

Northern Pike

Fishing Regulations

Statewide Opinion Survey Review



Michigan Department of Natural Resources - Fisheries Division
Proposal for Northern Pike Regulations in Michigan

Prepared by the Esocid Committee, August 2012
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In 2007, Fisheries Division charged an internal committee with developing a northern pike management plan (Smith et al. In Press). This plan was provided to the public for comment in 2009 and again in 2010, during which time many anglers provided comments on the need for regulation review. Some anglers commented on the perception that fish size and fishing quality were declining. In addition, anglers indicated that they were supportive of a group of regulation options designed to maintain the current minimum size limit, to provide harvest on waters where appropriate, and to restrict harvest on some waters where the regulation would be designed to increase angler catches and increase the opportunity to catch larger fish. Additionally, Fisheries Division has been working with the Warmwater Resources Steering Committee, a public advisory group to discuss regulations and resource concerns, and to review northern pike regulation proposals provided by two organized angling groups.

Where good natural habitat for northern pike spawning remains, natural reproduction is not a limiting factor and smaller-sized northern pike are abundant. These populations are difficult to alter because they arise from a combination of factors including overharvest of large fish, a lack of appropriate sized prey fish, and habitat characteristics that fail to provide good growth. Our overall goal with northern pike regulations is to maintain an appropriate balance of all sizes of northern pike. In some cases the goal is to increase the number of larger-sized northern pike, which may result in restrictions on certain waters requiring anglers to release some medium-sized fish. Recreational fishing for northern pike is highly selective with studies finding that anglers generally select for a medium size range of northern pike (approximately 20 to 26 inches) with smaller northern pike being more often released and larger northern pike being more difficult to catch, though rarely released. Many anglers commented during the public review that a quality-sized fish was larger than 20 inches and seldom was a fish larger than 24 inches released. Angler selectivity in combination with loss of habitat has resulted in fewer large fish being caught over recent history. Thus, northern pike reproductive success and overharvest of large fish are the main drivers of their population dynamics.

Public Review and Input

From March 26 to May 25, 2012 Fisheries Division provided the public an opportunity to comment on proposed regulations, fishing quality, and to provide feedback on their demographics and mode of angling. A total of 1,290 respondents participated in the survey, but not all participants completed the survey (93.8% completed). In addition, we held 17 public meetings across the state from March 26 to April 30 to inform anglers about local and statewide regulations and management decisions.

Angler responses to possession of their legal-sized northern pike were different when compared to angler responses for a similar survey on muskellunge regulations. Most respondents (42.4%) indicated that they practiced catch and release, whereas 32% harvested a portion of their legal sized catch and 25.6% mostly kept their catch (Figure 1). This indicates that the fishery for northern pike is more diverse and that opportunities for harvest, catch-and-release, and quality fishing are important to anglers. Most respondents characterized themselves as casting anglers (55%), while trolling (22%) and tip-up anglers (18%) were the second and third most common respondents. Spear anglers accounted for 5% of the total respondents to the survey.

Survey respondents were asked to rate the importance of various factors in determining the quality of their northern pike fishing experience in Michigan. Respondents said that the enjoyment of the fishing experience, fishing for relaxation, and being with family and friends were the most important factors determining their quality of northern pike fishing opportunity. Fishing for sport or competition was not an important factor determining their quality of fishing experience. Catching large fish and the number of fish caught and released or kept were at least somewhat important to most respondents (Appendix, Figure III).

Survey respondents were asked to rate their level of support for various fishing regulations based on size limits and possession limits. Respondents to the survey favored the 24-inch minimum size limit (MSL) statewide (Figure 2), but were also supportive (79.2%) of more complex regulations to manage waters on an individual basis (Figure 3). Respondents somewhat supported the protected slot limit (PSL) and were neutral towards the no-MSL regulation (Figure 2). Respondents supported the possession limit of 2 per day, were neutral towards a possession limit of 3 fish per day, and were opposed to a limit of 5 per day (Figure 4).

Public responses were sorted by region and angler demographic responses to evaluate whether regulations were supported or opposed between different areas of the state or angler groups (Appendix, Figures IV-XIII). Of all anglers and regions responding to the survey, results indicated anglers somewhat supported more complex regulations to manage waters on an individual basis including maximum size limits, protected slot limits, or harvest slot limits. Of all regions responding to the survey, there was support to keep the 24 inch MSL regulation; however, some regions varied in response to the other regulation options. Typically the Central Upper Peninsula supported no-MSL regulation. Northern Lower Michigan regions were neutral towards the no-MSL regulations and Southern Lower Michigan was equally supportive as opposed to the no-MSL regulation. Although the responses are highly variable, the Upper Peninsula and Tip-of-the-Mitt regions somewhat supported less restrictive regulations whereas the southern Lower Peninsula somewhat supported more restrictive regulations. Anglers that characterized themselves as spearers were opposed to PSL regulations, while all other modes of fishing categories somewhat supported the PSL regulation.

There appeared to be a threshold with the number of fish kept that anglers would support. The central and northern regions of the state somewhat supported a possession limit of 3 fish, but were opposed to the possession limit of 5 fish. The southern regions of the state were neutral towards a possession limit of 3 fish and opposed to the five-fish limit. Generational differences appear to have influenced perspectives on the fishing regulations. In general, support for the no-MSL regulation increased with the number of years respondents fished in Michigan. Respondents who had fished in Michigan for less than 30 years were more likely to support the PSL regulation and a reduced possession limit. Respondents who had fished in Michigan for more than 50 years were more likely to support the no-MSL regulation and a higher possession limit. All respondent categories and demographics supported the 24-inch MSL regulation and possession of two fish.

