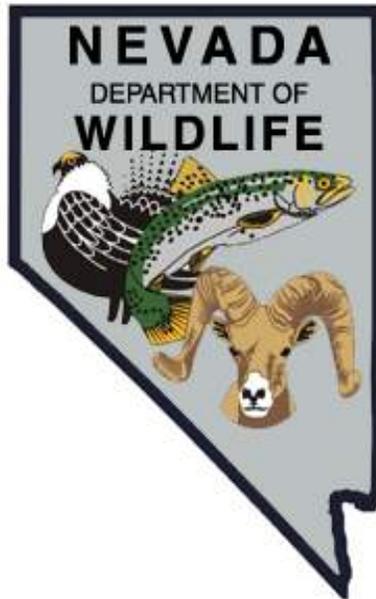


NEVADA DEPARTMENT OF WILDLIFE  
STATEWIDE FISHERIES MANAGEMENT



FEDERAL AID JOB PROGRESS REPORTS

F-20-54  
2018

WALL CANYON RESERVOIR  
WESTERN REGION



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

Table of Contents

<u>Contents</u>	<u>Page</u>
SUMMARY .....	1
BACKGROUND .....	1
OBJECTIVES .....	2
PROCEDURES .....	2
FINDINGS .....	3
MANAGEMENT REVIEW .....	6
RECOMMENDATIONS .....	7

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

**State:** *Nevada*  
**Project Title:** *Statewide Fisheries Program*  
**Job Title:** *Wall Canyon Reservoir*  
**Period Covered:** *January 1, 2018 through December 31, 2018*

**SUMMARY**

Wall Canyon Reservoir was near capacity for all of 2018. Twenty-three volunteer creel forms were submitted in 2018, this was the most completed in a single season for the last six years. A total of 21 anglers (two surveys were discarded for improper information) reported fishing 87 hours and caught 340 total fish for catch rates of 16.2 fish per angler and 3.9 fish per hour.

For a second consecutive year, the water level remained at or near capacity. There was an increase in public use, with dispersed recreation due likely to the reservoir filling in 2017. Wall Canyon Reservoir was stocked on four separate occasions with a total of 5,222 catchable bowcutt and rainbow trout.

**BACKGROUND**

Wall Canyon Reservoir is located 60 mi north of Gerlach off Nevada State Route 447 in sagebrush-steppe habitat. The earthen dam has a crest length of 822 ft and the reservoir covers 133 SA, stores up to 2,200 acre-ft of water, and has a maximum depth of approximately 55 ft.

The dam was constructed in 1960 by Lewis Cockrell. As the reservoir filled, it was realized that a portion of the reservoir was on private land while the remaining was situated on land administered by the Bureau of Land Management (BLM). The storage on BLM land necessitated a storage permit and led to an agreement between Mr. Cockrell and the Nevada Department of Wildlife (NDOW) stating, in part, that NDOW would manage the fishery in the reservoir. In 1992, Wall Canyon Reservoir and the ranch downstream were purchased by R.C. Roberts, but then in 1998, Sam Jaksick purchased this property. Water stored in Wall Canyon Reservoir is used to irrigate agricultural land downstream at Duck Lake Ranch, which is also owned by the Jaksick family.

In 2008, BLM acquired lands adjacent to Wall Canyon Reservoir and Wall Canyon Creek as part of the "Granites" SNPLMA (Southern Nevada Public Lands Management Act) Land Acquisition Proposal (Round 5). However, the associated water rights needed for a minimum pool were not included in the final proposal and were still held by Duck Lake Ranch. What was acquired was a positive change for the management of Wall Canyon Reservoir and its surrounding lands.

The reservoir fishery is comprised of hatchery-maintained rainbow and bowcutt trout, wild self-sustaining brown trout, smallmouth bass, and green sunfish. Wall Canyon Creek, the only tributary to Wall Canyon Reservoir, supports a wild population of

introduced brown trout and endemic Wall Canyon sucker and speckled dace. The reservoir is managed under Coldwater and Warmwater General Fishery Management Concepts, which establishes objectives for angler success rates at 0.30 to 1.25 fish per hour and 2.0 to 3.5 fish per angler day.

Wall Canyon has suffered from poor water conditions and most years it is left at less than 50% capacity by the late summer. From 2012 to 2015, a drought left the reservoir at less than 20% of capacity and showing negative impacts to the fishery. An above average winter in 2015/16 followed by a historically wet winter in 2016/17 led to the reservoir spilling in the spring and maintaining the water level at capacity for the entire year.

## 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.
- Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when onsite.
- Utilize frame nets and/or electroshocking to capture smallmouth bass for Sparks Marina fishery augmentation.

