

**RESPONSE TO INDIANA CATFISH CONSERVATION ASSOCIATION
PETITION FOR CATFISH RULE CHANGES**

Cause #21-FW-032

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EXECUTIVE BRIEF

- Channel, Flathead, and Blue Catfish support substantial and important recreational and commercial fisheries across the state. In Indiana's waters, commercial fishing for catfish is restricted to the Ohio River and the lower portions of the Wabash, White, and Patoka Rivers.
- Recreational and commercial fishers must follow the statewide river catfish regulations established in December 2015: a 13-inch minimum length limit for Channel, Flathead, and Blue catfish with no daily bag limit. Additionally, no more than one each of Channel Catfish over 28 inches, Flathead Catfish over 35 inches, and Blue Catfish over 35 inches may be harvested daily.
- Commercial fishers may use an unlimited number of hoop nets and seines on the Indiana-Illinois boundary segment of the Wabash River but are limited to four hoop nets on the other inland river segments. On the Ohio River commercial fishers may use an unlimited number of hoop nets, gill nets, trotlines, slat traps, and seines.
- In August 2021, the Indiana Catfish Conservation Association (ICCA) submitted a petition (see appendix) requesting the following changes to catfish harvest rules:
 - Reduce the harvest length limit for large catfish to one fish per day over 30 inches for Blue and Flathead catfish and 24 inches for Channel Catfish
 - Impose a 10-fish daily bag limit on catfish taken from rivers and streams
 - Ban the interstate transport of live, adult catfish
- Department of Natural Resources fisheries biologists used population assessment data, commercial and recreational harvest data, peer-reviewed scientific literature, and external agency reports in assessing the status of Indiana's catfish fishery and the merits of the proposed rules.
- DNR recommends that no change be made to harvest length limits for any of the species included in the petition. Studies in Kentucky, Tennessee, and the Mississippi River basin indicate that catching trophy catfish is not a primary motivation of the majority of catfish anglers. However, attitudes may vary by region. Furthermore, it is unclear whether the proposed regulations would significantly increase the number of trophy-size catfish based on extensive population modelling and evaluation of similar rules in another jurisdiction.
- DNR recommends no daily bag limit be imposed for catfish on rivers. A majority of catfish harvest comes from recreation anglers in commercially-fished rivers. Creel surveys on Wabash River and East Fork of the White River indicate that recreation catfish harvest is 2.5 to 3 times that of commercial fishing. These surveys also show that few recreational anglers harvest 10 or more catfish per trip.
- DNR recommends no action towards banning the interstate transport of live, adult catfish. Restricting transport of live, adult catfish may impact the aquaculture industry as well as fish haulers and suppliers who deal in commercially grown catfish for stocking or consumption. Additionally, the federal government has maintained the power to regulate interstate commerce. Therefore, any such regulation attempted by DNR would likely face a higher than typical level of scrutiny and be more difficult to support or defend than a regulation which regulates strictly intrastate activity.
- We identified two ways in which DNR can improve its understanding of catfish populations and the anglers who value them:
 - Enhanced catfish population assessments in both commercially- and noncommercially-fished rivers will better inform future discussions of harvest regulations.
 - A catfish angler social survey will provide much needed insight into the wants and needs of the catfish angling community.

Introduction

Channel, Flathead and Blue catfish support important recreational and commercial fisheries in Indiana. Catfish ranked third among recreational freshwater anglers in the United States in 2016 (USDI 2018), and among the top 3 targeted species for 33% of Indiana anglers (Responsive Management 2017). On the big rivers in southern Indiana, the majority of angler effort is directed toward catfish (Clark-Kolaks et al. 2011, Hoffman 2004). Recreational and commercial fishers must follow the statewide river catfish regulations established in December 2015: a 13-inch minimum length limit for Channel, Flathead, and Blue catfish with no daily bag limit. Additionally, no more than one each of Channel Catfish over 28 inches, Flathead Catfish over 35 inches, and Blue Catfish over 35 inches may be harvested daily. These regulations also apply on the Ohio River. Commercial fishing is permitted on 565 miles of the Wabash, Patoka, East Fork White, West Fork White and mainstem White rivers (hereafter inland rivers), and the 358 miles of Ohio River bordering southern Indiana. Commercial fishers may use an unlimited number of hoop nets and seines on the Indiana-Illinois boundary segment of the Wabash River but are limited to four hoop nets on the other inland river segments. On the Ohio River commercial fishers may use an unlimited number of hoop nets, gill nets, trotlines, slat traps, and seines. Additional regulations pertaining to commercial fishing are described in 312 IAC 9-8.

In August 2021, the Indiana Catfish Conservation Association submitted a petition (see appendix) requesting the following changes to catfish harvest rules: (a) Reduce the harvest length limit for large catfish to one fish per day each for Blue Catfish over 30 inches, Flathead Catfish over 30 inches and Channel Catfish over 24 inches, (b) impose a 10-fish daily bag limit on catfish taken from rivers and streams, and (c) ban the interstate transport of live, adult catfish. Below we summarize the status of catfish fisheries and evaluate the merits of the proposed rules.

Angler perception

Understanding the perceptions of different angler groups, and the motivations that guide their interactions with the fishery is essential to effectively managing fish populations. The major catfish user groups in Indiana are trophy anglers, casual anglers, set line fishers (i.e., limb lines and trot lines), and commercial fishers. Generally, trophy anglers practice catch and release fishing, value size of fish, and may be economically motivated through tournament participation. In comparison, set line and commercial fishers are harvest-oriented, value yield, and are economically motivated through personal consumption or commercial sales. Casual anglers exist along this spectrum of extremes. These conflicting motivations often place trophy anglers at odds with harvest-oriented users, particularly commercial fishers who they perceive to be overharvesting large catfish for the paylake industry (KDFWR 2014, Winders and McMullen 2019, Winders and McMullen 2020). The concern over trophy catfish management is not unique to Indiana, began in the early 2000's (Arterburn et al. 2002), and is the lens through which this petition was written.

While pursuing trophy catfish is increasing in popularity (Arterburn et al. 2002), the majority of catfish anglers are harvest-oriented. In Tennessee, 13% of catfish anglers labeled themselves as trophy anglers, whereas 74% described themselves as harvest-oriented (Stewart et al. 2012). In the Mississippi River Basin, most catfish anglers do not consider themselves trophy anglers (68%) and did not participate in catfish tournaments (86%; Arterburn et al. 2002). Few catfish anglers in Kentucky primarily target catfish for their trophy potential (6%), with the majority targeting catfish for food (46%) or because they are fun to catch (32%; KDFWR 2014). However, catfish size was important to Missouri anglers targeting

Blue and Flathead catfish (Reitz and Travnichek 2006), and to catfish angler satisfaction in Texas (Hunt et al. 2012). Although DNR does not have quantitative data describing the number of catfish anglers in the state or what they value in the fishery, we believe trophy catfish anglers are a small, vocal subset of a much larger group of catfish anglers with diverse motivations and preferences.

