

Fishing access:

Fishing access is somewhat limited during open water periods. There is no boat ramp for water access. A section line that crosses the spillway and an easement around the shoreline to a point 12 feet above the high water mark allows for shoreline fishing. Vegetation may hamper shore fishing at times of the year. There is good access for winter fishing.

Condition of all structures (i.e. spillway, boat ramps, level regulators, etc.):

The spillway was redone in 1998 and both the dam and spillway are in good condition. The bridge across the spillway is also in good condition. The access road is only a section line that may become impassible during wet times of the year.

Field observations of aquatic vegetation condition:

The emergent vegetation surrounds about 90% of the shoreline and is a mix of bulrushes and cattails. The only submergent vegetation observed was floating leaf pondweed in just a few areas around the shoreline although other species may be present.

CHEMICAL DATA**Field observations of water quality and pollution problems:**

No pollution problems were observed at the time of the survey. Water clarity was very bad with a secchi disc reading of only 6 inches. The water has the look of chocolate milk. Other water quality characteristics were measured in the field on June 25, 2012, using a HACH water quality kit and a Hanna multiparameter meter. Results are found in Table 1.

Presence of a thermocline and depth from surface: No

Station for water chemistry located on attached map: Yes

Table 1. Water chemistry results from Mallard Dam, Corson County, June 25, 2012.

Station	Depth (ft)	Temp (F)	DO (ppm)	CO2 (ppm)	ALK (mg/L)	HRD (mg/L)	pH	Cond. (µS/cm)	TDS (ppm)	Sal.	ORP	Secchi (ft)
A	Surface	71.2	6.00	18.8	98	159	8.49	398	199	0.19	4.2	0.5
A	16	72.1	5.09	30.0	103	126	8.64	428	214	0.21	-47.0	

BIOLOGICAL DATA**Methods:**

Mallard Dam was sampled on June 25-27, 2012, with ten overnight trap net sets. The trap nets have 3ft x 5ft frames, 60ft leads, and ¾ inch knotted mesh. No experimental gill nets or electrofishing was done on Mallard Dam in 2012. Fish indices and statistics were completed using Winfin.

Results and Discussion:

Trap Net Catch

Table 2. Total catch of ten, overnight ¾-inch frame nets at Mallard Dam, Corson County, June 25-27, 2012.

Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Black Bullhead	261	60.2	26.1	± 11.5	9.0	65	0	86
Black Crappie	154	35.5	15.4	± 9.5	33.2	36	1	99
Northern Pike	11	2.5	1.1	± 0.6	0.7	100	67	84
Orangespotted Sunfish	4	0.9	0.4	± 0.6	0.0**	--	--	--
Yellow Perch	2	0.5	0.2	± 0.3	1.5	--	--	89
Channel Catfish	1	0.2	0.1	± 0.1	0.2	--	--	--
Golden Shiner	1	0.2	0.1	± 0.1	0.1	--	--	--

* Eleven year mean (1968, 1971, 1979, 1982, 1987, 1991, 1995, 2000, 2003, 2006, 2009)

**First recorded catch (2012)

Black Crappie

The black crappie population in Mallard Dam is probably the best it has been in years as a whole. The CPUE of 15.4 is below the 41.4 from 2009 (Table 4) as well as the 33.2 eleven year mean (Table 2). Growth is slow with means below statewide, regional and SLI means (Table 3). Condition is good with a mean Wr of 99. Growth of this population has always been slow and the limiting factor is the very poor water clarity. The clarity is even poor in the winter under the ice. Figures 1 through 4 illustrate the length frequency histograms for the fish sampled over the last four surveys. The population generally covers the same lengths, except this year the upper end has increased into the preferred category. Reproduction is not a problem as they produce some kind of year class every year (Table 3). If the water would clear up, Mallard Dam could potentially have an excellent black crappie population.

Table 3. Average back-calculated lengths (mm) for each age class of black crappie sampled from Mallard Dam, Corson County, 2012.

Year Class	Age	N	Back-calculated Age																	
			1	2	3	4	5	6	7	8	9	10								
2011	1	6	70																	
2010	2	21	69	108																
2009	3	1	70	106	143															
2008	4	20	68	109	137	158														
2007	5	17	68	106	147	164	176													
2006	6	9	68	111	155	177	187	197												
2005	7	14	71	108	148	166	180	195	207											
2004	8	4	71	109	143	166	179	189	198	204										
2003	9	4	72	118	172	187	201	215	223	231	237									
2002	10	1	94	129	170	197	219	236	254	265	275	282								
All Classes		97	72	112	152	173	190	206	220	233	256	282								
Statewide Mean			83	147	195	229	249													
Region II Mean			75	132	177	209	235													
SLI*			78	134	180	209	226													

* Small Lakes and Impoundments

Figure 1. Length frequency histogram for black crappie sampled from Mallard Dam, Corson County, 2012.

