Montana Department of Fish, Wildlife and Parks
Fisheries Division

Job Progress Report

STATE: Montana **PROJECT: Statewide Fisheries Management**

TITLE: Yellowstone River Drainage Investigations

JOB: Southeast Montana Warmwater Lakes Investigations

FEDERAL GRANT: F-113-R-7

FISCAL YEAR: 2013 (July 1, 2012 through June 30, 2013)

REPORT PERIOD: March 1, 2013 through November 1, 2013

ABSTRACT

Fifty-seven managed ponds were visited in 2013 to evaluate the status of the fisheries. Thirty-nine of the managed ponds had fishable populations of target species, one managed pond was visited only to restock with wild fish, five were void of fish or only had non-target species, and twelve ponds were only checked for depth. No new ponds were visited in 2013 but one new pond, Mardrie Baker, identified during the 2011 and 2012 season was inspected for the first time in 2013. Dick Gaskill #1 was also stocked for the first time with rainbow trout (Arlee strain). Wild fish were transferred into three ponds by Montana Fish, Wildlife & Parks (MTFWP) in 2013. Yellow perch were transferred from Maier Reservoir into Baker Lake, Johnson Reservoir, and Spotted Eagle. In addition, Spotted Eagle was stocked with channel catfish, walleye, and northern pike from the Yellowstone River. Drought conditions in 2012 reduced the water level gains from 2011 for most ponds in region seven, but rain and runoff filled ponds in certain drainages across the region in 2013. The Cherry Creek Drainage ponds appeared to receive the smallest amount of rainfall, and some lost enough depth that winter kill is expected in 2013/2014.

PROCEDURES

Ponds are classified as either managed or new. Managed ponds are those that are currently stocked by FWP. New ponds are those that have not been sampled or stocked by FWP in the last 20 years. Pond depths were collected using a Hummingbird SmartCast portable depth finder. Pond locations were documented using township, range and section as well as GPS coordinates in decimal degrees (NAD 1983 projection). Fish populations were sampled using one or a combination of the following: modified fyke nets with 4 x 6 foot frames of 0.5-inch mesh (bar measure), experimental sinking gill nets with 25 ft panels of 0.75, 1.0, 1.25, 1.5, and 2.0-inch mesh (bar measure) for an overall length of 125 feet, 100 foot long by 0.25 inch mesh bag seine, and/or hook and line. Fish were counted and a sub-sample of up to 20 fish for each species were weighed (grams), and measured in millimeters total length (TL) in the field. Precise metric measurements can be found in table six at the end of the report. Metric measurements were converted to the English equivalents and can be found throughout this report. English measurements are used to provide consistency in use of measurements between this report, stocking records, and the Region 7 Pond Fishing Guide.

RESULTS AND DISCUSSION

Wild Fish Transfer and Hatchery Stocking

Spring wild fish transfers were unsuccessful after inadequate numbers of yellow perch could be captured with fyke nets from the approved donor sources, Johnson and South Sandstone Reservoirs in mid-April. Low catch rates were determined to be due to a combination of winter kill and reduced gear efficiency from low water temperature. Maier Reservoir north of Plevna, MT was identified as a possible new donor source for yellow perch. Disease and Aquatic Invasive Species (AIS) testing was completed in August so that fish could be transferred in the fall. Wild fish were transferred into three ponds by Montana Fish, Wildlife & Parks (FWP) in 2013 (Table 1). Transfers to Johnson Reservoir were needed after a fish kill during the 2012/2013 winter. Yellow perch were transferred from Maier Reservoir into Baker Lake to continue to augment this population in response to chronic winter kill.

Table 1. Wild fish transfers conducted in 2013.

Date	Receiveing Water	County	Species	Number Transferred	Donor Water	County
8/26/2013	Spotted Eagle	Custer	channel catfish	12	Yellowstone River	Custer
8/26/2013	Spotted Eagle	Custer	northern pike	2	Yellowstone River	Custer
8/26/2013	Spotted Eagle	Custer	walleye	4	Yellowstone River	Custer
10/1/2013	Johnson Reservoir	Dawson	yellow perch	254	Maier Reservoir	Fallon
10/1/2013	Baker Lake	Fallon	yellow perch	1000	Maier Reservoir	Fallon
10/2/2013	Spotted Eagle	Custer	yellow perch	1100	Maier Reservoir	Fallon
10/16/2013	Spotted Eagle	Custer	yellow perch	330	Maier Reservoir	Fallon
10/25/2013	Spotted Eagle	Custer	channel catfish	9	Yellowstone River	Custer
10/25/2013	Spotted Eagle	Custer	northern pike	4	Yellowstone River	Custer
10/25/2013	Spotted Eagle	Custer	walleye	9	Yellowstone River	Custer

Non-target species were mechanically removed from Spotted Eagle to free up habitat and forage for target species. Additional sport fish were transferred after non-target removal to augment existing populations. Yellow perch from Maier Reservoir were transferred to Spotted Eagle as well as channel catfish, walleye, and northern pike from the Yellowstone River. Favorable moisture conditions in 2013 brought water level gains for ponds in some drainages however some ponds went into the 2013/2014 winter with low enough water levels that fish kills are expected and fish transfers are planned for the 2014 season. Transfers to Spotted Eagle and Baker Lake are planned for 2014 continuing to augment the sport fish populations in an effort to improve these community fishing opportunities.

Five trout ponds were stocked with catchable trout (8-10 inches long) from Bluewater Springs Hatchery (Table 2) in 2013. Miles City Hatchery stocked trout fingerlings (2 inches long) into forty-nine ponds, walleye fry (<1 inch long) and fingerlings into five ponds, bass fingerlings into one pond, and broodstock (2-3 pound) largemouth and smallmouth bass into Spotted Eagle (Appendix 1) in 2013.

Table 2. Catchable rainbow trout stockings in 2013.

Date	Water Name	Number	Strain	Length(in)	Hatchery	Latitude	Longitude
5/1/2013	Hollecker Lake	330	Arlee	7.5	Bluewater Springs	47.12800	-104.72890
5/1/2013	McNabb	1002	Arlee	7.5	Bluewater Springs	45.81575	-104.42258
5/2/2013	Mud Turtle	1000	Arlee	7.5	Bluewater Springs	45.28150	-105.96930
5/2/2013	Roerick	228	Arlee	7.5	Bluewater Springs	45.37556	-105.30163
6/11/2013	Dean S	500	Arlee	7.4	Bluewater Springs	46.37900	-105.66570

Survey of New Ponds

Table 3. Summary of recently added ponds visited in 2013.

		Pond Location		Depth	Depth		Species Present
Pond Name	County	Latitude	Longitude	(feet) *	(feet)**	Actions	in 2013 survey
Mardrie Baker	Garfield	N47.17223	W106.76298	9	12	stocked Oct. 2011	rainbow trout
Dick Gaskill #1	Powder R.	N45.67176	W105.81429	12	3	stocked with trout 2012	rainbow trout
Dick Gaskill #2	Powder R.	N45.65892	W105.81396	6	6	stocked with bass 2012	none
Norman Samuelson #1	Powder R.	N45.58587	W105.83275	18	2	stocked with bass and trout 2012	largemouth bass
Norman Samuelson #2	Powder R.	N45.57032	W105.85175	10	0	to be stocked 2014	none
Sid Samuelson	Powder R.	N45.50185	W105.74866	5	12	stocked with bass 2012	largemouth bass

* Water depth when sampled.

** Depth between current water level and normal high water mark.

One new pond was inspected in 2013 in addition to five new ponds from 2012 that were revisited. Five ponds were inspected in Powder River County. The upland area around Norman Samuelson #2 burned in 2012 then flash flooded from lack of ground cover upstream of the pond. The water in Samuelson #2 had a dark color to it, presumably due to ash deposition from the runoff. Previous ponds with similar ash deposits have not grown fish well. September survey of the Samuelson and Gaskill ponds resulted in fish caught in Norman Samuelson #1, Sidney Samuelson and Gaskill #1 (Table 3). Norman Samuelson #2 which had fish the previous year yielded no fish in 2013.

Survey of Managed Ponds

Carter County

Sidney (16 inches mean), Frigid (13 inches mean), and MacNab (8 inches mean) all had rainbow trout in 2012 confirmed through hook and line or visual sampling.

