ANNUAL PROGRESS REPORT FOR 2011
ROGUE RIVER SPRING CHINOOK SALMON CONSERVATION PLAN
ROGUE WATERSHED DISTRICT
OREGON DEPARTMENT OF FISH AND WILDLIFE

INTRODUCTION

In September of 2007, the Oregon Fish and Wildlife Commission formally adopted a conservation plan for spring Chinook salmon in the Rogue Species Management Unit (SMU). This plan calls for the Oregon Department of Fish and Wildlife (ODFW) to complete annual reports that will include, at least, the following elements: (1) SMU status in relation to the desired status and conservation status statements embedded in the conservation plan, (2) summaries of annual efforts to monitor SMU attributes, (3) implications of any research or evaluation projects completed during the reporting year, (4) any updated assessments of population attributes completed during the reporting year, and (5) presentation of the rationale associated with any changes in management actions made during the reporting year.

This is document is the fifth annual report to be completed. A copy of the conservation plan, along with annual progress reports previously completed, is available on the ODFW website at: http://www.dfw.state.or.us/fish/CRP/rogue_spring_chinook_conservation_plan.asp

MONITORING RESULTS AND SMU STATUS

Monitoring of SMU attributes is designed to produce metrics that are to be used to characterize the current status of the SMU. All possible monitoring needed to update SMU status was completed by ODFW in 2011 and results are presented in Table 1 and Table 2. Monitoring results that most differed in 2011, as compared to the previous ten years, included a lower percentage of hatchery fish among natural spawners.

Ability to monitor naturally produced spring Chinook salmon changed significantly with the removal of Gold Ray Dam in 2010 and the allied loss of the fish counting station. Beginning in 2011, all monitoring is now based on counts of spring Chinook salmon carcasses found (1) in the Rogue River between Cole M. Rivers Hatchery and the historical pool upstream of Gold Ray Dam and (2) in the lower mile of Big Butte Creek. These locations are the primary spawning areas of naturally produced spring Chinook salmon in the Rogue River Basin.

ODFW used results from the spawner surveys to hindcast the number of naturally produced spring Chinook salmon that would have passed Gold Ray Dam in 2011; had not the dam and fish counting station been removed. During the 2004-2010 surveys of fish that spawned in September, carcass counts of naturally produced fish averaged 15% (95% confidence interval = ±2%) of the number of live counterparts that passed Gold Ray Dam. This relationship will be used to estimate the number of live fish passage that passed that historical site of Gold Ray Dam, until some better estimation methods can be developed through future analyses or research. However, no analogous methods could be devised to hindcast the percentage of jacks in the run and adult migration timing at Gold Ray Dam. These two management criteria for naturally produced spring Chinook salmon in the Rogue SMU were thus abandoned; beginning in 2011.

An estimated 9,940 naturally produced spring Chinook salmon passed the historical site of Gold Ray Dam during 2011. This estimate was derived from the recovery of 1,474 carcasses of unmarked fish and 17 carcasses of unexamined fish (all assumed to be naturally produced).

Table 1. Comparisons of singular elements of current and desired status for naturally produced spring Chinook salmon in the Rogue Spring Chinook Salmon Species Management Unit. Desired status elements are described in the conservation plan, and the plan also called for the description of current status based on average values noted during the previous ten years (where available). Two conservation plan elements of desired status (migration timing and age structure) can no longer be estimated as a result of the removal of Gold Ray Dam in 2010.

Status Element	Desired Status	Current Status	2011 Estimate
Abundance (at Gold Ray Dam)	**≥15,000**	**8,224 (2002-2011)**	**9,940[a]**
Sept. Spawner Distribution[b] (% above Shady Cove)	**≥40%**	**60% (2004-2011)**	**60%**
Spawner Composition (% hatchery)	**≤15%**	**12% (2004-2011)**	**4%**

[a] *Metric estimated as described in the text.*
[b] *This element only covers September spawners because October spawners cannot be distinguished from fall Chinook salmon that spawn in overlapping areas.*

Table 2. Status of the Rogue Spring Chinook Salmon Species Management Unit as compared to adopted conservation criteria. Conservation criteria are based on a three year running average, except where noted. Two conservation plan elements of desired status (migration timing and age structure) can no longer be estimated as a result of the removal of Gold Ray Dam in 2010.

