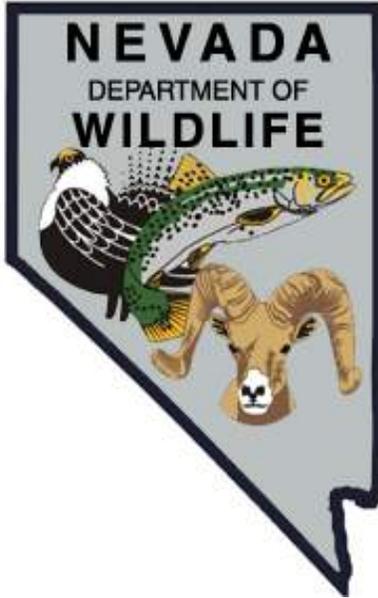


NEVADA DEPARTMENT OF WILDLIFE
STATEWIDE FISHERIES MANAGEMENT



FEDERAL AID JOB PROGRESS REPORTS

F-20-53
2017

WASHOE LAKE
WESTERN REGION



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

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

State: *Nevada*
Project Title: *Statewide Fisheries Program*
Job Title: *Washoe Lake*
Period Covered: *January 1, 2017 through December 31, 2017*

SUMMARY

Washoe Lake benefitted from the near average winter in 2016/2017, which maintained the water level to near capacity for the entire year. The expanded mail-in, angler questionnaire data from 2016 estimated 146 anglers fished 1,263 days and caught 6,817 fish. Resulting angler success was 5.4 fish per day, the highest since this program started in 1980.

BACKGROUND

Washoe Lake is a eutrophic, shallow body of water located in western Nevada between Reno and Carson City. It covers an area of 5,800 acres at spillway stage and consists of Big Washoe Lake, Little Washoe Lake, and the marshy area connecting the two. The shallowness of the big lake (maximum 12 ft deep) coupled with high winds occurring nearly every day in Washoe Valley account for its high turbidity.

Drought cycles and resulting low water conditions negatively influence the fishery. Recent droughts have occurred during 1976 and 1977, 1987 to 1994, 2000 to 2004, and 2012 to 2015. The fishery did not fare well during these droughts and populations either have been dramatically reduced or nearly eliminated. The big lake usually experiences total desiccation during multiyear droughts leaving the small lake to accommodate fish. Two fish eradication projects, occurring in 1960 and 1991, targeted primarily nongame species, common carp, and tui chub, but also yellow perch and bullhead. Neither of these projects was successful and, with the exception of yellow perch, all species still occur in both lakes.

The current fishery at Washoe Lake is comprised of common carp, bullhead, tui chub, Sacramento perch, white bass, and channel catfish. These species reproduce in the lake and populations are self-sustaining under favorable environmental conditions. Due to fluctuating water levels and subsequent declines in fish populations, white bass and channel catfish are supplemented with either hatchery-produced fish or wild fish collected from local waters in order to boost the fishery.

OBJECTIVES

- Conduct a general assessment of angler use, success, and harvest through mail-in angler questionnaire data.
- Conduct a general habitat assessment through visual observations of water quantity (lake level) when onsite.
- Augment the reservoir with 2,500 channel catfish and 2,500 white bass.

PROCEDURES

Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts and mail-in angler questionnaire data. Angler use and success was assessed through the statewide Mail-in Angler Questionnaire Survey. Angler questionnaire data was derived from a survey mailed to 30,000 license purchasers at the end of 2016.

Conduct a general habitat assessment through visual observations of water quantity (lake level) when onsite and using USGS gage data. A general assessment of habitat conditions was completed through visual surveys at Big and Little Washoe lakes throughout the year.

Augment the reservoir with 2,500 channel catfish and 2,500 white bass if funding and source stock is available. A total of 7,500 channel catfish were purchased from Colorado Catch and split between Big and Little Washoe lakes in 2017. White bass were unavailable for purchase or for capture from other area waters.

Big and Little Washoe lakes received 885 white crappie captured from Willow Creek Reservoir in Elko County, Nevada. Fish were collected in frame nets and by electroshocking.