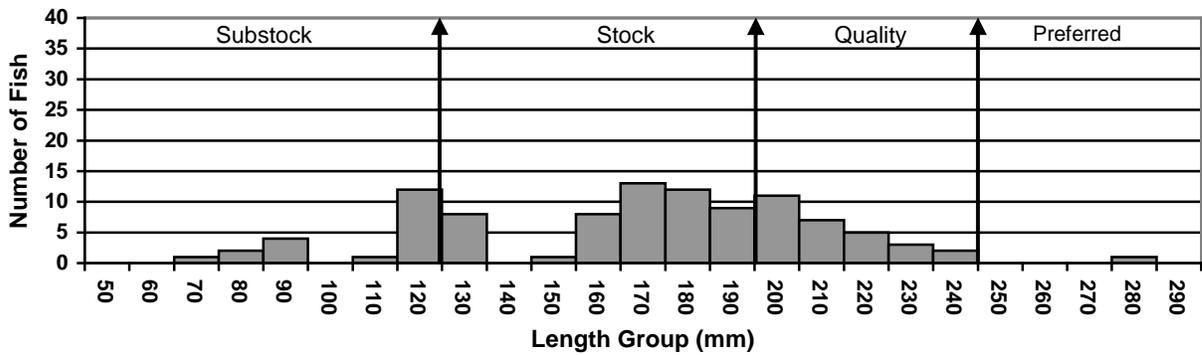


Figure 2. Length frequency histogram for black crappie sampled from Mallard Dam, Corson County, 2009.

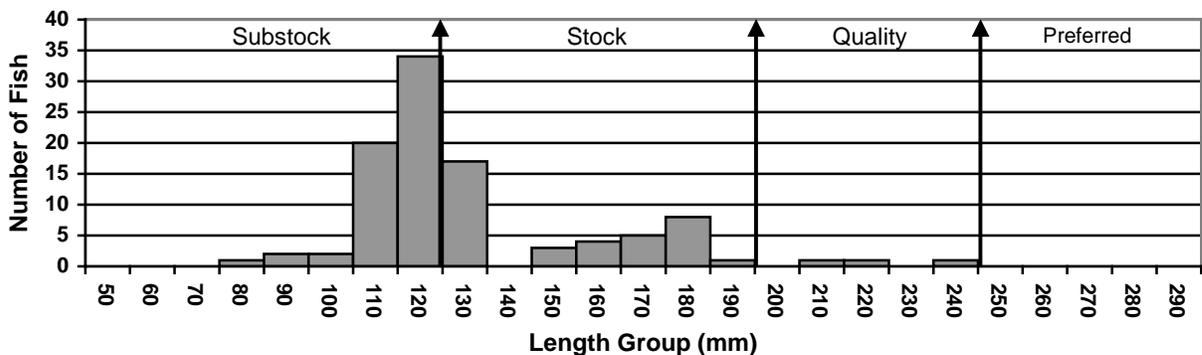


Figure 3. Length frequency histogram for black crappie sampled from Mallard Dam, Corson County, 2006.

