NEVADA DEPARTMENT OF WILDLIFE
STATEWIDE FISHERIES MANAGEMENT

FEDERAL AID JOB PROGRESS REPORTS

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2014

BIG SPRINGS RESERVOIR
WESTERN REGION

NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
JOB PROGRESS REPORT

Table of Contents

NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
JOB PROGRESS REPORT

List of Tables

NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL PROGRESS REPORT

State: *Nevada*
Project Title: *Statewide Fisheries Program*
Job Title: *Big Springs Reservoir*
Period Covered: *January 1, 2014 through December 31, 2014*

SUMMARY

Water conditions were poor throughout 2014 creating no potential to reestablish the fishery at Big Springs Reservoir. Stocking has been suspended since 2010 due to inadequate water levels. According to the 2013 Mail-In, Angler Questionnaire Survey, two anglers reported fishing, but not catching any fish at Big Springs Reservoir. The angler drop-box has not been maintained in several years due to the loss of the fishery and minimal angler use. In 2014, the angler drop-box was removed from Big Springs Reservoir and relocated to a different water. The U.S. Fish and Wildlife Service (USFWS) has finalized their Comprehensive Conservation Plan (CCP), which will guide management actions on the Sheldon National Wildlife Refuge for the next 15 years. The management action that includes Big Springs Reservoir suggests that the Big Springs fishery be managed as a native trout fishery by stocking Lahontan cutthroat trout (LCT) or redband trout.

BACKGROUND

Big Springs Reservoir is located near the northern boundary of the Sheldon National Wildlife Refuge approximately 130 miles northwest of Winnemucca, NV. The reservoir covers 212 acres with an average depth of seven feet and maximum depth of 10 ft. The reservoir was originally constructed as an irrigation impoundment for Lower Virgin Valley and Duferrena Ponds. The water rights and administrative authority are held by the USFWS. In recent years, the fishery has been lost due to extremely low water levels. Water is supplied to Big Springs Reservoir through several natural springs. Until 2001, female rainbow trout from Big Springs Reservoir were spawned with male Lahontan cutthroat trout from Catnip Reservoir to produce hybrid cuttbows for hatchery production. This operation was discontinued in 2002 due to low water levels. Prior to a fish kill in 2004 due to low water levels; the robust fishery at Big Springs Reservoir was managed under a Quality, Coldwater Fishery Management Concept.

OBJECTIVES

- Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data.
- Monitor reservoir level and water quality conditions to determine if reservoir conditions are suitable to sustain trout.
- Coordinate fisheries management activities with the USFWS to reestablish a coldwater trout fishery if sufficient water is available.

PROCEDURES

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. No angler contacts were made during 2014 at Big Springs Reservoir. Two anglers participated in the Mail-in, Angler Questionnaire Survey.

Monitor reservoir level and water quality conditions to determine if reservoir conditions are suitable to sustain trout. Water level in the reservoir was monitored through visual observation in 2014. No water quality measurements were collected at Big Springs Reservoir.

Coordinate fisheries management activities with the USFWS to reestablish a coldwater trout fishery in Big Springs Reservoir. Coordination with the USFWS related to fisheries management at Big Springs Reservoir was accomplished.

FINDINGS

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. Very low water conditions were observed in early 2014 with the reservoir becoming dry by May, which eliminated the possibility of reestablishing a fishery. No angler use data was collected at Big Springs Reservoir, though two anglers did report fishing in the Mail-in, Angler Questionnaire Survey during 2013, the most recent information for the survey. No fish were caught. The last time Big Springs was stocked with fish was in May 2010 and the five-year stocking history is included in Table 1. The results of the angler questionnaire over the last five years are included in Table 2.

The angler drop-box has not been maintained since 2001 due to the lack of angling and fish in the reservoir from low water levels and was removed in June 2014. Big Springs Reservoir has been completely dry several times with no fish surviving.

Monitor reservoir level and water quality conditions to determine if reservoir conditions are suitable to sustain trout. The water level in Big Springs Reservoir started out very low in the spring of 2014, was dry by June, and remained dry for the rest of 2014. The system of springs that feed Big Springs did not flow in 2014. During 2014, water levels were nowhere near suitable to sustain trout.

Table 1. Big Springs Reservoir 5-year Stocking Data – 2010-2014

Year	Species	Strain	Number of Fish	Pounds of Fish	Average Size (inches)	Annual Total	
						Number	Pounds
2010	Rainbow	Eagle Lake	3,001	984	9.4	3,001	984
2011	–	–	–	–	–	–	–
2012	–	–	–	–	–	–	–
2013	–	–	–	–	–	–	–
2014	–	–	–	–	–	–	–

– Due to low water levels no fish stocking occurred this year

Table 2. Big Springs Reservoir Angler Questionnaire Data - 2009-2013

Year	Anglers	Days	Fish	Fish/Day	Fish/Angler	Days/Angler
2009	31	43	84	1.95	2.71	1.39
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	1	2	0	0	0	0
2013	2	2	0	0	0	1
Average	6.8	9.4	16.8	0.39	0.54	0.48

Coordinate fisheries management activities with the USFWS to reestablish a coldwater trout fishery if sufficient water is available. Throughout 2014, coordination occurred between NDOW and USFWS refuge staff to discuss water levels in Big Springs and if the levels were sufficient to support trout. Both NDOW and the USFWS concurred that water levels were not sufficient to support trout in 2014. NDOW staff attended the annual coordination meeting with Sheldon NWR staff in February to discuss fisheries activities including Big Springs Reservoir updates.

MANAGEMENT REVIEW

No fishery management activities occurred at Big Springs Reservoir during 2014 due to the lack of water. The Sheldon CCP is complete and identifies only LCT or redband should be used for recreational fishing in Big Springs Reservoir in order to move the reservoir to a more native fishery.

Stocking has been suspended in recent years due to low water levels resulting in the collapse of the reservoir as a quality, coldwater fishery. The reservoir will continue to be monitored to determine if conditions become suitable for trout stocking, at which time efforts will be made to resume stocking of the reservoir utilizing the appropriate species of fish as directed by the CCP. The angler drop-box was removed from Big Springs Reservoir in 2014 and relocated to a different water

RECOMMENDATIONS

- Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts and mail-in angler questionnaire data if enough water is available in the reservoir to support a fishery.
- Monitor the reservoir suitability to support a trout fishery by collecting water quality parameters, monitoring reservoir level, annual spring runoff, and flow from shoreline springs.
- Coordinate fisheries management activities with the Sheldon National Wildlife Refuge staff in order to be consistent with the CCP.

Prepared by: Brad Bauman
Fisheries Biologist III
Western Region

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