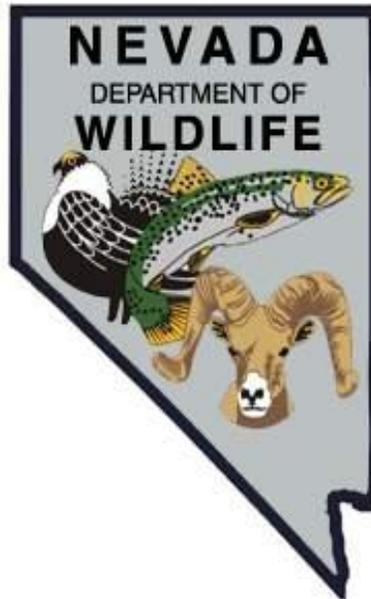


NEVADA DEPARTMENT OF WILDLIFE
STATEWIDE FISHERIES MANAGEMENT



FEDERAL AID JOB PROGRESS REPORTS

F-20-48
2012

CATNIP RESERVOIR
WESTERN REGION



**NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL PROGRESS REPORT**

Table of Contents

<u>Contents</u>	<u>Page</u>
SUMMARY	1
General Management	1
Study Specific	1
BACKGROUND	1
OBJECTIVES AND APPROACHES.....	2
PROCEDURES	3
General Management	3
Study Specific	3
FINDINGS	4
General Management	4
Study Specific	5
Management Review.....	5
General Management.....	5
Study Specific	5
Recommendations	6

**NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL PROGRESS REPORT**

List of Attachments

<u>Number</u>	<u>Title</u>	<u>Page</u>
1	Angler Drop-Box Data.....	7
2	Angler Questionire Survey Data	7

**NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL PROGRESS REPORT**

State: *Nevada*
Project Title: *Statewide Fisheries Program*
Job Title: *Catnip Reservoir*
Period Covered: *January 1, 2012 through December 31, 2012*

SUMMARY

General Management:

The Angler Drop-Box Survey documented only two anglers that caught no fish in 2012. Mail-in, angler questionnaire data for 2011 estimated use at 45 anglers that fished 48 days and caught 336 fish. Catnip Reservoir water level was consistent throughout 2012 despite below average winter snowpack. Flow in Catnip Creek was minimal, but was enough to maintain a consistent water level in the reservoir.

Study Specific:

No fish trap was installed in Catnip Creek in 2012. Traps were to be set to capture adult LCT immigrating and emigrating during the spawning season. A fry trap to capture out-migrating LCT fry was not installed. A fish population survey was not completed either. The management responsibility for Catnip Reservoir and creeks was changed from the Reno biologist to the Winnemucca biologist. Time did not permit completion of these objectives because of this change.

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 has 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 introduction of Pilot Peak LCT will be assessed through the Catnip Reservoir Pilot Peak LCT Study initiated in 2009. In addition to hatchery reared LCT, a spring spawning run in Catnip Creek results in production of wild trout. The amount of wild trout production from Catnip Creek is currently unknown and research is underway to determine the size of the spawning run and the amount of natural propagation contributing to the population in the reservoir.

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 AND APPROACHES

General Management Objective: To administer an annual fisheries program that assesses general fish population dynamics, angler use and success, annual stocking programs, habitat conditions, and maintains contact with necessary management entities.

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.

Study Specific Objective: Life history and population dynamics of wild and hatchery Lahontan cutthroat trout in Catnip Reservoir and Catnip Creek.

Approaches:

- Measure fork length, weigh, and PIT tag a minimum of 500 Pilot Peak LCT prior to stocking.
- Utilize an adult fish trap on Catnip Creek to monitor the spring spawning run.
- Utilize a juvenile fish trap on Catnip Creek to monitor out-migrating LCT fry in the summer.
- Measure abundance and density of juvenile LCT in Catnip Creek by electroshocking 6 established transects in the fall.
- PIT tag juvenile LCT in Catnip Creek.
- Collect LCT from Catnip Creek for disease sampling.

PROCEDURES

General Management:

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 and mail-in, angler questionnaire data. No on-site, angler contacts were made in 2012. 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 April with current data. No other maintenance was required to support the AIC in 2012.

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. The USFWS completed the Sheldon Comprehensive Conservation Plan.

Study Specific:

Measure fork length, weigh, and PIT tag a minimum of 500 Pilot Peak LCT prior to stocking. This objective was not completed in 2012 due to a change in personnel and the reassignment of management responsibilities to the Winnemucca Biologist.