DNR often hears from trophy catfish anglers that catfish populations are “drastically declining” statewide, however that belief is not widely held among all catfish anglers in Indiana. During a creel survey on the stretch of East Fork White River in Lawrence County, Indiana from April – October 2019, anglers were asked if they felt catfishing was improving, staying the same, declining, or had no opinion (Kittaka 2021). Among all interviewed anglers (N = 828), the majority felt catfishing was staying the same or had no opinion. Even among the anglers specifically targeting Channel Catfish (N = 248) and Flathead Catfish (N = 5), the majority felt catfishing was staying the same (Table 1). Indiana’s commercial fishers also largely believe that catfish populations have not changed. In a 2021 social survey of inland commercial fishers (report in progress), the majority felt that both Flathead Catfish and Channel Catfish population numbers and average sizes have stayed the same over the past 5 years (Table 2, report in progress). Additionally, the Ohio and Wabash rivers are both among the top ten waterbodies most commonly reported as being trophy catfish fisheries by agency biologists and anglers from 28 states in the Mississippi River basin (Arterburn et al. 2002).

Table 1. The percent of East Fork White River angler responses to questions asking how catfishing is changing. Information from Kittaka (2021).

	Improving	Staying same	Declining	No opinion
All anglers	9%	37%	14%	31%
Anglers targeting Channel Catfish	14%	48%	26%	12%
Anglers targeting Flathead Catfish	20%	60%	20%	0%

Table 2. The percent of inland commercial fisher responses to questions asking about how Flathead and Channel catfish population numbers and fish sizes have changed over the past 5 years.

	Greatly increased	Slightly increased	Stayed the same	Slightly decreased	Greatly decreased
Flathead Catfish					
population numbers have...	1%	12%	48%	24%	14%
average sizes have...	< 1%	13%	51%	27%	8%
Channel Catfish					
population numbers have...	3%	16%	49%	24%	8%
average sizes have...	1%	16%	61%	16%	5%

Catfish catch rates

Self-reported catfish tournament results do not suggest that catfish populations are drastically declining. At two catfish tournament series in Indiana, mean total weight per tournament and mean winning weight per tournament slightly increased over time (Jansen and Molinaro 2021). At Ohio River tournaments from 2013 – 2018, trophy catfish catch rates (trophy catfish/boat), and the percent of trophy

catfish weighed-in were stable over time (KDFWR 2019). If catfish populations were drastically declining, you may expect these metrics to decrease as large catfish became less abundant and therefore harder to find and catch. While there are limitations to using tournament results to assess fish populations (Jansen and Molinaro 2021, KDFWR 2019), these results do not offer strong support to claims that catfish populations are declining.

Following a pilot study in 2015, DNR began conducting annual surveys of inland river catfish populations to evaluate relative abundance and provide population information. In alternate years, the Wabash and White River system are sampled at eight fixed sites with four 15-minute electrofishing transects, and 10 two-night hoop net sets. For Channel and Flathead catfish electrofishing catch rate slightly increased in the Wabash River over time but was similar among years in the White River (Figure 1 A & B). Hoop net catch rate was similar among years in the Wabash River, but slightly decreased in the White River over time (Figure 1 D & E). The differences detected among years should not be attributed solely to changes in catfish population abundance. While the survey methods are standardized to minimize bias over time, catch rates are influenced by many environmental factors and are expected to fluctuate from year to year. Blue Catfish had lower, more variable catch rates among years than the other species (Figure 1 C & F); however, this should not be interpreted as a collapse in the population. Blue Catfish are large river specialists that typically inhabit swift chutes and deep pools (Pflieger 1997). While the lower stretches of the Wabash and mainstem White River may provide this preferred habitat, the upstream stretches and other inland rivers are less suitable for Blue Catfish. Overall, mean electrofishing and hoop net catch rates (Table 3) were similar to or higher than older surveys on the Wabash River for all three species (Mitchell 2016, Donabauer 2009), indicating that catfish populations have not declined.

Surveys on the Ohio River do not support that catfish populations and the number of large adult catfish have declined. In 2020, electrofishing catch rates for Blue Catfish (20.1 fish/hour) and Flathead Catfish (59.6 fish/hour) were well above the historical means (KDFWR 2020). Furthermore, the catch rate of trophy catfish had also increased since 2004 for both species (KDFWR 2020). Following a change in methodology in 2018, trot line surveys specifically targeting Blue Catfish have also had consistent catch rates above the historical mean (KDFWR 2020).

Catfish population data

The major complaint of the petition is the low number of large, old catfish; however, it is unreasonable to expect any natural population to support high proportions of the oldest age classes. The proportion of individuals expected to reach the next age class decreases with increasing age because mortality acts on populations (Cain et al. 2011). Thus, it is normal and expected that there will be relatively fewer catfish in the oldest age classes. There are no standardized metrics that define the proportion of trophy catfish expected in a population, which makes it challenging to quantitatively evaluate the trophy potential of Indiana's big rivers. However, there are no red flags in the size and age structures that suggest harvest levels in the inland or Ohio River catfish populations are unsustainable.

During inland catfish monitoring surveys, 556 and 294 Channel Catfish were collected from the Wabash and White rivers, respectively. Wabash River Channel Catfish ranged in size from 1.9 – 30.2 inches, weighed 0.01 – 10.76 pounds, and were aged 1 – 14 years. White River Channel Catfish ranging in size from 1.7 – 28.5 inches, weighed 0.02– 12.96 pounds, and were aged 1 – 12 years. In both rivers, 11 – 13 inch Channel Catfish were largely missing from the sample due to the size selectivity of the sampling gears (Figure 2). The mesh size on the hoop nets was chosen to approximate commercial fishing

activity and selects for Channel Catfish over 13 inches, while electrofishing typically selects for smaller Channel Catfish. Accordingly, the age structure in both rivers was also skewed toward larger individuals (Figure 2). This should not be interpreted as a lack of Channel Catfish recruitment in the inland rivers, but as a weakness of our current sampling methods for evaluating Channel Catfish populations. Wabash River Channel Catfish reached 13 inches, the current minimum length limit, by age 4 (0.90 lbs) and

