NEVADA DIVISION OF WILDLIFE
STATEWIDE FISHERIES MANAGEMENT

FEDERAL AID JOB PROGRESS REPORTS

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2013

Lincoln County Reservoirs
SOUTHERN REGION

NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
JOB PROGRESS REPORT

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NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL PROGRESS REPORT

State: *Nevada*
Project Title: *Statewide Fisheries Program*
Job Title: *Lincoln County Reservoirs*
Period Covered: *January 1, 2013 through December 31, 2013*

SUMMARY

Opportunistic creel surveys were conducted during 2013 in conjunction with other activities at Eagle Valley and Echo Canyon reservoirs. There were 87 anglers contacted at Eagle Valley Reservoir and 20 anglers contacted at Echo Canyon Reservoir. The 2013 catch rate at Eagle Valley Reservoir was 1.6 fish per angler and 0.62 fish per angler hour. The 2013 catch rate at Echo Canyon Reservoir was 2.6 fish/angler and 0.8 fish/angler hour.

Volunteer angler creel drop-boxes were installed at Echo Canyon and Eagle Valley reservoirs in 2012. These boxes were used to collect voluntary information from anglers who were not contacted by a creel clerk. There were 61 creel survey data forms collected from Echo Canyon Reservoir and 52 from Eagle Valley Reservoir in 2013. Volunteer data reported 588 fish caught in Echo Canyon Reservoir and 533 from Eagle Valley Reservoir in 2013. The reported catch rate at Echo Canyon Reservoir was 9.6 fish/angler and 2.9 fish/angler hour. The catch rate at Eagle Valley Reservoir was 10.25 fish/angler and 2.6 fish/angler hour. The harvest rate was 4.7 fish/angler and 1.4 fish/angler hour at Echo Canyon Reservoir and 3.3 fish/angler and 0.9 fish/angler hour at Eagle Valley Reservoir.

Monitoring was conducted for quagga mussels *Dreissena bugensis* at Eagle Valley and Echo Canyon reservoirs. Other work efforts focused on repairs to and maintenance of the Eagle Valley Reservoir aeration system, maintaining water releases from Eagle Valley Reservoir in accordance with the water rights agreement, and completing reports and data organization.

Trout were stocked into Eagle Valley and Echo Canyon reservoirs in the spring and fall. A total of 37,354 rainbow trout *Oncorhynchus mykiss* averaging 9.3 inches (in) [236 millimeters (mm)] total length (TL) were stocked in Eagle Valley Reservoir. No brown trout *Salmo trutta* or tiger trout *Salmo trutta* x *Salvelinus fontinalis* were stocked into Eagle Valley Reservoir in 2013. A total of 16,031 rainbow trout averaging 8.3 in (211 mm) TL were stocked into Echo Canyon Reservoir.

An electroshocking survey was completed through the area once occupied by Schroeder Reservoir for population assessment of the sport fishery. Rainbow trout averaged 6 in (152 mm) TL. Densities of rainbow trout through this area were 236 fish per mile. A total of 2,012 rainbow trout averaging 9.1 in (231 mm) TL were stocked into Beaver Dam Wash in 2013.

BACKGROUND

Four reservoirs in Lincoln County provide coldwater and warm water fishing opportunities; Eagle Valley and Echo Canyon reservoirs in the Spring Valley area near Pioche, Nesbitt Lake on the Key Pitman Wildlife Management Area (WMA) in Pahranagat Valley, and Upper Pahranagat Lake on the Pahranagat National Wildlife Refuge (NWR). Eagle Valley Dam was constructed on Eagle Valley Creek in 1965. The dam, constructed in a narrow canyon below several miles of meadow, created Eagle Valley Reservoir of approximately 61 surface acres, which is managed primarily as a put-and-take rainbow trout fishery. Eagle Valley Creek is the upper extension of Meadow Valley Wash and the primary water source supplying Eagle Valley Reservoir. Habitat conditions have deteriorated because of periodic livestock grazing. There is a mixture of public and private lands in the stream above the reservoir and recent land exchanges have allowed the consolidation of the majority of the stream into State ownership, which has substantially reduced effects from excessive and unregulated livestock use. This has increased the potential to effectively implement restoration efforts.

