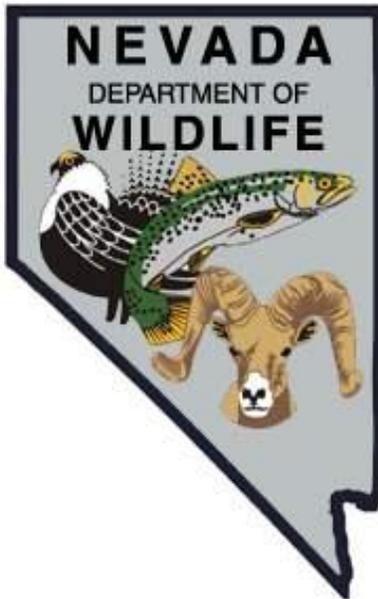


NEVADA DEPARTMENT OF WILDLIFE
STATEWIDE FISHERIES MANAGEMENT



FEDERAL AID JOB PROGRESS REPORTS

F-20-50
2015

BOULDER 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: *Boulder Reservoir*
Period Covered: *January 1, 2014 through December 31, 2014*

SUMMARY

The Mail-in Angler Questionnaire Survey estimated use at 40 anglers and 389 angler days in 2013, both of which were up from the record lows reported in 2012. Total catch was estimated at 401 fish with a success rate was 1.03 fish per angler day. All estimates were far below the 33-year average of 212 anglers, 570 angler days, 2,177 fish, and 4.11 fish per angler day.

A total of 3,070 catchable Tahoe strain rainbow trout were stocked in October of 2014.

The Boulder Reservoir Fisheries and Recreation Improvement Project was successfully carried out during the spring and summer of 2014. This project was initiated in 2011 by the Nevada Department of Wildlife's Habitat and Fisheries Divisions in conjunction with the Bureau of Land Management. Funds were acquired through NDOW's Habitat Conservation Fee as well as BLM recreation fee funds.

This project consisted of several components that will have long-term benefits to both the fishery and the recreational value of the reservoir. Once completed, the reservoir was refilled and water quality parameters were tested. When the water level and quality were suitable, rainbow trout were stocked in the reservoir.

Opportunistic and scheduled visits were made throughout the year to assess habitat conditions and the progress of the fisheries/recreational improvement project at Boulder Reservoir. The reservoir was completely drained during the project and was unfishable from late spring to early fall.

BACKGROUND

Boulder Reservoir is located 190 miles north of Reno in Washoe County. It is situated at an elevation of 5,755 ft and is predominantly surrounded by sagebrush-steppe habitat. The reservoir covers approximately four acres with a maximum depth of 10 ft. The reservoir is fed by spring snowmelt runoff and a perennial spring located in the reservoir's southwest corner.

Boulder Reservoir was constructed as an irrigation storage reservoir in 1950. It has been owned or managed by the Harris, Groves, Cockrell, and Jaksick families in the past. The reservoir has had a long history with riser structures and spillways washing out during periods of high water. Throughout much of the past, verbal

agreements between NDOW and landowners have allowed public access in exchange for routine hatchery stocking.

In 2009, Boulder Reservoir, surrounding acreage, and associated water rights were acquired by BLM through Southern Nevada Public Lands Management Act (SNPLMA) funding. A comprehensive recreation enhancement project was then enacted and construction was completed during the summer and fall of 2014. Among others, components of the project included dam repair, dredging, riparian fencing, off site watering for livestock, as well as construction of picnic facilities and camping spots.

Boulder Reservoir supports a hatchery maintained population of rainbow trout and as the fishery rebuilds, it should support bowcutt trout as well. On occasion, low water coupled with siltation and an abundance of aquatic vegetation has led to late summer/early fall fish kills, but as a newly dredged and improved impoundment this may no longer be an issue. Boulder Reservoir is managed under the Coldwater Quality Fishery Management Concept, having an objective for angler success rates of 0.30-1.25 fish per hour and 2.0-3.5 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), water quality (clarity), aquatic vegetation, and upland vegetation (cattle use) when on site.
- Upon completion of the recreation improvement project, conduct monthly monitoring of reservoir levels and water quality data (Temp, DO, pH, Conductivity) during fall and spring when access is available.