## PROCEDURES

**Conduct a general assessment of angler use, success and harvest through opportunistic angler contacts, the angler drop box and mail-in angler questionnaire data.** Several trips were made to Wall Canyon Reservoir in 2018 and any anglers seen were contacted to collect fishing data. Only one angler was contacted in 2018. The volunteer, angler drop-box was also maintained and restocked with survey forms as needed.

Angler use and success was also assessed through a statewide Mail-in Angler Questionnaire Survey. Angler questionnaire data was derived from a survey mailed to 30,000 fishing license purchasers from the previous year.

**Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when onsite.** General habitat conditions were documented on each trip to Wall Canyon Reservoir throughout the 2018 field season.

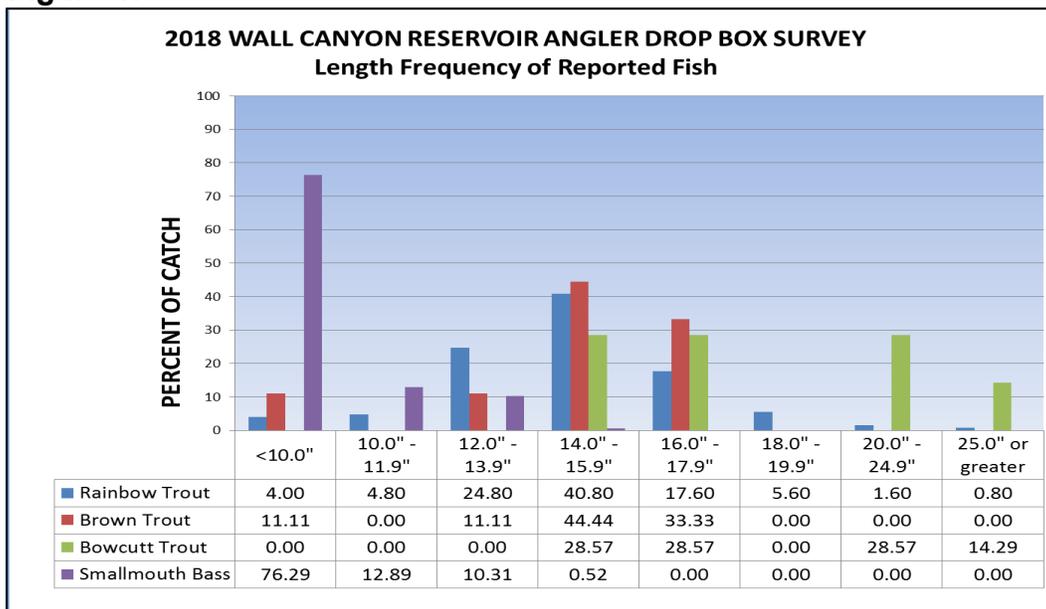
**Utilize frame nets and/or electroshocking to capture smallmouth bass for Sparks Marina fishery augmentation.** On July 16 and 17, a Smith Root electroshocking barge, two frame nets with 50-foot wings, and a 100 ft beach seine were utilized to capture smallmouth bass for stocking in Sparks Marina Pond in Reno. A subset of smallmouth bass captured were measured to fork length and weighed. Incidental species also captured were measured to fork length, weighed, and released back into the reservoir unharmed.

## FINDINGS

**Conduct a general assessment of angler use, success and harvest through opportunistic angler contacts, an angler drop box and mail-in angler questionnaire data.** On July 16, one angler reported fishing for two hours to catch four smallmouth bass and one rainbow trout using lures. Smallmouth bass were reported to be approximately eight inches while the rainbow trout was reported as 16 inches. All fish were released and the angler was very satisfied with the fishing experience. Additionally, NDOW Game Wardens reported contacting a number of anglers throughout the summer that were successful in catching fish.

The volunteer drop-box received 23 completed surveys, the most collected in a single season over the last six years. A total of 21 anglers (two surveys were discarded) reported fishing 87 hours and caught 340 total fish for catch rates of 16.2 fish per angler and 3.9 fish per hour. The reported catch consisted of 125 rainbow trout, 9 brown trout, 7 cuttbow trout, 194 smallmouth bass, and 5 fish reported as “other.” They harvested 16.2% of the fish caught: 35 rainbow trout, 1 brown trout, 4 bowcutt trout, and 15 smallmouth bass. When analyzing the length of reported fish caught, smaller sized (less than 13.9 inches) smallmouth bass appeared to be the most frequently caught fish, while larger bowcutt trout (greater than 14.0 inches) were caught. Rainbow trout and brown trout are somewhat evenly distributed throughout the size ranges reported. Figure 1 shows the size distribution of fish reported. Catch rates and size of fish caught were substantially higher than the six-year average and were indicative of suitable water conditions experienced over the last couple of years. Satisfaction ratings are based on a scale of -2 (not satisfied) to 2 (highly satisfied), the angler satisfaction ratings from the drop-box forms were 1.7 (overall experience), 1.5 (size of fish), and 1.5 (number of fish). These were some of the highest ratings found in many of the northwest Nevada fisheries in 2018.