Regulation Recommendation

The Warmwater Resources Steering Committee discussed several proposals in order to best meet the goals of Michigan's Northern Pike Management Plan and public requests. The statewide 24-inch MSL for northern pike is biologically conservative and assures near optimum reproduction in most southern low-density populations. However, improvements in size structure have not been realized in several northern Michigan waters. It is difficult to apply a single, all-purpose regulation to northern pike because of the wide variation in growth rates across the state, the wide variation in exploitation, and the density-dependant nature of this species. We found that the no-MSL regulation has not improved the size structure in populations with high density and below-average growth, but it has allowed high catch rates to occur, as was found in historic regulation evaluations by Latta (1971) and Schneider and Lockwood (1979). The main difference in the proposed regulations is the 24- to 34-inch PSL regulation, which would replace the category for the 30-inch MSL regulation. This new regulation provides a tool for managers to potentially re-structure northern pike populations by simultaneously allowing harvest of smaller fish and protecting larger fish that are highly vulnerable to harvest. The no-MSL regulation is proposed to be modified to retain the possession of 5 fish but with only one fish greater than 24 inches. A few anglers commented that they preferred to preserve their fishing heritage on these types of populations

rather than attempt to improve the size structure by implementing special regulations. Fisheries Division recommends the following regulation options for recreational fishing of northern pike in Michigan:

- Minimum size limit of 24-inches and possession limit of 2 northern pike for most waters
- No minimum size limit and possession limit of 5 northern pike of which only one may be greater than 24 inches.
- Protected slot limit (PSL) where the possession of northern pike would be prohibited from 24 to 34 inches and the possession limited to 2 fish.
- Remove the 30-inch minimum size limit regulation from 8 listed waters in the state.

Literature Cited

- Latta, W. C. 1971. The northern pike in Michigan: A commentary on regulations for fishing. Institute for Fisheries Research Report No. 1780. Ann Arbor, MI.
- Schneider, J. and R. Lockwood. 1979. Effects of regulations on the fisheries of Michigan Lakes, 1946-65. Fisheries Research Report 1872. Ann Arbor, MI.
- Smith, K., J. Diana, and M. Thomas. In Press. Northern Pike Management in Michigan. Michigan Department of Natural Resources. Fisheries Division Special Report.

In the past year, what did you normally do with the legal-sized northern pike you caught in Michigan? (Choose one answer.)

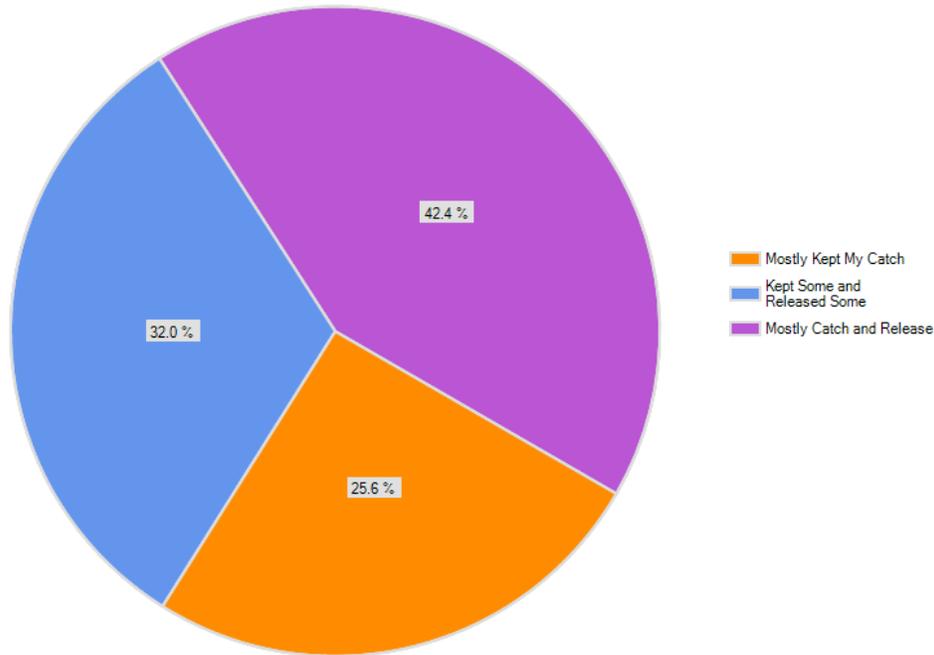


Figure 1. Angler responses to possession of their legal sized catch of northern pike in Michigan. Total number of completed responses equals 1262.

Indicate your level of support for each of the following northern pike size limit regulations in Michigan? (Please select your answer for all 3 categories.)

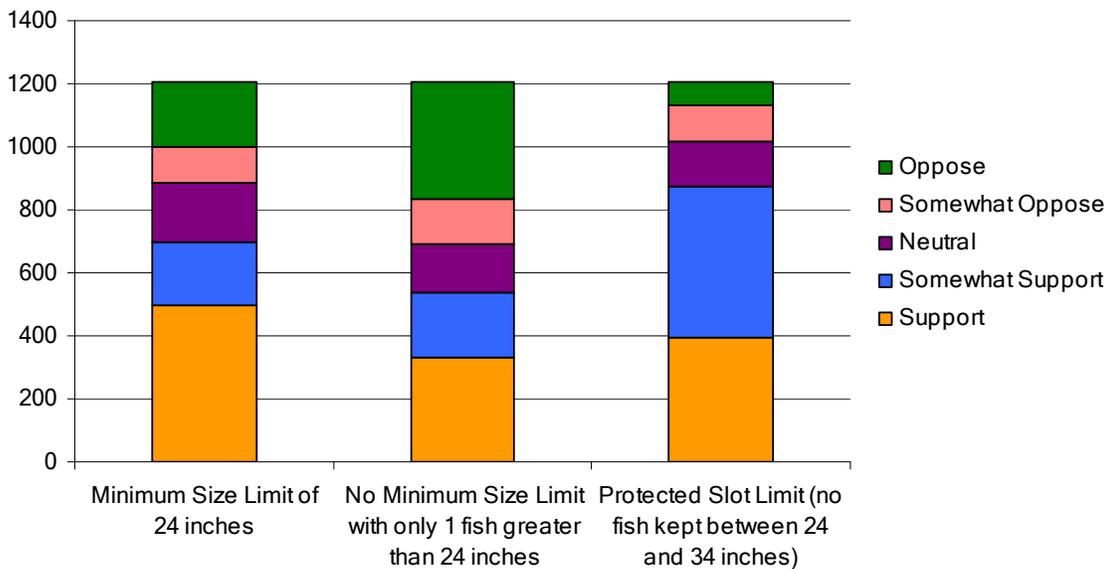


Figure 2. All angler responses to northern pike size limit regulations in Michigan.

