NEVADA DEPARTMENT OF WILDLIFE
STATEWIDE FISHERIES MANAGEMENT

FEDERAL AID JOB PROGRESS REPORTS
F-20-53
2017

URBAN FISHERIES
WESTERN REGION

NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL PROJECT REPORT

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NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL PROJECT REPORT

State: *Nevada*
Project Title: *Statewide Fisheries Program*
Job Title: *Western Region Urban Fisheries*
Period Covered: *January 1, 2017 through December 31, 2017*

SUMMARY

The winter of 2016/2017 was a record setting winter, which brought much needed relief to a region that was drought stressed from 2012 to 2015. With a good water year (Table 1), the region's urban fisheries performed well in 2017 and continued to provide easy-to-access fishing for local anglers. Management is typically dependent on annual stocking programs that primarily encourage use in the spring and fall when water temperatures are favorable for trout and angling. With the filling of most urban ponds due to adequate snowpack, warmwater fish stocking was possible in 2017. Channel catfish and other warmwater fish are stocked with the intent of not only providing immediate fishing opportunity, but also for developing self-sustaining fisheries that provide angling opportunities in summer when water temperatures become too warm for trout.

Table 1. Snow Pack and Precipitation on April 1, 2017.

Basin	Snowpack Average (Percent of Average)	Precipitation (Percent of Average)
Truckee Basin	194%	209%
Carson Basin	208%	196%
Walker Basin	212%	210%

BACKGROUND

As the State of Nevada grows, its population continues to become increasingly urbanized. Urban sprawl is making it more difficult for people to find fishing opportunities near town. In addition, changing family dynamics is resulting in fewer children being exposed to the sport of fishing. Nevada's urban ponds are an invaluable means of providing angling opportunities to people living in an urban setting. Nevada currently has 29 urban fisheries throughout the State, which account for nearly 87,000 angler days per year.

Urban pond fisheries management includes meeting angler-approved goals, recruiting anglers, providing facilities for free-fishing day events and fishing clinics, providing stocking programs that support diverse sport fisheries (coldwater and warmwater), and providing effective and timely outreach to anglers regarding fishing opportunities. The Urban Pond Fisheries Management Concept specifies angler success rates of 0.25 to 0.75 fish per hour and 1.0 to 2.0 fish per angler day.

OBJECTIVES

- Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data.
- Coordinate trout stocking with Mason Valley Fish Hatchery based on water levels, habitat conditions, and angler use.
- As part of the annual stocking program, 4,000 channel catfish will be stocked in each of Paradise Ponds, Virginia Lake (City of Reno), Mitch Park Pond (Gardnerville Ranchos GID), Sparks Marina Pond (City of Sparks), Liberty Pond (Churchill County Parks and Recreation), and James Kinney Pond (Humboldt County), if available.
- Conduct an electroshocking survey at Sparks Marina Pond for one night in the late spring/early summer to determine species composition and abundance.

PROCEDURES

Western Region Urban Ponds

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. Unscheduled visits were made to various urban fisheries throughout the year for collecting creel survey data. Information on angler harvest, effort, and origin were recorded. Harvested fish were measured to fork length in millimeters. Opportunistic angler surveys occurred primarily during other scheduled work at or nearby the ponds.

Angler use and success were assessed through the Mail-in Angler Questionnaire Survey conducted in 2016. Angler questionnaire data was derived from a survey mailed to 30,000 license purchasers.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. Annual stocking programs and schedules were provided to Headquarters and the hatchery in the spring of 2017. Prior to scheduled trout stocking and during the course of other duties, trips were made to visually ascertain water levels and measure water temperatures. As water levels, habitat conditions, and angler use fluctuated, stocking programs were altered as needed.

As part of the annual stocking program, 4,000 channel catfish will be stocked in each of Paradise Ponds, Virginia Lake (City of Reno), Mitch Park Pond (Gardnerville Ranchos GID), Sparks Marina Pond (City of Sparks), Liberty Pond (Churchill County Parks and Recreation), and James Kinney Pond (Humboldt County), if available. Channel catfish were purchased from Colorado Catch and stocked Paradise Ponds, Mitch Park Pond, Virginia Lake, Sparks Marina Pond, and Liberty Pond. James Kinney Pond did not receive fish in 2017 due to a delay in the construction.

Conduct an electroshocking survey on Sparks Marina Pond for one night in the late spring/early summer to determine species composition and abundance. Electroshocking surveys were conducted utilizing an 18-foot, Smith Root boat outfitted with a Smith-Root generator powered electroshocker. The boat served as the ground and the anode consisted of two electrode arrays, one at each corner at the bow. Each electrode array consisted of six stainless steel electrode droppers. One to three netters operated at the bow of the boat while one person maneuvered the boat. On October 23, five transects were completed in littoral habitat that contained mainly rock and bulrush. A map portraying transect locations is presented in Attachment 1. During the survey, fish caught were placed into a live well that was supplied with fresh water and oxygen. At the conclusion of each transect, fish were identified to species, measured in millimeters to fork length, and released.

FINDINGS

Baily Pond (Carson City Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire results estimated use at 465 anglers and 2,529 angler-days in 2016. Total catch was 6,336 fish and the success rate was 2.43 fish per angler-day. Baily Pond continued to be very popular among anglers during 2017.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. Water conditions at Baily Pond were suitable for trout stocking and occurred monthly between May and October with the exception of July and August when water temperatures were too warm. The pond was also not stocked during February through April since the access road was washed out, causing a pond closure for several months. Coordination occurred between Conservation Education Division and Mason Valley Fish Hatchery for providing fish during clinics and events. The 2017 trout-stocking summary is shown in Table 1 and a stocking history is shown in Table 2.

Table 1. Baily Fishing Pond Stocking Summary, 2017.

Date	Species	Number	Size	Strain
9/21/2017	Rainbow	603	10.8	Kamloop
10/5/2017	Rainbow	403	10.3	Kamloop
10/18/2017	Rainbow	540	9.7	Kamloop
11/1/2017	Rainbow	740	9.8	McConaughy
5/19/2017	Rainbow	302	8.9	Tasmanian (triploid)
6/7/2017	Rainbow	514	9.9	Triploid
5/25/2017	Rainbow	512	9.5	McConaughy
	Total	3,614	8.9 - 10.8	

Table 2. Baily Fishing Pond Stocking History, 2010 – 2016.

