NEVADA DEPARTMENT OF WILDLIFE
STATEWIDE FISHERIES MANAGEMENT

FEDERAL AID JOB PROGRESS REPORTS

F-20-52
2016

ELKO COUNTY
SMALL LAKES AND RESERVOIRS
EASTERN 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: *Elko County Small Lakes and Reservoirs*
Period Covered: *January 1, 2016 through December 31, 2016*

SUMMARY

For the 2016 calendar year, Elko County small lakes and reservoirs received over 15,000 stocked rainbow trout and just over 2,000 tiger trout. Five hundred channel catfish were stocked into Jakes Creek Reservoir in May, in conjunction with the Western Region warm water fish stocking order.

Angling at most reservoirs was considered fair. The Willow Creek Reservoir water level filled to full capacity by May 2016 and fishing pressure was light as the fishery was rebuilding from drought conditions, as it was at all Elko County small reservoirs. Angler information was scarce in 2016, with only 37 drop-box questionnaires received at Jakes Creek Reservoir.

Construction work at Jiggs Reservoir was completed in late fall of 2014 and water was at acceptable levels by mid-April 2016 for stocking. The reservoir received 2,000 rainbow trout, as well as 36 pre-spawn largemouth bass and 500 post-spawn bluegill sunfish. This small reservoir proved to be quite popular after a decade of very little water and no fish.

In April, two experimental gill nets set overnight in Jakes Creek Reservoir produced 96 fish, which included 55 (57.3%) bridgelip suckers. Based on this and past surveys, the data shows an increase in average and minimum bridgelip sucker size and a lack of fish under 7.9 inches (200 mm). This indicates that the biological control (channel catfish predation) may be effective in reducing the number of smaller suckers.

Jakes Creek Reservoir also had an electroshocking survey done in August. This survey produced 92 fish, of which 86 were largemouth bass and the remaining six were bridgelip suckers. No catfish were contacted and trout capture was avoided due to warm water temperatures and a desire to reduce stress. Body condition analysis of the largemouth bass found 98% of the measured fish being in good to excellent condition. All six of the captured suckers were less than five inches, which are of the size not typically documented in the spring gill netting surveys.

Approximately 2,000 9-inch rainbow trout were restocked into Dry Creek Reservoir in June 2016 and periodic visits were made to document water levels and angling conditions. Water levels were at maximum capacity for Dry Creek Reservoir through July and seasonal irrigation demands reduced water levels to 50% capacity by September.

Willow Creek Reservoir achieved full capacity by April 2016, easing the effects of the previous four-year drought, with improvements in water quality and quantity benefiting the remaining game fish. A population survey in August 2016 revealed good numbers of white crappie, channel catfish, and Tahoe sucker. An augmentation of black bass from South Fork Reservoir to Willow Creek Reservoir occurred in September 2016 to supplement low numbers of black bass.

BACKGROUND

Angel Lake

Angel Lake is an alpine lake located at 8,000 feet elevation that was modified to provide irrigation storage. It covers 13 surface acres and has a maximum depth of 35 ft. The lake is located 13 miles southwest of the town of Wells in the East Humboldt Range. The lake contains brook trout, rainbow trout, tiger trout, and speckled dace. The fishery is managed under a Put-and-Take Fishery Management Concept due to trout having limited carryover and being immediately harvested after stocking.

Carlin Pond

Designated as an urban fishery, Carlin Pond was created by overflow from the Carlin City water system. Biannual stocking provides a put-and-take trout fishery. The unique feature of this water is that it does not freeze over during the winter months. However, when water temperatures begin to rise in the summer months, a buildup of aquatic vegetation complicates the fishing at Carlin Pond.

Cow Creek Reservoir

Cow Creek Reservoir is located approximately 10 miles southeast of Jackpot. The reservoir is a small livestock-watering pond that is fed by Cow Creek and falls within a narrow canyon. The original dam blew out in 1984 and it was replaced with a smaller dam that impounded less water. Low water years, or below average precipitation years, create a limited water source for the trout fishery and, thus, only 500 trout are scheduled for stocking on a rotational two-year basis. This water provides a put-grow-and-take fishery for the residents of Jackpot

Dorsey Reservoir

Dorsey Reservoir is located approximately 18 miles north of Elko. The reservoir covers 20 surface acres and has a depth capacity of 24 ft. It is a privately owned irrigation storage and stock water reservoir that experiences seasonal drawdowns. Shortly after spring trout stocking, the water level begins to drop and the water warms as the summer progresses, creating poor trout habitat. Dorsey Reservoir is managed under a Put-and-Take Fisheries Management Concept due to the high level of trout harvest and the low carryover rate.