Some lakes may require special regulations to improve the northern pike fishing opportunities in Michigan. However, special exceptions may make northern pike regulations more complex. Indicate your level of support for using a combination of regulations where most waters would include a regulation applied across the state and some waters would be managed by another regulation? (Choose one answer.)

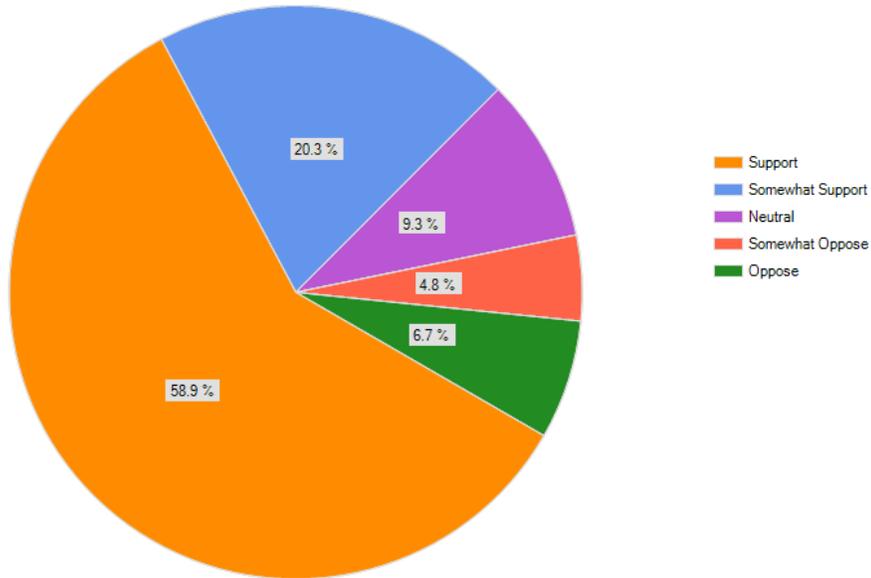


Figure 3. All angler responses to their level of support for using special regulations to manage northern pike fisheries in Michigan.

Indicate your level of support for each of the following northern pike possession (bag) limits in Michigan? (Please select your answer for each of these 3 categories.)

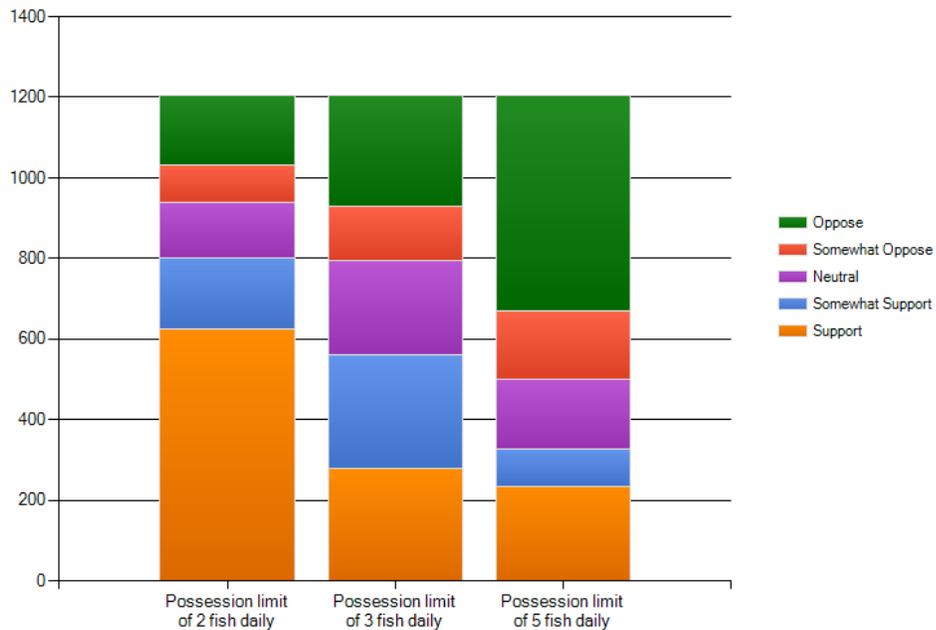


Figure 4. All angler responses to the possession limit for northern pike in Michigan.

Appendix

Selected figures from a statewide survey on northern pike fishing regulations.

