

NEVADA DEPARTMENT OF WILDLIFE  
STATEWIDE FISHERIES MANAGEMENT



FEDERAL AID JOB PROGRESS REPORTS

F-20-53  
2017

SQUAW CREEK RESERVOIR  
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:** *Squaw Creek Reservoir*  
**Period Covered:** *January 1, 2017 through December 31, 2017*

**SUMMARY**

Results from the mail-in angler questionnaire survey estimated use at 414 anglers and 1,226 angler days in 2016. Total catch was estimated to be 7,232 fish and the success rate was 5.9 fish per angler day. The estimated number of anglers and angler days declined slightly from 2015, however, the estimated catch rates of 17.5 fish per angler and 5.9 fish per day were both higher than the 36 year average for the water.

Water conditions (quantity and quality) were documented throughout the summer and fall of 2017. An unanticipated reservoir drawdown may have affected the fishery, but the extent is unknown at this time.

The reservoir received 4,429 hatchery-reared trout and 2,500 7.0-inch channel catfish in 2017.

**BACKGROUND**

Squaw Creek Reservoir is located in northern Washoe County, approximately 20 mi north of Gerlach. At maximum capacity, the reservoir is 47.5 SA, stores 1,200 acre-ft, and is 45 ft deep (spillway elevation). Of the two tributaries entering the reservoir, the east tributary flows from a warmwater spring.

The reservoir was constructed in 1952 and was privately used for water storage. The Nevada Department of Wildlife negotiated with the Holland Land and Livestock Company and agreed to manage/maintain the fishery as long as the reservoir would remain open to public fishing. Mr. Jaksick is the present owner of the reservoir, surrounding land, and water rights. A history of public abuse at the reservoir has prompted the landowner to post signs that notify the public of a set of 'regulations' for the reservoir.

The fishery consists of hatchery maintained rainbow, bowcutt, and brown trout. Tiger trout have also been stocked in recent years, although carryover of the species is somewhat questionable. It also supports wild, self-sustaining populations of largemouth bass, spotted bass, bullhead, channel catfish, and green sunfish. The reservoir is managed under the Coldwater and Warmwater General Fishery Management Concepts, with established objectives for angler success rates of 0.25 to 0.75 fish per hour and 1.0 to 2.0 fish per angler day.

## OBJECTIVES

- Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts and mail-in angler questionnaire data.
- Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when onsite.
- Augment the reservoir with 2,500 channel catfish.
- Conduct a fish community assessment by utilizing electroshocking at previously established transects for one night in the fall.
- Conduct a population assessment by setting gill nets for two net-nights in the fall.

## 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 at Squaw Creek Reservoir was assessed through a Mail-in Angler Questionnaire Survey. Angler questionnaire data was derived from a survey mailed to 30,000 license purchasers from the previous year.

During visits were made to Squaw Creek Reservoir during 2017, anglers at the reservoir were contacted to obtain catch data.

**Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when onsite.** General habitat conditions were documented during several site visits throughout the summer and while enroute to other northern Washoe County reservoirs. Habitat assessment was based on visual observations of lake level and clarity.

**Augment the reservoir with 2,500 channel catfish.** Channel Catfish were purchased from Colorado Catch and delivered to Squaw Creek Reservoir, along with other regional waters, on June 8, 2017.

**Conduct population assessment by utilizing electroshocking surveys on previously established transects for one night in the fall.** Due to unforeseen water capacity issues and the inability to access the reservoir with the appropriate equipment, this objective was not completed in 2017.

**Conduct a population assessment by setting gill nets for two net-nights in the fall.** Due to unforeseen water capacity issues and the inability to access the reservoir with the appropriate equipment this objective was not completed in 2017.

## FINDINGS

**Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts and mail-in angler questionnaire data.** Angler

contacts were attempted on two occasions at Squaw Creek Reservoir in 2017. No anglers were encountered during these visits.

The mail-in angler questionnaire estimated 414 anglers fished 1,226 days in 2016. Total catch was estimated to be 7,232 fish and the success rate was 5.9 fish per angler day. The estimated number of anglers and angler days were slightly lower than reported in 2015, however, the estimated fish per angler and fish per angler day were both higher than the 36 year averages for the water. Squaw Creek reservoir is popular for being a semi remote reservoir and offers a diverse array of sport fishing opportunity. Black bass, channel catfish, rainbow trout, brown trout, and tiger trout are known to be caught in large quantities.

**Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when onsite.** Up until 2017, water conditions at Squaw Creek Reservoir were relatively stable, not subject to the annual drawdowns that occur at many other western Nevada reservoirs. This characteristic was a key component in the development of a productive warmwater fishery that supported numerous age classes of black bass and channel catfish. In the spring of 2017, the reservoir was being dewatered and was at a level not seen in over a decade. Upon investigation and subsequent conversations with the owner of the property, the landowner was complying with the State of Nevada Dam Safety standards and needed to draw down the reservoir and remove accumulated vegetation from the dam face to ensure that it was in proper working order.

Once made aware of this, NDOW Fishery and Habitat Division personnel organized on May 30 to assist the landowner in vegetation removal along the dam. The landowner had additional concerns about the amount of rooted vegetation around the shoreline of the reservoir and that they intended to draw the reservoir down further and attempt to remove this vegetation by a combination of drying out the shoreline and dredging. Even though there was concern for loss the fisheries during the warmest time of the season, respect was given to the landowner assistance was offered. The reservoir was reduced to a minimum pool late in the summer and heavy equipment was used to dredge the northern bays in an attempt to remove as much vegetation as possible and to increase the storage capacity of the reservoir. The impacts to the fishery from these actions are unknown at this point and fish surveys will be necessary in 2018. The work was nearly completed by mid-December and that the dam gate was shut with the anticipation of filling during the winter of 2017/2018. The landowner agreed to notify the Department as soon as possible if more work is required in 2018 and the reservoir will be drained. This will help to postpone trout stocking or divert the allocation to another waterbody.

**Augment the reservoir with 2,500 channel catfish.** Channel Catfish were purchased and stocked into Squaw Creek Reservoir on June 8. A total of 2,500 7.0-inch fish were delivered to the reservoir. Additionally, 4,429 hatchery-reared trout were stocked in 2017 (Table 1). These were catchable-sized rainbow trout consisting of 2,280 Eagle Lake strain and 2,149 triploid strain.

**Table 1.** Stocking Summary, 2017.

Species	Strain	Number	Size (in.)	Date
Channel Catfish	COLORADO	2500	7	6/8/2017
Rainbow	EAGLE LAKE	2280	9.6	4/4/2017
Rainbow	TRIPLOID	2149	9.3	4/4/2017
<b>Total Catfish</b>		<b>2500</b>		
<b>Total Trout</b>		<b>4429</b>		

**Conduct population assessment by utilizing electroshocking surveys on previously established transects for one night in the fall.** Due to unforeseen water capacity issues and the inability to access the reservoir with the appropriate equipment, this objective was not completed in 2017.

**Conduct a population assessment by setting gill nets for two net-nights in the fall.** Due to unforeseen water capacity issues and the inability to access the reservoir with the appropriate equipment this objective was not completed in 2017.

### **MANAGEMENT REVIEW**

Angler use and success rates documented in the Mail-in Angler Questionnaire Survey far exceeded the guidelines of a General Fishery Management Concept, which calls for 2.0 to 3.5 fish per angler day. This fishery is popular with anglers for producing high catch rates and an opportunity to fish in a semi-remote setting.

The impacts of the reservoir drawdown are unknown at this point. Future population sampling through electroshocking and gillnet surveys will help to quantify its effect on the fisheries. The constant water supply that feeds Squaw Creek Reservoir will help for a quick recovery of the water level. The increased storage capacity in the reservoir may benefit the fishery in the long term and, provided fish persisted through the summer, the warmwater fishery in Squaw Creek Reservoir should rebound quickly. Additionally, an increased allocation of cold-water trout for 2018 may improve angling opportunity that might have been lost during the drawdown in 2017.

Conversations have occurred with the landowner of Squaw Creek Reservoir to secure long-term public access in exchange for a bathroom facility. Conversations have been positive and all parties are motivated to move forward.

### **RECOMMENDATIONS**

- Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts and mail-in angler questionnaire data.
- Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when onsite.
- Electroshock two established transects during one night in the fall.
- Augment the reservoir with 2,500 channel catfish.

- Work with the landowner to finalize long-term public access at the reservoir.

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Date: December 14, 2017