

**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 Warm Water Lakes Investigations

**FEDERAL GRANT:** F-113-R-7

**FISCAL YEAR:** 2017 (July 1, 2016 through June 30, 2017)

**REPORT PERIOD:** March 1, 2017 through November 1, 2017

**ABSTRACT**

Montana Fish, Wildlife & Parks (FWP) manages 102 ponds in Region 7. Forty-five of these ponds were visited by FWP Fisheries staff in 2017. Twenty-two of the managed ponds had fishable populations of target species, eight were void of fish, and fifteen ponds were only checked for depth. No new ponds were visited in 2017. Wild fish were transferred into two ponds by FWP in 2017. Yellow Perch from Johnson Reservoir, Yellow Perch and Fathead Minnows from Grants Reservoir and Yellow Perch and Northern Pike from Homestead Reservoir were transferred into Spotted Eagle. In addition, Spotted Eagle was stocked with Channel Catfish, Smallmouth Bass, Walleye and White Crappie from the Yellowstone River. Chamberlain #2 was stocked with Black and White Crappie from Tongue River Reservoir. Pond anglers in FWP region 7 are likely to see diminished success in 2018 as water levels throughout much of the region were extremely low, and pond surveys yielded lower catch rates. The fisheries in these managed ponds need a refilling event to increase water depth and promote fish survival and growth.

**PROCEDURES**

Ponds are classified as either managed or new. Managed ponds are those that are currently stocked by Fish, Wildlife & Parks (FWP). New ponds are those that have not been sampled or stocked by FWP in the last 20 years. Pond depths were measured using a Lucky Wireless portable depth finder. Pond locations were recorded using township, range and section as well as GPS coordinates in decimal degrees, geographic projection NAD 1983. 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, bag seine 100-foot-long by 0.25-inch mesh, mini-fyke nets with a 2 x 4-foot frame of 1/8<sup>th</sup>-inch mesh (bar measure) and/or hook and line. All fish were identified and counted, a sub-sample of up to 40 fish per species were measured for total length (mm) and weight (g). Metric measurements (Table 6) were converted to English equivalents to provide unit consistency between this report, stocking records, and the Region 7 Pond Fishing Guide.

## RESULTS AND DISCUSSION

### Wild Fish Transfer and Hatchery Stocking

Wild fish transfers are currently being used as a tool to augment existing populations of game fish, and to start new populations where they currently don't exist. Johnson Reservoir, Grants Reservoir, and Homestead Reservoir have been good donor waters for Yellow Perch in recent years. Drought conditions reduced the pool level in all three waterbodies to the point that complete winterkill is expected during the winter of 2017/2018. With winterkill anticipated regional staff made efforts to salvage fish from these waterbodies and use them to augment Spotted Eagle, an urban fishery in Custer County (Table 1). Fathead Minnows were transferred from Grants Reservoir to Spotted Eagle to augment forage production. Channel Catfish, Smallmouth Bass, Walleye and White Crappie were transferred from the Yellowstone River into Spotted Eagle. Chamberlain #2 received crappie from Tongue River Reservoir to augment an existing population.

Table 1. Wild fish transfers conducted in 2017.

Date	Receiving		Species	Number Transferred	Donor	
	Water	County			Water	County
April 10-11	Spotted Eagle	Custer	Yellow Perch	2320	Grants Reservoir	Prairie
April 10-11	Spotted Eagle	Custer	Northern Pike	67	Homestead Reservoir	Prairie
April 10-11	Spotted Eagle	Custer	Yellow Perch	201	Homestead Reservoir	Prairie
April 18	Chamberlain #2	Garfield	Crappie	22	Tongue River Reservoir	Bighorn
September 18-21	Spotted Eagle	Custer	Yellow Perch	4077	Johnson Reservoir	Dawson
September 18 & 20	Spotted Eagle	Custer	Yellow Perch	34	Homestead Reservoir	Prairie
September 18 & 20	Spotted Eagle	Custer	Northern Pike	26	Homestead Reservoir	Prairie
September 26-27	Spotted Eagle	Custer	Yellow Perch	464	Grants Reservoir	Prairie
September 26-27	Spotted Eagle	Custer	Fathead Minnow	1400	Grants Reservoir	Prairie
October 26	Spotted Eagle	Custer	Channel Catfish	45	Yellowstone River	Custer
October 26	Spotted Eagle	Custer	Smallmouth Bass	1	Yellowstone River	Custer
October 26	Spotted Eagle	Custer	Walleye	2	Yellowstone River	Custer
October 26	Spotted Eagle	Custer	White Crappie	1	Yellowstone River	Custer

There are five ponds on the list of proposed wild fish transfers to be completed in 2018 (Table 2). The fisheries budget has experienced a budget shortfall that resulted in a decrease in funding for 2018. Due to these budget cuts it is likely that only one Wild Fish Transfer will be completed in the spring and one transfer completed in the fall.

Table 2. Wild fish transfers proposed for 2018.

Date	Receiving		Species	Donor	
	Water	County		Water	County
2018	Spotted Eagle	Custer	Yellow Perch	South Sandstone/Maeir	Fallon
2018	Rattlesnake	Dawson	Crappie	Tongue River Reservoir	Bighorn
2018	Kreider #3	Garfield	Crappie	Tongue River Reservoir	Bighorn
2018	Chamberlain #2	Garfield	Crappie	Tongue River Reservoir	Bighorn
2018	Harlin Steiger	Treasure	Largemouth Bass	Castle Rock Reservoir	Rosebud

Three trout ponds were stocked with catchable Rainbow Trout (7-10 inches) from Bluewater Springs Hatchery (Table 3) in 2017. Miles City Hatchery stocked Rainbow Trout fingerlings (2 inches) into 45 ponds (Table 7). Miles City Hatchery stocked Channel Catfish in one pond, Walleye fingerlings into two ponds and Largemouth Bass into three ponds in 2017 (Table 7).

Table 3. Catchable Rainbow Trout stockings in 2017.

Date	Water Name	Number	Strain	Length(in)	Hatchery	Latitude	Longitude
5/1/2017	Hollecker Lake	750	Arlee	6.9	Bluewater Springs	47.12810	-104.72890
5/5/2017	Roerick Pond	225	Arlee	6.9	Bluewater Springs	45.37556	-105.30163
9/9/2017	Spotted Eagle	1037	Arlee	10.4	Bluewater Springs	46.39090	-105.85447

Non-Trout ponds without pre-existing populations of fish receive a one-time stocking of fish to establish a population that will reproduce on its own until winterkill or dewatering necessitates re-establishment of the population. Three ponds were stocked with bass in 2017 (Lake Harold, Harlin Steiger Reservoir and Marshall Reservoir) (Table 7). Lake Harold and Harlin Steiger Reservoir have pre-existing populations of non-target species that may make establishment of Largemouth Bass with fingerling hatchery stock difficult. Harlin Steiger Reservoir and Lake Harold were stocked with Largemouth Bass two years in a row (2016, 2017) to help establish these populations in the presence of non-target species.

### **Survey of New Ponds**

Regional fisheries staff will investigate new pond fishery opportunities when approached by interested landowners. Review typically begins by looking at the aerial photography for the pond location and checking past stocking records and private pond license history to determine if the proposed pond has been previously managed. A site visit follows where regional staff will check the pond for current and maximum water depth as well as make a valuation on the habitat potential and begin discussions with the landowner as to what species may be suitable in the waterbody. Many of the stock ponds and small reservoirs that are in the regional pond program were built prior to the 1960's. Siltation over the decades has made many of these waterbodies too shallow to sustain quality fisheries. Few deep, high quality ponds are being built in recent decades. This reality makes efforts like the draining and rebuilding of Baker Lake and Rattlesnake Reservoir important actions to revitalize the aging ponds program. No new ponds were inspected in 2017.

### **Survey of Managed Ponds**

#### **Carter County**

##### **Doug Gardner**

Thirty-One Yellow Perch and 28 Northern Pike were captured with two experimental gillnets in Doug Gardner Reservoir. Yellow Perch ranged in size from 5 to 7 inches (average 6 inch) and Northern Pike ranged in size from 18 to 29 inches (average 24 inch) were captured. Doug Gardner was 18 feet deep, 12 feet from full pool.