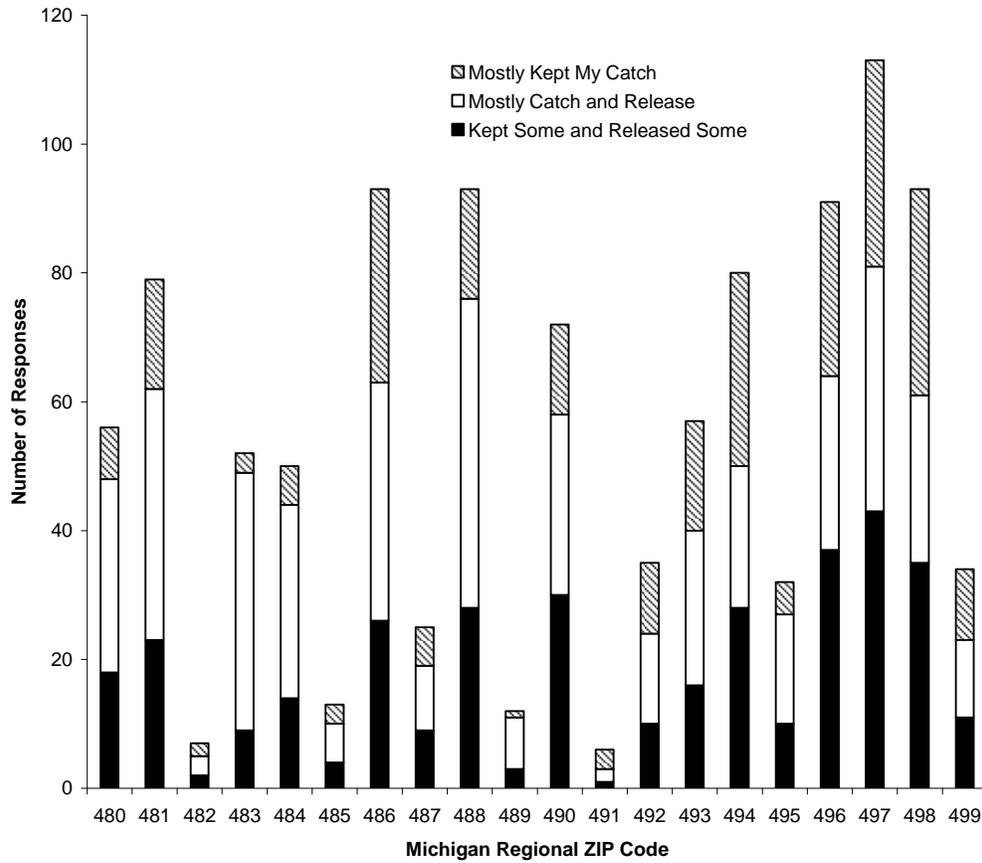


Figure I. Michigan resident responses by regional zip code to possession of legal sized northern pike.

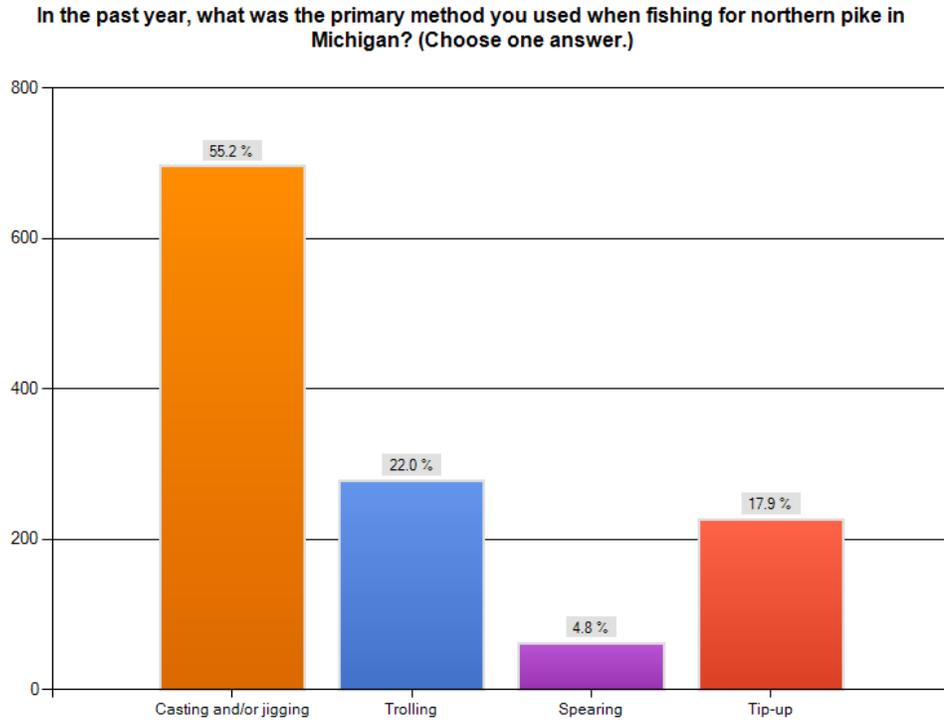


Figure II. All responses to mode of fishing for northern pike in Michigan.

