



Elkhead Reservoir

FISH SURVEY AND MANAGEMENT INFORMATION Boyd Wright - Fish Biologist (Meeker)

General Information: Elkhead Reservoir is 900 surface acres at full capacity and offers angling opportunity for smallmouth bass, crappie, bluegill, northern pike, rainbow trout, and channel catfish. For park hours, fees, and other information: <http://parks.state.co.us/Parks/YampaRive>

Location: Moffat County. Go 5 miles E of Craig on HWY 40, then N 4 miles on CR 29, then follow signage.

Recreational Management: Colorado State Parks, Yampa River State Park (970-276-2061)

Fishery Management: Warm and Cold water species

Annual Survey Data: ([see page 2](#))

Amenities and General Info.

- Boat Ramp (1)
- Picnic Areas
- Camping
- Restrooms
- Swim Beaches (2)

Regulations

- Bag and possession limit for crappie is 10 fish
- Smallmouth bass and largemouth bass bag limit is no more than 5 fish in the aggregate
- No more than 2 bass in the aggregate may be greater than 15"
- Min. size for largemouth bass is 15".

Aquatic Nuisance Species

- Clean, drain, and dry your boat before coming to Elkhead Reservoir.
- There is an ANS inspection station at the only boat ramp.

Previous Stocking

2009

Rainbow Trout
Smallmouth Bass

2008

Rainbow Trout
Smallmouth Bass

2007

Rainbow Trout
Smallmouth Bass

Additional Notes

- Contact the CDOW Meeker office with information on tagged smallmouth bass you catch. The tags are small, plastic, cylinder shaped, numbered, and positioned behind the dorsal fin.

Please do not remove tags!!

Sportfishing Notes

Smallmouth Bass

- There are abundant smallmouth bass > 10" because they are transplanted from the Yampa River during endangered fish recovery activities. They are released throughout the summer in the cove on the east side of the lake, across from the island.
- Crayfish are the predominant food source, so fish baits imitating crayfish.

Rainbow Trout

- High northern pike abundance has reduced the success of rainbow trout stocking, so fishing success is moderate.

Crappie

- Fish along the numerous rocky structures and submerged brush near the inlet with traditional crappie jigs.

Bluegill

- Fish submerged brush near the inlet with small jigs and poppers.

Northern Pike

- Pike are widespread across the lake and can be caught on a variety of baits. Anglers are encouraged to harvest pike.



Elkhead Reservoir

FISH SURVEY DATA
Boyd Wright, Fish Biologist (Meeker)