Exie had green sunfish that averaged 5.7 inches TL and yellow perch that averaged 7.1 inches TL. Vic Hansen informed FWP staff that water levels were too low for stocking in 2013. In response the stocking plan for Vic Hansen was changed to an every other year approach. Sampling of Vic Hansen in 2012 found slow growing rainbow trout (11 inches mean) in the presence of black bullheads, green sunfish, and white suckers.

Custer County

Dean S and Rest Reservoirs had been chronically dewatered prior to filling in spring 2011 and were restocked in the fall of 2012. Depth checks of Dean S and Rest in 2013 found water levels similar to the

time of sample in 2012. Trout up to 16 inches were found in Beardsley. Ft. Keogh's trout pond was nearly dry with only two feet of water depth in 2012. Ft. Keogh water depths increased to 10 feet by the fall of 2013. At Houston Rogers and Henry Haughian Trout Pond, water depths were nine feet and twelve feet respectively. Boulware had eighteen feet of water depth on July 8, 2013. On September 12, 2013, there was a report of approximately one-hundred summer-killed trout found on Boulware. High catch rates through the ice at Boulware in December 2013 suggest the reservoir was likely carrying a high density of rainbow trout prior to the partial kill in the fall.

Haughian Bass Pond was restocked with both largemouth and smallmouth bass in July 2011. Yellow perch were transferred to Haughian Bass Pond in 2012 to provide forage for the bass and an additional opportunity for anglers. Haughian Bass Pond had both largemouth and smallmouth bass to eleven inches and yellow perch to eleven inches in 2013.

Spotted Eagle in Miles City has become a popular destination for local fisherman and other recreationist. Several community groups have contributed to cleaning and mowing the area and adding park benches and picnic shelters. The City of Miles City constructed a walking path, including three bridges, which cross the outlet channel. Walleyes Unlimited built a handicap accessible fishing pier near the outlet channel. The City of Miles City installed two restrooms purchased by Walleyes Unlimited the first in 2012 and the second in 2013. Increased public use of Spotted Eagle demands continued monitoring and improvements to the fishery. Christmas trees were sunk to provide fish habitat in 2013. The Christmas tree fish habitat project will be continued in 2014. The outlet channel currently provides a migration route for some species from the Tongue River during high water events. The prolonged high water in the Tongue and Yellowstone Rivers in spring 2011 allowed fish from the Tongue River to migrate into Spotted Eagle through both the outlet channel and across the floodplain. Non-target species were mechanically removed from Spotted Eagle in both 2012 and 2013. River species found in abundance in Spotted Eagle during 2013 samples include river carpsucker, smallmouth buffalo, and common carp. Bigmouth buffalo, shorthead redhorse, and goldeye were also found in low abundances. A total of 311 non-target fish of eight species were removed from Spotted Eagle using netting and electrofishing methods in July of 2013 to benefit sport fish populations (Table 4). A total biomass of 430 pounds was removed. Region 7 FWP fisheries staff is currently in the planning stages of a fish barrier project partnering with the City of Miles City and Walleye's Unlimited. The intent of the project is to install a simple drop structure in the outlet channel that would reduce the frequency of non-target migrations into Spotted Eagle.

Table 4. Summary of non-target fish mechanically removed from Spotted Eagle in July 2013.

Species	7/17	7/18	Number Removed
Common Carp	80	127	207
River Carpsucker	12	17	29
Bigmouth Buffalo	18	8	26
Black bullhead	0	22	22
White sucker	7	8	15
Yellow bullhead	3	2	5
Smallmouth Buffalo	3	1	4
Shorthead redhorse sucker	1	1	2
Goldeye	1	0	1
Total			311

Twenty-one adult channel catfish ranging from two to ten pounds were transferred from the Yellowstone River to Spotted Eagle in 2013. Walleye and northern pike were also transferred from the Yellowstone River to Spotted Eagle in the fall of 2013. Yellow perch were transferred to Spotted Eagle from Maier Reservoir. Miles City State Fish Hatchery maintains a bass brood stock and periodically provides a unique opportunity by providing the surplus for stocking. Miles City State Fish Hatchery planted 28 largemouth bass averaging two pounds and 192 smallmouth bass averaging three pounds in October of 2013 (Table 5). These fish were a unique opportunity for Spotted Eagle. Removal of river species like river carpsucker, common carp, smallmouth buffalo, bigmouth buffalo, goldeye, and shorthead redhorse sucker and transfer of sport fish should increase angler success and provide an opportunity to catch sport fish.

Table 5. Summary of sport fish transferred to Spotted Eagle in 2013.

Species	Count	Mean total length (in)	Mean weight (lbs)	Length range (in)	Weight range (lbs)
Yellow Perch	1475	6	1/8	4 to 12	1/50 to 9/10
Channel catfish	21	22	5	18 to 28	2 to 10
Northern pike	6	26	4	24 to 30	3 to 6
Walleye	13	20	3	14 to 29	1 to 8

Dawson County

Six total species were collected in Hollecker Lake when sampled in 2013. Largemouth bass, fathead minnow and rainbow trout are the only species that have been stocked by FWP since it was drained in the fall of 2005. All other species present entered Hollecker through the irrigation water supply or from illegal introductions. Besides bluegill the relative abundance of all illegally introduced species is low, and will not likely reduce the success of stocked species.

The abundance of bluegill, an illegally introduced species that can be easily caught with angling gear, has created opportunity for anglers, particularly young anglers. Hollecker Lake Kid's Fishing Pond Proposal contains a detailed description of proposed management for this pond (Appendix 2). The original proposal was to create a bass/perch fishery; however, bluegill have proven to be prolific in Hollecker Lake and are likely a suitable alternative to yellow perch. The largemouth bass and bluegill dynamics should continue to be monitored to assure that the population assemblage is meeting the needs and management goals of Hollecker Lake. The current management plan allows for mechanical draining of the lake if the species composition and abundances are undesirable.

Aquatic Invasive Species (AIS) and disease testing was completed so Johnson Reservoir could be used as a transfer source for yellow perch in 2012. Johnson Reservoir was used as a source to transfer yellow perch from in 2012. Trap nets at Johnson in 2013 yielded no yellow perch, and dead fish were observed along shore. It is postulated that reduced yellow perch abundances in Johnson Reservoir are a result of a winterkill from 2012/2013 or that water temperatures were cold enough that fish were in different habitat then where the nets were placed. A total of 254 yellow perch were transferred to Johnson from Maier Reservoir in the fall of 2013 to reestablish the perch population (Table 1).

Andrew Trangmoe was sampled, and seven species were present. White crappie and yellow perch were the dominant species. Trangmoe had yellow perch and white crappie to seven inches.

Fallon County

Pre-spawn yellow perch were transferred from South Sandstone Reservoir to Baker Lake in 2012. In 2013, few yellow perch were sampled, but the average size was eight inches. Northern pike, black bullheads, and yellow perch were found in July 2013 gill net and seine samples. Approximately 1000 yellow perch were transferred into Baker Lake from Maier Reservoir in October 2013 (Table 1).

Black bullheads became established in both Pinnow ponds sometime between 2004 and 2010. This is the second non-target species to become established at these ponds following green sunfish appearance in 2004. Successful reproduction of both of these species appears to be preventing survival and growth of rainbow trout. Bullheads still appear to be in low numbers at Pinnow #1 with seven found in 2013. Trout numbers were low in Pinnow #1 in 2013 with five trout sampled. Pinnow #2 had green sunfish and black bullheads, no trout were sampled in 2013. Future success of rainbow trout is unlikely as long as the other species persist. Trout will be stocked until sampling indicates survival and growth of the trout is completely compromised by the presence of the other species.

Aquatic Invasive Species (AIS) and disease testing was completed on Maier Reservoir so it could be used as a transfer source for yellow perch in 2013. Trap nets at Maier yielded 2867 yellow perch that were transferred to ponds around the region (Table 1). Maier had four species present in 2013 including yellow perch, white sucker, creek chub and green sunfish. Yellow perch comprised the majority of the catch.

Hook and line sampling of Wilbert Schweigert found trout up to 14 inches TL, with an average size of 11 inches TL.

Black bullhead continue to be the most abundant species in gill nets at South Sandstone Reservoir (Figure 1). Catch rates for yellow perch have also been low in recent years but size structure is improving. Yellow perch caught in gill nets averaged eight inches and some were over 10 inches in 2013. Walleye caught in gill nets averaged 17 inches with fish up to 20 inches. Bullhead abundance and frequent removal of yellow perch by FWP staff for transplant has likely contributed to reducing perch abundance. Angler opportunity for yellow perch, northern pike, and crappie at South Sandstone continue to make this reservoir one of the best in the region.