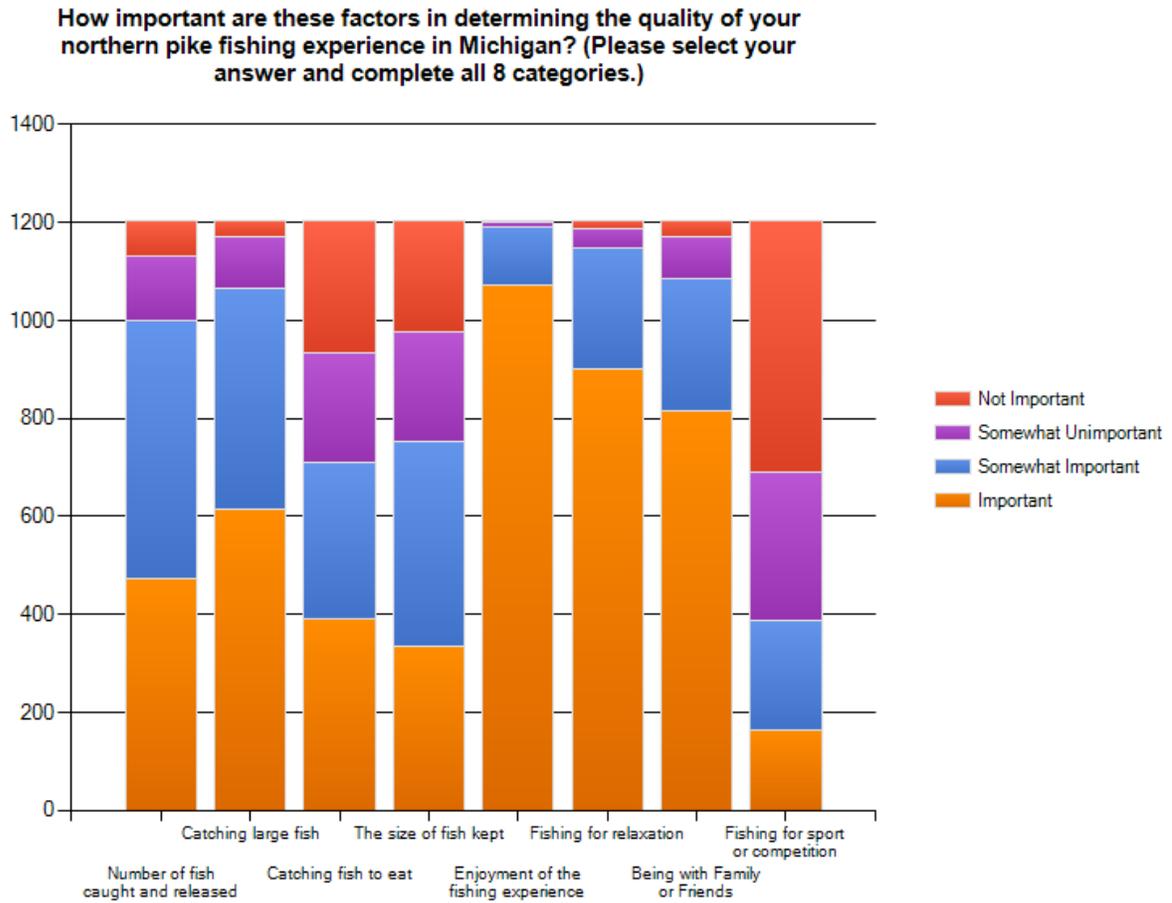


Figure III. All responses to factors that determine angler’s quality of northern pike fishing experience in Michigan.

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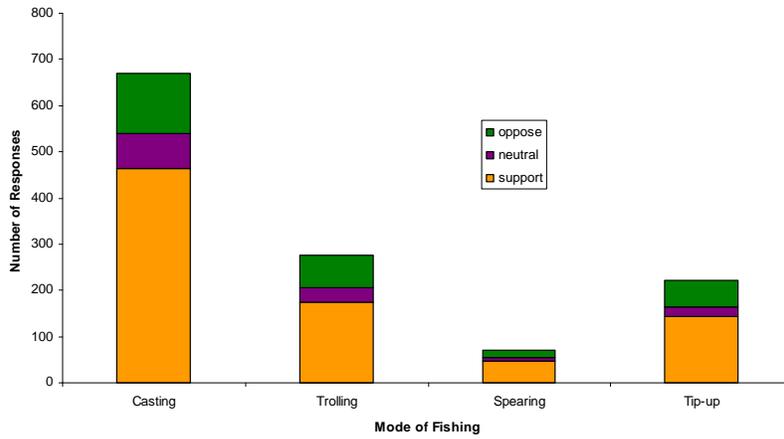


Figure IV. Mode of fishing response to possession limit of two northern pike.

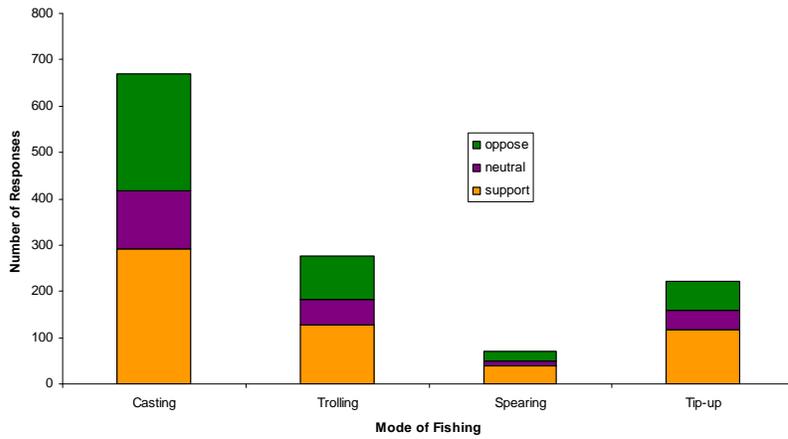


Figure V. Mode of fishing response to possession limit of three northern pike.

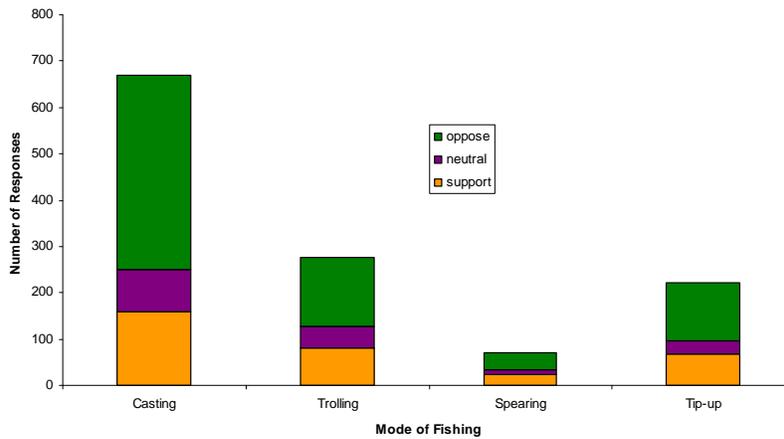


Figure VI. Mode of fishing response to possession limit of five northern pike.

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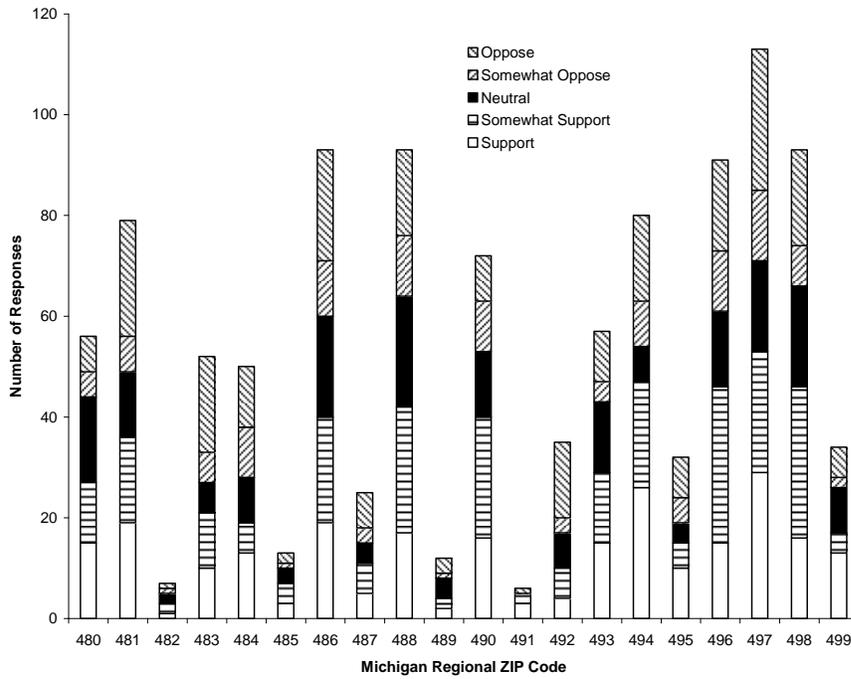