FINDINGS

Conduct a general assessment of angler use, success, and harvest through mail-in angler questionnaire data. Expanded mail-in, angler questionnaire data for 2016 found 53 anglers fished Washoe Lake for 74 days to catch 151 fish. Resulting angler success was 2.1 fish per day. This data appears to be in line with the observed conditions at Washoe Lake. The big lake sat dry for most of 2014 and 2015, with the winter of 2015/2016 bringing relief to the region in the form of precipitation. Washoe Lake water level was maintained at capacity for all of 2016. The only opportunity for anglers to catch fish in the big lake in 2016 was through the dispersal of fish from Little Washoe Lake, but fishing was expected to be slow. In 2016, Little Washoe Lake showed an estimated 239 anglers fished for 473 days and caught 1,125 fish. This was only the second year that use was recorded here (2014 was the first) from the mail-in questionnaire. Based on observations of anglers fishing Little Washoe Lake when the big lake was dry, most anglers likely do not distinguish between the big and little lakes and report fishing at "Washoe Lake" when referring to Little Washoe Lake.

Conduct a general habitat assessment through visual observations of water quantity (lake level) when onsite and using USGS gage data. Visual assessment of water levels was made at Washoe Lake on almost a weekly basis during 2017. The big lake benefitted from a record setting winter (2016/2017), and the water level maintained at or near capacity for the entire year.

During the 2017 field season, in an effort to monitor recruitment and better understand what fish remained in Little Washoe Lake after the 2012 through 2015 drought, a beach seining survey using a purse seine was conducted. Species captured, length, and total number were recorded. Sacramento perch, brown bullhead catfish, fathead minnows, and common carp made up the species captured. The result of this survey is presented in Table 1.

Table 1. Little Washoe Lake Seining Results.

Total Sac Perch	37
	Length (mm)
Average	50
Range	
High	82
Low	24
Total Bullhead	40
	Length (mm)
Average	67
Range	
High	82
Low	37
Total Fathead	89
	Length (mm)
Average	41
Range	
High	60
Low	18
Total Carp	11
	Length (mm)
Average	86
Range	
High	104
Low	73

Augment the reservoir with 2,500 channel catfish if available. On June 8 and October 26, 7,500 seven-inch channel catfish were stocked into Big Washoe and Little Washoe lakes (5,250 and 2,250, respectively).

During the beginning of the 2017 field season, it was discovered that Willow Creek Reservoir in Elko County, Nevada had a surplus of white crappie. Coordination between biologists within the regions lead to capturing several thousand white crappie on July 13, 2017 and were stocked into several waters. Washoe Lake received 409

white crappie on July 14, while Little Washoe Lake received 476. Fish averaged 6.9 inches in length.

Table 2. Washoe Lake Fish Stocking, 2017.

Water	Species	Number	Size (in.)	Date
Washoe	Channel Cat	1,250	7	6/8/2017
Washoe	Channel Cat	4,000	7	10/26/2017
Washoe	White Crappie	409	6.9	7/14/2017
Little Washoe	Channel Cat	1,250	7	6/8/2017
Little Washoe	Channel Cat	1,000	7	10/26/2017
Little Washoe	White Crappie	476	6.9	7/14/2017
Washoe				
Total Catfish		5,250		
Total Crappie		409		
Little Washoe				
Total Catfish		2,250		
Total Crappie		476		

MANAGEMENT REVIEW

The angler use and success rates estimated from the Mail-in Angler Questionnaire Survey for both Big Washoe and Little Washoe lakes fulfilled the standards set for the Warmwater, General Fishery Management Concept in 2016. With relief from the drought realized in 2016 and 2017, the rebuilding of the fishery has begun. Stocking and augmenting of warmwater game fish populations is the priority, which will accelerate the process of recovery. Establishing and promoting species that are more suited to the habitat conditions found in Washoe Lake (e.g., white crappie, white bass, channel catfish) will ensure success of the fisheries.

Little Washoe Lake continues to maintain a sport fishery with a variety of game fish. This fishery has become increasingly important in recent years due to drought and subsequent desiccation of Big Washoe Lake. It is expected that game fish populations in the little lake have begun to disperse into the big lake and will aid in rebuilding that fishery.

RECOMMENDATIONS

- Conduct a general assessment of angler use, success, and harvest through the Mail-in, Angler Questionnaire Survey.
- Conduct a general habitat assessment through visual observations of water quantity (lake level) when onsite.
- Conduct an electroshocking survey of Little Washoe Lake in the fall to monitor species composition and abundance.
- Augment the reservoir with 2,500 channel catfish and 2,500 white bass if available.

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Date: December 27, 2017