

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

Access trail is a dirt trail but in good condition. The area where a small boat could be launched from has a large, steep hill to go up and down, which becomes impassable when wet. The dam appears to be in good condition. No other facilities or structures were observed at the lake.

Field observations of aquatic vegetation condition:

Emergent vegetation, mainly cattails and bulrushes, surrounds about 85% of the shoreline. The submergent vegetation is mainly milfoil and is scattered throughout the lake and becomes very dense above the bridge.

CHEMICAL DATA

Field observations of water quality and pollution problems:

Heavy siltation is the main pollution problem at the time of the survey. Water clarity was fine with a secchi disc reading of 4.5 feet. Other water quality characteristics were measured in the field on July 22, 2009, using a HACH water quality kit, an Oyster meter, and a YSI 55 meter. The 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 Murdo Railroad Dam, Jones County, July 22, 2009.

Station	Depth (ft)	Temp (F)	DO (ppm)	CO2 (ppm)	ALK (mg/l)	Hardness (mg/l)	pH	Secchi disc (ft)
A	Surface	76.5	9.92	27.6	--	--	7.37	4.5
A	14.0	68.5	2.98	35.6	--	--	6.96	

BIOLOGICAL DATA

Methods:

Murdo Railroad Dam was sampled on July 21-23, 2009, with eight 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 performed during this sampling period. Fish indices and statistics were completed using Winfin.

Results and Discussion:

Trap Net Catch

Table 2. Total catch of eight, overnight ¾-inch frame nets at Murdo Railroad Dam, Jones County, June 21-23, 2009.

Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Black Bullhead	1737	99.9	217.1	± 142.4	60.2	0	0	96
Largemouth Bass	1	0.1	0.1	± 0.2	0.2	--	--	--

* Nine year mean (1971, 1975, 1978, 1987, 1995, 1998, 2001, 2003, 2006)

Black Bullhead

The black bullhead population in Murdo Railroad Dam continues to remain at an extremely high density. The CPUE of 217.1 has declined from the high of 279.9 from the 2006 survey but still remains well above the nine year mean of 60.2 (Table 2). Size structure has continued to decline as can be seen from the progression in Figures 1-5 from the last five surveys. PSD and RSD-P have both dropped to 0 this survey (Table 2). Condition has remained relatively the same as the 2006 survey with the current mean Wr of 96 compared the 94 in 2006. It will be interesting to see what happens to this population over the next few years and if the population continues to drop and the size structure improves.

Figure 1. Length frequency histogram for black bullhead sampled from Murdo Railroad Dam, Jones County, 2009.

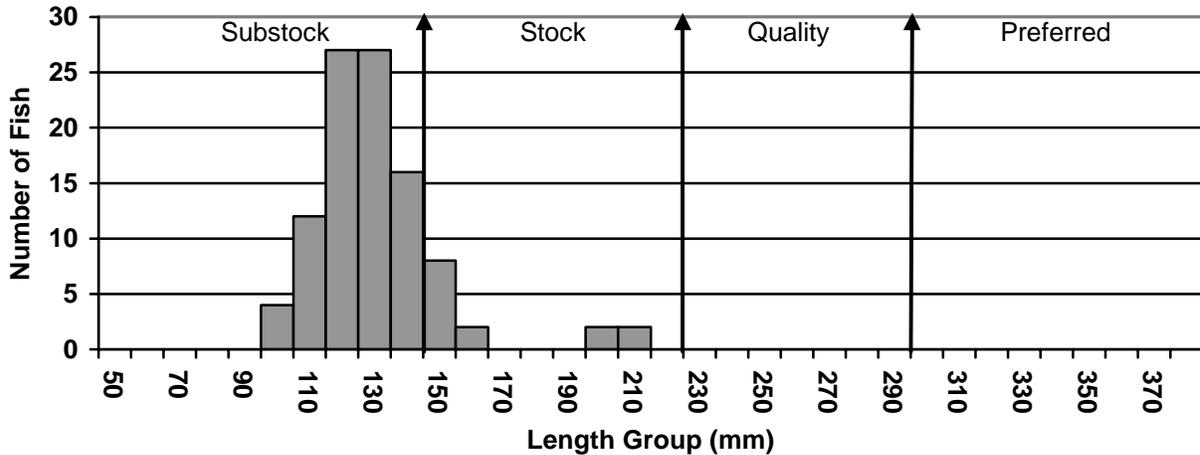


Figure 2. Length frequency histogram for black bullhead sampled from Murdo Railroad Dam, Jones County, 2006.

