied at the end of each reach. Reaches where redds were not marked due to landowner preference regarding flagging on their property are listed below. Additionally, redds (where flagged) were characterized as to size (width/length) and habitat type in which it was observed. At mid-point and end-of-season, redds were GPSed. Original field maps of redd locations are available at the Salmon-Scott Rivers District Office in Fort Jones, CA.

- Salmon River, not flagged – Reach 5A
- Scott River, not flagged – Reaches 12 through 15

RESULTS

Salmon River

Overall effort on the Salmon River was good, with the exception of an early season storm causing the cancellation of the first survey on October 11th (for mainstem/forks; Forest Service crews did complete tributary surveys). Elevated flows at the end of November affected effort, restricting which reaches could be safely entered as a function of availability of specialized equipment (e.g., dry suits) and personnel experienced with high water conditions, but no days were called off (**Appendix B**).

The Salmon River probably reached peak spawning in early- to mid-October, although specific dates can not be determined because by October 14th, spawning activity was already well begun (**Figure 1**). Surveyors participating in the spring Chinook spawning survey (September to early-October) observed a large number of new fish moving into the middle reaches of both North Fork and South Fork – locales correspond with the downstream-most sample area for spring Chinook – at the end of September; and shortly thereafter, an increase in redds began to be reported on datasheets. It is highly likely these fresh fish were fall Chinook, and the uptick in redds represents a spatial and temporal overlap of the two runs. Potential fall Chinook fish/redds were not separated from the spring Chinook dataset. Overall survey effort was affected by amount of surveyors available, weather, and flows. See **Appendix C** for a table of redd numbers organized by reach and date.

The sustained higher-than-average Salmon River system discharge appears to have affected timing of fall Chinook, as well as where they were found. An early-October storm which resulted in a pulse of high water may have also stimulated movement and spawning. Compared to previous years, peak fall Chinook spawning was advanced several weeks and fish were observed higher in the watershed. There is normally a more distinct separation in timing and location between the spring and fall runs. Additionally, redds and/or fish were observed at greater numbers in tributaries than is considered typical, as well as were traveling further upstream into these smaller systems.

Specific areas of the Salmon River display a greater preference for use by spawning fall Chinook. Specifically, GPS and map data indicate the reaches nearest Forks of Salmon to show the highest redd density. Reaches with more than 100 redds include 4A (mainstem); 5A, 5B, and 6A (SF Salmon); and 9A (NF Salmon). In general, spawning activity decreases the further the North Fork and South Fork are progressed upstream. Tributary use was more dispersed than that found in the mainstem or forks, with only one or two redds found at any single locale. See **Appendix D** for redd spatial distribution and density information.

Using survey data, the Salmon River is estimated to have had about 5,493 fall run Chinook salmon return in the fall of 2011 (**Figure 2; Appendix A**). Draft MegaTable results indicate 2011 was above average, ranking 2nd for run size.

Figure 1. Fall Chinook redds observed and survey effort on the Salmon River in 2011. Surveys occurred (maximum 13 reaches available) on NF Salmon River from Mile 16 to Forks of Salmon; on SF Salmon River from Matthews Creek to Forks of Salmon; and on the mainstem Salmon River from Forks of Salmon to Nordheimer Creek.

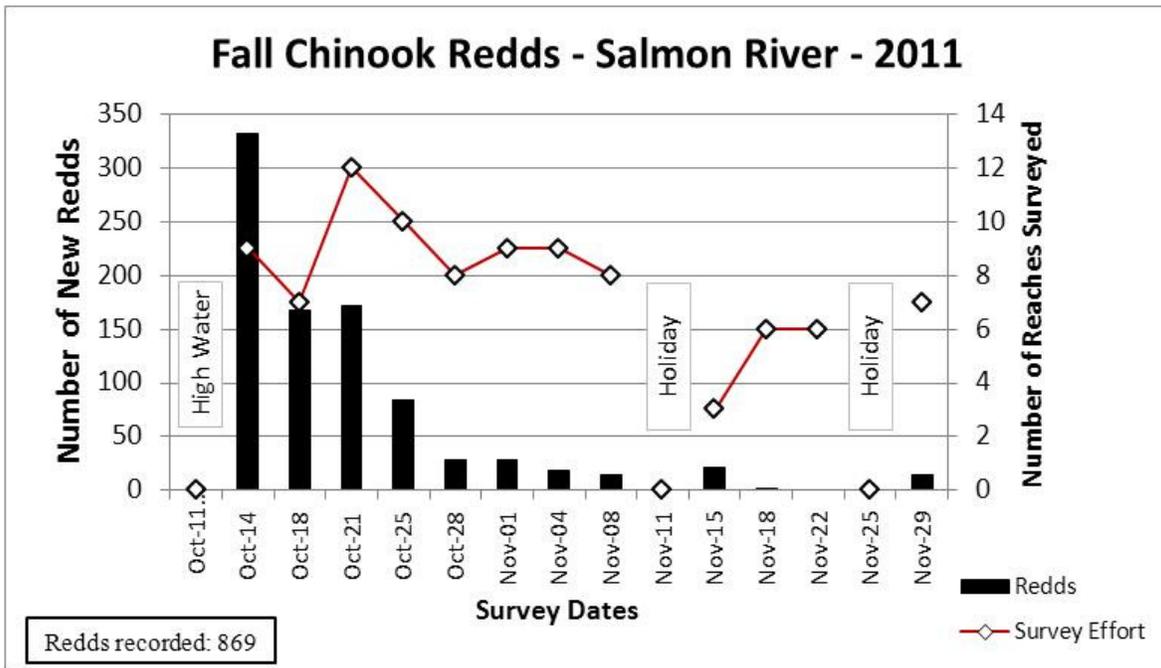
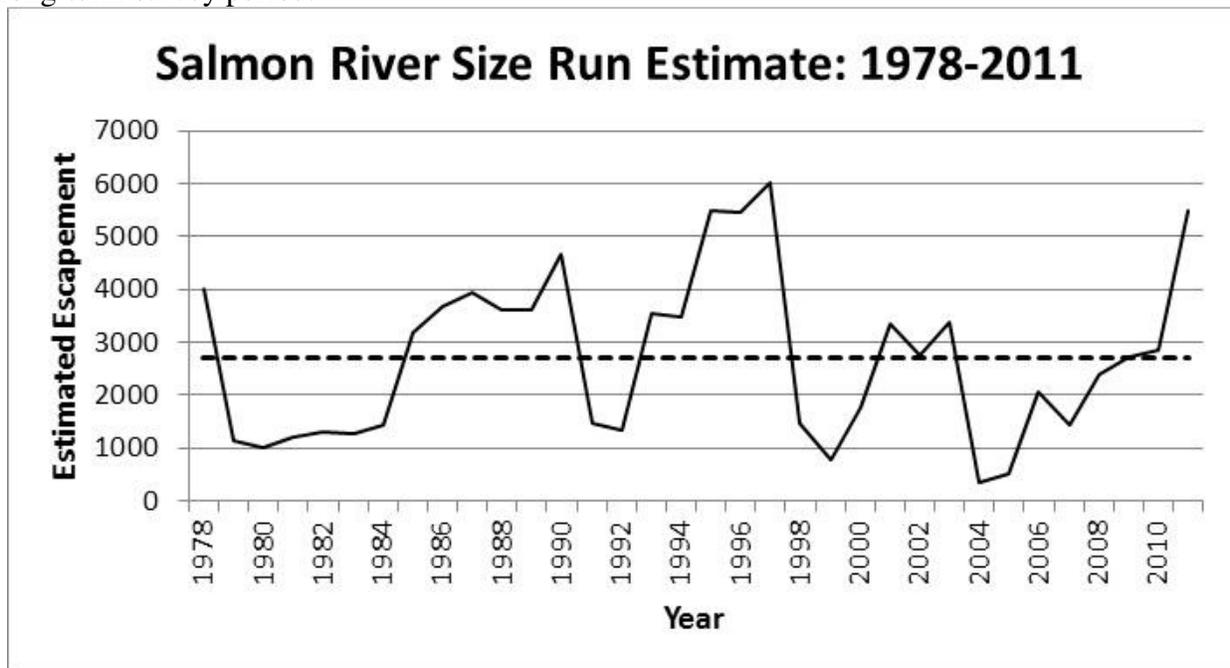


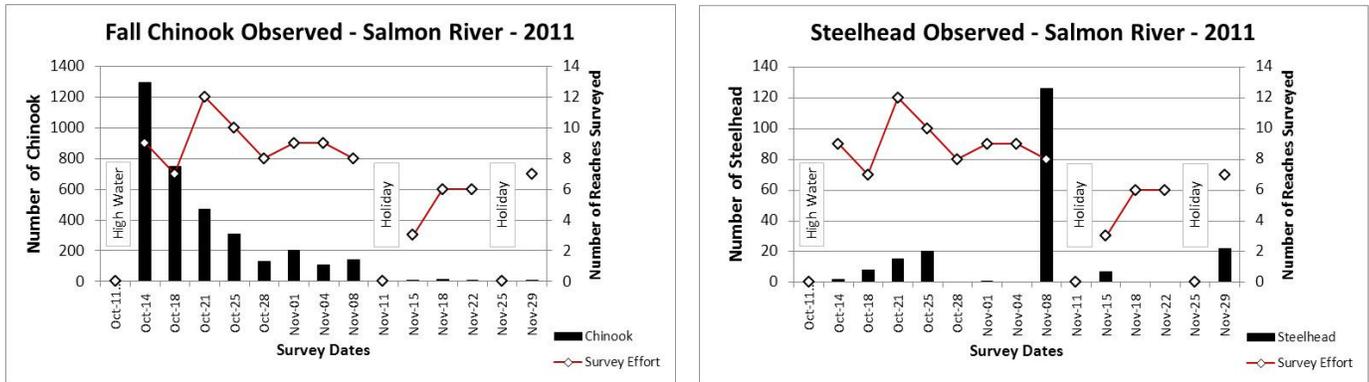
Figure 2. Salmon River fall run size estimates for 1978 to 2011. Dashed line is average over long-term survey period.



Live Chinook and steelhead were tallied during surveys (**Figure 3**). As with redds, survey effort is impacted by high flow; and fish observation is affected by number of surveyors, weather,

discharge conditions, and surveyor experience. Peak live Chinook were observed on October 14th, with subsequent numbers declining within the survey area. Similar to redd results, true peak cannot be definitely determined because fish were already very active upon the spawning grounds at the commencement of surveys. Steelhead numbers were variable, with the peak on November 8th due to a large number of fish observed in Reach 4A (Otter Bar to Nordheimer Creek). See **Appendix C** for a table of fish numbers organized by species, reach, and date.

Figure 3. Observation of fall Chinook and steelhead during the 2011 Salmon River surveys.



Coho were also incidentally observed during the fall Chinook surveys:

- October 14th
 - One coho reported in Reach 4B (Forks of Salmon to Otter Bar)
- October 21st
 - One coho reported in Reach 4B (Forks of Salmon to Otter Bar)
- October 28th
 - One coho carcass retrieved from Reach 5B (O’Farrell to Henry Bell)
- November 8th
 - One coho carcass retrieved from Reach 9A (Mile 2 to Forks of Salmon)
- November 15th
 - Possible coho redds reported in Little North Fork Salmon River, but no fish present to confirm identity.

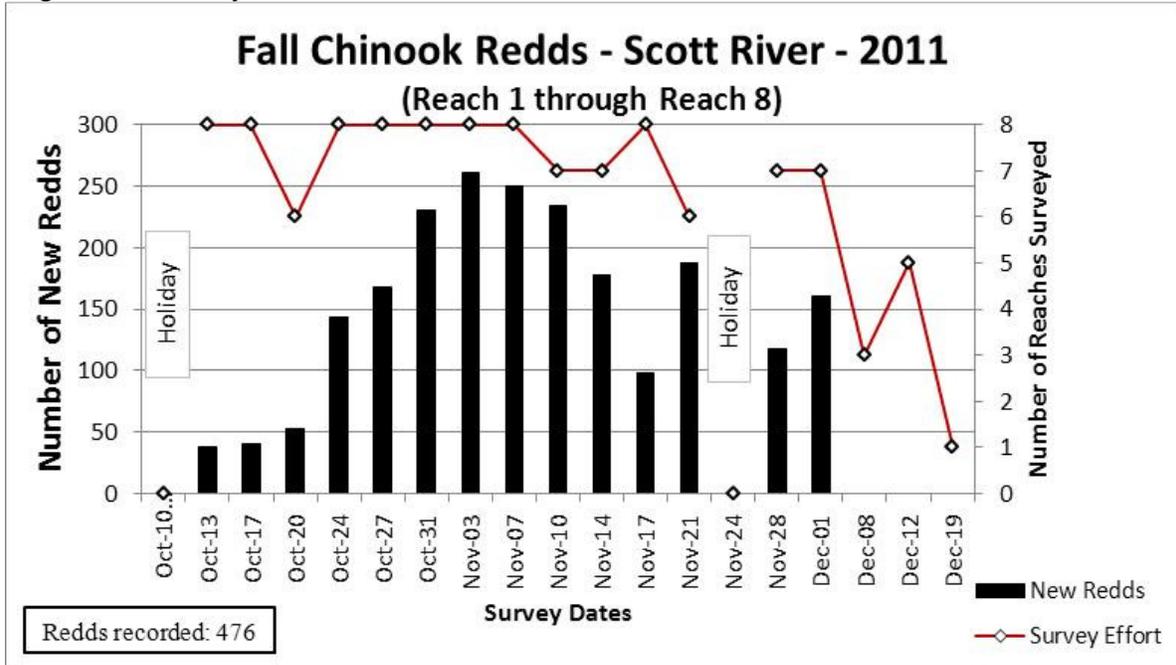
Salmon River tributary surveys occurred during October and November (**Appendix A**). Chinook salmon redds and/or fish were found on Knownothing Creek, East Fork Knownothing Creek, West Fork Knownothing Creek, Little North Fork Salmon River, Methodist Creek, Nordheimer Creek, and Plummer Creek. Steelhead were observed on Methodist Creek.

Scott River

Based on the available data, the Scott River reached the peak of spawning on November 3rd for Reach 1 through Reach 8 (**Figure 4**). This date is similar or slightly advanced compared to that observed in other years. An examination of the data split by reach and date [see **Appendix A**] suggests spawning to have peaked below the USGS gauge approximately a week prior to that upstream the gauge. This expected observation is the result of fish moving to the middle and upper portions of the Scott River as the spawning period progressed through October and November. A higher than average mainstem discharge is also believed to have facilitated

upstream movement of fish. Overall survey effort was affected by the amount of surveyors available, weather, and flows. See **Appendix C** for a table of redd numbers organized by reach and date.

Figure 4. Fall Chinook redds observed and survey effort on the Scott River in 2011. Due to differences in redd tracking between lower and middle reaches, data displayed is for Reach 1 through Reach 8 only.



The Scott Valley Resource Conservation District performed redd and carcass surveys upon private property from Reach 12 through Reach 15. Landowner preference was to leave redds unflagged. Therefore, because “new” and “old” redds cannot be reliably differentiated, all are counted during each survey date. Theoretically, total redd number for each reach should increase until a maximum is achieved, and then remain thereabouts until the end of the survey period. In reality, weather and water conditions, scouring by high flows, superimposition of redds, surveyor experience, and other factors create conditions whereupon this does not necessarily occur. If maximum number of redds in these survey reaches are tallied, regardless of date, a total of 277 redds is calculated (**Table 3**). Overall peak spawning for Reach 12 through Reach 15 appears to have occurred a week to ten days later compared to downstream reaches.

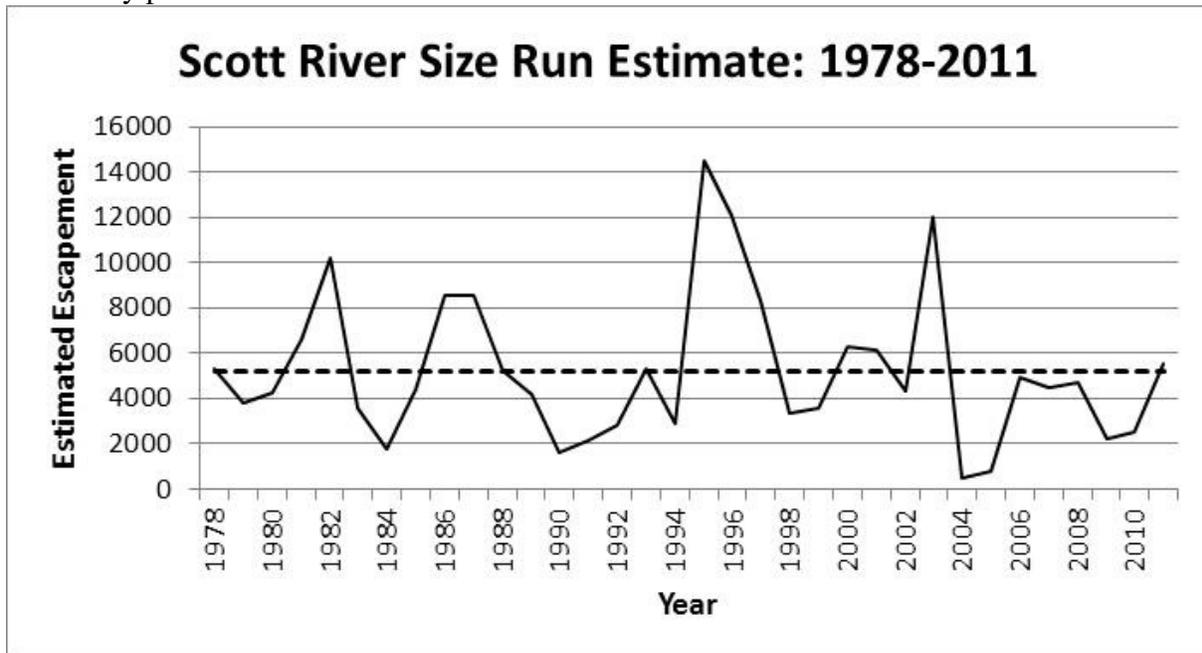
Table 3. Maximum number of redds and date observed by for Reach 12 through Reach 15 for Scott River in 2011.

| | Reach 12 | Reach 13 | Reach 14 | Reach 15 | Total |
|---------------|----------|----------|----------|----------|-------|
| Maximum Redds | 16 | 50 | 107 | 104 | 277 |
| | Oct-31 | Nov-07 | Nov-10 | Nov-10 | |

Specific areas of Scott River display a greater preference for use by spawning fall Chinook. Within the GPSed segment of Reach 1 through Reach 8, the highest concentration of fish was Reach 8 (above the canyon, and at the lower end of the Scott Valley). Next in prominence was Reach 1, with three distinct locales of concentrated redd placement. While there were a few areas of elevated use within the other reaches, spawning can primarily be described as dispersed, with less than five redds in vicinity to each other the norm. At the time of this report, neither GPS data nor maps had been provided to the Forest Service by the Scott Valley Resource Conservation District for inclusion. However, from examination of redd tallies, both Reach 14 and Reach 15 display the most use behind Reach 8 for those areas surveyed on the Scott River mainstem. See **Appendix D** for redd spatial distribution and density information.

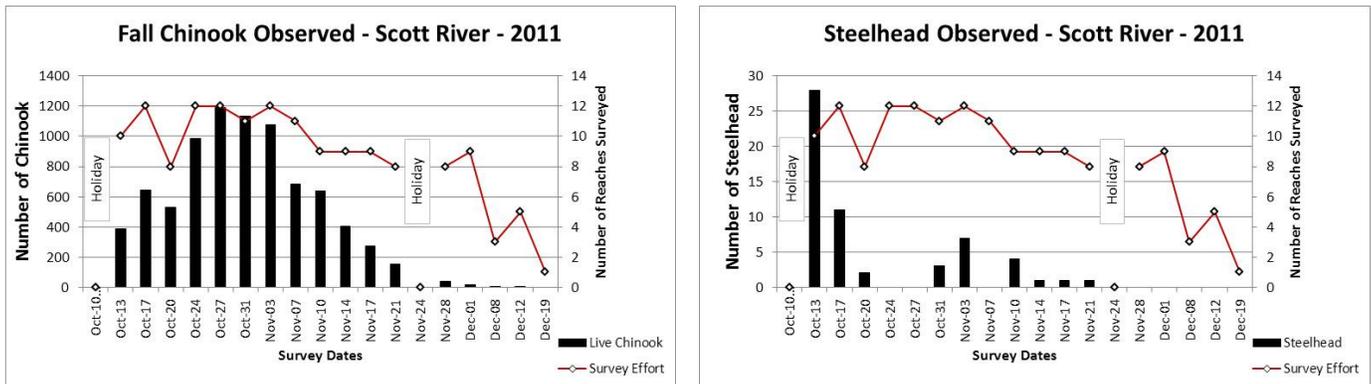
Using survey data and video weir observation, the Scott River is estimated to have had about 5,515 fall Chinook salmon return in 2011 (**Figure 5; Appendix A**). Based on draft MegaTable results, 2011 was just above average, ranking 11th for run size.

Figure 5. Scott River fall run size estimates for 1978 to 2011. Dashed line is average over long-term survey period.



Live Chinook and steelhead were tallied during surveys (**Figure 6**). As with redds, fish observation is affected by number of surveyors, weather, discharge conditions, and surveyor experience. Peak live Chinook were observed on October 27th, with subsequent numbers declining within the survey area. Similar to the redd count, number of live Chinook appear to have increased at reaches higher in the Scott River after peaks lower in the system. This observation likely reflects upmigrating fish movement. Steelhead numbers were low and highly variable, with most observed during the first survey day. See **Appendix C** for a table of fish numbers organized by species, reach, and date.

Figure 6. Observation of fall Chinook and steelhead during the 2011 Scott River surveys (all reaches).



Coho were also incidentally observed during the fall Chinook surveys:

- October 20th
 - Four possible coho observed in Reach 1 (Midpoint to Confluence)
- November 21st
 - One coho carcass retrieved from Reach 3 (George Allen to Trabucco)
- November 28th
 - One coho reported in Reach 3 (George Allen to Trabucco)
 - One possible coho observed in Reach 8 (Meamber Bridge to USGS Gage)
 - Two coho reported in Reach 14 (Young’s Dam to Horn Lane)
- December 1st
 - Three coho and one redd reported in Reach 14 (Young’s Dam to Horn Lane)
 - Two coho reported in Reach 15 (Fay Lane to Young’s Dam)
- December 19th
 - Two coho carcasses retrieved from Reach 8 (Meamber Bridge to USGS Gage)

Scott River tributary surveys occurred during November (**Appendix A**). No Chinook redds or fish were found.

DISCUSSION

Water discharge was consistently above average due to the exceptional and late-melting 2010/2011 snowpack. In turn, the fall Chinook run was affected, especially on the Salmon River. It was not until late-October or early-November that flows were on par with the long-term norm.

While factors such as ocean survival has a large effect on the number of fish which return to the Klamath Basin, spawning success of the upmigrants is ultimately determined by river conditions and habitat health. Undoubtedly, the higher flows contributed to survival and spawning of one of the Salmon River's largest fall Chinook runs since 1978. Another probably consequence of elevated discharge was the apparent advancement of the spawning peak for fall Chinook from its normal time for both Salmon and Scott Rivers. Finally, anecdotal evidence for the Salmon River is that fall Chinook were spatially and temporally overlapping the spring run to a greater extent than normal, and fish were able to ascend higher in the system, particular tributaries, than is usually observed.

Recommendation Review – 2010 Survey Report

Recommendations from the 2010 Forest Service Salmon-Scott River Survey Report which were adopted in 2011:

1. Flagging redds on Scott River – Forest Service managed land
 - All redds from Reach 1 through Reach 8 were flagged on the date first encountered. The CDFG was able to secure permission to flag redds upon private property where crews were granted survey access. The result was improved redd count accuracy compared to previous years.
2. Flagging redds on Salmon River – protocol adjustment
 - For 2011, the protocol on the Salmon River was to flag and map redds *every* survey day, instead of once a week. Normalization of the protocol eliminated confusion by surveyors as to when to flag/map, which in turn provided for cleaner data. Additionally, the new survey form, whereupon each flagged redd included an entry with data specific to the redd, also appeared to decrease error.
3. Taking GPS points of redds – Scott River and Salmon River
 - For 2011, GPSing was attempted upon both Scott River and Salmon River, with implementation upon the former more successful than the latter. Issues encountered and potential improvements for 2012 will be suggested in the “Recommendations” section. However, in both cases, comparison of GPS points and physical map data highlighted the greater accuracy for the GPSing. Depending on familiarity of surveyors with the reach and ability to use a topographic map, redd points vary anywhere from precisely placed to several hundred meters distant. Accurate redd location is important to identify important spawning sites so as to better focus management activities and monitoring.
4. Datasheet and physical map emphasis – Scott River and Salmon River
 - The necessity to turn in maps and datasheets, regardless if redds/fish were encountered, was emphasized at training, as well as the staging area prior to daily surveys. Nonetheless, there continued to be instances of maps/datasheets not returned, particularly later in the season. Occasionally, maps/datasheets were turned in, but either not filled out completely, correctly, or at all. Inconsistencies occurred at a higher rate for the Salmon River compared to the Scott River. Post-season lack-of-maps/datasheet made reconstruction of data difficult, or impossible, for some surveys.
5. Pre-identification of tributary surveys in event of high water
 - For the most part, weather and high water did not hinder surveys to the extent as occurred in 2010. For the Salmon River, multiple copies of maps for commonly

surveyed tributaries were made and are presently available in the data packets maintained by CDFG. While tributary maps were not made for the Scott River system, no days upon the mainstem were missed.

