Salmon River Community Weak Stocks Assessment Program – 2008

DRAFT Final Report
Agreement # P0710302 00
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California Department of Fish and Game

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Summary

The SRRC's mission is to assess, protect, restore, and maintain the Salmon River ecosystems, focusing on the restoration of the anadromous fisheries resources.

The Salmon River Restoration Council (SRRC) was funded by the California Department of Fish and Game to coordinate monitoring and assessment of fish species within the Salmon River referred to as "weak stocks". The California Department of Fish and Game and the National Research Council have identified the need for further research related to abundance, habitat requirements, and limiting factors affecting weak stocks in the Salmon River.

Through the Salmon River Community Weak Stocks Assessment program (Weak Stocks Program), the SRRC has provided information to regulating agencies that is critical to the survival of the diverse fish populations of the Klamath River Basin and Salmon River subbasin. This program continues to provide baseline data, as well as expanding data sets for the under studied species of the Klamath and Salmon Rivers.

The program has focused on the assessment of freshwater life stages of "weak stocks" species, such as spring Chinook, coho salmon and steelhead trout. The program has identified the presence and extent of presence of these species within the basin. The program has also provided population trend data as well as biological data that are used in management, further research, and restoration projects.

The Salmon River Restoration Council (SRRC) has performed the tasks identified in our cooperative agreement, and has provided all labor, materials, tools, and permits necessary to complete the Salmon River Community Weak Stocks Assessment. The tasks in this program involve monitoring species distribution and life history, including identification of selected habitat requirements for weak stocks.

The Salmon River's year round clarity and SRRC's close proximity to survey areas has enabled us to provide sound and efficient data sets that are rare and valued by fisheries managers Through this program, SRRC has provided critical data that is otherwise unavailable or unobtainable to research projects in the Pacific Northwest. The SRRC has continued to provide leadership in heightening stakeholder awareness and enlisting support from many of the stakeholders to help recover the anadromous fisheries of the Salmon River.

The collaborative approach has been a major component of the program, providing technical oversight, as well as on the ground assistance. Tasks in this project have been performed in cooperation with the Salmon River community, U.S. Fish and Wildlife Service (USFWS), California Dept. of Fish and Game (CDFG), U.S. Forest Service (USFS), NOAA Fisheries, Karuk Tribe, Yurok Tribe, Hoopa Tribe, Quartz Valley Indian Reservation (QVIR), Mid-Klamath Watershed Council (MKWC), the Klamath Salmon Anglers and Guides Association (KSAGA), Humboldt State University, and the University of California at Davis.

This project addresses and seeks to fill data gaps for weak stocks management. Providing this kind of information may prove invaluable to the recovery of threatened fisheries, as cited by the

National Research Council report Threatened and Endangered Species of the Klamath River (2003).

> "A small but growing stakeholder group is cooperating with state and federal agencies and tribal interests in the Salmon River basin. High priority has been placed on monitoring of salmon and steelhead runs, improvements in riparian habitat, management of fuels, and assessment and rehabilitation of logging roads (Elder et al. 2002). Given proper funding and agency participation, these efforts may be sufficient to improve conditions for coho and other salmon and steelhead in the watershed."

Through the weak stocks program, fisheries technicians from SRRC, tribes, agencies, and trained community volunteers have collected data on life history, population size, range and health of targeted species. The Karuk Tribe, USFWS, USFS, NOAA Fisheries, and CDFG have provided technical oversight and review. The Klamath Salmon Anglers and Guides Association (KSAGA), and the Salmon River Spring Chinook Voluntary Recovery Group have acted through this project to further coordination amongst stakeholders in the recovery of anadromous fisheries. These groups and others, such as the Klamath Basin Fish Health Assessment Team, have directed the goals of this project and will be involved in its review and further development.

The overwhelming support for the program within the surrounding community along with increased support from agencies and tribes, has afforded us the ability to exceed the goals in many of the project tasks. Please see attached invoice for a detailed breakdown of expenditures and in-kind contributions by line item.

Task Accomplishments

Between August 2008 and March 2010, the SRRC performed all Tasks outlined in the Grant Agreement, including in-kind services. The contributions of the California Department of Fish and Game have been acknowledged on signs, flyers, written communications, event notices, web publications, and SRRC presentations. Activities associated with each Task are provided in the following text. Tasks were accomplished with the support of community volunteers and partners listed above.

I. Monitoring Coordination:

a. The SRRC hosted six (6) Salmon River Fish Working Group Meetings.
    - Attendees included, USFS, CDFG, USFWS, Karuk Hoopa and Yurok tribes, the Quartz Valley Indian Reservation, North Coast Regional Water Quality Control Board, KSAGA, Mid Klamath Watershed Council, NOAA Fisheries, Siskiyou and Humboldt Board of Supervisors, Humboldt State University and, community members.
b. The SRRC sponsored four (4) meetings of the Klamath Salmon Anglers and Guides Association (KSAGA) to incorporate input and data from the local fishing community.
    - Cooperation has increased the protection and restoration of spring run Chinook, steelhead trout, and coho salmon in the Klamath Basin.
c. The SRRC coordinated the implementation of the following tasks:
    - Expanding public awareness of watershed conditions and needs through SRRC's

Outreach Program. Distributing information by newsletter, brochure, monthly calendar, web site, posters, videos, and presentations.