The 70 acre Echo Canyon Reservoir was constructed in 1969 in Meadow Valley Wash, approximately 10 miles downstream from Eagle Valley Reservoir. This impoundment is managed for stocked rainbow trout and self-sustaining populations of largemouth bass *Micropterus salmoides* and white crappie *Pomoxis annularis*.

Nesbitt Lake on the Key Pitman WMA is managed primarily for waterfowl, but is maintained as a self-sustaining fishery for largemouth bass and black bullhead *Ameiurus melas*. Upper Pahranagat Lake is the primary storage facility for water management on the Pahranagat NWR in lower Pahranagat Valley. This reservoir traditionally supported largemouth bass, bluegill *Lepomis macrochirus* and other warm water species, but has been periodically dried up over the past several years due to ongoing repair work to its dam and currently provides limited sport fishing benefits.

Beaver Dam Wash in Lincoln County is located almost entirely within Beaver Dam Wash State Park and, until 2005, provided both stream fishing opportunities and a reservoir fishery at Schroeder Reservoir, all for stocked rainbow trout. In 2005, extreme high flow events caused the loss of Schroeder Dam and Schroeder Reservoir, and substantially altered in-channel and riparian habitats along Beaver Dam Wash. Subsequently, planning and design have been completed to remove remnant parts of the old dam and implement riparian restoration actions.

OBJECTIVES and APPROACHES

<u>Lincoln County Reservoirs General Sport Fisheries Management</u>

Objective: Monitor angler use, catch rates, and changes in the fish population dynamics. Develop and analyze information on fishery conditions for management of the reservoirs' warmwater and stocked rainbow trout fisheries to meet management prescription as general or put-grow-and-take waters.

Approaches:

- Conduct a general fisheries assessment through opportunistic angler contacts at all four Lincoln County reservoirs.
- Develop and maintain volunteer angler drop-boxes at Nesbitt Lake, Echo Canyon, and Eagle Valley reservoirs.
- Monitor and maintain the aeration system and water inflow/outflow conditions at Eagle Valley Reservoir.
- Conduct two nights of gill/hoop netting surveys at Echo Canyon Reservoir to assess trout overwinter growth and survival, and warm-water species population structure and recruitment.
- Conduct fisheries surveys on waters of Pahranagat NWR using hoop or trammel nets and electro shocking to provide information for use in refuge planning efforts for aquatic habitats.
- Implement strategies for early detection, introduction prevention, and long-term monitoring of quagga mussels and other invasive species.

Eagle Valley Reservoir Population Assessment

Objective: Evaluate and characterize the fish population composition, structure and characteristics in Eagle Valley Reservoir. Analyze information to develop warm water species stocking recommendations and identify future changes in management prescriptions.

Approaches:

- Assess the existing sport fish population in Eagle Valley Reservoir through a minimum of two nights of electroshocking surveys and two nights of hoop net surveys.
- Evaluate collected data to assess the efficacy of existing management to control golden shiner *Notemigonus crysoleucas* and the potential benefits of enhancing the existing black bass population.

Beaver Dam Wash Fishery Evaluation

Objective: Describe the current structure and condition of the fishery in Beaver Dam Wash. Insure that site restoration actions are designed and implemented to maximize benefits for resident sport and native fishes in Beaver Dam Wash.

Approaches:

- Assist Nevada Division of State Parks (NDSP) in the development of a habitat management/restoration plan and coordinate future management direction.
- Conduct a single electroshocking survey through the area once occupied by Schroeder Reservoir during the summer.
- Assess the effects of the current riparian and stream habitat on the sport fishery through analysis of collected post-restoration and survey data collected after flood-flows in 2010.

PROCEDURES

Lincoln County Reservoirs General Sport Fisheries Management

Fourteen days of opportunistic creel surveys were conducted at Eagle Valley Reservoir and 14 days at Echo Canyon Reservoir. Volunteer angler drop boxes were checked monthly. Data recorded consisted of fish species caught, number of fish harvested and released, total lengths and weight of fish, and angler origin. All data was entered and maintained in a database.

The aeration system at Eagle Valley Reservoir was checked weekly during June, July, and August to insure the system was functioning. The aeration lines were inspected for leaks.