Recommendations

Similar to the recommendation in the 2010 report, the importance of both datasheets and maps needs continued emphasis at both training and the staging area prior to daily surveys. Because there may not be sufficient resources to consistently GPS redds, the use of paper maps in regards to redd distribution, both spatially and temporally, is critical. In regards to datasheets, all information – headers, redd data, live fish count – needs to be filled out *every time* in the manner outlined during training and in the survey manual. For a complete record, all datasheets and maps should be turned in, regardless if redds/fish are observed or not. A negative result still represents an important addition to the final record.

On the Scott River, redd sheets were received from the private reaches surveyed by Scott Valley Resources Conservation District (RCD). Although unexpected, the data was welcome and thusly incorporated into this report. If RCD continues to have an interest in applying the Forest Service redd sheets to the valley reaches, it is highly recommended to invite RCD (as well as interested landowners) to the Scott River training session.

In 2012, Forest Service will substitute “Redd Overlap?” for “Enhanced?” upon the redd datasheets. The latter was a hold-over from the prior version of the redd form. After use through the 2011 survey season, it is the opinion of the District Fish Biologist “Enhanced?” provides little data benefit due to the difficulty for survey crews to recognize where the channel has been modified, particularly in regards to old stream enhancement projects that have been heavily impacted by flood events. The use of “Redd Overlap?” will allow the tracking of redd superposition. The degree of superposition, including where and when it occurs, is expected to provide information on spawning gravel limitations. If such exists, it may occur routinely in specific high-use areas, display an overall reach/river variability dependent upon number of returning fish, or other manifestation.

It is recommended to coordinate with CDFG to investigate the possibility of minor modifications to CDFG summary sheets filled in by crews when each team completes their assigned reach.

- Where reaches are split, reflecting this division on paper will make it clearer for crews as to where to input the daily summary. Split reaches are present on most of the Salmon River, as well as Scott River Reach 8. Currently, crews draw lines to separate “A” and “B” data under the reach entry; and when this occurs, sometimes not all required data is transferred from datasheets to the summary page. This change will also benefit State and Federal agencies when completing their post-season data compilation.
- Expand the “Live Fish” field to specify “Live Fish – Chinook” and “Live Fish – Steelhead”.
- Include a checkbox with each reach for the survey manager to mark when a reach is not surveyed. The manager should also comment why the reach was omitted (e.g., high water, insufficient crew, safety concerns).

Redd data analysis and display requires additional consideration. A lot of redd information is being collected – i.e., size, habitat use, location on the landscape – but it needs to be interpreted and subsequently presented in an accessible manner for it to be of use. Some questions to be addressed in the future could include:

- Is there a better way to visually display the spatial distribution of redds than a density-by-distance map?
- How does timing of spawning differ between reaches and shift on an annual basis, and what are the triggers driving that variability?
- Does the same location see concentrated spawning use each year?

How to display and analyze some data may only become apparent once multiple years of the same datum type has been collected, allowing construction of trends. The desired end result is for spawning (redd) surveys conducted in the Salmon and Scott Rivers watersheds have local applicability in guiding informed management decisions (Forest Service and private individuals) in regards to projects, ongoing/proposed upland and riparian land use activities, and response to climate change.

For the Scott River, it is recommended that tributary surveys be pre-identified in the event of discharge flows above safe levels, else an opportunity otherwise presents itself for additional surveys. Maps for these systems already do exist, but the Forest Service needs to provide copies to the map packets maintained by CDFG so they will be easily available for all cooperators. For some areas, private landowners may need to be approached prior to the survey season in order to ensure access.

While redd GPSing was felt to have gone smoothly on the Scott River, there were issues on the Salmon River, particularly at the end of the season. It is understood that discharge conditions in November can create difficulties in safely accessing the Salmon River. However, the feeling for the Salmon River beginning mid-November was also one of survey fatigue and a desire to hurry and finish the season. This attitude affected the quality of the data. Between the rush to take down flagging (without GPSing) and the lackluster turning in of maps, redd location for the Salmon River in November was not good. Overall, there a greater than 200 redd discrepancy between datasheet and GPS/map points for the Salmon River. In comparison, the Scott River effort was able to GPS and/or reconcile via maps all but one redd recorded on the datasheets.

To ensure a high quality product for both Salmon and Scott Rivers, it is highly recommended that all agencies/entities involved in the respective survey effort should try to commit to bringing at least one GPS-per-crew to the designated GPS day. Some entities – Forest Service, CDFG – may be able to loan additional units. The desired goal is to have sufficient equipment to allow all reaches to be GPSed in a single day. In turn, the Forest Service will provide a computer on GPS days for immediate download from compatible devices. If devices are not compatible, or the computer is inoperable, an agency/entity needs to send the GPS file to the Forest Service survey manager in a timely manner.

For 2012, the recommendation is to continue a twice-a-season GPS, once late-October/early-November and a second time when flagging is removed. The first date would capture the bulk of the spawning and should occur before storm events potentially make river access difficult; and the latter date would capture the remaining redds. Coordination *must* occur, particularly on the

Salmon River, to ensure the GPS protocol is followed. Ideally, sufficient GPSes would be available to log new redds for all reaches on all survey dates, which would alleviate the need to designate GPS days. Unfortunately, this scenario is not expected to occur in the foreseeable future. Something to consider is the possibility of an agency/entity securing a grant to purchase a number of reasonably priced GPSes that can be committed to the fall Chinook survey.

LITERATURE CITED

California Department of Fish and Game (CDFG). 2012. Draft Klamath River Basin fall Chinook salmon spawner escapement, in-river harvest and run-size estimates – 1979-2011.

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Appendix A – California Department Fish and Game “MegaTable”

SPAWNER ESCAPEMENT

| | 1978 | | | 1979 | | | 1980 | | |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 925 | 6,945 | 7,870 | 257 | 2,301 | 2,558 | 451 | 2,412 | 2,863 |
| Trinity River Hatchery (TRH) | 1,325 | 6,034 | 7,359 | 964 | 1,335 | 2,299 | 2,256 | 4,099 | 6,355 |
| Subtotals | 2,250 | 12,979 | 15,229 | 1,221 | 3,636 | 4,857 | 2,707 | 6,511 | 9,218 |
| Natural Spawners | | | | | | | | | |
| Trinity River basin (above Willow Creek, excluding TRH) | 4,712 | 31,052 | 35,764 | 3,936 | 8,028 | 11,964 | 16,837 | 7,700 | 24,537 |
| Salmon River basin | 1,400 | 2,600 | 4,000 | 150 | 1,000 | 1,150 | 200 | 800 | 1,000 |
| Scott River basin | 1,909 | 3,423 | 5,332 | 428 | 3,396 | 3,824 | 2,245 | 2,032 | 4,277 |
| Shasta River basin | 6,707 | 12,024 | 18,731 | 1,040 | 7,111 | 8,151 | 4,334 | 3,762 | 8,096 |
| Bogus Creek basin | 651 | 4,928 | 5,579 | 494 | 5,444 | 5,938 | 1,749 | 3,321 | 5,070 |
| Main Stem Klamath River (excluding IGH) | 300 | 1,700 | 2,000 | 466 | 4,190 | 4,656 | 867 | 2,468 | 3,335 |
| Misc. Klamath tributaries (above Hoopa and Yurok Reservations) | 735 | 2,765 | 3,500 | 147 | 1,068 | 1,215 | 500 | 1,000 | 1,500 |
| Hoopa and Yurok Reservation tribs. | -- b/ | -- b/ | -- b/ | 100 c/ | 400 c/ | 500 c/ | 250 c/ | 400 c/ | 650 c/ |
| Subtotals | 16,414 | 58,492 | 74,906 | 6,761 | 30,637 | 37,398 | 26,982 | 21,483 | 48,465 |
| Total Spawner Escapement | 18,664 | 71,471 | 90,135 | 7,982 | 34,273 | 42,255 | 29,689 | 27,994 | 57,683 |

IN-RIVER HARVEST

| | 1978 | | | 1979 | | | 1980 | | |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 122 | 854 | 976 | 216 | 484 | 700 | 835 | 727 | 1,562 |
| Trinity River basin (above Willow Creek) | -- d/ | -- d/ | -- d/ | 765 | 1,157 | 1,922 | 2,456 | 998 | 3,454 |
| Balance of Klamath system | 1,960 | 840 | 2,800 | 1,200 | 500 | 1,700 | 2,600 | 2,771 | 5,371 |
| Subtotals | 2,082 | 1,694 | 3,776 | 2,181 | 2,141 | 4,322 | 5,891 | 4,496 | 10,387 |
| Indian Net Harvest e/ | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | -- | -- | -- | -- | -- | -- | 495 | 9,605 | 10,100 |
| Klamath River (Hwy 101 to Trinity mouth) | -- | -- | -- | -- | -- | -- | 272 | 1,528 | 1,800 |
| Trinity River (Hoopa Reservation) | -- | -- | -- | -- | -- | -- | 220 | 880 | 1,100 |
| Subtotals | 1,800 | 18,200 | 20,000 | 1,350 | 13,650 | 15,000 | 987 | 12,013 | 13,000 |
| Total In-river Harvest | 3,882 | 19,894 | 23,776 | 3,531 | 15,791 | 19,322 | 6,878 | 16,509 | 23,387 |

IN-RIVER RUN

| | 1978 | | | 1979 | | | 1980 | | |
|---|--------|--------|---------|--------|--------|--------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 22,546 | 91,365 | 113,911 | 11,513 | 50,064 | 61,577 | 36,567 | 44,503 | 81,070 |
| Angling Mortality (2.04% of harvest) f/ | 42 | 35 | 77 | 45 | 44 | 88 | 120 | 92 | 212 |
| Net Mortality (8.70% of harvest) f/ | 157 | 1,583 | 1,739 | 117 | 1,187 | 1,304 | 86 | 1,045 | 1,130 |
| Total In-river Run | 22,745 | 92,983 | 115,728 | 11,675 | 51,295 | 62,970 | 36,773 | 45,640 | 82,413 |

**Klamath River Basin Fall Chinook Salmon Spawner Escapement, In-river Harvest and Run-size Estimates
1978-2011 a/**

SPAWNER ESCAPEMENT

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| | 1981 | | | 1982 | | | 1983 | | |
|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 540 | 2,055 | 2,595 | 1,833 | 8,353 | 10,186 | 514 | 8,371 | 8,885 |
| Trinity River Hatchery (TRH) | 1,004 | 2,370 | 3,374 | 4,235 | 2,058 | 6,293 | 271 | 5,494 | 5,765 |
| Subtotals | 1,544 | 4,425 | 5,969 | 6,068 | 10,411 | 16,479 | 785 | 13,865 | 14,650 |
| Natural Spawners | | | | | | | | | |
| Trinity River basin | | | | | | | | | |
| (above Willow Creek, excluding TRH) | 5,906 | 15,340 | 21,246 | 8,149 | 9,274 | 17,423 | 853 | 17,284 | 18,137 |
| Salmon River basin | 450 | 750 | 1,200 | 300 | 1,000 | 1,300 | 75 | 1,200 | 1,275 |
| Scott River basin | 3,409 | 3,147 | 6,556 | 4,350 | 5,826 | 10,176 | 170 | 3,398 | 3,568 |
| Shasta River basin | 4,330 | 7,890 | 12,220 | 1,922 | 6,533 | 8,455 | 753 | 3,119 | 3,872 |
| Bogus Creek basin | 912 | 2,730 | 3,642 | 2,325 | 4,818 | 7,143 | 335 | 2,713 | 3,048 |
| Main Stem Klamath River | | | | | | | | | |
| (excluding IGH) | 1,000 | 3,000 | 4,000 | 1,000 | 3,000 | 4,000 | 200 | 1,800 | 2,000 |
| Misc. Klamath tributaries | | | | | | | | | |
| (above Hoopa and Yurok Reservations) | 500 | 1,000 | 1,500 | 600 | 1,500 | 2,100 | 140 | 1,270 | 1,410 |
| Hoopa and Yurok Reservation tribs. | -- b/ |
| Subtotals | 16,507 | 33,857 | 50,364 | 18,646 | 31,951 | 50,597 | 2,526 | 30,784 | 33,310 |
| Total Spawner Escapement | 18,051 | 38,282 | 56,333 | 24,714 | 42,362 | 67,076 | 3,311 | 44,649 | 47,960 |

IN-RIVER HARVEST

| | 1981 | | | 1982 | | | 1983 | | |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 536 | 1,714 | 2,250 | 1,252 | 3,539 | 4,791 | 60 | 750 | 810 |
| Trinity River basin (above Willow Creek) | 1,456 | 3,174 | 4,630 | 2,554 | 2,321 | 4,875 | 116 | 2,360 | 2,476 |
| Balance of Klamath system | 5,260 | 1,095 | 6,355 | 8,678 | 2,479 | 11,157 | 175 | 1,125 | 1,300 |
| Subtotals | 7,252 | 5,983 | 13,235 | 12,484 | 8,339 | 20,823 | 351 | 4,235 | 4,586 |
| Indian Net Harvest e/ | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 912 | 23,097 | 24,009 | 290 | 4,547 | 4,837 | 12 | 800 | 812 |
| Klamath River (Hwy 101 to Trinity mouth) | 1,104 | 8,405 | 9,509 | 1,195 | 8,424 | 9,619 | 121 | 5,700 | 5,821 |
| Trinity River (Hoopa Reservation) | 449 | 1,531 | 1,980 | 314 | 1,511 | 1,825 | 30 | 1,390 | 1,420 |
| Subtotals | 2,465 | 33,033 | 35,498 | 1,799 | 14,482 | 16,281 | 163 | 7,890 | 8,053 |
| Total In-river Harvest | 9,717 | 39,016 | 48,733 | 14,283 | 22,821 | 37,104 | 514 | 12,125 | 12,639 |

IN-RIVER RUN

| | 1981 | | | 1982 | | | 1983 | | |
|---|--------|--------|---------|--------|--------|---------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 27,768 | 77,298 | 105,066 | 38,997 | 65,183 | 104,180 | 3,825 | 56,774 | 60,599 |
| Angling Mortality (2.04% of harvest) f/ | 148 | 122 | 270 | 255 | 170 | 425 | 7 | 86 | 94 |
| Net Mortality (8.70% of harvest) f/ | 214 | 2,872 | 3,087 | 156 | 1,259 | 1,416 | 14 | 686 | 700 |
| Total In-river Run | 28,130 | 80,292 | 108,422 | 39,408 | 66,612 | 106,020 | 3,846 | 57,546 | 61,392 |

**Klamath River Basin Fall Chinook Salmon Spawner Escapement, In-river Harvest and Run-size Estimates
1978-2011 a/**

SPAWNER ESCAPEMENT

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| | 1984 | | | 1985 | | | 1986 | | |
|---|--------|----------|----------|--------|--------|---------|--------|---------|---------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 764 | 5,330 | 6,094 | 2,159 | 19,951 | 22,110 | 1,461 | 17,096 | 18,557 |
| Trinity River Hatchery (TRH) | 766 | 2,166 | 2,932 | 18,166 | 2,583 | 20,749 | 3,609 | 15,795 | 19,404 |
| Subtotals | 1,530 | 7,496 | 9,026 | 20,325 | 22,534 | 42,859 | 5,070 | 32,891 | 37,961 |
| Natural Spawners | | | | | | | | | |
| Trinity River basin (above Willow Creek, excluding TRH) | 3,416 | 5,654 | 9,070 | 29,454 | 9,217 | 38,671 | 20,459 | 92,548 | 113,007 |
| Salmon River basin | 216 g/ | 1,226 g/ | 1,442 g/ | 905 | 2,259 | 3,164 | 949 | 2,716 | 3,665 |
| Scott River basin | 358 | 1,443 | 1,801 | 1,357 | 3,051 | 4,408 | 4,865 | 3,176 | 8,041 |
| Shasta River basin | 480 | 2,362 | 2,842 | 2,227 | 2,897 | 5,124 | 683 | 3,274 | 3,957 |
| Bogus Creek basin | 465 | 3,039 | 3,504 | 1,156 | 3,491 | 4,647 | 1,184 | 6,124 | 7,308 |
| Main Stem Klamath River (excluding IGH) | 200 | 1,350 | 1,550 | 156 | 468 | 624 | 196 | 603 | 799 |
| Misc. Klamath tributaries (above Hoopa and Yurok Reservations) | 150 | 990 | 1,140 | 646 | 4,214 | 4,860 | 606 | 4,919 | 5,525 |
| Hoopa and Yurok Reservation tribs. | -- b/ | -- b/ | -- b/ | 50 h/ | 80 h/ | 130 h/ | -- b/ | -- b/ | -- b/ |
| Subtotals | 5,285 | 16,064 | 21,349 | 35,951 | 25,677 | 61,628 | 28,942 | 113,360 | 142,302 |
| Total Spawner Escapement | 6,815 | 23,560 | 30,375 | 56,276 | 48,211 | 104,487 | 34,012 | 146,251 | 180,263 |

IN-RIVER HARVEST

| | 1984 | | | 1985 | | | 1986 | | |
|--|--------|--------|--------|--------|----------|----------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 175 | 548 | 723 | 1,479 | 2,427 v/ | 3,906 | 704 | 2,456 | 3,160 |
| Trinity River basin (above Willow Creek) | 393 | 736 | 1,129 | 5,442 | 154 v/ | 5,596 | 3,438 | 12,039 | 15,477 |
| Balance of Klamath system | 384 | 2,056 | 2,440 | 4,274 | 1,001 v/ | 5,275 | 5,266 | 6,532 | 11,798 |
| Subtotals | 952 | 3,340 | 4,292 | 11,195 | 3,582 v/ | 14,777 | 9,408 | 21,027 | 30,435 |
| Indian Net Harvest e/ | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 132 | 11,878 | 12,010 | 132 | 5,700 | 5,832 | 191 | 15,286 | 15,477 |
| Klamath River (Hwy 101 to Trinity mouth) | 183 | 5,622 | 5,805 | 476 | 3,925 | 4,401 | 377 | 5,033 | 5,410 |
| Trinity River (Hoopa Reservation) | 140 | 1,170 | 1,310 | 947 j/ | 1,941 j/ | 2,888 j/ | 286 | 4,808 | 5,094 |
| Subtotals | 455 | 18,670 | 19,125 | 1,555 | 11,566 | 13,121 | 854 | 25,127 | 25,981 |
| Total In-river Harvest | 1,407 | 22,010 | 23,417 | 12,750 | 15,148 | 27,898 | 10,262 | 46,154 | 56,416 |

IN-RIVER RUN

| | 1984 | | | 1985 | | | 1986 | | |
|---|--------|--------|--------|--------|--------|---------|--------|---------|---------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 8,222 | 45,570 | 53,792 | 69,026 | 63,359 | 132,385 | 44,274 | 192,405 | 236,679 |
| Angling Mortality (2.04% of harvest) f/ | 19 | 68 | 88 | 228 | 73 | 302 | 192 | 429 | 621 |
| Net Mortality (8.70% of harvest) f/ | 40 | 1,623 | 1,663 | 135 | 1,006 | 1,141 | 74 | 2,185 | 2,259 |
| Total In-river Run | 8,281 | 47,261 | 55,542 | 69,389 | 64,438 | 133,827 | 44,540 | 195,019 | 239,559 |

**Klamath River Basin Fall Chinook Salmon Spawner Escapement, In-river Harvest and Run-size Estimates
1978-2011 a/**

SPAWNER ESCAPEMENT

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| | 1987 | | | 1988 | | | 1989 | | |
|--------------------------------------|--------|---------|---------|--------|---------|---------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 1,825 | 15,189 | 17,014 | 609 | 16,106 | 16,715 | 831 | 10,859 | 11,690 |
| Trinity River Hatchery (TRH) | 2,453 | 13,934 | 16,387 | 4,752 | 17,352 | 22,104 | 239 | 11,132 | 11,371 |
| Subtotals | 4,278 | 29,123 | 33,401 | 5,361 | 33,458 | 38,819 | 1,070 | 21,991 | 23,061 |
| Natural Spawners | | | | | | | | | |
| Trinity River basin | | | | | | | | | |
| (above Willow Creek, excluding TRH) | 5,949 | 71,920 | 77,869 | 10,626 | 44,616 | 55,242 | 2,543 | 29,445 | 31,988 |
| Salmon River basin | 118 | 3,832 | 3,950 | 327 | 3,273 | 3,600 | 695 | 2,915 | 3,610 |
| Scott River basin | 797 | 7,769 | 8,566 | 473 | 4,727 | 5,200 | 1,188 | 3,000 | 4,188 |
| Shasta River basin | 398 | 4,299 | 4,697 | 256 | 2,586 | 2,842 | 137 | 1,440 | 1,577 |
| Bogus Creek basin | 1,208 | 9,748 | 10,956 | 225 | 16,215 | 16,440 | 444 | 2,218 | 2,662 |
| Main Stem Klamath River | | | | | | | | | |
| (excluding IGH) | 65 | 863 | 928 | 164 | 2,982 | 3,146 | 214 | 1,011 | 1,225 |
| Misc. Klamath tributaries | | | | | | | | | |
| (above Hoopa and Yurok Reservations) | 237 | 3,286 | 3,523 | 418 | 4,167 | 4,585 | 248 | 3,239 | 3,487 |
| Hoopa and Yurok Reservation tribs. | -- b/ | -- b/ | -- b/ | 55 k/ | 820 k/ | 875 k/ | 40 k/ | 600 k/ | 640 k/ |
| Subtotals | 8,772 | 101,717 | 110,489 | 12,544 | 79,386 | 91,930 | 5,509 | 43,868 | 49,377 |
| Total Spawner Escapement | 13,050 | 130,840 | 143,890 | 17,905 | 112,844 | 130,749 | 6,579 | 65,859 | 72,438 |

IN-RIVER HARVEST

| | 1987 | | | 1988 | | | 1989 | | |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 146 | 2,455 | 2,601 | 124 | 3,367 | 3,491 | 137 | 1,328 | 1,465 |
| Trinity River basin (above Willow Creek) | 923 | 9,433 | 10,356 | 2,735 | 9,341 | 12,076 | 209 | 3,054 | 3,263 |
| Balance of Klamath system | 4,367 | 8,281 | 12,648 | 2,552 | 9,495 | 12,047 | 1,921 | 4,393 | 6,314 |
| Subtotals | 5,436 | 20,169 | 25,605 | 5,411 | 22,203 | 27,614 | 2,267 | 8,775 | 11,042 |
| Indian Net Harvest e/ | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 36 | 39,978 | 40,014 | 138 | 36,914 | 37,052 | 0 | 37,130 | 37,130 |
| Klamath River (Hwy 101 to Trinity mouth) | 117 | 8,136 | 8,253 | 173 | 9,667 | 9,840 | 120 | 4,961 | 5,081 |
| Trinity River (Hoopa Reservation) | 262 | 4,982 | 5,244 | 267 | 5,070 | 5,337 | 71 | 3,474 | 3,545 |
| Subtotals | 415 | 53,096 | 53,511 | 578 | 51,651 | 52,229 | 191 | 45,565 | 45,756 |
| Total In-river Harvest | 5,851 | 73,265 | 79,116 | 5,989 | 73,854 | 79,843 | 2,458 | 54,340 | 56,798 |

IN-RIVER RUN

| | 1987 | | | 1988 | | | 1989 | | |
|---|--------|---------|---------|--------|---------|---------|--------|---------|---------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 18,901 | 204,105 | 223,006 | 23,894 | 186,698 | 210,592 | 9,037 | 120,199 | 129,236 |
| Angling Mortality (2.04% of harvest) f/ | 111 | 412 | 523 | 110 | 453 | 564 | 46 | 179 | 225 |
| Net Mortality (8.70% of harvest) f/ | 36 | 4,617 | 4,653 | 50 | 4,491 | 4,542 | 17 | 3,962 | 3,979 |
| Total In-river Run | 19,048 | 209,134 | 228,182 | 24,054 | 191,642 | 215,696 | 9,100 | 124,340 | 133,440 |