- Organizing, facilitating, and tracking Ecosystem Awareness Workshops and Volunteer Restoration Training Workdays.
- Using outreach methods to maximize community attendance, participation and benefit.
- Coordinating with the Karuk Tribe of California and enforcement agencies to stimulate local efforts to protect fisheries resources.
- Promoting cooperative relationships with resource users.
- Providing posters that display the most current fishing regulations.
- Obtaining specific technical comments and recommendations regarding proposed projects and watershed needs.
- Requesting and utilizing the services of agency and independent technical specialists to obtain specific technical comments and recommendations about proposed projects and watershed needs.
- Acting as local restoration liaison with the Karuk Tribe of California, California Department of Fish and Game, US Forest Service, US Fish and Wildlife Service, NOAA Fisheries and other responsible agencies and organizations.
- Continuing to promote the role of stakeholder advisory partnerships in the Salmon River subbasin that focus on watershed and fisheries restoration planning, implementation and monitoring.

d. The SRRC enlisted volunteer support from the pool of community members who have experience with fisheries surveys.
e. The SRRC hosted 2 workshops to increase awareness and identify needs for fish passage and/or water system upgrades where problems exist on or near private property.

II. Monitoring and Assessment:

Fish Health:

Through this program the SRRC enlisted volunteer participation in assessment of fish health in the Klamath and Salmon River basin. Fish health research mainly occurred in conjunction with other surveys. Research and monitoring projects included spring Chinook disease assessments, participation in the Klamath Fish Health Assessment Team, posting flyers requesting notification from the Klamath and Salmon River communities regarding dead, sick or lethargic salmonids.

Spring Chinook:

Through this program the SRRC enlisted volunteer support in the assessment and protection of spring Chinook salmon. Research and monitoring projects included: monitoring disease levels in spring Chinook, identification of run timing, identification of holding areas, coordination of spring Chinook dives, carcass and redd surveys, and otolith and genetic research. Please see *Spring Chinook* below for details.

Coho Salmon:

Through this program the SRRC enlisted volunteer support in the assessment and protection of coho within the Salmon River. Research and monitoring projects included: Salmon River juvenile coho presence/absence surveys and Salmon River adult coho spawning and redd surveys. The SRRC assessed the condition of proposed and recently removed migration barriers. Monitoring focused on the success and/or potential benefits of fish passage projects recognized by the Five-County Coho Recovery Team, which are completed or initiated CDFG restoration projects. Please see *Coho* below for details.

Winter and Summer Steelhead:

Through this program the SRRC enlisted volunteer support in the assessment and protection of winter and summer steelhead. Research and monitoring projects included: coordination of summer steelhead dives, steelhead spawning and redd surveys, and the Klamath Salmon Anglers and Guides Association Steelhead Monitoring Program. Please see *Steelhead* below for details.

Discussion

Methodology

Tasks and objectives of the Salmon River Weak Stocks Program were performed in cooperation with the aforementioned agencies, tribes, and organizations. CDFG, NOAA, USFS, and Karuk Tribal Biologists provided oversight. The SRRC directed on-the-ground monitoring projects and also served to document the programs activities. SRRC adopted protocols for sampling and monitoring activities from USFS and CDFG.

Survey crews consisted of SRRC fisheries technicians, and Karuk Tribal biologists and fisheries technicians. Most surveys were completed with gear either provided by this project or as in kind donation from SRRC. Publications and mailers were used to coordinate with the community and agencies. Examples of outreach materials are provided in Appendices E & F.

Spring Chinook run timing, holding patterns, and population surveys took place from May through August of 2008 and 2009. Snorkel surveys of the lower Salmon River (Brannon's Bar to the Mouth) in May and June determined the head of the spring run. The surveys involved 3- 4 surveyors with 1 or 2 swimming in the river and 1 or 2 in a raft or cataraft as a safety measure. Divers are trained and experienced in snorkel survey techniques. The entire stretch of river is surveyed from Brannon's Bar to the mouth of the river. Spring Chinook observed during the survey are enumerated by the rower and recorded by sub sections of the reach. Total run size is determined by the Annual Spring Chinook and Summer Steelhead Census Dives.

Coho, steelhead, and Chinook spawning survey protocol is based on protocol developed for Klamath River Cooperative Chinook Spawning and Carcass Surveys (CDFG). Surveys were conducted by walking along the stream, counting and recording observations of redds, live fish,

and carcasses. On streams scheduled for repeated surveys, identified redds were flagged to avoid repeated counting. When deeper pools were encountered they were often snorkeled to look for live adults when possible. Carcasses were measured and sex was determined. At the beginning of each survey air and water temperature were recorded. Data was recorded using CDFG protocol and GIS maps. Copies of data sheets are available upon request. Data fields included: temperature, number of live fish observed, number of carcasses, number of redds observed, location of carcasses and redds, redd length and width, habitat type, carcass fork length, sex, scars, signs of fish disease, percent of eggs spawned, scale, tissue, and otolith samples.

Two sets of scale samples were collected for each carcass. These samples were provided to Sara Borok of CDFG, and Rebecca Quinones of the USFS. Scale and tissue samples have also been provided for analysis to Humboldt State University Professors Dr. Andrew Kinzinger and Dr. Amy Sprowles in coordination with genetic research funded by CDFG.

Spring Chinook spawning surveys were conducted in the upper South and North Forks of the Salmon River were performed by SRRC, Karuk Tribe, CDFG, QVIR, MKWC, NOAA and USFS fisheries technicians from September 15 – October 30, 2008 and September 15 – November 2, 2009.

Coho spawning surveys were performed in suspected habitat by SRRC, MKWC and Karuk Tribe fisheries technicians between November 2008 and January 2009, and between November 2009 and January 2010. Protocol involved coded-wire tag recovery. Snorkel surveys identified juvenile coho populations throughout the Salmon River.