No electroshocking surveys were conducted on Eagle Valley Reservoir in 2013 due to electroshocking boat availability. Over 19 hours (hrs) of hook-and-line surveys were completed throughout the year instead. Data recorded included time fishing, species, numbers of fish caught, total lengths, and weights for each fish. All data was entered into a spreadsheet for analysis. No electroshocking surveys were conducted on Echo Canyon Reservoir in 2013 due to electroshocking boat availability and low water conditions on the reservoir.

Fixed samplers and visual/tactile transects for quagga mussel detection were maintained and checked for adult quagga mussel presence during the summer months at Eagle Valley and Echo Canyon reservoirs. Plankton tows to identify mussel veliger occurrence were completed in July 2013 at Eagle Valley Reservoir and Upper Pahranagat Lake. Two sites on each reservoir were sampled, with three tows per site. Samples were sent out for lab analysis.

Eagle Valley Reservoir Population Assessment

No electroshocking surveys were conducted on Eagle Valley Reservoir in 2013 due to electroshocking boat availability. Over 19 hrs of hook-and-line surveys were completed throughout the year to compensate. Data recorded included time fishing, species caught, numbers of fish caught, total lengths, and weight of fish. All data was entered and maintained in a database.

Beaver Dam Wash Fishery Evaluation

An electroshocking survey through the area once occupied by Schroeder Reservoir was completed in August 2013. Approximately one mile of stream was surveyed. Numbers of fish caught and lengths were recorded, entered, and maintained in a database.

No habitat restoration actions were identified or conducted in 2013. The NDSP has not made any decisions on future management of the old impoundment or on any effort to initiate additional restoration.

FINDINGS

Lincoln County Reservoirs General Sport Fisheries Management

Eagle Valley Reservoir

Creel surveys were conducted on an opportunistic basis associated with other activities at the reservoir. Eighty-seven anglers were contacted during the reporting period. These anglers fished for 225.5 hrs catching 139 fish resulting in catch rates of 1.6 fish/angler. One hundred thirty-eight fish were harvested resulting in a harvest rate of 1.58 fish/angler. Tiger trout are a significant asset to the fishery, but they were not stocked in 2013 due to unavailable hatchery stocks. Tiger tout did not show up in creel surveys in 2013. Brown trout rarely exceed five percent of the observed harvest except for 2004. Tiger trout have averaged about 10% of the harvest in the three years that data has been available and are popular with anglers. Creel survey data for 1997 through 2013 is summarized in Table 1.

Table 1. Eagle Valley Reservoir creel census summary, 1997-2013.

Year	Days Checked	Anglers Checked	Fish Checked				Average Length				Angler Hours	Fish per Angler	Fish per Hour
			RB	BR	TT	LMB	RB	BR	TT	LMB			
1997	18	298	409	17	0	0	10.37	9.62			760	1.43	0.56
1998	15	184	482	33	0	0	10.43	10.59			581.5	2.80	0.89
1999	12	220	525	35	0	0	11.32	11.07			789	2.55	0.71
2000	10	214	408	23	0	0	10.2	9.88			810.5	2.01	0.53
2001	ND												
2002	3	70	89	0	0	0	ND	ND			ND	1.75	0.50
2003	8	96	168	0	0	0	ND	ND			336	1.75	0.50
2004	10	100	175	25	0	0	ND	ND			402	2.00	0.50
2005	12	200	500	0	0	0	ND	ND			634	2.50	0.78
2006	12	120	210	0	32	0	ND	ND			483	2.01	0.50
2007	8	56	86	0	18	0	ND	ND			185	1.85	0.56
2008	ND												
2009	ND												
2010	ND	52	110	0	14	0	11.9		11.1		51	2.4	2.43
2011	ND	31	44	0	4	0	10.75		12.3		26.5	1.54	1.81
2012	ND	10	40	0	2	0	11.75		12.1		30.5	4.2	1.4
2013	ND	87	132	0	0	7	11.1			9.03	225.5	1.6	0.62

RB = rainbow trout, BR = brown trout, TT = tiger trout, ND = no data

A volunteer angler questionnaire box was installed in 2012 to provide additional useful information, particularly to assess angler success outside of peak use periods. Volunteer creel data forms were completed by 52 anglers, who expended 202 hrs angling to catch 533 fish. Rainbow trout accounted for 508 of those fish and the remaining 25 were largemouth bass. The average angler catch rate was 10.25 fish/angler with a reported harvest of 3.3 fish/angler. In 2013, 410 rainbow trout were measured and recorded, of those, 269 or 66% were below 12 in (305 mm) TL, 141 or 34% were between 12 and 18 in (305-457 mm) TL. A total of 12 largemouth bass were caught from Eagle Valley Reservoir, with half of the being above 12 in (305 mm) TL.