**Klamath River Basin Fall Chinook Salmon Spawner Escapement, In-river Harvest and Run-size Estimates
1978-2011 a/**

SPAWNER ESCAPEMENT

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| | 1990 | | | 1991 | | | 1992 | | |
|--------------------------------------|--------------|----------------|----------------|------------|--------------|--------------|-------------|--------------|--------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 321 | 6,719 | 7,040 | 65 | 4,002 | 4,067 | 3,737 | 3,581 | 7,318 |
| Trinity River Hatchery (TRH) | 371 | 1,348 | 1,719 | 205 | 2,482 | 2,687 | 211 | 3,779 | 3,990 |
| Subtotals | 692 | 8,067 | 8,759 | 270 | 6,484 | 6,754 | 3,948 | 7,360 | 11,308 |
| Natural Spawners | | | | | | | | | |
| Trinity River basin | | | | | | | | | |
| (above Willow Creek, excluding TRH) | 241 | 7,682 | 7,923 | 382 | 4,867 | 5,249 | 2,563 | 7,139 | 9,702 |
| Salmon River basin | 596 <i>l</i> | 4,071 <i>l</i> | 4,667 <i>l</i> | 143 | 1,337 | 1,480 | 547 | 778 | 1,325 |
| Scott River basin | 236 | 1,379 | 1,615 | 146 | 2,019 | 2,165 | 965 | 1,873 | 2,838 |
| Shasta River basin | 118 | 415 | 533 | 10 | 716 | 726 | 66 | 520 | 586 |
| Bogus Creek basin | 53 | 732 | 785 | 20 | 1,261 | 1,281 | 556 | 598 | 1,154 |
| Main Stem Klamath River | | | | | | | | | |
| (excluding IGH) | 59 | 505 | 564 | 8 | 572 | 580 | 234 | 366 | 600 |
| Misc. Klamath tributaries | | | | | | | | | |
| (above Hoopa and Yurok Reservations) | 30 | 694 | 724 | 9 | 495 | 504 | 153 | 280 | 433 |
| Hoopa and Yurok Reservation tribs. | 17 <i>k</i> | 118 <i>k</i> | 135 <i>k</i> | 0 <i>k</i> | 382 <i>k</i> | 382 <i>k</i> | 59 <i>k</i> | 474 <i>k</i> | 533 <i>k</i> |
| Subtotals | 1,350 | 15,596 | 16,946 | 718 | 11,649 | 12,367 | 5,143 | 12,028 | 17,171 |
| Total Spawner Escapement | 2,042 | 23,663 | 25,705 | 988 | 18,133 | 19,121 | 9,091 | 19,388 | 28,479 |

IN-RIVER HARVEST

| | 1990 | | | 1991 | | | 1992 | | |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 58 | 291 | 349 | 19 | 314 | 333 | 13 | 20 | 33 |
| Trinity River basin (above Willow Creek) | 22 | 328 | 350 | 94 | 1,177 | 1,271 | 158 | 314 | 472 |
| Balance of Klamath system | 2,020 | 2,934 | 4,954 | 573 | 1,892 | 2,465 | 3,949 | 668 | 4,617 |
| Subtotals | 2,100 | 3,553 | 5,653 | 686 | 3,383 | 4,069 | 4,120 | 1,002 | 5,122 |
| Indian Net Harvest <i>e/</i> | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 13 | 3,648 | 3,661 | 7 | 3,902 | 3,909 | 124 | 1,152 | 1,276 |
| Klamath River (Hwy 101 to Trinity mouth) | 141 | 3,447 | 3,588 | 25 | 5,016 | 5,041 | 200 | 3,687 | 3,887 |
| Trinity River (Hoopa Reservation) | 36 | 811 | 847 | 30 | 1,280 | 1,310 | 42 | 946 | 988 |
| Subtotals | 190 | 7,906 | 8,096 | 62 | 10,198 | 10,260 | 366 | 5,785 | 6,151 |
| Total In-river Harvest | 2,290 | 11,459 | 13,749 | 748 | 13,581 | 14,329 | 4,486 | 6,787 | 11,273 |

IN-RIVER RUN

| | 1990 | | | 1991 | | | 1992 | | |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 4,332 | 35,122 | 39,454 | 1,736 | 31,714 | 33,450 | 13,577 | 26,175 | 39,752 |
| Angling Mortality (2.04% of harvest) <i>f/</i> | 43 | 73 | 115 | 14 | 69 | 83 | 84 | 20 | 105 |
| Net Mortality (8.70% of harvest) <i>f/</i> | 17 | 687 | 704 | 5 | 887 | 892 | 32 | 503 | 535 |
| Total In-river Run | 4,392 | 35,882 | 40,274 | 1,755 | 32,670 | 34,425 | 13,693 | 26,698 | 40,391 |

**Klamath River Basin Fall Chinook Salmon Spawner Escapement, In-river Harvest and Run-size Estimates
1978-2011 a/**

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SPAWNER ESCAPEMENT

| | 1993 | | | 1994 | | | 1995 | | |
|--------------------------------------|------------------|-------------------|-------------------|-------------------|----------------------|---------------------|-------------------|----------------------|---------------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 883 | 20,828 | 21,711 | 758 | 13,808 ^{m/} | 14,566 | 259 | 22,681 ^{m/} | 22,940 |
| Trinity River Hatchery (TRH) | 736 | 815 | 1,551 | 4,442 | 3,264 | 7,706 | 76 | 15,178 | 15,254 |
| Subtotals | 1,619 | 21,643 | 23,262 | 5,200 | 17,072 | 22,272 | 335 | 37,859 | 38,194 |
| Natural Spawners | | | | | | | | | |
| Trinity River basin | | | | | | | | | |
| (above Willow Creek, excluding TRH) | 2,465 | 5,905 | 8,370 | 2,505 | 10,906 | 13,411 | 9,262 | 77,876 | 87,138 |
| Salmon River basin | 456 | 3,077 | 3,533 | 277 | 3,216 | 3,493 | 1,335 | 4,140 | 5,475 |
| Scott River basin | 265 | 5,035 | 5,300 | 505 | 2,358 | 2,863 | 3,279 | 11,198 | 14,477 |
| Shasta River basin | 85 | 1,341 | 1,426 | 1,840 | 3,363 | 5,203 | 695 | 12,816 | 13,511 |
| Bogus Creek basin | 431 | 3,285 | 3,716 | 443 | 7,817 | 8,260 | 1,207 | 45,225 | 46,432 |
| Main Stem Klamath River | | | | | | | | | |
| (excluding IGH) | 31 ^{n/} | 647 ^{n/} | 678 ^{n/} | 625 ^{n/} | 3,249 ^{n/} | 3,874 ^{n/} | 768 ^{n/} | 6,472 ^{n/} | 7,240 ^{n/} |
| Misc. Klamath tributaries | | | | | | | | | |
| (above Hoopa and Yurok Reservations) | 92 | 2,470 | 2,562 | 50 | 1,202 | 1,252 | 744 ^{o/} | 3,654 ^{o/} | 4,398 ^{o/} |
| Hoopa and Yurok Reservation tribs. | 0 ^{h/} | 98 ^{h/} | 98 ^{h/} | 0 ^{h/} | 222 ^{h/} | 222 ^{h/} | 34 ^{p/} | 413 ^{p/} | 447 ^{p/} |
| Subtotals | 3,825 | 21,858 | 25,683 | 6,245 | 32,333 | 38,578 | 17,324 | 161,794 | 179,118 |
| Total Spawner Escapement | 5,444 | 43,501 | 48,945 | 11,445 | 49,405 | 60,850 | 17,659 | 199,653 | 217,312 |

IN-RIVER HARVEST

| | 1993 | | | 1994 | | | 1995 | | |
|--|--------|--------|--------|--------|--------|--------|--------|---------------------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 23 | 669 | 692 | 246 | 662 | 908 | 323 | 956 | 1,279 |
| Trinity River basin (above Willow Creek) | 172 | 391 | 563 | 547 | 260 | 807 | 554 | 2,779 | 3,333 |
| Balance of Klamath system | 1,730 | 2,112 | 3,842 | 1,763 | 910 | 2,673 | 3,543 | 2,346 ^{q/} | 5,889 |
| Subtotals | 1,925 | 3,172 | 5,097 | 2,556 | 1,832 | 4,388 | 4,420 | 6,081 | 10,501 |
| Indian Net Harvest e/ | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 62 | 3,017 | 3,079 | 81 | 4,362 | 4,443 | 137 | 5,119 | 5,256 |
| Klamath River (Hwy 101 to Trinity mouth) | 80 | 5,127 | 5,207 | 118 | 5,064 | 5,182 | 152 | 7,055 | 7,207 |
| Trinity River (Hoopa Reservation) | 33 | 1,492 | 1,525 | 94 | 2,266 | 2,360 | 268 | 3,383 | 3,651 |
| Subtotals | 175 | 9,636 | 9,811 | 293 | 11,692 | 11,985 | 557 | 15,557 | 16,114 |
| Total In-river Harvest | 2,100 | 12,808 | 14,908 | 2,849 | 13,524 | 16,373 | 4,977 | 21,638 | 26,615 |

IN-RIVER RUN

| | 1993 | | | 1994 | | | 1995 | | |
|--|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 7,544 | 56,309 | 63,853 | 14,294 | 62,929 | 77,223 | 22,636 | 221,291 | 243,927 |
| Angling Mortality (2.04% of harvest) ^{f/} | 39 | 65 | 104 | 52 | 37 | 90 | 90 | 124 | 214 |
| Net Mortality (8.70% of harvest) ^{f/} | 15 | 838 | 853 | 25 | 1,017 | 1,042 | 48 | 1,353 | 1,401 |
| Total In-river Run | 7,598 | 57,212 | 64,810 | 14,371 | 63,983 | 78,354 | 22,774 | 222,768 | 245,542 |

**Klamath River Basin Fall Chinook Salmon Spawner Escapement, In-river Harvest and Run-size Estimates
1978-2011 a/**

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SPAWNER ESCAPEMENT

| | 1996 | | | 1997 | | | 1998 | | |
|---|--------|----------|----------|--------|----------|----------|--------|----------|----------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 543 | 13,622 | 14,165 | 452 | 13,275 | 13,727 | 403 | 14,923 | 15,326 |
| Trinity River Hatchery (TRH) | 249 | 6,411 | 6,660 | 820 | 5,387 | 6,207 | 192 | 14,296 | 14,488 |
| Subtotals | 792 | 20,033 | 20,825 | 1,272 | 18,662 | 19,934 | 595 | 29,219 | 29,814 |
| Natural Spawners | | | | | | | | | |
| Trinity River basin | 4,478 | 42,646 | 47,124 | 2,845 | 11,507 | 14,352 | 1,974 | 24,460 | 26,434 |
| (above Willow Creek, excluding TRH) | 274 | 5,189 | 5,463 | 217 | 5,783 | 6,000 | 116 | 1,337 | 1,453 |
| Salmon River basin | 145 | 11,952 | 12,097 | 277 | 8,284 | 8,561 | 266 | 3,061 | 3,327 |
| Scott River basin | 46 | 1,404 | 1,450 | 334 | 1,667 | 2,001 | 76 | 2,466 | 2,542 |
| Shasta River basin | 377 | 10,420 | 10,797 | 221 | 9,809 | 10,030 | 205 | 6,630 | 6,835 |
| Bogus Creek basin | | | | | | | | | |
| Main Stem Klamath River | 218 n/ | 2,790 n/ | 3,008 n/ | 104 n/ | 3,472 n/ | 3,576 n/ | 109 n/ | 2,913 n/ | 3,022 n/ |
| (excluding IGH) | | | | | | | | | |
| Misc. Klamath-Trinity tributaries | 581 o/ | 5,804 o/ | 6,385 o/ | 174 o/ | 5,174 o/ | 5,348 o/ | 83 o/ | 1,232 o/ | 1,315 o/ |
| (above Hoopa and Yurok Reservations) | 55 p/ | 1,121 p/ | 1,176 p/ | 53 p/ | 448 p/ | 501 p/ | 26 p/ | 389 p/ | 415 p/ |
| Hoopa and Yurok Reservation tribs. | | | | | | | | | |
| Subtotals | 6,174 | 81,326 | 87,500 | 4,225 | 46,144 | 50,369 | 2,855 | 42,488 | 45,343 |
| Total Spawner Escapement | 6,966 | 101,359 | 108,325 | 5,497 | 64,806 | 70,303 | 3,450 | 71,707 | 75,157 |

IN-RIVER HARVEST

| | 1996 | | | 1997 | | | 1998 | | |
|--|--------|--------|----------|--------|--------|----------|--------|----------|----------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 100 | 3,110 | 3,210 | 49 | 2,182 | 2,231 | 124 | 1,603 | 1,727 |
| Klamath River (Hwy 101 to Coon Cr Falls) | 1,128 | 4,052 | 5,180 | 1,226 | 512 | 1,738 | 406 | 1,270 | 1,676 |
| Trinity River basin (above Willow Creek) | 331 | 1,214 | 1,545 r/ | 353 | 1,331 | 1,684 s/ | 275 | 3,262 | 3,537 u/ |
| Balance of Klamath system | 753 | 4,390 | 5,143 | 781 | 1,651 | 2,432 v/ | 303 | 1,575 | 1,878 v/ |
| Subtotals | 2,312 | 12,766 | 15,078 | 2,409 | 5,676 | 8,085 | 1,108 | 7,710 x/ | 8,818 |
| Indian Net Harvest e/ | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 163 | 49,113 | 49,276 | 21 | 5,574 | 5,595 | 16 | 3,454 | 3,470 |
| Klamath River (Hwy 101 to Trinity mouth) | 19 | 4,593 | 4,612 | 8 | 5,275 | 5,283 | 32 | 5,198 | 5,230 |
| Trinity River (Hoopa Reservation) | 8 | 2,770 | 2,778 | 6 | 1,238 | 1,244 | 5 | 1,535 | 1,540 |
| Subtotals | 190 | 56,476 | 56,666 | 35 | 12,087 | 12,122 | 53 | 10,187 | 10,240 |
| Total In-river Harvest | 2,502 | 69,242 | 71,744 | 2,444 | 17,763 | 20,207 | 1,161 | 17,897 | 19,058 |

IN-RIVER RUN

| | 1996 | | | 1997 | | | 1998 | | |
|---|--------|---------|---------|--------|--------|--------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 9,468 | 170,601 | 180,069 | 7,941 | 82,569 | 90,510 | 4,611 | 89,604 | 94,215 |
| Angling Mortality (2.04% of harvest) f/ | 47 | 261 | 308 | 49 | 116 | 165 | 23 | 157 | 180 |
| Net Mortality (8.70% of harvest) f/ | 17 | 4,911 | 4,927 | 3 | 1,051 | 1,054 | 5 | 886 | 890 |
| Total In-river Run | 9,532 | 175,773 | 185,305 | 7,993 | 83,736 | 91,729 | 4,639 | 90,647 | 95,286 |

(continued next page)

**Klamath River Basin Fall Chinook Salmon Spawner Escapement, In-river Harvest and Run-size Estimates
1978-2011 a/**

SPAWNER ESCAPEMENT

| | 1999 | | | 2000 | | | 2001 | | |
|---|---------------|---------------|---------------|--------------|----------------|----------------|--------------|----------------|----------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 4,830 | 9,290 | 14,120 | 839 | 71,635 | 72,474 | 1,364 | 37,204 | 38,568 |
| Trinity River Hatchery (TRH) | 2,027 | 5,037 | 7,064 | 1,070 | 25,976 | 27,046 | 267 | 17,908 | 18,175 |
| Hatchery Spawner Subtotals: | 6,857 | 14,327 | 21,184 | 1,909 | 97,611 | 99,520 | 1,631 | 55,112 | 56,743 |
| Natural Spawners | | | | | | | | | |
| Main Stem Klamath River n/ (excluding IGH) | 630 | 1,978 | 2,608 | 184 | 3,271 | 3,455 | 1,016 | 9,832 | 10,848 |
| Salmon River basin | 110 | 670 | 780 | 228 | 1,544 | 1,772 | 743 | 2,607 | 3,350 |
| Scott River basin | 563 | 3,021 | 3,584 | 524 | 5,729 | 6,253 | 744 | 5,398 | 6,142 |
| Shasta River basin | 1,901 | 1,296 | 3,197 | 1,271 | 11,025 | 12,296 | 2,641 | 8,452 | 11,093 |
| Bogus Creek basin | 2,628 | 3,537 | 6,165 | 373 | 34,678 | 35,051 | 648 | 11,927 | 12,575 |
| Misc. Klamath tributaries o/ (above Yurok Reservation) | 251 | 777 | 1,028 | 158 | 1,345 | 1,503 | 538 | 2,240 | 2,778 |
| Yurok Reservation tribs. (Klamath River) p/ | 210 | 381 | 591 | 153 | 796 | 949 | 48 | 488 | 536 |
| Klamath Natural Spawner Subtotals: | 6,293 | 11,660 | 17,953 | 2,891 | 58,388 | 61,279 | 6,378 | 40,944 | 47,322 |
| Main Stem Trinity River dd/ (excluding TRH) | 4,154 | 6,753 | 10,907 | 3,376 | 23,468 | 26,844 | 1,336 | 35,991 | 37,327 cc/ |
| Misc. Trinity tributaries o/ (above Hoopa Reservation) | | | | 103 | 706 | 809 | 27 | 729 | 756 |
| Hoopa Reservation tribs. (Trinity River) p/ | 0 | 44 | 44 | 24 | 166 | 190 | 6 | 170 | 176 |
| Trinity Natural Spawner Subtotals: | 4,154 | 6,797 | 10,951 | 3,503 | 24,340 | 27,843 | 1,369 | 36,890 | 38,259 |
| Natural Spawner Subtotals: | 10,447 | 18,457 | 28,904 | 6,394 | 82,728 | 89,122 | 7,747 | 77,834 | 85,581 |
| Total Spawner Escapement | 17,304 | 32,784 | 50,088 | 8,303 | 180,339 | 188,642 | 9,378 | 132,946 | 142,324 |

IN-RIVER HARVEST

| | 1999 | | | 2000 | | | 2001 | | |
|--|--------------|---------------|---------------|--------------|---------------|---------------|--------------|---------------|---------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 37 | 177 | 214 | 108 | 1,190 | 1,298 | 298 | 4,620 | 4,918 |
| Klamath River (Hwy 101 to Coon Cr Falls) | 869 y/ | 1,112 y/ | 1,981 y/ | 972 | 1,006 | 1,978 | 825 | 1,960 | 2,785 |
| Klamath River (Coon Cr Falls to IGH) | 138 z/ | 571 z/ | 709 z/ | 117 | 1,549 | 1,666 bb/ | 242 | 3,041 | 3,283 |
| Trinity River basin above Weitchpec aa/ | 572 | 422 | 994 | 385 | 1,905 | 2,290 | 135 | 2,513 | 2,648 |
| Angler Harvest Subtotals: | 1616 | 2282 | 3898 | 1582 | 5650 | 7232 | 1,500 | 12,134 | 13,634 |
| Indian Net Harvest e/ | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 126 | 4,387 | 4,513 | 35 | 17,278 | 17,313 | 261 | 28,967 | 29,228 |
| Klamath River (Hwy 101 to Trinity mouth) | 49 | 7,295 | 7,344 | 140 | 6,175 | 6,315 | 78 | 4,724 | 4,802 |
| Trinity River (Hoopa Reservation) | 96 | 2,978 | 3,074 | 128 | 5,962 | 6,090 | 60 | 4,954 | 5,014 |
| Indian Net Harvest Subtotals: | 271 | 14,660 | 14,931 | 303 | 29,415 | 29,718 | 399 | 38,645 | 39,044 |
| Total In-river Harvest | 1,887 | 16,942 | 18,829 | 1,885 | 35,065 | 36,950 | 1,899 | 50,779 | 52,678 |

IN-RIVER RUN

| | 1999 | | | 2000 | | | 2001 | | |
|---|---------------|---------------|---------------|---------------|----------------|----------------|---------------|----------------|----------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 19,191 | 49,726 | 68,917 | 10,188 | 215,404 | 225,592 | 11,277 | 183,725 | 195,002 |
| Angling Mortality (2.04% of harvest) f/ | 33 | 47 | 80 | 32 | 115 | 148 | 31 | 248 | 278 |
| Net Mortality (8.70% of harvest) f/ | 24 | 1,275 | 1,298 | 26 | 2,558 | 2,584 | 35 | 3,360 | 3,395 |
| Total In-river Run | 19,248 | 51,048 | 70,296 | 10,246 | 218,077 | 228,323 | 11,343 | 187,333 | 198,676 |

**Klamath River Basin Fall Chinook Salmon Spawner Escapement, In-river Harvest and Run-size Estimates
1978-2011 a/**

SPAWNER ESCAPEMENT

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| | 2002 | | | 2003 | | | 2004 | | |
|------------------------------------|--------------|---------------|---------------|------------|---------------|---------------|--------------|---------------|---------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 1,294 | 23,667 | 24,961 | 290 | 31,970 | 32,260 | 937 | 10,582 | 11,519 |
| Trinity River Hatchery (TRH) | 1,037 | 3,516 | 4,553 | 574 | 29,812 | 30,386 | 1,044 | 12,399 | 13,443 |
| Hatchery Spawner Subtotals: | 2,331 | 27,183 | 29,514 | 864 | 61,782 | 62,646 | 1,981 | 22,981 | 24,962 |

Natural Spawners

| | | | | | | | | | |
|---|--------------|---------------|---------------|------------|---------------|---------------|------------|---------------|---------------|
| Main Stem Klamath River n/ (excluding IGH) | 658 | 21,650 | 22,308 | 298 | 17,722 | 18,020 | 205 | 5,037 | 5,242 |
| Salmon River basin | 78 | 2,669 | 2,747 | 73 | 3,302 | 3,375 | 51 | 282 | 333 |
| Scott River basin | 47 | 4,261 | 4,308 | 65 | 11,988 | 12,053 | 22 | 445 | 467 |
| Shasta River basin | 386 | 6,432 | 6,818 | 155 | 4,134 | 4,289 | 129 | 833 | 962 |
| Bogus Creek basin | 304 | 17,530 | 17,834 | 188 | 15,422 | 15,610 | 295 | 3,493 | 3,788 |
| Misc. Klamath tributaries o/ (above Yurok Reservation) | 44 | 1,344 | 1,388 | 38 | 1,761 | 1,799 | 80 | 477 | 557 |
| Yurok Reservation tribs. (Klamath River) p/ | 12 | 339 | 351 | 31 | 1,094 | 1,125 | 64 | 144 | 208 |
| Klamath Natural Spawner Subtotals: | 1,529 | 54,225 | 55,754 | 848 | 55,423 | 56,271 | 846 | 10,711 | 11,557 |

| | | | | | | | | | |
|---|--------------|---------------|---------------|--------------|---------------|---------------|--------------|---------------|---------------|
| Main Stem Trinity River dd/ (excluding TRH) | 2,230 | 10,880 | 13,110 | 1,065 | 31,173 | 32,238 | 3,722 | 12,718 | 16,440 |
| Misc. Trinity tributaries o/ (above Hoopa Reservation) | 66 | 324 | 390 | 109 | 602 | 711 | 75 | 258 | 333 |
| Hoopa Reservation tribs. (Trinity River) p/ | 42 | 206 | 248 | 80 | 444 | 524 | 42 | 144 | 186 |
| Trinity Natural Spawner Subtotals: | 2,338 | 11,410 | 13,748 | 1,254 | 32,219 | 33,473 | 3,839 | 13,120 | 16,959 |

| | | | | | | | | | |
|-----------------------------------|--------------|---------------|---------------|--------------|---------------|---------------|--------------|---------------|---------------|
| Natural Spawner Subtotals: | 3,867 | 65,635 | 69,502 | 2,102 | 87,642 | 89,744 | 4,685 | 23,831 | 28,516 |
|-----------------------------------|--------------|---------------|---------------|--------------|---------------|---------------|--------------|---------------|---------------|

| | | | | | | | | | |
|---------------------------------|--------------|---------------|---------------|--------------|----------------|----------------|--------------|---------------|---------------|
| Total Spawner Escapement | 6,198 | 92,818 | 99,016 | 2,966 | 149,424 | 152,390 | 6,666 | 46,812 | 53,478 |
|---------------------------------|--------------|---------------|---------------|--------------|----------------|----------------|--------------|---------------|---------------|