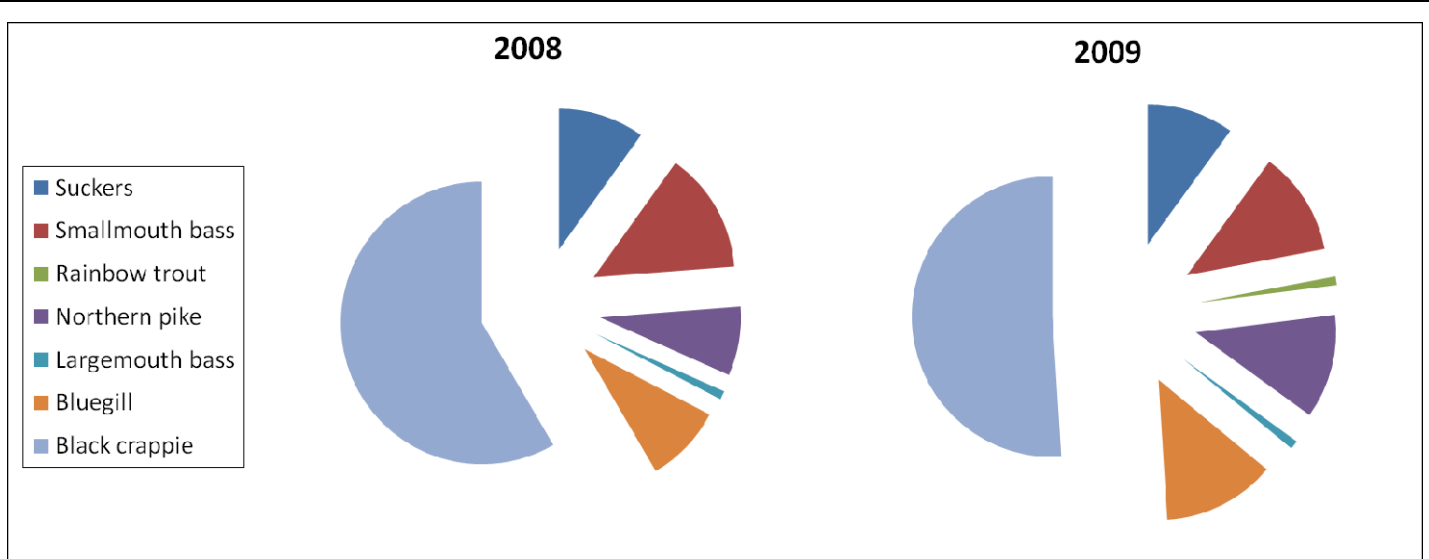


Figure 1. 2008 and 2009 relative abundance shown as a percentage of total catch. Elkhead Reservoir is sampled using 5-150' gill nets, 3– 1000 second shoreline electrofishing stations, and 3 fyke nets. This standardized sampling program began in 2008, one year after the reservoir was enlarged and re-opened.

Table 1. Fish length summary data for all species sampled in 2008 and 2009. The table shows the number of each species caught in each sample year, length range in inches, average length in inches, and PSD. PSD (proportional stock density) values range from 0 to 100 and are an index of size structure of a population. The greater the PSD value, the greater the proportion of “quality” length fish verses “stock length” (the minimum size of fish that may be caught angling).

Species	2008				2009			
	#	Length Range (in.)	Average Length (in.)	PSD	#	Length Range (in.)	Average Length (in.)	PSD
Suckers	37	9.6 - 22.3	14.5	97	38	10.5 - 21.4	17.9	100
Smallmouth bass	54	3.1 - 16.7	6.7	67	42	2.6 - 16.1	7.4	71
Rainbow trout	1	17.4 - 17.4	17.4	100	3	4.6 - 9.8	8	NA
Northern pike	32	10 - 37.5	17.4	25	43	13.6 - 25.6	18.9	24
Largemouth bass	2	5.7 - 6	5.9	NA	1	10.9 - 10.9	10.9	NA
Bluegill	36	2.2 - 6.4	4.2	25	45	3.3 - 9.1	4.4	2
Black Crappie	234	1 - 9.8	5.1	19	181	1.6 - 11.5	3.7	42



Elkhead Reservoir

FISH SURVEY DATA
Boyd Wright, Fish Biologist (Meeker)