**Figure 1.**



The 2017 Mail-in Angler Questionnaire Survey estimated use at 113 anglers that fished 197 days and caught 1,619 fish. The average catch rate was estimated at 14.4 fish per angler and the success rate was 8.2 fish per angler-day, which were both higher than the 37 year averages (12.2 fish per angler and 4.4 fish per angler-day).

Stocking Program

Wall Canyon Reservoir was stocked on four separate occasions in 2018. The reservoir received 5,222 catchable bowcutt and rainbow trout (Table 1). The number of fish stocked since 2016 resulting from high water levels has proven beneficial to the fishery.

**Table 1. Wall Canyon Reservoir Stocking Summary, 2018**

Species	Strain	Number	Size (in.)	Date
Bowcutt	Marlette	710	9.5	10/2/2018
Rainbow	Triploid	1,014	9.0	4/17/2018
Rainbow	Triploid	1,506	10.0	5/30/2018
Rainbow	Triploid	1,992	10.0	9/21/2018
<b>Total (All Fish)</b>			<b>5,222</b>	

**Table 2. Wall Canyon Reservoir Stocking History, 2010 to 2017**

Year	Species	Number	Size Range (in.)
2010	Rainbow	1,999	9.4
	Bowcutt	2,001	9.7
<b>2010 Total</b>		<b>4,000</b>	
2011	Rainbow	2,495	9.5 – 10.3
	Bowcutt	2,000	9.6
<b>2011 Total</b>		<b>4,495</b>	
2012	Rainbow	2,000	9.2
<b>2012 Total</b>		<b>2,000</b>	
2013	Rainbow	1,000	9.8
	Rainbow	999	10.2
	Rainbow	2,015	9.9
<b>2013 Total</b>		<b>4,014</b>	
2014	Rainbow	4,136	9.8
<b>2014 Total</b>		<b>4,136</b>	
2015	Cuttbow	2,019	9.2
	Rainbow	2,005	9.4
<b>2015 Total</b>		<b>4,024</b>	
2016	Cuttbow	2,000	9.2
	Rainbow	4,062	9.4
<b>2016 Total</b>		<b>6,062</b>	
2017	Cuttbow	1,501	9.2
	Rainbow	4,086	8.7 - 9.6
<b>2017 Total</b>		<b>5,587</b>	
<b>Total (All Fish)</b>		<b>34,318</b>	

**Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when onsite.** Water conditions at Wall Canyon Reservoir benefitted greatly from the historic winter of 2016/17 and the reservoir has continued to benefit. Several visits were made to the reservoir beginning in July and extending into October, and on each visit, the reservoir level was at or near capacity. Habitat conditions appeared excellent, with shoreline structures being submerged all year. During the final visit in October, the water level was beginning to recede and was still near full. The outlet valve was closed, releasing no water for irrigation.

Increased observations in terms of dispersed recreation were reported by NDOW Game Wardens. It was likely that maintaining a high reservoir level has benefitted the fishery and subsequently increased public use and interest.

**Utilize frame nets and/or electrofishing to capture smallmouth bass for Sparks Marina fishery augmentation.** On July 16 and 17, several sampling techniques were utilized to capture 621 smallmouth bass, 14 rainbow trout, and 32 green sunfish.