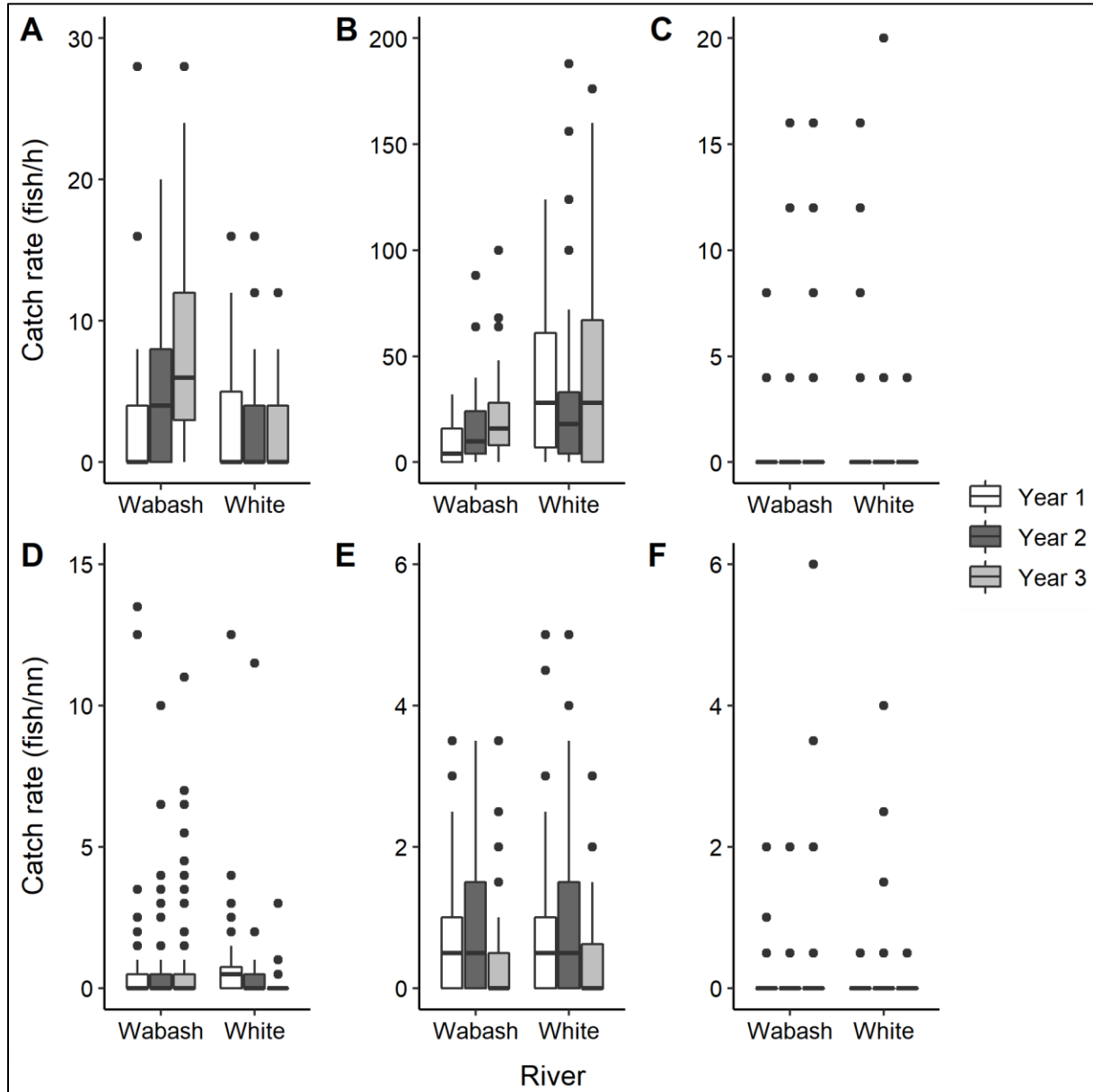


Figure 1. Electrofishing (fish/hour; top row) and hoop net (fish/net night; bottom row) catch rates for Channel Catfish (panels A and D), Flathead Catfish (panels B and E), and Blue Catfish (panels C and F) in the Wabash and White Rivers. Years 1, 2, and 3 refer to 2016, 2018, and 2020 for the Wabash River and 2017, 2019, and 2021 for the White River. Each box plot shows the spread of the catch rates for that year: the box spans the interquartile range (area between the 25th and 75th catch rate percentiles), the line inside the box is the median catch rate, the whiskers represent 1.5 times the interquartile range, and dots are outliers. The scale of the y-axis differs among panels.

Table 3. Mean (standard error) electrofishing catch rate (fish/hour) and hoop net catch rate (fish/net night) of Channel, Flathead and Blue catfish in the Wabash River from 2016 – 2020, and in the White River from 2017 – 2021.

	Wabash River		White River	
	Hoop net	Electrofishing	Hoop net	Electrofishing
Channel Catfish	0.93 (0.19)	5.83 (0.69)	0.50 (0.13)	2.92 (0.43)
Flathead Catfish	0.65 (0.06)	15.29 (1.89)	0.72 (0.06)	37.96 (4.51)
Blue Catfish	0.10 (0.04)	1.33 (0.38)	0.06 (0.02)	0.83 (0.31)

24 inches, the proposed trophy length limit, by age 12 (4.90 lbs). White River Channel Catfish reached 13 inches by age 4 (0.80 lbs) and 24 inches by age 11 (5.40 lbs). The population models for both rivers had theoretical mean population maximum length (L_{∞}) below 28 inches, indicating that only the fastest growing Channel Catfish have the ability to reach the current trophy length limit. However, individuals over 28 inches were caught, accounting for 1.1% and 0.3% of Channel Catfish in the Wabash and White rivers, respectively. Total annual mortality ranged from 40 – 61% for Channel Catfish (Table 4).