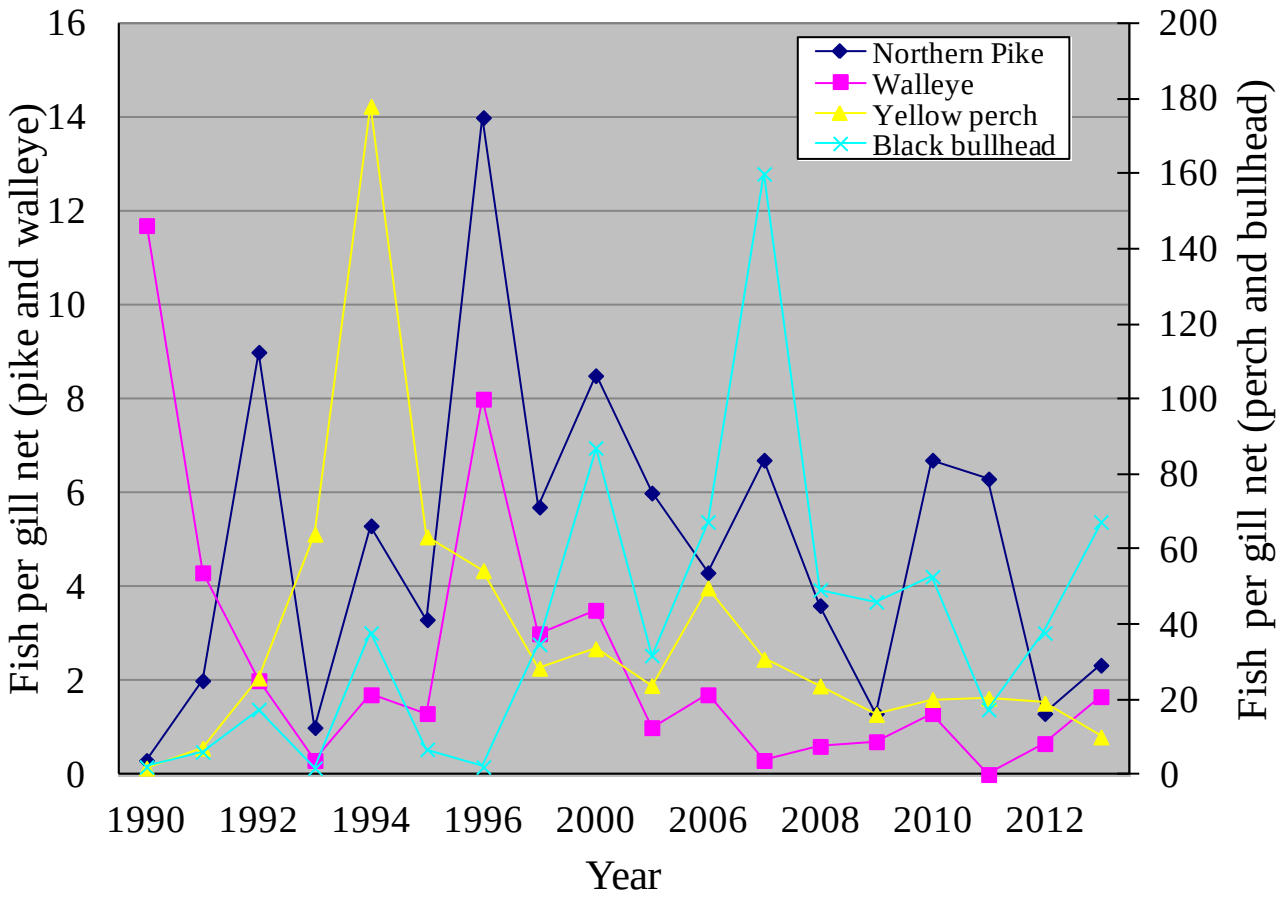

Figure 1. Catch per gill net for northern pike, walleye, yellow perch and black bullhead in South Sandstone Reservoir, 1990-2013.

Garfield County

The water level of ponds in Garfield County improved in 2013 from spring and summer precipitation. Beecher Trout had rainbow trout from this year's plant. Beecher Trout was 13 feet deep in 2013, so the pond should overwinter well. Average length of rainbow trout in Clark was 11 inches, and the maximum length was 19 inches. Clyde Saylor had an average rainbow trout size 12 inches. Dale Kreider #2 had multiple year classes of rainbow trout present. Fish were up to 19 inches at Dale Kreider #2. Irvine Saylor had rainbow trout averaging 8 inches. Rainbow trout in K.V. Watt averaged 15 inches. Rainbow trout up to 15 inches were sampled in L.C. Brooks. Mardrie Baker was stocked with rainbow trout in 2011. In 2013 hook and line sampling of Mardrie Baker yielded rainbow trout up to 16 inches, averaging 15 inches. Depth checks of Fred Murnion #1 and #2 showed pond depths of six feet and seven feet respectively. Depth check of Al Newman #1 had water levels at three feet; it is likely to winter kill in 2013/2014.The average largemouth bass at Kreider #1 in 2013 weighed one pound and was 11 inches long.

Powder River County

Rainbow trout from the 2013 plant were found in Gaskill #1. Samuelson # 1 had largemouth bass to 11 inches. Sidney Samuelson had largemouth bass to 9 inches. Fish were not found in Gaskill #2 and Samuelson # 2. The upland area around both Gaskill ponds and Samuelson #1 and #2 burned in 2012. The burned upland area surrounding the ponds will result in silt accumulation in the ponds in the short term and water retention in post fire ponds has historically been poor. Due to heavy rains near Samuelson #2, water flowed over the dam and spillway bringing ash and burned debris into the pond.

Prairie County

Rain and snow melt in spring 2011 filled the Cherry Creek ponds. However, depth checks of Clarks, Reukauf (Harms), and South Fork revealed that water depth was less than five feet in all three ponds during 2013. With low water in these ponds, summer or winter kill is likely. Silvertip Reservoir largemouth bass average length was 11 inches. Rainbow trout in Homestead Reservoir were 19 inches. Yellow perch transplants from April of 2012 spawned in Homestead in the spring of 2013. All 26 northern pike transferred into Homestead in spring 2012 were tagged with yellow floy brand T-style tags. No tag returns have been reported from Homestead northern pike but 50% of the tagged pike were recaptured and re-released during a fyke net sample in spring of 2013. Oil Pump had water depth of 14 feet and trout were observed rising but seine hauls yielded no fish. Rainbow trout up to 16 inches and largemouth bass averaging 10 inches were found in Courtney Ayers. Hook and line sampling at Marshall Reservoir yielded many largemouth bass averaging 11 inches. Doug Singleton was sampled using gillnets and no fish were captured in 2013.

Richland County

Northern pike stocking was discontinued in 2004 to evaluate natural spawning and recruitment at Gartside Reservoir. The lake level at Gartside was reduced by 10 vertical feet to facilitate the construction of a fishing pier in 2010. Numbers of northern pike in the 2010 sample were above average, likely as a function of increased sampling gear efficiency due to the reduced pool level. Catch rates of northern pike were slightly above average in 2013 following below average catch rates in 2011 (Figure 2). This trend should continue to be monitored to determine if the relative abundance difference between the 2011 sample and past samples reflects sampling bias due to environmental manipulation or if the trend reflects a biologically significant change in the population.