Winter steelhead surveys in major tributaries of the Salmon River were performed by SRRC, Karuk Tribe, and USFS fisheries technicians from February – April 2009.

Coordination

SRRC hosted trainings to increase community knowledge of fisheries monitoring activities within the basin. Training workshops were offered for adult spawning surveys (steelhead, coho, and Chinook), juvenile salmonid identification, spring Chinook and summer steelhead dives.

During the project period the SRRC held three Voluntary Spring Chinook Recovery Group meetings. The 2009 Spring Chinook Symposium, co-sponsored by the Salmonid Restoration Federation (SRF), was hosted by the SRRC in Forks of Salmon, CA. Attendees included USFS, CDFG, NCRWQCB, the Karuk, Hoopa, and Yurok Tribes, the Quartz valley Indian Reservation, USFWS, NOAA Fisheries, USGS, Oregon Department of Fish and Wildlife, Klamath Riverkeeper, HSU, U.S. Bureau of Reclamation, Mattole Salmon Group, Mattole Restoration Council, Salmonid Restoration Federation, Mid-Klamath Watershed Council, Kier and Assoc., NRCS, SRRC and members of the community. The Recovery Group has continued to develop an understanding of limiting factors affecting Salmon River spring run Chinook. A guiding limiting factors document for Salmon River spring run Chinook is available online at www.srrc.org.

SRRC Fisheries and Water Monitoring program staff coordinated regular meetings to develop monitoring, assessment, and restoration strategies in the Salmon River. Key staff from the SRRC

fisheries department also attended regular meetings of the KFHAT and other Klamath basin groups that have a coordinating role in restoration of the Klamath basin fishery.

The SRRC has participated in the coordination of the Klamath Hydroelectric Settlement Agreement (KHSA) and the Klamath Basin Restoration Agreement (KBRA), to restore the fisheries of the Klamath Basin.

Assessment

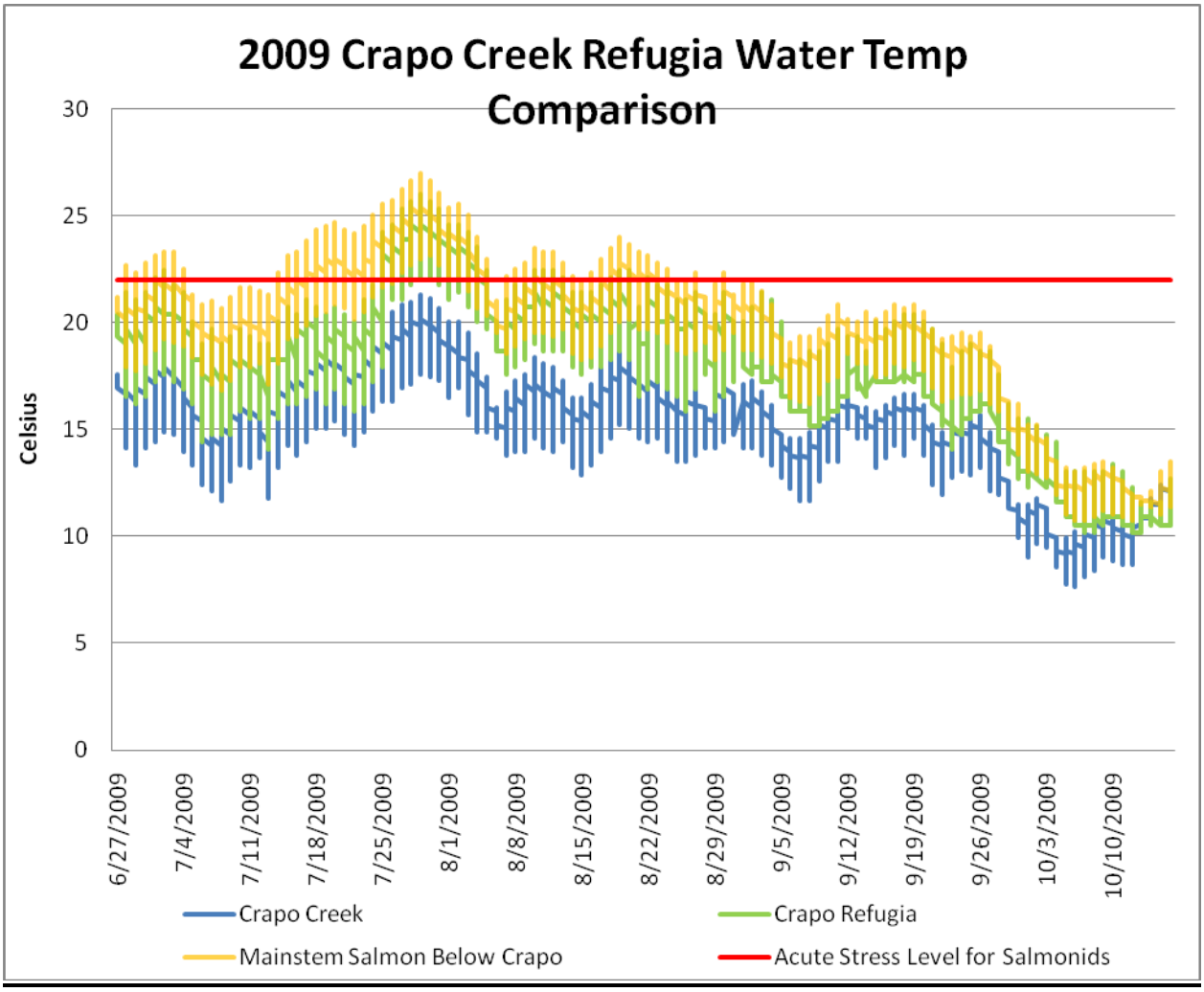
Through this program the SRRC enlisted volunteer support for assessment of fish health in the Klamath and Salmon River basin. Fish health research mainly occurred in conjunction with fisheries surveys. Research and monitoring projects included spring Chinook disease assessments, participation in the Klamath Fish Health Assessment Team, and outreach to local community requesting notification regarding dead, sick or lethargic Klamath and Salmon River salmonids. During field assessments for fish disease, trained technicians examined fish carcasses for external characteristics of Columnaris, Ich., and C. Shasta.

