NEVADA DEPARTMENT OF WILDLIFE
STATEWIDE FISHERIES MANAGEMENT

FEDERAL AID JOB PROGRESS REPORTS

F-20-50
2014

CATNIP RESERVOIR
WESTERN REGION

NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL PROGRESS REPORT

Table of Contents

NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL PROGRESS REPORT

State: *Nevada*
Project Title: *Statewide Fisheries Program*
Job Title: *Catnip Reservoir*
Period Covered: *January 1, 2014 through December 31, 2014*

SUMMARY

Catnip Reservoir provided angling opportunity during the open fishing season from June 14 to November 15. The voluntary Angler Drop-Box Survey showed anglers reported catching fish in 2014, mail-in and the Mail-in Angler Questionnaire Survey information for 2013 was received. Catnip Reservoir water level varied slightly throughout the year and dropping in summer and fall as a result of below average winter snowpack.

BACKGROUND

Catnip Reservoir is located in northern Washoe County on the Sheldon National Wildlife Refuge, approximately 46 mi west of Denio Junction. It is situated at an elevation of 5,791 ft and the surrounding land is characterized by sagebrush-steppe interspersed with rimrock and mountain mahogany. The reservoir covers 22 surface acres and originally stored 220 acre-feet of water. The capacity of Catnip Reservoir has declined over time due to sediment input from Catnip Creek. Catnip Reservoir was constructed in 1910 primarily to store irrigation water for the IXL Ranch.

Lahontan cutthroat trout (LCT) were initially stocked in 1947 from Heenan Lake, CA (Independence strain LCT). Initially, the fishery was utilized as a broodstock and it seemed a spawning operation would be feasible. The first egg take took place in 1959 and continued annually until 2002. Pyramid Lake strain, Walker Lake strain, and Independence Lake strain cutthroat trout were emphasized in the later years of the operation.

Over the years, there was a diminished need for cutthroat trout, so the Catnip Reservoir broodstock was used to produce hybrid trout. Cutthroat trout from Catnip Reservoir were crossed with rainbow trout from Big Springs Reservoir to produce cuttbow trout. Eggs taken were transferred to the state hatchery where they were reared to a catchable-size and stocked in recreational fisheries around northern Nevada. Since 2001, springs feeding Big Springs Reservoir began flowing intermittently and now the reservoir rarely holds enough water for fish. Spawning operations have not occurred since 2002.

A number of LCT strains (including Walker, Pyramid Lake, and Independence) have been stocked in Catnip Reservoir due to changing egg sources and stocking programs. There has been no discern for genetic continuity during artificial spawning operations and subsequent stocking, therefore, it is likely a mixed strain of LCT exists

since spawning occurs naturally in Catnip Creek. In 2008, Pilot Peak strain LCT (developed by FWS) became available for sport fisheries management and recovery purposes. The amount of wild trout production from Catnip Creek is unknown.

In 2011, two "deformed" fish and one "normal" fish were sent to Washington Animal Disease Diagnostic Laboratory to pathologically analyze for their differences. The analysis was not able to isolate a causative bacterium; however, the symptoms (namely the deformities) suggest bacterial coldwater disease (*Flavobacterium psychrophilum*) may be present in the Catnip Creek LCT population.

OBJECTIVES

General Management Objectives:

Approaches:

- Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts, return of angler drop-box surveys and mail-in angler questionnaire data.
- Maintain the angler information center and angler drop-box when on site.
- Coordinate fisheries management activities with the USFWS Sheldon NWR during the annual coordination meeting.

Study Specific Objectives:

- Collect and preserve five Lahontan cutthroat trout in formalin that exhibit clinical signs of *Flavobacterium psychrophilum* (Coldwater disease). Samples will be sent to and analyzed by the Washington Animal Disease Diagnostic Laboratory to confirm the presence or absence of *Flavobacterium psychrophilum* in Catnip Creek.

PROCEDURES

General Management Objectives:

Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts, return of angler drop-box surveys, and mail-in angler questionnaire data. Angler use, success, and harvest were assessed using angler drop-box surveys, on-site survey, and mail-in angler questionnaire data. Four on site, angler contacts were made during one visit on opening day in 2014. A drop-box located near the Angler Information Center collected basic creel information and assessed angler satisfaction. Angler questionnaire data was derived from a survey mailed to 30,000 anglers purchasing a Nevada fishing license.