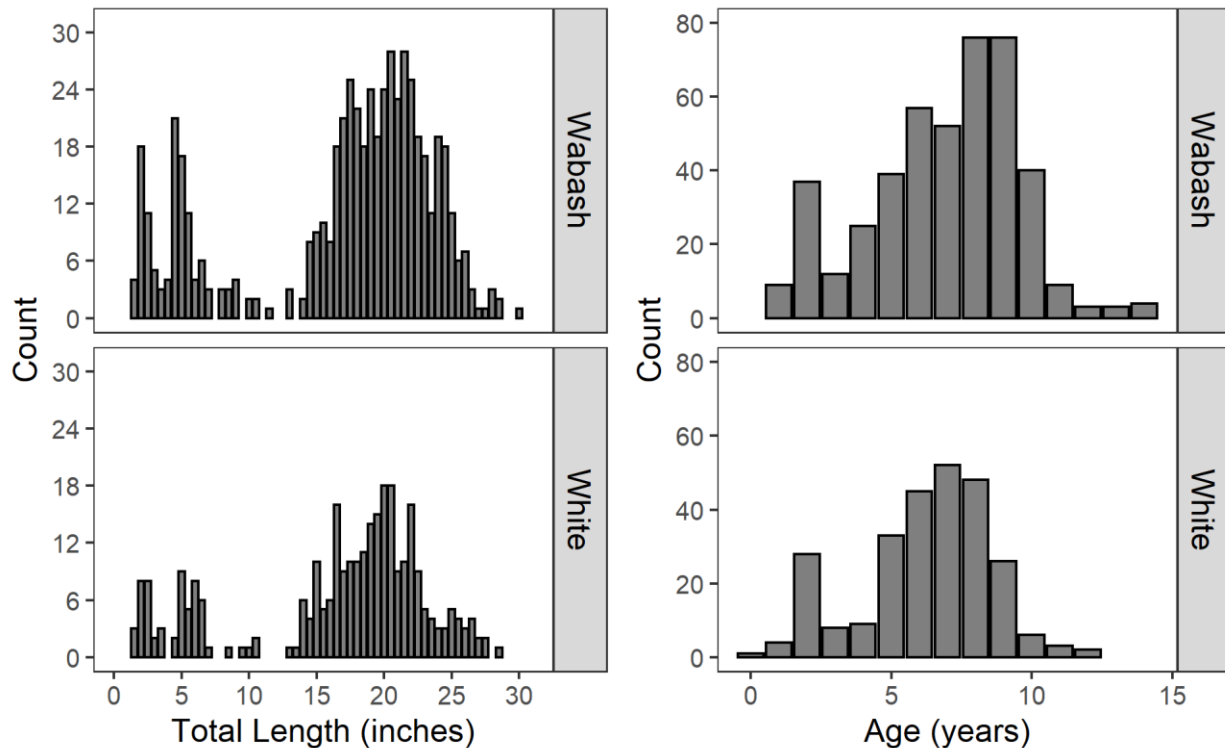


Figure 2. Channel Catfish size (left) and age (right) structures in the Wabash and White rivers.

Table 4. Total annual mortality estimates (A) and 95% confidence intervals (CI) for Channel and Flathead catfish in the Wabash and White rivers by gear type.

Species	Gear	Wabash River		White River	
		A	95% CI	A	95% CI
Channel	Hoop net	40.38	20.39 – 55.35	51.03	32.65 – 64.39
	Electrofishing	41.83	19.61 – 57.91	61.13	18.85 – 81.38
Flathead	Hoop net	27.46	22.06 – 32.48	36.82	24.49 – 47.14
	Electrofishing	41.63	36.49 – 46.35	51.50	45.80 – 56.61

A total of 658 and 956 Flathead Catfish were collected from the Wabash and White rivers, respectively. Wabash River Flathead Catfish ranged in size from 1.4 – 48.4 inches, weighed from 0.01 – 59.52 pounds, and were aged 1 – 23 years. White River Flathead Catfish ranged in size from 2.3 – 45.0 inches, weighed 0.02 – 48.50 pounds, and were aged 1 – 22 years. The White River had a steeper decline in older and larger individuals than the Wabash River, but both populations had healthy size and age structures (Figure 3). Wabash River Flathead Catfish reached 13 inches, the current minimum length limit by age 4 (1.30 lbs), 30 inches, the proposed trophy length limit, by age 10 (11.90 lbs), and 35 inches, the current trophy length limit, by age 13 (19.70 lbs). White River Flathead Catfish also reached 13 inches by age 4 (1.10 lbs), but reached 30 inches by age 11 (11.30 lbs), and 35 inches by age 14 (18.40 lbs). The L_{∞} from the population growth models were 54.6 and 63.4 inches for the Wabash and White rivers, suggesting Flathead Catfish have the potential to grow well above the current trophy length limit. Flathead Catfish over 35 inches accounted for 5.5% and 1.3% of individuals caught in the Wabash and White rivers, respectively. Total annual mortality ranged from 27 – 51% for Flathead Catfish (Table 4).

A total of 77 and 47 Blue Catfish were collected from the Wabash and White rivers. Wabash River Blue Catfish ranged in size from 1.9 – 45.0 inches, weighed 0.01 – 50.99 pounds, and were aged 1 – 22 years. White River Blue Catfish ranged in size from 1.5 – 45.0 inches, weighed 0.02 – 36.71 pounds, and were aged 4 – 26 years. The low sample size resulted in incomplete size and age structures (Figure 4), which precluded growth models and mortality estimates from being completed for Blue Catfish. Blue Catfish had the highest proportion of trophy catfish among the three species, accounting for 9.1% and 4.3% of Blue Catfish caught in the Wabash and White rivers, respectively.

In the Ohio River, 681 and 705 Blue Catfish were caught with trotlines and electrofishing, respectively (following results from KDFWR 2020). Total length ranged from 3.2 – 49.7 inches, but trotlines selected for larger individuals (mean TL: 27.7 inches), while electrofishing selected for smaller individuals (mean TL: 20.5 inches). Trophy Blue Catfish accounted for 13.1% and 2.6% of individuals captured by trotlines and electrofishing, respectively. Ohio River Blue Catfish reached 13 inches, the current minimum length limit by age 4; 30 inches, the proposed trophy length limit, by age 14; and 35 inches, the current trophy length limit, by age 18. A total of 2,087 Flathead Catfish were caught electrofishing in the Ohio River, ranging in total length from 3.0 – 51.0 inches. Trophy Flathead Catfish accounted for 2.1% of individuals. Ohio River Flathead Catfish reached 13 inches, the current minimum length limit by age 4; 30 inches, the proposed trophy length limit, by age 16; and 35 inches, the current trophy length limit, by age 21. Total annual mortality estimates were 19.5% for Flathead and 26.6% for Blue Catfish in the Ohio River in 2020.

