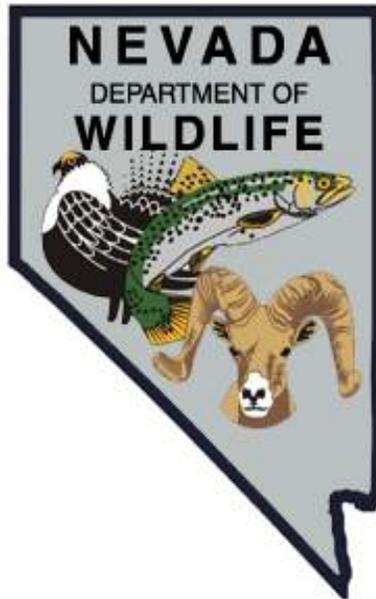


NEVADA DEPARTMENT OF WILDLIFE
STATEWIDE FISHERIES MANAGEMENT



FEDERAL AID JOB PROGRESS REPORTS

F-20-53
2017

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	2
MANAGEMENT REVIEW	5
RECOMMENDATIONS	5

**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, 2017 through December 31, 2017*

SUMMARY

The reservoir was near capacity for all of 2017. A total of 16 volunteer creel forms were submitted during 2017 at Wall Canyon Reservoir, this was the most surveys collected in a single season for the last 5 years. Fourteen anglers reported fishing 75.5 hours and catching 226 fish, with catch rates of 16.1 fish per angler and 3.0 fish per hour. The increase in water creating quality habitat and good fishing provided positive ratings by anglers via the angler drop-box questionnaire. During the course of doing multiple duties at the reservoir, only two anglers were contacted to collect creel information. Wall Canyon Reservoir was stocked on two separate occasions with 5,587 catchable cuttbow 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, the Bureau of Land Management 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 may prove to be 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 0.30-1.25 fish per hour and 2.0-3.5 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 had negative impacts to the fishery. An above average winter in 2015/2016 followed by a historically wet winter in 2016/2017 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.

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 2017 and any anglers seen were contacted to collect fishing data. Only two anglers were contacted in 2017. The volunteer, angler survey drop-box was also maintained and restocked as needed.

Finally, angler use and success was assessed through the Department's Mail-in Angler Questionnaire Survey. Angler questionnaire data is derived from a survey mailed to 30,000 fishing license purchasers from the previous year.

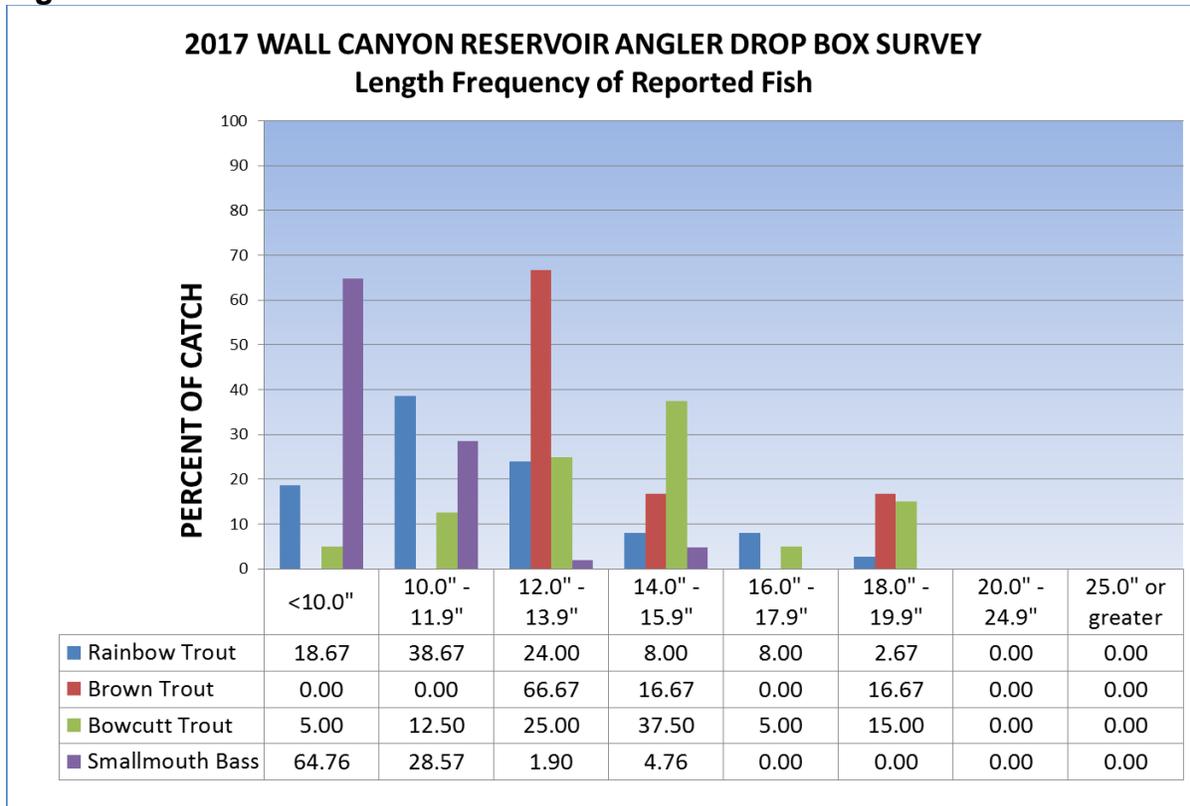
Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when onsite. General habitat conditions were documented on each trip to Wall Canyon Reservoir throughout the 2017 field season.

