

Region 7
F-113-R-1

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-1

FISCAL YEAR: 2001 (July 1, 2000 through June 30, 2001)

REPORT PERIOD: April 1, 2000 through March 30, 2001

ABSTRACT

Small fishing reservoirs in six counties were sampled to obtain fisheries information in 2000. A total of 30 reservoirs were sampled. Two of these had never been planted and were sampled to determine their fisheries potential. Neither reservoir had sufficient depth to support fish and will not be planted. Of the remaining reservoirs sampling efforts produced no fish in five. Twenty-three reservoirs had fishable populations of target fish species.

PROCEDURES

Pond depths were determined by sounding with a calibrated, weighted rope. Fish populations were sampled with 125 feet long sinking experimental gill nets, a ¼ inch bag seine of 100 feet length or hook and line. Township, range and section number, as well as a global positioning unit are used to document pond location.

RESULTS AND DISCUSSION
Survey of New Ponds

Two new ponds were surveyed to determine their suitability for producing fish (Table 1). Both ponds had a maximum depth of eight feet. Ten to twelve feet is the minimum depth that will over winter fish in eastern Montana. These reservoirs will not be planted.

Survey of Previously Planted Reservoirs

Custer County

Only spring 2000 planted rainbow trout were sampled in Dean S. and Ft. Keogh Reservoirs (Table 2). Both of these reservoirs are small and of marginal depth and often do not over winter fish. Dean S. Reservoir is planted with catchable trout in the spring and fall, but was not planted in the fall of 2000 because of low water levels. Both reservoirs are near Miles City and are popular with fishermen when water levels are adequate. Holmes Reservoir had largemouth bass present. Rest Reservoir was found to be dry.

Dawson County

Efforts to establish a viable sport fishery in Hollecker Reservoir have met with very limited success. This small pond on the outskirts of Glendive, MT is popular with local residents because of its close proximity to town. The current management strategy is to plant catchable rainbow trout in the spring and fall as a put, grow and take fishery. Sampling in August, 2000 resulted in no trout being caught, but a variety of warm water species were present (Table 2). Trout may not survive for long after planting with the multitude of warm water species present. This pond will be monitored on an annual basis to determine if the current strategy has any potential.

Fallon County

Black bullheads in the eight-inch range dominated the gill net catch at Baker Lake. Some decent sized yellow perch and northern pike are also present. This lake in Baker, MT has a maximum depth of 10 feet and partially winter kills some winters. This winterkill helps keep black bullhead numbers in check so that the population does not become stunted.

South Sandstone Reservoir is a popular fishing destination located east of Plevna, MT. The reservoir has a variety of fish (Table 2), with northern pike and walleye being the most highly popular.

Garfield County

Seven rainbow trout reservoirs were sampled in Garfield County in 2000. Of these, Beecher and Helm Reservoirs did not have fish present. Both of these reservoirs are marginal on depth and likely wintered killed due to low water levels. The remaining five reservoirs had fishable trout populations present.

Five reservoirs with warm water species were sampled in Garfield County in 2000. Chaimberlain #1 Reservoir has largemouth bass present and Chaimberlain #2 Reservoir has yellow perch present. Engdahl Cottonwood Reservoir has yellow perch, largemouth and smallmouth bass as well as carp and white suckers. Whiteside Reservoir has populations of walleye and yellow perch plus several non-game species. Trumbo Reservoir is a good fishing reservoir that has some nice sized yellow perch and walleye present.

Prairie County

Drought conditions in eastern Montana hit Prairie County reservoirs hard. Silvertip Reservoir, a long surviving bass reservoir, winter killed in 2000 due to low water. Reukauf and South Fork Reservoirs were both nearly dry. Spring 2000 planted rainbows were observed in South Fork, but they will not survive the winter. Clark Reservoir was low on water but largemouth bass and green sunfish were still present. Oil Pump Reservoir had at least two-year classes of rainbow trout present.

Richland County

Sampling at Gartside Reservoir found five species of fish present (Table 2). Northern pike per gill net set was the same in number and similar in size to 1999. Young-of-the-year yellow perch were not sampled in 2000, but young-of-the-year bluegill were numerous. Two thousand walleye fingerlings are planted annually in Gartside Reservoir but do not show up in later sampling efforts. The reason for which is not known. Lack of appropriate forage and/or the presence of shoreline predators may play a role.

Rosebud County

Walleye averaging 1.5 pounds were the second most abundant fish in gill net catches at Castle Rock Reservoir (Table 2). Northern pike were the most numerous fish in the 2000 gill net catch. Walleye and northern pike were both larger than in 1999, but northerns are still mostly small.