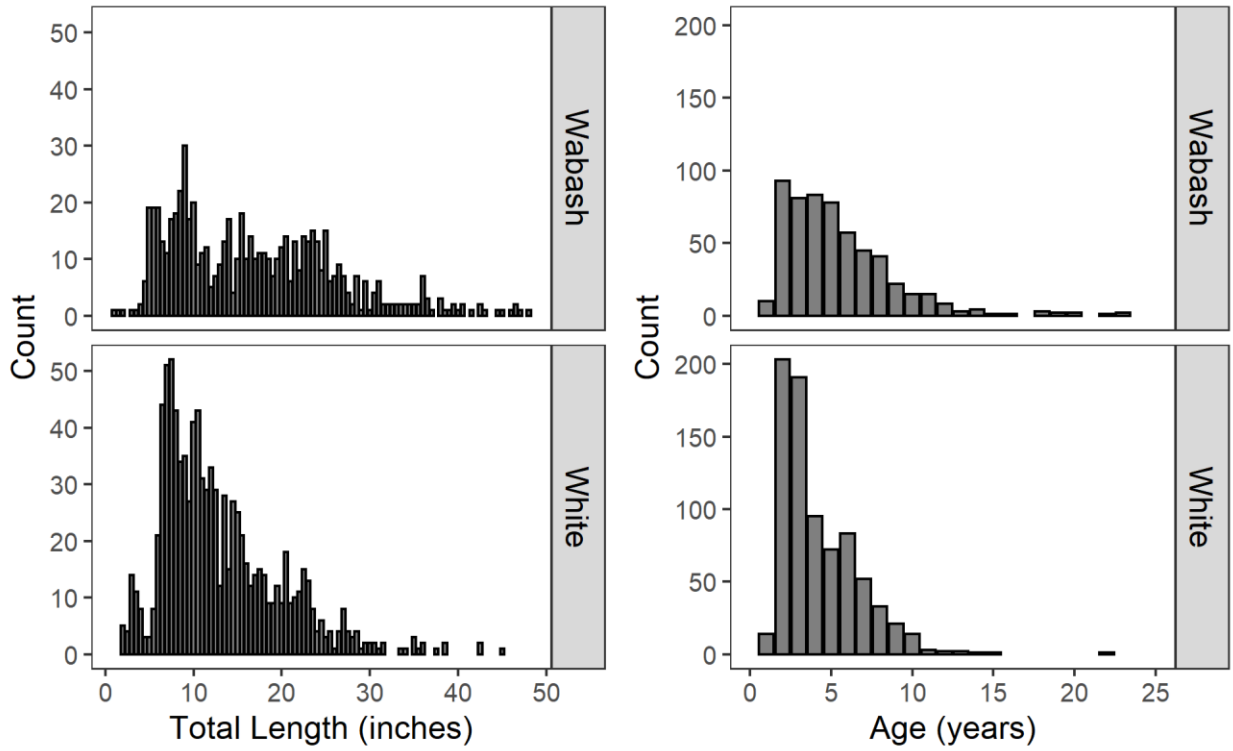


Figure 3. Flathead Catfish size (left) and age (right) structures in the Wabash and White rivers.

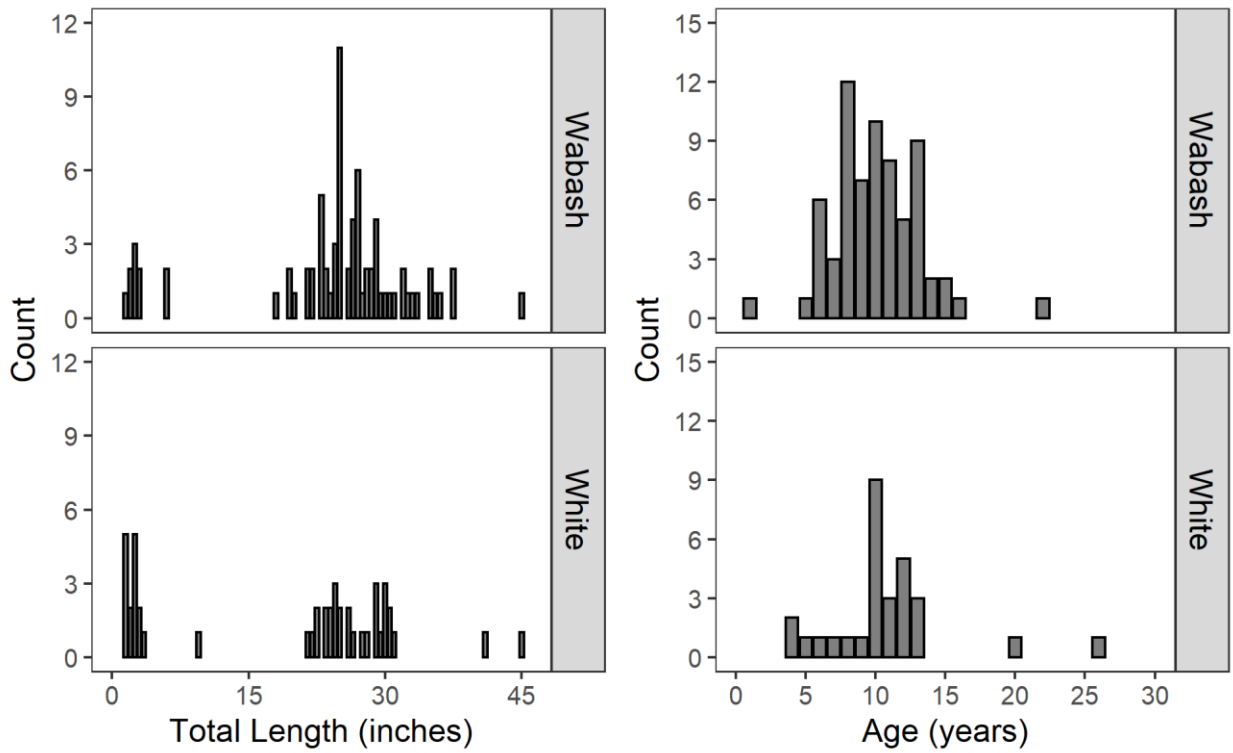


Figure 4. Blue Catfish size (left) and age (right) structures in the Wabash and White rivers.

If the largest or fastest growing individuals in a population are being overharvested, one would expect a decrease in growth and size (Heino and Dieckmann 2008), however historical comparisons of Indiana catfish populations do not show this. Channel Catfish in the Wabash River are expected to reach larger L_{∞} now than in 2001 despite having similar age structures (Columbo 2007), suggesting better growth. Flathead Catfish in the Wabash River have an older average age, larger L_{∞} , and lower mortality rates now than a 2010 – 2012 survey (Moody-Carpenter et al. 2017). Channel and Flathead catfish also reached similar or greater mean lengths at age 5 than in the portion of the Wabash River closed to commercial fishing in 2005 – 2006 (Donabauer 2009). None of these comparisons suggest that Wabash River catfish are doing worse now than they were in the early 2000's.