Table 2. Eagle Valley Reservoir fish stocking summary, 1997-2013.

Year	Rainbow Trout				Brown Trout				Tiger Trout			
	#	Pounds	f/lb	Avg. Length (in)	#	Pounds	f/lb	Avg. Length (in)	#	Pounds	f/lb	Avg. Length (in)
1997	45,932	14,228	2.6	10.0	4,000	1,250	2.4	10.0	0	0	-	-
1998	36,458	14,643	2.6	10.0	3,000	1,250	2.4	10.0	0	0	-	-
1999	42,259	19,093	2.2	9.8	4,000	1,176	3.4	9.0	0	0	-	-
2000	48,467	16,908	2.9	9.5	5,000	1,515	3.3	9.0	0	0	-	-
2001	48,726	15,368	3.2	9.2	5,000	1,150	4.3	8.5	0	0	-	-
2002	48,915	15,830	3.1	9.3	4,000	1,333	3.0	9.5	0	0	-	-
2003	47,367	15,057	3.4	9.0	4,085	1,075	3.8	9.0	0	0	-	-
2004	26,305	7,175	3.7	8.8	4,575	1,709	2.7	10.2	0	0	-	-
2005	34,285	9,250	3.7	8.8	0	0		-	0	0	-	-
2006	44,467	11,100	4.0	8.5	0	0	-	-	5,000	1,860	2.7	10.0
2007	35,992	10,825	3.2	9.4	0	0	-	-	5,024	1,275	3.9	8.6
2008	41,970	11,730	3.6	8.8	0	0	-	-	20,027	1,294	15.5	4.3
2009	39,587	11,803	3.4	9.0	0	0	-	-	5,034	777	6.5	7.1
2010	39,008	10,565	3.7	8.8	0	0	-	-	4,999	1,721	2.9	9.5
2011	44,068	12,309	3.6	8.9	0	0	-	-				
2012	42,500	12,600	3.4	9.1	7,634	1,100	6.9	7.1	4,459	1,850	2.4	10.1
2013	37,354	11,675	3.2	9.3	0	0	-	-	-	-	-	-

Time was spent at Eagle Valley Reservoir in summer 2013 working with NDSP to repair and maintain the reservoir aeration system. Water releases from Eagle Valley Reservoir were monitored and adjusted in accordance with the water right operating agreement.

Over 37,000 rainbow trout were stocked into Eagle Valley Reservoir in 2013. No tiger or brown trout were available for stocking in 2013. Rainbow trout averaged 9.3 in (236 mm) TL. Table 2 summarizes trout stocking since 1995.

Echo Canyon Reservoir

Creel surveys were conducted opportunistically in conjunction with other activities on the reservoir. Most creel contacts occurred during the spring when the angling was at its best and 20 anglers were contacted. These anglers fished for 64.25 hrs catching 51 fish resulting in catch rates of 2.6 fish/angler and 0.8 fish/angler hr. Table 3 summarizes the creel survey data for Echo Canyon Reservoir since 1998.

A volunteer angler questionnaire box was installed in 2012 to provide some additional useful information, particularly to assess angler success outside of the peak use periods. Volunteer creel data forms were completed by 61 anglers, who expended 200.75 hours catching 588 fish, of which 357 were rainbow trout, 209 were largemouth bass, and 22 were white crappie. The average angler catch rate was 9.6 fish/angler with a reported harvest of 4.7 fish/angler. In 2013, 311 rainbow trout were measured and recorded, of those 263 or 85% were below 12 in (305 mm) TL, and 48 or 15% were between 12 and 18 in (305-457 mm) TL. One hundred fifty-five largemouth bass were caught, of those 139 or 90% were less than 10 in (254 mm) TL and 16 or 10% were larger than 10 in (254 mm) TL. Twenty-three white crappie were caught, of those 11 or 48% were less than 8 in (203 mm) TL and 12 or 52% were larger than 8 in (203 mm) TL.

Table 3. Echo Canyon Reservoir creel census summary, 1998-2013.