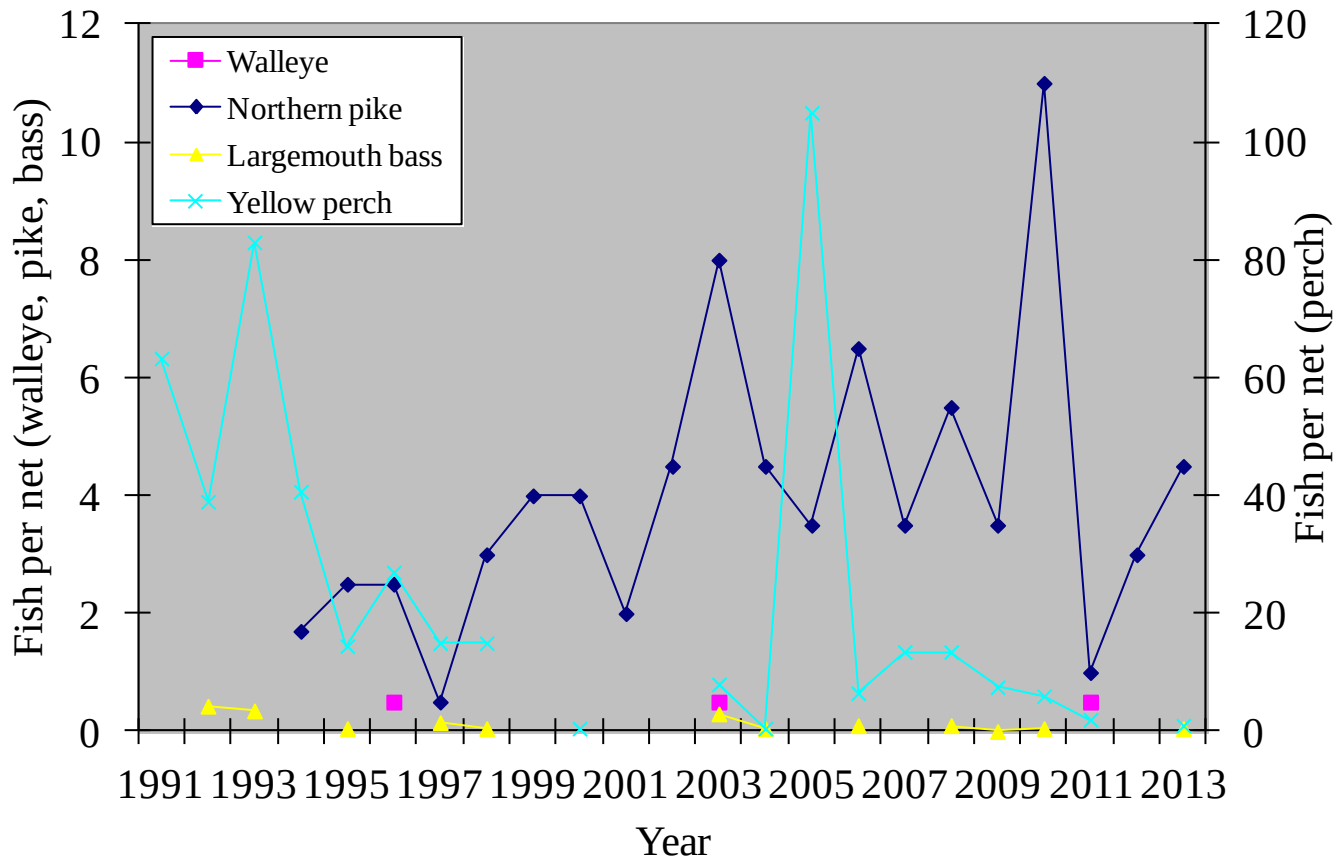

Figure 2. Catch rate (fish per gill net) of walleye, northern pike, largemouth bass, and yellow perch from Gartside Reservoir, 1991-2013.

Gartside Reservoir received 400 tiger muskellunge approximately 10 inches long in October 2010. The fish were purchased from a certified, disease-free private hatchery in South Dakota. Tiger muskellunge were stocked to improve pan-fish population size structure and to provide additional angler opportunity at Gartside. Tiger muskellunge stocking and associated sampling goals are described in a five year stocking proposal, (Backes 2006). Tiger muskie were supposed to be stocked annually, but the outbreak of viral hemorrhagic septicemia (VHS) virus in the Great Lakes region eliminated the muskellunge egg supply. The stocking proposal has expired for tiger muskellunge at Gartside. Survival of the first stocking in 2006 was not successful and survival of the 2010 stock coincided with a year of record high northern pike catch rates. Three tiger muskie were sampled in 2011 gill net and seine haul efforts, but none were sampled in either 2012 or 2013.

Rosebud County

Ed Grebe #1 and Paul Hofer #2 were removed from the ponds program in 2013. Blacks Sawmill was full pool at 20 feet and anglers reported catching rainbow trout. Green sunfish were abundant in A.G. Lee #2 and Al Lee requested that a predator species be stocked into the pond to control green sunfish abundances. Since bass have struggled to overwinter in the shallow pond northern pike will be stocked in 2014. John Killen #2 was sampled with hook and line in 2013, and rainbow trout averaging 16 inches were found. Ringstveit had rainbow trout averaging 7 inches. Only depths were checked at Schlesinger #1 and Hofer #2.Schlesinger #1 had six feet of water and Hofer #2 had nine feet of water.

Castle Rock Lake was renowned for large and abundant bluegill in the 1980s and early 1990s. In 1996 bluegill catch rates dropped to a record low of 3.3 per gill net. An expanding walleye population was thought to be suppressing bluegill abundance. Management decided to reduce annual walleye stocking rates from 5,000 fingerlings to 1,000 fingerlings in 1997 to improve bluegill abundance (Stewart 1996). Review of historic Dingell Johnson (DJ) reports and data indicated the abundant bluegill population was not sustainable. The high bluegill abundance resulted from a new and expanding population. Castle Rock Lake was constructed from 1974 to 1975 and bluegills were stocked in 1979 to establish a forage base for northern pike. With little competition for forage the bluegill population expanded, reaching a peak in 1987. The bluegill population stabilized around 1998 and has produced relatively consistent catch rates since (Figure 3).

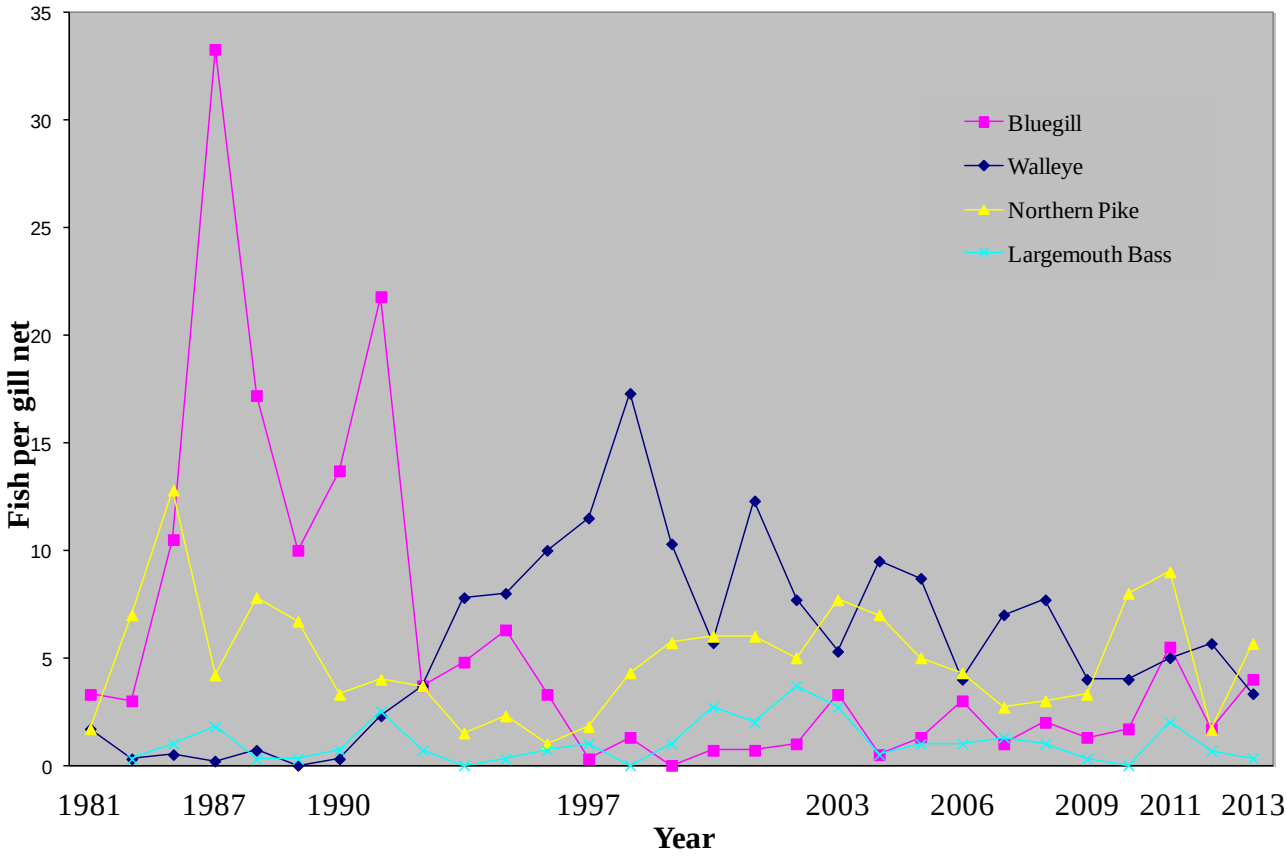

Figure 3. Catch per gill net for bluegill, walleye, northern pike and largemouth bass from Castle Rock Lake, 1981-2013.