Catfish exploitation

Over 80% of inland commercial fishers ranked catfish as their preferred fish to harvest, and catfish comprised up to 85% and 50% of annual harvest in the inland and Ohio commercial fisheries, respectively (Molinaro 2021, Peterson 2021). However, commercial fishing license sales, total fishing effort, and total harvest have been declining in both fisheries for decades (Figure 5, Molinaro 2021, Peterson 2021). The catfish catch rate has remained relatively steady over time, suggesting declines in total harvest can be attributed to fewer licensed commercial fishers rather than declines in catfish population abundance (Molinaro 2021). In 2019, total inland catfish harvest set an all-time record low of 36,971 lbs and was 53% below the long-term average (79,175 lbs). DNR estimates approximately 5,393 – 5,832 Channel Catfish, 2,342 – 2,786 Flathead Catfish, and 611 – 822 Blue Catfish were harvested in 2019. On the high end this equates to 10.3 Channel Catfish, 4.9 Flathead Catfish, and 1.5 Blue Catfish harvested per river mile open to inland commercial fishing. Ohio River catfish harvest slightly increased to 8,662 lbs in 2019 but remained 57% below the long-term average (20,377 lbs). From 2012 – 2019, an average of 3.2 Channel Catfish, 1.3 Blue Catfish, and 1.2 Flathead Catfish were harvested per Ohio River mile open to commercial fishing. Ohio River commercial fishers harvest few trophy Channel Catfish, and trophy Blue and Flathead catfish typically account for less than a third of total harvest for each species (Table 5). Furthermore, the majority of Indiana's commercial fishers are "hobby" fishers, meaning that few run businesses that profit off of commercially harvested catfish. Ninety-five percent of inland commercial fishers kept harvested fish for themselves, 60% gave harvested fish away for free (e.g., to friends and family, or to an organization or event), 5% sold dead fish, and less than 1% sold live fish.

Although DNR does not dispute that catfish are a major portion of commercial harvest, the majority of catfish exploitation comes from recreational anglers. A 2005 creel survey of the Wabash River found that anglers harvested 267.5 Channel Catfish, 18.5 Flathead Catfish, and 44.3 Blue Catfish per mile, and estimated that recreational harvest was 2.5 times greater than commercial harvest (Clark-Kolaks et. al 2011). Similarly, a 2003 Creel Survey of the East Fork White River found that anglers harvested 467.6 Channel Catfish, 25.9 Flathead Catfish, and 75.1 Blue Catfish per mile, and estimated that recreational harvest was 3.0 times greater than commercial harvest (Hoffman 2004). In both creel surveys, over 60% of fish caught were harvested, suggesting that Indiana's river anglers are harvest-oriented. Similarly, total annual exploitation for recreational harvest of Flathead Catfish (Winders and McMullen 2020) and Blue Catfish (Winders and McMullen 2019) was greater than commercial harvest for on the Mississippi River.

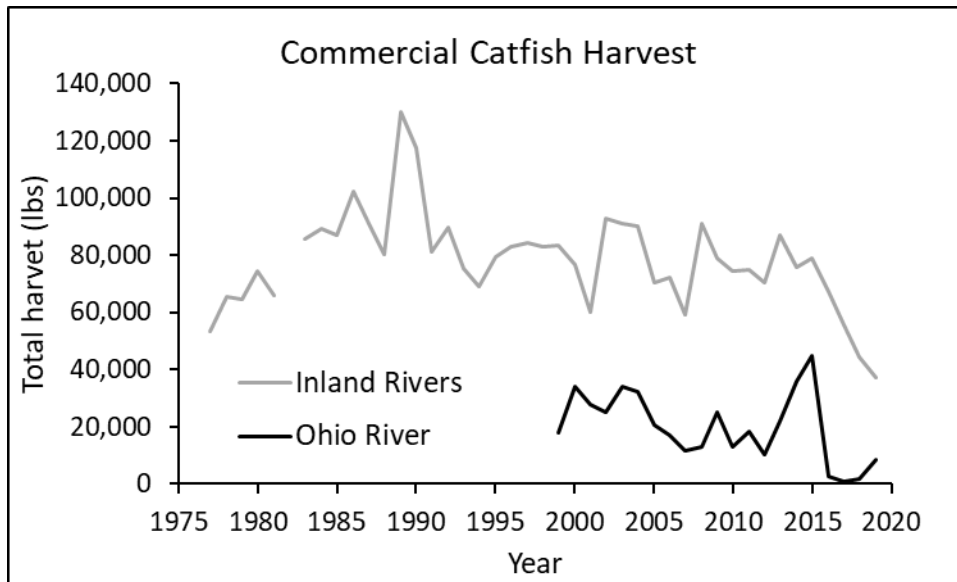


Figure 5. Total pounds of catfish commercially harvested in the Inland and Ohio River commercial fishing programs over time.

Table 5. Trophy catfish commercial harvest from 2012 – 2019 in the Ohio River.

Year	Channel Catfish		Blue Catfish		Flathead Catfish	
	Number	Number (%) > 28 inches	Number	Number (%) > 35 inches	Number	Number (%) > 35 inches
2012	557	7 (1)	296	95 (32)	421	100 (24)
2013	2,227	0 (0)	562	81 (14)	862	99 (11)
2014	5,554	1 (< 1)	1,257	410 (33)	1,205	197 (16)
2015	2,480	36 (1)	1,865	146 (8)	763	67 (9)
2016	365	0 (0)	81	3 (4)	94	6 (6)
2017	80	0 (0)	40	4 (10)	30	8 (27)
2018	29	0 (0)	3	1 (33)	84	13 (15)
2019	143	0 (0)	359	42 (12)	361	59 (16)
Total	11,435	44 (<1)	4,463	782 (18)	3,820	549 (14)

Discussion of proposed regulations

The petition proposes adopting an aggregate 10-fish daily bag limit for catfish on rivers and streams, reducing the lengths at which the current trophy bag limit applies, and banning the travel of live adult catfish across state lines. Given the lack of biological evidence suggesting catfish populations are being fished at unsustainable levels and the arguments described below, DNR does not recommend adopting the proposed regulations.

Daily bag limits provide protection to populations by reducing the total number of fish harvested, but Indiana anglers are unlikely to harvest more than 10 catfish per day. None of the anglers interviewed

on the East Fork White River in 2019 harvested more than 10 catfish per day (DNR, unpublished data). In the 2005 Wabash River Creel Survey, less than 1% of anglers targeting catfish harvested more than 10 catfish per day (DNR, unpublished data). Creel surveys in other states have also shown that anglers are unlikely to harvest a daily limit of catfish (Kuklinski and Boxrucker 2008). It is also unclear if Indiana catfish anglers would support a more restrictive bag limit that would actually reduce harvest. In Missouri, more than half of catfish anglers opposed a regulation change that would increase their chances of catching trophy-sized catfish but decreased the number of catfish they were allowed to harvest (Reitz and Travnichek 2006). Highly specialized anglers, such as trophy catfish anglers, tend to support more restrictive regulations than other angler groups (Hyman et al. 2017, Oh and Ditton 2006).