Year	Species	Number	Size Range
2016	Rainbow	6,847	8.8 - 11.0
2015	Rainbow	6,359	9.3 - 11.5
2014	Rainbow	7,751	9.3 - 10.3
	Bowcutt	1,755	9.2 - 9.8
2013	Rainbow	7,654	9.8 - 11.5
	Brown	202	10.1
2012	Rainbow	6,313	9.7 - 11.5
	Brown	500	10.4
	Rainbow	150	17.0
2011	Rainbow	9,004	9.6 - 11.0
	Brown	1,073	10.8 - 11.2
	Rainbow	220	14.0
2010	Rainbow	3,404	10.1 - 11.0
	Bowcutt	1,507	9.7- 10.9

Davis Creek Pond (Washoe Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. With a record setting winter in 2016/2017, Davis Creek Pond was fishable throughout 2017. Mail-in angler questionnaire results estimated use at 1,003 angler use days in 2016, which was substantially higher than estimated use in 2014 and 2015 and closer to the long-term average. It is evident from the data that given a good precipitation year allowing for a year-round fishery at Davis Creek Park, the public heavily utilizes this resource.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. Conditions at Davis Creek Pond were favorable throughout 2017 allowing the pond to be stocked 11 times with 6,044 catchable rainbow trout (Table 3).

Idlewild Pond (Washoe Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. There was no reported data for Idlewild Pond in 2017. The pond was stocked and a small fishing event was held in June but no angler data was collected. The pond was drained in the late summer of 2017 in order for the City of Reno to inspect the outlet structure and repair a possible leak.

Table 3. Davis Creek Pond Stocking, 2017.

Water	Species	Strain	Number	Size (in.)	Date
Davis Creek Park Pond	RB	Eagle Lake	737	9.7	3/16/2017
Davis Creek Park Pond	RB	Eagle Lake	603	9.6	3/27/2017
Davis Creek Park Pond	RB	Eagle Lake	501	9.6	4/13/2017
Davis Creek Park Pond	RB	Eagle Lake	819	9.7	5/4/2017
Davis Creek Park Pond	RB	Kamloop	503	10.8	9/20/2017
Davis Creek Park Pond	RB	Kamloop	251	10.8	9/29/2017
Davis Creek Park Pond	RB	Mcconaughy	498	9.4	6/14/2017
Davis Creek Park Pond	RB	Tahoe	625	10.0	6/27/2017
Davis Creek Park Pond	RB	Tahoe	508	10.1	10/20/2017
Davis Creek Park Pond	RB	Triploid	498	9.4	5/19/2017
Davis Creek Park Pond	RB	Triploid	501	9.9	6/7/2017
TOTAL Stocked			**6,044**		

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. Idlewild Pond was stocked on June 7 to coincide with a kids fishing event and received 501 catchable rainbow trout.

Lampe Park Pond (Douglas Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. Mail-in angler questionnaire data for 2016 suggested limited use, however, a kids fishing derby took place during June and was well attended. Use was estimated at 27 anglers whom each spent one day fishing to catch 145 fish for 5.37 fish per angler-day.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. Water quality and habitat were adequate for trout stocking during early June (Table 4). No trout stocking occurred during 2015 and 2016 due to drought conditions (Table 5).

Table 4. Lampe Park Pond Stocking Summary, 2017.

Date	Species	Number	Size
6/1/2017	Rainbow	3,998	9.8

Liberty Pond (Churchill Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire estimated use at 161 anglers in 2016, which increased from 64 the previous year. Total catch was 990 fish, which was up from 506 in 2015. The success rate was 1.44 fish per angler-day, slightly up from 1.19 in 2015.

Table 5. Lampe Park Pond Stocking History, 2008 – 2016.

Year	Species	Number	Size Range
2016	-	0	-
2015	-	0	-
2014	Rainbow	4,735	10.1
2013	Rainbow	4,000	10.5
2012	-	0	-
2011	-	0	-
2010	Rainbow	4,000	10.7
	Tiger Trout	153	11.8
2009	Rainbow	1,800	11.9
2008	Rainbow	5,491	9-11.3

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. Water quality and fish habitat were adequate for stocking and fish were planted from April to June, and again during October and November (Table 6). Fall stocking did not occur as water levels decreased during summer. Generally, the water level drops in winter and the pond refills when the irrigation season begins by April 1, therefore, no early spring stocking occurs. However, during 2017 the irrigation season began early due to high storage levels and flooding in the Carson Basin. Historical stocking is presented in Table 7.

Table 6. Liberty Pond Stocking Summary – 2017

Date	Species	Number	Size	Strain
5/30/2017	Brown	346	9.7	Sheep Creek
6/8/2017	Channel cat	500	7.0	Colorado Catch
3/22/2017	Rainbow	594	9.4	Eagle Lake
4/10/2017	Rainbow	542	9.6	Eagle Lake
4/19/2017	Rainbow	500	10.2	Eagle Lake
6/6/2017	Rainbow	498	9.4	Eagle Lake
10/9/2017	Rainbow	511	9.5	Kamloops
5/19/2017	Rainbow	523	9.4	McConaughy
10/24/2017	Rainbow	548	9.7	Tahoe
11/7/2017	Rainbow	504	10.0	Tahoe

Marilyn's Pond (Washoe Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire showed no reported use for Marilyn's Pond in 2016. It should be noted that the questionnaire is only mailed to 30,000 anglers buying a Nevada fishing license and, therefore, a small fishery that is mainly utilized by children who are not required to

purchase a license may be underreported. Marilyn's Pond is an easy-to-access fishery within minutes of Reno and is extremely popular. The pond is fed by a natural spring and this constant source of cool water provides for a productive trout fishery, even during the warm summer months. The presence of a self-sustaining brook trout population also adds to the productivity of the fishery. Two trips were made to Marilyn's Pond during the 2017 field season in an effort to gather angler information. The results of those two trips are presented in Table 8.

Table 7. Liberty Pond Historical Stocking, 2008 – 2016.