The summertime temperatures in the Salmon River often reach stressful levels for salmon in the months of June, July and August. Salmon and other fish can be at risk of disease infection and eventual mortality during these periods. Through the weak stocks program, the SRRC has identified and monitored key refugia locations for adult spring Chinook within the Salmon River. These locations are critical to spring Chinook as they spend the summer in fresh water. Threats to these key sites like recreational mining are being monitored and eliminated, by SRRC coordination with specific user groups like the New 49ers mining association. Refugia habitat for juvenile steelhead, coho, Chinook, Pacific Lamprey, and green sturgeon, have also been identified and monitored through the weak stocks program. Water monitoring and fisheries surveys provide data to assess the use and function of refugia habitat.

The SRRC and cooperators maintain approximately 50 hobo temps in the Salmon River and its tributaries each year, and monitor flow at approximately 20 sites once a month during the summer months. The SRRC placed temperature loggers in key refugia areas, and in the main river channel near refugia areas, for spring Chinook and juvenile salmonids. Spring Chinook refugia areas were monitored throughout the summer for fish density and correlations between temperature and density. Flow measurements were taken for tributaries where spring Chinook or juvenile salmonids had congregated.

The goals of the monitoring program include establishing baseline data, supporting the TMDL process, correlating temperatures with fish behavior, identifying fisheries refugia conditions, identifying opportunities to improve habitat, and involving community members in the monitoring process. With a baseline data set, we can also assess the effectiveness of restoration projects and of land management activities.

2009 temperature data for the Crapo Creek refugia, charted with the main stem Salmon River temperature, as well as the stress threshold for Salmonids, and the Crapo Creek temperature is shown in the chart below.



Spring Chinook

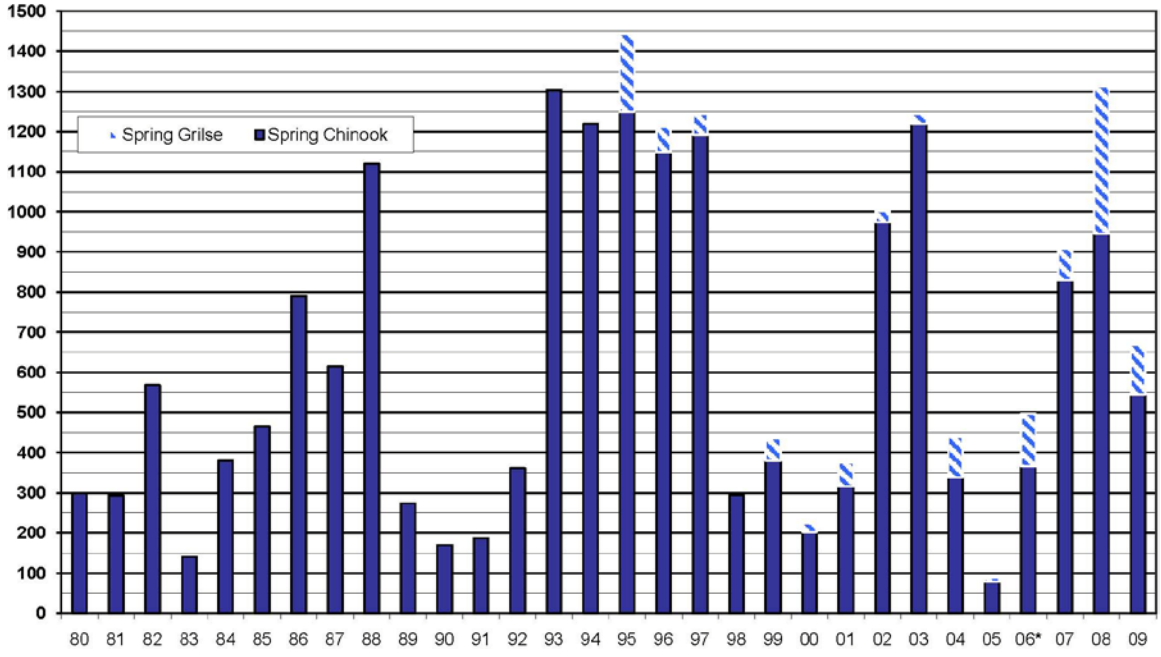
The 2008 and 2009 Cooperative Salmon River Spring Chinook and Summer Steelhead Census Dives successfully assessed the population of spring Chinook salmon present in the Salmon River (see table(s) in Appendices A & B for detailed population data).

In 2008, wildfires on the Salmon River postponed the scheduled dive event, and prevented crews from surveying wilderness reaches in the upper South Fork Salmon River, and Wooley Creek. This event was completed over the course of three days.

Wildfires encroached on the Salmon River again in 2009, but did not affect the scheduling and completion of surveys. In fact, the 2009 Census Dive was completed in one day, enlisting the nearly 100 divers.

Whitewater safety and fish identification training was provided by the SRRC for dive participants. Training included presentation of The Salmon River Fish ID and Snorkel Survey Training Video, produced by Klamath-Salmon Media Collaborative.

