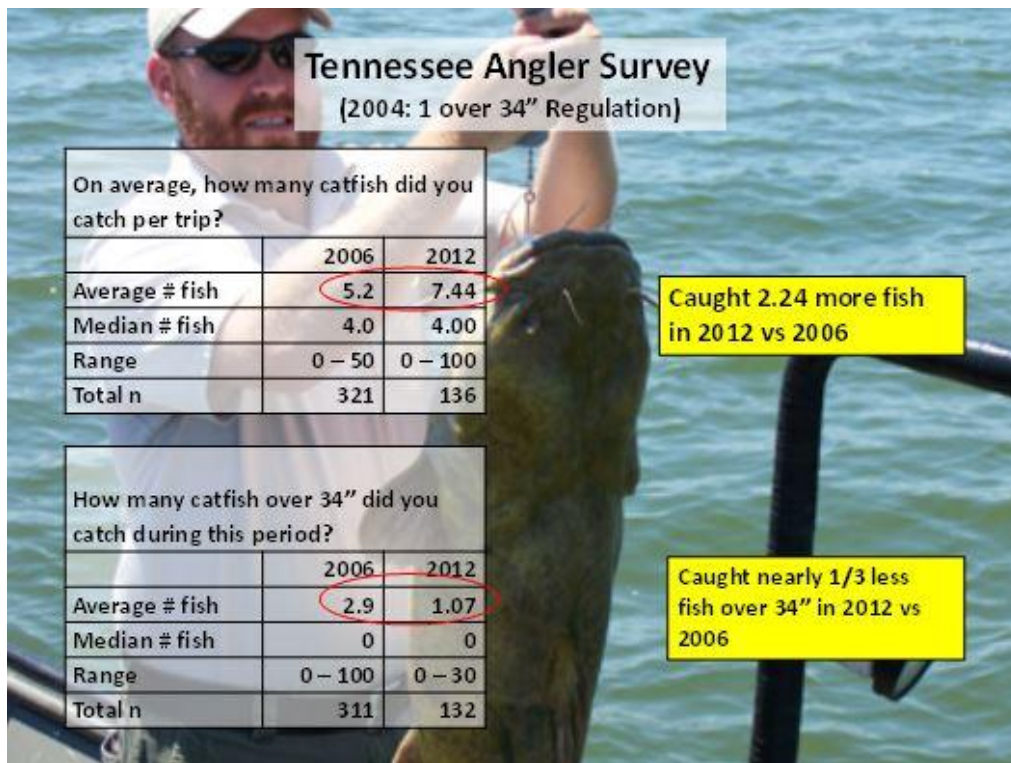




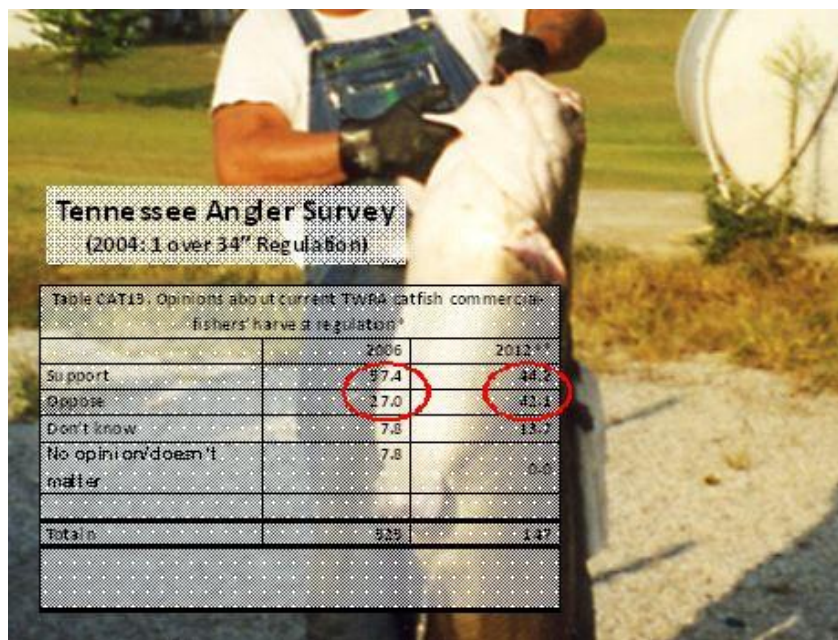
The 2013 Ohio River Catfish Project was an effort by KDFWR to increase data collection of catfish in the Ohio River. The goal of the project was to determine the overall status of blue, flathead, and channel catfish in the Ohio River and determine if the catfish population as a whole is being over harvested and if trophy-sized fish are being harvested disproportionately to their abundance. This project was conducted in response to trophy and tournament anglers' assertions that commercial fishing is overharvesting larger catfish because of increasing demand for the larger fish by pay lakes. Additionally, there are some catfish anglers that are adamantly opposed to all commercial fishing since they believe the catfish populations, as a whole, are being overfished in the Ohio River.

The State of Ohio implemented angler harvest restrictions in response to their trophy catfish anglers' concerns. The regulations were implemented despite a lack of data to verify that numbers of the larger fish are in fact dwindling. Blue catfish (one of the two species of primary concern by trophy catfish anglers because of their ability to attain very large sizes), are notoriously aggressive when compared to other fish species and have created issues concerning overpopulation in some rivers where the fish have neither commercial harvest pressure or top predators that would prevent them from becoming too numerous. For this reason, primarily, KDFWR believes that understanding the demographics of our Ohio River catfish populations is essential prior to establishing harvest restrictions that may create future issues that are products of over population such as stunted growth and reducing the number and quality of catfish and other sport fish species in the river. It should be noted that Ohio is not the only state that has implemented regulations without knowledge of the resource. Large rivers are very hard to sample effectively. It takes considerable effort and funding to adequately sample those resources, and since every state has limited funding, their resources are generally spent managing fisheries that are more heavily used on a per-acre basis than the big rivers. Kentucky actively manages other sport fish species in the Ohio River, and this Department feels that the resource is important enough on many levels to warrant the funding necessary to properly manage it. KDFWR expresses thanks to the Illinois DNR, Southern Illinois University, and Eastern Illinois University for providing catfish sampling effort and data during 2013.

The following represents key data that KDFWR used to help formulate potential harvest regulations. Information gathered from two public meetings that KDFWR hosted and which were attended by representatives from the trophy catfish anglers and Kentucky commercial fishermen were also considered prior to the regulation proposals that are provided at the end of this article.

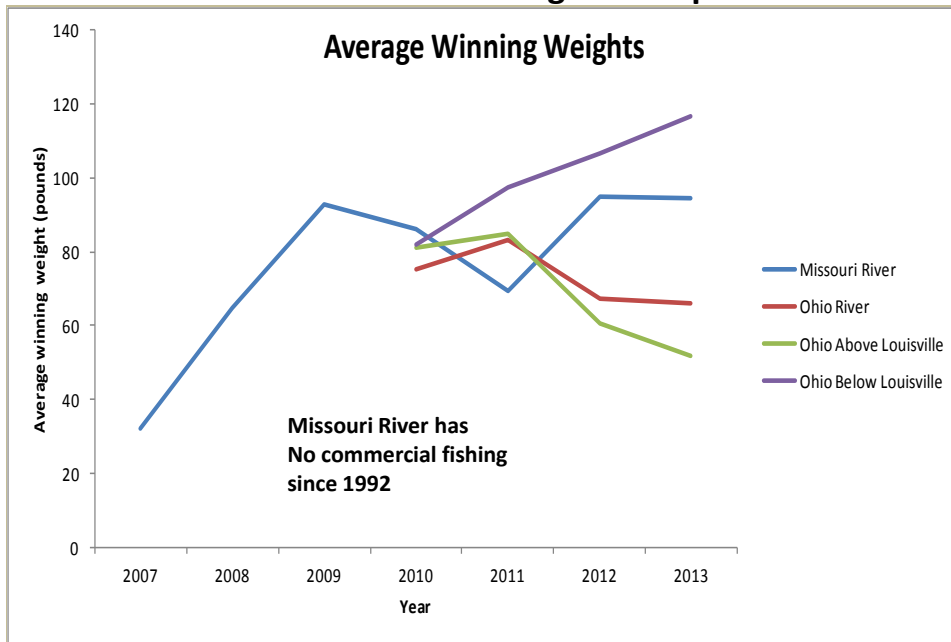


The Tennessee DNR implemented a harvest catfish restriction (1 fish over 34 inches daily) in 2004. The restriction included anglers and commercial fishermen. This slide was shown to illustrate differences in catch numbers and fish sizes per fishing trip as reported by anglers in surveys that were taken in 2006 and again in 2012. Anglers reported catching more catfish in general, but the number of catfish over 34 inches had decreased, actually by almost two thirds (not the 1/3 as presented on the slide) after the regulation was implemented.