Treasure

No ponds were sampled in Treasure County in 2013.

Wibaux

Wibaux Pond was sampled with a seine in 2013. Golden shiners were the most abundant species found. White suckers, yellow perch and black bullhead were also present. Black bullhead is a new species found in the pond.

Prepared by: Kevin McKoy

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Waters referred to:

Gartside	21-3250
Castle Rock	21-2527
Spotted Eagle	21-8815

Keywords

Small ponds	Yellow perch
Largemouth bass	Smallmouth bass
Northern pike	Bluegill
Rainbow trout	Walleye
Crappie	Black & yellow bullhead

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Table 6. Results of sampling managed reservoirs in 2013.

Reservoir Name	Date	Depth 10/Full (feet) *	Type of Sample	Species	Number Caught	Mean Length (mm)	Mean Weight (gr)	Length Range (mm)	Weight Range (gm)
				Carter County					
Exie Pond	7/3/2013	9/0	hook and line	green sunfish	25	146		125-155	0
				yellow perch	6	182			
Frigid	7/3/2013		hook and line	rainbow trout	18	342	383	228-380	170-510
				green sunfish	23	149	80	90-180	40-110
MacNab	7/3/2013	19/0	hook and line	black bullhead	2	178.5	75	177-180	70-80
				rainbow trout	1	212	100	212	100
Sidney	7/3/2013	10/4	hook and line	rainbow trout	1	400	700	400	700
				Custer County					
Beardsley	7/15/2013	20/1	hook and line	rainbow trout	15	336	503	155-413	300-750
Boulware	7/8/2013	18/3	depth check						
Boulware	9/12/2013		fish kill report						
Dean S	7/8/2013	7/4	depth check						
Ft. Keogh	7/15/2013	10/2	depth check						
Haughian Bass	4/3/2013	?/5	fyke net (2)	largemouth bass	11	276	358	255-287	270-420
				smallmouth bass	2	212	145	200-223	120-170
				yellow perch	131	230	193	195-287	90-450
Haughian Trout	7/1/2013	12/5	depth check						
Houston Rodgers	8/9/2013	9/1	depth check						
Rest	7/8/2013	11/12	depth check						
Spotted Eagle	6/20/2013	10/0	seine haul (5)	black crappie	14	179	78	155-205	50-120
				bluegill	47	114	34	45-175	10-80
				common carp	1	280	290	280	290
				bigmouth buffalo	1	235	530	235	530
				emerald shiner	35	73		65-95	
				green sunfish	1	150	70	150	70
				pumpkinseed	1	105	30	105	30
				shorthead redhorse	3	100	30	80-130	30
				smallmouth bass	1	245	200	245	200
				smallmouth buffalo	2	388	865	385-390	800-930
				walleye	2	190	55	170-210	30-80
				white crappie	7	171	57	145-200	30-90
				white sucker	24	162	67	125-355	10-530
				yellow perch	19	113	28	85-170	10-60
				yoy yellow perch	4	30			

Table 6. continued

Reservoir Name	Date	Depth 10/Full (feet) *	Type of Sample	Species	Number Caught	Mean Length (mm)	Mean Weight (gr)	Length Range (mm)	Weight Range (gm)
Spotted Eagle	6/21/2013	10/0	fyke net (6)	bluegill	9	124	46	105-140	30-60
				black bullhead	11	218	135	200-247	90-200
				black crappie	173	170	82	75-297	10-360
				common carp	7	314	674	185-630	110-2940
				channel catfish	19	473	1166	318-615	250-2830
				goldeye	12	356	340	265-400	210-470
				longnose sucker	1	175	70	175	70
				northern pike	1	605	1550	605	1550
				pumpkinseed	2	106	30	96-115	30
				river carpsucker	25	342	819	174-510	90-2300
				shorthead redhorse	6	282	433	175-455	70-1500
				shortnose gar	3	587	700	560-600	600-750
				smallmouth buffalo	2	324	575	263-385	250-900
				stonecat	1	130	20	130	20
				walleye	1	316	270	316	270
				western silvery mn.	1	105		105	
				white crappie	62	182	84	94-280	20-350
				white sucker	4	144	43	120-175	10-70
				yellow perch	1	172	60	172	60
Spotted Eagle	7/18/2013	10/0	Electrofishing (	black bullhead	22	192	131	135-240	50-200
				bigmouth buffalo	11	314	623	208-360	200-900
				common carp	204	301	450	168-471	100-1200
				river carpsucker	27	210	188	54-405	50-900
				shorthead redhorse	2	158		158	
				smallmouth buffalo	1	362	700	362	700
				white sucker	15	216	157	147-348	50-450
				yellow bullhead	5	203	125	167-250	100-200
Spotted Eagle	8/27/2013		Fish Transfer	channel catfish	12				
				northern pike	2				
				walleye	4				
Spotted Eagle	10/2/2013		Fish Transfer	yellow perch	1142	162	71	99-297	10-330
Spotted Eagle	10/16/2013		Fish Transfer	yellow perch	333	150	49	105-303	10-390
Spotted Eagle	10/25/2013		Fish Transfer	channel catfish	9	566	2086	457-707	940-4850
				walleye	9	499	1430	362-738	440-3840
				northern pike	4	659	1870	598-752	1500-2720

Table 6. continued

Reservoir Name	Date	Depth 10/Full (feet) *	Type of Sample	Species	Number Caught	Mean Length (mm)	Mean Weight (gr)	Length Range (mm)	Weight Range (gm)
				Dawson County					
Andrew Trangmoe	7/22/2013	8/0	gillnet(2)	black bulhead	25	146	39	127-179	20-80
				common carp	4	309	443	166-393	60-720
				channel catfish	2	495	1455	378-611	450-2460
				green sunfish	2	138	45	118-158	20-70
				shorthead redhorse	3	463	1030	447-477	940-1150
				white crappie	76	150	27	121-176	10-40
				yellow perch	30	155	42	141-183	40-60
Hollecker	8/1/2013		seine haul (1)	bluegill	169	98	38.33	50-154	20-70
				largemouth bass	2	203	120	196-209	110-130
				river carpsucker	3	463	1840	432-482	1490-2180
				white crappie	9	115	52.5	53-193	30-80
			gillnet (2)	bluegill	2	117.5	17.5	105-130	15-20
				largemouth bass	1	414	1400	414	1400
				shorthead redhorse	2	417	770	411-423	760-780
				white crappie	2	142	22.5	128-156	15-30
				white sucker	2	302	335	248-356	160-510
Johnson	4/16/2013		fyke net (3)	western silvery mn.	1	121	40	121	40
	4/17/2013		fyke net (3)	white sucker	2	222	200	136-308	30-370
				flathead chub	1	152	40	152	40
				western silvery mn.	1	125	20	125	20
	10/1/2013		Fish Transfer	yellow perch	254				
				Fallon County					
South Sandstone	4/19/2013		fyke net (5)	bullhead	200				
				crappie	15				
				northern pike	15				
				yellow perch	23				
South Sandstone	7/29/2013		gillnet (3)	black bullhead	202	155	97	124-243	50-300
				northern pike	7	570	1224	475-776	700-2820
				walleye	5	448	1002	337-508	380-1480
				yellow perch	30	203	121	142-272	50-240
			seine haul (3)	northern pike	4	552	1120	483-707	640-2280
				black crappie	3	152	47	141-166	20-70
				yellow perch	63	111	25	94-275	10-240
				green sunfish	1	93	10	93	10
				black bullhead	9	193	132	142-241	30-230
				crappie yoy	40	40		32-49	
				yoy largemouth bass	101	56		46-70	
				yoy yellow perch	4	60		55-65	