### Doug Gardner #2

Four species were sampled using hook and line at Doug Gardner #2: Black Crappie, Green Sunfish, Largemouth Bass and Yellow Perch. Black Crappie averaged 11 inches. Max water depth sampled was 20 feet, and the reservoir was 10 feet from full pool.

### Frigid

No fish were captured with hook and line in Frigid. Frigid was 5.5 feet deep, and the reservoir was 7 feet from full pool.

### Cheesman

Eighty Green Sunfish were captured with hook and line in Cheesman Reservoir ranging in size from 3 to 9 inches.

### Pat Labree

Fifteen Rainbow Trout (average 8 inches) were captured with two experimental gillnets in Pat Labree. Pat Labree was 12 feet deep, and the reservoir was 10 feet from full pool.

### Sidney

Four Rainbow Trout were captured with hook and line in Sidney Reservoir ranging in size from 12 to 16 inches. Sidney was 10.5 feet deep, and the reservoir was 10 feet from full pool.

## Custer County

### Dan Haughian (Haughian Bass Pond)

Dan Haughian was checked for depth only. The reservoir was 13 feet deep, and was 4 feet from full pool.

### Dean S

Dean S chronically winterkills due to minimal water depth. The maximum depth of Dean S was 3 feet and the reservoir was ten feet from full pool. A significant winterkill was confirmed with dead Rainbow Trout found throughout the pond. Rainbow Trout were not restocked in 2017 due to lack of depth, stocking will resume when water levels recover.

### Boulware

Boulware was checked for winterkill and depth in April 2017. A partial winterkill was evident as dead Rainbow Trout were found along the shore. Depth survey of Boulware found a maximum depth of 13 feet at time of survey. The reservoir was 8 feet from full pool.

### Henry Haughian (Haughian Trout Pond)

Three Rainbow Trout were captured with an experimental gill net at Henry Haughian, the fish caught were small, from the April 2017 stocking. Henry Haughian was 8 feet deep and the reservoir was 10 feet from full pool.

### Pat Beardsley

Pat Beardsley was surveyed for depth only. Maximum depth was 14 feet and the reservoir was 3 feet from full pool.

### Rest Reservoir

Rest Reservoir was surveyed for depth only. Maximum depth was 2 feet and the reservoir was 18 feet from full pool.

## Spotted Eagle

Spotted Eagle in Miles City continues to be popular with local fisherman and other recreationists. 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 of Miles City built a handicap accessible fishing pier near the outlet channel. In 2014, the City of Miles City installed a restroom purchased by Walleyes Unlimited. An outdoor classroom was completed in the summer of 2015. Wet conditions in 2010, 2011, 2013, and 2014 have provided ample opportunity for riverine species (e.g. Common Carp, River Carpsuckers, Goldeye, Shorthead Redhorse Suckers, Smallmouth Buffalo, and Largemouth Buffalo) to move into Spotted Eagle through the outlet channel or across the floodplain. The low elevation change from Spotted Eagle to the Tongue River makes fish movement into the pond easier when water levels rise in the Tongue River. In 2016, Walleyes Unlimited placed a fish barrier in the outlet channel. The barrier is intended to reduce the frequency of these migrations which will make mechanical removal efforts between migrations more effective. The barrier has six feet of drop from the outlet of Spotted Eagle to the Tongue River (at base flow). In 2017, Walleyes Unlimited, the City of Miles City and Miles Community College Heavy Equipment Class created a fishing jetty to create additional fishing habitat and to provide access for shore anglers. Increased public use of Spotted Eagle demands continued monitoring and improvements to the fishery. Christmas trees were sunk to provide fish habitat in 2017, an effort that has occurred annually since 2005. The Christmas tree project will be continued in 2018. River Carpsuckers were the only river species found in abundance in Spotted Eagle during 2017 samples. Smallmouth Buffalo and Shorthead Redhorse were found in low abundances. Efforts to mechanically remove non-target fish with gill nets and electrofishing were conducted in 2012, 2013 and 2017. In 2017 there were 21 days of varying effort to remove non-target fish. A total of 876 fish were removed from Spotted Eagle in 2017 (Table 4). Focused efforts to mechanically remove non-target species will continue in 2018.

Table 4. Number of fish Removed from Spotted Eagle by date and species during 2017 mechanical removal efforts.

	Bigmouth Buffalo	Black Bullhead	Common Carp	Goldeye	River Carp sucker	Shorthead			
						Redhorse Sucker	Smallmouth Buffalo	White Sucker	Yellow Bullhead
6/5	1		1	1	6		3		
6/6	12		3	1	156		37		
6/7	4	2	49		35		12		1
6/9					11		1		
6/12	4	5	3		32	1	8	2	1
6/13		2	1		4		2	2	
6/14		2	9		9		1	5	2
6/15	6	5	3		13		4	3	
6/16		1	2		9		2	1	
6/20					18	4	1	3	
6/22	3	2	2		2		1		1
6/23	9		5		10	8	4	2	1
7/7	6	3	6		17		10		
7/14	13				2		3		
7/20									
7/21	5	3	48		10	1	6		4
7/28	4	1	3		4		6		1
8/4	9				10	1	9		
8/14	25		12		9	2	2		1
8/29	1		2	1	12		5	2	
9/8	24	5	1		12		10	1	1
Totals	126	31	150	3	381	17	127	21	13

Fifteen species were found in Spotted Eagle in 2017 during the annual sampling effort. White Crappie was the most abundant species sampled at 42.4 fish per trap followed by Black Crappie at 17.2 fish per trap; Bluegill, Channel Catfish, Northern Pike, Walleye and Yellow Perch were other sport fish that were caught. White Crappie catch rates were the highest since traps have been used.

Efforts continued in 2017 to improve angling opportunities at Spotted Eagle by transferring in adult sportfish. Yellow Perch and Northern Pike were transferred from Homestead Reservoir in April and September 2017; Yellow Perch were also transferred from Johnson Reservoir in September 2017; Yellow Perch from Grants Reservoir in April and September 2017; Fathead Minnows from Grants Reservoir in September 2017; Channel Catfish, Smallmouth Bass, Walleye and White Crappie from the Yellowstone River in October 2017 (Table 5). Anecdotal evidence suggests anglers are reaping benefits from removing non-target fish, and transfers in sport fish.

Table 5. Summary of sport fish transferred to Spotted Eagle in 2017.

Species	Count	Average Length (in)	Average Weight (lbs)	Length Range (in)	Weight Range (lbs)
Yellow Perch	5542	6.4	0.2	3.2-12.5	.1-1.3
Walleye	10	16.8	1.6	13.4-22.8	.7-3.9
Smallmouth Bass	4	10.8	0.8	8.3-12.8	.3-1.3
Black Crappie	1	10.7	0.6	10.7	0.6
Channel Catfish	9	18.3	2.2	13.5-24.5	.6-5.6
Northern Pike	27	19	1.7	15.4-33	.8-8.7

**Dawson County**

**Hollecker Lake**

Despite a major winterkill in 2016/2017, ten species were collected in Hollecker Lake when sampled in 2017. Largemouth Bass, Fathead Minnow and Rainbow Trout are the only species FWP has stocked since the lake was drained in the fall of 2005. Yellow Perch were the most abundant species found at 127 fish per gill net (Figure 1). The Yellow Perch sampled in 2017 were likely from the 2016-year class that survived the winterkill of 2016/2017. All other species present entered Hollecker through the irrigation water supply or from illegal introductions. The relative abundance of all introduced species is low, with the exceptions of Yellow Perch, but may still interfere with the managed fishery. During the 2017 season, Green Sunfish were captured in Hollecker for the first time in since 1988.

The abundance of Yellow Perch should provide opportunity for anglers, particularly young anglers due to the constant influx of Yellowstone River fish. Hollecker has been stocked with catchable size Rainbow Trout since 2016 to provide a viable fishery.