Year	Species	Number	Size Range
2016	Rainbow	1,052	9.3 -9.5
	Channel Catfish	500	6.0
2015	Rainbow	497	10.5
2014	Rainbow	3,005	9.3 - 10.1
2013	Rainbow	5,468	9.6 - 10.8
	Brown	950	8.8 - 10.3
	Channel Catfish	1,000	4.0
2012	Rainbow	8,072	9.7 - 10.3
	Brown	1,000	10.5
2011	Rainbow	5,002	10.0 - 10.8
	Channel Catfish	1,000	5.0
2010	Rainbow	3,847	9.5 - 10.0
	Brown	1,005	9.8
	Tiger Trout	650	11.8
	Channel Catfish	675	7.0
	Bowcutt	2,008	9.5 - 9.7
2009	Rainbow	6,959	9.7 - 11.1
2008	Rainbow	6,408	9.3 - 10.5
	Channel Catfish	252	14.0 - 18.0
	White Crappie	60	6.0
	Tiger Trout	199	8.6
	Bowcutt	1,001	12.0

Table 8.

Marilyn's Pond Angler Survey - 2017					
Number of Anglers			6		
Hours Reported			33:25		
Species	**# Caught**	**Length (mm)**	**% Hatchery**	**# Harvested**	**Fish/Hour**
RB	27	246.2	100	0	1.2

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. The water level at Marilyn's Pond remained at capacity throughout the year and its proximity to a constant, cool source of inflow from Galena Creek provided for good water quality. From March 27 through October 20, 6,904 catchable rainbow trout were stocked (Table 9). Since 2009, stocking numbers have fluctuated between 5,000 and 8,000 rainbow trout.

Table 9. Marilyn's Pond Stocking Summary, 2017 .

Water	Species	Strain	Number	Size (in.)	Date
Marilyn's Pond	RB	Eagle Lake	758	9.6	4/27/2017
Marilyn's Pond	RB	Eagle Lake	819	9.7	5/4/2017
Marilyn's Pond	RB	Kamloops	503	10.8	9/20/2017
Marilyn's Pond	RB	Kamloops	403	10.3	10/5/2017
Marilyn's Pond	RB	Mcconaughy	501	9.4	6/14/2017
Marilyn's Pond	RB	Mcconaughy	804	9.1	7/3/2017
Marilyn's Pond	RB	Mcconaughy	957	9.0	8/30/2017
Marilyn's Pond	RB	Tahoe	625	10.0	6/27/2017
Marilyn's Pond	RB	Tahoe	520	10.1	10/20/2017
Marilyn's Pond	RB	Triploid	513	9.4	5/19/2017
Marilyn's Pond	RB	Triploid	501	9.9	6/7/2017
TOTAL FISH			**6,904**		

Martin Slough (Douglas Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire estimated 36 anglers fished in 2016. Total catch was 528 fish and the success rate was 8.55 fish per angler-day.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. The water level at Martin Slough is influenced by flow coming from the East Carson River. The pond was stocked only during April and May (Table 10) since warm water temperatures and limited inflows during the summer were not suitable for trout. The history of stocking is presented in Table 11.

Table 10. Martin Slough Stocking Summary, 2017.

Date	Species	Number	Size	Strain
4/17/2017	Rainbow	714	10.2	Eagle Lake
5/3/2017	Rainbow	576	10.1	Eagle Lake
5/15/2017	Rainbow	523	9.4	McConaughy

Table 11. Martin Slough Stocking History, 2010 – 2016.

Year	Species	Number	Size Range
2016	Rainbow	1,855	9.2 - 10.3
2015	Rainbow	934	8.4 - 9.9
2014	Rainbow	2,258	9.3 - 10.0
2013	Rainbow	1,529	10.4 - 10.6
2012		0	
2011	Rainbow	2,093	10.1 - 11.0
2010	Rainbow	2,608	9.3 - 10.2

Mitch Park Pond (Douglas Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire estimated 146 anglers fished in 2016. Total catch was 1,175 fish and the success rate was 2.0 fish per angler-day.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. The water level at Mitch Park Pond is influenced by a float valve connected to a well. The water is also used to irrigate the lawn and trees throughout the park, which creates a partial flow through system. The pond was stocked during March through June and again in September and October (Table 12).

Table 12. Mitch Park Pond Stocking Summary, 2017.

Date	Species	Number	Size	Strain
3/29/2017	Brown	663	10.1	Sheep Creek
6/8/2017	Channel Catfish	500	7.0	Colorado Catch
10/26/2017	Channel Catfish	500	7.0	Colorado Catch
3/14/2017	Rainbow	722	9.2	Eagle Lake
3/27/2017	Rainbow	608	9.6	Eagle Lake
4/17/2017	Rainbow	714	10.2	Eagle Lake
5/3/2017	Rainbow	588	10.1	Eagle Lake
9/21/2017	Rainbow	553	10.8	Kamloops
10/5/2017	Rainbow	403	10.3	Kamloops
10/18/2017	Rainbow	540	9.7	Kamloops
5/15/2017	Rainbow	523	9.4	McConaughy
5/25/2017	Rainbow	513	9.5	McConaughy
6/7/2017	Rainbow	514	9.9	Triploid
7/25/2017	Bluegill	700	4.0	Andorno Pond
	Total	8,041	4.0 - 10.8	

Mountain View Pond (Lyon Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The 2016 mail-in angler questionnaire estimated 24 anglers spent 76 days fishing and caught 615 fish for a success rate of 8.07 fish per angler-day.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. Trout stocking was limited to the spring and fall since water temperatures were outside trout tolerances most other times of the year (Table 13). Historical stocking is presented in Table 14.

Table 13. Mountain View Park Pond Stocking Summary, 2017.

Date	Species	Number	Size	Strain
5/30/2017	Brown	208	9.7	Sheep Creek
3/24/2017	Rainbow	300	9.4	Eagle Lake
4/17/2017	Rainbow	298	10.2	Eagle Lake
6/6/2017	Rainbow	302	9.4	Eagle Lake
9/21/2017	Rainbow	352	10.8	Kamloops
5/7/2017	Rainbow	330	9.1	McConaughy
10/26/2017	Rainbow	343	9.7	Tahoe
	Total	2,133	9.1 - 10.8	

Table 14. Mountain View Pond Stocking History, 2009 – 2016.