Walleye numbers increased in Castle Rock Reservoir through the decade of the 90's, while northern pike and bluegill numbers declined (Table 3). The bluegill decline was significant for a reservoir known for its large and abundant bluegills. Northern pike and bluegill are self-sustaining in the reservoir, while walleye are stocked every year. The numbers of walleye stocked annually have been reduced in recent years to try and bring walleye numbers down and give bluegill numbers a chance to increase. While walleye numbers have declined the last two years, bluegill numbers have not yet recovered. Northern pike have increased in numbers in recent years.

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Date: March 1, 2001

Waters referred to:

Baker Lake	21-1778
South Sandstone Reservoir	21-8775
Gartside Reservoir	21-3250
Castle Rock Reservoir	21-2527

Keywords

Small reservoirs	yellow perch
Largemouth bass	crappie
Smallmouth bass	northern pike
Bluegill	rainbow trout

Table 1. Results of new pond surveys in 2000.

Pond Name	County	T R S	Location	Max Depth (ft)	Fish Species Present	Management Plan
			Lat/Long			
Sarpy Creek Mine Reservoir	Rosebud	1N,37E,24	N45 49.783 W107 04.083	8		None
McCaffrey, Rocky Reservoir	Dawson	58E,14N,4	N46 59.265 W104 23.173	8	FHM	None

Table 2. Results of sampling previously planted reservoirs. 2000.

Pond Name	Type of Sample	Species	No. Caught	No. Measured	Mean Length (mm)	Mean Weight (gm)	Length Range (mm)	Weight Range (gm)
<u>Custer County</u>								
Dean S. Reservoir	1 gill net	RBT	3	2	206	120	203-209	100-140
Ft. Keogh Pond	1 gill net	RBT	63	39	184	107	138-220	40-50
Holmes Reservoir	hook & line	LMB	30	21	280	296	222-349	116-550
Rest Reservoir	Reservoir was dry.							
<u>Dawson County</u>								
Hollecker Pond	1 seine haul	FHC	numerous					
		Hybog. Sp	present					
		FHM	present					
		Crk Chub	present					
		ES	present					
		WSU	1	0				
		sunfish?	1	0				
		CARPYOY	present					
	RCSUYOY	1	0					
	2 gill nets	SAUG	2	2	468	1055	425-510	720-1390
		WE	1	1	492	1170		
		SNS	1	1	782	1580		
		RCSU	3	3	333	567	216-400	120-880
		SMBUF	1	1	212	140		
		CARP	1	1	472	1700		
		RHSU	1	1	174	230		
WSU		2	2	241	150	232-250	140-160	
<u>Fallon County</u>								
Baker Lake	1 seine haul	YP	49	20	147	38	129-171	20-50
		YPYOY	100	21	61		52-69	
		BBH	61	20	195	130	113-251	80-210
	1gill net	YP	4	4	192	73	150-235	40-160
		NP	3	3	691	2170	553-780	1210-2800
		BBH	50	20	198	122	181-213	90-140

Table 2. Results of sampling previously planted reservoirs. 2000.

Pond Name	Type of Sample	Species	No. Caught	No. Measured	Mean Length (mm)	Mean Weight (gm)	Length Range (mm)	Weight Range (gm)
Fallon County (cont.)								
South Sandstone Reservoir	3 seine hauls	YP	1628	24	151	55	98-220	15-120
		YPYOY	331	20	58			
		LMBYOY	1	1	48			
	2 gill nets	NP	2	2	366	315	330-401	210-420
		NP	17	17	565	1279	390-775	350-2810
		WE	7	7	459	1019	373-592	440-2020
		SMB	1	1	312	510		
		BBH	174	20	238	247	149-315	40-570
		YP	67	22	166	62	141-197	40-100
Garfield County								
Beecher Trout Res.	2 gill nets	No fish caught.						
Helm, Jim Reservoir	hook & line	No fish caught.						
Chaimberlain Res. #1	hook & line	LMB	61	23	214	127	143-291	50-300
Chaimberlain Res. #2	1 seine	YPYOY	40	30	73		60-94	
	1 gill net	YP	1	1	312	410		
Chaimberlain Res. #3	2 gill nets	RBT	15	10	303	327	162-379	40-690
Childers Trout Res.	1 gill net	RBT	23	23	323	437	154-382	50-650
Clark, Ross Trout Res.	hook & line	RBT	10	10	343	494	180-455	100-1010
Ryan, John Trout Res.	hook & line	RBT	1	1	365	570		
Engdahl, Lester Cottonwood Reservoir	1 seine	SMB	1	1	357	540		
		LMB	1	1	103	10		
		LMBYOY	1	1	29			
		YPYOY	5	5	76			
	2 gill nets	SMB	2	2	363	510	348-377	470-550
		LMB	3	3	309	493	220-385	240-760
		CARP	2	2	292	275	291-292	270-280
		WSU	1	1	313	290		

Table 2. Results of sampling previously planted reservoirs. 2000.