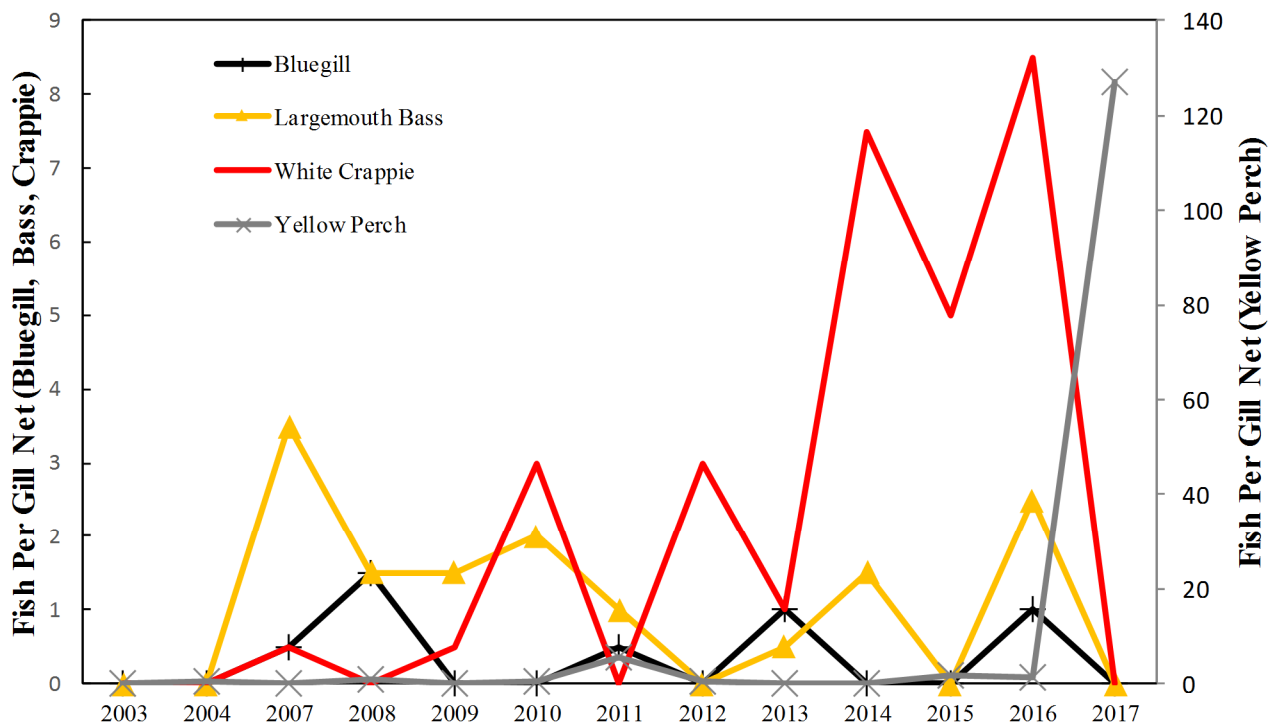


Figure 1. Catch per gill net for Bluegill, Largemouth Bass, White Crappie and Yellow Perch in Hollecker Lake, 2003-2017.

Rattlesnake

Rattlesnake Reservoir was surveyed for depth only. The reservoir had a maximum depth of 9 feet, and it was 2 feet from full pool. Bureau of Land Management (BLM) plans to rebuild the dam and spillway by December 2017. The estimated maximum depth will be 15 feet at full pool. If sufficient water depth is available, crappie are proposed to be transferred from Tongue River Reservoir to Rattlesnake Reservoir in 2018.

Johnson Reservoir

Johnson Reservoir was sampled with one experimental gill net set overnight. Yellow Perch were abundant with 252 caught ranging in size from 7 inches to 14 inches (averaging 10 inches). The reservoir was 5 feet deep and was 6 feet from full pool. Due to the high likelihood of winterkill approximately 4,100 Yellow Perch were transferred from Johnson Reservoir to Spotted Eagle in September 2017.

Lindsay Reservoir

Lindsay Reservoir was sampled with two experimental gill nets set overnight. Northern Pike and Walleye were the most abundant species found. Average length of Northern Pike was 23 inches and Walleye was 19 inches. The reservoir was 7 feet deep and was 5 feet from full pool.

Marvin Burman

Marvin Burman was sampled with one experimental gill net set for approximately 2 hours. Three Rainbow Trout were captured in the net. The reservoir was 9.5 feet deep and was 3 feet from full pool.



### Prairie Goat

The BLM is working to repair the spillway at Prairie Goat Reservoir and to deepen the reservoir to the original depth when it was built. The work done on Prairie Goat Reservoir should make it suitable to be planted with fish once the project is complete. Construction on Prairie Goat should be completed by December 2017. If sufficient water depth is available fish are proposed to be planted in Prairie Goat Reservoir in 2018.

## Fallon County

### Baker Lake

Baker Lake was last sampled in 2016. From 2010 to 2016, 3,267 pre-spawn Yellow Perch, 405,000 Northern Pike fry, 6,126 Northern Pike fingerlings, 513 crappie, and 3,000 catchable Rainbow Trout have been transferred/stocked into Baker Lake. In 2016, 11 Rainbow Trout were captured in gill net samples and only Black Bullheads were found in abundance. Baker Lake in its current condition has not been providing suitable habitat for stocked and transferred sport fish and only Black Bullheads seem to be tolerant enough of the low oxygen conditions to persist. A tornado hit Baker in 2016 and left loads of debris in the lake. The lake was dewatered in 2017 as part of a FEMA (Federal Emergency Management Agency) funded project to clean up the debris. Fallon County was already planning and raising funds for a Baker Lake improvement project and the need to drain the lake suits both purposes. The county is taking the opportunity implement a major lake and wetland restoration project that will take approximately 2 years to complete and enhance fish habitat through depth contouring and structure creation. The total cost is approximately 8.5 million dollars (Billings Gazette 2017). Baker Lake will be deepened substantially to 15-17 feet; the current average depth is approximately 6 feet. Year-round aeration with several waterfalls will be included. Fish will be planted when the restoration project is completed.

### Pinnow #1

Pinnow #1 was checked for depth only. The reservoir was 9 feet deep, 1 foot from full pool.

### Pinnow #2

Pinnow #2 was checked for depth only. The reservoir was 8 feet deep, 4 feet from full pool.

### South Sandstone Reservoir

Black Bullhead were the most abundant species sampled in gill nets at South Sandstone Reservoir (Figure 2). Catch rates for Yellow Perch increased from 2013 to 2016, but were slightly decreased in 2017 (Figure 2). Average length of Yellow Perch caught in gill nets was 7 inches in the 2017, fish ranged from 6 to 8 inches. Lengths of Walleye captured ranged from 19 inches to 22 inches (average length was 21 inches) in gill nets in 2017. Northern Pike caught in gill nets had an average length of 25 inches with fish up to 31 inches. Angler opportunity for Yellow Perch and Northern Pike at South Sandstone continue to make this reservoir one of the best in the region.