Figure. VII Michigan resident response by regional zip code to possession limit of three northern pike.

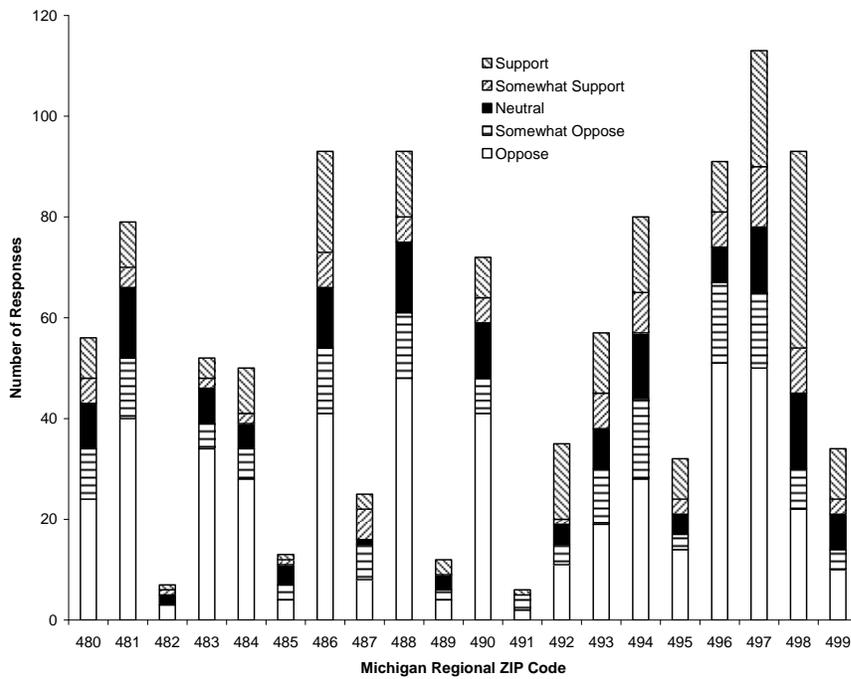


Figure VIII. Michigan resident response by regional zip code to possession limit of five northern pike.

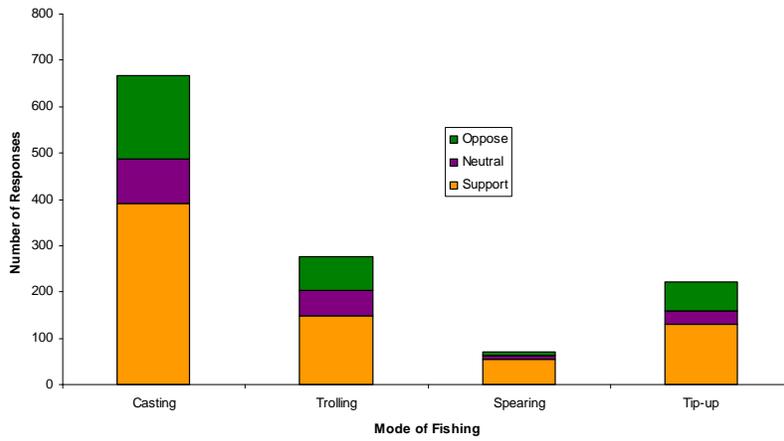


Figure XIX. Mode of fishing response to minimum size limit of 24 inches.

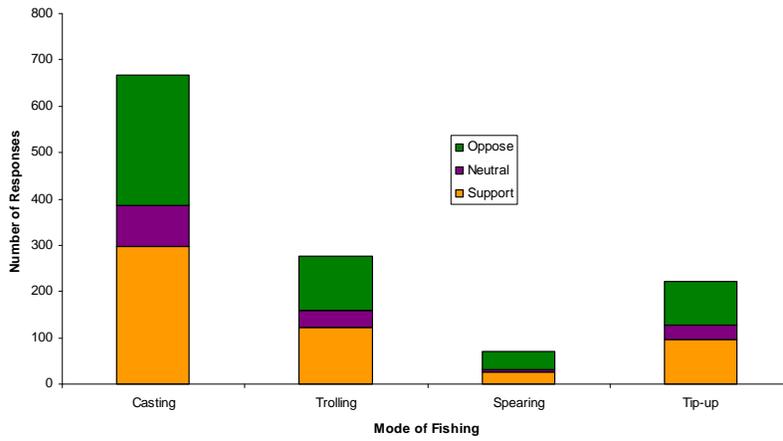


Figure X. Mode of fishing response to no minimum size limit of northern pike.