Dry Creek Reservoir

Dry Creek Reservoir was constructed in 1961 and sits on private property with limited public access. It was first stocked with trout in 1963 and had good fishing for a few years. Nongame fish populations rapidly increased so the reservoir and tributary streams were treated with rotenone in 1970. The reservoir was restocked with rainbow trout and it presently receives annual stockings of catchable length rainbow trout. In 1974, smallmouth bass were introduced into the reservoir as a biological control of the recurrent, expanding nongame fish populations. Currently, a wild smallmouth bass population has become established, controlling nongame fish (bridgelip sucker and dace) populations and providing a warm water sport fishery. Largemouth bass were introduced in 1994 from a bass salvage project at Wilson Sink Reservoir to diversify and increase angler opportunities. Reservoir dewatering events occurred in 2009, 2013, and 2014, draining the reservoir down to the minimum pool and limiting existing fish habitat. Management emphasis is to provide a recreational panfish fishery, black bass fishery, and a put-grow-take “quality” trout fishery.

Jakes Creek Reservoir

Jakes Creek or Boise Reservoir is located approximately 35 miles north of Wells, six miles off Highway 93. The reservoir covers 62 surface acres and has a maximum depth of 16 ft at full capacity. Jakes Creek Reservoir is managed primarily as a General Coldwater Fishery and secondarily as a General Warmwater Fishery. The reservoir is stocked with rainbow trout yearly, and has a self-reproducing population of largemouth bass. Channel catfish were introduced in 2008 to increase fishing opportunity and provide biological control of native bridgelip sucker. As summer progresses, shoreline vegetation increases and reduces the quality of shoreline fishing, but fishing by boat can greatly increase angler success rates. Trout fishing is typically good in spring and fall and somewhat slower in summer, although the increase in water temperature allows largemouth bass fishing to pick up. The reservoir provides a yearlong recreational opportunity, with safe levels of ice occurring in most years to facilitate ice fishing.

Jiggs Reservoir

Jiggs or Zunino Reservoir is located approximately 30 miles south of Elko. The reservoir covers 45 surface acres and has a maximum depth of 10 feet at full capacity. The reservoir is limited by the amount of inflow allotted to the reservoir, which makes it very susceptible to drought events. Low water levels in winter have led to the use of aerators during ice up periods to sustain the fishery.

The reservoir was kept dry the last several years to facilitate an improvement project. This project was completed in late 2014 and resulted in the deepening of the reservoir by several feet and the reduction of water loss from seepage by mixing in a bentonite clay layer with the current soil. The dam structure was also rebuilt and upgraded to comply with safety standards due to the dilapidated condition of the old structure. This should help improve the chances of a perennial pool in drought years,

which would be a benefit to both fish and wildlife and potentially agricultural use as well. Rainbow trout, largemouth bass, and bluegill sunfish were stocked into the reservoir in April and May of 2016.

Willow Creek Reservoir

Willow Creek Reservoir was historically a native Lahontan cutthroat trout and nongame (Tahoe sucker, speckled dace, and redside shiner) fishery. Recent management emphasis has been directed toward the re-establishment of a diversified recreational fishery through augmentation with white crappie, black bass, and channel catfish.

OBJECTIVES and APPROACHES

Angel Lake

Objective: General Sport Fisheries Management

- Conduct a pre-stocking evaluation of road conditions and water quality/quantity.
- Conduct a general fisheries assessment through opportunistic angler contacts.
- Conduct a visual survey of the shoreline to evaluate over-winter mortality immediately after spring ice breakup.

Boyd Reservoir

Objective: General Sport Fisheries Management

- Conduct a one night electroshocking survey at three predetermined transects in early summer.

Carlin Pond

Objective: General Sport Fisheries Management

- Visually assess water quantity (pond level, inflow/outflow) and quality (clarity) for coordinating trout stocking.

Cow Creek Reservoir

Objective: General Sport Fisheries Management

- Conduct a pre-stocking evaluation of road conditions and water quality/quantity.