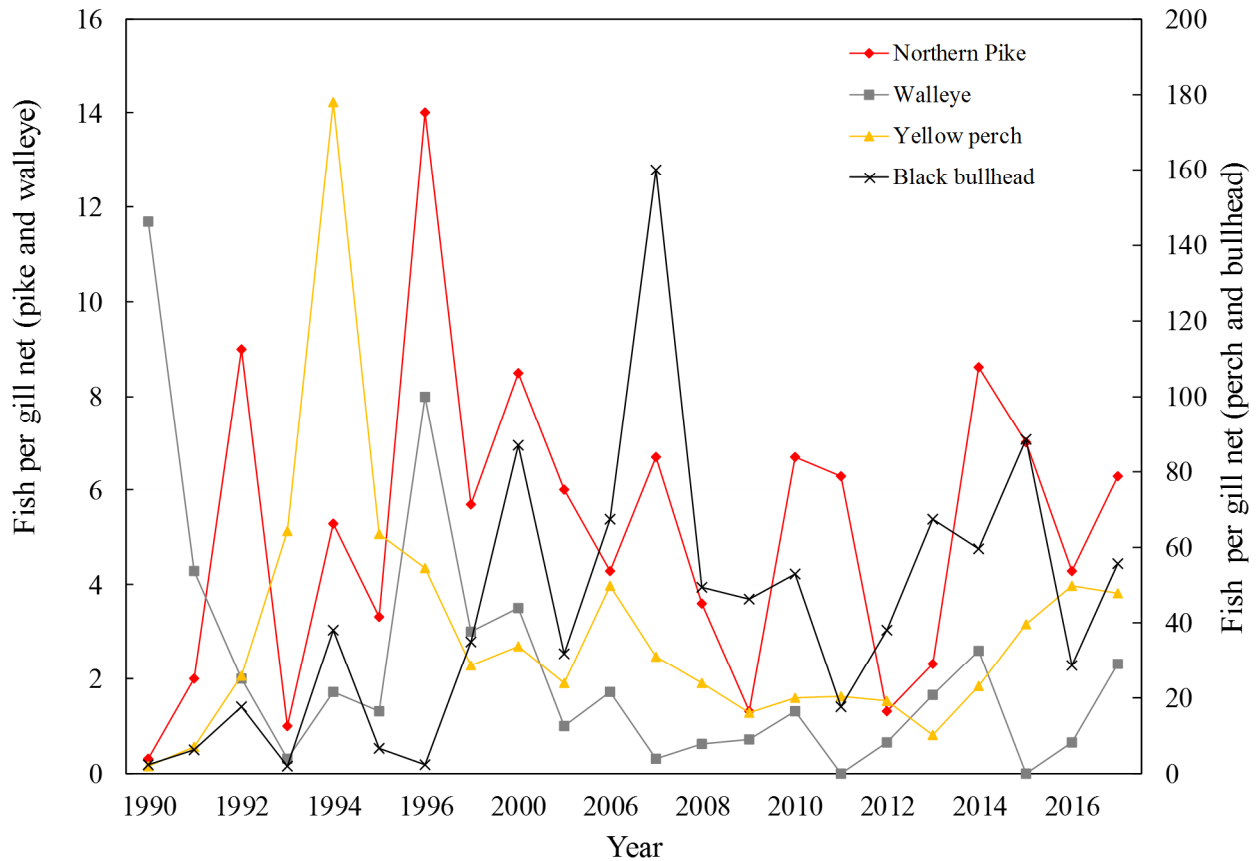


Figure 2. Catch per gill net for Northern Pike, Walleye, Yellow Perch and Black Bullhead in South Sandstone Reservoir, 1990-2017.

**Garfield County**

**Chamberlain #1**

Chamberlain #1 was sampled with hook and line; 21 Largemouth Bass were captured ranging in size from 6 inches to 12 inches long (averaging 10 inches long). Chamberlain #1 was 5 feet deep, 4 feet from full pool.

**Chamberlain #2**

Twenty-two crappie were transferred from Tongue River Reservoir to Chamberlain #2 on 4/18/2017. Chamberlain #2 was 25 feet deep, 1 foot from full pool. Two overnight experimental gill nets captured

1 Channel Catfish, 28 Common Carp and 2 White Crappie. More crappie from Tongue River Reservoir are proposed to be transferred in 2018.

#### Don Jarden #1

Don Jarden #1 was sampled with two experimental gill nets set overnight yielding no fish. The reservoir was 9 feet deep, 8 feet from full pool.

#### Don Jarden #2

Don Jarden #2 was sampled with one experimental gill net set overnight yielding no fish. The pond was 7 feet deep, 7 feet from full pool.

#### Jack McRae #1

Jack McRae #1 was checked for depth only, the pond was 3 feet deep, 7 feet from full pool.

#### John Ryan #1

John Ryan #1 was sampled with an experimental gill net set overnight. No fish were captured. The pond was 14 feet deep, 1 foot from full pool.

#### Clark

Six Rainbow Trout were captured with hook and line sampling at Clark Reservoir. Average weight was 2.2 pounds, with fish up to 2.8 pounds. Trout ranged from 14 inches to 20 inches long. Clark Reservoir was 17 feet deep, 20 feet from full pool.

### **Powder River County**

#### Mud Turtle

Mud Turtle Reservoir was checked for depth only, it was 10 feet deep at full pool.

### **Prairie County**

#### Reukauf (Harms)

Reukauf (Harms) was dry when sampled in 2017.

#### Silvertip Reservoir

Silvertip Reservoir was sampled with an experimental gill net set overnight, no fish were captured. The reservoir was 8 feet deep, 10 feet from full pool.

#### South Fork Reservoir

South Fork Reservoir was checked for depth only. It was 1 foot deep, 12 feet from full pool.

#### Clarks Reservoir

Clarks Reservoir was checked for depth only. It was 4.5 feet deep, 8 feet from full pool.

#### Courtney Ayers

Courtney Ayers was checked for depth only. The pond was 11 feet deep, 6 feet from full pool.

Courtney Ayers suffered a substantial winterkill in 2016/2017. Rainbow Trout were stocked in 2017 and Largemouth Bass will be stocked in 2018.

### Marshall Reservoir

Marshall Reservoir was checked for depth only. The reservoir was 12.5 feet deep, 3 feet from full pool. Marshall suffered a substantial winterkill in 2016/2017. Largemouth Bass were stocked in the summer of 2017.

### Oil Pump

Oil Pump Reservoir was sampled with one experimental gill net set overnight. Twenty-Six Rainbow Trout were captured and ranged in length from 5 to 14 inches (average 11 inches). The reservoir was 7 feet deep, 10 feet from full pool.

### Homestead Reservoir

Homestead Reservoir was AIS and disease tested in 2014. AIS and disease tests were negative, thus Homestead Reservoir was used as a transfer source to Spotted Eagle in 2017. Ninety-Three Northern Pike and 235 Yellow Perch were transferred into Spotted Eagle from Homestead in 2017 (Table 1; Table 5). of the initial plant of adults, assumed natural reproduction, and fingerling Northern Pike stocked in 2014 resulted in quality angling opportunity for Northern Pike from 2015 to 2017. Trap net success for transfer of Yellow Perch has been less than expected and is hypothesized to be due to shoreline avoidance while Northern Pike are cruising and spawning in nearshore vegetation in the spring. Northern Pike sampled in 2017 had an average length of 22 inches, with fish up to 41 inches. Homestead Reservoir was 4 feet deep, 8 feet from full pool. The lack of depth is expected to cause winterkill in 2017/2018. Regional staff attempted to salvage fish from Homestead in the fall but with a max depth of 4 feet nearly the entire reservoir was standing aquatic vegetation, making trap-netting unproductive.

### Grants Reservoir

Grants Reservoir was a new pond in 2014 that we attempted to stock it with only female Yellow Perch as an experimental effort to establish a trophy population. Yellow Perch exhibit sexual size dimorphism, with adult females typically being larger than the males at a given age. Females mature later allowing more time for energy to be put into body growth. This biological principle in the absence of density dependent factors should have resulted in a population of all female Yellow Perch that could be expected to exceed ten inches relatively quickly. The experiment had early indications of success as mean total length of the Yellow Perch planted increased from 5.2 inches to 9.4 inches in 6 months (Figure 3). Sampling in spring 2015 found male Yellow Perch in Grants Reservoir suggesting some of the fish transferred in 2014 were misidentified. Yellow Perch can reach 14 inches in length and 2 pounds in weight, but high fecundity and annual reproductive success often cause density dependent factors to result in populations with high relative abundance but small average size. This density dependence is being observed as the abundance of Yellow Perch has drastically increased after apparently successful spawning events from 2014-2017, and the average total length of Yellow Perch has decreased (Figure 3). The average length of Yellow Perch in 2017 was 4.9 inches. AIS and disease tests of Grants Reservoir in 2016 were negative, allowing 2,784 Yellow Perch and 1,400 Fathead Minnows to be transferred to Spotted Eagle in 2017.



Figure 3. Yellow Perch average length and average weight in Grants Reservoir from 2014 to 2017.

**Richland County**

**Gartside Reservoir**

Natural reproduction for Northern Pike has generally been successful at Gartside Reservoir. Northern Pike stocking in the reservoir was discontinued in 2004 to evaluate natural spawning and recruitment. Catch rates of Northern Pike in 2017 were close to the long-term average (Figure 4). The highest recorded catch rate of Northern Pike in 2010 was partially attributed to increased sampling efficiency of gill nets while pool level was reduced for construction of a fishing pier.