Table 6. continued

Reservoir Name	Date	Depth 10/Full (feet) *	Type of Sample	Species	Number Caught	Mean Length (mm)	Mean Weight (gr)	Length Range (mm)	Weight Range (gm)
Baker Lake	7/29/2013		seine haul (1)	yoy black bullhead	192	109	18	87-147	10-30
			gillnet (2)	black bullhead	8	183	163	125-340	20-600
				northern pike	2	467	520	422-512	320-720
				yellow perch	14	213	164	165-310	70-350
	10/1/2013		Fish Transfer	yellow perch	1000				
Maier	4/19/2013		fyke net (2)	creek chub	9	223	134	190-253	80-170
				white sucker	42	321	490	240-370	380-680
				yellow perch	628	154	75	102-290	20-400
				green sunfish	unk				
	10/1/2013		fyke net (4)	yellow perch	1254				
	10/2/2013		fyke net (4)	yellow perch	1100	162	71	99-297	10-330
	10/16/2013		fyke net (2)	yellow perch	333	150	49	105-303	10-390
Pinnow #1	7/9/2013	9/0	gillnet (2)	black bullhead	7	149	61	143-158	40-70
				green sunfish	8	121	30	100-135	20-40
				rainbow trout	5	162	52	135-180	20-70
Pinnow #2	7/9/2013	11/0	gillnet (2)	black bullhead	5	247	238	160-321	40-460
				green sunfish	4	108	20	100-120	20
Wilbert Schweigert	7/22/2013	10/7	hook and line	rainbow trout	4	286	255	246-351	180-400
				Garfield County					
Al Newman	9/10/2013	3/12	depth check						
Beecher Trout	7/17/2013	13/0	gillnet (1)	rainbow trout	16	153	68	143-167	60-100
Clark	9/3/2013	26/6	gillnet (2)	rainbow trout	14	289	444	142-486	30-1150
Clyde Saylor	9/3/2013	9/0	gillnet (1)	rainbow trout	27	305	317	243-343	160-490
Dale Kreider #1	9/10/2013	?/8	gillnet (2)	largemouth bass	38	271	428	168-364	70-900
Dale Kreider #2	9/10/2013	17/1	gillnet (1)	rainbow trout	24	332	609	158-489	60-1380
Fred Murnion #1	7/17/2013	6/1	depth check						
Fred Murnion #2	7/17/2013	7/9	depth check						
Irvine Saylor	9/3/2013	8/10	gillnet (1)	rainbow trout	18	199	101	127-238	30-170
K.V. Watt	9/3/2013	13/3	gillnet (1)	rainbow trout	39	373	614	202-461	130-1120
L.C. Brooks	7/17/2013	8/1	gillnet (2)	rainbow trout	38	215	279	140-385	60-1000
Mardrie Baker	9/11/2013	9/12	hook and line	rainbow trout	16	389	612	345-421	440-800
				Powder River County					
Gaskill #1	9/17/2013	12/3	hook and line	rainbow trout	4	165	50	157-173	40-60
Gaskill #2	9/17/2013	6/6	gillnet (1)	no fish					
Mud Turtle	7/10/2013	8/2	hook and line	no fish					
Samuelson #1	9/17/2013	18/2	hook and line	largemouth bass	39	272	329	261-280	250-380
Samuelson #2	9/17/2013	10/0	gillnet (1)	no fish					
Sidney Samuelson	9/17/2013	5/12	hook and line	largemouth bass	5	231	176	220-245	150-210

Table 6. continued

Reservoir Name	Date	Depth 10/Full (feet) *	Type of Sample	Species	Number Caught	Mean Length (mm)	Mean Weight (gr)	Length Range (mm)	Weight Range (gm)
				Prairie County					
Clarks	3/18/2013	?/7	depth check						
	7/1/2013	5/6	depth check						
Courtney Ayers	7/15/2013	?/2	hook and line	largemouth bass	14	264	250	248-283	210-300
				rainbow trout	1	401	680	401	680
Doug Singleton	7/15/2013	17/1	gillnet (2)	no fish					
Harms	3/18/2013	?/7	depth check						
	7/1/2013	5/8	depth check						
Homestead	3/18/2013	10/6	depth check						
	4/3/2013		fyke net (5)	rainbow trout	77	476	1477	405-530	960-1850
				northern pike	13	618	1676	562-750	1200-2720
				yellow perch	126	152	195	101-278	10-270
	7/1/2013	12/?	depth check						
Marshall	7/15/2013	14/3	hook and line	largemouth bass	71	271	269	260-293	240-320
Oil Pump	3/18/2013	?/4	depth check						
	7/22/2013	14/1	seine haul	no fish					
Silvertip	3/18/2013	?/5	depth check						
	7/1/2013		gillnet (2)	largemouth bass	20	276	355	262-300	230-470
South Fork	3/18/2013	?/10	depth check						
	7/1/2013	5/6	depth check						
				Richland County					
Gartside	8/1/2013		gillnet (2)	largemouth bass	1	159	110	159	110
				northern pike	9	583	1318	444-770	590-2750
				yellow perch	2	174	70	145-202	30-110
			seine haul (2)	bluegill	134	140	50	115-205	20-200
				largemouth bass	9	202	246	142-417	30-1250
				yellow perch	37	127	22	101-151	10-40
				black crappie	2	129	30	125-133	30
				yoy largemouth bass	6	58		55-60	

Table 6. continued

Reservoir Name	Date	Depth 10/Full (feet) *	Type of Sample	Species	Number Caught	Mean Length (mm)	Mean Weight (gr)	Length Range (mm)	Weight Range (gm)
				Rosebud County					
Blacks Sawmill	7/10/2013	20/0	hook and line	rainbow trout	1	160	70	160	70
Castle Rock	8/6/2013		gillnet (3)	bluegill	12	147	79	85-177	20-120
				smallmouth bass	1	214	160	214	160
				largemouth bass	1	305	590	305	590
				northern pike	17	530	1084	362-1065	310-6800
				walleye	10	476	1132	305-592	240-2000
			seine haul (3)	bluegill	179	141	86	100-212	30-240
				black crappie	7	166	80	161-179	70-110
				largemouth bass	22	171	116	111-262	40-360
				northern pike	1	287	160	287	160
				yoy bluegill	39	64		43-99	
				yoy largemouth bass	36	60		43-81	
				yoy northern pike	3	143		134-150	
Killen #2	7/18/2013	16/5	hook and line	rainbow trout	4	423	713	414-432	660-750
Paul Hofer #2	9/10/2013	9/3	depth check						
Ringstveidt	7/17/2013	14/0	gillnet (1)	rainbow trout	49	171	81.81	145-192	60-120
Schlesinger #1	9/10/2013	6/5	depth check						
				Wibaux County					
Wibaux	10/15/2013	?/3	seine haul (2)	yellow perch	6	160	45	137-182	30-60
				black bullhead	1	283	350	283	350
				white sucker	3	229	130	208-242	80-170
				golden shiner	43	65		62-67	

Appendix 1. 2013 Miles City Hatchery Stocking Summary

Montana Fish, Wildlife & Parks

Fish Planting Report - By Date

Date Range: 04-01-13 - 10-15-13
Selections: All Current Lots All Archived Species Region 7