Dorsey Reservoir

Objectives: General Sport Fisheries Management

- Conduct a pre-stocking evaluation of road conditions and water quality/quantity.
- Conduct a general fisheries assessment through opportunistic angler contacts.

Dry Creek Reservoir

Objectives: General Sport Fisheries Management

- Conduct a visual survey of water levels and stocking conditions, perform opportunistic angler contacts to evaluate fishery rebuilding and recovery efforts after the drought.
- Restock with rainbow trout and smallmouth bass if needed and conditions improve and stabilize.

Jakes Creek Reservoir

Objectives: General Sport Fisheries Management

- Conduct a pre-stocking evaluation of road conditions and water quality/quantity.
- Conduct a general fisheries assessment through opportunistic angler contacts.
- Maintain and check for returns of voluntary angler drop-box surveys during the course of other duties.
- Augment the channel catfish population (500) in the spring.
- Conduct a 2 net-night experimental gill netting survey in the spring.

Jiggs Reservoir

Objectives: To evaluate the water improvements to Jiggs Reservoir and the associated fishery, following a deepening and bentonite-sealing project.

- Augment the fishery with 3,000 rainbow trout, 500 largemouth bass, and 500 bluegill when the appropriate amount of water refills the reservoir.
- Visually assess water quantity (inflow and reservoir level) and quality (temperature) occasionally throughout the year.

Willow Creek Reservoir

Objectives: General Sport Fisheries Management

- Conduct an evaluation of water quality/quantity and sport fish stocking opportunities.
- Purchase and stock 5,000 channel catfish.
- Conduct a general fisheries assessment through opportunistic angler contacts.

- Salvage game fish whenever applicable and feasible and transplant to proximal waters during the summer of 2016.

PROCEDURES

Coordinating trout stocking with the hatcheries requires a check of the reservoir to evaluate water levels and water temperatures prior to stocking.

Winterkill surveys were done shortly following winter ice breakup. The bank was walked by a one or two person crew, during an ocular survey, to document any observed fish mortalities.

Angler creel was collected by means of personal contact or using angler drop-boxes located at certain reservoirs. Information gathered included number of anglers fishing, hours fished, fish caught, fish released, and fishing method used.

Electroshocking surveys were conducted using the electroshocking barge, with fixed probes used as the anode and the barge serving as the cathode. Captured fish were measured, weighed, and released.

Capture, salvage, augmentation, and transplant of fish species was accomplished through the use of electrofishing, beach seining, angling, frame nets, and trawling from approved water sources of similar water quality and fish composition.

Three frame nets and two experimental mesh gill nets were set in Willow Creek Reservoir during the late afternoon on August 9, soaked overnight and retrieved the following morning. Gill net locations were on the northeast shoreline and one gill net was set off of the first cove north of the dam. Frame net locations were along the north-central shoreline around brush pile locations on the northeast side and one frame net was set near the northwest shore near the north cove. The nets were set for a total of 76 hours or approximately 15.2 hours each.

FINDINGS

Angel Lake

In July, 3,278 Eagle Lake strain rainbow trout and 2,275 tiger trout were successfully stocked; with an additional 1,690 Eagle Lake strain rainbow trout being stocked in September.

Combining creel visits with other work duties, 16 anglers were contacted on a single visit. These anglers put forth 33 hours of angling effort to catch six fish, resulting in catch rates of 2.1 fish per angler and 0.2 fish per hour. Four of the captured fish were harvested, with all of them being tiger trout that were measured and weighed. These fish were added to the creel data that was collected during the Angel Lake Fishing Derby and totaled 12 rainbow trout and 32 tiger trout being measured. The 12 rainbow

trout averaged 11.6 in (293.4 mm) total length (TL) and ranged in size from 9.9 to 13.5 in (252 to 344 mm). Body condition of the rainbow trout resulted in one fish (8.3%) being in poor condition, five fish (41.7%) in fair condition, five fish (41.7%) in good condition, and one fish (8.3%) in excellent condition. The 32 measured tiger trout ranged in size from 9.6 to 14.8 in (243 to 375 mm) TL, and averaged 12.5 in (318.3 mm). No body condition analysis was done on the tiger trout, but they did appear to be in fair to good condition.

In May, the lake was visited to assess ice conditions and conduct a visual assessment of winter fish mortality. The lake was ice-free and there were only a couple of observed mortalities, which were presumed to be angling associated. It was estimated that overwinter fish losses were very low.