Status Element	Conservation Criterion	Conservation Status (years)
Abundance[a] (at Gold Ray Dam)	**<3,500**	**9,940 (2011)[b]**
Abundance (at Gold Ray Dam)	**<5,000**	**8,243 (2009-2011)**
Sept. Spawner Distribution[c] (% above Shady Cove)	**<30%**	**58% (2009-2011)**
Spawner Composition[d] (% hatchery)	**>25%**	**4% (2010-2011)**

[a] *During any single year.*
[b] *Metric estimated as described in the text.*
[c] *This element only covers September spawners because October spawners cannot be distinguished from fall Chinook salmon that spawn in overlapping areas.*
[d] *Average during two consecutive years.*

COMPLETED MANAGEMENT ACTIONS

The Oregon Fish and Wildlife Commission adopted Alternative 9, outlined in the conservation plan, as the preferred suite of management strategies to be employed by ODFW. Some of the relevant actions, completed by ODFW during 2011, are briefly discussed below. A tabulated progress summary related to management actions described in the conservation plan can be found at the end of this document in Appendix Table 1.

Management Strategy 9.1

1. Most of the action items within this management strategy relate to seasonal operations of Lost Creek Lake by the United States Army Corps of Engineers (USACE). ODFW worked cooperatively with the USACE to identify and implement reservoir release strategies designed to enhance naturally produced spring Chinook salmon.

2. ODFW worked with the USACE to identify rates of reservoir flow decreases that will increase the survival rates of juvenile spring Chinook salmon in the Rogue River downstream of Lost Creek Lake (Action 1.4 in the conservation plan). After review of historical reservoir operations, the USACE agreed to implement, on a trial basis beginning in July 2011, an operational criterion of no more than a 14% decrease in reservoir outflow during the conservation storage and release seasons (February through October). This operational criterion, as compared to the previous criterion of no more than a 20% daily decrease in reservoir outflow, will better protect juveniles from being stranded or dewatered in downstream areas.

3. ODFW continued to participate in a wide variety of habitat protection activities (Action 1.14 in the conservation plan) and riparian protection was emphasized. Two presentations were made to Shady Cove officials in support of city efforts to develop a riparian protection ordinance. ODFW also participated in the revision of the City of Medford's riparian ordinance, including multiple presentations to the planning committee and city council. ODFW continued to implement projects to encourage good stewardship by streamside landowners, primarily through activities in the Salmon Trout Enhancement Program (Action 1.15 in the conservation plan).

Management Strategy 9.2

ODFW evaluated whether spawning gravel accumulated around conifers placed in Big Butte Creek during 2010 (Action 2.3 in the conservation plan). A site visit during the summer of 2011 failed to find, as of yet, any improved spawning habitat for spring Chinook salmon, but the trees provided excellent habitat for juvenile salmonids. The survey also found that two of the five trees were displaced by peak flows. Peak flows also easily move spawning gravel that is unprotected by either armored gravel bars or large instream wood.

Management Strategy 9.3

ODFW continued to implement a project that will help decrease the chance that non-native predatory fish could be introduced in the Rogue River Basin (complements Action 3.1 in the conservation plan). Signs were purchased and installed at boat ramps to combat illegal fish releases. An Aquatic Invasive Species crew and portable boat cleaning unit were again stationed in the Rogue River Valley. Following passage of a new law allow mandatory boat inspections, coordinated enforcement was conducted at an inspection station near Ashland on Interstate 5.