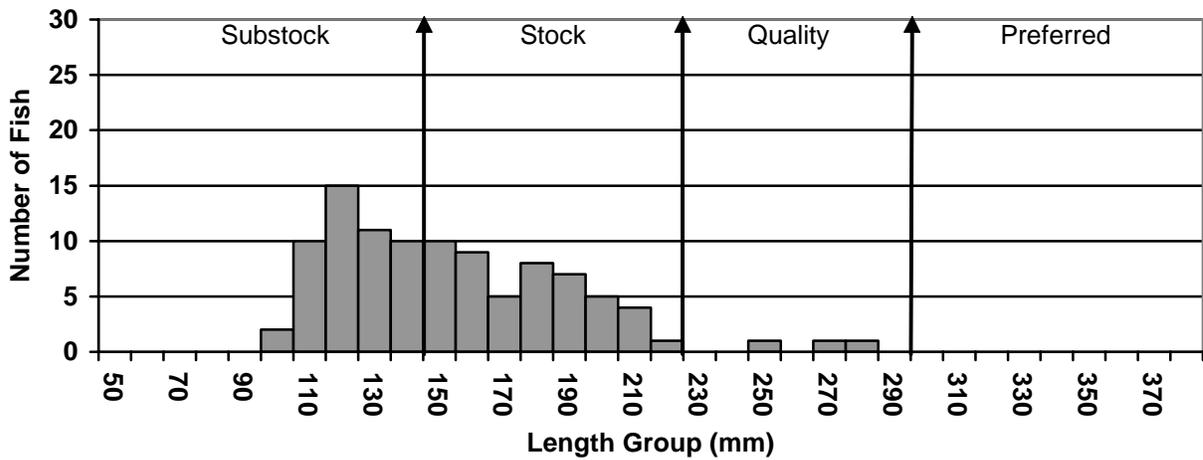


Figure 3. Length frequency histogram for black bullhead sampled from Murdo Railroad Dam, Jones County, 2003.

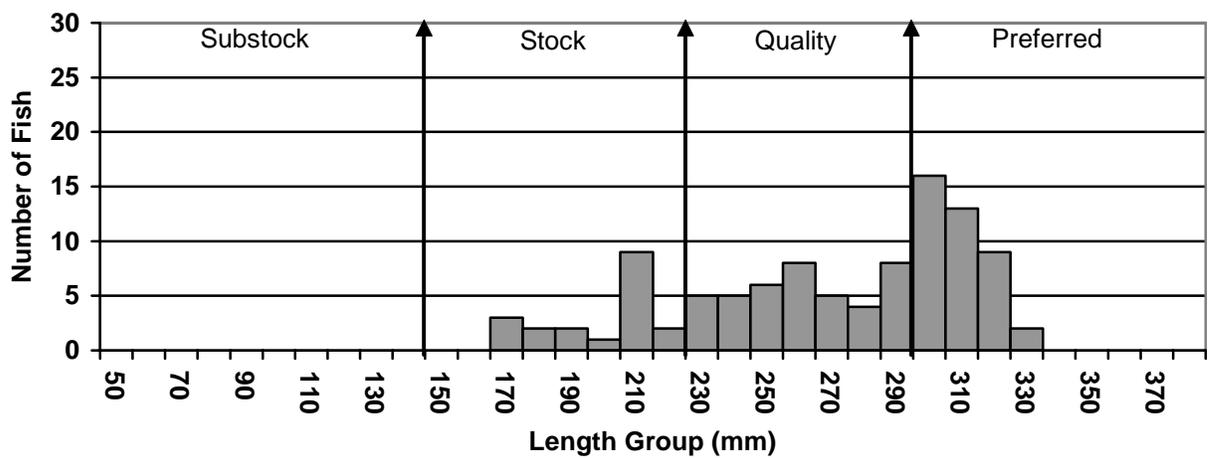


Figure 4. Length frequency histogram for black bullhead sampled from Murdo Railroad Dam, Jones County, 2001.