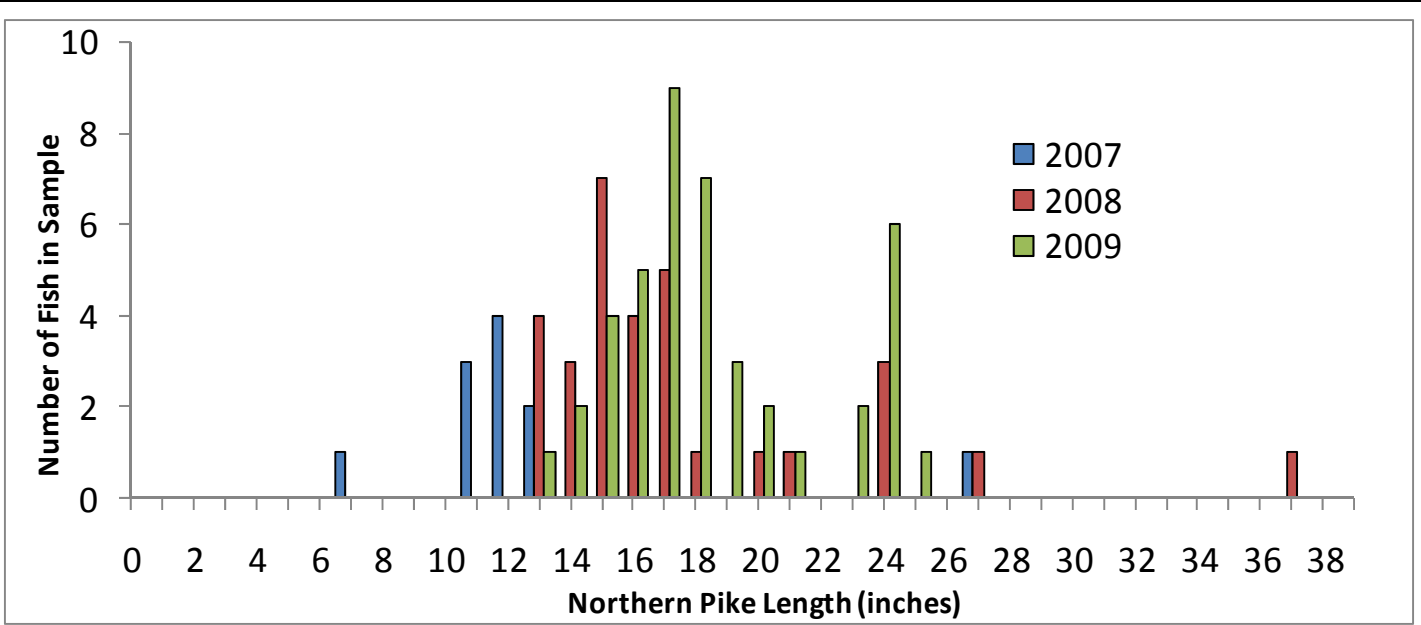


Figure 2. Northern pike length-frequency histogram from 2007 (blue), 2008 (burgundy), and 2009 (green). The northern pike population is of relatively uniform size and recruitment into the population has been limited since 2007. When the reservoir was re-opened in 2007 numerous pike were observed in the 10 to 14 inch size class. This figure tracks the growth of that cohort of pike as they slowly grew into larger size classes in 2008 and 2009. In 2009 median length of the cohort was 17 inches.

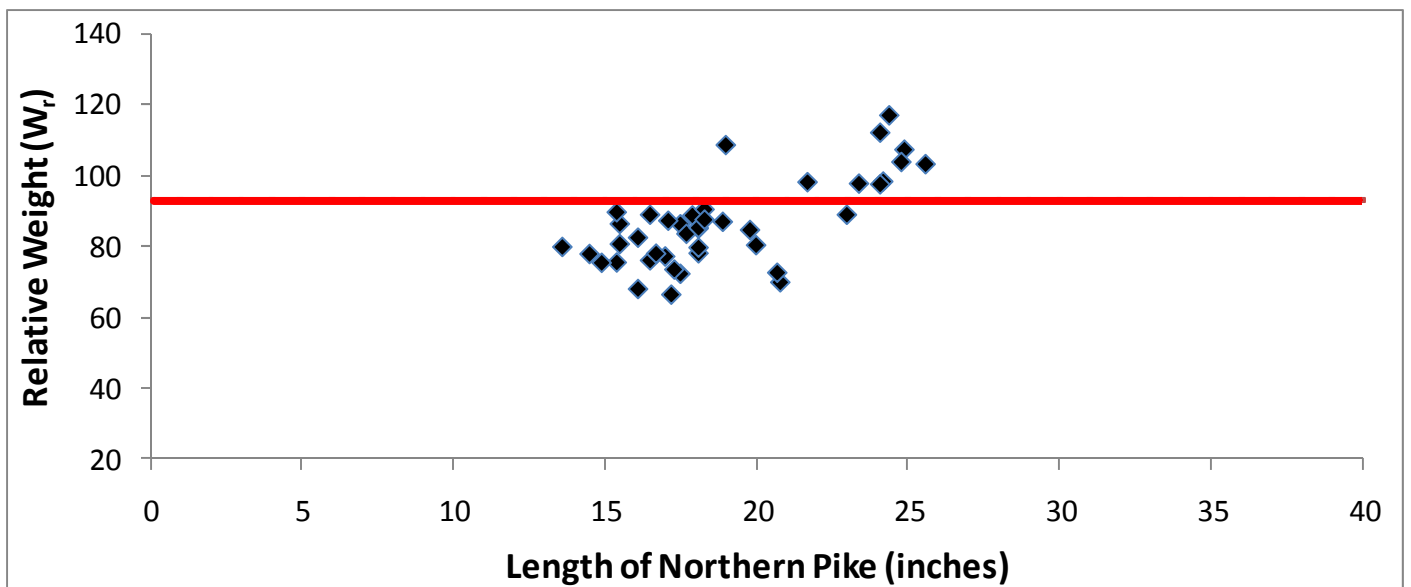


Figure 3. Northern pike relative weights in 2009. Relative weight is a function of a fish's mass relative to its length, and can be thought of as an index of plumpness and growth potential. The solid red line represents what is considered an average relative weight. Low relative weights of northern pike in the 12 to 22 inch size range indicates resource limitation or overabundance of the size class. However, pike over 22 inches are few in numbers and are likely able to capitalize on abundant adult panfish and stocked rainbow trout, and therefore have markedly higher relative weights.