Boyd Reservoir

After multiple years of drought conditions, water levels were not conducive to an electroshocking survey. To evaluate the density of bluegill and largemouth bass, a seining survey was conducted on May 24. After multiple times seining, no fish were contacted. Using a boat, a shoreline survey was conducted and only a few bluegill and largemouth bass were observed throughout the majority of the reservoir. It is assumed that the multiple years of drought had a dramatic impact on the fishery of this reservoir and it will take several years for the populations to recover. If the next couple of years provide good snow pack, a survey should be rescheduled to document the recovery of this small fishery.

Carlin Pond

A total of 2,200 rainbow trout were stocked into Carlin Pond in 2016, with stocking occurring in spring and fall.

Cow Creek Reservoir

In 2016, after an above average water year, 500 Eagle Lake strain rainbow trout were stocked on May 11. To rebuild this small fishery, another stocking should occur in 2016, given another good water year.

Dorsey Reservoir

Spring stocking consisted of 2,000 Eagle Lake strain rainbow trout in May of 2016. No anglers were contacted at Dorsey Reservoir in 2016. By mid to late summer, water levels had dropped quite low, but it is expected that the trout survived and there should be some carryover fish for anglers in 2017.

Dry Creek Reservoir

Dry Creek Reservoir was stocked with 2,000 trout in June 2016, the first trout stocked since 2013. The voluntary angler drop-box survey was in use for the entire year, with zero surveys received. Random visits during the summer of 2016 revealed zero anglers, while an improvised shoreline angling survey revealed carryover of both smallmouth bass from the 2015 stocking effort and the surprised presence of largemouth bass, considering the reservoir desiccation to minimal pool in 2014 should have greatly reduced the largemouth bass population.

Jakes Creek Reservoir

In April, 3,000 Eagle Lake strain rainbow trout were stocked, with another 1,000 Eagle Lake strain rainbow trout being stocked in September. After coordinating with the Western Region warm water fish order, 500 catfish were also stocked into the reservoir in May.

During multiple visits to the reservoir, only two anglers were contacted. These anglers put forth four hours of effort to capture six fish, resulting in success rates of 3.0 fish per angler and 1.5 fish per hour.

A total of 37 drop-box angler questionnaires were received between January and November, with only two questionnaires being rejected. Twenty-six anglers put forth 155.5 hrs of angling effort to capture 254 fish, resulting in success rates of 7.1 fish per angler and 1.6 fish per hour. Two channel catfish were documented during creel activities, one in June and one in August. Catfish have been stocked in the reservoir for several years and they are rarely contacted during creel, electroshocking, or gill netting surveys. This is due to most anglers targeting either trout or bass and these fishing styles are only conducive to capturing catfish incidentally.

On April 18, two experimental gill nets were soaked overnight for 16 hours. The first net, at the dam, produced 21 rainbow trout, 40 bridgelip suckers, and two channel catfish. The second net, near the inlet, produced 10 rainbow trout, 15 suckers, one largemouth bass, and two catfish. Overall, 96 fish were contacted, with 55 (57.3%) of these being bridgelip suckers. Measured suckers were compared with records that were compiled from previous surveys and evaluated based on length frequencies within 20 mm increments, range of size, and average size (Table 1). The only data missing are length data from 2000 and 2004, although the summarized data was available.

Based on past reports, surveys were conducted with similar protocols, two gill nets allowed to soak overnight, one perpendicular to the dam and one near the shallow inlet side. This protocol was changed in 1987, when low water levels allowed for only one net to be set in deeper water. This is the fourth year of a five-year study and it appears there is a reduction in suckers smaller than 9.4 in (240 mm) and a slow increase in average size since 2004 (Table 1). Stocked channel catfish appear to be

having an impact on the sucker population by preying on the younger age classes, but more surveys are needed to fully assess catfish impact on the sucker population.