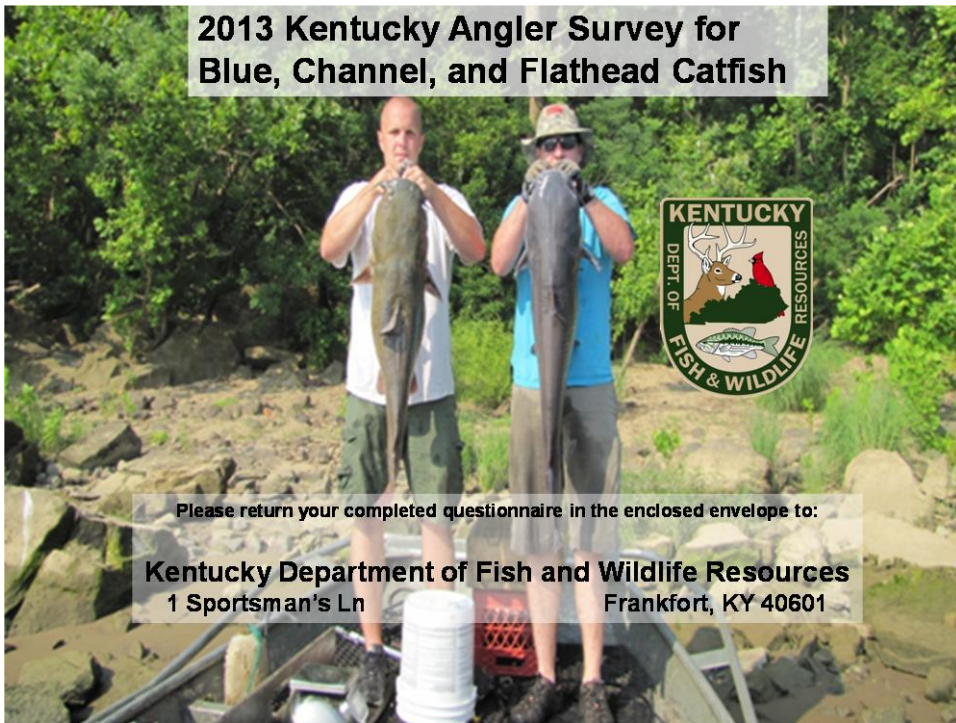


This slide shows data from the same Tennessee survey. The percent of anglers favoring the increased harvest restrictions on commercial fishermen decreased from 2006 to 2012. Potential reasons for the decrease were not given. It should be noted that Tennessee implemented the regulations to appease their catfish anglers without data to indicate they were warranted. As previously indicated, this type of action is not uncommon for big rivers due to the cost and difficulty in sampling in relation to higher profile fisheries that demand effective resource management.

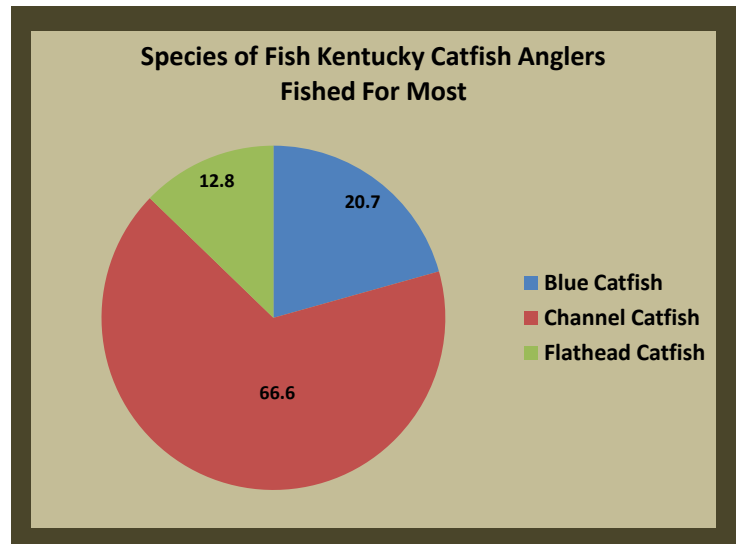
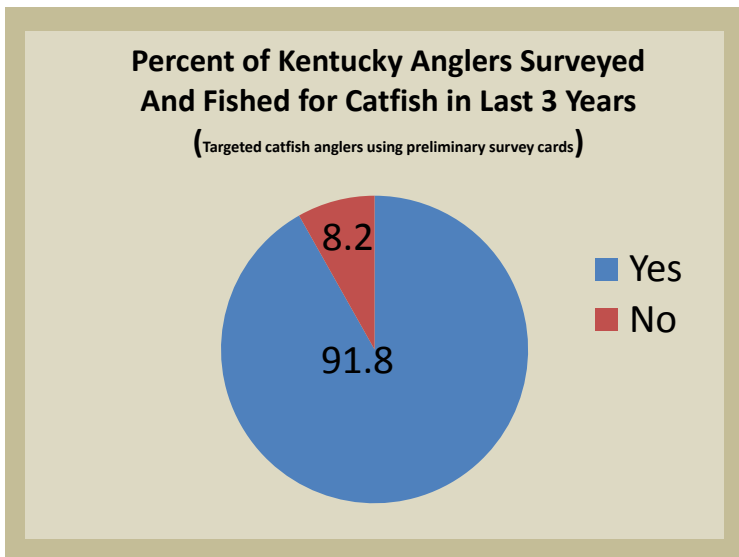
Catfish Tournament Weights Comparison



Missouri began restricting commercial harvest in their portion of the Missouri River in 1992. The expected result would be that the relative number of trophy-sized catfish should increase over time. However, the average winning weights for catfish tournaments held in the Missouri River were actually lower than those held in the Ohio River below Louisville. Average winning weights of catfish tournaments held in Ohio River pools above Louisville were lower than both the lower pools and in the Missouri River. Winning weights were used for comparisons because many tournaments do not keep records beyond that information.

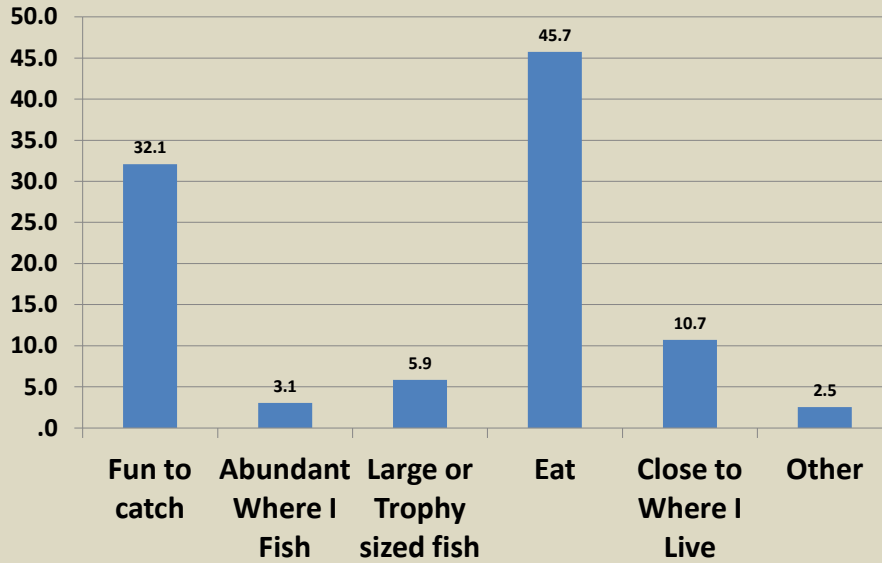


During late summer, 2013, KDFWR conducted a catfish angler survey to determine attitudes concerning the quality of fishing for catfish in the Ohio River. Five thousand post cards were sent to Kentucky license holders to reach out to catfish anglers, specifically. The recipients were asked: 1) Have you fished for catfish in Kentucky in the last three years; and 2) Will you take and return a written survey concerning fishing for catfish in Kentucky? The following results were derived from 894 respondents:

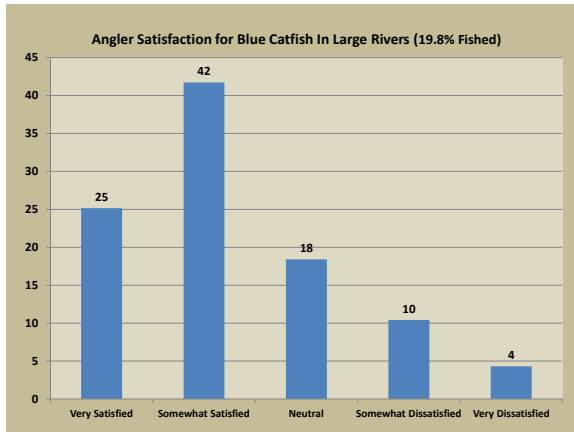
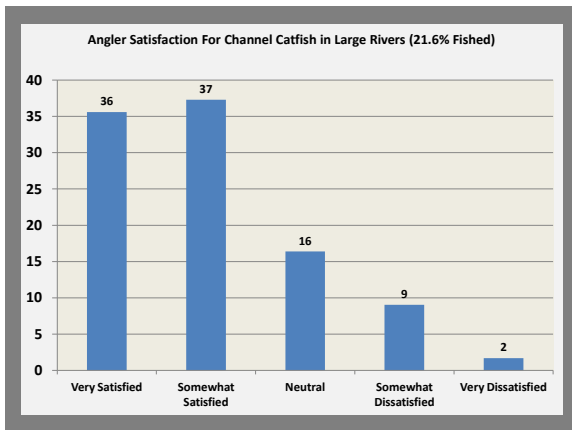


Almost 92% of the returned surveys had indicated that they were catfish anglers (left chart). Anglers that did not fish were not included in the survey. The chart on the right indicates species anglers targeted most.

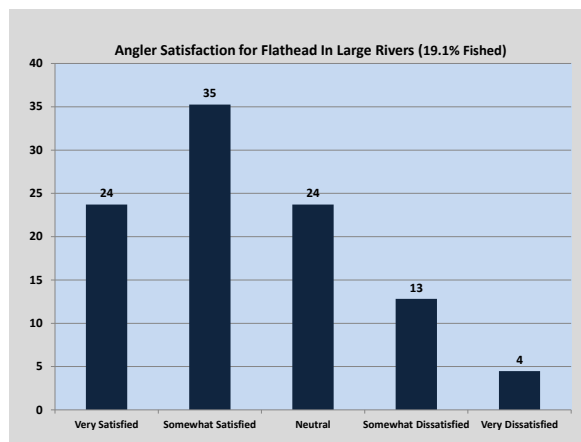
Reasons to Fish For Catfish

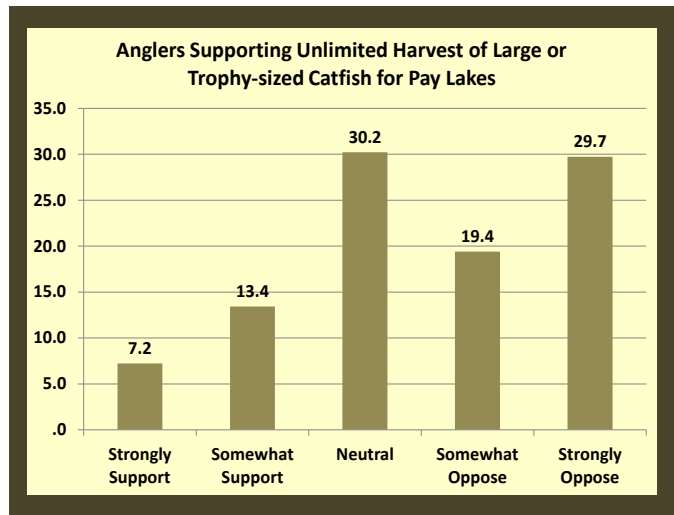
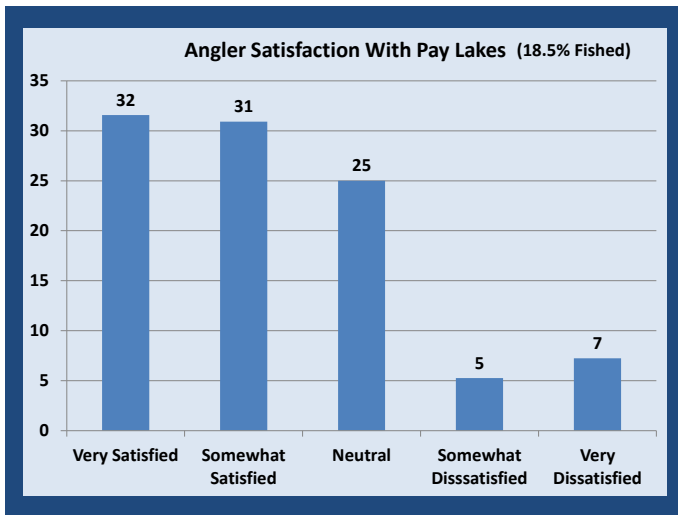


Almost 79% of the surveyed anglers fish for catfish or food or because they were fun to catch. Only 6% of the surveyed anglers said that trophy catfish was their primary reason for fishing.

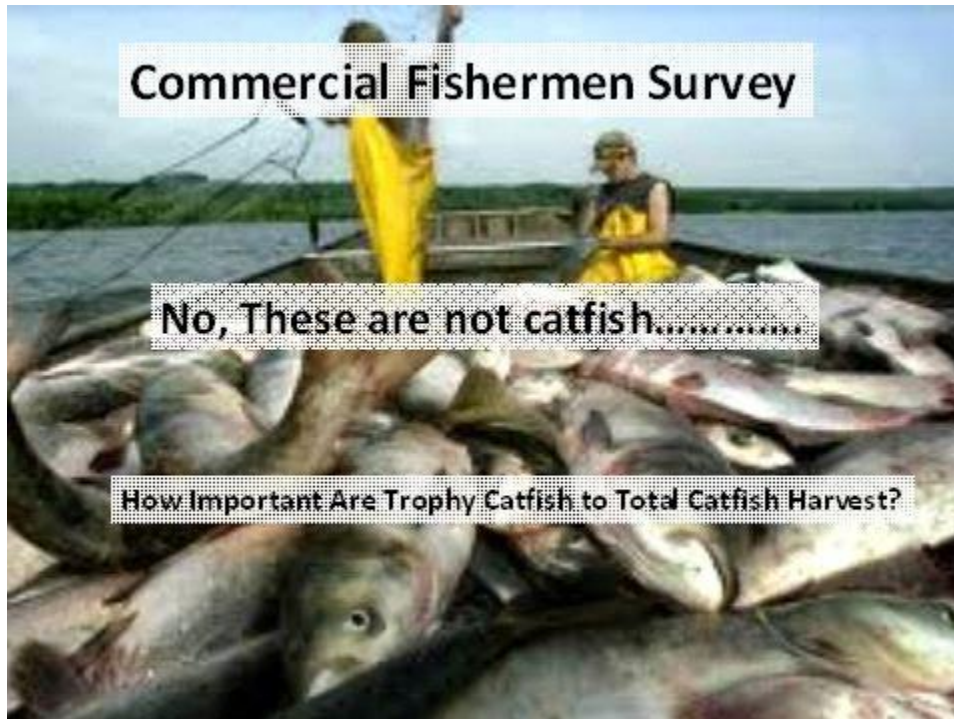


Angler satisfaction in Kentucky's large rivers ranged from 59% to 63%; while dissatisfaction ranged from 12% to 17%. Approximately 19% to 22% of the catfish anglers surveyed fished large rivers.