	Latitude	Longitude			Sterile				
04/10/2013	164433	Beecher Trout Reservoir	750	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.78500	-106.69410	A025212F04	Arlee		2.36	77.36	CH	
			Helicopter plant						
04/10/2013	211886	Big Timber Trout Pond #1	1,000	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.59833	-107.36502	A025212F04	Arlee		3.17	77.36	CH	
04/10/2013	187725	Grebe Reservoir #1	2,000	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.66306	-107.57733	A025212F04	Arlee		6.34	77.36	CH	
04/10/2013	165305	Grebe Reservoir #2	1,000	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.69334	-107.64098	A025212F04	Arlee		3.17	77.36	CH	
04/10/2013	213570	Haughian Reservoir #1	2,000	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.83833	-105.88036	A025212F04	Arlee		6.34	70.76	CH	
04/10/2013	213790	Hofer Reservoir #2	1,000	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.58648	-107.48983	A025212F04	Arlee		3.17	77.36	CH	
04/10/2013	213845	Hook Reservoir #1	600	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.62153	-106.23728	A025212F04	Arlee		1.90	77.36	CH	
04/10/2013	213985	Jason Phipps Reservoir	2,000	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.89303	-107.20797	A025212F04	Arlee		6.34	77.36	CH	
04/10/2013	166199	Killen, John #2 Res.	1,500	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.80726	-106.48074	A025212F04	Arlee		4.76	77.36	CH	
04/10/2013	167108	Murnion, Fred #1	1,000	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	47.01189	-106.43500	A025212F04	Arlee		3.17	77.36	CH	
04/10/2013	167109	Murnion, Fred #2	1,000	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.98280	-106.47750	A025212F04	Arlee		3.17	77.36	CH	
04/10/2013	167210	Newman Reservoir #1	800	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.94840	-107.42910	A025212F04	Arlee		2.54	77.36	CH	
04/10/2013	217870	Ringstveit Lake	1,000	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.82625	-106.71735	A025212F04	Arlee		3.17	77.36	CH	
04/10/2013	218352	Schlesinger Reservoir #1	500	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.76980	-107.19630	A025212F04	Arlee		1.60	77.36	CH	
04/10/2013	218760	South Fork Reservoir	1,000	001A - Rainbow Trout	Not Sterile	2.00	0	0.95	1
7	46.88244	-105.67190	A025212F04	Arlee		3.17	70.76	CH	
04/11/2013	211769	Ayers Pond #1	1,000	001A - Rainbow Trout	Not Sterile	2.00	0	2.45	1
7	46.63554	-104.82539	A025212F04	Arlee		3.17	80.47	CH	
04/11/2013	211821	Beardsley Pond	2,000	001A - Rainbow Trout	Not Sterile	2.00	0	2.45	1
7	46.53030	-105.15160	A025212F04	Arlee		6.34	80.47	CH	
04/11/2013	211915	Blacks Sawmill Pond	2,000	001A - Rainbow Trout	Not Sterile	2.00	19	2.45	1
7	45.34750	-106.28680	A025212F04	Arlee		6.30	87.56	CH	
04/11/2013	212240	Burman Pond	1,000	001A - Rainbow Trout	Not Sterile	2.00	0	2.45	1
7	47.11561	-104.40818	A025212F04	Arlee		3.17	80.47	CH	
04/11/2013	121051	Craft Pond #2	1,500	001A - Rainbow Trout	Not Sterile	2.00	19	2.45	1
7	45.12303	-104.88123	A025212F04	Arlee		4.76	87.56	CH	
04/11/2013	210000	DICK GASKILL	1,000	001A - Rainbow Trout	Not Sterile	2.00	19	2.45	1
7			A025212F04	Arlee		3.17	87.56	CH	
04/11/2013	121308	Frigid Reservoir	1,000	001A - Rainbow Trout	Not Sterile	2.00	0	2.45	1
7	45.46226	-104.60713	A025212F04	Arlee		3.17	80.47	CH	
04/11/2013	121308	Frigid Reservoir	1,000	001A - Rainbow Trout	Not Sterile	2.00	0	2.45	1
7	45.46226	-104.60713	A025212F04	Arlee		3.17	80.47	CH	
04/11/2013	121310	Gardner Reservoir	5,000	001A - Rainbow Trout	Not Sterile	3.00	19	2.45	1
7	45.26494	-104.84123	A025212F04	Arlee		15.87	87.56		

Appendix 1. Continued

Montana Fish, Wildlife & Parks

Fish Planting Report - By Date

Date Range: 04-01-13 - 10-15-13
Selections: All Current Lots All Archived Species Region 7

	Latitude	Longitude				Sterile				
04/11/2013	213976	Janssen Reservoir	2,500	001A - Rainbow Trout		Not Sterile	2.00	19	2.45	1
7	45.72170	-105.47190	A025212F04	Arlee			7.93	87.56	CH	
04/11/2013	214800	Labree Reservoir	2,500	001A - Rainbow Trout		Not Sterile	2.00	0	2.45	1
7	45.99950	-104.79110	A025212F04	Arlee			7.95	80.47	CH	
04/11/2013	215117	Losinski Reservoir #3	400	001A - Rainbow Trout		Not Sterile	2.00	19	2.45	1
7	45.63704	-105.73283	A025212F04	Arlee			1.27	87.56	CH	
04/11/2013	210000	NORM SAMUELSON	1,000	001A - Rainbow Trout		Not Sterile	2.00	19	2.45	1
7	44.68190	-111.96390	A025212F04	Arlee			3.17	87.56	CH	
04/11/2013	216238	Oil Pump Reservoir	2,000	001A - Rainbow Trout		Not Sterile	2.00	0	2.45	1
7	46.85404	-104.66796	A025212F04	Arlee			6.34	80.47	CH	
04/11/2013	217275	Pinnow Reservoir	1,500	001A - Rainbow Trout		Not Sterile	2.00	0	0.00	1
7	46.27822	-104.20039	A025212F04	Arlee			4.76	80.47	CH	
04/11/2013	217276	Pinnow Reservoir #2	1,000	001A - Rainbow Trout		Not Sterile	2.00	0	2.45	1
7	46.27911	-104.21082	A025212F04	Arlee			3.17	80.47	CH	
04/11/2013	217305	Pruett Pond	500	001A - Rainbow Trout		Not Sterile	2.00	0	2.45	1
7	46.58795	-104.40959	A025212F04	Arlee			1.60	80.47	CH	
04/11/2013	124000	Schweigert Dam	500	001A - Rainbow Trout		Not Sterile	2.00	0	2.45	1
7	46.49862	-104.21142	A025212F04	Arlee			1.60	80.47	CH	
04/11/2013	124050	Sidney Reservoir	1,000	001A - Rainbow Trout		Not Sterile	2.00	0	2.45	1
7	45.36900	-104.47350	A025212F04	Arlee			3.17	80.47	CH	
04/11/2013	124112	Spring Canyon Reservoir	400	001A - Rainbow Trout		Not Sterile	2.00	0	2.45	1
7	45.70525	-104.20183	A025212F04	Arlee			1.27	80.47	CH	
04/11/2013	229396	Temple Pond (Greg)	1,500	001A - Rainbow Trout		Not Sterile	2.00	0	2.45	1
7	47.27428	-104.32621	A025212F04	Arlee			4.76	80.47	CH	
04/11/2013	125150	West Plum Reservoir	600	001A - Rainbow Trout		Not Sterile	2.00	0	2.45	1
7	45.62910	-104.10100	A025212F04	Arlee			1.90	80.47	CH	
04/12/2013	211945	Boulware Reservoir	2,000	001A - Rainbow Trout		Not Sterile	2.00	12	6.00	1
7	46.31311	-104.98663	A025212F04	Arlee			6.34	57.60	JL	
04/12/2013	164650	Chamberlain Reservoir #3	1,500	001A - Rainbow Trout		Not Sterile	2.00	10	2.45	
7	47.47960	-107.52080	A025212F04	Arlee			4.76	78.83	CH	
04/12/2013	164660	Childers Pond	1,000	001A - Rainbow Trout		Not Sterile	2.00	10	2.45	1
7	47.47630	-107.54500	A025212F04	Arlee			3.17	78.83	CH	
04/12/2013	164703	Clark Reservoir	2,500	001A - Rainbow Trout		Not Sterile	2.00	10	2.45	
7	47.47021	-107.40700	A025212F04	Arlee			7.94	78.83	CH	
04/12/2013	164725	Clyde Saylor Pond	1,500	001A - Rainbow Trout		Not Sterile	2.00	10	2.45	
7	47.38160	-107.40685	A025212F04	Arlee			4.76	78.83	CH	
04/12/2013	166092	Jarden Reservoir #2	1,000	001A - Rainbow Trout		Not Sterile	2.00	10	2.45	1
7	47.23610	-107.27320	A025212F04	Arlee			3.17	78.83	CH	
04/12/2013	166415	Kreider Reservoir #2	1,500	001A - Rainbow Trout		Not Sterile	2.00	10	4.91	1
7	47.18540	-107.48470	A025212F04	Arlee			4.76	78.83	CH	
04/12/2013	166967	McRae Reservoir #1, Jack	2,000	001A - Rainbow Trout		Not Sterile	2.00	10	2.45	1
7	47.36740	-106.45450	A025212F04	Arlee			6.34	78.83	CH	
04/12/2013	166970	Meckle Reservoir #1	700	001A - Rainbow Trout		Not Sterile	2.00	10	2.45	1
7	47.21560	-107.43830	A025212F04	Arlee			2.22	78.83	CH	
04/12/2013	168045	Ryan Ponds	1,000	001A - Rainbow Trout		Not Sterile	2.00	10	2.45	1
7	47.41800	-107.52450	A025212F04	Arlee			3.17	78.83	CH	
04/12/2013	168056	Saylor Reservoir	1,000	001A - Rainbow Trout		Not Sterile	2.00	10	2.45	1
7	47.36680	-107.41310	A025212F04	Arlee			3.17	78.83	CH	