Elkhead Reservoir

FISH SURVEY DATA
Boyd Wright, Fish Biologist (Meeker)

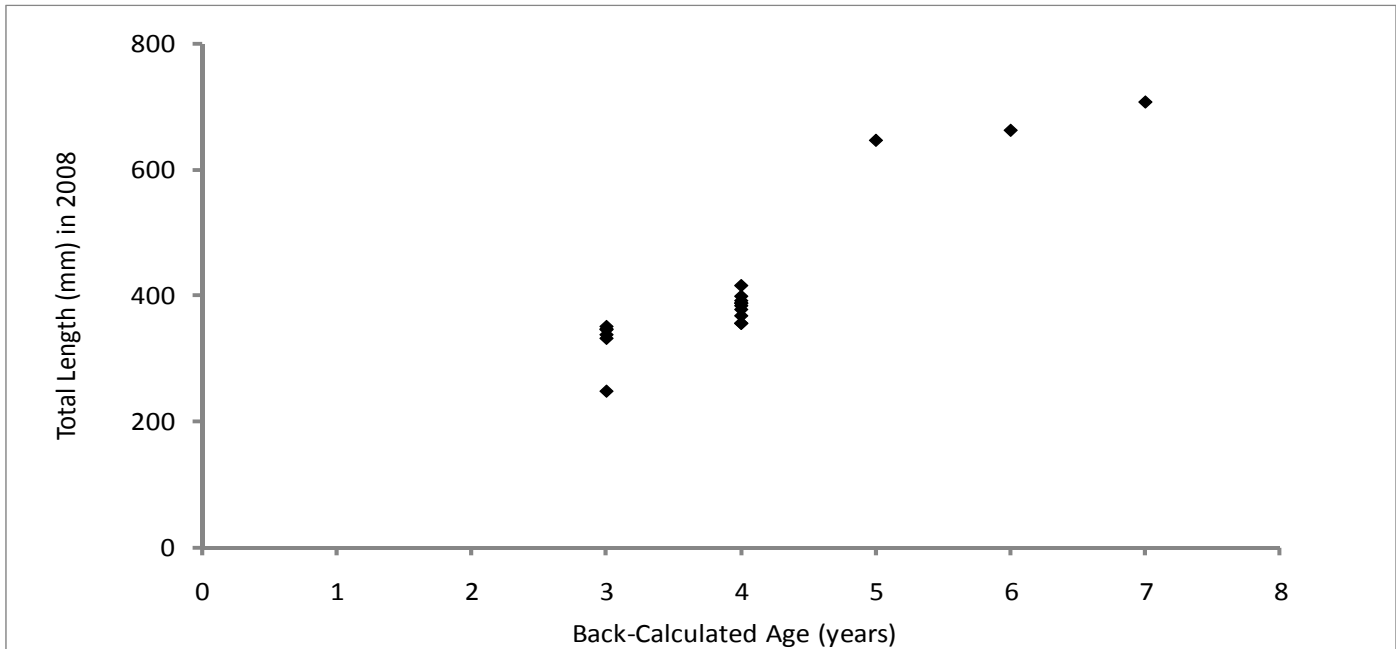


Figure 4. Aging of a sample of 19 northern pike collected in the Spring of 2008 revealed that the predominant size class of small pike were of the 2005 and 2006 year classes. During 2005 and 2006, Elkhead Reservoir was drawn down to 5% of its current volume to accommodate dam construction and enlargement. Though it is not understood how, the sustained drawdown period provided favorable conditions for northern pike reproduction. Subsequent to the refilling of the reservoir, growth rates of those fish have been lower than in any other Yampa basin northern pike population.



Figure 5. The sample of northern pike taken in the Spring of 2008 for age and growth analysis.