In 2008 the spring run of Chinook in the Salmon River was determined to be 1,312 (945 adults and 367 jacks). The 2009 run was determined to be 669 (545 adults and 124 jacks). See chart below for 1980-2009 population totals.



Salmon River Spring Chinook Population Totals 1980-2009

* 2006 Estimation due to inability to survey 35% the river because of wildfires

The Salmon River Cooperative Spring Chinook Carcass and Redd Surveys took place from September 15th – October 27th 2008 and September 13th – November 2nd 2009. The surveys were performed with funding and in-kind contributions from this program. Cooperative support was provided by the Karuk Tribe, Mid-Klamath Watershed Council, Quartz Valley Indian Reservation, USFS Orleans and Salmon River Ranger Districts, and the California Department of Fish and Game. The Salmon River Restoration Council (SRRC) hosted 2008 and 2009 survey trainings at the Cecilville Community Club. During spawning surveys, each survey crew consisted of at least two surveyors trained in survey protocol, redd and fish identification. Crews recorded the location of redds and carcasses, redd length and width, habitat type, carcass fork length, sex, scars, percent of eggs spawned, scale, tissue, and otolith samples. Two sets of scale samples were collected for each carcass. Samples were provided to CDFG, USFS, HSU, and UC Davis Biologists for analysis. Redds were recorded with GPS units and carcasses were measured, sex determined, and analyzed for signs of disease. During disease assessments, technicians examined carcasses for external characteristics of Columnaris, Ich. and C. Shasta.

During the 2003 survey season examination of 179 spring Chinook carcasses revealed that 53% had Columnaris lesions. In 2004 examination of 9 spring Chinook carcasses revealed that 62% had Columnaris lesions and in 2005 examination of 13 spring Chinook carcasses revealed that 46% had Columnaris lesions. Examination of carcasses in the 2006 spawning season showed a much lower infection rate of only 7% out of 59 carcasses that were observed. 2008 surveys reported no signs of Columnaris lesions in 141 spring Chinook carcasses. In 2009, only 3% of a

total 61 carcasses showed signs of Columnaris infection. This information has been provided to the USFWS California Nevada Fish Health Center and the Klamath Basin Fish Health Assessment Team.

A total of 336 spring Chinook redds were documented during the 2008 spawning survey season. In 2009, a total of 167 spring Chinook redds were documented during the survey season (see Appendices A & B). All spring Chinook redds were mapped using GIS maps. Photographs of 2009 spring Chinook redds in the upper South Fork of the Salmon River are shown below.

Coho Salmon

The SRRC in cooperation with CDFG, the Karuk Tribe, USFS, MKWC and USFWS, has completed coho presence/absence surveys in suspected areas and tributaries of the Salmon River. These surveys were successful in identifying coho salmon in areas where coho were not previously documented within the subbasin. Both juvenile and adult surveys were conducted in known and suspected habitats in the Salmon River basin. Streams where juvenile coho salmon presence had been previously documented were given priority when planning surveys. Documentation of juvenile coho outmigration at the Salmon River Downstream Migrant Screw Trap has been used to supplement information gathered during surveys. When not limited by personnel constraints, funding or inclement weather, coho spawning surveys were conducted through the 2008 and 2009spawning season. Snorkel surveys documented juvenile coho presence in Butler Creek, Glasgow Gulch, North Fork and South Fork of the Salmon River.

Juvenile coho salmon in the North Fork of the Salmon River (2008)

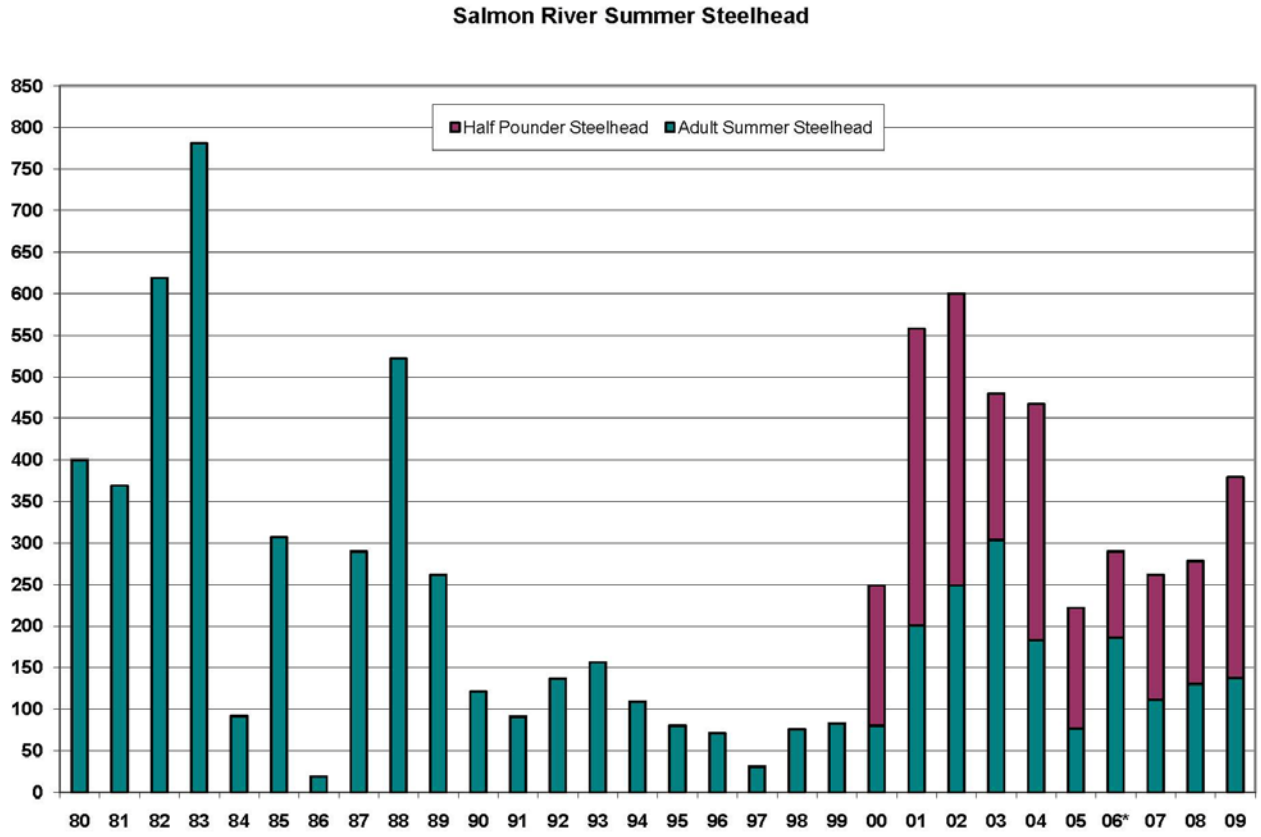
During 2009 Cooperative Fall Chinook Spawning Surveys, the SRRC and cooperators observed two adult coho carcasses in the main stem of the Salmon River. Heads were retrieved for potential coded-wire tag recovery, but revealed no tags. The recovery of coho carcasses during these surveys suggested early spawning of coho in the Salmon River. Subsequent 2009 coho spawning observations occurred primarily in the month of December and were limited to Knownothing and Nordheimer Creek. Seven (7) coho redds were observed in Knownothing Creek in 2009. This highlights the contribution of this tributary to the Salmon River coho population. A coho red documented December 2009 in Knownothing Creek (tributary to the South Fork Salmon River) is pictured below.