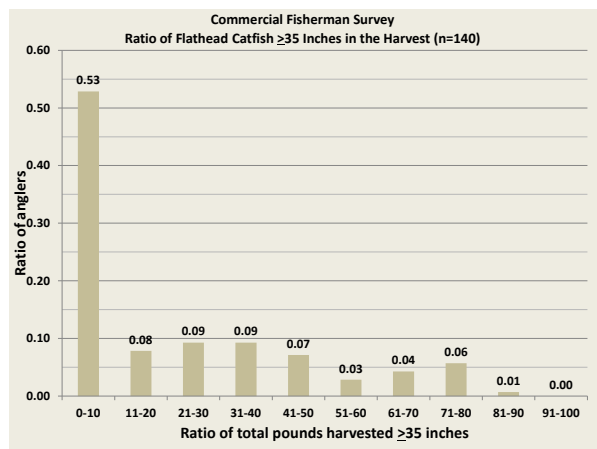
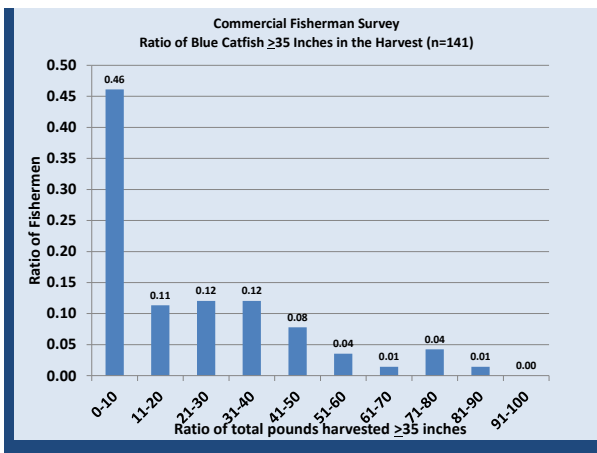
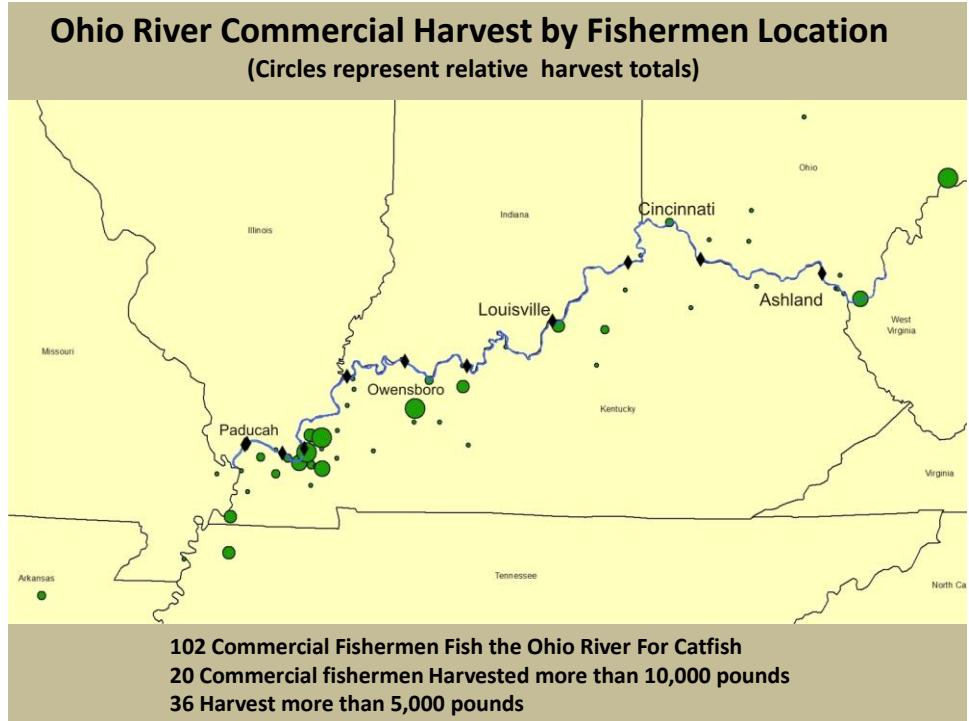


Approximately 19% of the anglers surveyed fished in pay lakes; but 49% of all respondents opposed allowing unlimited harvest of trophy-sized catfish that would be sold to the pay lakes.

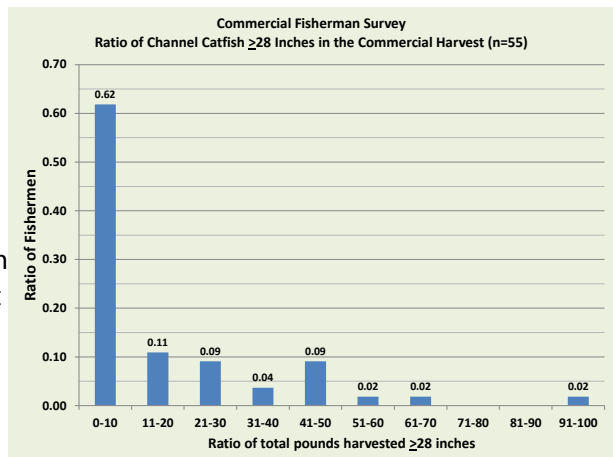


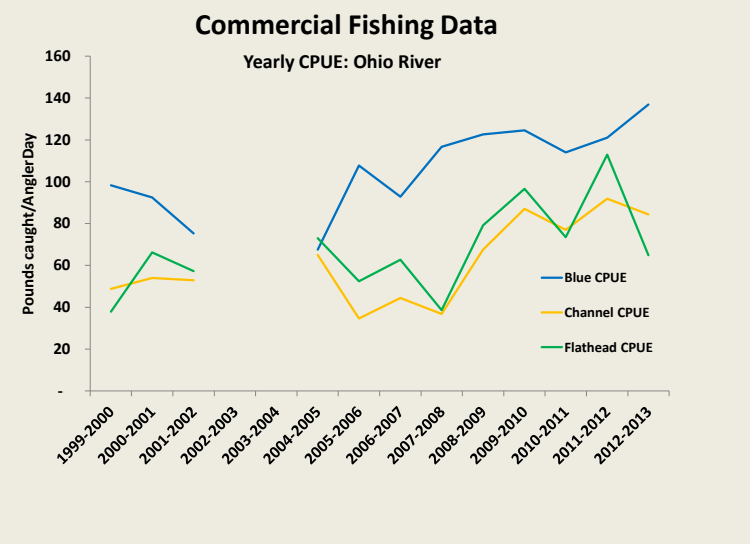
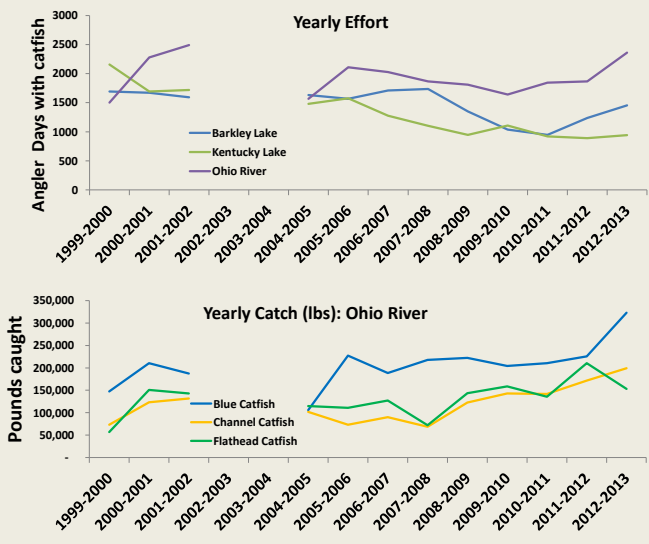
This slide was used to educate the participants about utility of commercial fishing to sportfish and catfish anglers. The survey, although subjective, was conducted to determine the importance of trophy-sized catfish to their overall harvest and income. At the public meeting, anglers protested that commercial fishermen would not answer the survey honestly since the results would help shape future catfish regulations. When asked, the commercial fishermen indicated they answered honestly because they were not sure which way to dishonestly answer questions in the survey since: 1) if they indicated that trophy catfish represented a small percentage of their catch, that fact would make it easier for KDFWR to propose stricter harvest regulation since the impact on their income would be minimal; and 2) If they answered that they collected many trophy-sized catfish, KDFWR would assume there is a problem with overharvest and propose harvest restriction on trophy catfish.

This map depicts where the commercial fishermen reside and their relative Ohio River catfish harvest numbers. Assuming that most of the commercial effort occurs within some proximity of their residence, this chart indicates that most of the catfish harvest likely occurs in the lower portion of the Ohio River. However, the two green dots in Ohio indicate that some substantial harvest likely occurs in the upper pools as well.