Similar to other states (KDFWR 2014, Winders and McMullen 2019, Winders and McMullen 2020), Indiana adopted the current trophy bag limit to appease public sentiment concerning overharvest of large catfish, without scientific evidence proving the regulation's effectiveness. A modeling study of 30 catfish populations in states with similar "one over" regulations found that the trophy regulations improved yield and maintained sustainability without overly restricting harvest, but that they did not increase the biomass of trophy catfish (Stewart et al. 2016). Tennessee adopted regulations to protect trophy catfish by restricting recreational harvest of catfish over 34 inches to one per day and prohibiting all commercial harvest of catfish over 34 inches. While the number of catfish anglers reported catching per trip increased, the average number of trophy catfish caught per trip declined (KDFWR 2014), suggesting the regulation had the opposite impact than intended. Similarly, a study of catfish in Smithland Pool of the Ohio River showed that the current catfish regulations do not provide better protection than the 13-inch minimum length limit alone (Oliver et al. 2021). The petition largely seeks to increase the number of trophy sized catfish; however, it is extremely uncertain that the proposed reductions to the trophy bag size limit would accomplish that.

Although commercial fishing is mentioned in the petition summary, the Indiana Administrative Code cited in the petition regulates only recreational fishing, except on the Ohio River. It is unclear whether the petitioner seeks to implement the proposed regulations for both recreational and commercial fishing. DNR does not support placing more restrictive regulations on recreational anglers than on commercial fishers, as this will only enflame the current conflict between the two groups. Additionally, there is no precedent for implementing daily bag limits for commercially harvested catfish as most river-based commercial fisheries are managed with length limits, or by closing waters to commercial fishing (e.g., the Missouri River).

From a biological perspective, a fish harvested and kept for personal consumption is not different from a fish harvested and taken to a paylake, because both no longer contribute to the wild population. As such, DNR does not regulate what commercial fishers do with their legally harvested fish. This petition requests we limit the interstate commerce of adult catfish, but it does nothing to address the sale of large adult catfish to in-state paylakes. If there is an economic incentive to continue selling trophy catfish to paylakes, Indiana's commercial fishers may simply locate new opportunities to do so in-state. Additionally, it is unclear how the petitioner defines an "adult" catfish. Biologically, this refers to the onset of sexual maturity, which occurs for Channel Catfish at 4 – 5 years (Pflieger 1997), Flathead Catfish at 3 – 5 years (Munger et al. 1994), and Blue Catfish at 4 – 7 years (Graham 1999). Restricting interstate travel of live catfish at the sizes reached by age of sexual maturity may disproportionately impact aquaculture and fish haulers & suppliers. Furthermore, the federal government has maintained the power to regulate interstate commerce.

Finally, the current river catfish regulations align with the regulations of our bordering states, which makes it simple for anglers to follow regulations, for conservation officers to enforce regulations,

and for managers to evaluate the impact of regulations on the boundary water populations. Implementing the proposed regulations would result in more restrictive regulations in Indiana waters than Kentucky on the Ohio River and Illinois on the Wabash River, and DNR does not know if Kentucky or Illinois would consider the proposed regulations. In 2022, Eastern Illinois University is conducting an evaluation of Channel Catfish populations in the Wabash River, and Kentucky Department of Fish & Wildlife Resources is planning a more thorough evaluation of Ohio River catfish populations. The Ohio River states are also conducting a creel survey of the Ohio River to estimate angler effort and harvest of popular sportfish, including catfish. Rather than adopting unvetted regulations unilaterally, DNR suggests evaluating the forthcoming research and pursuing formal conversations with the bordering states to agree on regulations we can implement jointly if further protections are necessary.

Future research

Through work on this petition response, DNR has identified areas of future research. These include improving the quality of ongoing assessments in commercially fished inland rivers and those closed to commercial fishing as well as improved understanding of catfish anglers and their motivations.

In recent years, DNR has made efforts to improve understanding of catfish populations through targeted monitoring on commercially fished stretches of the Wabash and White rivers. While these surveys provide some insight into the health of target populations, variable environmental conditions and current sample sizes limit the utility of the data. As such, DNR intends to investigate ways to reduce perceived weaknesses in the monitoring program. Efforts will be directed at improved assessment of abundance of sublegal catfish and increasing sample sizes of all catfish, especially blue catfish, captured in these surveys. Furthermore, information regarding catfish populations in rivers that are not commercially fished is very limited at present. DNR should conduct targeted catfish surveys to evaluate the status of these understudied populations.

Additionally, DNR recognizes a need to better understand Indiana's recreational catfish angling community. Effectively managing catfish populations for the greatest public benefit requires thorough knowledge of anglers' motivations and desires. While literature exists describing these for catfish anglers in other regions, a social survey targeted at Indiana catfish anglers should be conducted in the near future. Results will clearly describe the proportions of anglers seeking casual pursuit, catch for food, and trophy catfish opportunities.

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APPENDIX

Indiana Catfish Conservation Association

Petition and Associated Materials

Catfish Rule Changes Petition
Josh Worth, President
Greg Schwipps, Vice President
Indiana Catfish Conservation Association
1906 Huntington Court
Indianapolis, IN 46229

Filed with the support of the **American Catfishing Association, LLC**. (Please see attached letter.)

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Summary

We are petitioning to amend the laws regarding the take of catfish from Indiana waters as written in the Indiana Administrative Code. The goal of these amendments is to further protect a vulnerable population of fish that is being harvested both commercially and recreationally.

We are proposing three (3) amendments to existing regulations:

- Allow the daily harvest of 1 blue catfish over 30,” 1 flathead catfish over 30,” and 1 channel catfish over 24.”
- Place a daily bag limit of catfish taken from streams or rivers at 10 catfish.
- Ban the travel of live adult catfish across state lines in order to keep an Indiana resource in Indiana.

Reasoning and Justification

In 2015, Indiana implemented new regulations regarding the take of catfish. These new rules limited both commercial and sport fishermen to 1 blue catfish over 35,” 1 flathead catfish over 35,” and 1 channel catfish over 28.” While Indiana catfish anglers were pleased to see new regulations, the last six years have shown that these improved laws do not provide enough protection for a population of fish in serious danger of exploitation. Not only are the new regulations hard to enforce in the field (commercial fishermen who load netted fish onto a waiting truck/trailer can add more later, as these already-caught fish do not count as fish in possession), the new rules are meant to protect large, adult fish – and both recent studies and anecdotal evidence suggest these large fish are already seriously depleted and the general population is in decline.

Recent Indiana DNR studies prove this. The 2016 Wabash River Catfish Survey collected 12 blue catfish – none of them over 35” (the protected length). The same study collected 135 channel catfish – 1 of them over 28.” While the study found 147 flathead catfish, only 13 of them were over 35” – that’s 8%.

Things didn’t improve when the same study was completed in 2018. Of the 25 blue catfish collected, only 1 was over 35.” Of the 165 channel catfish found, only 2 were over 28.” The DNR found 255 flatheads, but 17 were over 35” – that’s 6.7%. So, two separate studies, completed two years apart, show a decline in the number of catfish in the protected range.

When DNR biologists pulled hoop nets in the early summer of 2021, these studies also showed a steep decline in numbers of catfish sampled in all size ranges, with practically no catfish over 35.” These nets were set in both the East and West forks of the White River, as well as in the main stem of the White River below the confluence, which confirms that the problem is statewide.