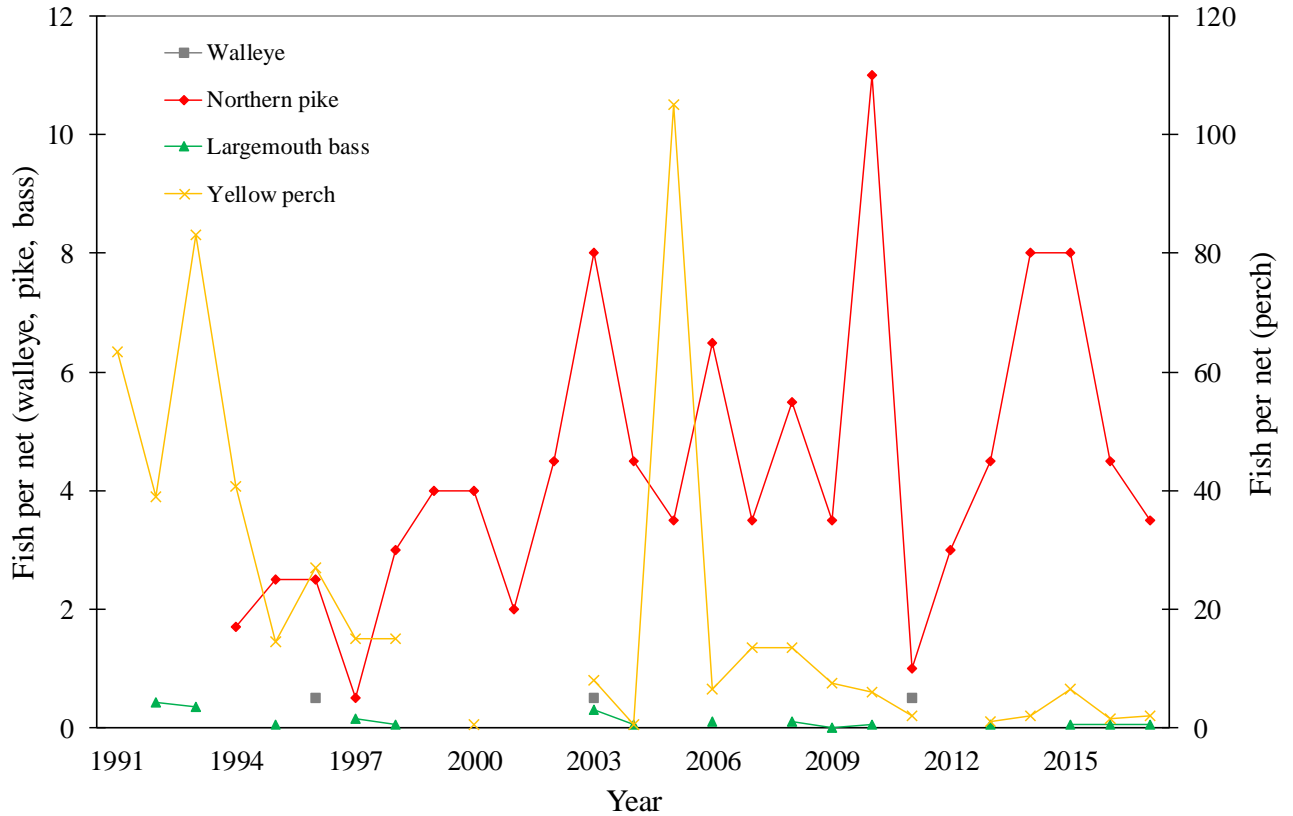


Figure 4. Catch rate (fish per gill net) of Walleye, Northern Pike, Largemouth Bass, and Yellow Perch from Gartside Reservoir, 1991-2017.

Gartside Reservoir received an experimental stocking of 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 Muskies 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. Survival of individuals from the 2010 stocking was thought to be low. Three Tiger Muskie were sampled in 2011 gill net and seine haul efforts, but have not been sampled since.

### **Rosebud County**

#### **A.G. Lee #2**

A.G. Lee #2 was sampled with two experimental gill nets set overnight and 76 Green Sunfish and 15 Largemouth Bass were captured. Largemouth Bass averaged 8 inches long. The reservoir was 8 feet deep, 5 feet from full pool.

### A.G. Lee Pit

A.G. Lee Pit was sampled with an experimental gill net set overnight and no fish were captured. The pond was 5.5 feet deep, 4 feet from full pool.

### A.G. Lee Pit #2

Hook and line sampling at A.G. Lee Pit #2 yielded 8 Largemouth Bass with an average length of 11 inches. A.G. Lee Pit #2 was 7 feet deep, 5 feet from full pool.

### Blacks Sawmill

Blacks Sawmill was surveyed for depth only. It was 16.5 feet deep and 3 feet from full pool.

### Castle Rock Lake

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. Annual walleye stocking rates were reduced 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 then. Bluegill catch rates in 2016 and 2017 reached their highest since the early 1990's with fish averaging 6 inches in length in 2017 (Figure 5; Figure 6). Aquatic invasive species and disease testing was completed on Castle Rock Reservoir in 2015 so that the reservoir could offer a source for adult Largemouth Bass transfers.

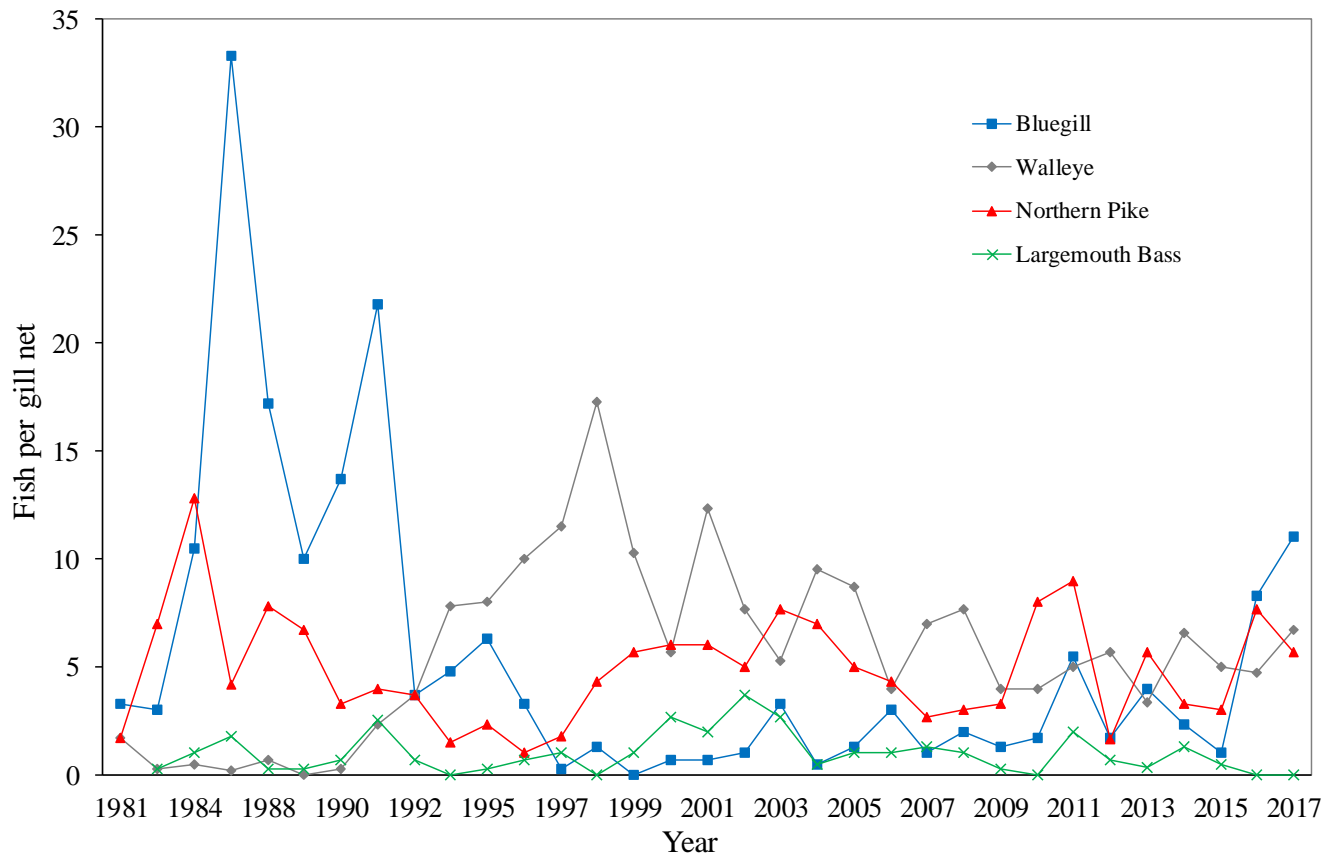


Figure 5. Catch per gill net for Bluegill, Walleye, Northern Pike and Largemouth Bass from Castle Rock Lake, 1981-2017.