IN-RIVER HARVEST

| | 2002 | | | 2003 | | | 2004 | | |
|--|------------|---------------|---------------|------------|--------------|---------------|--------------|--------------|--------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 274 | 3,285 | 3,559 | 180 | 1,589 | 1,769 | 748 | 725 | 1,473 |
| Klamath River (Hwy 101 to Coon Cr Falls) | 284 | 3,268 | 3,552 | 369 | 3,336 | 3,705 | 1,493 | 1,472 | 2,965 |
| Klamath River (Coon Cr Falls to IGH) | 93 | 3,216 | 3,309 | 40 | 2,397 | 2,437 | 52 | 1,266 | 1,318 |
| Trinity River basin above Weitchpec aa/ | 219 | 726 | 945 | 225 | 2,358 | 2,583 | 448 | 540 | 988 |
| Angler Harvest Subtotals: | 870 | 10,495 | 11,365 | 814 | 9,680 | 10,494 | 2,741 | 4,003 | 6,744 |

Indian Net Harvest e/

| | | | | | | | | | |
|--|------------|---------------|---------------|-----------|---------------|---------------|------------|---------------|---------------|
| Klamath River (below Hwy 101 bridge) | 17 | 20,149 | 20,166 | 15 | 22,688 | 22,703 | 75 | 21,037 | 21,112 |
| Klamath River (Hwy 101 to Trinity mouth) | 41 | 3,257 | 3,298 | 17 | 4,575 | 4,592 | 73 | 3,077 | 3,150 |
| Trinity River (Hoopa Reservation) | 68 | 1,168 | 1,236 | 12 | 2,771 | 2,783 | 20 | 1,689 | 1,709 |
| Indian Net Harvest Subtotals: | 126 | 24,574 | 24,700 | 44 | 30,034 | 30,078 | 168 | 25,803 | 25,971 |

| | | | | | | | | | |
|-------------------------------|------------|---------------|---------------|------------|---------------|---------------|--------------|---------------|---------------|
| Total In-river Harvest | 996 | 35,069 | 36,065 | 858 | 39,714 | 40,572 | 2,909 | 29,806 | 32,715 |
|-------------------------------|------------|---------------|---------------|------------|---------------|---------------|--------------|---------------|---------------|

IN-RIVER RUN

| | 2002 | | | 2003 | | | 2004 | | |
|---|--------|---------|---------|--------|---------|---------|--------|--------|--------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 7,194 | 127,887 | 135,081 | 3,824 | 189,138 | 192,962 | 9,575 | 76,618 | 86,193 |
| Angling Mortality (2.04% of harvest) f/ | 18 | 214 | 232 | 17 | 198 | 214 | 56 | 82 | 138 |
| Net Mortality (8.70% of harvest) f/ | 11 | 2,137 | 2,148 | 4 | 2,612 | 2,615 | 15 | 2,243 | 2,258 |
| Fish Die Off ee/ | 2,003 | 30,550 | 32,553 | | | | | | |

| | | | | | | | | | |
|---------------------------|--------------|----------------|----------------|--------------|----------------|----------------|--------------|---------------|---------------|
| Total In-river Run | 9,226 | 160,788 | 170,014 | 3,845 | 191,948 | 195,791 | 9,646 | 78,943 | 88,589 |
|---------------------------|--------------|----------------|----------------|--------------|----------------|----------------|--------------|---------------|---------------|

**Klamath River Basin Fall Chinook Salmon Spawner Escapement, In-river Harvest and Run-size Estimates
1978-2011 a/**

SPAWNER ESCAPEMENT

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| | 2005 | | | 2006 | | | 2007 | | |
|---|--------------|---------------|---------------|---------------|---------------|---------------|--------------|---------------|---------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 42 | 13,955 | 13,997 | 2,386 | 11,604 | 13,990 | 180 | 16,969 | 17,149 |
| Trinity River Hatchery (TRH) | 59 | 13,744 | 13,803 | 4,076 | 7,918 | 11,994 | 33 | 18,081 | 18,114 |
| Hatchery Spawner Subtotals: | 101 | 27,699 | 27,800 | 6,462 | 19,522 | 25,984 | 213 | 35,050 | 35,263 |
| Natural Spawners | | | | | | | | | |
| Main Stem Klamath River n/ (excluding IGH) | 32 | 4,622 | 4,654 | 853 | 4,538 | 5,391 | 41 | 6,914 | 6,955 |
| Salmon River basin | 105 | 401 | 506 | 791 | 1,278 | 2,069 | 55 | 1,377 | 1,432 |
| Scott River basin | 58 | 698 | 756 | 1,953 | 3,007 | 4,960 | 11 | 4,494 | 4,505 |
| Shasta River basin | 37 | 2,018 | 2,055 | 1,395 | 789 | 2,184 | 27 | 2,009 | 2,036 |
| Bogus Creek basin | 58 | 5,341 | 5,399 | 765 | 3,368 | 4,133 | 64 | 4,677 | 4,741 |
| Misc. Klamath tributaries o/ (above Yurok Reservation) | 40 | 361 | 401 | 739 | 1,165 | 1,904 | 26 | 1,414 | 1,440 |
| Yurok Reservation tribs. (Klamath River) p/ | 68 | 113 | 181 | 20 | 119 | 139 | 8 | 407 | 415 |
| Klamath Natural Spawner Subtotals: | 398 | 13,554 | 13,952 | 6,516 | 14,264 | 20,780 | 232 | 21,292 | 21,524 |
| Main Stem Trinity River dd/ (excluding TRH) | 760 | 12,885 | 13,645 | 7,607 | 15,375 | 22,982 | 832 | 39,038 | 39,870 |
| Misc. Trinity tributaries o/ (above Hoopa Reservation) | 8 | 164 | 172 | 71 | 142 | 213 | 5 | 246 | 251 |
| Hoopa Reservation tribs. (Trinity River) p/ | 4 | 84 | 88 | 189 | 382 | 571 | 2 | 94 | 96 |
| Trinity Natural Spawner Subtotals: | 772 | 13,133 | 13,905 | 7,867 | 15,899 | 23,766 | 839 | 39,378 | 40,217 |
| Natural Spawner Subtotals: | 1,170 | 26,687 | 27,857 | 14,383 | 30,163 | 44,546 | 1,071 | 60,670 | 61,741 |
| Total Spawner Escapement | 1,271 | 54,386 | 55,657 | 20,845 | 49,685 | 70,530 | 1,284 | 95,720 | 97,004 |

IN-RIVER HARVEST

| | 2005 | | | 2006 | | | 2007 | | |
|--|--------------|---------------|---------------|--------------|---------------|---------------|------------|---------------|---------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 311 | 243 | 554 | 60 | 1 | 61 | 20 | 1,097 | 1,117 |
| Klamath River (Hwy 101 to Weitchpec) | 595 | 468 | 1,063 | 4,421 | 38 | 4,459 | 218 | 2,211 | 2,429 |
| Klamath River (Weitchpec to IGH) | 6 | 318 | 324 | 721 | 18 | 739 | 19 | 1,667 | 1,686 |
| Trinity River basin above Weitchpec aa/ | 118 | 956 | 1,074 | 325 | 5 | 330 | 112 | 1,337 | 1,449 |
| Angler Harvest Subtotals: | 1,030 | 1,985 | 3,015 | 5,527 | 62 ff/ | 5,589 | 369 | 6,312 | 6,681 |
| Indian Net Harvest e/ | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 21 | 2,293 | 2,314 | 30 | 2,726 | 2,756 | 16 | 23,475 | 23,491 |
| Klamath River (Hwy 101 to Trinity mouth) | 38 | 3,314 | 3,352 | 240 | 3,396 | 3,636 | 5 | 1,800 | 1,805 |
| Trinity River (Hoopa Reservation) | 11 | 2,409 | 2,420 | 145 | 4,161 | 4,306 | 0 | 2,298 | 2,298 |
| Indian Net Harvest Subtotals: | 70 | 8,016 | 8,086 | 415 | 10,283 | 10,698 | 21 | 27,573 | 27,594 |
| Total In-river Harvest | 1,100 | 10,001 | 11,101 | 5,942 | 10,345 | 16,287 | 390 | 33,885 | 34,275 |

IN-RIVER RUN

| | 2005 | | | 2006 | | | 2007 | | |
|---|--------------|---------------|---------------|---------------|---------------|---------------|--------------|----------------|----------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 2,371 | 64,387 | 66,758 | 26,787 | 60,030 | 86,817 | 1,674 | 129,605 | 131,279 |
| Angling Mortality (2.04% of harvest) f/ | 21 | 41 | 62 | 113 | 76 | 114 | 8 | 129 | 137 |
| Net Mortality (8.70% of harvest) g/ | 6 | 697 | 703 | 36 | 894 | 930 | 2 | 2,397 | 2,399 |
| Catch and Release Mortality gg | | | | 0 | 373 | 373 | | | |
| Total In-river Run | 2,398 | 65,125 | 67,523 | 26,936 | 61,373 | 88,309 | 1,684 | 132,131 | 133,815 |

**Klamath River Basin Fall Chinook Salmon Spawner Escapement, In-river Harvest and Run-size Estimates
1978-2011 a/**

SPAWNER ESCAPEMENT

| | 2008 | | | 2009 | | | 2010 | | |
|------------------------------------|--------------|---------------|---------------|--------------|---------------|---------------|--------------|---------------|---------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 2,130 | 9,101 | 11,231 | 1,229 | 12,263 | 13,492 | 1,069 | 10,278 | 11,347 |
| Trinity River Hatchery (TRH) | 801 | 4,451 | 5,252 | 143 | 7,351 | 7,494 | 1,432 | 7,774 | 9,206 |
| Hatchery Spawner Subtotals: | 2,931 | 13,552 | 16,483 | 1,372 | 19,614 | 20,986 | 2,501 | 18,052 | 20,553 |

| | 2008 | | | 2009 | | | 2010 | | |
|---|--------------|---------------|---------------|--------------|----------------------|---------------|--------------|----------------------|---------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Natural Spawners | | | | | | | | | |
| Main Stem Klamath River n/ (excluding IGH) | 1,199 | 5,830 | 7,029 | 295 | 7,945 | 8,240 | 275 | 3,684 | 3,959 |
| Salmon River basin | 650 | 1,749 | 2,399 | 516 | 2,204 ^{hh/} | 2,720 | 356 | 2,478 ^{hh/} | 2,834 |
| Scott River basin | 1,228 | 3,445 | 4,673 | 44 | 2,167 | 2,211 | 394 | 2,114 | 2,508 |
| Shasta River basin | 3,621 | 2,741 | 6,362 | 151 | 6,145 | 6,296 | 87 | 1,261 | 1,348 |
| Bogus Creek basin | 1,565 | 3,001 | 4,566 | 471 | 5,455 | 5,926 | 291 | 3,180 | 3,471 |
| Misc. Klamath tributaries o/ (above Yurok Reservation) | 1,073 | 1,845 | 2,918 | 175 | 3,094 | 3,269 | 274 | 1,663 | 1,937 |
| Yurok Reservation tribs. (Klamath River) p/ | 89 | 409 | 498 | 296 | 733 | 1,029 | 134 | 790 | 924 |
| Klamath Natural Spawner Subtotals: | 9,425 | 19,020 | 28,445 | 1,948 | 27,743 | 29,691 | 1,811 | 15,170 | 16,981 |

| | | | | | | | | | |
|---|--------------|---------------|---------------|--------------|---------------|---------------|--------------|---------------|---------------|
| Main Stem Trinity River dd/ (excluding TRH) | 7,255 | 11,006 | 18,261 | 5,958 | 16,168 | 22,126 | 9,779 | 21,579 | 31,358 |
| Misc. Trinity tributaries o/ (above Hoopa Reservation) | 158 | 240 | 398 | 70 | 190 | 260 | 69 | 152 | 221 |
| Hoopa Reservation tribs. (Trinity River) p/ | 385 | 584 | 969 | 114 | 308 | 422 | 147 | 324 | 471 |
| Trinity Natural Spawner Subtotals: | 7,798 | 11,830 | 19,628 | 6,142 | 16,666 | 22,808 | 9,995 | 22,055 | 32,050 |

| | | | | | | | | | |
|-----------------------------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|
| Natural Spawner Subtotals: | 17,223 | 30,850 | 48,073 | 8,090 | 44,409 | 52,499 | 11,806 | 37,225 | 49,031 |
|-----------------------------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|

| | | | | | | | | | |
|---------------------------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|
| Total Spawner Escapement | 20,154 | 44,402 | 64,556 | 9,462 | 64,023 | 73,485 | 14,307 | 55,277 | 69,584 |
|---------------------------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|

IN-RIVER HARVEST

| | 2008 | | | 2009 | | | 2010 | | |
|--------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 521 | 141 | 662 | 319 | 1,191 | 1,510 | 162 | 510 | 672 |
| Klamath River (Hwy 101 to Weitchpec) | 3,358 | 896 | 4,254 | 1,559 | 2,015 | 3,574 | 1,320 | 1,225 | 2,545 |
| Klamath River (Weitchpec to IGH) | 160 | 523 | 683 | 155 | 1,614 | 1,769 | 88 | 875 | 963 |
| Trinity River basin | 269 | 359 | 628 | 181 | 831 | 1,012 | 261 | 425 | 686 |
| Angler Harvest Subtotals: | 4,308 | 1,919 | 6,227 | 2,214 | 5,651 | 7,865 | 1,831 | 3,035 | 4,866 |

| | 2008 | | | 2009 | | | 2010 | | |
|--|------------|---------------|---------------|------------|---------------|---------------|------------|---------------|---------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Indian Net Harvest e/ | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 302 | 17,710 | 18,012 | 43 | 19,465 | 19,508 | 20 | 21,725 | 21,745 |
| Klamath River (Hwy 101 to Trinity mouth) | 187 | 2,636 | 2,823 | 39 | 4,769 | 4,808 | 156 | 4,461 | 4,617 |
| Trinity River (Hoopa Reservation) | 152 | 1,913 | 2,065 | 96 | 4,153 | 4,249 | 252 | 3,701 | 3,953 |
| Indian Net Harvest Subtotals: | 641 | 22,259 | 22,900 | 178 | 28,387 | 28,565 | 428 | 29,887 | 30,315 |

| | | | | | | | | | |
|-------------------------------|--------------|---------------|---------------|--------------|---------------|---------------|--------------|---------------|---------------|
| Total In-river Harvest | 4,949 | 24,178 | 29,127 | 2,392 | 34,038 | 36,430 | 2,259 | 32,922 | 35,181 |
|-------------------------------|--------------|---------------|---------------|--------------|---------------|---------------|--------------|---------------|---------------|

IN-RIVER RUN

| | 2008 | | | 2009 | | | 2010 | | |
|---|---------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 25,103 | 68,580 | 93,683 | 11,854 | 98,061 | 109,915 | 16,566 | 88,199 | 104,765 |
| Angling Mortality (2.04% of harvest) f/ | 88 | 39 | 127 | 45 | 115 | 161 | 37 | 62 | 99 |
| Net Mortality (8.70% of harvest) f/ | 56 | 1,935 | 1,991 | 15 | 2,468 | 2,484 | 37 | 2,599 | 2,636 |
| Catch and Release Mortality gg | | | | | | | | | |
| Total In-river Run | 25,247 | 70,554 | 95,801 | 11,914 | 100,644 | 112,558 | 16,640 | 90,860 | 107,500 |

**Klamath River Basin Fall Chinook Salmon Spawner Escapement, In-river Harvest and Run-size Estimates,
1978-2011 a/**

SPAWNER ESCAPEMENT

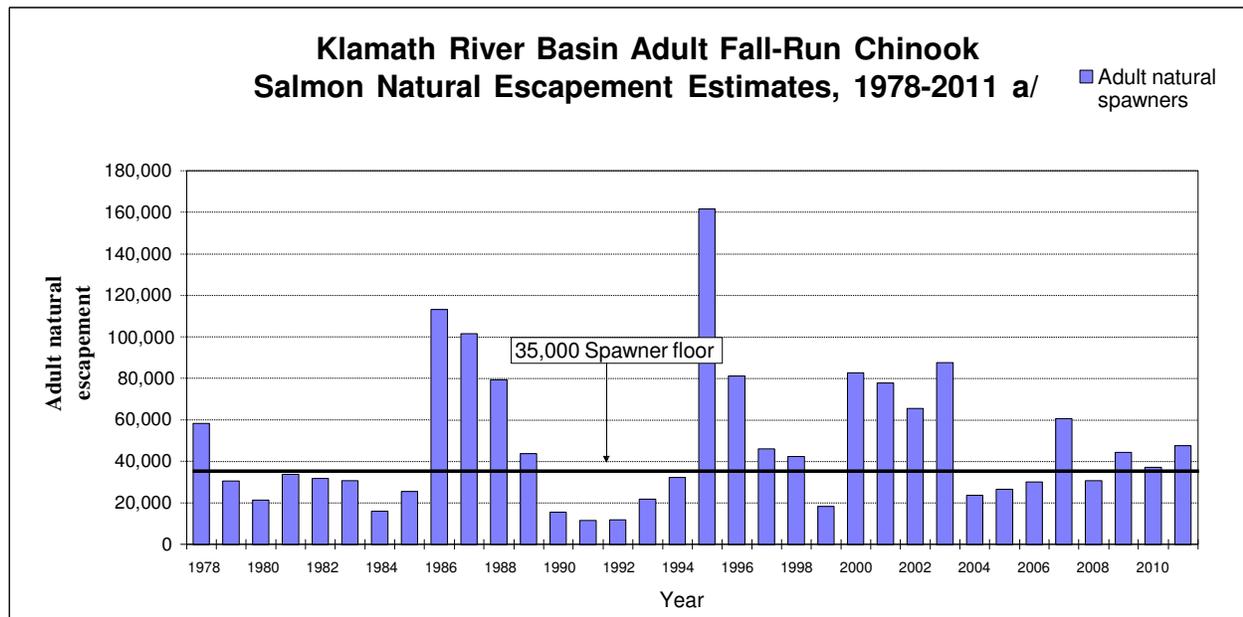
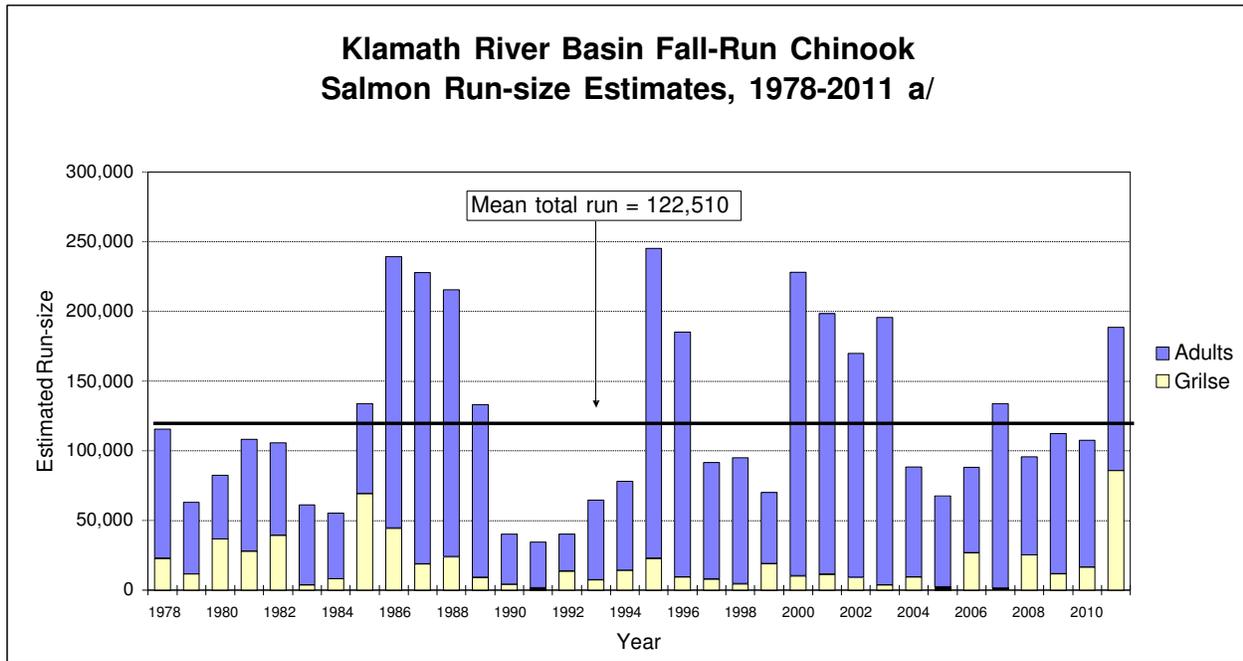
| | 2011 | | | 2012 | | | 2013 | | |
|---|---------------|---------------|----------------|----------|----------|----------|----------|----------|----------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Hatchery Spawners | | | | | | | | | |
| Iron Gate Hatchery (IGH) | 9,549 | 8,490 | 18,039 | | | | | | |
| Trinity River Hatchery (TRH) | 1,875 | 13,846 | 15,721 | | | | | | |
| Hatchery Spawner Subtotals: | 11,424 | 22,336 | 33,760 | 0 | 0 | 0 | 0 | 0 | 0 |
| Natural Spawners | | | | | | | | | |
| Main Stem Klamath River n/ (excluding IGH) | 3,306 | 3,976 | 7,282 | | | | | | |
| Salmon River basin | 1,819 | 3,674 | 5,493 | | | | | | |
| Scott River basin | 2,499 | 3,016 | 5,515 | | | | | | |
| Shasta River basin | 11,187 | 213 | 11,400 | | | | | | |
| Bogus Creek basin | 2,303 | 2,919 | 5,222 | | | | | | |
| Misc. Klamath tributaries o/ (above Yurok Reservation) | 3,259 | 3,072 | 6,331 | | | | | | |
| Yurok Reservation tribs. (Klamath River) p | 418 | 1,143 | 1,561 | | | | | | |
| Klamath Natural Spawner Subtotals: | 24,791 | 18,013 | 42,804 | 0 | 0 | 0 | 0 | 0 | 0 |
| Main Stem Trinity River dd/ (excluding TRH) | 37,818 | 28,670 | 66,488 | | | | | | |
| Misc. Trinity tributaries o/ (above Hoopa Reservation) | 96 | 542 | 638 | | | | | | |
| Hoopa Reservation tribs. (Trinity River) p | 94 | 530 | 624 | | | | | | |
| Trinity Natural Spawner Subtotals: | 38,008 | 29,742 | 67,750 | 0 | 0 | 0 | 0 | 0 | 0 |
| Natural Spawner Subtotals: | 62,799 | 47,755 | 110,554 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Spawner Escapement | 74,223 | 70,091 | 144,314 | 0 | 0 | 0 | 0 | 0 | 0 |

IN-RIVER HARVEST

| | 2011 | | | 2012 | | | 2013 | | |
|--|---------------|---------------|---------------|----------|----------|----------|----------|----------|----------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Angler Harvest | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 700 | 624 | 1,324 | | | | | | |
| Klamath River (Hwy 101 to Weitchpec) | 6,557 | 912 | 7,469 | | | | | | |
| Klamath River (Weitchpec to IGH) | 1,480 | 1,483 | 2,963 | | | | | | |
| Trinity River basin | 1,259 | 1,145 | 2,404 | | | | | | |
| Angler Harvest Subtotals: | 9,996 | 4,164 | 14,160 | 0 | 0 | 0 | 0 | 0 | 0 |
| Indian Net Harvest e/ | | | | | | | | | |
| Klamath River (below Hwy 101 bridge) | 429 | 17,218 | 17,647 | | | | | | |
| Klamath River (Hwy 101 to Trinity mouth) | 467 | 4,272 | 4,739 | | | | | | |
| Trinity River (Hoopa Reservation) | 408 | 4,881 | 5,289 | | | | | | |
| Indian Net Harvest Subtotals: | 1,304 | 26,371 | 27,675 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total In-river Harvest | 11,300 | 30,535 | 41,835 | 0 | 0 | 0 | 0 | 0 | 0 |

IN-RIVER RUN

| | 2011 | | | 2012 | | | 2013 | | |
|---|---------------|----------------|----------------|----------|----------|----------|----------|----------|----------|
| | Grilse | Adults | Totals | Grilse | Adults | Totals | Grilse | Adults | Totals |
| Totals | | | | | | | | | |
| In-river Harvest and Escapement | 85,523 | 100,626 | 186,149 | 0 | 0 | 0 | 0 | 0 | 0 |
| Angling Mortality (2.04% of harvest) f/ | 204 | 85 | 289 | 0 | 0 | 0 | 0 | 0 | 0 |
| Net Mortality (8.70% of harvest) f/ | 113 | 2,294 | 2,407 | 0 | 0 | 0 | 0 | 0 | 0 |
| Catch and Release Mortality gg/ | | | | | | | | | |
| Total In-river Run | 85,840 | 103,005 | 188,845 | 0 | 0 | 0 | 0 | 0 | 0 |



a/ 2011 data preliminary

**Footnotes for Klamath River Basin Fall Chinook Salmon Spawner Escapement,
In-river Harvest and Run-size Estimates, 1978-2011^a**

