NEVADA DEPARTMENT OF WILDLIFE
STATEWIDE FISHERIES MANAGEMENT

FEDERAL AID JOB PROGRESS REPORTS

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2013

CATNIP RESERVOIR
WESTERN REGION

NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL PROGRESS REPORT

Table of Contents

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ANNUAL PROGRESS REPORT

State: *Nevada*
Project Title: *Statewide Fisheries Program*
Job Title: *Catnip Reservoir*
Period Covered: *January 1, 2013 through December 31, 2013*

SUMMARY

Catnip Reservoir provided angling opportunities from June 8, 2013 to November 15, 2013. The angler drop-box survey documented 7 anglers that caught 138 fish in 58 hours of effort for a catch rate of 2.42 fish per hour and 14.3 fish per angler day. The mail-in, angler questionnaire data for 2012 estimated angler use at 49 anglers that fished for 100 days and caught 668 fish for an angler success rate of 9 fish per angler day. A total of 3,263 Marlette strain LCT were planted in 2013. Catnip Reservoir water level was consistent throughout 2013 despite below average winter snowpack and low flows from Catnip Creek.

Spring electroshocking for LCT occurred in Catnip Creek for the purpose of assessing the abundance of juvenile LCT and collecting samples for disease diagnosis, but no LCT were found in Catnip Creek due to extremely low flows.

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 SA and originally stored 220 acre-ft 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. A secondary function is to provide waterfowl nesting habitat.

Lahontan cutthroat trout 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 to sustain the fishery. Spawning operations have not occurred since 2002.

A number of LCT strains (including Walker Lake, 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 that exists since spawning occurs naturally in Catnip Creek. In 2008, Pilot Peak strain LCT (provided by FWS) became available for sport fisheries management and recovery purposes. The amount of wild trout production from Catnip Creek is currently unknown.

In 2011, two "deformed" fish and one "normal" fish were sent to Washington Animal Disease Diagnostic Laboratory to pathologically analyze for these 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:

- 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.

Study Specific Objectives:

- Collect and preserve five Lahontan cutthroat trout in formalin with clinical signs of *Flavobacterium psychrophilum* (coldwater disease). Samples will be sent to the Washington Animal Disease Diagnostic Laboratory for disease diagnosis.
- Monitor relative abundance of juvenile LCT through use of backpack electrofishing surveys at six established transects in the early spring and late fall.
- In coordination with the USFWS Sheldon NWR determine the feasibility of possible dam repairs and dredging of Catnip Reservoir.

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. Marlette strain LCT was planted in Catnip Reservoir in 2013. Angler use, success, and harvest were assessed using angler drop-box surveys and mail-in, angler questionnaire data. Two on site, angler contacts were made in 2013. 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 about 10% of Nevada fishing license purchasers.

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 2013 with current data. Minimal maintenance was required to support the AIC in 2013.

Coordinate fisheries management activities with the USFWS Sheldon NWR. An open line of communication was maintained with USFWS to coordinate fisheries management activities. Special use permits were obtained for various management activities on Catnip Reservoir and Catnip Creek. NDOW staff attended the annual coordination meeting with Sheldon NWR staff in May to discuss fisheries activities including Catnip Reservoir updates.

Study Specific Objectives:

Collect and preserve five Lahontan cutthroat trout in formalin with clinical signs of *Flavobacterium psychrophilum* (coldwater disease). Disease sampling for LCT in Catnip Creek was attempted twice in the spring of 2013. Electroshocking was completed in the fall 2013 within 6 established transects, however, this objective was not completed due to the extreme low water flows and the lack of juvenile trout in the stream system.

Monitor relative abundance of juvenile LCT through use of backpack electrofishing surveys at six established transects in the early spring and late fall. Electroshocking was completed in the spring and fall of 2013 at 6 established transects.

In coordination with the USFWS Sheldon NWR determine the feasibility of possible dam repairs and dredging of Catnip Reservoir. This objective was not completed in 2013 due to lack of funding opportunity to accomplish this task.

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. Marlette strain LCT was planted in Catnip Reservoir on May 2, 2013. Stocking data for 2013 is provided in Table 1 and the five-year stocking history 2009-2013 is included in Table 2.

Table 1. 2013 Stocking Summary for Catnip Reservoir.

Date	Species	Number	Size (in)	Strain
5/2/2013	LCT	3,263	7.0	Marlette
Total:		3,263		

Table 2. Catnip Reservoir Five-Year Stocking History 2009-2013.

Year	Species	Strain	Number of Fish	Pounds of Fish	Average Size (inches)	Annual Total	
						Number	Pounds
2009	LCT	Pilot Peak	2,991	785	8.7	2,991	785
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

*-----No fish were stocked

The Angler Drop-box Survey documented seven anglers fishing in August, September, and October catching 138 LCT. Of the 138 fish caught, 6 were harvested. Table 3 summarizes monthly angler use, angler success, and angler satisfaction from the drop-box survey and Figure 1 summarizes the length frequency of LCT caught during 2013. 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 -2.0 for "overall experience," -2.0 for "average size of trout," and -2.0 for "number of trout caught."