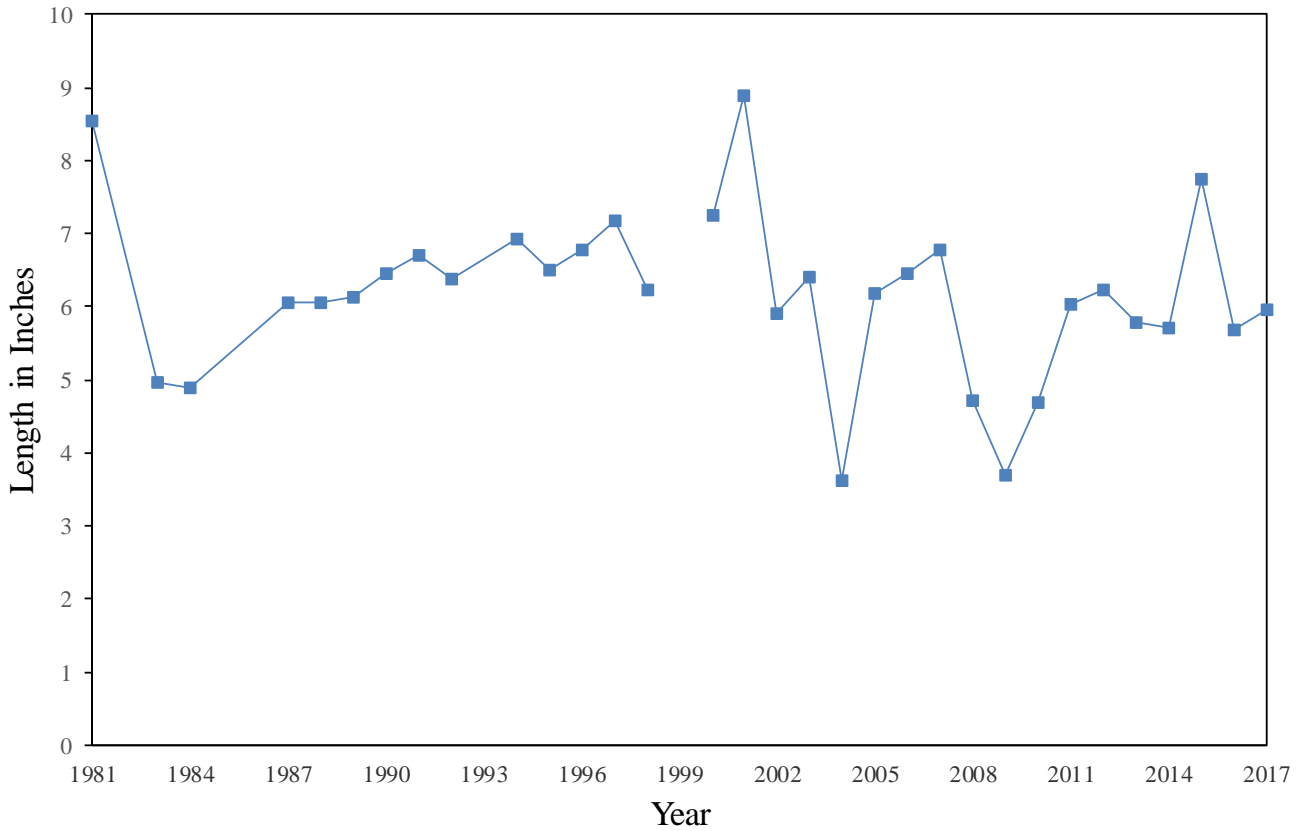


Figure 6. Size distribution of Bluegill captured from Castle Rock Lake, 1981-2017.

**Treasure County**

No ponds were sampled in Treasure County in 2017.

**Wibaux County**

**Temple Pond**

Temple Pond was sampled for depth only. It was 4.5 feet deep and 10 feet from full pool.

Prepared by: Kevin McKoy

Date: December 2017

**Waters referred to:**

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

## Keywords

Small ponds  
Largemouth bass  
Northern pike  
Rainbow trout  
Crappie

Yellow perch  
Smallmouth bass  
Bluegill  
Walleye  
Black & Yellow bullhead

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**Table 6. Results of sampling managed reservoirs in 2017.**

Reservoir Name	Date	Depth/ Ft from Type of		Species	Number Caught	Mean	Mean	Length	Weight
		full	Sample			Length (mm)	Weight (gr)	Range (mm)	Range (gm)
<b><u>Carter County</u></b>									
Cheesman	7/18/2017		hook and line	Green Sunfish	80	160	94	90-222	40-230
Doug Gardner	6/28/2017	18/12	gillnet (2)	Yellow Perch	31	164	58	142-190	40-90
				Northern Pike	28	617	1499	457-748	580-2590
Doug Gardner #2	6/28/2017	20/10	hook and line	Black Crappie	25	278	286	259-291	240-350
				Green Sunfish	3	201	93	197-205	60-110
				Largemouth Bass	11	364	823	206-486	110-1480
				Yellow Perch	31	180	59	135-294	10-220
Frigid	7/18/2017	5.5/7	hook and line	No Fish					
Pat Labree	7/18/2017	12/10	gillnet (2)	Rainbow Trout	15	195	104	159-217	50-140
Sidney	7/18/2017	10.5/10	hook and line	Rainbow Trout	4	364	580	300-400	350-740
<b><u>Custer County</u></b>									
Boulware	4/4/2017	13/8	depth check						
Dan Haughian	3/28/2017	13/4	depth check						
Dean S	4/4/2017	3/10	depth check						
Henry Haughian #1	3/28/2017	12/6	depth check						
	6/27/2017	8/10	gillnet	Rainbow Trout	3				
Pat Beardsley	4/4/2017	14/3	depth check						
Rest Reservoir	4/4/2017	2/18	depth check						
Spotted Eagle	6/19/2017		fyke (5)	Bluegill	2	140	40	129-150	30-50
				Black Crappie	86	168	55	103-260	10-140
				Channel Catfish	1	365	370	365	370
				Green Sunfish	1	121	10	121	10
				Northern Pike	2	688	2075	623-752	1190-2960
				Pumpkinseed	1	86		86	
				River Carpsucker	19	423	1262	302-575	270-3180
				Shorthead Redhorse	5	290	302	210-386	110-620
				Smallmouth Buffalo	1	244	230	244	230
				White Sucker	2	359	450	335-383	410-490
				Walleye	4	376	498	299-454	190-1000
				White Crappie	212	169	52	90-320	10-450
				Yellow Perch	5	166	42	114-204	10-80
			seine haul (5)	Bluegill	22	119	81	43-170	20-110
				Black Crappie	22	153	73	98-197	20-120
				Freshwater Drum	1	287	270	287	270
				Largemouth Bass	4	116	55	97-166	10-100
				Pumpkinseed	2	140	30	105-175	20-40
				River Carpsucker	1	140	50	140	50
				White Crappie	51	162	89	106-211	20-150
				Yellow Perch	10	104	58	31-165	10-100