Table 1. Jakes Creek Bridgelip Sucker Survey Summaries.

mm	inches	1982	1987	1992	2000	2004	~375 channel catfish stocked in September of 2008	2008	2011	2013	2014	2015	2016
140	5.5	1	0	1				0	0	0	0	0	0
160	6.3	1	1	1				0	0	0	0	0	1
180	7.1	0	12	4				0	0	0	0	0	0
200	7.9	1	23	1				0	0	0	0	0	0
220	8.7	0	23	5				2	0	0	0	0	1
240	9.4	2	27	2				0	1	0	0	0	0
260	10.2	3	22	1				3	2	2	0	1	0
280	11.0	1	5	1				4	7	0	5	2	0
300	11.8	4	5	6				5	7	5	5	0	2
320	12.6	4	0	2				4	2	6	4	2	4
340	13.4	8	0	7				4	4	4	8	6	7
360	14.2	7	1	0				1	0	5	5	10	13
380	15.0	1	2	0				0	2	3	1	11	17
400	15.7			0				0	1	0	1	3	10
	N =	33	121	31	20	43		23	26	25	29	35	55
Range	Low	152.4	170.2	139.7	176	203		231	246	273	282	245	162
	High	381	386.1	355.6	342	355		362	400	390	400	390	403
	Average	314.9	243.8	271	257	297		306.8	316.7	338.5	335.2	346.7	350.9

To help evaluate the success of channel catfish in this small reservoir, a trotline was set in conjunction with the gill nets. Twelve hooks were baited with shrimp and soaked for 15.5 hrs, with five catfish being captured and one being lost at the boat. The largest of the captured catfish was 24 in. Over the last seven years, approximately 15 to 20 catfish have been documented through angler creel, trapping/netting, electroshocking, and trot lining. This year, nine catfish were captured that ranged from 15.7 to 24.0 in (399 to 610 mm) total length and averaged 18.2 in (462 mm). This data suggest that a good number of catfish are surviving and doing so successfully, as all of the contacted fish appeared to be in good condition. This appearance of large, carryover catfish tends to support the collected data, in that the stocked catfish are successfully preying on the sucker population and impacting the younger age classes. Catfish are not regularly targeted or captured by anglers, which makes it difficult to determine their success in the reservoir.

An electroshocking survey occurred on August 8, with water temperatures during the sampling being 73°F, with relatively clear skies and breezy wind conditions. A majority of the reservoir shoreline was surveyed, with the exception of the west shoreline that was too shallow and weedy to access. From 1930 to 2030 hrs a total of 1,456 electroshocking seconds were used to capture 92 fish. The total catch was composed of 86 largemouth bass and six bridgelip suckers. No catfish were contacted and several trout went un-netted due to high water temperatures and a desire to reduce stress on the trout.

A total of 67 largemouth bass were weighed and measured for body condition, resulting in no bass in poor condition (0%), one bass in fair condition (1.5%), 28 bass in good condition (41.8%), and 38 bass in excellent condition (56.7%). A total of 85 bass were measured for length and averaged 10.2 in (258.1 mm), with a range of 4.6 to 12.9 in (117 to 327 mm) TL. All of the contacted fish appeared to represent only two to three age classes, with fish falling between four and six in, one eight inch, or 10 to 12 in.

Based on past observations, this appears to be the trend in this small reservoir. That is, two age classes of fish dominating the reservoir, one larger and one smaller, which creates a very cyclic bass fishery.

The electroshocking survey did produce six bridgelip suckers that ranged in size from 3.9 to 4.7 in (99 to 119 mm) TL. Larger suckers were observed, but were not captured because the spring gill netting survey was primarily focusing on the larger suckers. The smaller suckers were targeted during electroshocking to document their age classes in the system, as the gill netting survey does not appear to accurately represent the smaller age classes. However, these surveys do appear to show that the largemouth bass and channel catfish are impacting the overall sucker numbers, and reducing their reproductive success. Future surveys will be critical in evaluating the biological control success on the bridgelip sucker.

Overall, the fishery appears to be successfully adapting to the last four years of drought and should continue to provide a quality fishing experience. Although this survey did not produce many rainbow trout, the angler creel efforts continue to show success by anglers for healthy carryover trout.

Jiggs Reservoir

On April 15, Jiggs reservoir was stocked for the first time in 10 years with 2,000 Eagle Lake strain rainbow trout. On May 18, 36 largemouth bass were also stocked, with an additional 500 bluegill being stocked on June 30. The largemouth bass were stocked just prior to spawning, which resulted in a very success reproductive year that produced a lot of three to four inch bass by late summer.