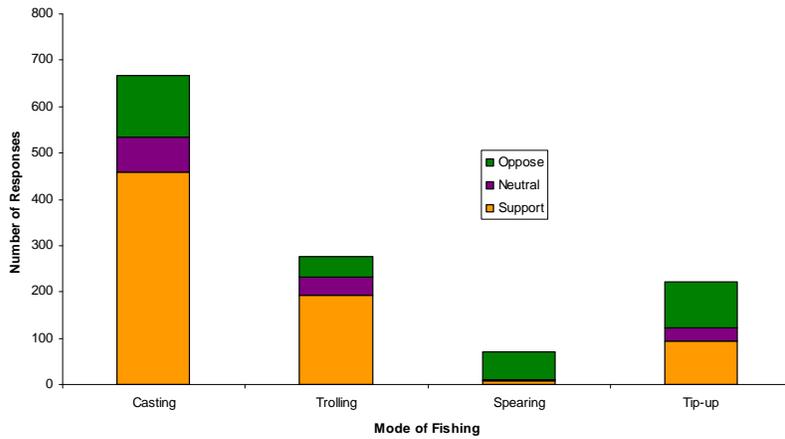


Figure XI. Mode of fishing response to protected slot limit of 24 to 34 inches for northern pike.

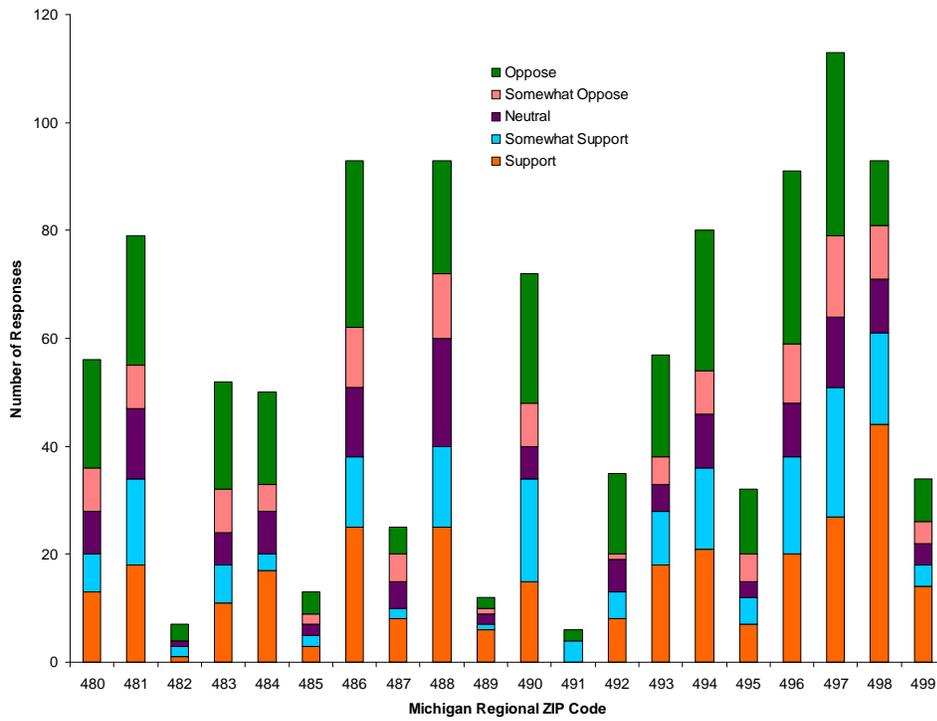


Figure XII. Michigan resident response by regional zip code to no minimum size limit of northern pike.

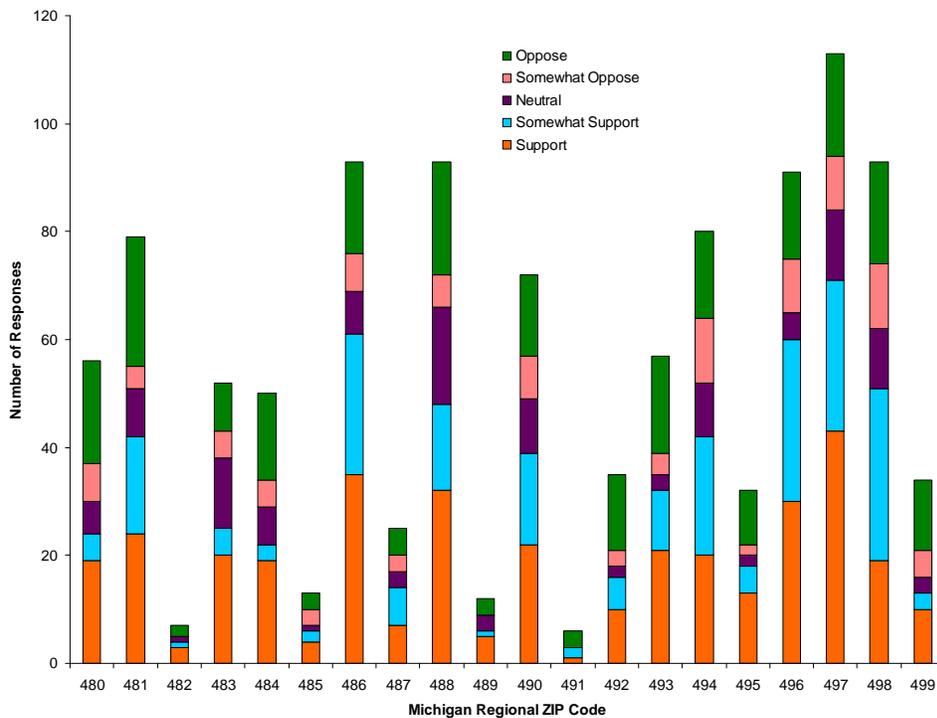


Figure XIII. Michigan resident response by regional zip code to protected slot limit of 24 to 34 inches for northern pike.

In some waters there is an imbalance of small and large sized northern pike. The Fisheries Division could implement special regulations to see if these improve the balance. Would you support implementing special regulations to improve the balance on up to 20 lakes over a ten year period? (Please select your answer for all 3 categories.)