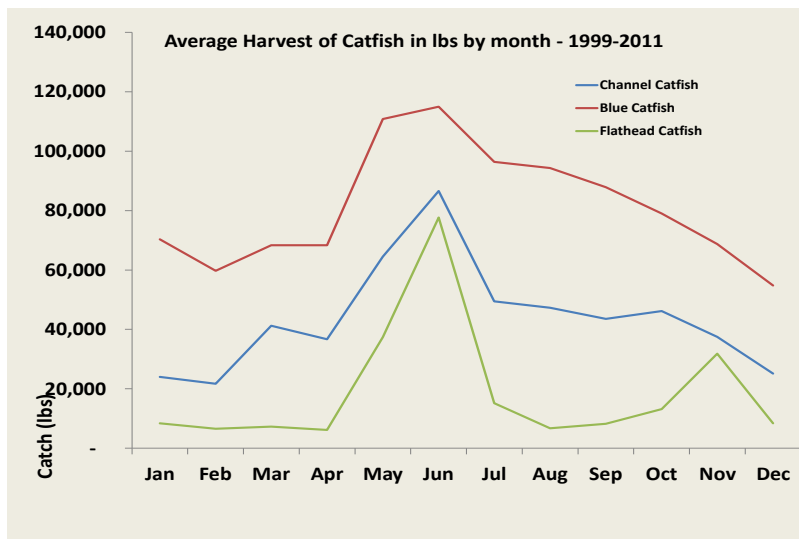


Most commercial fishermen (46% - 62%) indicated that less than 10% of their total harvest included trophy-sized catfish while 61% to 73% indicated that the fish accounted for less than 20% of their harvest. At 20% and less, the commercial fishermen were harvesting catfish at a ratio of trophy-sized catfish to the rest of catfish sizes in the populations in proportion to their abundance in the populations; those were not targeting the larger catfish.





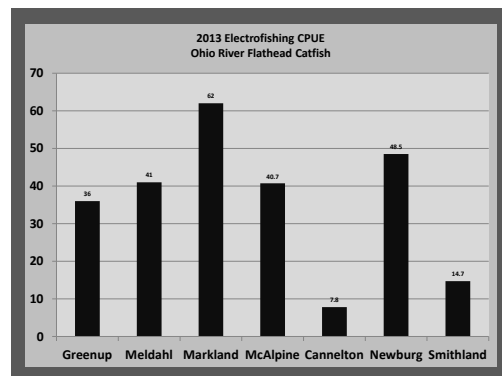
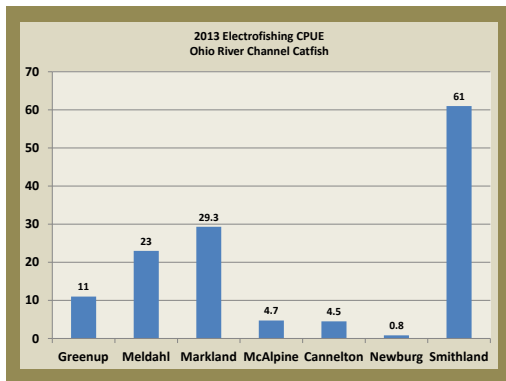
Commercial fishermen are required to fill out daily harvest reports and send them to KDFWR at monthly intervals. Failure to complete the reports ultimately results in license suspension. Some anglers at the public meeting, again, protested due to the likelihood of cheating since the reports are not scrutinized. But for the same reasons indicated on the survey, commercial fishermen are not likely to significantly falsify their reports since they have no idea as to how results of the data will be used. These charts depict an increase in angler effort (the number of days with gear in the water) and a corresponding increase in harvest from the Ohio River. If this data were falsified, then it could certainly result in new restrictions on commercial fishing in the Ohio River if scientific data indicated that effort and harvest were impacting the resource. The chart on the right shows increasing trends in catch per fishing effort for Ohio River catfish. Commercial fishermen will tell you that this chart indicates that the catfish populations in the Ohio River have never been stronger; and to an extent, they are correct. However, a dip in the flathead CPUE (though still in the historical range) may be symptomatic of a decrease in numbers. It will be important for KDFWR to continue monitoring their harvest and look for continuing decreases or new ones with other catfish species.



One concern that KDFWR biologists have with the increasing trend in catfish harvest CPUE is that the increases are a result of increased pressure on trophy-sized catfish. The harvest reports do not currently require differentiating between trophy and other catfish. This concern is partly a result of the data in this chart showing that most of the harvest occurs during pre-spawn, spawn, and post-spawn migration when larger catfish are more susceptible to harvest in passive gear types.

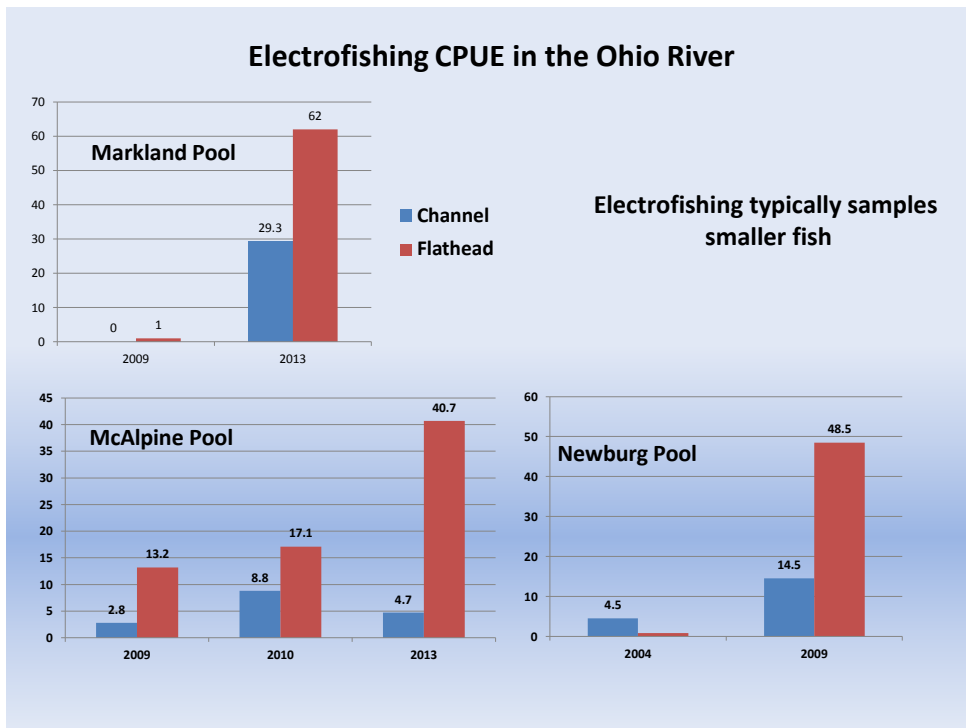


KDFWR is the only state on the Ohio River that has routinely sampled for catfish data over the years. The Department has been sampling with electrofishing and trot lines for several years. Sampling and commercial harvest data prior to 2013 had not indicated that the catfish populations were being over harvested. However, that sampling effort was deemed by our biologists to be potentially inadequate to sufficiently describe the catfish populations. The following charts were presented to illustrate results from the increase effort for our 2013 sampling as well as comparing among methods of data collection and among years within data methods when that data was available.