Maintain the angler information center and angler drop-box when on site. At each visit, the angler drop-box was assessed for maintenance needs. The Angler Information Center (AIC) was updated in May with current data. Minimal maintenance was required to support the AIC.

Coordinate fisheries management activities with U.S. Fish and Wildlife Service. An open line of communication was maintained with USFWS to coordinate fisheries management activities. Special use permits were obtained for various management activates on Catnip Reservoir and Catnip Creek. The USFWS finalized the Sheldon Comprehensive Conservation Plan.

Study Specific Objectives:

Collect and preserve five Lahontan cutthroat trout in formalin that exhibit clinical signs of *Flavobacterium psychrophilum* (Coldwater disease). Samples will be sent to and analyzed by the Washington Animal Disease Diagnostic Laboratory to confirm the presence or absence of *Flavobacterium psychrophilum* in Catnip Creek. Sampling was conducted by using a backpack electrofisher and a beach seine to search for five LCT that exhibited clinical signs of Coldwater Disease in the spring.

FINDINGS

General Management Objectives:

Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts, return of angler drop-box surveys and mail-in angler questionnaire data. There was no LCT available for stocking in Catnip Reservoir in 2014. The five-year stocking history is provided in Table 1.

Table 1. Catnip Reservoir Five-Year Stocking History - 2010-2014.

Year	Species	Strain	Number of Fish	Pounds of Fish	Average Size (inches)	Annual Total	
						Number	Pounds
2010	LCT	Pilot Peak	2,604	391	7.2	2,604	391
2011	LCT	Pilot Peak	3,000	637	8.1	3,000	637
2012	-----	-----	------	------	------	-----	-----
2013	LCT	Marlette	3,263	450	7.0	3,263	450
2014	-----	-----	------	------	------	-----	-----

*-----No fish were stocked

Opportunistic angler surveys were conducted on June 14, 2014. A total of four anglers were contacted and caught 73 fish, harvested fish were measured (Table 2 and 3). The catch rate was 6.0 fish per hour and most fish were between 10 and 16 in, but a few measured up to 25 in.

The angler drop-box survey documented 20 anglers fishing during June, July, August, September, and October and catching 364 LCT. Only three fish were harvested and Table 4 summarizes monthly angler use, angler success, and angler satisfaction from this survey and Figure 1 portrays LCT length frequency. The survey asked participants to rate three aspects of their fishing day on a scale of -2.0 (highly

dissatisfied) to +2.0 (highly satisfied). Angler satisfaction scores averaged +1.52 for "overall experience," +1.4 for "size of trout," and +1.22 for "number of trout caught."

Table 2. Catnip Reservoir Opportunistic Angler Surveys.

Month	Survey Days	Anglers	Angler Hours	Fish	Fish/Angler	Fish/Hour
June	1	4	24	73	18.25	6

Table 3. Length Frequency and Species Composition Data– Opportunistic Surveys

Species	# Caught	Size Class							
		<10"	10-11.9"	12-13.9"	14-15.9"	16-17.9"	18-19.9"	20-24.9"	>25"
Lahontan Cutthroat Trout	73	2	15	31	20	3	1	1	0

Table 4. Catnip Reservoir Monthly Angler Use and Success Data– Drop-Box.

Month	# of Anglers	# of Angler Hours	Angler Satisfaction			# of Fish Caught	# of Fish Harvested	Fish/ Angler	Fish/ Hour
			Angling Experience	Size of Fish	# of Fish				
June	6	79	2	1.66	1.83	271	0	45.17	3.43
July	4	19	1.25	1.0	0.5	39	0	9.75	2.05
August	7	18	1.86	1.86	1.29	43	3	6.14	2.39
September	1	4	1	1	1	8	0	8	2
October	2	5	1.5	1.5	1.5	3	0	1.5	0.60
Annual Summary	20	125	1.52	1.4	1.22	364	3	11.76	1.75