Charles Wickman, Fisheries Technician, pointing to a coho spawning redd on Knownothing Cr. (12.14.2009)

During and after peak spawning of coho salmon, conditions often make surveys difficult. High water can wash out carcasses and flatten redds making carcasses hard to find and identification of redds difficult. Also, the preference of small tributaries for spawning makes carcass recovery difficult, as predators and scavengers often get the fish before they can be documented. Despite this, it is important to continue and even expand efforts to document and quantify coho spawning in the Klamath Basin. Efforts to protect and conserve these fish require a comprehensive understanding of the size and range of the spawning population. On the ground surveys are the most reliable way to obtain this information.

Steelhead

The Cooperative Salmon River Spring Chinook and Summer Steelhead Dives event successfully assessed the population of summer steelhead present in the Salmon River for the 2008 and 2009 season. In 2008, 278 summer steelhead were observed during the survey (148 half-pounders (14 – 18 in.), and 130 adults). In 2009, 379 summer steelhead were observed during the survey (241 half-pounders (14-18 in.), and 138 adults). See table(s) in Appendices A & B for detailed population data. See chart below for 1980-2009 population totals.



*2006 Estimation - due to inability to survey 35% the river because of wildfires

During the 2009 steelhead spawning season SRRC and cooperators performed stream surveys to identify presence/absence and population trends of steelhead in the Salmon River and tributaries. SRRC and cooperators have performed these surveys since 1999. Project cooperators include; USFS, CDFG, USFWS, NOAA, and the Karuk Tribe. Training was held at the Forks of Salmon Community Club. The information collected during these surveys provides valuable characterization of fish passage issues in the watershed. Experienced crews of at least 2 people to conducted surveys of known and suspected steelhead spawning streams. Starting in February, and going until the middle of April, surveys were conducted once a week. Many volunteer participants are veteran fisherman with knowledge of current and historical range of species distribution. Trained crews assessed the condition of proposed and recently removed fish barriers, assessing the success and/or potential benefits of fish passage projects. Focus was placed on barriers that are proposed for removal or have already been removed by CDFG. Surveys were conducted in Kelly's Gulch, where a fish blocking culvert was replaced with a bridge in 2006. The SRRC continued to improve habitat emphasizing the propagation and planting of native riparian vegetation at the project site. Surveys were also conducted in Merrill Creek (where a fish blocking culvert was replaced with a bridge in 2002), and in Whites Gulch (where a diversion dam was removed in 2008).

Reporting Metrics

- Is the project directly related to key salmon management questions regarding salmon recovery and/or sustainability of healthy salmon stocks?
    - Yes

- Name the comprehensive monitoring strategy/program the project is a part of.
    - Klamath Fish Health Assessment Team, Salmon River Subbasin Restoration Strategy (2002 USFS/SRRC), Salmon River TMDL Implementation Plan (2005),

- Number of publications produced reporting on key management or restoration data, information, and needs.
    - SRRC Newsletters (4), monthly calendars (18), brochures and informational handouts (6), accomplishments reports (2), conference proceedings (2) and poster sessions (3)

- Number of applications incorporated into abundance-based management regimes identified in the Pacific Salmon Treaty.
    - Chinook data contributed to Klamath Ocean Harvest Model

- Was information gained on salmon stocks that will reduce the risk of over-fishing?
    - Yes

Acknowledgments

The Salmon River Restoration Council would like to thank the following organizations and individuals for their contributions to the implementation of this project.