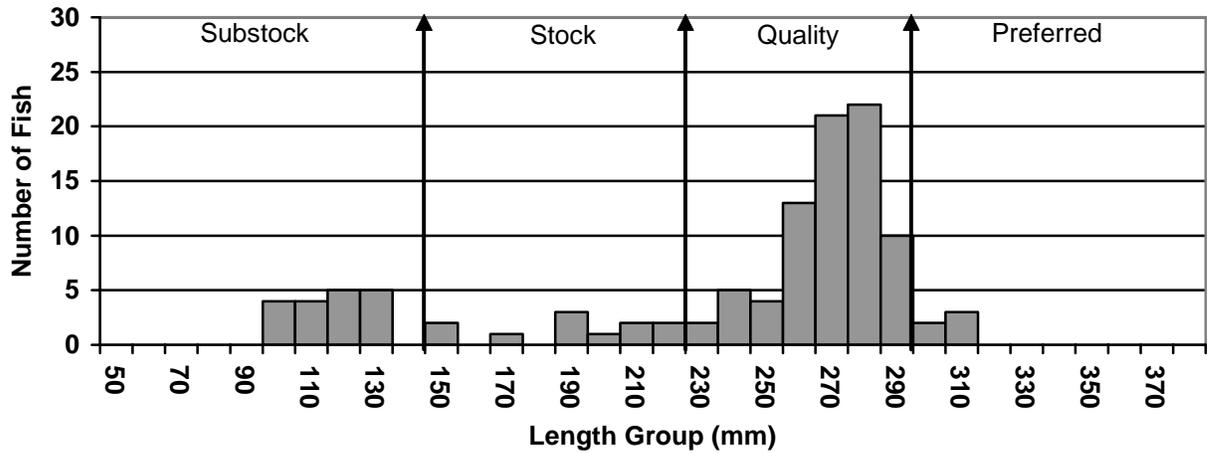
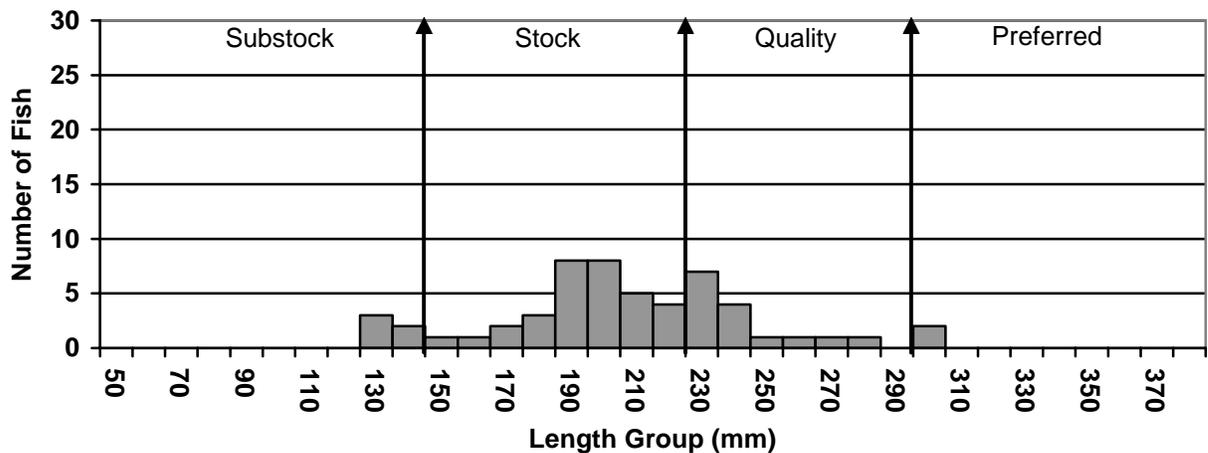


Figure 5. Length frequency histogram for black bullhead sampled from Murdo Railroad Dam, Jones County, 1998.



Other species

The only other species sampled during this survey was one largemouth bass. Murdo Railroad Dam has been pretty much absent of other fish species other than black bullheads since the 1995 survey (Table 4). If the black bullhead density could be significantly reduced, other species may be able to survive.

Table 3. Stocking records from the last ten years for Murdo Railroad Dam, Jones County.

Year	Number	Species	Size
2000	300	Bluegill	Adult
2001	2,800	Largemouth Bass	Fingerling
2001	262	Largemouth Bass	Adult
2004	50	Largemouth Bass	Adult
2009	1,800	Largemouth Bass	Fingerlings

Table 4. Gill net (GN) and trap net (TN) CPUE for all fish species sampled in Murdo Railroad Dam since surveys started.

Species	1971	1975	1978	1987	1995	1998	2001	2003	2006	2009
BLB (GN)	--	--	--	--	0.5	--	--	--	--	--
BLB (TN)	10.9	19.7	0.5	89.8	13.6	86.6	28.4	12.8	279.9	217.1
BLC (GN)	--	--	--	--	28.0	--	--	--	--	--
BLC (TN)	--	--	0.5	2.4	13.7	0.1	0.1	0.2	--	--
YEP (GN)	--	123.0	61.5	--	--	--	--	--	--	--
YEP (TN)	3.1	147.8	83.0	0.3	--	--	--	--	--	--
LMB (GN)	--	1.0	--	--	--	--	--	--	--	--
LMB (TN)	1.1	--	--	--	0.1	--	0.1	--	0.1	0.1
NOP (GN)	--	1.0	--	--	2.0	--	--	--	--	--
NOP (TN)	0.8	0.2	0.2	--	0.5	0.1	--	--	--	--
CCF (GN)	--	2.0	--	--	--	--	--	--	--	--
CCF (TN)	0.1	--	--	--	--	--	--	--	--	--
BLG (GN)	--	--	--	--	0.5	--	--	--	--	--
BLG (TN)	0.1	--	9.5	1.8	29.9	--	4.5	0.8	--	--

BLB-Black Bullhead, BLC-Black Crappie, YEP-Yellow Perch, LMB-Largemouth Bass, NOP-Northern Pike, CCF-Channel Catfish, BLG-Bluegill

RECOMMENDATIONS

1. Resurvey in 2012 to monitor the fish populations.