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- a/ Prepared February 8, 2012. All figures are California Department of Fish and Game (CDFG) counts/estimates unless otherwise indicated. All figures for Iron Gate and Trinity River hatcheries represent counts of fish entering those facilities. All spawner escapement figures for the Shasta River basin for 1978-1987 and 1989-2011, plus those for Bogus Creek basin for 1980-1991 and 2003-2011 are based on counts made at counting/video stations located near the mouths of those streams. All remaining spawner escapements and all harvest figures are estimates developed from data obtained through ongoing field investigations in the Klamath-Trinity system. Figures for years through 2010 are final; 2011 figures are preliminary, subject to revision.
- b/ Figure not available.
- c/ USFWS estimate.
- d/ In 1978, the Klamath River system sport salmon fishing season was closed August 25. There was essentially no sport harvest of fall Chinook in the Trinity River basin in 1978.
- e/ USFWS estimates for years through 1982; 1983 through 1993 estimates jointly made by USFWS and Hoopa Valley Business Council Fisheries Department (HVBCFD); 1994 through 2011 estimates made by HVBCFD for the Hoopa Reservation and Yurok Tribal Fisheries Department for the Yurok Reservation.
- f/ Factors for non-landed catch mortality calculated by the Klamath River Technical Advisory Team (KRTAT, 1986, "Recommended Spawning Escapement Policy for Klamath River Fall-run Chinook"). Modified non-landed catch mortality rates of 2.04% and 8.70% were applied to sport and net harvest respectively following the 2003 season. These rates were applied retrospectively to all years, replacing the historical rates of 2.0% (sport harvest) and 8.0% (net harvest).
- g/ U.S. Forest Service estimate.
- h/ HVBCFD estimate. Estimate for streams in Hoopa Reservation only.
- i/ In 1985, the Klamath River system sport salmon fishing season was closed to the taking of all salmon below the U.S. Highway 101 bridge from September 9 through December 31; the Klamath from the U.S. Highway 101 bridge to Iron Gate Dam and the Trinity River from its mouth to Lewiston Dam were closed to the taking of salmon 22 inches and longer from September 23 through December 31, 1985.
- j/ Estimates for Hoopa Reservation portion of catch (=947 grilse and 1,941 adults) are of catch occurring during open fishing periods only.
- k/ Estimates jointly made by USFWS and HVBCFD.
- l/ Final figures for Salmon River basin natural spawners shown in the December 11, 1991 table were incorrect. Corrected figures, plus necessary revisions to the 1990 totals, are presented here.
- m/ Figure does not include adults that, following entry into Iron Gate Hatchery, were returned to the river alive and un-spawned, and which are presumed to have spawned naturally. This includes 2,333 fish in 1994 and 8,932 fish in 1995.
- n/ CDFG estimate based on USFWS redd count data through 2000. Estimates for 2001-2011 are USFWS estimates based on a combination of redd count data (Shasta River downstream to Indian Cr.) and carcass mark-recapture estimates upstream of the Shasta River.
- o/ CDFG and USFS, estimates.
- p/ HVBCFD and YTFD estimates. YTFD fish count for Blue Creek is based on several dive surveys conducted at peak of spawning and should not be construed as an escapement estimate. HVBCFD tributary estimates based on redd counts.
- q/ 750 of these adults were harvested between I-5 and IGH after the river reopened to sport angling on 13 OCT. 1995
- r/ Includes 51 grilse and 178 adults harvested in the main stem Trinity River between Willow Creek weir and the mouth of the Trinity River. HVBCFD estimate.
- s/ Includes 251 grilse and 645 adults harvested in the main stem Trinity River between Willow Creek weir and the mouth of the Trinity River. HVBCFD estimate.
- t/ Additional, but unknown harvest occurred upstream of Interstate 5 for jacks between Oct.2-18 and Oct.18-Nov.30th.for all Chinook after Iron Gate Hatchery reached its= required 8,000 adult Chinook spawning escapement.
- u/ Includes 298 grilse and 799 adults harvested in the main stem Trinity River between Willow Creek weir and the mouth of the Trinity River. HVBCFD estimate.
- v/ Additional, but unknown harvest occurred upstream of Interstate 5 for jacks between Oct.4-17 after the 28 day window and Oct.17-Nov.30th.for all Chinook after Iron Gate Hatchery reached its required 8,000 adult Chinook spawning escapement.

- x/ Includes fish originally classified as grilse, based on the 24 inch TL specified in the 1998 sport angling regulations, which were re-classified as adult based on preliminary analysis of 1998 data.
- y/ Includes 21 Grilse and 42 adults harvested after the lower river reopened on Oct 15, 1999.
- z/ Harvest estimate based on creel census data and includes 54 grilse and 206 adults harvested during the secondary season allowed above the Interstate 5 bridge after IGH achieved 8,000 adult spawners.
- aa/ Harvest estimate based on HVBCFD creel census below the Willow Creek Weir and CDFG's estimate based on tag returns for the Trinity River above Willow Creek Weir.
- bb/ Harvest estimate based on creel census data and includes 113 grilse and 938 adults harvested during the secondary season allowed above the Interstate 5 bridge after IGH achieved 8,000 adult spawners.
- cc/ Includes 9 jacks and 252 adults estimated to have spawned in the mainstem Trinity River downstream of the Willow Creek Weir. Estimate based on HVBCFD expanded redd count data.
- dd/ Estimates upstream of Willow Creek weir provided by CDFG and are inclusive of the total basin upstream of weir; estimates downstream of Willow Creek weir provided by HVBCFD and only include the main stem Trinity to its confluence with the Klamath River.
- ee/ Prespawn mortality estimate for Chinook salmon that died in the lower Klamath River fish die off, 2002. Estimate provided by USFWS.
- ff/ Estimated 2006 river recreational fishery adult impacts (incidental mortality). Estimation methods documented in
2007 PFMC pre-season report I.
- gg/ The 2006 sport fishery was closed to the take of adult fall Chinook (greater than 22 inches).
- hh/ The 2009 and 2010 Salmon River adult escapement estimates were based on total redd counts (2009) and expanded redd counts from the first two weeks of survey expanded for the season based on historical cumulative average (2010).

**List of
acronyms**

CDFG - California Department of Fish and Game
 HVBCFD- Hoopa Valley Business Council Fisheries Department
 IGH – Iron Gate Hatchery
 KRTAT – Klamath River Technical Advisory Team
 PFMC – Pacific Fishery Management Council
 TRH – Trinity River Hatchery
 USFS – United States Forest Service
 USFWS – United States Fish and Wildlife Service
 YTFD – Yurok Tribe Fisheries Department

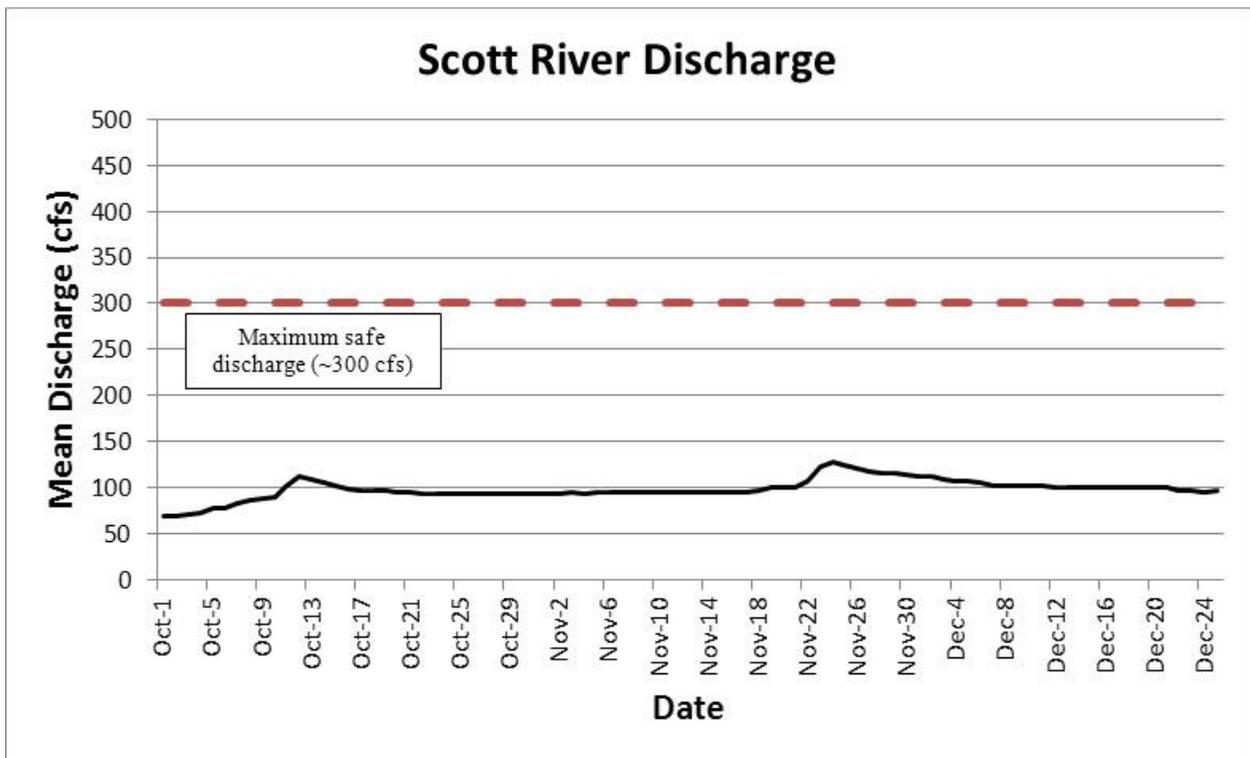
Appendix B – USGS Discharge Charts

Scott River

The Scott River gauge (11519500) is located 10.8 miles downstream from Fort Jones, CA.

- Legal location T.44N., R.10W., Sec. 29 (Mount Diablo Meridian); or
- Lat. 41°38'27" by Long. 123°00'50" (referenced NAD 1927)

The graph shown here provides a daily mean of discharge at the gauge and includes October 1st through December 25th, 2011, which encompasses the redd/carcass survey dates and is inclusive effort by CDFG which continued after KNF and other cooperators had ended their survey season. Instantaneous discharges measured at the gauge can be higher or lower than that pictured.

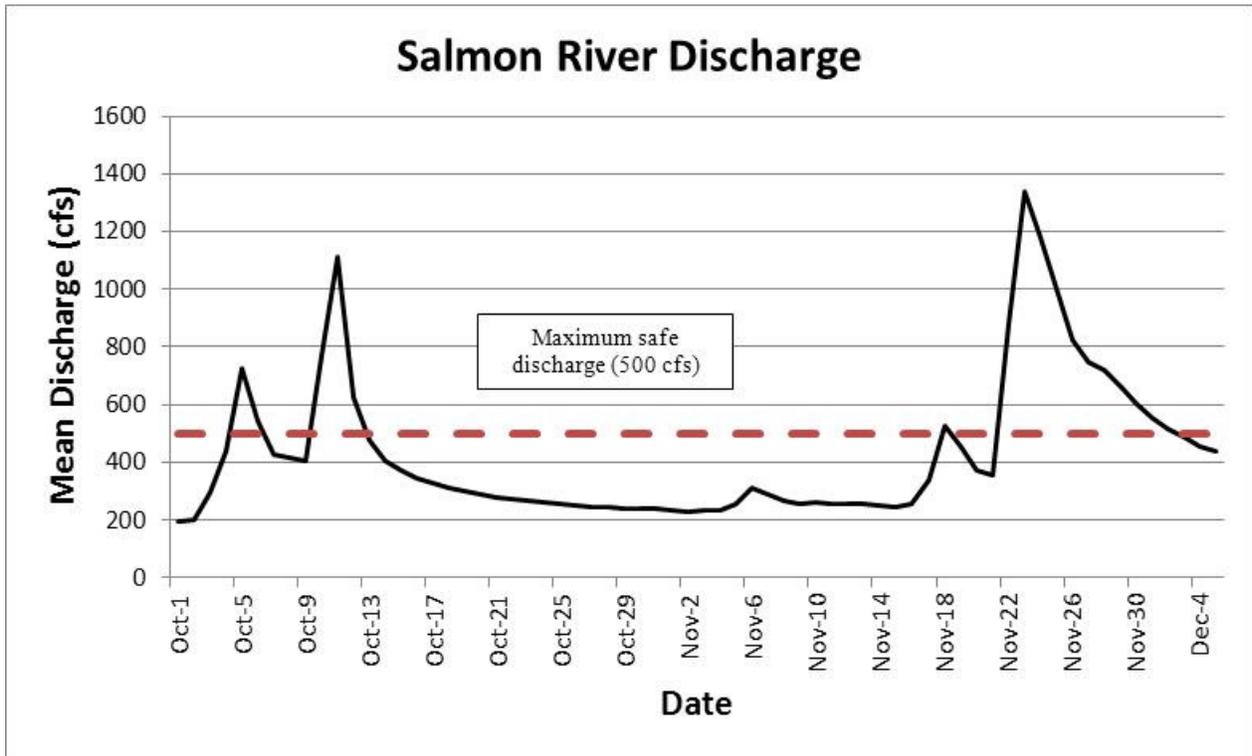


Salmon River

The Salmon River gauge (11522500) is located 1.0 miles upstream from Somes Bar, CA, at the confluence with the Klamath River.

- Legal location T.11N., R.6E., Sec. 3 (Humboldt Meridian); or
- Lat. 41°22'36" by Long. 123°28'33" (referenced NAD 1927)

Graph provided here provides a daily mean of discharge at the gauge and includes October 1st through December 5th, 2011, which encompasses the redd/carcass survey dates. Instantaneous discharges measured at the gauge can be higher or lower than that pictured. Variability in flow during an actual survey day may have provided a window of safe discharge not reflected in the figure.



Appendix C – Redd and Fish Survey Tables (2011)

Salmon River Redds

| Reach | Survey Dates | | | | | | | | | | | | | | |
|---------------------------------------|-----------------|--------|--------|--------|-----------------|--------|--------|--------|--------|---------|-----------|------------|---|---------|------------|
| | Oct-11 | Oct-14 | Oct-18 | Oct-21 | Oct-25 | Oct-28 | Nov-01 | Nov-04 | Nov-08 | Nov-11 | Nov-15 | Nov-18 | Nov-22 | Nov-25 | Nov-29 |
| <i>Mainstem</i> | | | | | | | | | | | | | | | |
| 4A - Otter Bar to Nordheimer Ck | --- | 36 | | 20 | 5 | 4 | 10 | 0 | 1 | --- | | 1 | --- | --- | |
| 4B - Forks to Otter Bar | --- | 28 | 33 | 3 | 25 | 15 | 5 | 2 | 0 | --- | | | --- | --- | |
| <i>North Fork</i> | | | | | | | | | | | | | | | |
| 9A - Mile 2 to Forks | NS - High Water | 25 | 68 | 0 | 1 | 0 | 5 | 3 | 6 | Holiday | | | High Water - Flags pulled some reaches | Holiday | <u>N/A</u> |
| 9B - Mile 4 to Mile 2 | | 41 | 21 | 6 | 13 [^] | 1 | 0 | 0 | 0 | | | <u>0</u> | | | <u>N/A</u> |
| 10A - Mile 6 to Mile 4 | | 24 | 4 | 1 | 14 | 0 | 0 | 0 | 7 | | | | | | <u>N/A</u> |
| 10B - Mile 8 to Mile 6 | | | | 42 | 5 | | | 4 | | | | | | | <u>14</u> |
| 11A - Mile 10 to Mile 8 | | | | 46 | | | | | | | 8 | | | | <u>0</u> |
| 11B - Mile 12 to Mile 10 | | | | 22 | | | | | | | <u>10</u> | | | | |
| 12 - Mile 16 to Mile 12 | | | | | | | | | | | 3 | | | | |
| <i>South Fork</i> | | | | | | | | | | | | | | | |
| 5A - Henry Bell to Forks ¹ | ----- | (71) | (82) | (67) | (71) | (58) | (118) | (44) | (37) | ----- | | | ----- | ----- | |
| 5B - O'Farrell Gulch to Henry Bell | | 71 | 9 | 22 | 0 | 6 | 8 | 10 | 0 | | | | | | <u>N/A</u> |
| 6A - Indian Ck to O'Farrell Gulch | | 51 | 32 | 2 | 15 | 2 | 0 | 0 | 0 | | | <u>N/A</u> | | | |
| 6B - Matthews Ck to Indian Ck | | 56 | | 7 | 6 | | 0 | | | | | <u>N/A</u> | | | <u>N/A</u> |

¹Reach 5A is not flagged - total number of redds counted each survey

[^]Only portion of reach accomplished - Mile 4 to canyon

*N/A = surveys performed, but no redd data available because crews pulling or had pulled flagging

*Underline = days which included pulling flagging

Salmon River Tributary Surveys

| Tributary | Date | Redds | Chinook | Steelhead |
|------------------------|-------------|--------------|----------------|------------------|
| Indian Creek | Nov-15 | 0 | 0 | 0 |
| Knownothing Creek | Oct-11 | 7 | 43 | 0 |
| | Nov-15 | 5 | 0 | 0 |
| | Nov-29 | 0 | 0 | 0 |
| EF Knownothing Creek | Nov-01 | 4 | 0 | 0 |
| WF Knownothing Creek | Oct-31 | 4 | 0 | 0 |
| Little NF Salmon River | Nov-14 | 11 | 0 | 0 |
| Methodist Creek | Oct-11 | 4 | 63 | 0 |
| | Nov-15 | 8 | 0 | 2 |
| Nordheimer Creek | Nov-15 | 22 | 0 | 0 |
| Plummer Creek | Oct-24 | 1 | 0 | 0 |
| St. Claire Creek | Oct-24 | 0 | 0 | 0 |

Salmon River (Live) Chinook Observation

| Reach | Date | | | | | | | | | | | | | | | |
|------------------------------------|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|---|
| | Oct-11 | Oct-14 | Oct-18 | Oct-21 | Oct-25 | Oct-28 | Nov-01 | Nov-04 | Nov-08 | Nov-11 | Nov-15 | Nov-18 | Nov-22 | Nov-25 | Nov-29 | |
| Mainstem | | | | | | | | | | | | | | | | |
| 4A - Otter Bar to Nordheimer Ck | --- | 85 | | 84 | 9 | 6 | nd | 3 | 25 | --- | | 13 | 1 | --- | | |
| 4B - Forks to Otter Bar | | 112 | 116 | 23 | 112 | 16 | 24 | 12 | 6 | | | | | | | |
| North Fork | | | | | | | | | | | | | | | | |
| 9A - Mile 2 to Forks | NS - High Water | 87 | 129 | 114 | 32 | 10 | 31 | 3 | 38 | Holiday | | | | | N/A | |
| 9B - Mile 4 to Mile 2 | | 85 | 93 | 31 | 51^ | 18 | 4 | 10 | 12 | | | 0 | N/A | | | 0 |
| 10A - Mile 6 to Mile 4 | | 73 | 79 | nd | 15 | 37 | 16 | nd | 9 | | | | | | | 1 |
| 10B - Mile 8 to Mile 6 | | | | 25 | 16 | | | 7 | | | | | | | | 0 |
| 11A - Mile 10 to Mile 8 | | | | 46 | | | | | | | | 1 | | 0 | | 0 |
| 11B - Mile 12 to Mile 10 | | | | 23 | | | | | | | | 1 | | | | |
| 12 - Mile 16 to Mile 12 | | | | | | | | | | | | 4 | | | | |
| South Fork | | | | | | | | | | | | | | | | |
| 5A - Henry Bell to Forks | ----- | 593 | 129 | 49 | 43 | 24 | 63 | 14 | 2 | ----- | | | | | | |
| 5B - O'Farrell Gulch to Henry Bell | | 123 | 84 | 49 | 13 | 21 | 20 | 35 | 9 | | | | | | | 1 |
| 6A - Indian Ck to O'Farrell Gulch | | 103 | 116 | nd | nd | nd | 42 | 24 | 42 | | | N/A | | | | |
| 6B - Matthews Ck to Indian Ck | | 34 | | 25 | 17 | | 2 | | | | | N/A | N/A | | | 1 |

^Only portion of reach accomplished - Mile 4 to canyon

*nd = no data (surveys performed, but datasheets missing)

*N/A = surveys performed, but no fish data available because crews focusing on flag pulling and carcass collection

Salmon River (Live) Steelhead Observation

| Reach | Date | | | | | | | | | | | | | | | | |
|------------------------------------|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|---------|--------|----|---|
| | Oct-11 | Oct-14 | Oct-18 | Oct-21 | Oct-25 | Oct-28 | Nov-01 | Nov-04 | Nov-08 | Nov-11 | Nov-15 | Nov-18 | Nov-22 | Nov-25 | Nov-29 | | |
| Mainstem | | | | | | | | | | | | | | | | | |
| 4A - Otter Bar to Nordheimer Ck | --- | 0 | | 15 | 0 | 0 | nd | 0 | 125 | --- | | 0 | 0 | --- | | | |
| 4B - Forks to Otter Bar | --- | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | --- | | 0 | | --- | | | |
| North Fork | | | | | | | | | | | | | | | | | |
| 9A - Mile 2 to Forks | NS - High Water | 2 | 8 | 0 | 0 | 0 | 0 | 0 | 1 | Holiday | | | | Holiday | N/A | | |
| 9B - Mile 4 to Mile 2 | | 0 | 0 | 0 | 1^ | 0 | 0 | 0 | 0 | | | 0 | N/A | | | 0 | |
| 10A - Mile 6 to Mile 4 | | 0 | 0 | nd | 0 | 0 | 0 | nd | 0 | | | | | | | 0 | |
| 10B - Mile 8 to Mile 6 | | | | 0 | 0 | | | 0 | | | | | | | | 0 | |
| 11A - Mile 10 to Mile 8 | | | | 0 | | | | | | | | 0 | | | 0 | | 0 |
| 11B - Mile 12 to Mile 10 | | | | 0 | | | | | | | | 7 | | | | | |
| 12 - Mile 16 to Mile 12 | | | | | | | | | | | | 0 | | | | | |
| South Fork | | | | | | | | | | | | | | | | | |
| 5A - Henry Bell to Forks | ----- | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | ----- | | | | ----- | | | |
| 5B - O'Farrell Gulch to Henry Bell | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | 22 | |
| 6A - Indian Ck to O'Farrell Gulch | | 0 | 0 | nd | nd | nd | 0 | 0 | 0 | | | N/A | | | | | |
| 6B - Matthews Ck to Indian Ck | | 0 | | 0 | 0 | | 0 | | | | | N/A | 0 | | | | 0 |

^Only portion of reach accomplished - Mile 4 to canyon

*nd = no data (surveys performed, but datasheets missing)

*N/A = surveys performed, but no fish data available because crews focusing on flag pulling and carcass collection

Scott River Redds

| Reach | Date | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|
| | Oct-10 | Oct-13 | Oct-17 | Oct-20 | Oct-24 | Oct-27 | Oct-31 | Nov-03 | Nov-07 | Nov-10 | Nov-14 | Nov-17 | Nov-21 | Nov-24 | Nov-28 | Dec-01 | Dec-08 | Dec-12 | Dec-19 |
| R1 - Midpoint to Confluence | Holiday | 0 | 3 | 16 | 3 | 7 | 13 | 0 | 2 | 3 | 0 | 0 | 0 | Holiday | 2 | N/A | | N/A | |
| R2 - Pat Ford to Midpoint | | 2 | 1 | 10 | 4 | 4 | 0 | 1 | 1 | 5 | 3 | 0 | 0 | | 0 | N/A | | N/A | |
| R3 - George Allen to Alreds | | 1 | 0 | 1 | 0 | 3 | 2 | 1 | 0 | 8 | 1 | 3 | 0 | | 0 | N/A | | N/A | |
| R4 - Townsend Gulch to George Allen | | 0 | 0 | 4 | 6 | 0 | 1 | 0 | 3 | 0 | 1 | 0 | 5 | | | 5 | N/A | | |
| R5 - Bridge Flat to Townsend Gulch | | 1 | 0 | 2 | 0 | 3 | 9 | 3 | 0 | 2 | 0 | 0 | 4 | | 0 | N/A | | | |
| R6 - CDFG Weir to Bridge Flat | | 2 | 2 | 0 | 4 | 6 | 17 | 5 | nd | | 4 | 0 | | | nd | nd | N/A | N/A | |
| R7 - USGS Gauge to CDFG Weir | | 0 | 5 | | 6 | 9 | 14 | 6 | 0 | 0 | | 1 | | | 0 | | | | |
| R8 - Meamber Bridge to USGS Gauge | | 28 | 13 | | 65 | 68 | ns^ | 25 | 8 | 5 | 2 | 10 | 6 | | 16 | N/A | N/A | N/A | N/A |
| R12 - Sweezy to Eller Lane | | 4 | 1 | | 9 | 12 | 16 | 15 | | | | | | | | | | | |
| R13 - Horn Lane to Sweezy | | 0 | 3 | | 25 | 22 | 36 | 50 | 50 | | | | | | | | | | |
| R14 - Youngs Dam to Horn Lane | | 0 | 6 | 10 | 7 | 28 | 61 | 86 | 97 | 107 | 65 | | 88 | | 100 | 93 | | | |
| R15 - Fay Lane to Youngs Dam | | | 6 | 10 | 14 | 6 | 61 | 69 | 89 | 104 | 101 | 84 | 84 | | | 63 | | | |