California Department of Fish and Game
U.S. Fish and Wildlife Service
National Marine Fisheries Service-NOAA
U.S. Forest Service - Klamath National Forest – Salmon/Scott River Ranger District
US Forest Service - Six Rivers National Forest – Ukonom/Orleans Ranger District
Ford Lowcock – Santa Monica College
Karuk Tribe
Yurok Tribe
Hoopa Tribe
Quartz Valley Indian Reservation
Mid- Klamath Watershed Council
Klamath Salmon Anglers and Guides Association
Forks of Salmon and Junction Elementary Schools
Salmon River Community
Humboldt State University
University of California Davis

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Appendix A:

Salmon River Spring Chinook and Summer Steelhead Dives 2008

Reach	Date	Spring Chinook Adults	Spring Chinook Jacks	Summer Steelhead Adults	Summer Steelhead ½ pounders
Mainstem					
Wooley - Mouth	8/14	65	43	9	17
Grants - Wooley	8/13	9	7	2	2
Nordheimer - Grants	8/12	57	22	9	7
Forks - Nordheimer	8/12	56	42	17	23
Mainstem Count		187	114	37	49
South Fork					
Henry Bell - Forks	8/13	202	43	9	6
O'Farrill - Henry Bell	8/13	5	1	0	8
Indian - O'Farrill	8/13	110	50	26	23
Matthews - Indian	8/13	27	7	1	2
French - Matthews	8/13	94	34	15	13
Cecil - French	8/13	174	62	9	10
Petersburg - Cecil	8/13	35	8	8	6
Blindhorse - Petersburg*	N/A	N/A	N/A	N/A	N/A
Little South Fork - Blindhorse*	N/A	N/A	N/A	N/A	N/A
South Fork Count		647	205	68	68
North Fork					
MP 4 - Forks	8/13	21	9	2	2
MP 8 -MP 4	8/13	29	7	7	12
MP 12 - MP 8	8/13	15	8	2	2
MP 16 - MP 12	8/13	23	13	5	9
White's Gulch - MP 16	8/13	9	7	7	6
Idlewild - White's Gulch	8/13	12	4	2	0
Mule Bridge - Idlewild	8/13	0	0	0	0
Big Creek - Mule Bridge	8/13	1	0	0	0
North Fork Count		110	48	25	31

East Fork					
George's - Confluence	8/14	1	0	0	0
Shadow - George's	8/14	0	0	0	0
East Fork Count		1	0	0	0
Wooley Creek*					
	N/A	N/A	N/A	N/A	N/A
Total*		945	367	130	148
2008 Final Count		**1312**		**278**	

*Two reaches on the South Fork and all of Wooley Creek were not surveyed due to wildfire restrictions

Appendix B:

Salmon River Spring Chinook and Summer Steelhead Dives 2009

Reach	Spring Chinook Adults	Spring Chinook Jacks	Summer Steelhead Adults	Summer Steelhead ½ pounders
Mainstem				
Wooley-Mouth	10	2	19	18
Grants-Wooley	0	0	0	0
Nordheimer-Grants	46	4	19	24
Forks- Nordheimer	13	0	9	25
Mainstem Count	69	6	47	67
South Fork				
Henry Bell-Forks	58	9	8	3
O'Farrill-Henry Bell	1	2	0	8
Indian-O'Farrill	17	6	4	3
Mathews-Indian	9	1	1	0
French-Mathews	70	19	13	17
Cecil-French	50	26	10	10
Petersburg-Cecil	84	20	2	4
Blindhorse-Petersburg	31	3	5	3
Little S. Fork-Blindhorse	14	0	2	1
South Fork Count	334	86	45	49
North Fork				
4 Mile-Forks	3	5	4	7
8 Mile-4 Mile	11	4	1	15
12 Mile-8 Mile	32	9	5	7
16 Mile-12 Mile	19	1	1	7
White's Gl-12 Mile	43	2	5	4
Idlewild-Whites Gl	4	0	1	3
Mule Bridge-Idlewild	3	2	2	17
Big Creek-Mule Bridge	2	0	0	1
North Fork Count	117	23	19	61

East Fork				
Taylor-Confluence	3	0	1	0
Shadow-Taylor	4	1	0	0
East Fork Count	7	1	1	0
Wooley Creek				
Gates-Mouth	7	1	4	10
Bridge-Gates	3	3	10	3
Hancock-Bridge	8	4	12	50
N.Fork-Hancock	0	0	0	1
Wooley Cr. Count	18	8	26	64
Total	545	124	138	241
Final Count		**669**		**379**

Appendix C: 2008 Spring Chinook Redd Tally Chart by Reach and Survey Date

	9/19	9/23	9/26	9/30	10/3	10/7	10/10	10/13	10/16	10/20	10/23	10/27	TOTAL
SOUTH FORK													
L.S. Fork - Blindhorse		1	3				10						14
Blindhorse - Petersburg	3	6	6	10		11		2					38
Petersburg - Cecil	2	6	16	9			12	6		5	2		58
Cecil - French	0	3		31		12	3	21		4	4		78
French - Matthews				22		10	24	11		3	33		103
East Fork		0				2							2
Indian Cr. - O'Farrill			0										0
Otter Bar - Nordheimer						1							1
NORTH FORK													
Mule Bridge - Idlewild													
Idlewild - Whites					3								3
Whites - 16													
16 - 12					1				19				20
12 mile - 8 mile					5				14				19
TOTAL REDDS	5	16	25	72	9	36	49	40	33	12	39		336