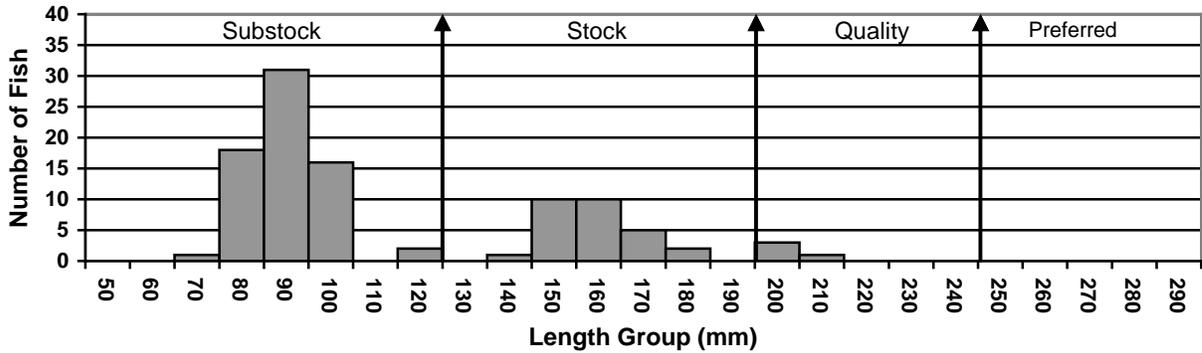
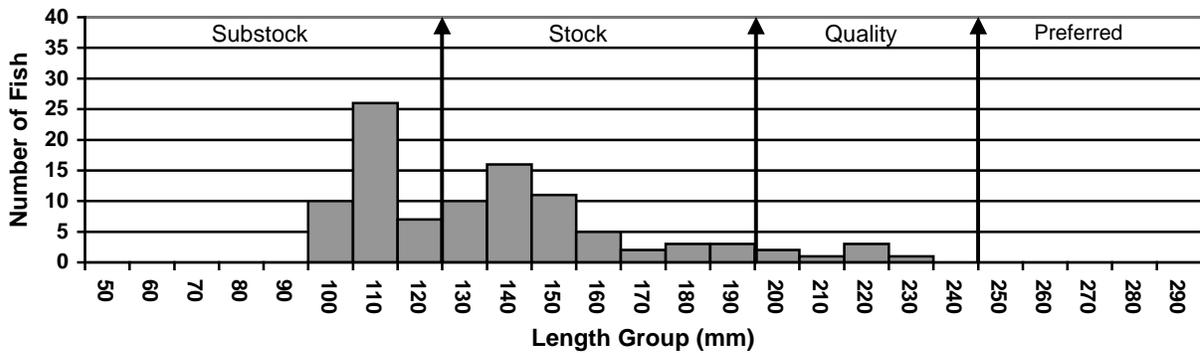


Figure 4. Length frequency histogram for black crappie sampled from Mallard Dam, Corson County, 2003.



Other Species

Black bullheads were the dominant species sampled this survey. The CPUE of 26.1 is above the 4.4 from 2009 (Table 4) as well as the 9.0 eleven year mean (Table 2). Condition is fine with a mean W_r of 86. Size structure has increased over the last survey with a PSD of 65 and an RSD-P of 0 compared to the PSD of 22 and an RSD-P of 0 from 2009. Figures 5 and 6 also illustrate the length frequency histograms for the last two surveys and show this increase in size. Again if water clarity improved the fishery would as well.

Figure 5. Length frequency histogram for black bullhead sampled from Mallard Dam, Corson County, 2012.

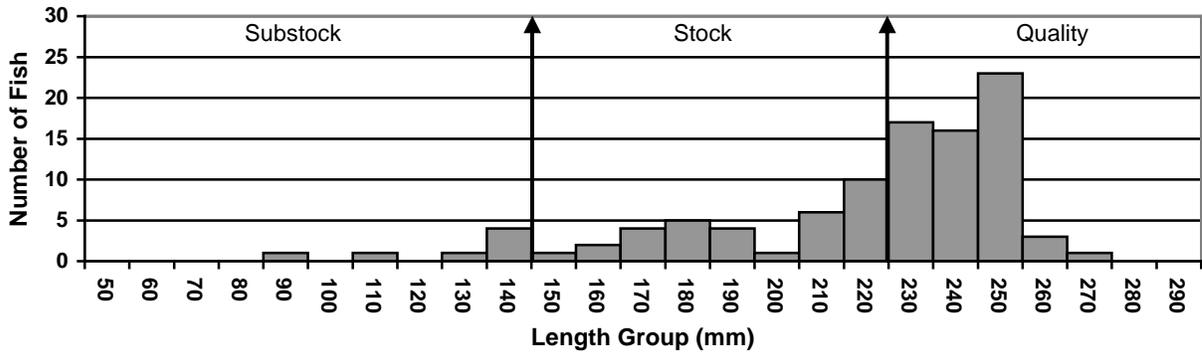
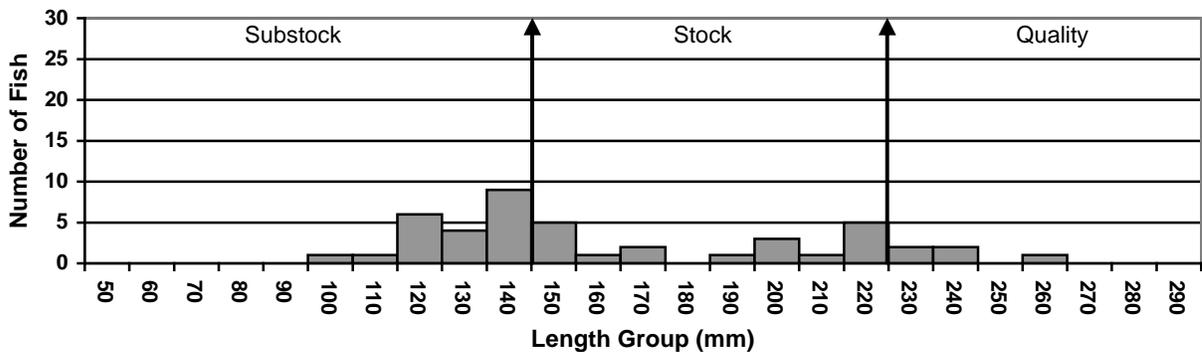