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 20, fisheries personnel contacted two anglers at wall Canyon Reservoir. The first angler reported fishing for 1.5 hours to catch two smallmouth bass (9.0 and 6.0 inches) using fly tackle. The other angler reported fishing one-hour using lures, but was unsuccessful.

The volunteer drop-box received 16 completed surveys, the most collected in a single season over the last five years. Fourteen anglers (two surveys were discarded) reported fishing 75.5 hours and caught 226 total fish for catch rates of 16.1 fish per angler and 3.0 fish per hour. Anglers caught 226 fish: 75 rainbow trout, 6 brown trout, 40 cuttbow trout, and 105 smallmouth bass. They harvested 28% of the fish caught: 27 rainbow, 5 brown, 13 bowcutt, and 19 smallmouth bass. Figure 1 shows the size distribution of fish reported. Catch rates and size of fish caught were indicative of suitable water conditions experienced the last couple of years.

Figure 1.



The 2016 Mail-in Angler Questionnaire Survey estimated use at 172 anglers that fished 427 days and caught 2,593 fish. The average catch rate was estimated at 15.1 fish per angler and the success rate was 6.1 fish per angler-day, which are both higher than the 36 year averages (12.1 fish per angler and 4.3 fish per angle-day).

Stocking Program

Wall Canyon Reservoir was stocked on two separate occasions in 2017. The reservoir received 5,587 catchable cuttbow and rainbow trout (Table 1). This was the most that fish were stocked in the reservoir in the last 10 years. The reservoir remained at or near capacity during 2017 and an increase in the number of fish stocked was beneficial to the fishery that was severely impacted during the drought from 2012 through 2015.

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 2016/2017. Several visits were made to the reservoir beginning in March and extending into October and on each visit, the reservoir level was noted at or near capacity. Appendix A contains photos from the first visit to the reservoir on March 10. Based on conversations with past biologists and land managers in the area, this was the first time the reservoir has spilled over the spillway since the 1980's. Habitat conditions appeared excellent, with all shoreline structures being submerged all year. An increase in reported use this year was likely due to increased habitat and water quantity that improved the productivity of the fishery.

Table 1. Wall Canyon Reservoir Stocking Summary, 2017.

Species	Strain	Number	Size (in.)	Date
Cuttbow	Marlette	1501	9.2	9/26/2017
Rainbow	Triploid	2085	8.7	4/28/2017
Rainbow	Triploid	2001	9.6	9/26/2017
Total (All Fish)			5587	

Table 2. Wall Canyon Reservoir Stocking History, 2010 to 2016.

Year	Species	Number	Size Range (in.)
2010	Rainbow	1,999	9.4
	Bowcutt	2,001	9.7
2010 Total		4,000	
2011	Rainbow	2,495	9.5 – 10.3
	Bowcutt	2,000	9.6
2011 Total		4,495	
2012	Rainbow	2,000	9.2
2012 Total		2,000	
2013	Rainbow	1,000	9.8
	Rainbow	999	10.2
	Rainbow	2,015	9.9
2013 Total		4,014	
2014	Rainbow	4,136	9.8
2014 Total		4,136	
2015	Cuttbow	2,019	9.2
	Rainbow	2,005	9.4
2015 Total		4,024	
2016	Cuttbow	2,000	9.2
	Rainbow	4,062	9.4
2016 Total		6,062	
Total (All Fish)		28,731	

MANAGEMENT REVIEW

The success rates reported in the mail-in questionnaire and voluntary drop box surveys exceeded the guidelines of 2.0 to 3.5 fish per angler day prescribed in the Coldwater, General Fishery Management Concept. The fishery appears to be thriving with the two consecutive years of good water conditions.

The smallmouth bass fishery appears to be thriving with the majority of the catch occurring during the warm summer months. The installation of several composite habitat structures in 2016 is probably benefitting the recruitment of this species. Continued average to above average water conditions should also increase long-term recruitment and survival of juvenile smallmouth bass. If drastic reservoir drawdowns can be avoided, the smallmouth bass fishery at Wall Canyon Reservoir should continue to thrive and provide an excellent angling opportunity to the public.

In the spring and fall when temperatures are cooler and the smallmouth bass in the reservoir are less active, augmenting the fishery with cuttbow and rainbow trout helps increase angler success. When the reservoir is full, increasing the number amount of stocked fish becomes beneficial for anglers. The increased productivity of the fishery from heavier stocking rates and better water conditions was supported through positive ratings via the volunteer angler drop-box questionnaire.

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.

Prepared By: Travis Hawks
Biologist III
Western Region

Date: January 23, 2018

Appendix A

Wall Canyon Reservoir Site Inspection
March 10th, 2017
Dam Spillway



Appendix A

Wall Canyon Reservoir Site Inspection
March 10th, 2017
Northwest End Looking South



Appendix A

Wall Canyon Reservoir Site Inspection
March 10th, 2017
Southwest End Looking Northeast