Year	Species	Number	Size Range
2016	Rainbow	2,521	9.3 - 10.5
2015	Rainbow	2,343	8.4 - 10.5
	Cuttbow	615	10.1
2014	Rainbow	1,256	9.3 - 10.3
2013	Rainbow	2,012	9.7 - 10.6
2012	Rainbow	1,223	10.0 - 10.4
2011	Rainbow	1,678	10.0 - 11.0
2010	Rainbow	1,395	9.5 - 10.0
2009	Rainbow	2,286	9.8- 12.0

Paradise Pond (Washoe Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire estimated use at 204 anglers and 1,360 angler-days in 2016. These were the highest since 2011. This urban fishery appears to be gaining popularity since drought conditions experienced from 2012 to 2015 have subsided.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. Water conditions at Paradise Pond in 2017 were stable enough for several stocking events. The pond received 2,224 catchable rainbow trout and 3,500 sub-catchable channel catfish in 2017 from March to October (Table 15).

Table 15. Paradise Pond Stocking Summary, 2017.

Water	Species	Strain	Number	Size (in.)	Date
Paradise Pond	Channel Catfish	Colorado Catch	2500	7.0	6/8/2017
Paradise Pond	Channel Catfish	Colorado Catch	1000	7.0	10/26/2017
Paradise Pond	Rainbow	Eagle Lake	737	9.7	3/17/2017
Paradise Pond	Rainbow	Eagle Lake	485	9.6	3/31/2017
Paradise Pond	Rainbow	Kamloops	1002	9.7	10/13/2017
Total Stocked			**5,724**		

Rancho San Rafael Pond (Washoe Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire estimated use of 137 anglers at 137 angler days in 2016. This was the highest use observed since 2005.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. Habitat and water conditions were conducive to stocking 786 Eagle Lake strain rainbow trout between two days in March (Table 16).

Table 16. Rancho San Rafael Pond Stocking Summary, 2017.

Water	Species	Strain	Number	Size (in.)	Date
Rancho San Rafael Pond	RB	Eagle Lake	285	9.6	3/31/2017
Rancho San Rafael Pond	RB	Eagle Lake	501	9.7	3/17/2017
Total Stocked			**786**		

Rose Creek Reservoir (Hawthorne)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire estimated use at five anglers and five angler-days in 2016. Total catch was five fish and the success rate averaged 2.0 fish per angler-day. Since being closed during the late 1980s, Rose Creek Reservoir reopened to the public in 2015. During 2017, fishing remained popular. The Hawthorne Army Depot (HAWD) controls access to the area and, as part of the negotiated fishing program, all anglers are required to report their catch at the end of each fishing day. During 2016, the HAWD reported 129 anglers

registered to visit the area and the number of trout reported was 104. The number of anglers and fish caught during 2017 were not available from HAWD at the time of writing this report, however, anecdotal information indicates the number of anglers and fish caught were good.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. Water conditions at Rose Creek Reservoir were suitable for trout stocking, which occurred on May 25, 2017 (Table 17). Coordination occurred between HAWD and Mason Valley Fish Hatchery for providing fish prior to the "fishing opener" which typically occurs during May. The recent stocking history is shown in Table 18.

Table 17. Rose Creek Reservoir Stocking Summary, 2017.

Date	Species	Number	Size
5/25/2017	Tiger Trout	501	11.4

Table 18. Rose Creek Reservoir Historical Stocking.

Year	Species	Number	Size Range
2016	Tiger Trout	99	9.2
2015	Tiger Trout	565	10.0

Sparks Marina Pond (Washoe Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire results estimated that 862 anglers fished 5,397 days in 2016, the lowest recorded since the inception of the fishery in 1999. An estimated 7,074 fish were caught resulting in a catch rate of 1.31 fish per angler-day, which was slightly higher than the long-term average for the water (1.28 fish per angler-day). For the fourth consecutive year, fewer anglers reported fishing than the previous year. This may be a function of misconceptions in the region about the health of the fishery based on the oxygen related die-offs in 2013 and 2014. No reported or observed die-off occurred in 2016 or 2017, which has benefited the fishery.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Sparks Marina Pond remained at full capacity throughout 2017 and the surface water temperature and water quality were conducive for stocking most of the year outside of July and August. A total of 29,457 catchable rainbow trout and 2,000 sub-catchable channel catfish were stocked on ten occasions in 2017 (Table 19). Historical stocking is presented in Table 20.

Table 19. Sparks Marina Pond Stocking Summary, 2017.

Water	Species	Strain	Number	Size (in.)	Date
Sparks Marina	Brown	Sheep Creek	1,502	9.9	3/7/2017
Sparks Marina	Brown	Sheep Creek	1,506	10.1	3/28/2017
Sparks Marina	Channel Catfish	Colorado Catch	2,000	7.0	10/26/2017
Sparks Marina	Rainbow	Eagle Lake	3,342	9.2	3/28/2017
Sparks Marina	Rainbow	Eagle Lake	3,340	10.0	4/24/2017
Sparks Marina	Rainbow	Eagle Lake	6,040	9.4	6/7/2017
Sparks Marina	Rainbow	Eagle Lake	3,308	9.3	3/7/2017
Sparks Marina	Rainbow	Kamloop	2,160	9.7	6/7/2017
Sparks Marina	Rainbow	Kamloop	4,536	10.0	9/27/2017
Sparks Marina	Rainbow	Kamloop	3,723	9.7	10/13/2017
Total Stocked			**31,457**		

Table 20. Sparks Marina Pond Stocking History 2010 – 2016

Year	Species	Number	Size Range (in.)
2010	Rainbow	27,791	10.0
	Tiger	497	11.8
	Brown	2,998	9.7
2010 Total		**31,286**	
2011	Rainbow	18,536	10.0 – 10.5
	Bowcutt	4,034	10.0
	Brown	3,000	9.8 – 10.6
	Channel Catfish	2,000	5.0
2011 Total		**27,570**	
2012	Rainbow	24,553	9.8 – 10.8
	Brown	3,001	10.0 – 10.2
2012 Total		**27,553**	
2013	Rainbow	45,917	4.4 - 10.9
	Brown	7,681	5.9 - 9.0
	Channel Catfish	4,000	5.0
2013 Total		**57,598**	
2014	Rainbow	43,740	9.8 – 10.8
2014 Total		**43,740**	
2015	Rainbow	22,583	9.8 – 10.8
2015 Total		**22,583**	
2016	Rainbow	21,531	9.4 - 10.1
2016 Total		**21,531**	
Total Stocked		**231,861**	

Virginia Lake (Washoe Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire estimated that 149 anglers fished 427 days in 2016, the highest number of estimated anglers since 2010. The estimated catch rate was 3.85 fish per day and was the highest since the questionnaire program started in 1980.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. For the first time since 2014, Virginia Lake was stocked with 2,053 catchable rainbow trout and 3,500 sub-catchable channel catfish (Table 21).