**Table 6. Results of sampling managed reservoirs in 2017 continued.**

Reservoir Name	Date	Depth/		Species	Number Caught	Mean	Mean	Length	Weight
		Ft from full	Type of Sample			Length (mm)	Weight (gr)	Range (mm)	Range (gm)
Spotted Eagle	4/10/2017		WFT Plant	Yellow Perch	1323	202	134	170-242	80-230
				Northern Pike	40	548	1227	382-930	350-4850
	4/11/2017		WFT Plant	Yellow Perch	1198	126	45	136-210	30-120
				Northern Pike	27	501	876	410-783	390-3220
	9/18/2017		WFT Plant	Yellow Perch	2615	190	144	85-245	10-230
				Northern Pike	15	528	1046	420-1050	500-5000
	9/19/2017		WFT Plant	Yellow Perch	675				
	9/20/2017		WFT Plant	Northern Pike	11	639	1905	450-890	490-4050
				Yellow Perch	421	202	111	170-232	70-130
	9/21/2017		WFT Plant	Yellow Perch	400				
	9/26/2017		WFT Plant	Yellow Perch	364				
				Fathead Minnow	1000				
	9/27/2017		WFT Plant	Yellow Perch	100				
				Fathead Minnow	400				
	10/26/2017		WFT Plant	Walleye	2	430	750	385-474	600-900
				White Crappie	1	276	400	276	400
Smallmouth Bass				1	356	960	356	960	
Channel Catfish				45	555	1746	457-694	1000-3860	
				<b><u>Dawson County</u></b>					
Hollecker	7/26/2017		gillnet (2)	Green Sunfish	8	117	33	106-141	20-70
				Longnose Sucker	3	236	143	234-238	140-150
				Rainbow Trout	12	210	105	175-226	60-120
				Shorthead Redhorse	1	272	260	272	260
				White Sucker	3	302	377	289-312	300-430
			seine haul (1)	Yellow Bullhead	1	330	750	330	750
				Yellow Perch	254	177	74	150-221	50-140
				Bluegill yoy	24	27		19-35	
				Bigmouth Buffalo yoy	2	45		43-47	
				Crappie yoy	1	50		50	
			Yellow Perch yoy	41	79		64-90		
Johnson Reservoir	3/28/2017	4.5/6	depth check						
	8/2/2017	5/6	gillnet (1)	Yellow Perch	252	247	188	187-360	70-520
	9/18/2017		transfer	Yellow Perch	2602	190	144	85-245	10-230
	9/19/2017		transfer	Yellow Perch	675				
	9/20/2017		transfer	Yellow Perch	400	202	111	170-232	70-130
	9/21/2017		transfer	Yellow Perch	400				

**Table 6. Results of sampling managed reservoirs in 2017 continued.**

Reservoir Name	Date	Depth/ Ft from		Type of Sample	Species	Mean	Mean	Length	Weight	
		full				Number	Length	Weight	Range	Range
						Caught	(mm)	(gr)	(mm)	(gm)
Lindsay Reservoir	8/2/2017	7/5	gillnet (2)	Black Bullhead	30	165	61	143-190	30-100	
				Common Carp	8	420	946	190-507	120-1560	
				Northern Pike	16	585	1338	275-811	120-3030	
				Walleye	11	493	1301	350-580	450-2050	
				Yellow Perch	2	180	70	178-181	70	
Marvin Burman	7/13/2017	9.5/3	gillnet (1)	Rainbow Trout	3	189	100	189	100	
Rattlesnake Reservoir	3/28/2017	9/2	depth check							
<b><u>Fallon County</u></b>										
Arnold Pinnow	4/4/2017	9/1	depth check							
Arnold Pinnow #2	4/4/2017	8/4	depth check							
South Sandstone	7/24/2017		seine haul (3)	Black Bullhead	2	210	105	204-216	70-140	
				Largemouth Bass	1	154	50	154	50	
				Largemouth Bass yoy	1	55		55		
			Northern Pike	1	656	1850	656	1850		
			Yellow Perch	178	161	53	108-215	10-110		
			Yellow Perch yoy	9	56		53-59			
			gillnet (3)	Black Bullhead	167	199	119	171-251	60-230	
				Black Crappie	3	210	120	199-215	120	
				Green Sunfish	1	91		91		
				Largemouth Bass	1	155	50	155	50	
				Northern Pike	19	637	1774	438-788	470-3500	
				Walleye	7	520	1471	491-568	1140-2050	
				Yellow Perch	143	178	70	146-202	30-120	
<b><u>Garfield County</u></b>										
Clark	7/5/2017	17/20	hook and line	Rainbow Trout	6	468	1013	350-520	500-1250	
Curtis Chamberlain #1	7/5/2017	5/4	hook and line	Largemouth Bass	21	262	237	170-305	130-300	
Curtis Chamberlain #2	7/5/2017	25/1	gillnet (2)	Channel Catfish	1	650	2560	650	2560.0	
				Common Carp	28	168	58	124-215	20-100	
				White Crappie	2	303	400	301-305	380-420	
Curtis Chamberlain #2	4/18/2017		WFT Plant	Black Crappie	6	220	202	155-279	60-320	
				White Crappie	16	255	308	136-413	40-1240	
Don Jarden #1	7/17/2017	9/8	gillnet (2)	No Fish						
Don Jarden #2	7/17/2017	7/7	gillnet (1)	No Fish						
Jack McRae #1	7/17/2017	3/7	depth check							
John Ryan #1	7/5/2017	14/1	gillnet (1)	No Fish						
<b><u>Powder River</u></b>										
<b><u>County</u></b>										
Mud Turtle	3/27/2017	10/0	depth check							

**Table 6. Results of sampling managed reservoirs in 2017 continued.**

Reservoir Name	Date	Depth/ Ft from Type of		Species	Mean Number Caught	Mean Length (mm)	Mean Weight (gr)	Length Range (mm)	Weight Range (gm)			
		full	Sample									
<b><u>Prairie County</u></b>												
Clarks	3/28/2017	4.5/8	depth check									
Courtney Ayers	4/4/2017	11/6	depth check									
Grants	3/28/2017	6/6	depth check									
				transfer	Yellow Perch	1250						
				transfer	Yellow Perch	1070	126	45	136-210	30-120		
				transfer	Yellow Perch	364						
					Fathead Minnow	1000						
				transfer	Yellow Perch	100						
	9/27/2017		transfer	Yellow Perch	100							
				Fathead Minnow	400							
Harms	3/28/2017	0/15	depth check									
Homestead	4/10/2017		transfer	Yellow Perch	73	202	134	170-242	80-230			
				Northern Pike	40	548	1227	382-930	350-4850			
				transfer	Yellow Perch	128	198	103	172-232	70-210		
				Northern Pike	27	501	876	410-783	390-3220			
				9/18/2017	4/6	transfer	Yellow Perch	13	268	332	165-340	150-590
				Northern Pike	15	528	1046	420-1050	500-5000			
	9/20/2017		transfer	Yellow Perch	21	217	207	135-322	70-460			
				Northern Pike	11	639	1905	450-890	490-4050			
Marshall	4/4/2017	12.5/3	depth check									
Oil Pump Reservoir	6/27/2017	7/10	gillnet (1)	Rainbow Trout	26	278	249	137-350	30-420			
Silvertip	3/28/2017	10/8	depth check									
				6/27/2017	8/10	gillnet (1)	No Fish					
South Fork	3/28/2017	1/12	depth check									
<b><u>Richland County</u></b>												
Gartside	7/27/2016		gillnet (2)	Bluegill	4	142	48	130-160	30-70			
				Largemouth Bass	1	156	40	156	40			
				Northern Pike	7	550	957	450-695	250-2000			
				Yellow Perch	4	153	38	143-165	30-50			
			seine haul (2)	Bluegill	191	109	46	46-175	20-110			
				Black Crappie	5	180	128	72-233	110-170			
				Largemouth Bass	4	154	48	143-160	40-60			
				Largemouth Bass yoy	1	52		52				
				Pumpkinseed	2	115	20	109-120	10-30			
				Yellow Perch	28	126	26	95-166	10-50			