PROCEDURES

Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts and mail-in angler questionnaire data. Opportunistic and scheduled visits were made to Boulder Reservoir throughout the year to collect creel survey data. Information on angler harvest, effort, and origin were recorded and harvested fish were measured to fork length in millimeters.

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

Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity), aquatic vegetation, and upland vegetation (cattle use) when on site. General habitat conditions were observed and documented on a number of occasions throughout the year. Habitat

assessment was based on visual observations of lake level and clarity during a walk around the reservoir.

Upon completion of the recreation improvement project, conduct monthly monitoring of reservoir levels and water quality data (Temp, DO, pH, Conductivity) during fall and spring when access is available. Once the Boulder Reservoir fishery and recreation improvement project was completed and the reservoir was refilled, a site visit was conducted. Parameters were tested to ensure that the newly filled reservoir was suitable for stocking hatchery-reared rainbow trout.

FINDINGS

Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts and mail-in angler questionnaire data. Despite several trips to Boulder Reservoir during 2014, no angler contacts were made.

The Mail-in Angler Questionnaire Survey estimated use at 40 anglers and 389 angler days in 2013, both of which are up from the record lows reported in 2012. Total catch was estimated at 401 fish with a success rate was 1.03 fish per angler day. All estimates were far below the 33-year average of 212 anglers, 570 angler days, 2,177 fish, and 4.11 fish per angler day.

Stocking Program. A total of 3,070 catchable Tahoe strain rainbow trout was stocked in October of 2014. The 2014 and historical stocking summary are presented in Tables 1 and 2, respectively.

Table 1. Boulder Reservoir Stocking Summary – 2014.

Date	Species	Number	Size (in.)	Strain
10/15/2014	Rainbow	3,070	9.3	Tahoe
Total		3,070		

Table 2. Boulder Reservoir Stocking History 2009 – 2014.

Year	Species	Number	Size Range (in.)
2009	Rainbow	1,198	9.9
2010	Rainbow	2,472	3.1 – 9.4
2011	Rainbow	2,423	3.4 – 9.7
2012	Rainbow	1,199	10.6
2013	Rainbow	1,200	10.1
Total		8,492	

Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity), aquatic vegetation, and upland vegetation (cattle use) when on site. Visits were made throughout the year to

assess habitat conditions and consult on the ongoing fisheries and recreation improvement project at Boulder Reservoir. The reservoir was drained starting in April and was not refilled until early October. During a site visit in May, it was noted that the reservoir was reduced to one pool that was approximately three feet in depth. After the May site visit, the reservoir completely dried up and the dredging and dam improvement project began. This phase of the project was completed in August and the reservoir was refilled.

Ungulate use was non-existent since a component of the improvement project was to fence off Boulder Reservoir. The installation of offsite watering facilities was developed to water cattle in the area.

Upon completion of the recreation improvement project, conduct monthly monitoring of reservoir levels and water quality data (Temp, DO, pH, Conductivity) during fall and spring when access is available. In early October, BLM reported that Boulder Reservoir had filled to capacity and a site visit was made on October 15 to collect water quality data and determine if conditions were suitable for the stocking of 3,070 rainbow trout reared at the Nevada Department of Wildlife's Mason Valley Fish Hatchery. Temperature, dissolved oxygen, and pH were all assessed and found to be well within the tolerable range of rainbow trout.

MANAGEMENT REVIEW

Due to its remote nature, Boulder Reservoir has not received a high level of angler use in the past. However, it is a popular fishery for those anglers willing to make the trip. This fishery is generally popular with anglers for producing suitable catch rates and an opportunity to fish in a semi-remote setting. Additionally, the area provides opportunities for dispersed camping, hunting, and wildlife viewing. The angler questionnaire data suggests the reservoir is currently meeting the requirements prescribed for the coldwater Quality Fishery Management Concept.

The Boulder Reservoir Fisheries and Recreation Enhancement Project has improved this reservoir and camping area immensely. It is expected that as the public becomes aware of the improved facilities and fishery, more use will be realized at this site.

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), water quality (clarity), aquatic vegetation, and upland vegetation (cattle use) when on site.
- Install a volunteer angler drop-box along with pertinent reservoir information at the kiosk installed by the Bureau of Land Management at the reservoir.

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Date: January 28, 2015