Table 21. Virginia Lake Stocking Summary, 2017.

Water	Species	Strain	Number	Size (in.)	Date
Virginia Lake	Channel Catfish	Colorado Catch	2,500	7.0	6/8/2017
Virginia Lake	Channel Catfish	Colorado Catch	1,000	7.0	10/26/2017
Virginia Lake	Rainbow	Eagle Lake	546	9.7	5/4/2017
Virginia Lake	Rainbow	Tahoe	1,507	9.7	10/24/2017
Total Stocked			**5,553**		

Wilson Common Pond (Washoe Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire estimated 462 anglers fished 808 days in 2016, showing the average for the water. An estimated 1,881 fish were caught resulting in 2.3 fish per angler day, which was higher than the 20-year average of 1.9 fish per angler-day.

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. Water elevation remained at or near capacity throughout 2017, and, outside of the warmest time of summer in August, the fishery was productive. The pond was stocked on ten different occasions with 4,601 catchable rainbow trout of various strains from March through October (Table 22). Since 2010, the pond has received anywhere from 3,073 fish (2014) to 6,125 (2010). Stocking numbers are generally dependent on water temperature and habitat conditions.

Verdi Pond/Crystal Peak Park (Washoe Co.)

Conduct a general fisheries assessment through opportunistic angler contacts and mail-in angler questionnaire data. The mail-in angler questionnaire estimated 1,159 anglers fished 6,244 days in 2016. An estimated 17,281 fish were

caught resulting in a catch rate of 2.8 fish per angler day. The 4-year average for Crystal Peak Park Pond is 2.7 fish per angler day.

Table 22. Wilson Common Park Pond Stocking Summary, 2017.

Water	Species	Strain	Number	Size (in.)	Date
Wilson Common Park Pond	RB	Eagle Lake	501	9.7	3/16/2017
Wilson Common Park Pond	RB	Eagle Lake	501	9.6	3/27/2017
Wilson Common Park Pond	RB	Eagle Lake	504	10.1	4/13/2017
Wilson Common Park Pond	RB	Eagle Lake	357	10.2	4/20/2017
Wilson Common Park Pond	RB	Kamloop	500	8.9	6/14/2017
Wilson Common Park Pond	RB	Kamloop	333	9.1	6/27/2017
Wilson Common Park Pond	RB	Kamloop	503	10.8	9/20/2017
Wilson Common Park Pond	RB	Kamloop	403	10.3	10/5/2017
Wilson Common Park Pond	RB	Tasmanian (Triploid)	498	9.4	5/19/2017
Wilson Common Park Pond	RB	Triploid	501	9.9	6/7/2017
Total Stocked			**4,601**		

Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division to coincide with angler fishing clinics. The pond level remained at or near capacity throughout 2017, and, outside of the warmest summer months (July through September); stocking was done on a regular basis. A total of 30,360 catchable trout consisting of 27,386 Pilot Peak strain LCT and 2,974 triploid rainbow trout were stocked. All Pilot Peak strain LCT originated from Lahontan National Fish Hatchery (USFWS), which provided fish under agreement with NDOW for urban fishing opportunities.

Table 23. Verdi Pond Stocking Summary, 2017.

Water	Species	Strain	Number	Size (In.)	Date
Crystal Peak Park Pond	CT	Pilot Peak	2585	8.2	3/23/2017
Crystal Peak Park Pond	CT	Pilot Peak	4332	7.0	4/6/2017
Crystal Peak Park Pond	CT	Pilot Peak	2656	8.1	4/20/2017
Crystal Peak Park Pond	CT	Pilot Peak	1705	9.4	5/4/2017
Crystal Peak Park Pond	CT	Pilot Peak	7104	8.4	5/17/2017
Crystal Peak Park Pond	CT	Pilot Peak	2370	8.4	5/31/2017
Crystal Peak Park Pond	CT	Pilot Peak	6634	7.9	6/15/2017
Crystal Peak Park Pond	RB	Triploid	1470	10.1	10/16/2017
Crystal Peak Park Pond	RB	Triploid	1504	10.7	11/6/2017
Total Stocked			**30,360**		

Table 24. Verdi Pond Stocking History, 2013 – 2016.

Year	Species	Number	Size Range (in.)
2013	LCT	11,932	8.7 - 11.2
	Brown	3,115	8.6 - 10.1
	Rainbow	7,736	9.7
2013 Total		**22,783**	
2014	LCT	13,199	8.3 - 11.3
2014 Total		**13,199**	
2015	LCT	7,848	7.5 - 9.8
	Rainbow	1,566	9.7 - 10.1
2015 Total		**9,414**	
2016	LCT	10,952	8.7 - 9.5
	Rainbow	1,938	8.9 - 9.5
2016 Total		**12,890**	
Total		**58,286**	

Western Region Urban Ponds

Evaluate annual stocking recommendations based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division fishing clinics. When appropriate, enhance, and/or augment existing warmwater fish populations. Annual stocking programs were evaluated and recommendations were made in early spring. Adjustments were made throughout the stocking season as conditions fluctuated.

As part of the annual stocking program, 4,000 channel catfish will be stocked in each of Paradise Ponds, Virginia Lake (City of Reno), Mitch Park Pond (Gardnerville Ranchos GID), Sparks Marina Pond (City of Sparks), Liberty Pond (Churchill County Parks and Recreation), and James Kinney Pond (Humboldt County), if available. Channel catfish were purchased on two occasions in 2017. Spring stocking in June utilized funding from WSFR to purchase catfish from a private hatchery (Colorado Catch). The large snowpack received during the winter of 2016/17 resulted in many dried up dried up lakes and ponds becoming full to capacity. Channel catfish were reestablished in waters where populations had diminished or disappeared due to the extended drought. Funding was received through NDOWs Habitat Conservation Fee program to purchase additional catfish for stocking in October of 2017. Table 25 lists channel catfish stocking in the Western Region during 2017. James Kinney Pond in Winnemucca did not receive any fish due to a delay in the construction of the pond; it is expected to be complete in 2018.