Appendix 1. Continued

Montana Fish, Wildlife & Parks

Fish Planting Report - By Date

Date Range: 04-01-13 - 10-15-13
Selections: All Current Lots All Archived Species Region 7

	Latitude	Longitude			Sterile				
04/12/2013	168709	Watt Reservoir	2,000	001A - Rainbow Trout	Not Sterile	2.00	10	2.45	1
7	47.53290	-107.27410	A025212F04	Arlee		6.34	78.83	CH	
05/14/2013	219000	Tongue River Reservoir	1,000,000	082F - Walleye	Not Sterile	0.25	280	6.00	1
7	45.08357	-106.80005	F141413W01	Fort Peck		4.50	98.00	JL	
06/11/2013	212527	Castle Rock Lake	1,000	082F - Walleye	Not Sterile	1.50	140	6.00	1
7	45.87800	-106.63160	F141413W01	Fort Peck		0.62	49.00	JK	
06/11/2013	219000	Tongue River Reservoir	50,000	082F - Walleye	Not Sterile	1.50	360	6.00	1
7	45.08357	-106.80005	F141413W01	Fort Peck		32.20	126.00	JK	
06/24/2013	120100	Beaver Creek	2,000	082F - Walleye	Not Sterile	1.80	280	6.00	1
7			F141413W01	Fort Peck		1.80	112.00	CH	
06/24/2013	218775	South Sandstone Reservoir	10,000	082F - Walleye	Not Sterile	1.80	140	6.00	1
7	46.32745	-104.43631	F141413W01	Fort Peck		9.04	56.00	CH	
07/17/2013	220001	SID SAMUELSON	1,000	017M - Largemouth Bass	Not Sterile	2.00	200	6.00	
7			M141413L01	Miles City		4.00	80.00	CH	
08/08/2013	000000	UTAH	20,125	017M - Largemouth Bass	Not Sterile	2.00	0	0.00	
7			M141413L01	Miles City		57.50	0.00	JMR	
STATE OF UTAH			PICKED AND PLANTED BY UTAH WILDLIFE RES.						
08/13/2013	000000	STATE OF NEW MEXICO	125,066	017M - Largemouth Bass	Not Sterile	2.50	0	0.00	1
7			M141413L01	Miles City		334.00	0.00	JMR	
			PICKED UP BY NEW MEXICO STEVE HOOPER						
08/13/2013	000000	State of New Mexico	151,684	073M - Smallmouth Bass	Not Sterile	2.00	0	0.00	
7			M141413S01	Miles City		684.00	0.00	JMR	
Rock Lake Hatchery			Picked up by New Mexico - Paul Sanchez						
10/15/2013	218815	Spotted Eagle Reservoir	28	017M - Largemouth Bass	Not Sterile	15.00	5	0.00	
7	46.39090	-105.85447	M141401L01	Miles City		70.00	2.00	CH	
			RETIRED BROOD						
10/15/2013	218815	Spotted Eagle Reservoir	192	073M - Smallmouth Bass	Not Sterile	17.00	5	0.00	
7			M141401S01	Miles City		576.00	2.00	CH	
			RETIRED BROOD						

Appendix 2. Hollecker Lake Kid's Fishing Pond Proposal, 2005.

PROJECT SUMMARY:

Hollecker Lake does not support a socially desirable fishery, despite a variety of attempted management alternatives over the past 40 years. From 1964 to 2005 cool and warm-water species (rainbow trout, brook trout, Yellowstone cutthroat trout, bluegill, crappie, largemouth bass, smallmouth bass, yellow perch, northern pike, and channel catfish) were stocked at various densities, sizes, and seasons. However, viable fisheries failed to establish; stocked species were infrequently sampled in the years following stocking and sampling efforts indicated an assemblage dominated by Yellowstone River fishes. Yellowstone River fishes access Hollecker Lake through the Buffalo Rapids Canal, which is the lone inlet. Although an inlet screen was installed to prevent invasion from the canal, design and maintenance logistics reduced its effectiveness; large mesh size and removal when debris accumulation was common allowed invasion. Hollecker Lake was chemically treated in 1994 to eliminate nonstocked species but was again dominated by Yellowstone River fishes the following year. Because of the difficulty of establishing stocked fish, Hollecker Lake is currently managed as a put-and-take trout pond; 1000 to 2000 catchable rainbow trout are stocked each spring and autumn. However, local angling and sporting groups have indicated that this management strategy is undesirable and establishment of a warmwater kid's fishing pond is preferred. Therefore, the goal of this project is to modify the Hollecker Lake stocking strategy, angling regulations, inlet screen, and spawning and rearing habitats to establish a viable warmwater kid's fishery.

A largemouth bass-yellow perch fishery will be established in Hollecker Lake. During December 2005 the lake will be drained and allowed to freeze to remove all fish. Largemouth bass fingerlings will be stocked in spring 2006 and 2007 at a density of 250 fish per hectare (Dauwalter and Jackson 2005). Because of the short growing season in eastern Montana, largemouth bass will likely not reach sexual maturity until the second or third season following stocking (Ball 1952, Salia 1952). Accordingly, adult yellow perch will be stocked in autumn 2007 or spring 2008 so their progeny will provide forage to the first lake-produced year class of juvenile bass (Ball 1952, Dauwalter and Jackson 2005). Delayed perch stocking will also safeguard against stunting while bass become established. Adult perch will be stocked at a density of 250 fish per hectare (Dauwalter and Jackson 2005). To provide angling opportunities while largemouth bass become established, 1000 catchable rainbow trout will be stocked in spring 2006 and 2007. Largemouth bass and rainbow trout will be obtained from the Miles City State Fish Hatchery and yellow perch will be transplanted from Johnson's Reservoir, Baker Lake, or Castle Rock Reservoir.

Hollecker Lake will be managed for high densities of small largemouth bass and low densities of large yellow perch. High densities of largemouth bass will create a high-quality kid's fishing pond (i.e., large numbers of catchable fish) and large yellow perch will provide a year-round angling opportunity for a highly desirable species. This management option requires overpopulation of small largemouth bass, which will reduce perch densities thereby preventing stunting and allowing attainment of large size (Guy and Willis 1991, Flinckinger et al. 1999). Accordingly, a 38-cm minimum length limit for largemouth bass will be imposed to establish high densities (Flinckinger et al. 1999). Management goals are a largemouth bass PSD of 20 and a yellow perch PSD of at least 50 by 2009 (Guy and Willis 1991). Largemouth bass will be annually sampled by night electrofishing and yellow perch by trap netting to assess attainment of management goals. Signs describing this management strategy, and all phases of the project, will be installed.

New screen installation and maintenance practices will reduce invasion and competition by canal fishes and enhance the foraging ability of largemouth bass. The primary factor contributing to the failure of

previous stocking efforts has been invasion of fish from the Buffalo Rapids Canal. To reduce the likelihood of invasion, the Glendive Chapter of Walleyes Unlimited has installed a new head gate structure with removable screens of two mesh sizes and a gate that will shut off all flow to the lake. Smaller mesh sizes will prevent access by juvenile or smaller-bodied fishes and the head gate can be closed to reduce access by larval fishes. Additionally, Walleyes Unlimited will assume responsibility for screen cleaning and maintenance to ensure that barriers to canal fish are in place at all times. The canal head gate will also be closed during periods of high turbidities to maintain clear water in the lake. Because largemouth bass are visual predators their growth and survival is positively correlated with water clarity (Stone and Modde 1982). Maintenance of water clarity to depths of at least 46 cm is essential to allow adequate largemouth bass predation to prevent overpopulation and stunting by yellow perch (Flinckinger et al. 1999).

Habitat enhancement will improve bass and perch spawning habitats and concentrate fish to improve angling opportunities. Christmas tree clusters will be placed throughout the lake to provide perch spawning habitat (Kratz 2005) and concentrate perch and bass for anglers (Johnson and Lynch 1992, Rogers and Bergersen 1999). Christmas trees will be placed at depths (4 feet) and orientation to prevailing winds (north and southeast edges) to maximize perch egg deposition (Kratz 2005). Littoral shallow-water bass spawning grounds will be constructed using gravel, logs, and boulders. A floating island will be installed to concentrate fish within casting distance of the handicap fishing access. Use and efficacy of all habitat features will be assessed with annual SCUBA surveys. All materials will be obtained and installed by the Glendive Chapter of Walleyes Unlimited and Montana Fish, Wildlife and Parks during winter 2006 when the lake is drained.

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