Figure 6. Length frequency histogram for black bullhead sampled from Mallard Dam, Corson County, 2009.



Northern pike, yellow perch, channel catfish, golden shiner and orangespotted sunfish were the other species sampled this survey. None were sampled in large enough numbers to make any inferences about their populations. The one surprise was the sampling of orangespotted sunfish, which was the first recorded sampling (Table 4). Largemouth bass, bluegill, green sunfish, and pumpkinseed sunfish were the species not sampled that had been in past surveys (Table 4).

Stocking Records: No stockings have been done on Mallard Dam in the last ten years.

RECOMMENDATIONS

1. Resurvey in 2015 with trap nets to monitor the fish populations in the lake.

Table 4: Gill net (GN) and trap net (TN) CPUE for all fish species sampled in Mallard Dam through the history of lake surveys.

Species	1968	1971	1979	1982	1987	1991	1995	2000	2003	2006	2009	2012
BLB (GN)	--	5.0	--	2.0	--	--	--	--	--	--	--	--
BLB (TN)	3.0	8.0	9.9	4.0	34.1	15.3	3.5	9.0	1.2	6.6	4.4	26.1
BLC (GN)	--	4.0	--	--	--	--	--	--	--	--	--	--
BLC (TN)	16.0	60.0	22.9	12.5	53.9	54.4	4.6	39.1	12.5	48.0	41.4	15.4
YEP (GN)	--	10.0	--	6.0	--	--	--	--	--	--	--	--
YEP (TN)	--	11.0	0.6	2.5	1.0	0.1	0.1	0.1	--	0.5	0.2	0.2
LMB (GN)	--	1.0	--	--	--	--	--	--	--	--	--	--
LMB (TN)	1.2	0.3	0.1	0.5	0.1	0.3	--	0.3	0.5	0.2	0.1	--
NOP (GN)	--	1.0	--	3.0	--	--	--	--	--	--	--	--
NOP (TN)	0.3	0.3	0.3	--	0.9	1.1	0.4	0.6	1.2	1.2	1.3	1.1
CCF (GN)	--	--	--	--	--	--	--	--	--	--	--	--
CCF (TN)	--	--	--	--	--	--	0.1	--	1.0	0.3	1.2	0.1
BLG (GN)	--	--	--	--	--	--	--	--	--	--	--	--
BLG (TN)	--	--	--	--	--	--	0.3	--	--	--	--	--
GSF (GN)	--	--	--	--	--	--	--	--	--	--	--	--
GSF (TN)	0.3	--	1.5	--	0.1	2.0	--	0.3	--	0.1	--	--
OSF (GN)	--	--	--	--	--	--	--	--	--	--	--	--
OSF (TN)	--	--	--	--	--	--	--	--	--	--	--	0.4
PUS (GN)	--	--	--	--	--	--	--	--	--	--	--	--
PUS (TN)	--	4.0	--	2.4	2.5	--	--	0.3	--	--	--	--
GOS (GN)	--	--	--	--	--	--	--	--	--	--	--	--
GOS (TN)	--	--	--	1.1	0.3	0.1	--	0.1	--	--	--	0.1

BLB-Black Bullhead, BLC-Black Crappie, YEP-Yellow Perch, LMB-Largemouth Bass, NOP-Northern Pike, CCF-Channel Catfish, BLG-Bluegill, GSF-Green Sunfish, OSF-Orangespotted Sunfish, PUS-Pumpkinseed Sunfish, GOS-Golden Shiner