### Smallmouth Bass

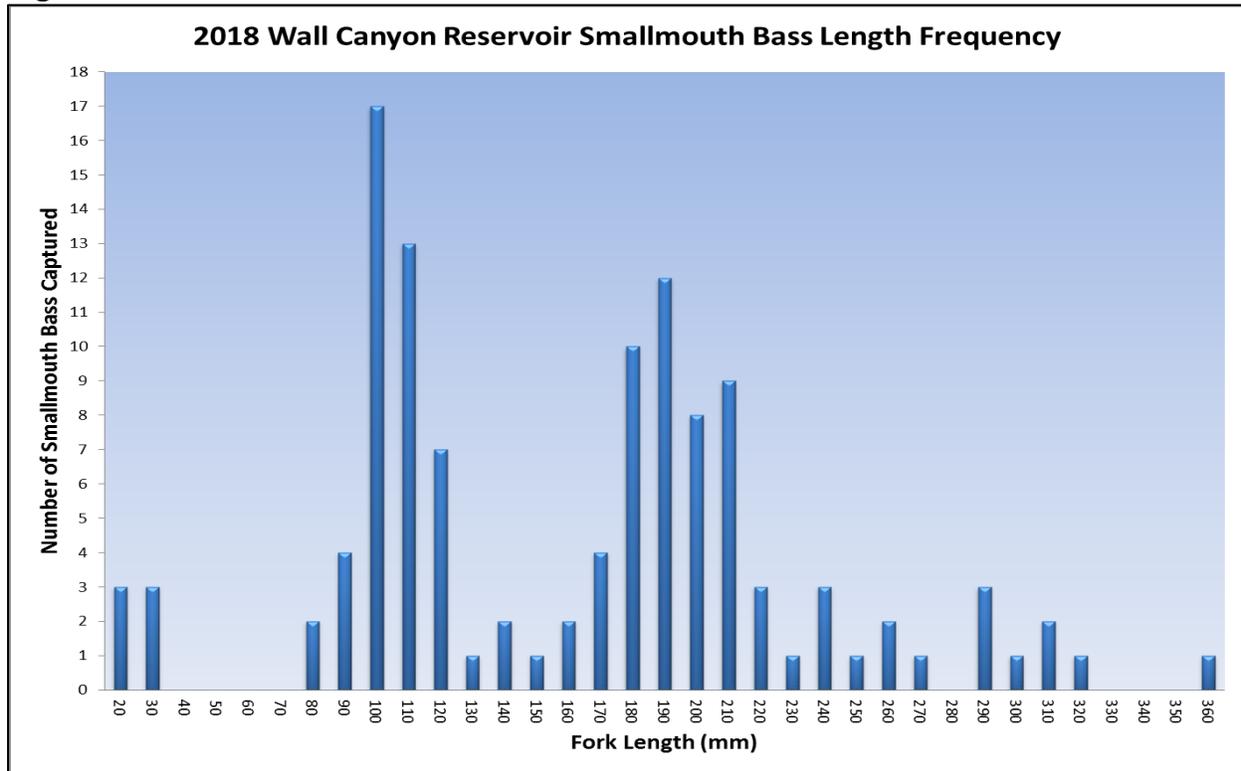
The average fork length of smallmouth bass sampled in 2018 was 166.4 mm (6.6 in) with a maximum size of 351 mm (13.8 in) and a minimum size of 23 mm (0.9 in). A length frequency analysis from a subsample of captured fish reveals at least five distinct size classes (Figure 2). The presence of multiple size classes suggests healthy and sustained recruitment. The largest proportion of bass captured was in the 80 to 130 mm size class and represented one-year-old fish. During hook-and-line sampling for rainbow trout at the same time, a number of smallmouth bass were captured that were larger than 351 mm. Of the 621 smallmouth bass captured, 600 were transported to and stocked in Sparks Marina Pond.

### Rainbow Trout

The average fork length of sampled rainbow trout was 366.6 mm (14.4 in), with a minimum and maximum length of 336 mm (13.2 in) and 419.1 mm (16.5 in), respectively. The average weight was 546.7 g (1.2 lbs) and the average condition factor (K) was 1.0, representing poor to fair quality. Not only are rainbow trout stocked with hatchery fish, but also a small number of wild rainbow trout are naturally recruited from Wall Canyon Creek. The size range of fish captured provides confirmation that stocked fish have persisted in the reservoir over the last few years. With the excellent water conditions, trout have thrived.

A single brown trout was captured during hook-and-line sampling, but was not measured or weighed. Brown trout are entirely self-sustaining in Wall Canyon Reservoir and not stocked.

**Figure 2.**



### **MANAGEMENT REVIEW**

The success rates reported in mail-in questionnaire and voluntary drop-box surveys far exceeded the guidelines of 2.0 to 3.5 fish per angler day prescribed in the Coldwater and Warmwater, General Fishery Management Concepts. The fishery appears to be thriving with the good water conditions. The public has shown their approval and support of the fishery through increased use, positive phone calls, and high satisfaction ratings expressed on drop-box surveys.

The smallmouth bass fishery appears to be thriving with the majority of the catch occurring during the warm summer months. The installation of several artificial composite habitat structures in 2016 likely benefitted their recruitment. Sustained average to above average water conditions should also increase long-term recruitment and survival of juvenile smallmouth bass. Several anglers have called or emailed to report catching very large smallmouth bass comparable to other popular smallmouth fisheries in the State. If drastic reservoir drawdowns can be avoided in the future, the smallmouth bass fishery should continue to thrive and provide excellent angling opportunity.

In the spring and fall when temperatures are cooler and smallmouth bass are less active, the augmentation of cuttbow and rainbow trout helps improve angler success. As the reservoir remains full, increasing the number of stocked trout will become beneficial for anglers.

## RECOMMENDATIONS

- 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.
- Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when onsite.
- Utilize frame nets and/or electroshocking sampling techniques to capture smallmouth bass for the Sparks Marina Pond fishery augmentation.

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