Table 3. 2013 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				
August	4	26	1.25	1.5	1.25	87	1	21.75	6.5
September	2	16	1	0.50	1	31	0	15.5	1.94
October	1	16	2	1	2	20	5	2.0	1.25
Annual Summary	7	58	1.42	1	1.42	138	6	14.31	2.42

The mail-in, angler questionnaire from 2012 estimated 49 anglers that fished 100 days and caught 668 fish for a success rate of 6.68 fish per day.

Table 4. Catnip Reservoir 3-Year Angler Questionnaire Data 2010 – 2012.

Year	Anglers	Days	Fish	Fish/Day	Fish/Angler	Days/Angler
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
Average	85	172.33	650.67	5.42	8.99	1.8

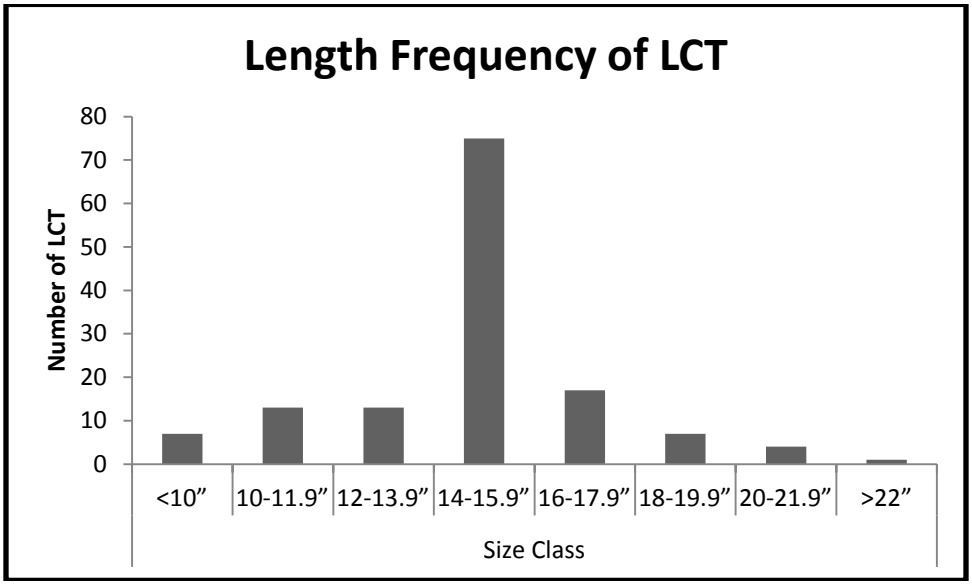

Figure 1. 2013 Catnip Reservoir LCT Length Frequency Data-Drop Box.

Opportunistic angler surveys were conducted in May, June, July, September, and October of 2013 when on site. Only two anglers were contacted during on-site visits. One angler contacted in July reported fishing for one hour and catching zero fish. The other angler contact occurred in October at which time the angler reported fishing four hours and catching four fish. Three of the fish were 12-13.9 in and one fish was 20-21.9 in.

Maintain the angler information center and angler drop-box when on site. The angler information center (AIC) was updated in May 2013 with current data. Minimal maintenance was required to support the AIC in 2013.

Coordinate fisheries management activities with the USFWS Sheldon NWR. A coordination meeting was attended in May of 2013 to coordinate fisheries management activities with the SNWR in regards to Catnip Reservoir and Catnip Creek. Special Use Permits were obtained from the USFWS SNWR to complete fisheries management work at Catnip Reservoir and Catnip Creek.

Study Specific Objectives:

Collect and preserve five Lahontan cutthroat trout in formalin with clinical signs of *Flavobacterium psychrophilum* (coldwater disease). Disease sampling for LCT in Catnip Creek was attempted twice in the spring of 2013 and again in the fall, however, no juvenile trout were found in the stream due to the extreme low water flows resulting from the ongoing drought conditions.

Monitor relative abundance of juvenile LCT through use of backpack electrofishing surveys at six established transects in the early spring and late fall. Electroshocking was completed in the spring and fall of 2013 on 6 established transects. No juvenile trout were found in the stream due to the extreme low water flows resulting from the ongoing drought conditions.

In coordination with the USFWS Sheldon NWR determine the feasibility of possible dam repairs and dredging of Catnip Reservoir. This objective was not completed in 2013 due to lack of funding opportunity to accomplish this task.

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 2.42 fish per hour and 5.42 fish per day. Fishing remained good during the late summer and fall months for anglers willing to make the trip to this remote fishery. Catnip Reservoir receives low fishing pressure making it difficult to make opportunistic angler contacts. The few angler contacts that are made when on site are more of a value on the current fishing conditions of Catnip Reservoir than collecting data on catch rates and length frequencies of LCT.

NDOW should continue to coordinate with USFWS, Reno Field Office, and Sheldon National Wildlife Refuge to cooperatively manage Catnip Reservoir and Catnip Creek. Annual coordination meetings between NDOW and the SNWR are a good avenue to keep both agencies up to date on the management of Catnip and Catnip Creek.

Study Specific Objectives:

During the spring 2013, an attempt was made to collect LCT from Catnip Creek for disease sampling, but due to the low water, no fish were observed or collected. This was the second below average water year.

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 5 LCT with clinical signs of Coldwater Disease *Flavobacterium psychrophilum* to confirm the presence of the disease in Catnip Creek.

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