*nd = no data (surveys performed, but datasheets missing)

*ns^ = no survey for redds while performing mid-season GPS

Scott River Tributary Surveys

| Tributary | Date | Redds | Chinook | Steelhead |
|--------------------------------|--------|-------|---------|-----------|
| Boulder Creek (SF Scott River) | Nov-22 | 0 | 0 | 0 |
| SF Scott River | Nov-23 | 0 | 0 | 0 |

Scott River (Live) Chinook Observations

| Reach | Date | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|
| | Oct-10 | Oct-13 | Oct-17 | Oct-20 | Oct-24 | Oct-27 | Oct-31 | Nov-03 | Nov-07 | Nov-10 | Nov-14 | Nov-17 | Nov-21 | Nov-24 | Nov-28 | Dec-01 | Dec-08 | Dec-12 | Dec-19 |
| R1 - Midpoint to Confluence | Holiday | 44 | 77 | 224 | 178 | 63 | 106 | 120 | 54 | 41 | 5 | 11 | 6 | Holiday | 0 | 1 | | 0 | |
| R2 - Pat Ford to Midpoint | | 33 | 9 | 41 | 24 | 82 | 53 | 37 | 33 | 30 | 18 | 40 | 4 | | 4 | 1 | | 0 | |
| R3 - George Allen to Alreds | | 0 | 7 | 10 | nd | 13 | 20 | 2 | 18 | 15 | 30 | 11 | 5 | | 1 | 0 | | 0 | |
| R4 - Townsend Gulch to George Allen | | 4 | 12 | 15 | 36 | 48 | 40 | 54 | 14 | 26 | 45 | 20 | 21 | | | nd | 0 | | |
| R5 - Bridge Flat to Townsend Gulch | | 6 | 23 | 10 | 40 | 10 | 44 | 25 | 6 | 30 | 23 | 8 | 1 | | 4 | 2 | | | |
| R6 - CDFG Weir to Bridge Flat | | 83 | 42 | 88 | 52 | 57 | 44 | 39 | nd | | 15 | 5 | | | nd | nd | 0 | 0 | |
| R7 - USGS Gauge to CDFG Weir | | 39 | 58 | | 44 | 110 | 72 | 83 | 20 | 17 | | 8 | | | 4 | | | | |
| R8 - Meamber Bridge to USGS Gauge | | 158 | 303 | | 317 | 449 | 250 | 197 | 137 | 225 | 129 | 126 | 76 | | 23 | 14 | 5 | 3 | 0 |
| R12 - Sweezy to Eller Lane | | 15 | 16 | | 25 | 59 | 188 | 52 | | | | | | | | | | | |
| R13 - Horn Lane to Sweezy | | | | | 82 | 91 | | 192 | 135 | | | | | | | | | | |
| R14 - Youngs Dam to Horn Lane | | 4 | 36 | 61 | 83 | 89 | 176 | 139 | 133 | 141 | 52 | | 31 | | 5 | 1 | | | |
| R15 - Fay Lane to Youngs Dam | | | 63 | 78 | 104 | 122 | 142 | 138 | 133 | 114 | 89 | 43 | 7 | | | 0 | | | |

*nd = no data (surveys performed, but datasheets missing)

Scott River (Live) Steelhead Observations

| Reach | Date | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|---|
| | Oct-10 | Oct-13 | Oct-17 | Oct-20 | Oct-24 | Oct-27 | Oct-31 | Nov-03 | Nov-07 | Nov-10 | Nov-14 | Nov-17 | Nov-21 | Nov-24 | Nov-28 | Dec-01 | Dec-08 | Dec-12 | Dec-19 | |
| R1 - Midpoint to Confluence | Holiday | 16 | 0 | 0 | nd | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | Holiday | 0 | 0 | | 0 | | |
| R2 - Pat Ford to Midpoint | | 0 | 0 | 0 | nd | 0 | 0 | 0 | 0 | 0 | nd | 0 | 0 | | 0 | 0 | 0 | | 0 | |
| R3 - George Allen to Alreds | | nd | 0 | 0 | nd | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | | 0 | |
| R4 - Townsend Gulch to George Allen | | nd | 0 | 0 | nd | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | |
| R5 - Bridge Flat to Townsend Gulch | | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | nd | 1 | 0 | | 0 | 0 | 0 | | | |
| R6 - CDFG Weir to Bridge Flat | | 12 | 0 | 0 | 0 | 0 | 3 | 0 | nd | | nd | 0 | | | | nd | nd | 0 | 0 | |
| R7 - USGS Gauge to CDFG Weir | | 0 | 1 | | 0 | 0 | 0 | 5 | 0 | 0 | | 0 | | | | 0 | | | | |
| R8 - Meamber Bridge to USGS Gauge | | 0 | 0 | | nd | nd | nd | 0 | 0 | 0 | 0 | 0 | 0 | | 1 | 0 | 0 | 0 | 0 | 0 |
| R12 - Sweezy to Eller Lane | | 0 | 6 | | nd | 0 | 0 | 0 | | | | | | | | | | | | |
| R13 - Horn Lane to Sweezy | | | | | nd | 0 | 0 | 0 | 0 | | | | | | | | | | | |
| R14 - Youngs Dam to Horn Lane | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | | 0 | 0 | | | |
| R15 - Fay Lane to Youngs Dam | | | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | 0 | | | |

*nd = no data (surveys performed, but datasheets missing)

Appendix D – Redd Spatial Distribution and Density

Redd density on maps is displayed as number of redds observed per approximate 100 meter of survey. Where tributaries were surveyed, only those which recorded redds are included in this appendix.

Salmon River Data

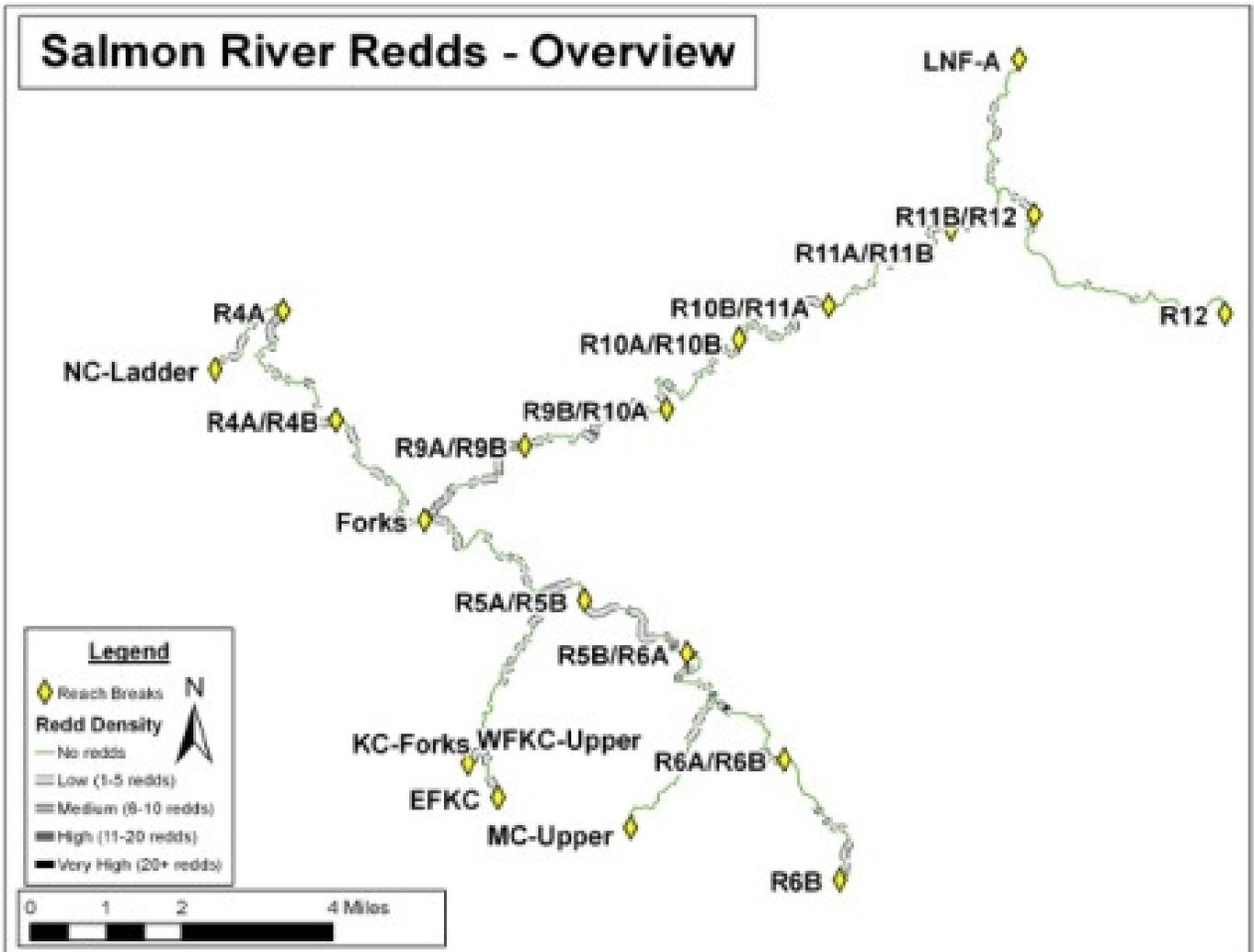


Figure D-SA1. General overview of redd distribution and density for Salmon River surveys. Map is of survey area only and does not include roads, hillslopes, or other landmarks.

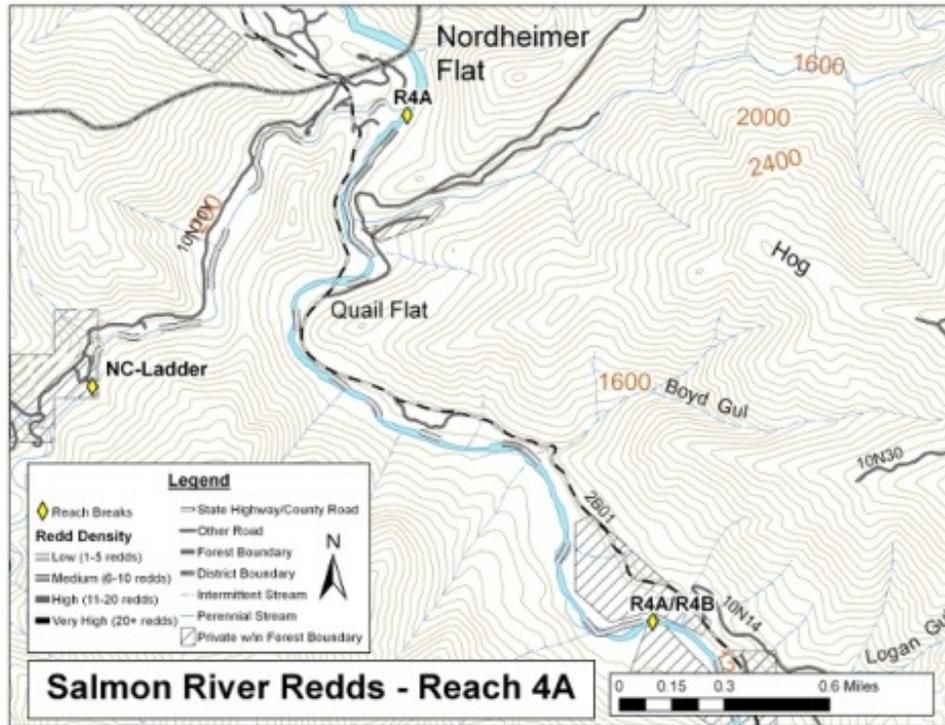


Figure D-SA2. Redd distribution and density for mainstem Salmon River, Reach 4A.

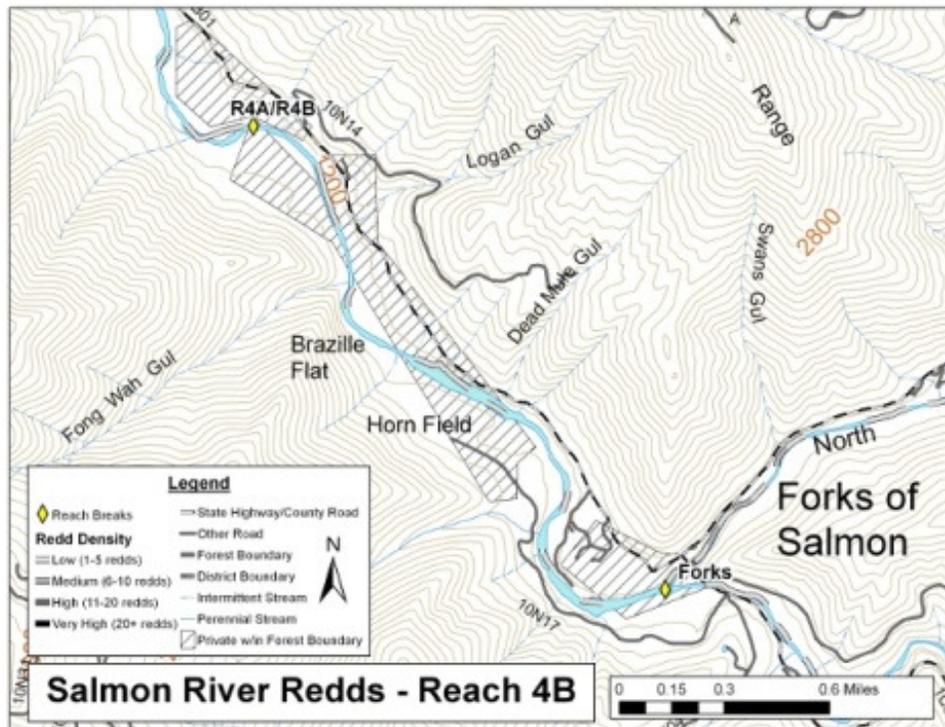


Figure D-SA3. Redd distribution and density for mainstem Salmon River, Reach 4B.

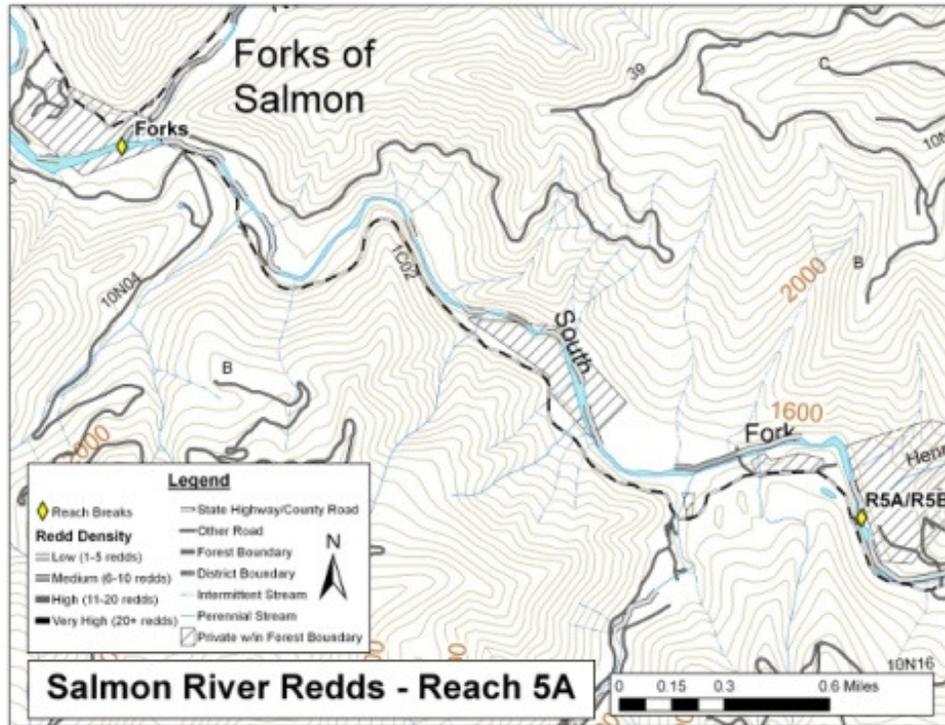


Figure D-SA4. Redd distribution and density for SF Salmon River, Reach 5A.

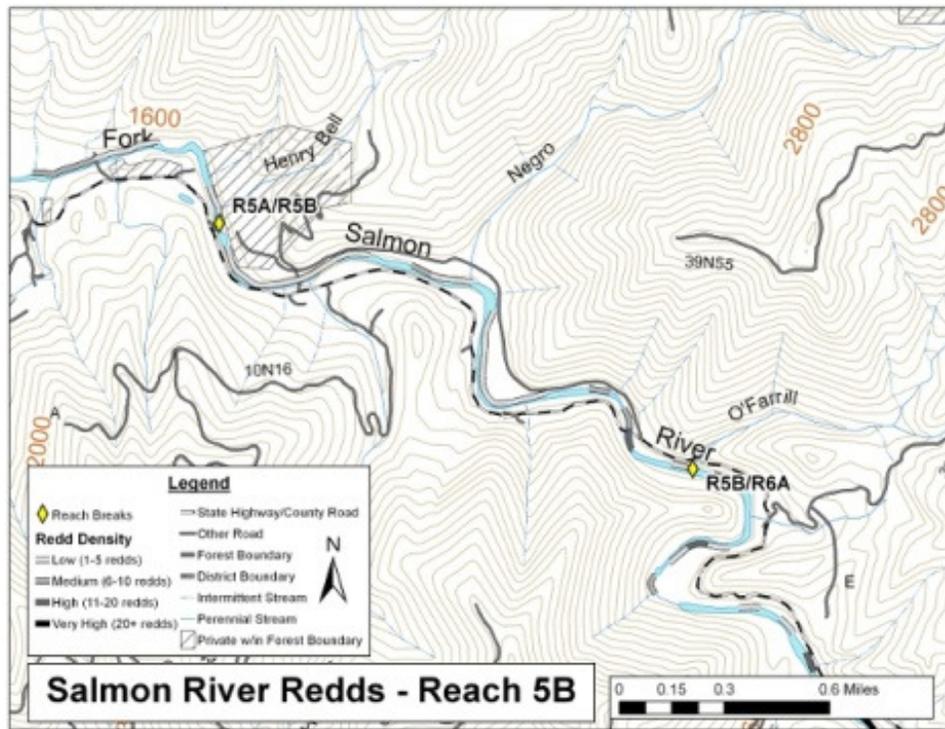


Figure D-SA5. Redd distribution and density for SF Salmon River, Reach 5B.

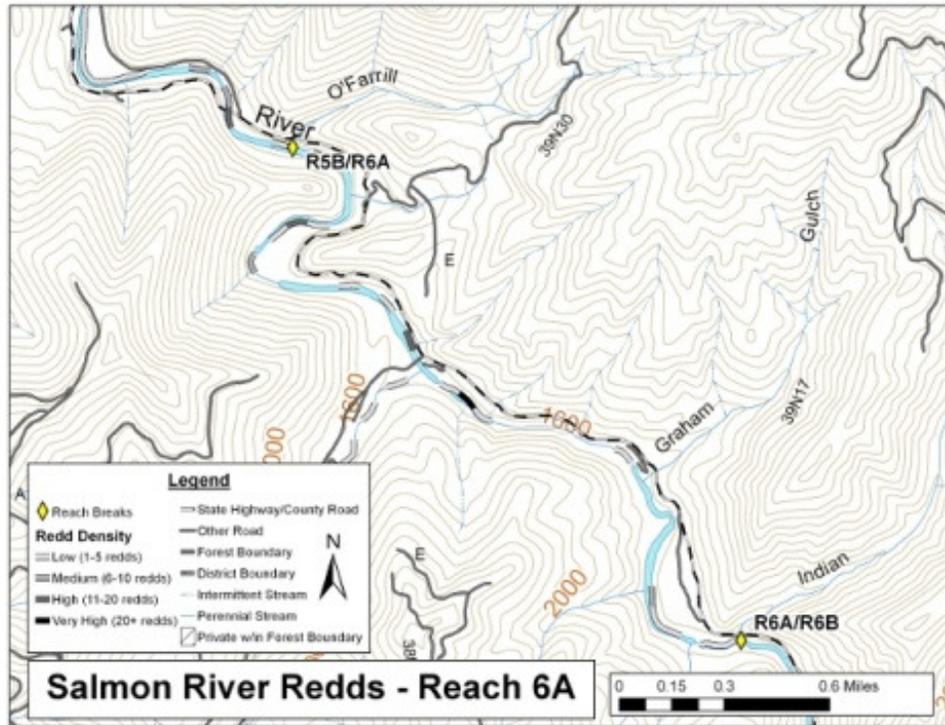


Figure D-SA6. Redd distribution and density for SF Salmon River, Reach 6A.

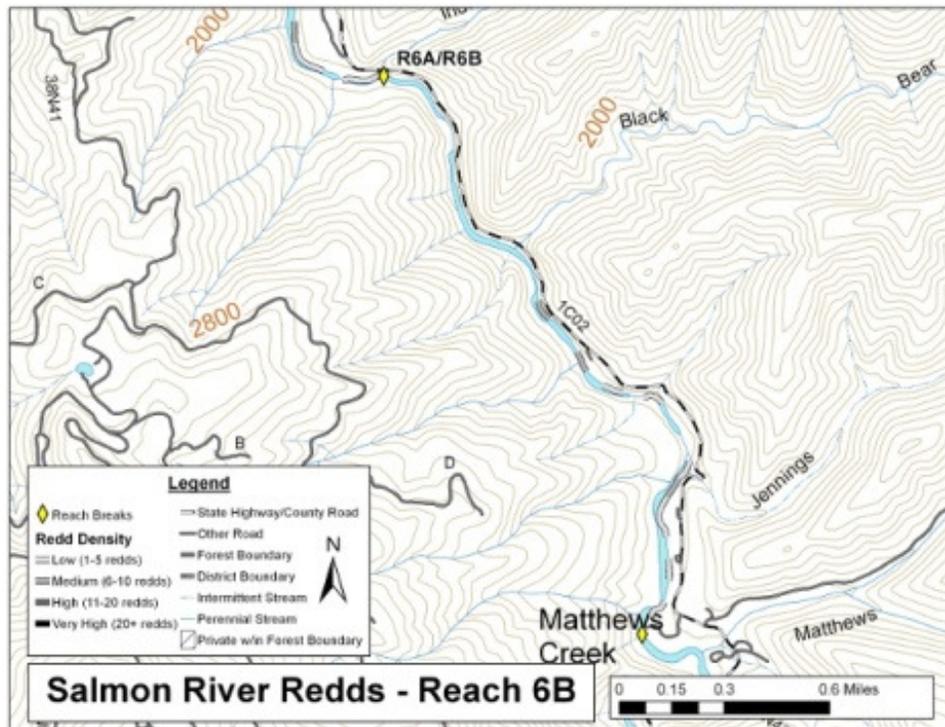


Figure D-SA7. Redd distribution and density for SF Salmon River, Reach 6B.