Management Strategy 9.4

ODFW and the Oregon State Police (OSP) agreed on the need to (1) collect data on the six foot leader length regulation and (2) focus enforcement on illegal snagging of Chinook salmon in the upper portion of the Rogue River (Action 4.4 in the conservation plan). OSP troopers subsequently contacted 869 anglers. The compliance rate for the leader length regulation was determined to be 95%, and appears to have improved every year since adoption of the regulation. There were a total of 28 citations or warnings for snagging or attempting to snag salmon. Fourteen of these cases also involved leader length over six feet. Whether the leader length regulation affected the overall rate of snagging could not be determined.

Management Strategy 9.5

ODFW did not complete any work related to the only action item relevant to this management strategy during 2011.

OTHER

1. No new research or evaluation projects began in 2011. However, ODFW completed the second year of sampling needed to eventually generate pre-season forecasts for returns of naturally produced spring Chinook salmon. This sampling requires that lengths and scale samples be collected in order to estimate the age of naturally produced fish that spawn in each year. At least six years of sampling will be needed in order to develop the sibling relationships that are needed to generate pre-season forecasts.

2. ODFW surveys near the former Gold Ray site confirmed that some spring Chinook salmon spawned in the former reservoir as nine redds were observed in early October. Redd counts in the reservoir site peaked at 87 during late October but it was not possible to determine whether these redds were constructed by fall Chinook salmon or spring Chinook salmon.

3. ODFW worked closely with the Oregon Department of Environmental Quality (DEQ) in response to an irrigation canal break in the Big Butte subbasin in early October. Turbidity skyrocketed in both Big Butte and the Rogue River, creating an immediate concern about the potential for sedimentation of spring chinook redds.

Surveys determined that deposition was limited to the lower 9.5 miles of Big Butte and 1.5 miles of the Rogue below the mouth of Big Butte Creek. Much of the sediment was a light covering, but some heavier sediment was observed in Big Butte Creek. Significant impacts to dissolved oxygen levels in chinook redds could not be determined conclusively despite intergravel testing completed by ODFW with DEQ and US Forest Service (USFS) assistance. Spring chinook continued to spawn in all historically used areas after the incident. Gages have been installed on the irrigation canal to detect any future breaches.

Appendix Table 1. Summary of progress related to management actions described in the Rogue Spring Chinook Salmon Conservation Plan, which was adopted by the Oregon Fish and Wildlife Commission in September 2007. The "X" symbol means that ODFW completed work on an action that requires annual attention. The "Y" symbol means that ODFW completed the action and that no further work is needed. The "Z" symbol means that ODFW completed work on an allied topic that complemented the action item included in the conservation plan. The "--" symbol means that no ODFW work was completed on the action item during the year. The "n/a" symbol means that the action was not applicable or relevant to the specific year.

Action	Year of completion for action item								
Item	2007	2008	2009	2010	2011	2012	2013	2014	2015
				MANAGEMENT STRATEGY 9.1					
1.1	X	X	X	X	X				
1.2	Y								
1.3	X	X	X	--	X				
1.4	Y								
1.5	X	X	X	X	X				
1.6	X	X	X	X	X				
1.7	X	X	X	X	X				
1.8	Y								
1.9	X	X	X	X	X				
1.10	Y								
1.11	Y								
1.12	X	X	X	X	X				
1.13	X	Y							
1.14	X	X	X	X	X				
1.15	--	X	X	X	X				
				MANAGEMENT STRATEGY 9.2					
2.1	--	X	X	--	--				
2.2	--	X	X	--	--				
2.3	--	--	--	Y					
2.4	n/a	n/a	n/a	n/a	n/a				
				MANAGEMENT STRATEGY 9.3					
3.1	--	--	Z	Z	Z				
				MANAGEMENT STRATEGY 9.4					
4.1	--	Y							
4.2	n/a	n/a	n/a	X	n/a				
4.3	X	X	X	n/a	n/a				
4.4	--	X	--	--	X				
4.5	--	--	--	--	--				
4.6	Y								
4.7	--	--	--	--	--				
				MANAGEMENT STRATEGY 9.5					
5.1	--	X	X	--	--				
5.2	Y								
5.3	n/a	n/a	n/a	n/a	n/a				
5.4	--	Y							