Year	Days	Anglers	Hours	Total Fish	# fish			Avg. Length (in)			% harvest			F/A	F/H
					RB	CR	LMB	RB	CR	LMB	RB	CR	LMB		
1998	8	199	783.5	614	482	40	92	ND			78.5	6.5	15	3.09	0.78
1999	11	127	469	462	419	19	24	ND			90.7	4.1	5.2	2.94	0.99
2000	13	215	765	486	347	59	80	ND			71.4	12.1	16.5	2.26	0.64
2001	ND														
2002	8	20	80	51	38	10	15	ND			75.0	10.0	15.0	2.55	0.63
2003	8	0	ND												
2004	11	75	123	345	270	17	24	ND			5.0	78.0	7.0	4.6	2.8
2005	9	35	108	307	180	65	62	ND			58.0	21.0	20.0	8.77	2.84
2006	8	200	798	612	480	43	89	ND			78.0	7.0	15.0	3.0	0.77
2007	10	55	190	227	135	20	72	ND			60.0	9.0	31.0	4.13	1.19
2008	ND														
2009	ND														
2010	ND	18	33.5	85	81	3	1	9.4	ND	ND	95.0	ND	ND	4.7	2.5
2011	ND	23	40.5	87	58	3	26	10.2	8.7	9.0	ND			3.8	2.1
2012	ND	26	46.25	120	81	9	30	11.3	8.4	9.7	ND			4.6	2.6
2013	ND	20	64.25	51	51	0	0	10.9	0	0	ND			2.6	0.8

RB = rainbow trout, CR = white crappie, LMB = largemouth bass, ND = no data, F/A = fish/angler, F/H, fish/angler hour

Over 16,000 rainbow trout were stocked into Echo Canyon Reservoir in 2013. Rainbow trout averaged 8.3 in (211 mm) TL. Table 4 summarizes rainbow trout stocking at Echo Canyon Reservoir since 1996.

Table 4. Echo Canyon Reservoir rainbow trout stocking summary, 1996-2013.

Year	Numbers	Pounds	Fish/Pound	Avg. length (in)
1996	13.371	5,049	2.65	10.00
1997	12,930	4,700	2.75	9.75
1998	26,405	11,200	2.36	10.10
1999	20,687	8,770	2.36	10.00
2000	21,862	6,702	3.26	9.13
2001	17,405	5,891	2.95	9.4
2002	9,552	2,400	3.98	8.6
2003	13,220	4,222	3.13	9.0
2004	11,035	2,675	4.12	8.5
2005	13,725	4,250	3.22	9.5
2006	19,089	4,076	4.68	8.4
2007	18,499	5,455	3.21	9.23
2008	19,820	5,250	3.78	8.73
2009	15,264	4,643	3.29	9.0
2010	20,178	5,439	3.71	8.78
2011	20,280	6464	3.13	9.3
2012	17,447	4715	3.7	8.8
2013	16,031	3460	4.6	8.3

Upper Pahranagat/ Nesbitt Lakes

Fish population monitoring at Nesbitt Lake could not be completed because of time constraints. Upper Pahranagat Lake was drained in 2007, then refilled during the winter period and drained again in summer 2008 for repair to the dam structure. Current water management strategies on the refuge since 2008 have generally resulted in very low storage levels during the late summer and fall periods. Warm water fish species have not been restocked in the reservoir pending a decision from Pahranagat NWR staff on future management direction. Although common carp *Cyprinus carpio* and bullheads remain in the reservoir, the reservoir does not contain a viable sport fishery.

Assistance was provided to Pahranagat NWR staff to develop a Fisheries Management Plan for the refuge including Upper Pahranagat Lake; this process was ongoing throughout the reporting period and it will continue in 2014.

Eagle Valley Reservoir Population Assessment

No electroshocking surveys were conducted on Eagle Valley Reservoir in 2013 due to electroshocking boat availability. Furthermore, there was a significant lack of largemouth bass in the creel, with only seven largemouth bass being recorded. Hook-and-line surveys targeting largemouth bass were done to compensate for the lack of electroshocking and low delectability in creel surveys. Fifty-two largemouth bass were caught in 19.75 hrs for a catch rate of 2.6 fish/hr. These fish averaged 11.4 in (290 mm) TL and weighed an average of 1 pound.