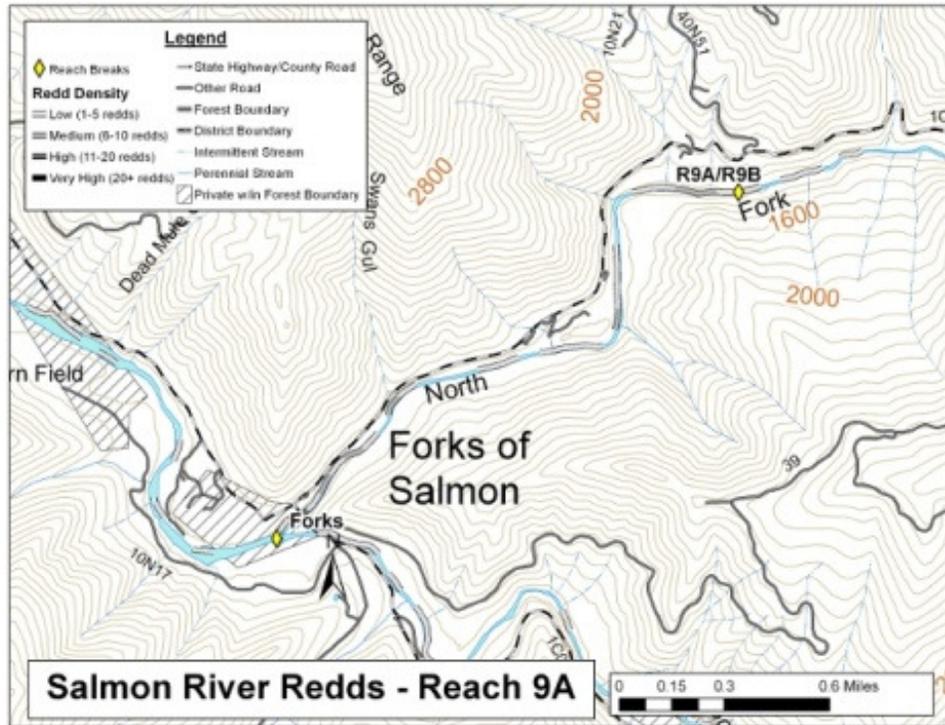


Figure D-SA8. Redd distribution and density for NF Salmon River, Reach 9A.

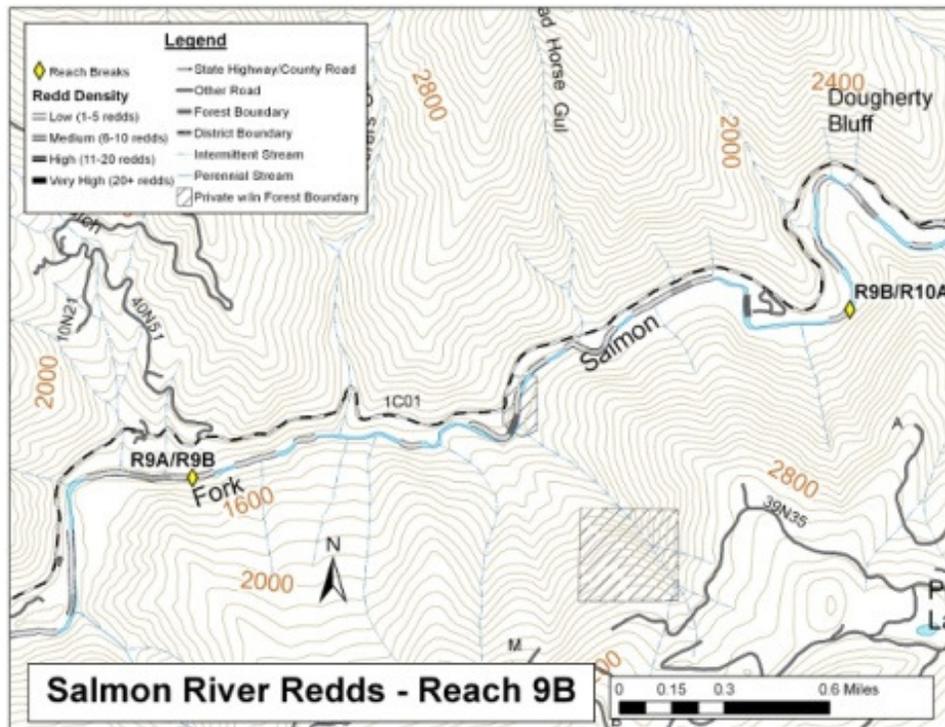


Figure D-SA9. Redd distribution and density for NF Salmon River, Reach 9B.

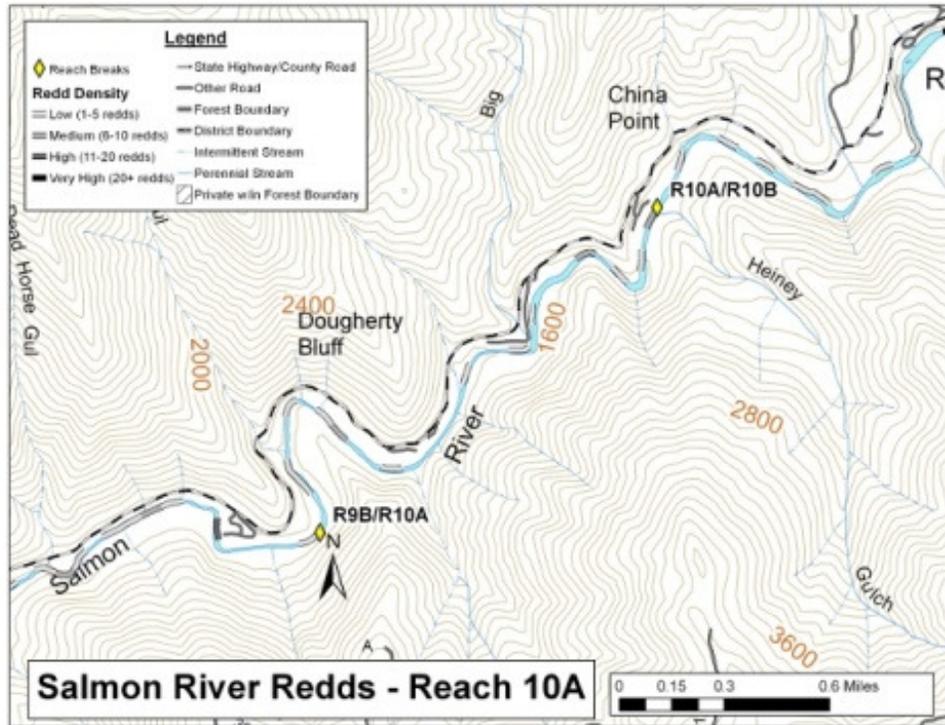


Figure D-SA10. Redd distribution and density for NF Salmon River, Reach 10A.

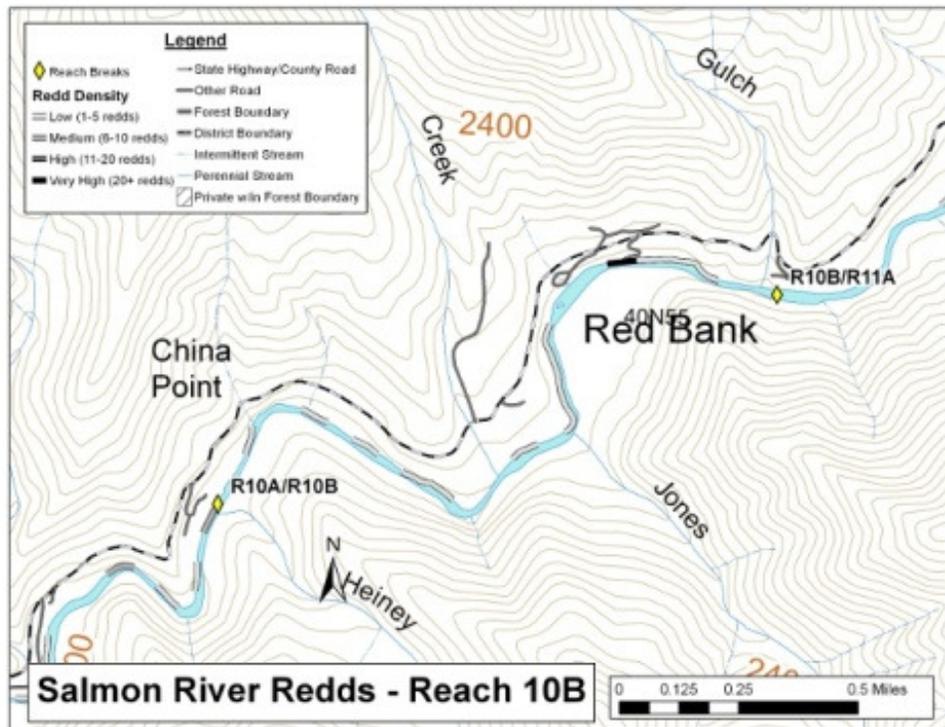


Figure D-SA11. Redd distribution and density for NF Salmon River, Reach 10B.

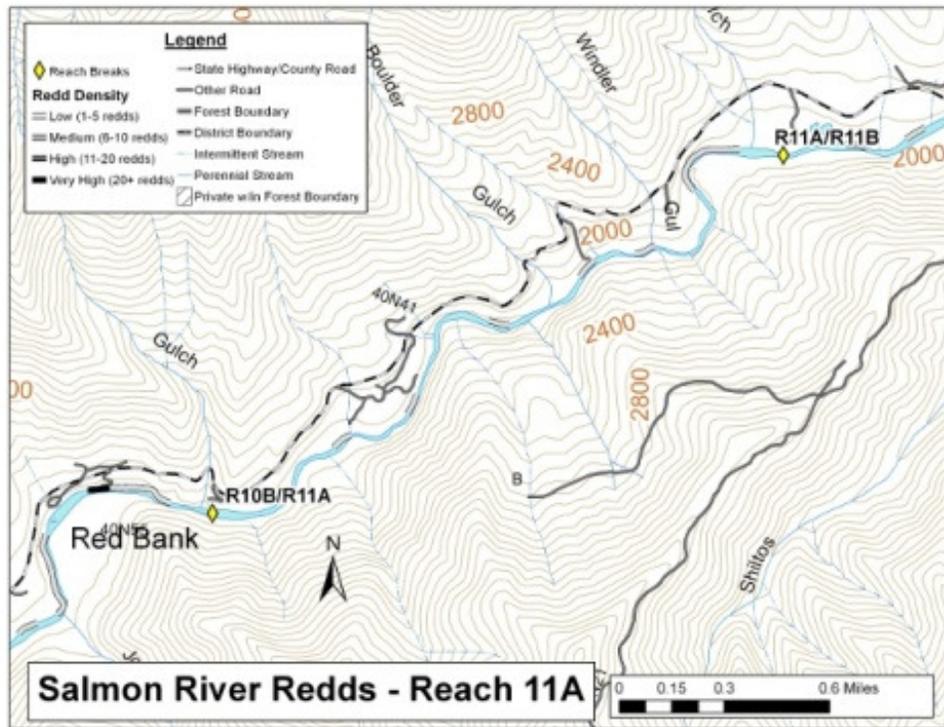


Figure D-SA12. Redd distribution and density for NF Salmon River, Reach 11A.

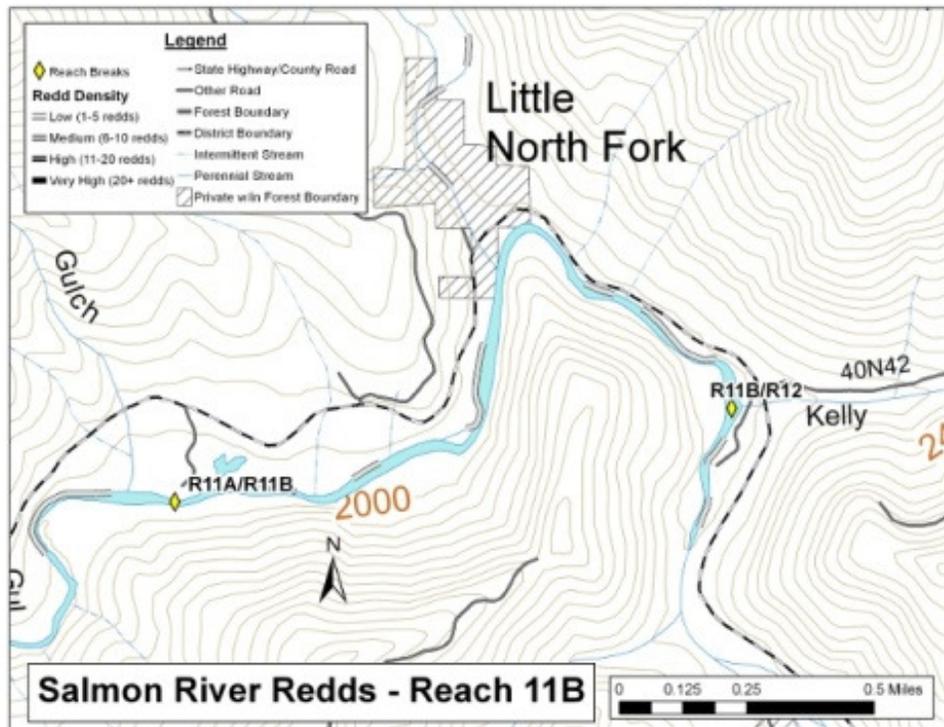


Figure D-SA13. Redd distribution and density for NF Salmon River, Reach 11B.

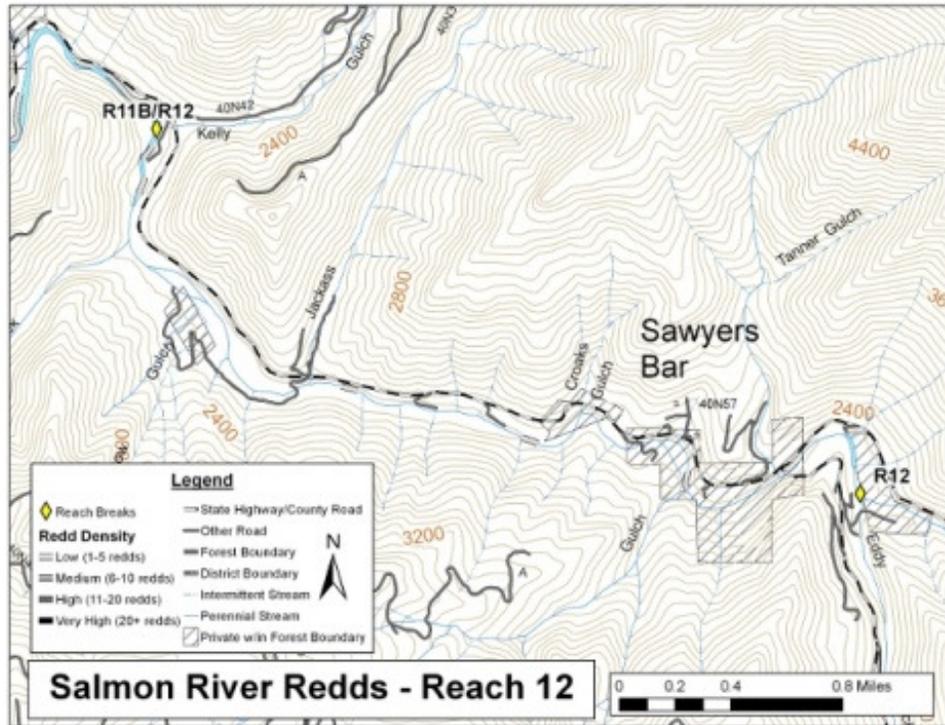


Figure D-SA13. Redd distribution and density for NF Salmon River, Reach 12.

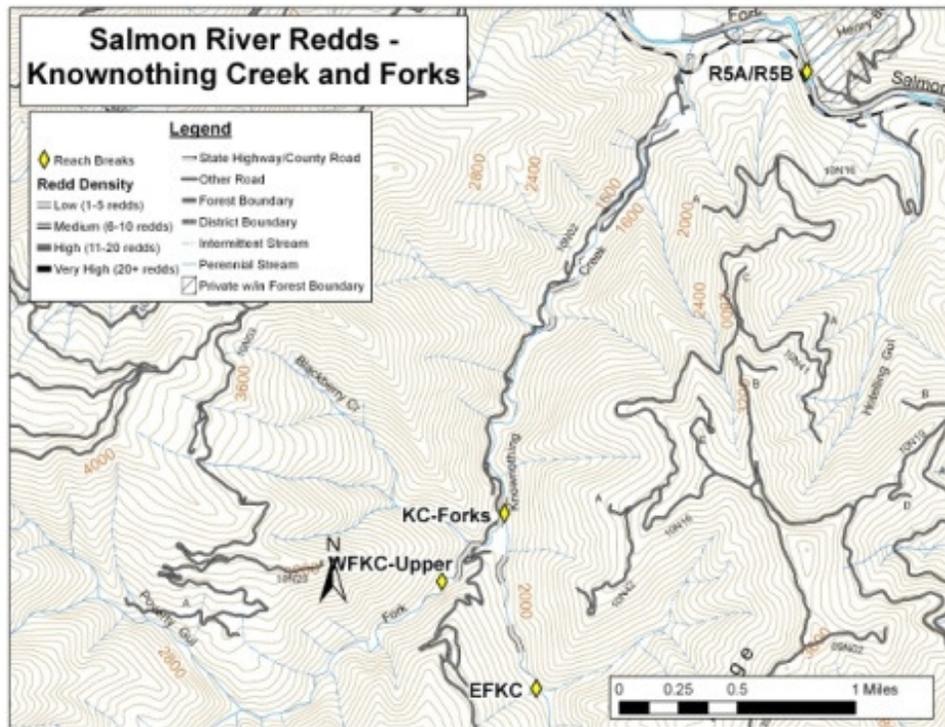


Figure D-SA14. Redd distribution and density for Knownothing Creek.

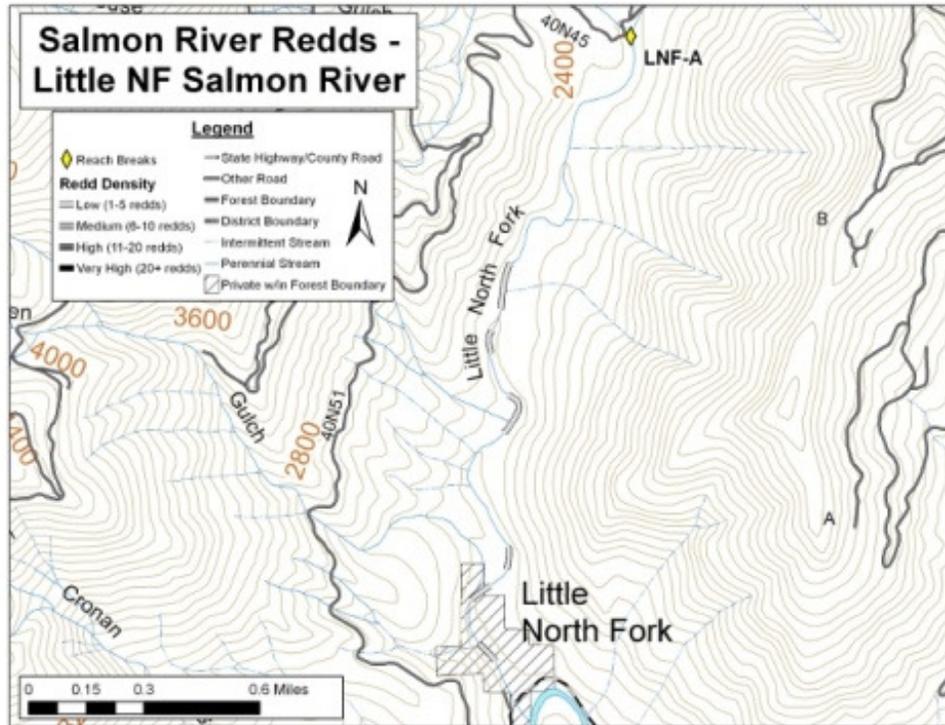


Figure D-SA15. Redd distribution and density for Little North Fork Salmon River.

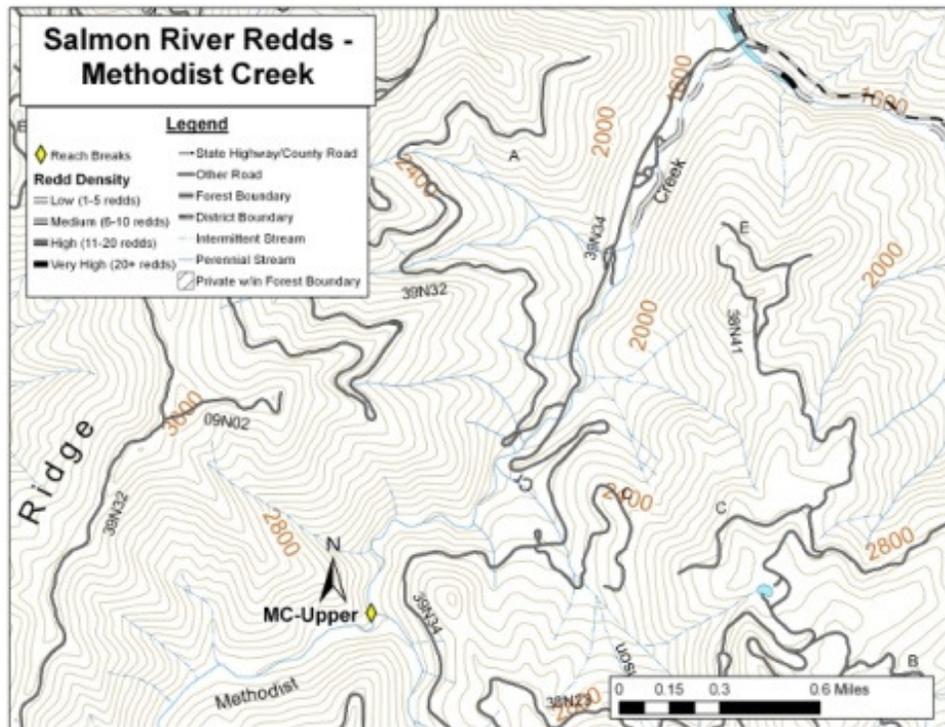


Figure D-SA16. Redd distribution and density for Methodist Creek.

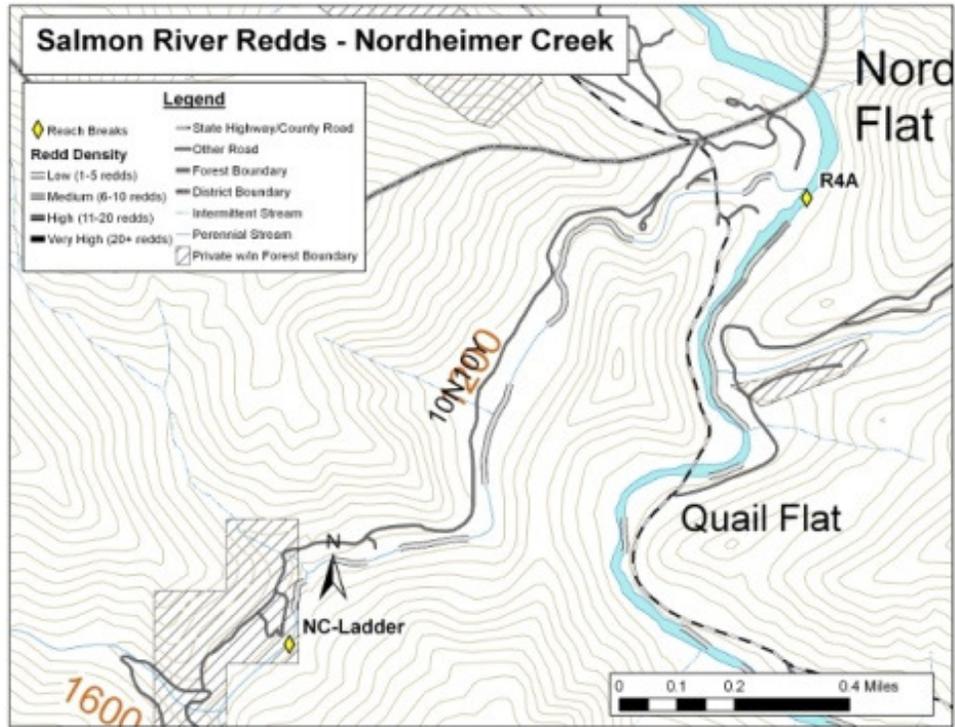


Figure D-SA17. Redd distribution and density for Nordheimer Creek.