**Table 6. Results of sampling managed reservoirs in 2017 continued.**

Reservoir Name	Date	Depth/ Ft from Type of		Species	Mean Number Caught	Mean Length (mm)	Mean Weight (gr)	Length Range (mm)	Weight Range (gm)				
		full	Sample										
<b><u>Rosebud County</u></b>													
A.G. Lee #2	7/10/2017	8/5	gillnet (2)	Green Sunfish	76	135	43	122-145	30-60				
				Largemouth Bass	15	199	97	186-225	70-140				
A.G. Lee Pit	7/10/2017	5.5/4	gillnet (1)	No Fish									
A.G. Lee Pit #2	7/10/2017	7/5	hook and line	Largemouth Bass	8	282	293	272-290	260-350				
Blacks Sawmill	3/27/2017	16.5/3	depth check										
Castle Rock	7/31/2017		seine haul (4)	Bluegill	1017	113	72	52-195	20-170				
				Black Crappie	37	144	54	103-216	10-150				
				Crappie yoy	26	56		47-64					
				Green Sunfish	4	78		55-97					
				Largemouth Bass	103	141	49	100-208	10-160				
				Largemouth Bass yoy	65	56		38-99					
				Northern Pike yoy	2	106	10	102-109	10				
				Sunfish yoy	29	20		12-26					
							gillnet (3)	Bluegill	33	151	100	90-195	20-150
								Black Crappie	1				
				Northern Pike	17	491	851	315-748	150-2700				
				Walleye	20	296	323	192-464	60-920				
<b><u>Wibaux County</u></b>													
Temple Pond	7/13/2017	4.5/10	depth check										

Table 7. Miles City Hatchery Plantings 2017.

**Montana Fish, Wildlife, and Parks****Plant Report**

Water	County	Date	Species	Number	Size	Weight
Ayers Pond (Courtney Ayers Pond)	Prairie	4/12/2017	1 - Rainbow Trout	1000	1.98	3.11
Beardsley Lake (Pat Beardsley, Beardsley Trout)	Custer	4/12/2017	1 - Rainbow Trout	2000	1.98	6.21
Beecher Trout Reservoir	Rosebud	4/12/2017	1 - Rainbow Trout	1000	1.98	3.11
Big Timber Trout Pond	Rosebud	4/11/2017	1 - Rainbow Trout	1000	1.98	3.11
Blacks Sawmill Pond	Rosebud	4/12/2017	1 - Rainbow Trout	2000	1.98	6.21
Boulware Reservoir (Boulware Pond)	Custer	5/8/2017	1 - Rainbow Trout	2000	1.98	6.21
Brooks Reservoir 3 (L.C. Brooks #3)	Garfield	4/11/2017	1 - Rainbow Trout	2000	1.98	6.21
Burman Pond	Dawson	4/21/2017	1 - Rainbow Trout	1000	1.98	3.11
Castle Rock Reservoir	Rosebud	8/22/2017	24 - Channel Catfish	1000	2	2.3
Castle Rock Reservoir	Rosebud	6/14/2017	82 - Walleye	1000	1.51	1.04
Chamberlain Reservoir #3	Garfield	4/12/2017	1 - Rainbow Trout	1500	1.98	4.66
Clark Reservoir (Clark Pond)	Garfield	4/12/2017	1 - Rainbow Trout	2500	1.98	7.76
Clarks Reservoir	Prairie	4/11/2017	1 - Rainbow Trout	4000	1.98	12.42
Craft Pond 2 (Gerald Craft Bass Pond)	Carter	4/12/2017	1 - Rainbow Trout	1500	1.98	4.66
Fjelstad Pond (Lake Harold)	Treasure	8/11/2017	17 - Largemouth Bass	1000	1.86	3.06
Fort Keogh Pond (Ft. Keogh Pond)	Custer	4/13/2017	1 - Rainbow Trout	1000	1.98	3.11
Frigid Reservoir (Frigid Pond)	Carter	4/12/2017	1 - Rainbow Trout	1000	1.98	3.11
Gardiner Reservoir (Gardner Trout)	Carter	4/12/2017	1 - Rainbow Trout	6000	1.98	18.63
Gaskill Reservoir	Powder River	4/12/2017	1 - Rainbow Trout	1000	1.98	3.11
Grebe Pond #2	Rosebud	4/11/2017	1 - Rainbow Trout	1000	1.98	3.11
Harlin Steiger Reservoir	Treasure	8/11/2017	17 - Largemouth Bass	1000	1.89	3.06
Haughian Reservoir #1 (Henry Haughian, Leo Billing)	Custer	4/11/2017	1 - Rainbow Trout	2000	1.98	6.21
Jarden Reservoir 2	Garfield	4/13/2017	1 - Rainbow Trout	1000	1.98	3.11
Jason Phipps Reservoir	Garfield	4/11/2017	1 - Rainbow Trout	2000	1.98	6.21
Killen, John #2 Res. (John Killen #4)	Rosebud	4/11/2017	1 - Rainbow Trout	1500	1.98	4.66
Kreider Reservoir #2	Garfield	4/13/2017	1 - Rainbow Trout	1500	1.98	4.66
Losinski Pond #3	Powder River	4/12/2017	1 - Rainbow Trout	400	1.98	1.24
Mardrie Baker Reservoir	Garfield	4/13/2017	1 - Rainbow Trout	500	1.98	1.55
Marshall Reservoir (Marshall Pond)	Prairie	8/11/2017	17 - Largemouth Bass	1000	1.89	3.06
Marshall Reservoir (Marshall Pond)	Prairie	5/8/2017	1 - Rainbow Trout	1000	1.98	3.11
McRae Reservoir 1, Jack	Garfield	4/13/2017	1 - Rainbow Trout	2000	1.98	6.21
Meckle Reservoir 1	Garfield	4/13/2017	1 - Rainbow Trout	700	1.98	2.17
Mud Turtle Reservoir	Powder River	4/12/2017	1 - Rainbow Trout	1000	1.98	3.11
Oil Pump Reservoir	Prairie	4/12/2017	1 - Rainbow Trout	2000	1.98	6.21
Pat Labree Reservoir	Carter	4/12/2017	1 - Rainbow Trout	2500	1.98	7.76



**Montana Fish, Wildlife, and Parks**  
**Plant Report continued**

Potts Reservoir	Rosebud	4/11/2017	1 - Rainbow Trout	2000	1.98	6.21
Pruett Pond	Fallon	4/12/2017	1 - Rainbow Trout	500	1.98	1.55
Ringstveit Lake	Rosebud	4/11/2017	1 - Rainbow Trout	1000	1.98	3.11
Ryan Ponds (John Ryan)	Garfield	4/13/2017	1 - Rainbow Trout	1000	1.98	3.11
Samuelson, Norman #2	Powder River	4/12/2017	1 - Rainbow Trout	1000	1.98	3.11
Saylor Pond (Clyde Saylor)	Garfield	4/13/2017	1 - Rainbow Trout	1500	1.98	4.66
Saylor Reservoir (Irvine Saylor)	Garfield	4/13/2017	1 - Rainbow Trout	1000	1.98	3.11
Schlesinger Reservoir 1	Rosebud	4/11/2017	1 - Rainbow Trout	500	1.98	1.55
Schweigert Dam (Schweigert Pond, Schweigert Reservoir)	Fallon	4/12/2017	1 - Rainbow Trout	500	1.98	1.55
Sidney Reservoir	Carter	4/12/2017	1 - Rainbow Trout	1000	1.98	3.11
Silvertip Reservoir	Prairie	4/11/2017	1 - Rainbow Trout	1000	1.98	3.11
South Sandstone Reservoir	Fallon	6/15/2017	82 - Walleye	10280	1.48	10
Spring Canyon Reservoir	Carter	4/12/2017	1 - Rainbow Trout	400	1.98	1.24
Temple Pond	Wibaux	4/12/2017	1 - Rainbow Trout	1500	1.98	4.66
Watt Reservoir	Garfield	4/13/2017	1 - Rainbow Trout	2000	1.98	6.21
West Plum Creek Reservoir	Carter	4/12/2017	1 - Rainbow Trout	600	1.98	1.86