Anglers have claimed for years that catfish catch rates are down. In fact, the 2018 Got INput survey featured 55 anglers bringing up catfish concerns (more than half the total). Anglers know that “anecdotal evidence” only counts for so much, but these latest DNR studies point to the same conclusion – there are simply too few big fish left in our waters and the overall number of fish is in decline as well. While the nature of catfish make them a hard fish to study (catfish habitat makes it hard to electrofish them, blue catfish are notoriously evasive of traditional sampling methods), when both angler input and the DNR’s own studies show a shortage of adult fish, it’s time for a change.

Our proposed rule change lowers the length requirement for the harvest of all three species for both commercial and recreational anglers. For blue and flathead catfish, this proposal calls for a minimum length of 30," instead of 35." For channel catfish, catfish, the new minimum would be 24," instead of 28." (With one fish allowed over this minimum length requirement, per angler, per day.) These proposed changes will allow more adult catfish to remain in the wild, where they can breed and support the growing economy of catfish sportfishing. In angler surveys, catfish are almost always ranked in the top two or three, in terms of popularity. Today, many serious Hoosier anglers are taking their efforts -- and their money -- out of state to fish for catfish.

We also propose a change to catfish bag limits: Indiana currently limits anglers fishing in lakes and reservoirs to 10 catfish per day, while allowing anglers an *unlimited number* on streams and rivers between 13" and 35." Limiting anglers to 10 catfish per day for both streams and lakes simplifies the regulations and makes consistent this rule, while also protecting a population of river catfish especially susceptible to over-fishing during low-water periods and spawn.

Finally, our amendment calls for a ban on the live transport of adult catfish (over thirteen inches) across state lines. Commercial fishermen and recreational anglers who sell large catfish to paylakes, often in Ohio and Kentucky, are taking Indiana's catfish across state lines to sell to private, out-of-state businesses, where the fish die in small ponds. (It is a poorly-kept secret that paylake operators offer cash for any large catfish delivered alive -- regardless of who caught the fish, and with what methods.) This under-the-table commerce is a shameful and destructive waste of a natural resource that reduces the angling experience for licensed Hoosier anglers fishing in Indiana waters.

Proposed changes to the Indiana Administrative Code

[CURRENT]

312 IAC 9-7-3 Catfish

Authority: IC 14-10-2-4; IC 14-22-2-6

Affected: IC 14-22

NOTE: Emergency Rule, LSA Document #21-25(E), temporarily supersedes subsection (b), effective March 4, 2021. See LSA Document 21-25(E) posted at 20210210-IR-312210025ERA. LSA Document #21-25(E) expires March 3, 2022.

Sec. 3. (a) An individual must not take or possess a channel catfish, blue catfish, or flathead catfish from a river or stream unless the catfish is at least thirteen (13) inches long. Except as otherwise provided in this section, an individual may take or possess an unlimited number of channel catfish, blue catfish, or flathead catfish from a river or stream.

(b) Except as otherwise provided in subsections (c) and (d), an individual must not take or possess more than ten (10) catfish in aggregate of any size from a lake or reservoir per day.

(c) Notwithstanding subsection (b), an individual may take channel catfish from Turtle Creek Reservoir (Sullivan County) without regard to a bag limit.

(d) Notwithstanding subsections (a) through (c), an individual must not take more than one (1) each per day of a: (1) channel catfish that is at least twenty-eight (28) inches long; (2) blue catfish that is at least thirty-five (35) inches long; and (3) flathead catfish that is at least thirty-five (35) inches long;

from a river, stream, lake, or reservoir. (e) Notwithstanding subsection (b), an individual must not take more than five (5) channel catfish from: (1) Fidler Pond in Elkhart County; (2) Failing Lake (also known as Gentian Lake) in Steuben County; and (3) Flat Fork Creek Park Ponds A and B in Hamilton County.

[PROPOSED]

312 IAC 9-7-3 Catfish

Authority: IC 14-10-2-4; IC 14-22-2-6

Affected: IC 14-22

NOTE: Emergency Rule, LSA Document #21-25(E), temporarily supersedes subsection (b), effective March 4, 2021. See LSA Document 21-25(E) posted at 20210210-IR-312210025ERA. LSA Document #21-25(E) expires March 3, 2022.

Sec. 3. (a) An individual must not take or possess a channel catfish, blue catfish, or flathead catfish from a river or stream unless the catfish is at least thirteen (13) inches long. Except as otherwise provided in this section, an

individual may take or possess an unlimited number of channel catfish, blue catfish, or flathead catfish from a river or stream.

(b) Except as otherwise provided in subsections (c) and (d), an individual must not take or possess more than ten (10) catfish in aggregate of any size from a lake, reservoir, stream or river per day.

(c) Notwithstanding subsection (b), an individual may take channel catfish from Turtle Creek Reservoir (Sullivan County) without regard to a bag limit.

(d) Notwithstanding subsections (a) through (c), an individual must not take more than one (1) each per day of a:

(1) channel catfish that is at least twenty-four (24) inches long; (2) blue catfish that is at least thirty (30) inches long; and (3) flathead catfish that is at least thirty (30) inches long;

from a river, stream, lake, or reservoir. (e) Notwithstanding subsection (b), an individual must not take more than five (5) channel catfish from: (1) Fidler Pond in Elkhart County; (2) Failing Lake (also known as Gentian Lake) in Steuben County; and (3) Flat Fork Creek Park Ponds A and B in Hamilton County.

(f) An individual, possessing either a commercial or sportfishing license, may not take any live catfish longer than thirteen (13) inches caught in Indiana waters across state boundaries.



July 27, 2020

Mr. Bryan Poynter
Chairman, Indiana Natural Resources Commission
Indiana Government Center North
100 North Senate Avenue, Room N103
Indianapolis, Indiana 46204-2200

Dear Chairman Poynter,

On behalf of the many catfish anglers in the State of Indiana, as well as the millions of anglers throughout the United States that enjoy catfishing, we encourage the State of Indiana to strongly consider the proposed regulation reforms being requested by the Indiana Catfish Conservation Association.

The American Catfishing Association feels these proposed regulation reforms for catfish are reasonable and are likely to bring about healthier fisheries throughout the State of Indiana which in turn will cause a tremendous economic benefit for your great State.

The American Catfishing Association fully endorses the efforts and regulation reforms being proposed by the Indiana Catfish Conservation Association.

In advance, we would like to thank you and your committee for your consideration. Please feel free to call upon us for any assistance.

Sincerely,
American Catfishing Association LLC

Glen Thomas Oberacker
Co-Director

CC: Indiana Catfish Conservation Association



www.americancatfishingassociation.com