## Box Butte Reservoir 2012 Creel Survey Summary

Nebraska Game and Parks Commission Joe Rydell, Fisheries Biologist


Fisheries staff recently completed an angler creel survey on Box Butte Reservoir located in the panhandle of Nebraska running from April 1, 2012 through October 31, 2012. During this time period, anglers were counted and interviewed on 20 randomly selected days per month, 14 during the week and six on weekends. The information gathered from this survey provided estimates of angling pressure, catch and harvest, size structure of the fish caught, and catch per hour. These estimates also allow fishery managers valuable insight and helps monitor new fishing regulations that are implemented on these water bodies. One example of this is the impact of allowing underwater spearfishing starting on June 1st instead of the previous start date of July 1st. This new regulation was imposed beginning in 2011.

The following text and graphs provide summaries of the 2012 survey data with comparison to the 2007-2008 creel surveys conducted on Box Butte.

## Total angler trips From April to October



An estimated 7,532 angler trips were made to Box Butte Reservoir from April 1st to October 31st in 2012. This is nearly double the angler use estimated from 2011. Boat anglers continue to make up the majority of fishing pressure with $83.5 \%$ of the angler trips in 2012. Estimated bank angler effort was up during the survey period in 2012 to 920 angler trips compared to 402 in 2011, 689 in 2008 and 614 angler trips in 2007. Anglers spent an estimated 39,751 hours fishing during the survey period in 2012, with the average trip lasting approximately 5.2 hours.

Most angler in 2012 were fishing for anything that would bite ( $30 \%$ of fishing pressure). Walleye was the top sought after species being targeted $29 \%$ of the time while northern pike were fished for $18 \%$ of the time. Largemouth bass were targeted $11 \%$ of the time with few anglers fishing for smallmouth, panfish, or rough fish during the survey period.


Largemouth Bass Caught Per Month
$\square$ Number Harvested


In 2012, fishing pressure peaked in June with a record 2,696 angler trips. Angler pressure calmed back down to normal levels in July and August and had a small peak in September. Bank anglers were consistent in 2012 probably due to lower lake levels and fair weather for camping. Underwater spear-fisherman took advantage of the early spear-fishing season in June. No spear-fishing activity was documented the rest of the year.

Anglers from 22 counties fished Box Butte in 2012 with the local counties of Box Butte ( $53 \%$ ), Scotts Bluff ( $16 \%$ ), and Dawes ( $10 \%$ ) making up the majority of fisherman. Non-residents from seven states visited the lake in 2012 and accounted for $8.9 \%$ of the total fishing pressure with the majority of those fisherman coming from Colorado (54\%) and Wyoming (38\%).

## Largemouth Bass

Fishing for warm water species like largemouth bass typically warms up with the water temperature in May and June and then slowly tapers off into fall. In 2012, largemouth bass fishing was good all summer with a big peak in June. The majority of largemouth bass harvest came in June when larger individuals are vulnerable to both angling and spear-fisherman as they defend nests in shallow water. Spear-fisherman contributed to approximately $21 \%$ of the total harvest of largemouth during the survey period in 2012, all taken in the month of June.

Largemouth bass fisherman experienced an increase in catch rates at Box Butte Reservoir in 2012. A total of 2,590 bass were caught with $86 \%$ of those fish released and 368 bass harvested. The average length of bass harvested was about 17.3 inches. Catch rates for fisherman targeting bass was down to 0.28
 fish per hour in 2012 compared to 0.36 fish per hour in 2011.


## Northern Pike

Northern pike was the second most sought after species in 2012 with $18 \%$ of anglers targeting pike. This is similar to 2011 ( $18.3 \%$ ) and significantly higher than 2008 ( $2.5 \%$ ) and 2007 ( $0.43 \%$ ). Northern pike fishing was excellent in May and June in 2012, then dropped in July, and gradually picked up as the water declined throughout the summer.

The 2012 total catch for northern pike was the highest estimated since 2007. Eighty-four percent of the estimated 19,653 pike caught from April to October in 2012 were released. The average length of pike harvested was 20.1 inches compared to the previous average from 2008 of 19.4 inches. The catch rate for anglers seeking northern pike was 0.94 fish per hour and anglers took home an average of 0.35 fish
 per hour.


## Walleye

Walleye fishing in Box Butte was exceptional in 2012. Anglers did very well in May and June during the post spawn bite.

Walleye total catch was up in 2012 with anglers harvesting a record 1,267 walleye. The catch rate for anglers seeking walleye was the same as in 2011 at 0.06 fish per hour; however, the increased harvest was correlated with fishing pressure. The average size walleye harvested in 2012 was 17.5 inches.



## Bluegill

Bluegill catch from April to October of 2012 was more than double that reported in 2011. A total of 4,405 bluegill were caught with anglers harvesting $67 \%$. The average length of harvested bluegill remains exceptional at 8 inches. Catch rates for anglers seeking bluegill was 0.26 fish per hour and harvest rates were 0.23 fish per hour.

Bluegill catch picked up in July of 2012 and remained high throughout the summer. September had the highest reported catch likely due to cooling waters and low lake level. Most of the bluegill harvest on Box Butte typically occurs during ice fishing. During the 2007 and 2008 surveys, approximately $65 \%$ of the total bluegill catch occurred between November and March.

Bluegill Caught Per Month



## Yellow Perch

The yellow perch numbers continue to rebound in 2012 with 12,377 fish caught at Box Butte. Anglers harvested about $25 \%$ of the perch caught. The average length of yellow perch harvested in 2012 was similar to 2008 ( 8.6 inches) at 8.9 inches. Anglers seeking yellow perch caught 0.46 fish per hour and harvested 0.36 fish per hour. Like bluegills, September was a great month in 2012 for yellow perch, however, the majority of the yellow perch harvest typically occurs during ice fishing. Of the 1,754 perch caught in $2008,76 \%$ were caught between November and March.


4

## Yellow Perch Caught April October



## Channel Catfish

Channel catfish catch was also up in 2012 with an estimated 332 fish caught at Box Butte. Although the total catch is low, Box Butte continues to produce very quality catfish. The average length of channel catfish harvested was 23.4 inches in 2012. Anglers targeting channel catfish caught 0.02 fish per hour in 2012 with $65 \%$ of the catch harvested.


## Additional Angling Opportunities

Smallmouth bass fishing is picking up on Box Butte since their introduction to the lake in 2009. Anglers caught 1129 smallmouth in 2012 and harvested 518. The average size smallmouth bass caught in 2012 was 12.3 inches.

Box Butte reservoir is the only lake in the panhandle where anglers can catch European rudd. This rough fish is very popular with spear fisherman and archery fisherman.

For additional information about fisheries management in the panhandle, please contact the NGPC Alliance office at 308-763-2940 or by email at the addresses listed below:


Al Hanson, District Supervisor (308) 763-2940 or al.hanson@nebraska.gov

Joe Rydell, Fisheries Biologist (308) 763-2940 or joe.rydell@nebraska.gov

Zac Brashears, Fisheries Biologist (402) 376-8080 or zac.brashears@nebraska.gov