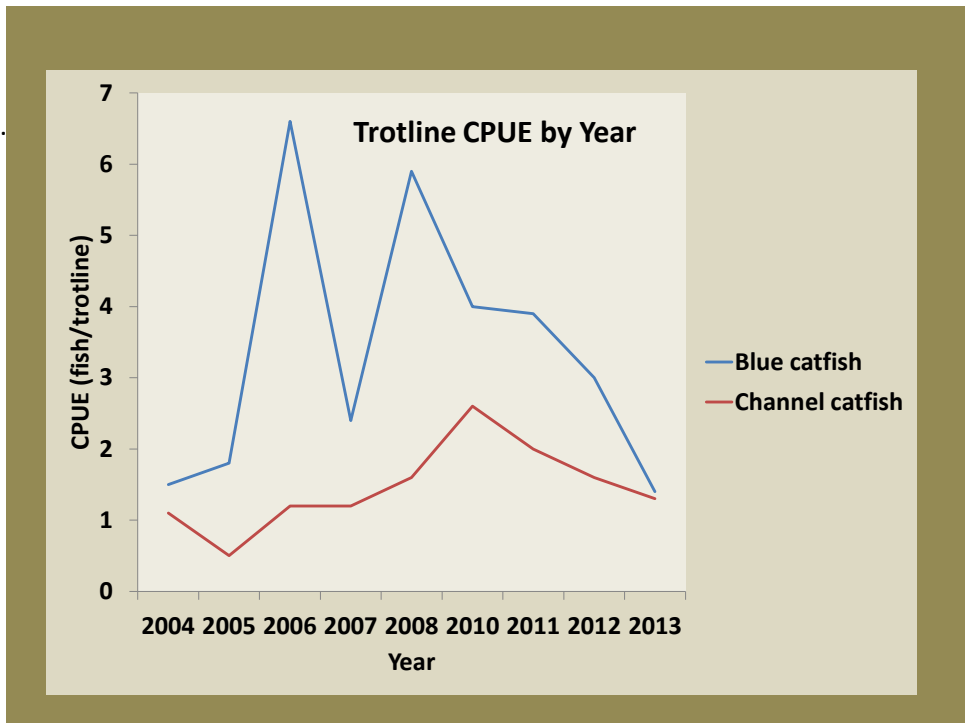


Electrofishing Catch-per-effort (CPUE) trends or comparative data give indications of the number of smaller catfish that are in the populations. These charts should have had an asterisk beside Cannelton and Newburg pools since those were last sampled in 2009. For channel catfish (chart on left) in McAlpine, Cannelton and Newburg pools, the CPUE results were low; but the remaining pools were fair to excellent. Flathead catfish (chart on right) were abundant in all pools except Cannelton and Smithland. The flathead have historically not been very abundant in Smithland Pool. Since blue catfish tend to be less vulnerable to electrofishing, no data is available for that species.

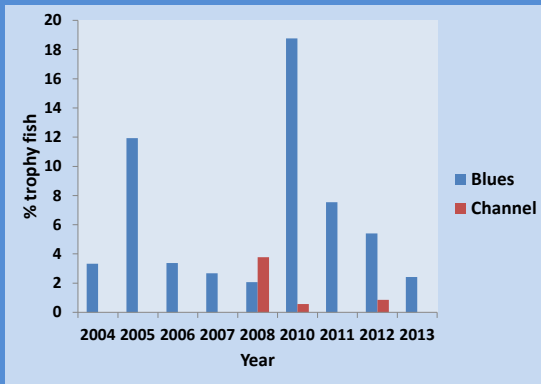
This chart compared Electrofishing data within pools when multi-year data was available. Increases in CPUE were evident over time in each pool for flathead and channel catfish except for channel catfish in McCalpine Pool which were low in all three years.



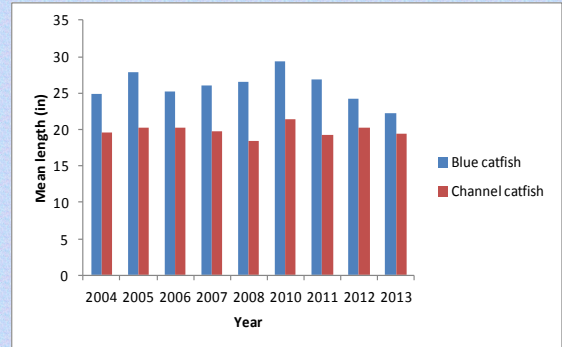
Trot line data collected by KDFWR has been very erratic for blue catfish, but a downward trend appears evident in the Ohio River since 2009. Channel catfish data appears to be more stable, but there also appears to be a decline in CPUE for those catfish since 2010. However, 2013 CPUE remains higher than data collected in 2004 – 2007 for channel catfish.



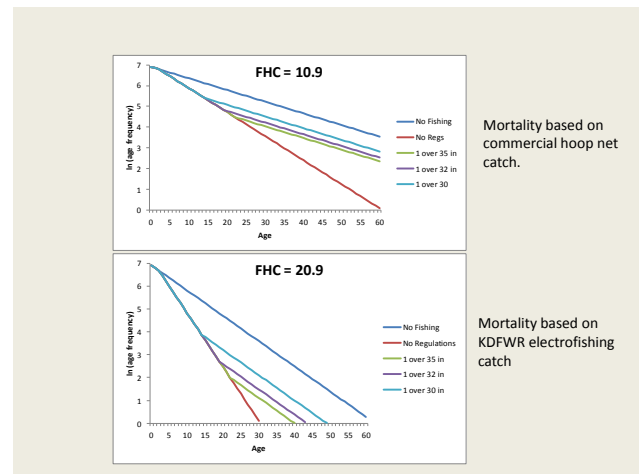
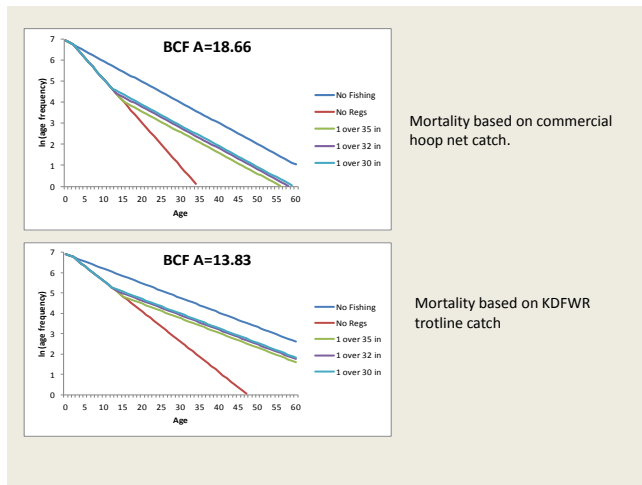
Percent of Trophy Catfish Collected (Trot Line Samples)



Trot Line Samples

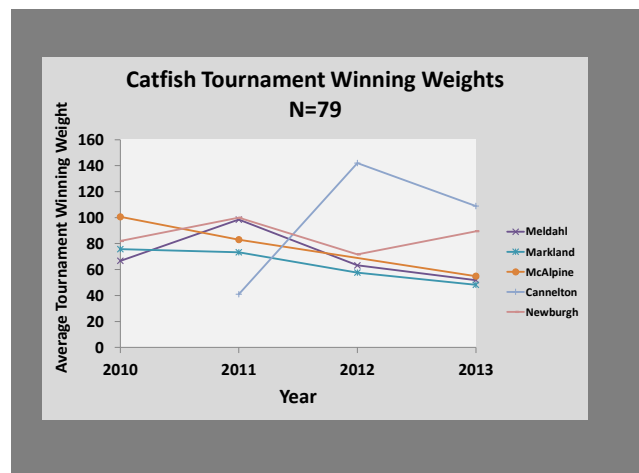
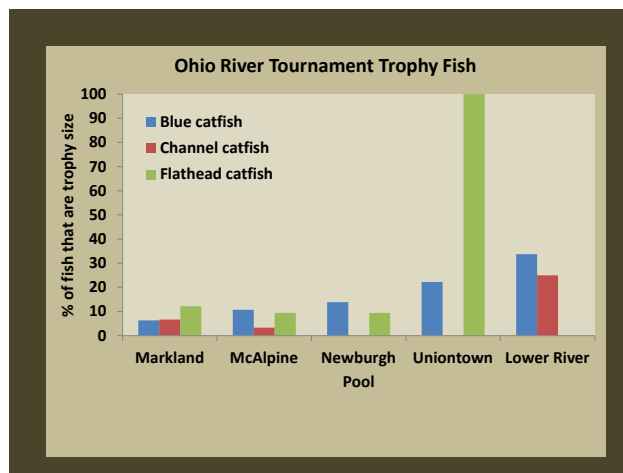


The percent of trophy blue catfish collected by trotlines (left chart) has declined steadily since 2010 after an all-time high in that year. Too few trophy channel catfish have been collected over the years to make comparisons of trends. The average size of blue catfish (right chart) has also declined since 2010, however, channel catfish average lengths have remained stable.