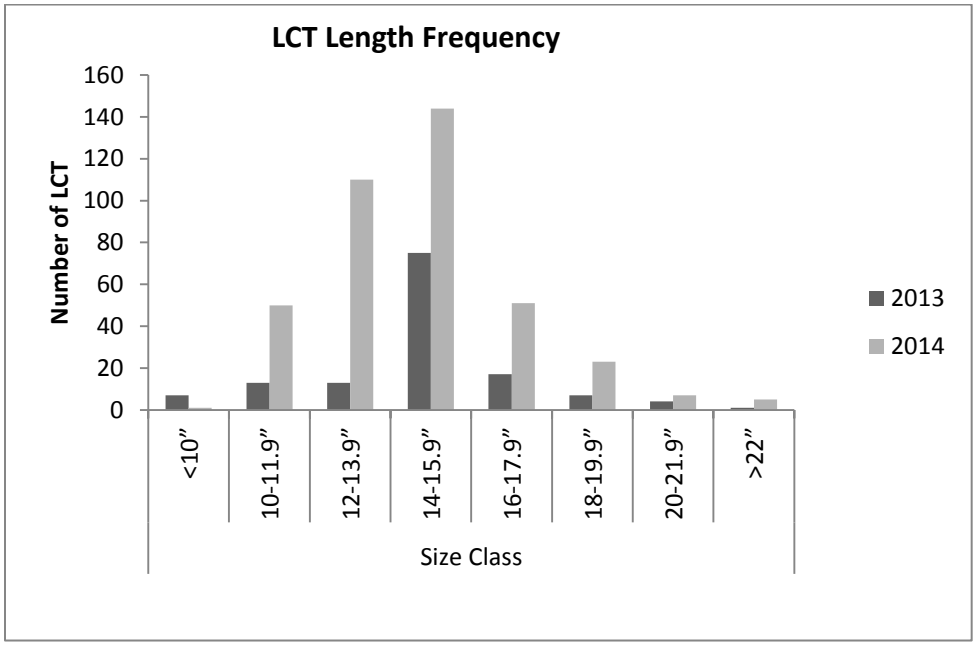

Figure 1. Catnip Reservoir LCT Length Frequency Data-Drop Box - 2013 and 2014.

The mail-in, angler questionnaire for 2013 estimated 45 anglers fished 150 days and caught 874 fish for a success rate of 5.83 fish per day. Table 5 summarizes angler questionnaire data from 2009-2013.

Table 5. Catnip Reservoir Five-Year Angler Questionnaire Data 2009 – 2013

Year	Anglers	Days	Fish	Fish/Day	Fish/Angler	Days/Angler
2009	245	643	4866	7.57	19.86	2.62
2010	161	369	948	2.57	5.88	2.29
2011	45	48	336	7.00	7.47	1.07
2012	49	100	668	6.68	13.63	2.04
2013	45	150	874	5.83	19.30	3.31
Average	109	262	1538	5.93	13.23	2.27

Coordinate fisheries management activities with the USFWS Sheldon NWR during the annual coordination meeting. A meeting was attended in February with SNWR to coordinate fisheries management activities for Catnip Reservoir and Creek. Special Use Permits were obtained to complete management activities.

Study Specific Objectives:

Collect and preserve five Lahontan cutthroat trout in formalin that exhibit clinical signs of *Flavobacterium psychrophilum* (Coldwater disease). Samples will be sent to and analyzed by the Washington Animal Disease Diagnostic Laboratory to confirm the presence or absence of *Flavobacterium psychrophilum* in Catnip Creek. Sampling was conducted in May to collect LCT that exhibited clinical signs of Coldwater Disease. None of the 27 LCT collected exhibited clinical signs of Cold Water Disease and all fish were returned to the water unharmed.

MANAGEMENT REVIEW

General Management Objectives:

Angler survey data suggests that the fishery is satisfying and exceeding the guidelines set by a Quality Fishery Management Concept. Anglers reported catching 1.75 fish per hour and 11.76 fish per angler. Fishing remained good throughout the fishing season for anglers willing to make the trip to this remote reservoir. Even though few anglers were contacted, data was valuable for examining current fishing conditions and collecting data on catch rates and length frequencies of LCT.

Study Specific Objectives:

During spring, an attempt was made to collect LCT from the creek and reservoir for disease testing, but no fish collected exhibited clinical signs of Coldwater Disease. This was the third year of a below average water year and flows in Catnip Creek.

RECOMMENDATIONS

General Management Objectives:

- Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts, return of angler drop-box surveys, and mail-in, angler questionnaire data.
- Maintain the angler information center and angler drop-box when on site.
- Coordinate fisheries management activities with the USFWS.

Study Specific Objectives:

- Collect five LCT in Catnip Creek showing clinical signs of Coldwater Disease (*Flavobacterium psychrophilum)* to confirm the presence of the disease.

Prepared By: Brad Bauman
Fisheries Biologist
Western Region

Date: March 19, 2015