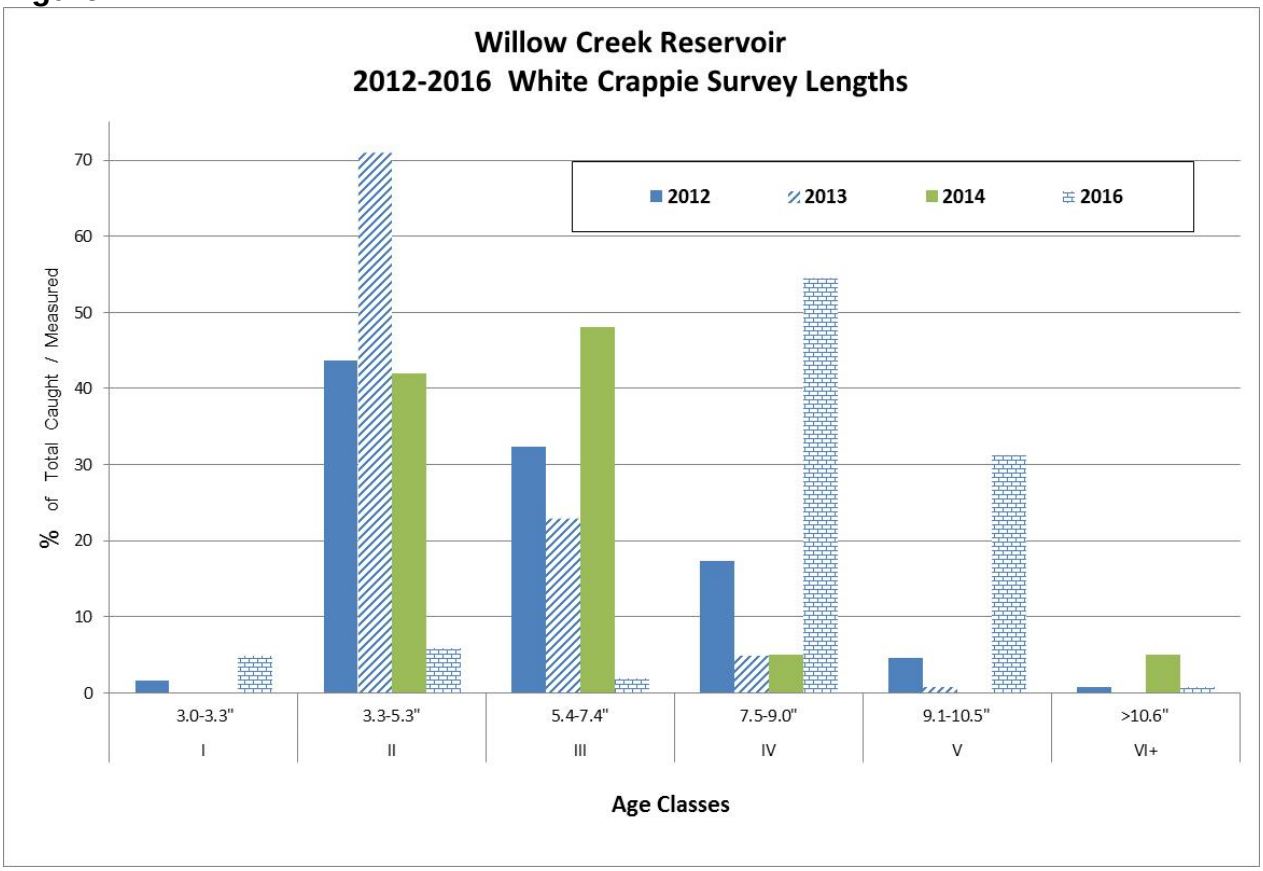
Water quality and quantity was checked several times throughout the year to monitor the first time in a decade that the reservoir received water. After the in-flow water was stopped, water levels steadily dropped until late October, when the water reached an elevation of 5,587 feet. From the time the ice covered the reservoir in early December to mid-February when rainstorms and warm temperatures began to break up the ice, there was no collapsing of the winter ice. Prior to the repair project, this ice collapse would occur when water seeped out of the bottom of the reservoir and allow the ice to collapse. Because this was not observed in the 2016-17 winter, it is hopeful that the bentonite that was added to the reservoir bottom is reducing the amount of water seepage. This will be monitored every winter to assess the full success of the repair project.