Appendix D: 2009 Spring Chinook Redd Tally Chart by Reach and Survey Date

	9/15	9/18	9/22	9/25	9/29	10/2	10/6	10/9	10/12	10/19	10/22	10/26	10/29	11/2	TOTAL
SOUTH FORK															
L.S. Fork - Blindhorse	0		1		9	4	1	2	3					1	21
Blindhorse - Petersburg	0	0	0		5	5	1	3	3	0		0			17
Petersburg - Cecil	0	0	1		4	13	14	7	7	0		5		0	51
Cecil - French	0	0	0		4	6	5	6	3	0		5		0	29
French - Matthews	0	0	0		2	1				12		12			27
East Fork	0		0		1	0		2							3
NORTH FORK															
Mule Bridge - Idlewild											1				1
Idlewild - Whites				1							7		3		11
Whites - 16				0							1		2		3
16 - 12				0									4		4
TOTAL REDDS	0	0	2	1	25	29	21	20	16	12	9	22	9	1	167

Appendix E: 2009 Dive Invitation Poster

The Salmon River Cooperative Spring Chinook and Summer Steelhead Dives July 21st - July 23rd



Come participate in the 2009 Salmon River Cooperative Spring Dive Survey
Stay for the 4th Annual Spring–run Chinook Salmon Symposium-see www.calsalmon.org

Schedule of Dive Activities

Tues.21st – 10 am SRRC Dive Training meet at Forks Community Club
5 pm Dive Check-in at Forks Elementary
5 pm Dinner Provided Forks Elementary (Meals provided for divers and their families)
8 pm Tentative Panel discussion, Forks Elementary – Camping Provided, Nordheimer Campground
Wed.22nd – 7:00 am Breakfast Provided Forks Elementary
8 am Safety Meeting, Forks Elementary
8:30 am Begin Dives - by 4:00pm Return to Forks
6 pm Dinner Provided Forks Elementary
8 pm Tentative Panel Discussion
Thurs. 23rd – 7 am Breakfast Provided

If you are a first or tenth year volunteer, we are hosting a White Water Safety and Fish Identification Training. Training is mandatory for people wishing to dive the Salmon for the first time. All are welcome to attend, even if you don't dive. Space on the dives is sometimes limited, but assistance in other dive related activities is welcome. Coordination and funding for this years event is provided by Klamath and Six Rivers National Forests, SRRC, Karuk Tribe, CDFG and hopefully more. Many other tribes, agencies and groups provide critical assistance as well. Bring your own gear if you have it. **ALL DIVERS MUST RSVP, large cooperators can provide a head count.** A downloadable RSVP is available at www.srrc.org email fisheries@srrc.org or just call 530 462- 4665. Please let us know your gear needs and experience level so we can accommodate you**.**

Thank You!!! - We look forward to diving with you.

What to Bring

→ Camping is available for the week at Nordheimer Campground
→ If you plan to camp, bring your own camping needs.
→ Please bring your own eating utensils, to reduce waste.
→ For diving, daypacks preferably mesh or dry, but any pack will do to keep your lunch and any other items you may need throughout the day. **Bring your own waterproof lunches and water bottles.**
→ Wetsuits, Felt Bottoms, Mask, Swim suits and trunks for under the wetsuit plus a set of dry clothes to change into
→ Waterproof sunscreen, sunglasses, hats

Appendix F: Dredge Awareness Poster

ATTENTION
SALMON RIVER DREDGE GOLD MINERS
SALMON RIVER SPRING RUN CHINOOK ARE IN NEED OF YOUR HELP ONCE AGAIN

On July 22nd the Salmon River Restoration Council (SRRC) in cooperation with various tribes, agencies, and others need your help when we conduct the annual Spring Chinook and Summer Steelhead adult population surveys. For the past 20 years we have come together annually for a 1 or 2 day dive to count these sensitive species of fish. Teams of 2 to 4 people swim and walk 3-5 mile stretches to look into the water and count fish collectively on over 60 miles of river in the Mainstem, South and North Forks of Salmon River. In recent years we've had enough divers to cover all the reaches of the river in one day. We think this year's dive will only take one day.

The two factors that affect the surveys most are: 1) high flows and 2) poor visibility. The flows are low this year which can offer another set of problems. By the end of the day, the visibility can be difficult just from the algae and debris churned up when the surveyors are walking in the river. **Suction dredge mining can also add to the poor visibility for us, which can make it harder for us to see these fish.** In past years, many of the miners have helped out by either shutting down for the day of the dives or by waiting until later in the day (after 3 pm) to start their operations. This is greatly appreciated and these folks should be commended for their cooperative spirit and willingness to help out and do their part.

On Wednesday, July 22nd, we're asking the Salmon River Dredgers to assist us once again. Crews will be getting in the water between 9-10 am on Wednesday the 22nd and will be looking for fish till about 4 pm. **It would be greatly appreciated if you could hold off on your dredging during the day of the dive until after 3pm.** Perhaps it could coincide with scheduling a day off to catch up on non-dredging activities such as a town trip, laundry or getting some parts….

Please help all of us take care and protect our Spring Chinook salmon and Summer steelhead. If you see or know of people stressing these fish please pass on the message that they are unique and at risk. We are also monitoring the Salmon River for dead fish. If you see dead adults (1 or more) or more than 5 dead juveniles please contact and/or leave a message for Nat at the SRRC at 462 4665. If you have any questions or wish to learn more about the Spring Chinook Salmon or Summer Steelhead please contact the SRRC (462-4665) or come by the Watershed Center in Sawyers Bar during the day. There are fax, public computers and a copy machine, wireless internet access, a notary on the staff, maps, and other resources available to the public. We thank you for doing your part in helping to make sure the Cooperative Dives are successful and fun. We look forward to continuing to work with you in this way.

Happy Trails and Good Luck! Petey Brucker SRRC-Program Coordinator