Conduct an electroshocking survey on Sparks Marina Pond for one night in the late spring/early summer to determine species composition and abundance. For the first time since 2013, there was no reported winter die-off at Sparks Marina Pond. Due to mechanical problems with the electroshocking boat, the survey was not

carried out in 2017 until late October. The survey revealed more carryover rainbow trout than had been seen in the past few years, along with a large number of green sunfish. Fish captured consisted of green sunfish (*n*=1,863), rainbow trout (*n*=40), and common carp (*n*=13). Table 26 presents a summary of the survey.

Table 25. Western Region Channel Catfish Stocking, 2017.

Water	Species	Strain	Number	Size (in.)	Date
Paradise Pond	CC	Colorado Catch	2,500	7.0	6/8/2017
Paradise Pond	CC	Colorado Catch	1,000	7.0	10/26/2017
Virginia Lake	CC	Colorado Catch	2,500	7.0	6/8/2017
Virginia Lake	CC	Colorado Catch	1,000	7.0	10/26/2017
Sparks Marina	CC	Colorado Catch	2,000	7.0	10/26/2017
Liberty Pond	CC	Colorado Catch	500	7.0	6/8/2017
Mitch Park Pond	CC	Colorado Catch	500	7.0	6/8/2017
Mitch Park Pond	CC	Colorado Catch	500	7.0	10/26/2017
Total Stocked			**10,500**		

Table 26. Sparks Marina Pond Electroshocking Survey, 2017.

	Average Length (mm)	T1	T2	T3	T4	T5	Total #
Carp	**495**	4	3	1	1	4	**13**
Sunfish	**72**	425	79	568	390	401	**1863**
RB	**261**	3	16	5	8	8	**40**
Total Fish Caught				**1916**			

The total numbers of fish captured during the 2017 electroshocking survey are the highest observed since the winter die-offs began in 2014. This was possibly attributed to no die-off during the winter of 2016/2017 resulting in more carryover fish. No black bass, channel catfish, or Sacramento perch were captured; however, several fish were missed that were thought to be catfish. Further monitoring of the fishery will help to assess how quickly it is rebuilding. Potential stocking of black bass and catfish in 2018 will help improve the warmwater fishery.

MANAGEMENT REVIEW

Baily Pond

The completion of Baily Pond in 2010 was well received by residents of Carson City. Angler catch rates and fish per angler day remained high throughout 2017 and stocking occurred each month during the fishing season. Per an agreement with upstream water users, no warmwater species will be stocked into the pond.

Davis Creek Pond

Angler success is limited to years when conditions allow for stocking. It is managed as a put-and-take fishery since water conditions typically exceed what trout can tolerate in both winter (anchor ice) and summer (above 80°F). Although the pond provides limited angling opportunity during the summer and winter, a considerable amount of use is realized in the spring when conditions permit.

Idlewild Pond

Due to increased sedimentation and siltation in recent years, Idlewild Pond complex is characterized by shallow depths resulting in increased summertime water temperatures. Additionally, abundant waterfowl produce a heavy nutrient load. The ponds provide limited fish habitat and do not warrant year round trout stocking. With an above average winter in 2016/2017, the water levels were maintained all summer and provided limited angling opportunity. The ponds provide a good setting for fishing activities and clinics conducted by NDOW's Conservation Education Division since stocking can be timed prior to events, which assures better success.

Lampe Park Pond

Observations confirmed the pond received little angler use, however, anglers were observed fishing during fishing events in 2017. Water levels rebounded during 2017 and the pond was stocked for the first time since 2015. The water temperature during the summer exceeded the trout tolerance level and fishing was only optimal during spring and early summer.

Liberty Pond

Liberty Pond remained very popular among anglers living in Fallon and use was high during spring following trout stocking. Typically, consistent fishing activity begins in early February and continues until October. The water level is controlled through an irrigation canal, however, the water level decreases throughout the winter. The irrigation season typically begins on April 1 and the pond level is quickly brought to capacity and is kept full throughout the summer. Occasional stocking of channel catfish occurs during the summer, which provides additional angling opportunity when trout stocking is not recommended due to warm water temperatures. Due to the unusually long irrigation season in 2017, it was filled on several occasions and the fishing season was longer than typical. The pond met the goals of an urban fishery in 2017.

Martin Slough

Martin Slough met the management objectives of an urban fishery in 2017. Water temperature during the summer exceeded what trout can tolerate and fishing was only optimal during spring and early summer.

Marilyn's Pond

Marilyn's Pond is one of the most popular urban fisheries in the Reno area. Based on quality habitat and stocking management, it is capable of supporting heavy angler use. Angler questionnaire data suggests the fishery is exceeding the guidelines of the Urban Fishery Management Concept. Due to its constant source of cool, oxygenated water, trout can be stocked throughout the warm summer and additionally sustain a naturally propagated brook trout population. When other urban ponds in the area reach temperatures too high for stocking, Marilyn's Pond generally remains cool enough to allow fishing throughout the summer.

Mitch Park Pond

Mitch Park Pond provides a great urban fishery option for anglers who live in Gardnerville and Minden. The angler success rate is exceeding what is recommended under the Urban Fishery Management Concept. The stocking program appears to be consistent with angler use and no changes are proposed. Work continues on establishing the warmwater fishery currently comprised of largemouth bass and bluegill (which were stocked during 2017) and should provide additional angling during hotter summer months.

Mountain View Pond

Mountain View Pond is the only urban pond in Lyon County and continues to be popular among locals living in Yerington. Based on angler catch rates, the urban fishery is meeting the management objective. An annual kids fishing derby had intermittent success and the Yerington Lyons Club (derby sponsor) moved the derby to Mason Valley Fish Hatchery out ponds in 2010, which was expected to reduce fishing pressure at Mountain View Pond.

Verdi Ponds

This urban fishery is extremely popular with anglers in the Reno and Verdi areas and provides for a scenic place to recreate. Stocking opportunities are limited to spring and fall due to warm water temperatures found during the summer. Heavy angler use is realized when stocking occurs. The ponds also provide an educational benefit by utilizing Lahontan cutthroat trout from the Lahontan National Fish Hatchery Complex. The 2.8 fish per angler day reported for the angler questionnaire exceeded the recommended catch rate under a Cold Water Urban Fishery Concept.

Paradise Ponds

Due to shallow depths and heavy loads of organic matter in Paradise Ponds, the opportunity to stock trout is limited. Early spring stocking is generally best, but the pond only supports a coldwater fishery for a limited amount of time. Warmwater species appear to do well and anglers have expressed interest for continuing stocking of channel catfish. Continued augmentation of channel catfish will help offset annual take.