Pond Name	Type of Sample	Species	No. Caught	No. Measured	Mean Length (mm)	Mean Weight (gm)	Length Range (mm)	Weight Range (gm)	
Garfield County (cont.)									
Nueman, Al #1 Res.	hook & line	RBT	57	21	315	321	203-355	95-410	
Trumbo, John Reservoir	1 seine	YP	10	10	100	10	92-105	10-Oct	
		YPYOY	20	20	59		54-64		
		CARP	3	3	363	580	340-391	490-710	
		CARPYOY	2	2	48		37-59		
		FHM	3	3	51		32-61		
		G.SHINER	13	13	78		71-83		
	2 gill nets	WE	2	2	538	1245	496-580	1040-1450	
		YP	2	2	261	215	252-270	200-230	
		CARP	2	2	400	790	394-406	790-790	
		WSU	2	2	328	475	312-343	450-500	
	Whiteside, Charles #1 Reservoir	1 seine	YP	10	10	100	10	92-105	10-Oct
			YPYOY	20	20	59		54-64	
			CARP	3	3	363	580	340-391	490-710
			CARPYOY	2	2	48		37-59	
FHM			3	3	51		32-61		
G.SHINER			13	13	78		71-83		
2 gill nets		WE	2	2	538	1245	496-580	1040-1450	
		YP	2	2	261	215	252-270	200-230	
		CARP	2	2	400	790	394-406	790-790	
		WSU	2	2	328	475	312-343	450-450	
Prairie County									
Oil Pump Res.	hook & line	RBT	30	9	288	294	165-360	90-390	
Clark Reservoir	hook & line	LMB	1	0					
		G.SUNFISH	numerous						
South Fork Reservoir		RBT	Observed current years plant.						
Silvertip Reservoir	2 gill nets	No fish caught.							
Reukauf (Harms) Res.	Four feet deep.								

Table 2. Results of sampling previously planted reservoirs, 2000.

Pond Name	Type of Sample	Species	No. Caught	No. Measured	Mean Length (mm)	Mean Weight (gm)	Length Range (mm)	Weight Range (gm)
Richland County								
Gartside Reservoir	3 seine hauls	BCR	22	19	215	117	177-224	30-180
		BG	19	19	121	25	103-140	Oct-50
		BGYOY	279	19	78		68-94	
		LMB	1	1	411	100		
		LMBYOY	3	3	63		48-86	
		YP	51	20	145	35	10-217	10-120
	2 gill nets	BCR	5	5	189	80	173-228	50-130
		NP	8	8	517	879	474-588	640-1450
		YP	1	1	227	150		
Rosebud County								
Castle Rock Res.	3 seine hauls	BCR	1	1	164	70		
		BG	18	18	130	52	101-198	20-130
		LMB	12	12	148	69	104-236	20-230
		NP	4	4	286	175	218-466	50-500
		SMB	2	2	154	50	151-156	50-50
		BGJUV	287	32	51		37-76	
		LMBYOY	105	20	58		38-70	
		NPYOY	1	1	125	10		
	3 gill nets	BCR	1	1	254	270		
		BG	2	2	184	190	116-252	40-340
		LMB	8	8	281	493	131-366	40-980
		NP	18	10	462	606	245-565	90-900
		WE	17	15	401	666	195-516	70-1320
Hook Ranch #1	hook & line	RBT	35	20	255	170	184-286	80-240
McDaniel, Jerry Res.	hook & line	LMB	21	21	200	135	130-219	100-190

Table 3. Mean total length and catch rate (average number per gill net) of bluegill, walleye and northern pike at Castle Rock Lake.

Year	<u>Bluegill</u>		<u>Walleye</u>		<u>Northern Pike</u>	
	Catch Rate	Mean Length (mm)	Catch Rate	Mean Length (mm)	Catch Rate	Mean Length (mm)
1983	3.0	126	0.3	517	7.0	364
1984	10.5	124	0.5	250	12.8	450
1987	33.3	154	0.2	258	4.2	478
1988	17.2	154	0.7	430	7.8	483
1989	10.0	156	0.0		6.7	445
1990	13.7	164	0.3	321	3.3	494
1991	21.8	170	3.0	409	4.0	422
1992	3.7	162	3.7	408	3.7	476
1994	4.8	176	7.8	408	1.5	466
1995	6.3	165	8.0	415	2.3	495
1996	3.3	172	10.0	334	1.0	506
1997	0.3	182	11.5	396	1.8	491
1998	1.3	158	17.3	425	4.3	485
1999	0.0	0	10.3	395	5.7	462
2000	0.7	184	5.7	401	6.0	462