Elkhead Reservoir

FISH SURVEY DATA
Boyd Wright, Fish Biologist (Meeker)

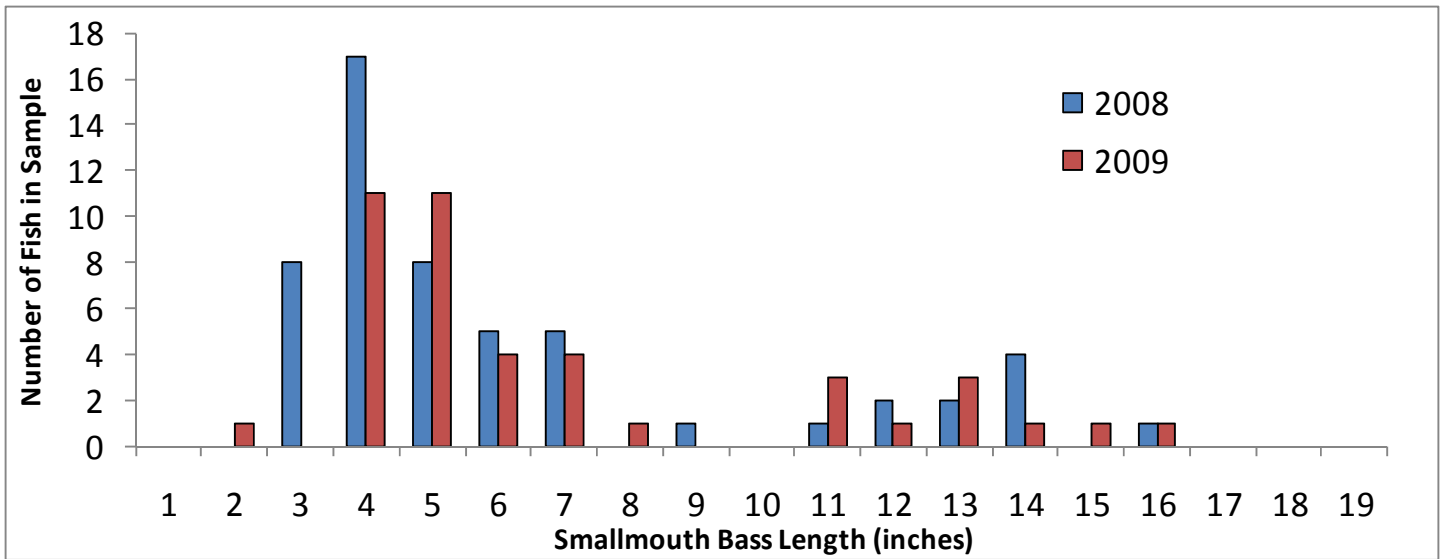


Figure 6. Smallmouth bass length frequency distributions for 2008 and 2009. There was good recruitment of juvenile bass into the population in 2008 and virtually no recruitment in 2009. Smallmouth bass recruitment in Elkhead Reservoir is tied to environmental variables. Magnitude and duration of runoff from Elkhead Creek affects water temperature and onset of bass spawning. During high water years, bass spawning occurs later in the summer and young bass hatch later, providing a short window to gain body mass prior to the onset of winter. This figure also depicts several bass in the 10 to 17 inch size range. In 2009, 50% of the smallmouth bass in that size range were fish that were removed from the Yampa River and released in Elkhead Reservoir.