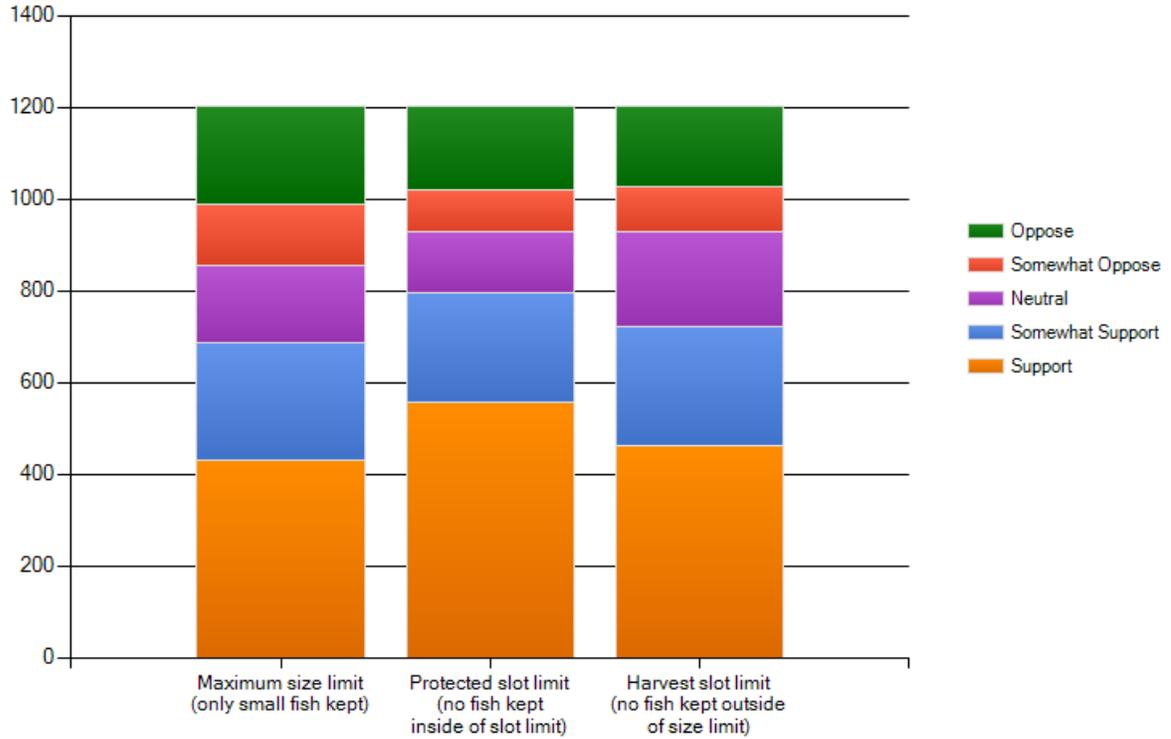


Figure XIV. All responses to three types of special regulations proposed to improve the size structure balance of northern pike in Michigan.

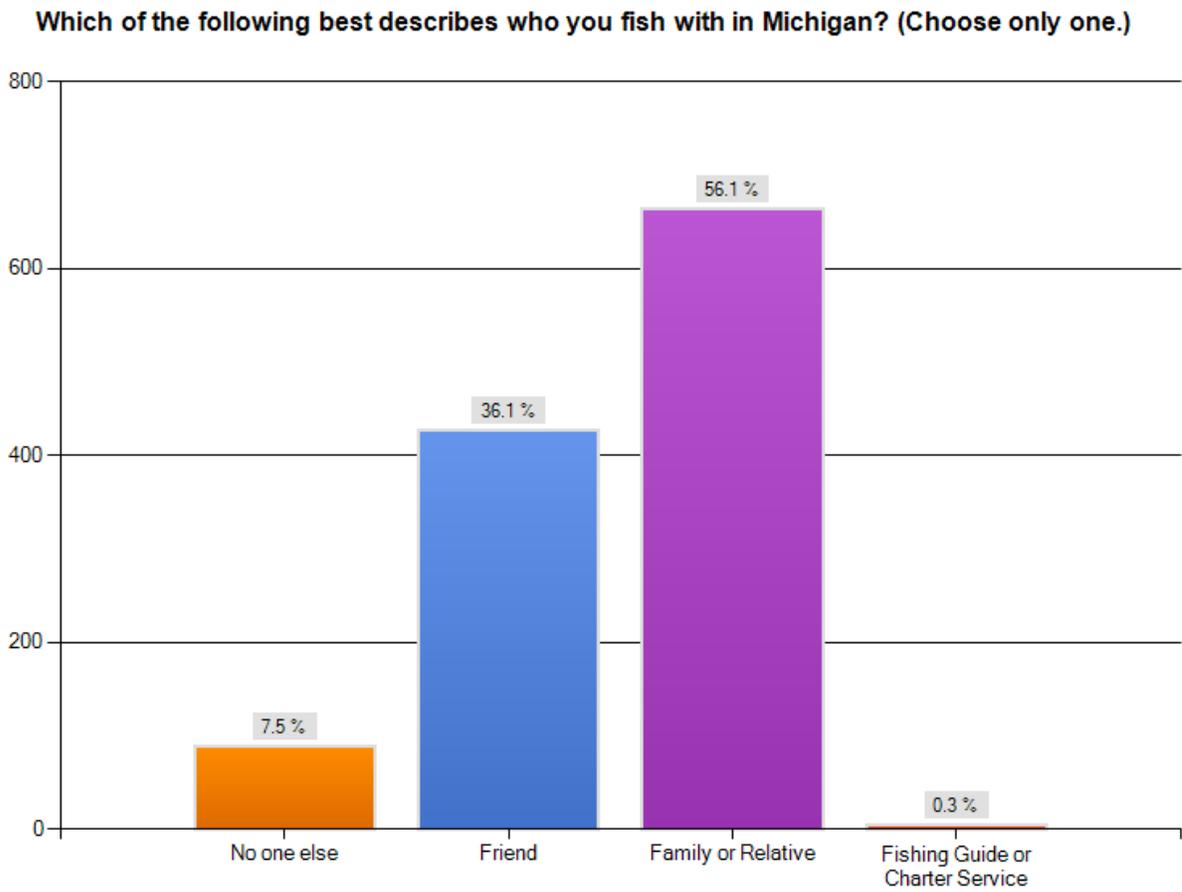


Figure XV. All responses to selection of fishing partner in Michigan.