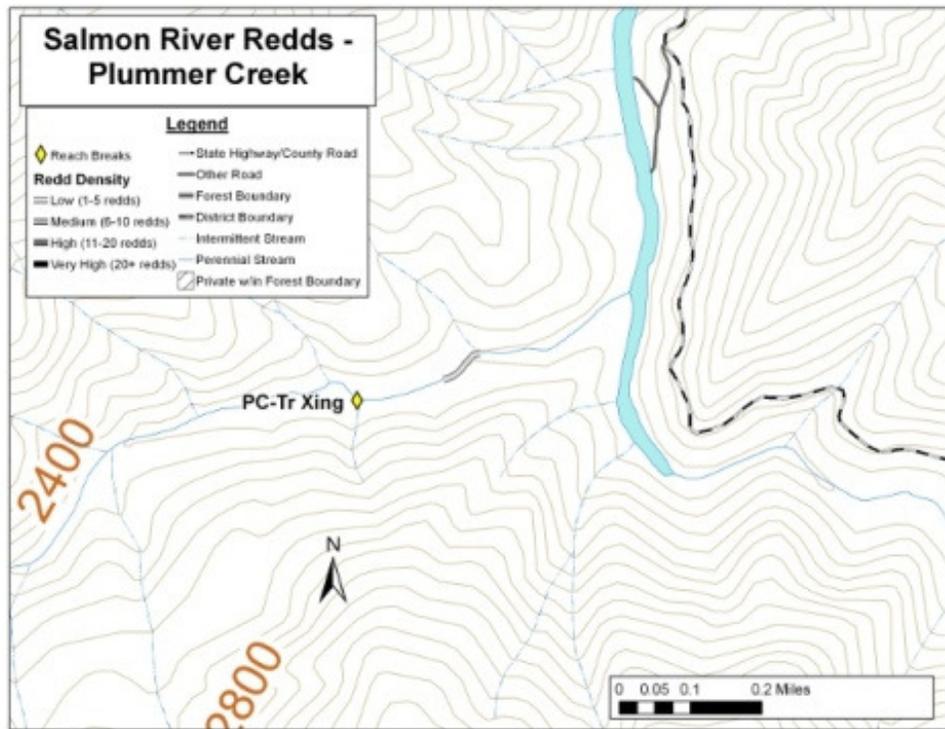


Figure D-SA18. Redd distribution and density for Plummer Creek.

Scott River Data

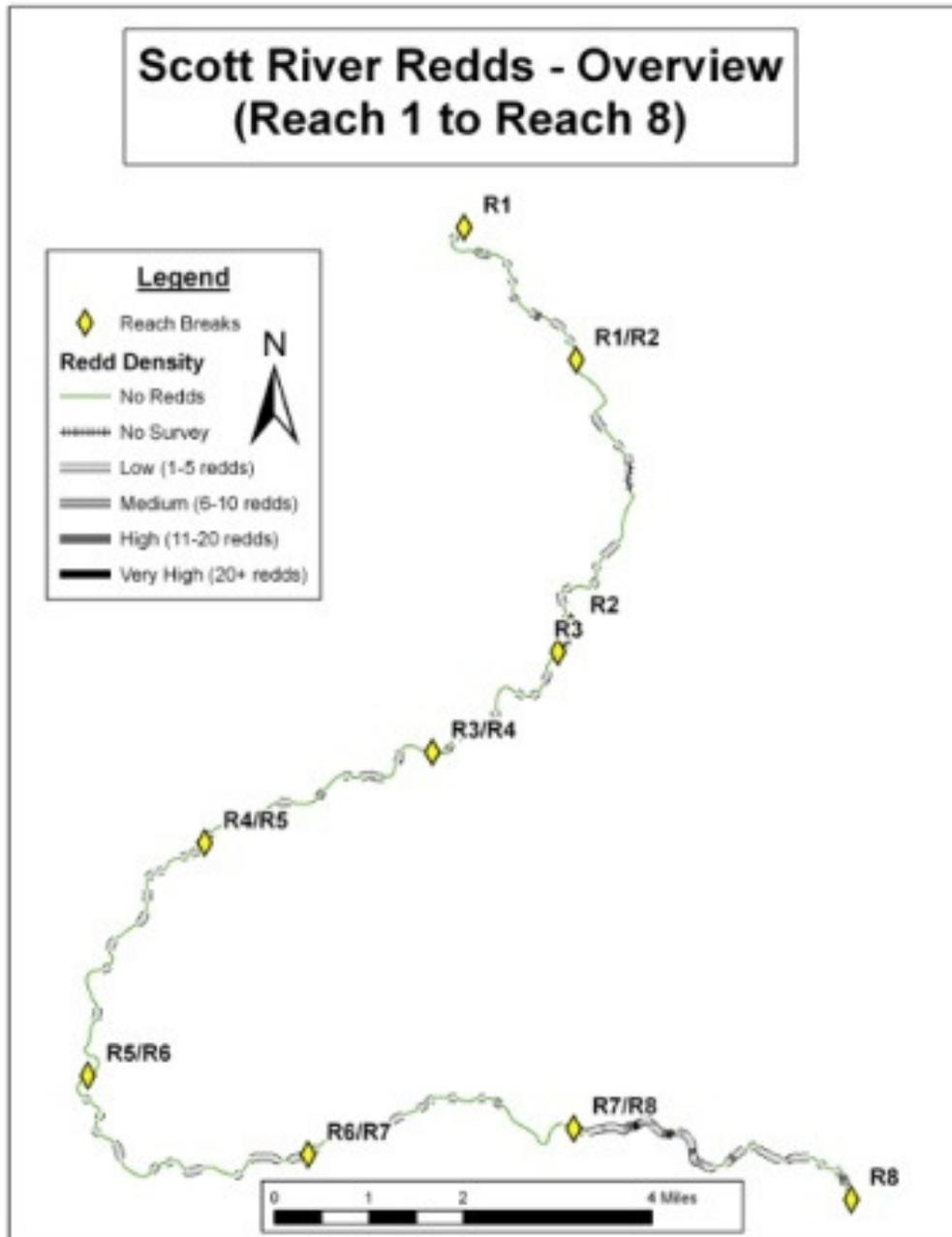


Figure D-SC1. General overview of redd distribution and density for Scott River surveys, Reach 1 through Reach 8. Map is of survey area only and does not include roads, hillslopes, or other landmarks.

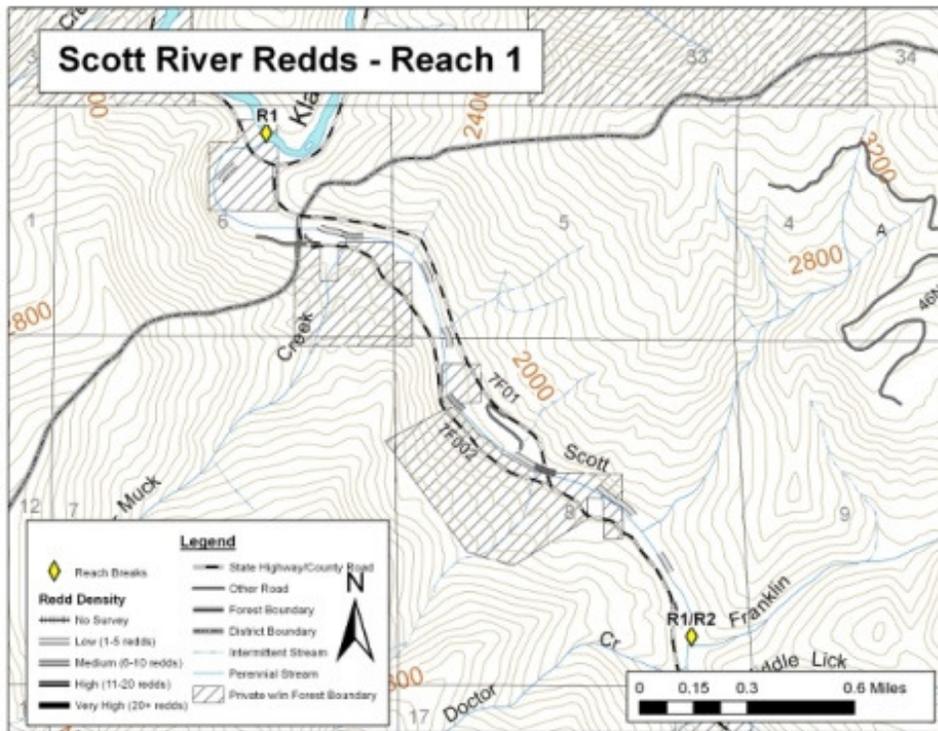


Figure D-SC2. Redd distribution and density for Scott River, Reach 1.

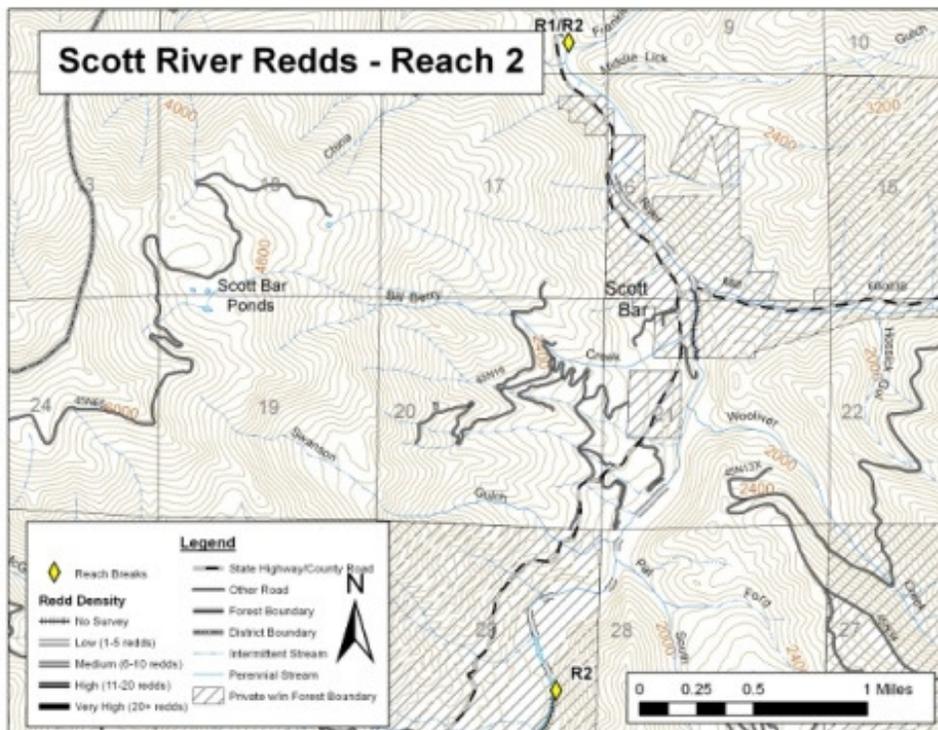


Figure D-SC3. Redd distribution and density for Scott River, Reach 2.

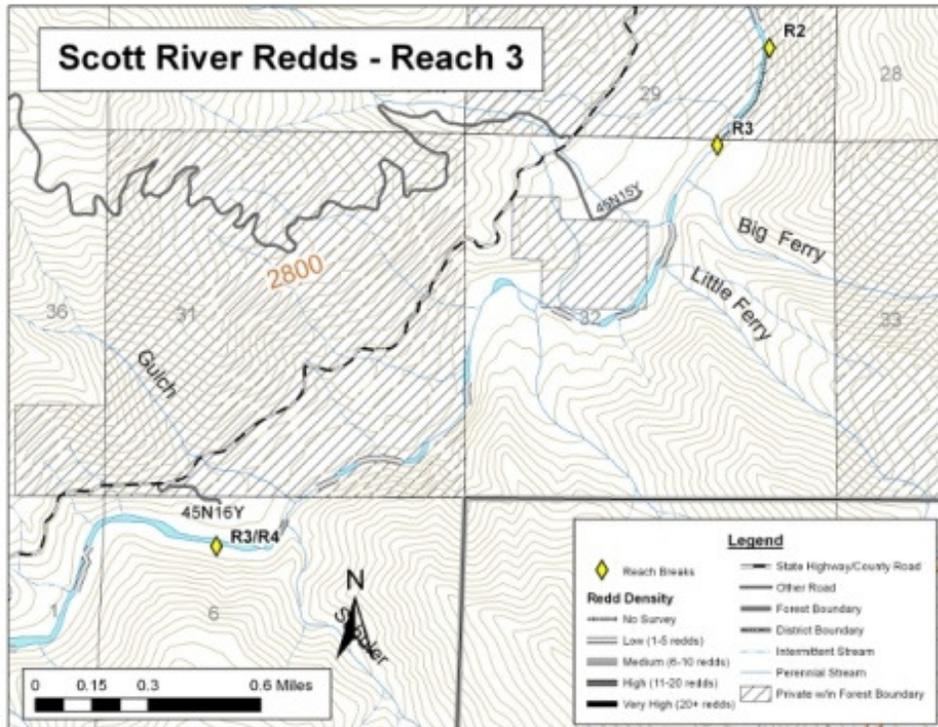


Figure D-SC4. Redd distribution and density for Scott River, Reach 3.

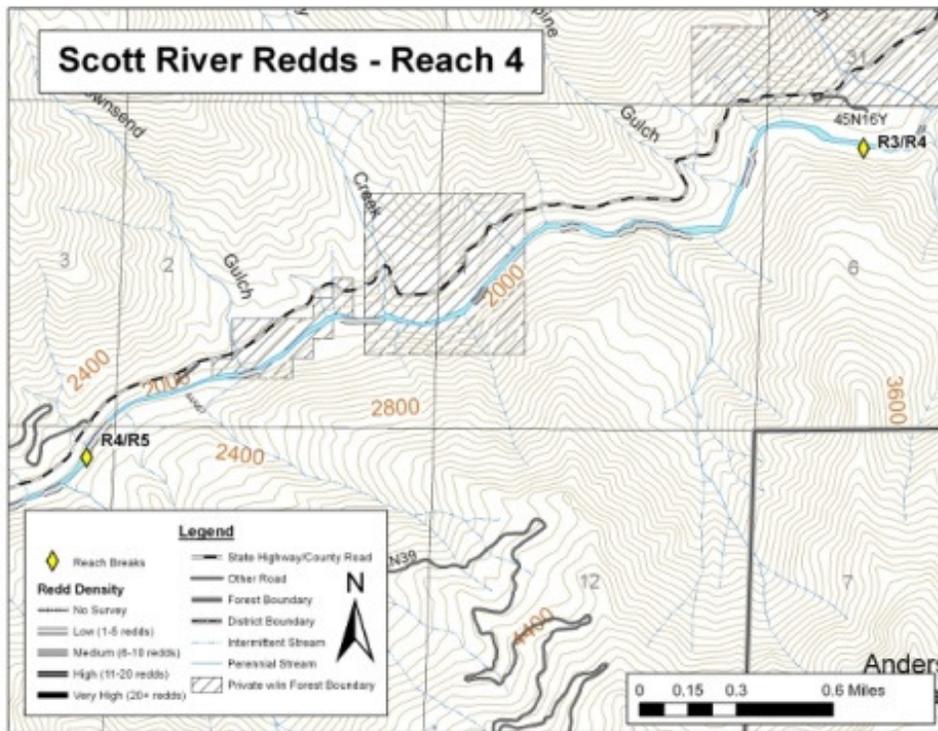


Figure D-SC5. Redd distribution and density for Scott River, Reach 4.

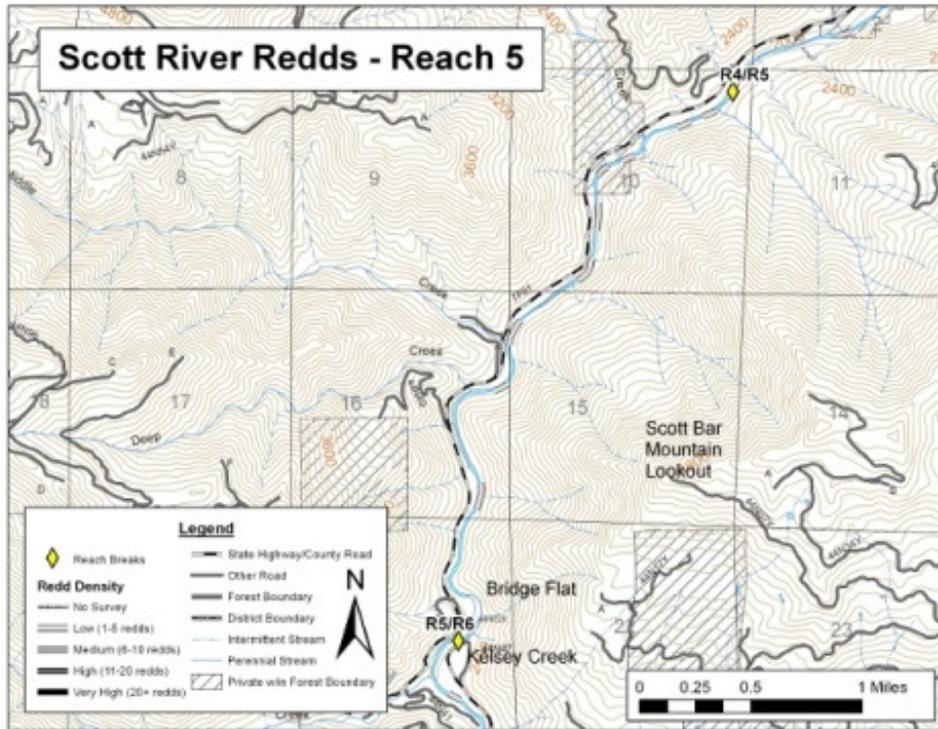


Figure D-SC6. Redd distribution and density for Scott River, Reach 5.

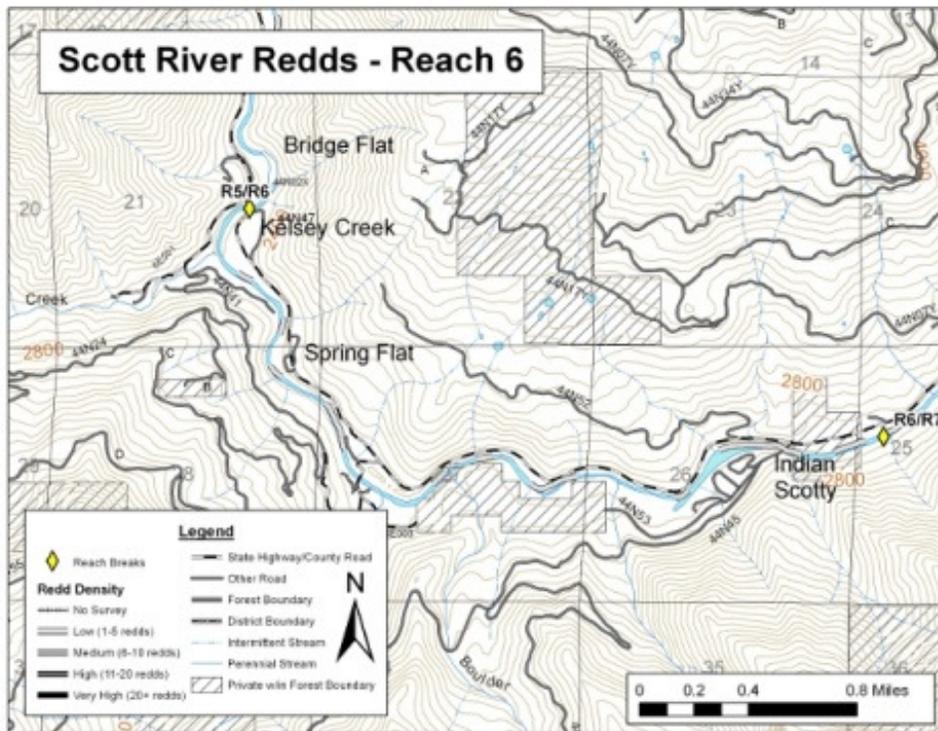


Figure D-SC7. Redd distribution and density for Scott River, Reach 6.

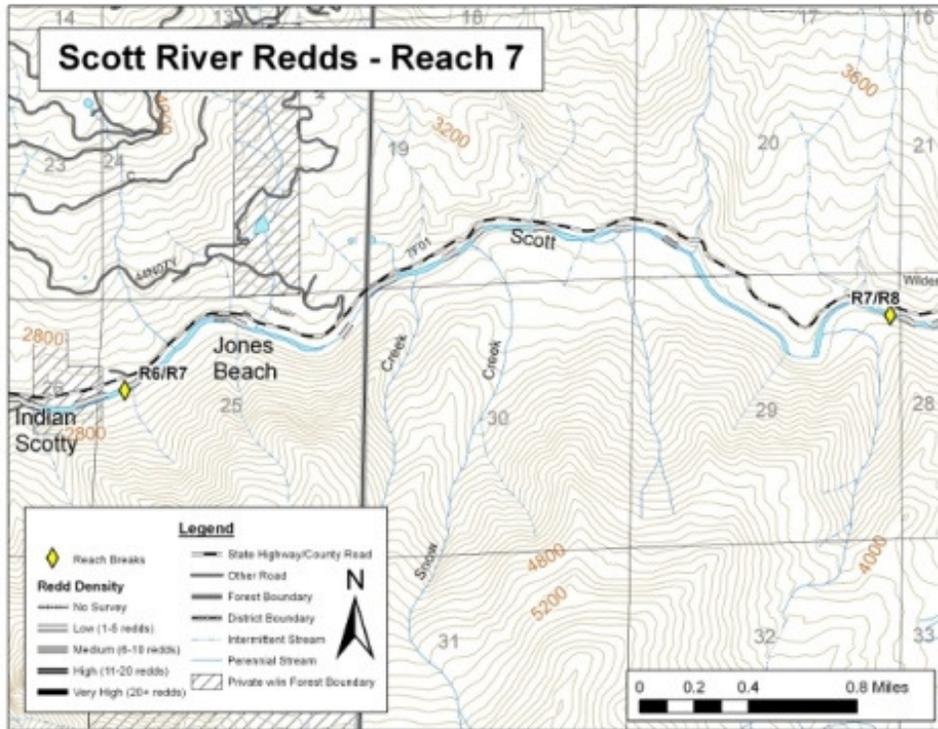


Figure D-SC8. Redd distribution and density for Scott River, Reach 7.

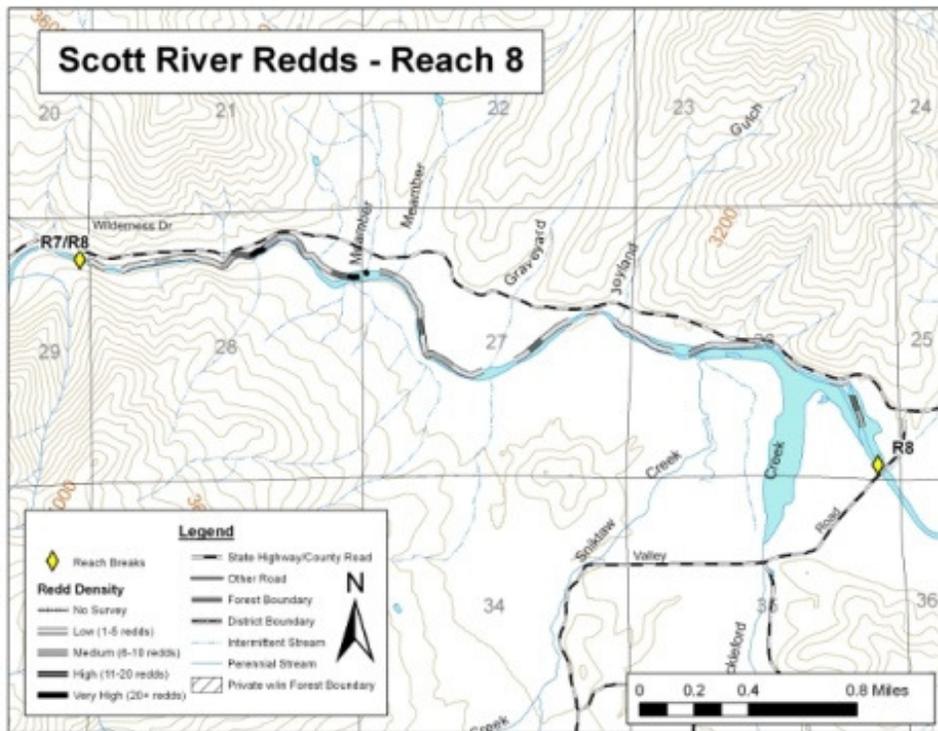


Figure D-SC9. Redd distribution and density for Scott River, Reach 8.

Appendix E – List of Cooperators and Contributions

Federal

U.S. Fish and Wildlife Service

U.S. Forest Service

- Klamath National Forest
- Six Rivers National Forest

State

California Department of Fish and Game

- Arcata Office
- Yreka Office

Tribal

Karuk Tribe

Yurok Tribe

Quartz Valley Indian Reservation

Other

Local volunteers

Forks of Salmon School District

Mid-Klamath Watershed Council

Northern California Resource Center

Salmon River Restoration Council

Scott Valley Resource Conservation District