Rancho San Rafael Pond

Due to its shallow nature, increased summertime temperatures, and aquatic vegetation, Rancho San Rafael Pond offers limited fishing opportunity. Early spring stocking is generally best and provides a productive fishery for a few months every year. Use of this fishery is limited and it may benefit from increased publicity close to the stocking dates.

Rose Creek Reservoir

Rose Creek Reservoir is a relatively small (10 surface acres), entirely concrete lined pond that is filled by a high elevation spring-fed stream. Production is very limited and therefore a thorough pre-stocking evaluation of both tiger trout and tui chub is necessary. A visual survey (water clarity is very good) was conducted for tiger trout and tui chub, as well as conducting a mark-recapture population estimate for tui chub. The initial tui chub translocation from Walker Lake occurred several years ago and the population was allowed to expand in the absence of predators, and during 2015, juvenile estimates were as high as 17,664 (Table 27). During 2016, the juvenile population was reduced to approximately 176 and the trout stocking recommendation was reduced. During 2017, the juvenile population of tui chub was estimated at 5,284 and the trout stocking recommendation was increased. Due to the variability and sensitivity of the tui chub population, a visual observation of population structure (i.e., size classes) was added during 2017 (Table 28). Three trout were caught during the survey and a stomach content analysis was performed; only aquatic invertebrates (e.g., mayfly, caddisfly, and midge) were found.

Table 27. Rose Creek Reservoir Population Estimates, 2015-2017.

	Trapping	Captured	Mark	Recapture	Pop est.
2017	5/24/2017	120	120		
	5/25/2017	130		2	5,284
	Visual	Chub Pass #1	Chub Pass #2	Trout Pass #1	Trout Pass #2
	5/24/2017	901	820	11	15
	5/25/2017	845	850	10	5
			Stocking Recommendation		500

	Trapping	Captured	Mark	Recapture	Pop est.
2016	4/12/2016	10	10		
	4/13/2016	15		0	176
	Visual	Chub Pass #1	Chub Pass #2	Trout Pass #1	Trout Pass #2
	4/12/2016	120	250	88	78
	4/13/2016	110	170	85	74
			Stocking Recommendation		<100

	Trapping	Captured	Mark	Recapture	Pop est.
2015	3/10/2015	137	137		
	3/11/2015	127		0	17664
	Visual	Chub Pass #1	Chub Pass #2	Trout Pass #1	Trout Pass #2
	3/10/2015	850	931	N/A	N/A
	3/11/2015	466	2,610	N/A	N/A
			Stocking Recommendation		500

Table 28. Rose Creek Reservoir Population Structure, 2017.

2017 Size Classes		
	Tui Chub	Trout
<2"	505	
2-4"	326	
4-6"	40	
6-8"	27	2
8-10"	2	8
>10"	1	5

The installation of artificial habitat structures in 2016 and 2017 should help juvenile tui chub mature and avoid predation from larger piscivorous trout.

Sparks Marina Pond

For the first year since 2013, there was no reported or observed winter die-off event in Sparks Marina Pond. This was further supported when the electroshocking survey resulted in more captured fish and a larger number of carryover fish than had been seen in the last four years. With a subsidence in the frequency of die-off events, rebuilding of the fishery becomes more successful. The reservoir will continue to be managed as a put-and-take coldwater fishery with a warmwater component that appears to be self-supported. Augmenting the warmwater fishery in the reservoir with black bass and channel catfish is recommended in 2018.

In cooperation with the City of Sparks, the Sparks Rotary Club, and other local sponsors, Sparks Marina Pond provided an excellent backdrop for a Conservation Education Division event on Free Fishing Day in June of every year that is one of the largest in the state.

The installation of artificial habitat structures in 2016 and 2017 should help juvenile warmwater species mature and avoid predation from larger piscivorous fish (See Field Trip Report, Attachment 2). It is recommended that installation of spawning boxes for channel catfish be explored in 2018.

Virginia Lake

The Virginia Lake water quality, improvement project was completed in early 2017, and, for the first time in three years, the lake was stocked with catchable rainbow trout and channel catfish. A healthy warmwater fishery exists in the reservoir, consisting mainly of largemouth bass and channel catfish. Stocking generally occurs in the fall in order to avoid the main cormorant nesting and roosting period and to allow trout time to acclimate and grow through the winter providing a more robust fishery in the spring.

Wilson Commons

Wilson Commons provides a great urban fishery option for anglers who live in south Reno, Washoe Valley, and Carson City. The angler success rate is exceeding what is recommended under the Urban Fishery Management Concept. The stocking program appears to be consistent with angler use and no changes are proposed.

RECOMMENDATIONS

- Conduct a general assessment of angler use, success, and harvest through opportunistic angler contacts and mail-in angler questionnaire data.
- Coordinate trout stocking with the hatchery based on water levels, habitat conditions, and angler use. Coordinate stocking with Conservation Education Division for fishing clinics.
- Manage and/or develop new urban fisheries as opportunities arise.
- As part of the annual stocking program, 4,000 channel catfish will be stocked each in Sparks Marina Pond (City of Sparks), Paradise Ponds (City of Reno), Martin Slough (Town of Minden), Liberty Pond (Churchill County Parks and Recreation), and Mitch Park Pond (Gardnerville Ranchos.)
- Conduct an electroshocking survey on Sparks Marina Pond for one night in late spring/early summer to determine species composition and abundance.
- Capture smallmouth bass from Wall Canyon Reservoir to augment the existing fishery in Sparks Marina Pond.
- Explore opportunities to install catfish spawning boxes in urban fisheries where appropriate.

Prepared By: Travis Hawks, Biologist III, Western Region
Kris Urquhart, Biologist III, Western Region

Date: January 3, 2018

2017 Sparks Marina Pond Electroshocking Transects.

FIELD TRIP REPORT

DATE: **November 11, 2017**
TITLE: **Sparks Marina Pond Fishery Habitat Enhancement Project**
FIELD PARTY: **Travis Hawks, Teresa Campbell**

PREPARED BY: **Travis Hawks**

OBJECTIVE: To improve the productiveness of the Sparks Marina Pond fishery by installing habitat structures that provide protective cover for juvenile fish from avian and large aquatic predators.