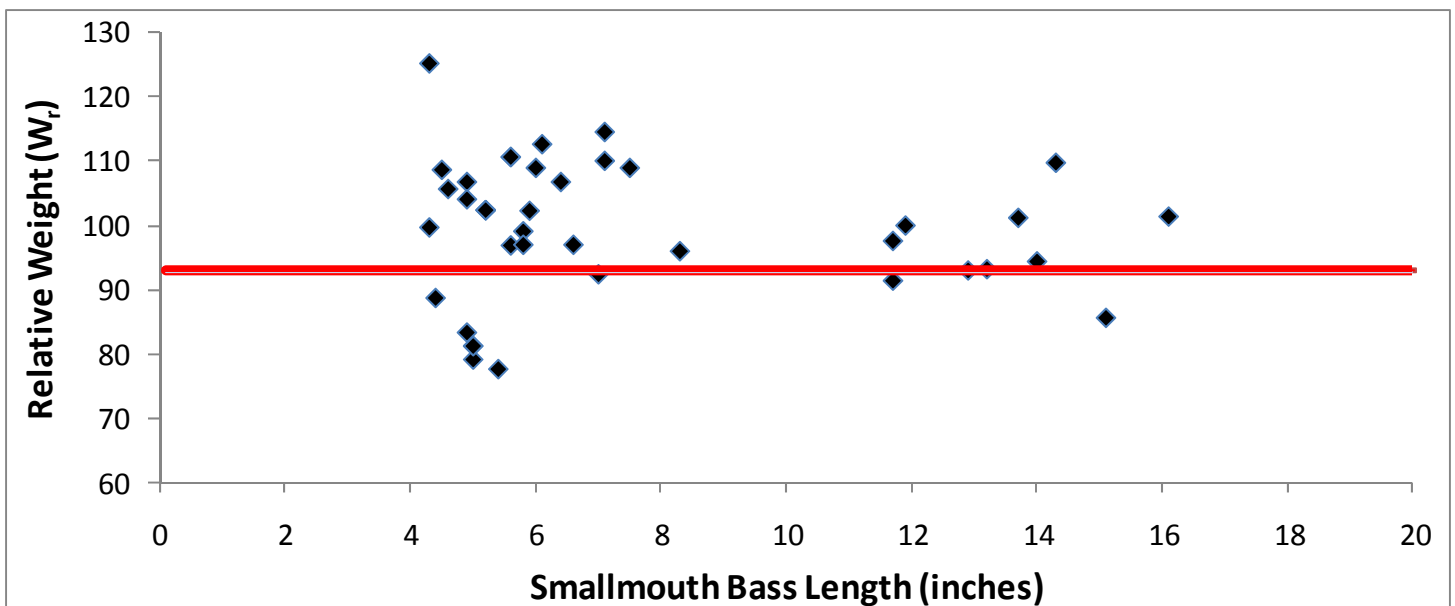


Figure 7. Smallmouth bass relative weights in 2009. Relative weight is a function of a fish's mass relative to its length, and can be thought of as an index of plumpness and growth potential. The solid red line represents what is considered an average relative weight. Relative weights vary within all size classes of smallmouth bass, but overall relative weights are above average across all size classes. Crayfish are a favorite food source for smallmouth bass and are very abundant in Elkhead Reservoir.



Elkhead Reservoir

FISH SURVEY DATA Boyd Wright, Fish Biologist (Meeker)

Management Summary

Elkhead Reservoir experienced a prolonged substantial drawdown during the dam enlargement phase, before being refilled and re-opened in 2007. It was expected that few fish would survive the prolonged drawdown, which held the reservoir to 5% of its current capacity. Most species did decline to low numbers and the current fish community is still growing and establishing itself. Northern pike, however, fared very well during the drawdown period and their current relative abundance is higher than the pre reservoir expansion time period. The majority of pike currently in the reservoir are small and were spawned during the drawdown period. The revised 2007 Elkhead Reservoir Lake Management Plan (LMP) aims to provide quality smallmouth bass, crappie, bluegill, and rainbow trout fishing. However, the LMP did not account for the surge of northern pike abundance that has been documented since 2007. As these pike reach larger size classes, it is anticipated that they may impact the quality of the bass, crappie, bluegill, and trout fisheries. They are already negatively impacting the stocked rainbow trout fishery, as evidenced by the low catch rates of rainbow trout in recent samples. In 2009, stomach samples from 20 northern pike revealed that more than 50% of the northern pike sampled had recently consumed a stocked rainbow trout. Current management strategies are exploring options to increase return on catchable rainbow trout plants.

Elkhead Reservoir currently provides good angling opportunity for quality sized smallmouth bass, the occasional largemouth bass, channel catfish, black crappie, and bluegill. The smallmouth bass fishery is supplemented with smallmouth bass >10 inches that are removed from the Yampa River during the Upper Colorado River Endangered Fish Recovery Program non-native fish removal efforts. Since 2007, 2,141 smallmouth bass > 10 inches have been released in the reservoir, and more will be released in coming years. Reports from various anglers have noted that smallmouth bass fishing has continued to improve since 2007. Although channel catfish are not targeted by current sampling, it is reported that numerous large channel catfish are being caught off the dam. Stay tuned as the fish community in Elkhead Reservoir continues to develop...

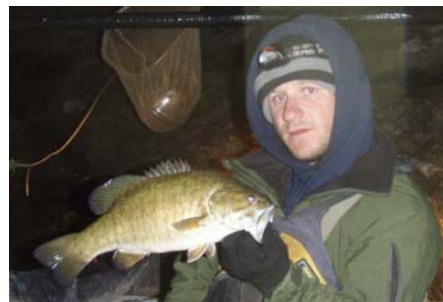


Figure 8. Some outstanding fish specimens from Elkhead Reservoir: Channel catfish (top left), smallmouth bass (top right), black crappie (bottom left), and bluegill (bottom right)..