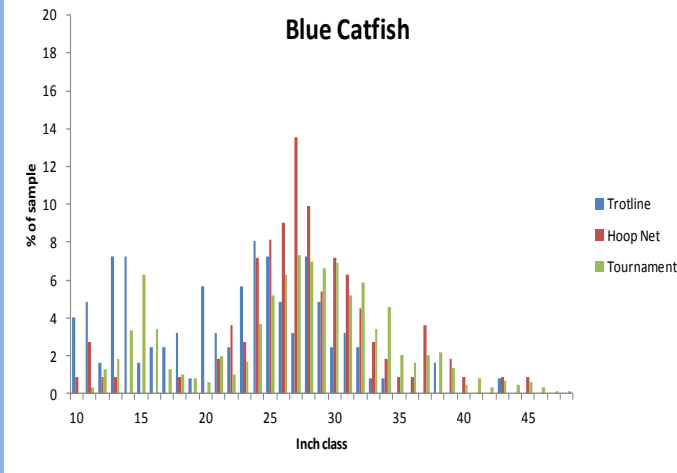
These charts were added to describe annual mortality of blue catfish (left chart) and flathead catfish (right chart). Blue catfish annual mortalities estimated by using hoop nets and trot lines resulted in mortality rates of approximately 19% and 14%, respectively. For flathead catfish, they were 11% and 21%, respectively. Annual mortality rates of approximately 25% are considered good for catfish populations. Eastern Illinois University recently reported annual mortality for catfish in the Wabash River to be over 50%; those catfish populations will not likely be able to withstand that rate of mortality for many more years.

Monsters of the Ohio Catfish Tournament was one of many attended by KDFWR as part of this study. Large fishing tournaments can be valuable resources for data since trends can be used as indicators of fish numbers and the size structure of a given fish population. Because of variability in river and weather conditions, it takes many tournaments to get data that is reliable as an index.

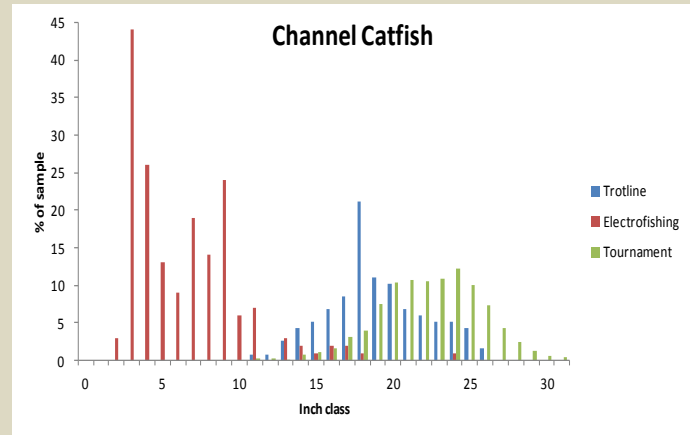


The percent of catfish caught and weighed at the 2013 Ohio River catfish tournaments varied among pools (left chart), but it was clear that pools in the lower Ohio River yielded higher average percentages of trophy fish than those in the upper pools. Trends of winning weights in tournaments (n=79) have declined in the upper pools since 2010, however the trends are less evident in the Newburgh and Cannelton pools because of 2013 data. The 2013 Monsters of the Ohio Tournament held in the Newburgh Pool yielded an all-time record winning weight of 145.6 pounds, and the top four contestants caught over 100 pounds. The weights and big catfish (57.2 pounds) were records for the tournament. Weather and river conditions were favorable for the 2013 tournament. When they are not favorable, the opposite results are often seen. Weather and river conditions and related variability underscores why it is important to have data from many tournaments prior to making conclusions on health of a fishery when using this data. Even in excellent fisheries, poor conditions will result in poor catchability; including in tournaments with excellent anglers.

River-wide Percent Length Frequency by Gear.



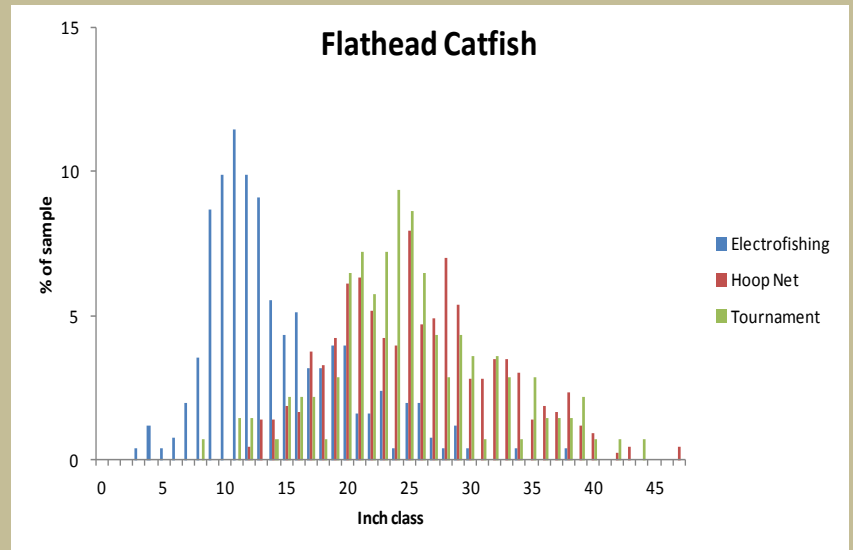
River-wide Percent Length Frequency by Gear



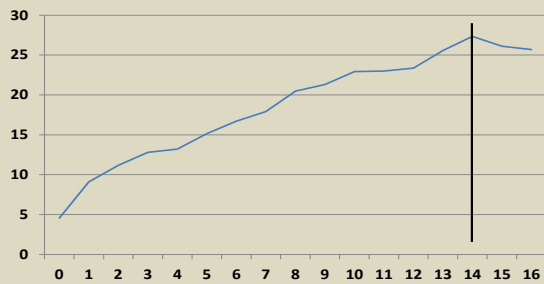
The chart for blue catfish (left chart) compares trotline data collected by KDFWR, hoop net data collected when KDFWR biologists rode with commercial fishermen, and tournaments data collected when KDFWR staff took lengths and weights of catfish brought into the weigh-ins of several tournaments. The most interesting aspect of this data for blue catfish was the way each method of data collection mirrored the other. This not only gives us some confidence concerning the relative number of catfish in the river at a given length, but it also tells us that any of the three types of data may likely be useful for determining relative sizes of the fish. KDFWR will continue to collect all three data types for the next several years in an effort to verify that this phenomenon is not unusual. The channel catfish chart (right chart) tells a different story. We already knew that electrofishing was not a good method to use when looking at length-frequency data, but that it is good for comparing trends of smaller fish. The charts are also clear that trotline and tournament data is not comparable for channel catfish. Obviously, fewer small channel catfish are going to be brought to the tournament weigh-ins when enough larger blue or flathead catfish are caught. Therefore, this chart illustrates that the methods are not comparable, and that the selective nature of the tournament data most likely makes it less useful for channel catfish than the trotline data for trend analyses. As far as the actual length frequencies go, the left chart indicates that most of the blue catfish caught were between 23 and 33 inches. Although a decrease in relative numbers of the fish over 33 inches is expected, we will continue to watch these frequencies in the future to see if the peaks and major contributions of the fish sizes continues to shift; hopefully to the right which would indicate that whatever regulations are passed are sufficient to protect a portion of the larger fish. The decrease in relative numbers of large fish (shown in the blue catfish chart) is not unusually steep. Additionally, the tournament data reinforce that our trotline data is not sufficiently collecting the larger channel catfish, and more years of all three data types will help us keep an eye on those fish.

River-wide Percent Length Frequency by Gear.

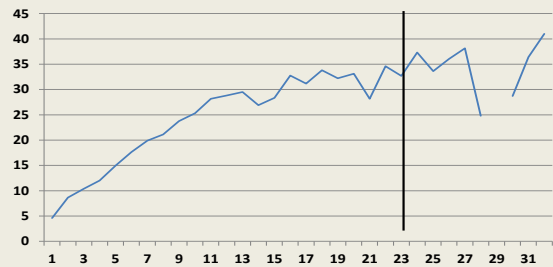
This chart looks similar to the previous channel catfish chart, except that hoop net and tournament data are more comparable to the blue catfish chart. The relative number of young fish collected by electrofishing looks good, and the peaks and decreasing slope of fish from 26 inches to 40 inches is similar to the blue catfish. As with the blue catfish, we will continue to monitor these length-frequency trends.