Willow Creek Reservoir

The reservoir was visited periodically in May, July, and August and resulted in no angler contacts, but there was recent angler presence noted (litter, fishing line, etc.). Willow Creek Reservoir was stocked in September 2016 with mature black bass (41 largemouth and 29 smallmouth bass) for broodstock augmentation.

An August population inventory during optimum reservoir water conditions allowed for the majority of the reservoir perimeter to be electroshocked, including the north coves, face of the dam, and inlet channel, with good results. A total of 74 fish were captured in 1.09 hours of electroshocking effort and then measured. The majority of the fish contacted were white crappie and Tahoe sucker. Size of measured crappie ranged from 1.6 to 13.6 in TL and had an average length of 4.9 in TL (Table 2). Thousands of YOY white crappie (< 3.0 in TL) were electroshocked and observed but not netted, indicating a very successful spawn in the spring of 2016. Approximately 86% of the white crappie sampled in 2016 was Class IV and Class V (7.5–10.5 in TL) (Figure 1). This is a good survey indicator of adult carryover, recruitment, and retention from the 2008-2010 reintroduction efforts of this game fish.

Figure 1.



Five channel catfish with an average size of 19.0 in TL and a size range of 15.4 to 21.7 in TL were captured and several others were missed. No Lahontan cutthroat trout or black bass species were captured. All game fish were in fair to good body condition, indicating optimal foraging conditions despite previously low water levels. A total of 13 Tahoe suckers were netted that had an average size of 6.9 in TL (3.8-14.4 in TL), with numerous suckers identified, but not netted during the survey.

The combination of all gill and frame netting results produced a total of 139 fish that were captured during 76 hrs of soak time. The majority of the fish netted were

white crappie (130 fish, average size 8.5 in TL) and Tahoe sucker (five fish at 13.3 in TL). No native Lahontan cutthroat trout or black bass were captured in 2016. Four channel catfish were also netted and had an average size of 20.3 in TL (size range 18.3 – 22 in TL).

The good results of both population-sampling efforts confirmed that Willow Creek Reservoir has recovered after experiencing a severe winterkill/desiccation and loss of game fish during the period of 2002 to 2007. Drought related low reservoir water levels during 2012 to 2015 also hindered sport-fishing opportunities, but this appears to be waning. The make-up of the fish community within the reservoir is balancing out toward the desired sport fishes of white crappie, channel catfish, cutthroat trout, and black bass, while non-game fish (Tahoe sucker, dace, and shiner) play a vital role in forage contribution for predacious game fish. Natural reproduction of white crappie and black bass continue to assist in maintaining or reducing the non-game to game fish ratio and will increase the quantity and quality of game fish caught in the coming years.

Five white crappie, with an average size of 8.5 in TL were collected during the survey and shipped off to the EPA lab for routine mercury contamination analysis. Lab results for the five white crappie revealed an average mercury concentration of 0.57 parts per million, suggesting anglers should only consume one meal per month.

MANAGEMENT REVIEW

Angel Lake

All approaches were met in 2016, with Angel Lake continuing to be a productive put-and-take fishery.

Boyd Reservoir

Water levels were checked in 2016, but the electroshocking survey was not completed due to low water levels. In place of the electroshocking survey, a seining survey was done to assess the bluegill and largemouth bass populations after the consecutive years of drought.

Carlin Pond

The approach was completed in 2016.

Cow Creek Reservoir

The approaches were completed in 2016.

Dorsey Reservoir

The approaches were completed in 2016.

Dry Creek Reservoir

The approaches were completed in 2016.

Jakes Creek Reservoir

All approaches were completed in 2016, with the electroshocking survey occurring in August. The reservoir continues to be a successful "general" multispecies fishery. It is too early to measure the benefits of introduced channel catfish, which were stocked over the previous six years, however, four years of spring gill netting appear to show that the catfish may be having an impact on smaller age class suckers. Future creel, gill netting, and electroshocking surveys will provide data to evaluate this species' contribution to the fishery.

Jiggs Reservoir

The objectives were completed in 2016, with rainbow trout, largemouth bass, and bluegill being stocked in the reservoir. Monitoring of the water quality and quantity as well as the fishery will continue as the rebuilt fishery finds a balance.

Willow Creek Reservoir

All approaches were completed in 2016, with the electroshocking and frame netting surveys occurring in August.