Data on largemouth bass from the creel and population surveys was used to calculate relative weight (W_r), an index of condition, and Proportional Stock Density (PSD), an index of the percentage of fish of quality size [12 in (305 mm) TL or greater) in a population. Largemouth bass sampled in Eagle Valley Reservoir had a mean W_r value of 98.74, which indicates excellent health. The PSD value for 2013 is 32%.

Beaver Dam Wash Fishery Evaluation

Restoration activities and the complete removal of the dam were completed at the site of the old Schroeder Reservoir during the fall of 2009. In December 2010, heavy rainfall resulted in a large flood event that moved down the Beaver Dam Wash. All the restoration that was completed in 2009 was washed away along with large amounts of sediment from the old reservoir site. At this time, no decision has been made by NDSP on future management of the old impoundment or on any effort to initiate additional restoration. Over 2,000 rainbow trout were stocked into the creek during the spring. Rainbow trout averaged 9.1 in (231 mm) TL.

An electroshocking survey through the area once occupied by Schroeder Reservoir was completed in August 2013. Two hundred thirty-six rainbow trout were captured during the survey with an average total length of 6 in (152 mm). All fish captured were returned to the creek.

MANAGEMENT REVIEW

A new aeration system was purchased and installed in 2012. A new park manager for Spring Valley State Park was hired during the summer of 2009 and efforts to assist with a restoration plan for Eagle Valley Creek will be ongoing through 2014. Efforts to complete and implement even minimal restoration along the creek have been challenging because of NDSP concerns that restoring ecological function to the creek could interfere with contract livestock grazing. Concerns also for restoring native riparian vegetation could attract bird species that are listed under the Endangered Species Act, although the site is likely out of the range occupied by southwestern willow flycatchers *Empidonax traillii estimus*. An additional concern is that increased densities of livestock use on NDSP lands above the reservoir could be contributing to both water quality and sedimentation issues in the upper parts of Eagle Valley Reservoir.

The manager of Spring Valley State Park has expressed a desire to augment the fishery of Eagle Valley Reservoir with largemouth bass. Stocking largemouth bass may be a good idea because of the potential of an under utilize prey species in golden shiner. A closer look at the species composition of the reservoir will be needed before any stocking may occur. This was the first year evaluating the largemouth bass population in Eagle Valley Reservoir. This evaluation will continue in 2014.

With completion of dam repairs at Upper Pahranagat Lake in 2009, staff will work with Pahranagat NWR to identify future management direction. It is still hoped that a winter put-and-take trout fishery can be established in upper Pahranagat Lake in 2014.

RECOMMENDATIONS

1. Conduct a general fisheries assessment through opportunistic angler contacts at all four Lincoln County reservoirs.
2. Develop and maintain volunteer, angler drop-boxes at Nesbitt Lake, Upper Pahranagat Lake.
3. Maintain the new aerator system and water inflow/outflow conditions at Eagle Valley Reservoir.
4. Complete a spring gill/hoop netting survey at Echo Canyon Reservoir to assess trout overwintering growth and survival, and population structure and recruitment of warm water species.
5. Coordinate water management and reservoir management needs with the Key Pitman WMA manager for Nesbitt Lake and with Pahranagat NWR for Upper Pahranagat Lake.
6. Assist Pahranagat NWR with the development of a comprehensive Fisheries Management Plan and a Nuisance Aquatic Species Control Plan for the refuge.
7. Conduct fisheries surveys on waters of Pahranagat NWR using hoop or trammel nets and electrofishing to provide information for use in refuge planning efforts for aquatic habitats.
8. Provide sport fishery information to anglers directly and through NDOW channels.
9. Implement strategies for early detection and long term monitoring for quagga mussels and other invasive species consistent with NDOW Southern Region and statewide aquatic invasive species plans.

10. Implement strategies to prevent introduction and spread of quagga mussels and other aquatic invasive species through signage, information delivery, and angler/boater contacts.
11. Conduct a stream survey on Beaver Dam Creek by electroshocking once during the summer and develop a fish population assessment utilizing accepted NDOW methodology to meet information needs for the development of management and planning strategies. Marking of stocked rainbow trout should be considered to differentiate from natural recruitment during sampling.
12. Conduct fall electroshocking and/or gillnetting survey of Eagle Valley Reservoir to look at species composition to determine if stocking largemouth bass is warranted.

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