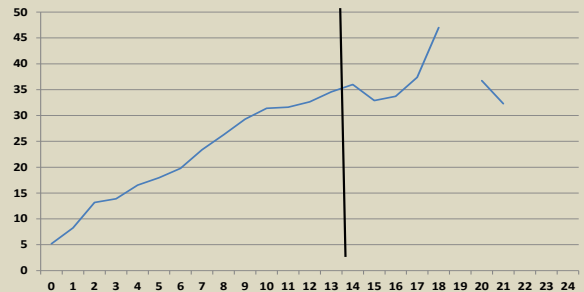
Mean Length At Age Ohio River Channel Catfish



Mean Length At Age Ohio River Flathead Catfish



Mean Length At Age Ohio River Blue Catfish



These three charts depict growth at age for the three catfish species. Channel catfish reach 28 inches (8.74 lbs) on an average of 14 years; blue and flathead catfish reach 35 inches at 14 (20.64 lbs) and 23 (20.92 lbs) years, respectively. It should be noted that these growth rates are averages, and many fish reach their trophy sizes much quicker than others due to factors such as food availability, gender, river conditions throughout their lives, and genetics; others may never reach trophy sizes for the same reasons even though they inhabit the same water.

Based on the information gathered from sampling and public meetings provided above, the following regulation proposals were submitted to the KDFWR Commission in December, 2013:

Kentucky Fish and Wildlife Commission Meeting

December 6, 2013

FISHERIES DIVISION

TABLE OF CONTENTS:

- Action Item: Trophy Catfish Regulations in the Ohio River
- Action Item: Ohio River Commercial Catfish Harvest Regulations
- Action Item: Commercial Catfish Harvest Reports
- Action Item: Reciprocal Non-Resident Commercial Fishing Regulations

Regulation Number: 301 KAR 1:201

Proposed Recommendation: Unlimited number of catfish harvested below trophy size and a daily harvest of 1 trophy catfish from each species for sportfish anglers fishing the Ohio River mainstem. (Trophy fish are defined as: over 35 inches for blue and flathead catfish; and over 28 inches for channel catfish).

Regulation Number: 301 KAR 1:155

Proposed Recommendation: In the Ohio River and its tributaries open to commercial fishing:

- 1) A daily commercial harvest of an unlimited number of catfish below trophy size and a harvest of only 1 trophy catfish from each species.
 - a) Trophy catfish: blue and flathead catfish > 35 inches; channel catfish > 28 inches.
 - 2) Special Quality Catfish Harvest Permit below the Cannelton Lock and Dam will allow, in addition to unlimited harvest of smaller catfish, a daily commercial harvest of 4 quality catfish (in aggregate):
 - a) Quality catfish: blue and flathead catfish > 40 inches; channel catfish > 30 inches;
 - b) Permit is free and issued to a maximum of 50 commercial fishermen that:
 1. Reported harvesting at least 10,000 pounds of catfish in at least two of the last three fishing years (n = 44);
 - or
 2. Are randomly selected after registering in a lottery:
 - a. In 2014, the lottery will be held during the work week following passage of this regulation;
 - b. After 2014, if fewer than 50 permits have been issued by the first day of the commercial fishing season, remaining permits will distributed by lottery on the first work day of the week following opening day;
 - c. If fewer than 50 permits have been issued following the lottery in any year, permits remaining will be distributed on a first-come-first-serve basis;

Regulation Number: 301 KAR 1:155

Proposed Recommendation: Commercial fishermen daily harvest reports will be changed to include the following information:

- 1) Total number of catfish harvested by species;
- 2) Total number of trophy catfish harvested by species;
- 3) Ohio River pool where catfish are harvested.

Regulation Number: 301 KAR 1:155

Proposed Recommendation: A resident of a state that does not offer non-resident commercial fishing licenses will not be allowed to purchase a Kentucky non-resident commercial fishing license. A grandfather clause will be in effect whereby non-resident commercial fishermen residing in states affected by this regulation would qualify to continue purchasing non-resident commercial fishing licenses until the non-resident does not renew their license in a year consecutive to the previous license purchased.

Commercial fishing daily harvest reports will include the following additions:

- Number of catfish harvested by species;
- Number of blue and flathead catfish over 35 inches;
- Number of channel catfish over 28 inches;
- When fishing river systems, which pool was fished where the harvest occurred?

All proposed regulations were passed by the KDFWR Commission and were subsequently approved by the Legislative Research Commission. The sportfishing regulations are currently in effect. An injunction was filed against the commercial fishing regulations and has delayed their implementation until December 01, 2014. The commercial fishing regulations will be in effect after this date.

Points of clarification

1. The sportfishing creel and size limits are the same across the entire Ohio River mainstem, while the commercial fishing regulations do allow for 50 commercial fishermen (with permits) to utilize an expanded size limit from Cannelton Lock and Dam down to the confluence with the Mississippi River.
2. Commercial fishing regulations include the Ohio River mainstem and its tributaries.
3. Kentucky and Barkley lakes are not included in these regulations (sport and commercial fishing).

The creel and size limits as listed in regulation are as follows:

Sportfishing

(57) Ohio River.

- (a) Walleye, sauger, and any hybrid thereof, no size limit; daily creel limit, ten (10), singly or in combination.
- (b) White bass, striped bass, and any hybrid thereof, daily creel limit, thirty (30), no more than four (4) in the daily creel limit shall be fifteen (15) inches or greater.
- (c) The blue catfish daily creel limit shall be unlimited, except that no more than one (1) fish in the daily creel limit shall be thirty-five (35) inches or longer.
- (d) The channel catfish daily creel limit shall be unlimited, except that no more than one (1) fish in the daily creel limit shall be twenty-eight (28) inches or longer.
- (e) The flathead catfish daily creel limit shall be unlimited, except that no more than one (1) fish in the daily creel limit shall be thirty-five (35) inches or longer;

Commercial Fishing

Section 5. Special Catfish Harvest Restrictions. (1) In the Ohio River and its tributaries open to commercial fishing, there shall be:

(a) An unlimited harvest of:

1. Blue and flathead catfish that are less than thirty-five (35) inches in length; and
2. Channel catfish that are less than twenty-eight (28) inches in length; and

(b) A daily limit of one (1):

1. Blue and flathead catfish greater than thirty-five (35) inches in length; and
2. Channel catfish greater than twenty-eight (28) inches in length.

(2) A person with a valid commercial license shall obtain from the department a free Ohio River Trophy Catfish Harvest Permit in order to harvest multiple trophy catfish downstream of Cannelton Lock and Dam.

(a) The department shall issue a maximum of fifty (50) permits annually.

(b) Beginning in 2015, the department shall issue a permit to a commercial fisherman who:

1. Has reported a minimum harvest of 10,000 pounds of catfish from the Ohio River and its tributaries open to commercial fishing in at least two (2) of the last three (3) years; and
2. Sends a written request to the department postmarked on or before March 10.

(c) In 2014, the department shall issue a permit to a commercial fisherman who:

1. Has reported a minimum harvest of 10,000 pounds of catfish from the Ohio River or its tributaries open to commercial fishing in at least two (2) of the last three (3) years; and
2. Sends a written request to the department postmarked on or before ten (10) days following the 2014 amendment effective date of this administrative regulation.

(d) There shall be an unlimited daily harvest of catfish less than trophy size for each permit holder.

(e) There shall be a daily harvest limit of four (4) trophy catfish in aggregate for each permit holder.

(f) Beginning in 2015, if fifty (50) permits are not issued by March 15, then the department shall conduct a random electronic lottery drawing for the remaining slots.

(g) A commercial fisherman shall apply for the lottery established in paragraph (f) of this subsection by sending a written request to the department to be entered in the lottery postmarked on or before March 10.

(h) In 2014, if fifty (50) permits are not issued within fifteen (15) days following the 2014 amendment effective date of this administrative regulation, then the department shall conduct a random electronic lottery drawing for the remaining slots.

(i) A commercial fisherman shall apply for the lottery established in paragraph (h) of this subsection by sending a written request to the department to be entered in the lottery postmarked on or before ten (10) days following the 2014 amendment effective date of this administrative regulation.

(j) If the number of applicants for any lottery is less than the number of available permits, then the remaining permits shall be distributed on a first-come first-serve basis.