Utilize an adult fish trap on Catnip Creek to monitor the spring spawning run. This objective was not completed in 2012 due to a change in personnel and the reassignment of management responsibilities to the Winnemucca Biologist.

Utilize a juvenile fish trap on Catnip Creek to monitor out-migrating LCT fry in the summer. This objective was not completed in 2012 due to a change in personnel and the reassignment of management responsibilities to the Winnemucca Biologist.

Measure abundance and density of juvenile LCT in Catnip Creek by electroshocking 6 established transects in the fall. This objective was not completed in 2012 due to a change in personnel and the reassignment of management responsibilities for the water to the Winnemucca Biologist.

PIT tag juvenile LCT in Catnip Creek. This objective was not completed in 2012 due to a change in personnel and the reassignment of management responsibilities for the water to the Winnemucca Biologist.

Collect LCT from Catnip Creek for disease sampling. During the spring 2012, collection of LCT from Catnip Creek was attempted, but due to low flow in Catnip Creek, no fish were observed or collected.

FINDINGS

General Management:

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. The Angler Drop-box Survey documented two anglers fishing in October for 8 hrs that caught no fish. 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.” A summary of this data is found in Attachment 1.

The mail-in, angler questionnaire from 2011 estimated 161 anglers fished 369 days. They caught 948 fish for a success rate was 2.57 fish per day.

Coordinate fisheries management activities with U.S. Fish and Wildlife Service. At this time, the U.S. Fish and Wildlife Service is not interested in utilizing Catnip Reservoir as a broodstock for Pilot Peak strain LCT. However, there is the potential of creating a Quinn River/Blackrock strain LCT broodstock at Catnip.

NDOW completed reviewing and commenting on the Sheldon Comprehensive Conservation Plan, which the USFWS has since finalized.

Study Specific:

Measure fork length, weigh, and PIT tag a minimum of 500 Pilot Peak LCT prior to stocking. This objective was not completed in 2012 due to a change in personnel and the reassignment of management responsibilities for the water to the Winnemucca Biologist.

Utilize an adult fish trap on Catnip Creek to monitor the spring spawning run. This objective was not completed in 2012 due to a change in personnel and the reassignment of management responsibilities for the water to the Winnemucca Biologist.

Utilize a juvenile fish trap on Catnip Creek to monitor out-migrating LCT fry in the summer This objective was not completed in 2012 due to a change in personnel and the reassignment of management responsibilities for the water to the Winnemucca Biologist.

Measure abundance and density of juvenile LCT in Catnip Creek by electroshocking 6 established transects in the fall. PIT tag juvenile LCT in Catnip Creek. This objective was not completed in 2012 due to a change in personnel and the reassignment of management responsibilities for the water to the Winnemucca Biologist.

Collect LCT from Catnip Creek for disease sampling. During the spring 2012, an attempt was made to collect LCT from Catnip Creek, but due to low water, no fish were seen or collected.

MANAGEMENT REVIEW

General Management:

Angler survey data suggests that the fishery is not satisfying the guidelines set by a Quality Fishery Management Concept. Fishing remains good for anglers willing to make the trip to this remote fishery.

NDOW should continue to coordinate with USFWS, Reno Field Office and Sheldon National Wildlife Refuge to cooperatively manage Catnip Reservoir and Catnip Creek.

Study Specific:

During the spring 2012, 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 a below average water year and flows in Catnip Creek were minimal.

RECOMMENDATIONS

General Management Objective: To administer an annual fisheries program that assesses general fish population dynamics, angler use and success, annual stocking programs, habitat conditions, and maintains contact with necessary land management entities.

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.

Study Specific Objective: Collect life history information on hatchery and wild LCT in Catnip Reservoir and Catnip Creek.

Approaches:

- Collect fish to confirm the presence of *Flavobacterium psychrophilum* in Catnip Creek.

Prepared By: Brad Bauman
Fisheries Biologist
Western Region

Date: March 26, 2013

Attachment 1 – Angler Drop-Box Data

Table 1. Catnip Reservoir Monthly Angler Use and Success Data

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				
Oct	2	8	-2	-2	-2	0	0	0	0
Annual Summary	2	8	-2	-2	-2	0	0	0	0

Table 2. Catnip Reservoir Angler Questionnaire Data 2010 and 2011

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
Average	103	208.5	642	4.79	6.68	1.68