BACKGROUND: As the State of Nevada grows, its population continues to become increasingly urbanized. Urban sprawl is making it more difficult for people to find fishing opportunities near town. In addition, changing family dynamics is resulting in fewer children being exposed to the sport of fishing. Nevada's urban ponds are an invaluable means of providing angling opportunities to people living in an urban setting. Nevada currently has 29 urban fisheries throughout the State, which account for nearly 87,000 angler days per year.

Urban pond fisheries management includes meeting angler-approved goals, recruiting anglers, providing facilities for free-fishing day events and fishing clinics, providing stocking programs that support diverse sport fisheries (coldwater and warmwater), and providing effective and timely outreach to anglers regarding fishing opportunities.

Recent studies and anecdotal accounts show that carryover of stocked fish in urban fisheries is extremely limited. Lack of available food sources during certain times of the year, inability of hatchery raised trout to adapt to a new environment, and predation from both avian and aquatic predators are factors that contribute to limited carryover in the pond. While food source availability and adaptation are difficult to improve, providing protective cover from predation is a technique that has been used and proven successful in urban fisheries management.

PROCEDURES: In 2017, the Nevada Department of Wildlife acquired funding through the Habitat Conservation Fee program for the Western Region Aquatic Habitat Development. This funding source was used to purchase artificial habitat structures for use in the Reno/Sparks area. The structures, purchased from Mossback Fish Habitat, are made of nontoxic "scuffed" PVC trunks with composite limbs and simulate sunken trees or root structures that would be found in a natural environment. Three different types of structures were utilized, consisting of Safe Havens (see Figure 1), Root Wad 3 Posts, and Trophy Tree Kits. Product dimensions and specifications are presented in Table 1.

Figure 1. Safe Haven Fish Habitat Structure

Table 1. Mossback Habitat Specifications

	Dimensions	Limbs	Number of Anchors
Safe Haven	50" x 50"	24	1
Root Wad 3 Post	25" x 50"	12	1
Trophy Tree Kit	50" x 50"-100"	36	2

All structures were constructed on site and transported by boat to the habitat sites. Suitable locations were determined based on bathometric maps and then proofed using depth measuring devices. All structures were placed in at least 6.0 ft of water and not more than 15 ft in order to target areas where all species would be most vulnerable to predation. These locations and depths also function as suitable spawning habitat for warmwater species, which produce offspring that will utilize the structures as well. Structures were submerged and anchored using one, six-foot piece of nylon coated aircraft cable, and either one or two cinder blocks. GPS locations were recorded for each structure put into place for future monitoring. A map of the habitat structure placement in 2017 and UTM coordinates are provided in Figure 3.

PROJECT DETAILS: Building on the project started in 2016, when 23 habitat structures were placed around the perimeter of the Sparks Marina Pond, another 16 structures were added in 2017. These were placed in the southeast portion of the reservoir where the best spawning and rearing habitats for juvenile warmwater fish were determined to be. All structures were placed in a large clump to mimic an underwater mass of sunken trees or root wads. Depths of structure locations varied from 7.0 to 12 ft. Several species of sportfish will benefit from the placement of these structures including rainbow trout, smallmouth bass, channel catfish, green sunfish, and Sacramento perch.

EVALUATION: The Sparks Marina Habitat Enhancement Project will benefit the anglers in the region and provide more opportunity for those who would otherwise be unable to enjoy Nevada's outdoor resources. The structures will be monitored to

analyze their effectiveness and use by different species.

Figure 2. Green Sunfish Juveniles Utilizing Habitat (near top of structure)

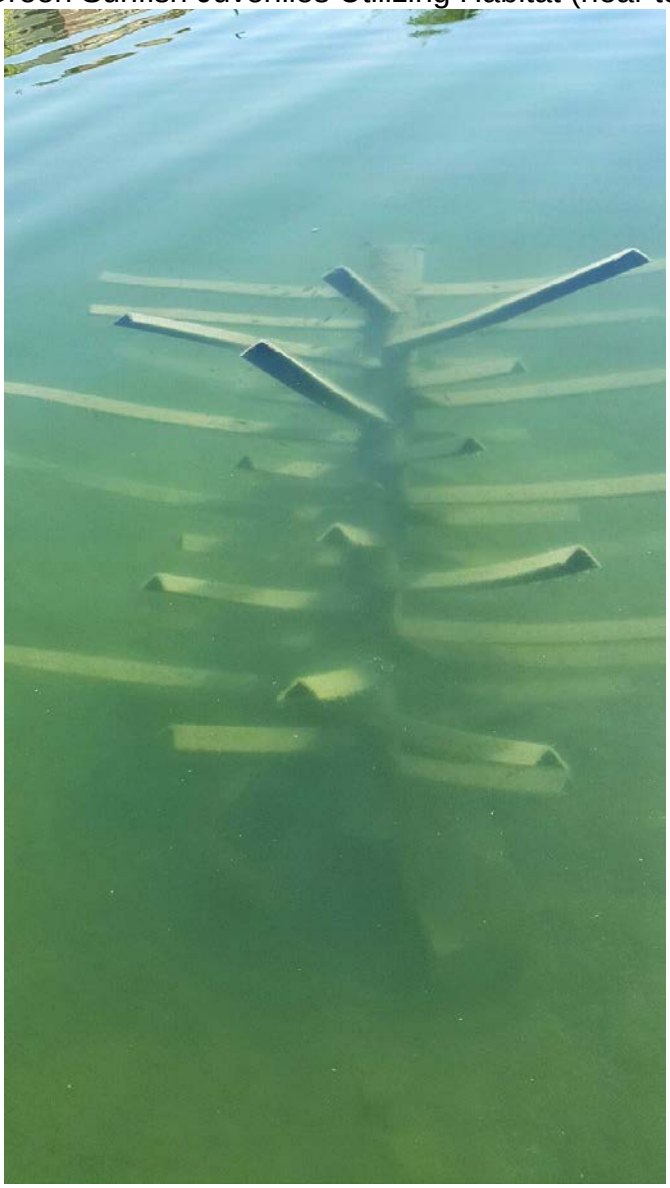

Figure 3.

Sparks Marina 2017 Habitat Install Location
Legend
2017 Structure Location
N McCarran Blvd
Nichols Blvd
Howard Dr
E Nugget Ave
Harbour Cove Dr
Bayshore Dr
Windsurfer Dr
E Lincoln Way
Legends Bay Drive
East Lincoln Way
George Ferris Drive
Scheels Drive
Dunn Cir
659
80
1000 ft
N
Google Earth
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