RECOMMENDATIONS

Angle Lake

- Continue to evaluate water conditions prior to hatchery trout stocking.
- Continue to conduct ocular winterkill surveys after spring ice breakup.
- Collect available fish data during the annual Angel Lake fishing derby in July.

Boyd Reservoir

- Continue to monitor water conditions as it relates to the largemouth bass fishery.
- In 2019 or 2020, conduct a one night electroshocking survey to assess species composition in the reservoir.

Carlin Pond

- Continue to evaluate water conditions prior to hatchery trout stocking.

Cow Creek Reservoir

- Monitor water conditions and stock trout when suitable conditions occur.

Dorsey Reservoir

- Continue to evaluate water conditions prior to hatchery trout stocking.

Dry Creek Reservoir

- Monitor reservoir water levels and effects of persistent drought conditions for adjusting management as necessary. Restock with trout in 2016 if conditions improve.
- Implement management of the Dry Creek Reservoir Fisheries Management Prescription in 2016.
- Continue to maintain the volunteer angler drop-box.

Jakes Creek Reservoir

- Continue to evaluate water conditions prior to hatchery trout stocking.
- Continue to collect angler creel throughout the fishing season.
- Conduct a gill netting survey to assess species composition of the reservoir fishery and assess the bridgelip sucker age class distribution.

Jiggs Reservoir

- Continue to monitor water conditions throughout the year to document the overall success of the repair project.
- Continue to augment the rainbow trout, largemouth bass, and bluegill populations as needed.

Willow Creek Reservoir

- Continue to monitor reservoir water levels and reservoir conditions during the spring and summer and adjust fisheries management as necessary.
- Augment game fish (channel catfish and black bass) when necessary and when conditions allow, and conduct population surveys in spring/summer to document fish composition and sport fish populations.
- Publicize and inform the angling public on the current conditions of this popular fishery.

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Date: February 2017

Table 2

WILLOW CREEK RESERVOIR

Population Sampling Catch Record - Frame/Gill Net & Electrofish Survey

2016

	Net/Sample #	Frame/Gill Nets 1-5	Electrofish 6-8		
	Date:	8/10/2016	8/9/2016		
SPECIES				**TOTALS**	**2016 % of Species Composition**
White Crappie	Number	130	56	**186**	***87.3***
	Avg. Size (Inches-TL)	8.5	4.9	**7.4**	
	Size Range (Inches-TL)	3.1 - 10.0	1.6 - 13.6	**1.6 - 13.6**	
Channel Catfish	Number	4	5	**9**	***4.2***
	Avg. Size (Inches-TL)	20.3	19	**19.6**	
	Size Range (Inches-TL)	18.3 - 22.0	15.4 - 21.7		
Alabama Spotted Bass	Number	0	0	**0**	***0.0***
	Avg. Size (Inches-TL)			**#DIV/0!**	
	Size Range (Inches-TL)				
Lahontan Cutthroat trout	Number	0	0	**0**	***0.0***
	Avg. Size (Inches-TL)			**#DIV/0!**	
	Size Range (Inches-TL)				
Tahoe Sucker	Number	5	13	**18**	***8.5***
	Avg. Size (Inches-TL)	13.3	6.9	**6.9**	
	Size Range (Inches-TL)	12.6 - 13.8	3.8 - 14.4		
Redside Shiner	Number	0	0	**0**	***0.0***
	Avg. Size (Inches-TL)				
	Size Range (Inches-TL)				
Speckled Dace	Number	0	0	**0**	***0.0***
	Avg. Size (Inches-TL)				
	Size Range (Inches-TL)				
	TOTAL FISH	**139**	**74**	**213**	
	Duration (Hours)	76.0	1.09	**77.1**	
	% Non-desirable Fish	3.6	17.6	**8.5**	
	Fish / Net-Shocking Hour	1.8	67.9	**2.8**	
	Avg. Res. Water Temp. (F°)	66.3	65.0		

Net/Sample Locations, Type of Trap:

1. Northeast End, Gill net, 150' long, Exp. Mesh, buoy set
2. Northwest End, Gill net 150' long Exp. Mesh, Shore line set off of north cove point.
3. North-central shoreline Brush pile, Frame net.
4. Northeast side, Frame net
5. East cove up from dam face, Frame net

6 - 8. Electrofish all suitable habitat/shoreline, inlet channel. Thousands of YOY White crappie electrofished & not counted