

## **Managing invasive species in Nova Scotia: public perceptions of smallmouth bass (*Micropterus dolomieu*) retention in the Margaree Valley - Summary of Key Results**

This study addresses the following research question: How have stakeholders perceived and responded to the smallmouth bass mandatory retention order in the Margaree watershed? In addition to this main research question, this study also seeks to understand how anglers are humanely euthanizing smallmouth bass, as this is not explicitly outlined in the order, and what anglers are doing with retained bass once the fish has been euthanized. To answer these questions, we conducted sit-down, conversational-style interviews with anglers, fishing guides, and members of environmental/conservation groups. We also carried out brief interviews with anglers actively fishing along the river. In total, 15 interviews were conducted from May to August 2025. This document provides a summary of the key results from this study, highlighting what we learned from our time in the Margaree.

### **Key Findings**

Perceptions of the mandatory retention order encompassed a range of views, from support to strong opposition. However, interviews also revealed a variety of underlying values and drivers for these perceptions, such as ecosystem balance, the role of scientific evidence informing the order, and moral value conflicts.

#### Ecosystem Balance

The most commonly shared perspective amongst interview participants was support for the mandatory retention order, framed in the context of ecosystem concern. These participants expressed that mandatory retention was a welcomed attempt to manage smallmouth bass and help protect the natural environment. However, even among supporters of the order, participants raised skepticism about the real effectiveness of controlling or eradicating smallmouth bass populations through mandatory retention techniques, particularly in the context of climate change. Many participants were hopeful that mandatory retention would help to support and maintain ecosystem balance by reducing the overall biomass of smallmouth bass in the watershed, ultimately reducing stress on native species such as gaspereau, trout, and salmon. This outlook also prioritized economic considerations of the Margaree fishing community related to trout and salmon fisheries, many of whom rely on angling tourists who visit the area to support livelihoods and local businesses.

#### Evaluation of Supporting Evidence

Participants commonly raised concerns about the credibility of mandatory retention, particularly the perceived lack of scientific evidence showing that it can successfully reduce the spread of an established invasive species. Many argued that smallmouth bass populations in the Margaree watershed are too large and widespread to be impacted by recreational angler removals and thus questioned whether individual angler efforts could meaningfully reduce the population. Participants also had concerns about how the order was put in place to begin with. The short turnover time between the implementation of the Margaree pilot project (introduced in the Fall of 2024) and the expansion of the order across the province (April 2025) had some participants

questioning whether the effectiveness of the pilot project was evaluated and used to help inform the expanded plan because of the rapid turnaround time between projects. Further, some participants expressed displeasure with mandatory retention due to the lack of meaningful engagement with recreational anglers by the Provincial Government before implementing the order.

### Moral Value Conflicts

For many participants, the most challenging part of the order was the requirement to kill smallmouth bass. Participants described a range of euthanasia methods, the most common being head trauma or lethal exsanguination. Some participants felt discomfort about causing suffering to smallmouth bass, which made this process challenging. For some anglers, these concerns were strong enough that they chose to avoid fishing in the Margaree altogether. Participants also shared examples of what they did with retained smallmouth bass. This included: consumption of larger smallmouth bass, composted/thrown in garbage, fed to pets, donated to wildlife centres, or left in the woods. However, for many this led to negative feelings about waste, especially among anglers used to catch-and-release fishing, who felt that killing a fish without eating it conflicted with their values.

### Community Engagement, Stewardship and Education

Even though many participants believed the order was extremely difficult/impractical to enforce due to the limited number of enforcement officers in the region, many anglers said they would continue to follow the order out of personal responsibility. This honour system reflected strong community-based stewardship values held among anglers in the Margaree, and participants felt that many anglers would obey the rules out of a sense of personal responsibility.

There was much discussion regarding the use of riverside signage and its effectiveness in the Margaree watershed to educate anglers about the mandatory retention order, smallmouth bass, and invasive species in general. Participants felt that these signs are essential for the Margaree because of the older demographic of anglers who may rely less on social media, and for the many tourist anglers who visit the region and may not be aware of local guidelines. However, some noted that the size of the watershed makes full coverage difficult, and the clarity of these signs could be improved.

### Smallmouth Bass Fishing on Lake Ainslie

Discussions around developing a smallmouth bass fishing tournament on Lake Ainslie were commonly addressed by participants. Some participants felt that promoting bass fishing, or even creating a bass tournament, could help educate the public about invasive species and increase the number of smallmouth bass being removed from the system, supporting the goal of the mandatory retention order. However, others worried that promoting tournaments might attract dedicated bass anglers who could want to keep bass populations high for sport, working against the purpose of removing them. There was also concern that many bass anglers interested in tournaments prefer catch-and-release fishing and may avoid participating altogether if they are required to kill bass.

### Unintended Impacts on Native Striped Bass

A major concern raised by participants was the possibility that the retention order could unintentionally harm native striped bass. Many participants noted that they had heard confusion

among anglers about how to tell smallmouth bass and striped bass apart, and even uncertainty about which species is invasive and which is native. Some participants believed that anglers might be removing striped bass intentionally to protect salmon or accidentally killing them after misidentifying them as smallmouth bass. Several participants recalled finding dead striped bass along the Margaree River and worried that the mandatory retention order may be contributing to these killings, creating additional risks for native species.

### **Thank You**

We hope this summary was both insightful and informative. If you have any questions, please feel free to reach out to Sinead Addis ([sinead.addis@dal.ca](mailto:sinead.addis@dal.ca)) or Dr. Hannah Harrison ([hannah.harrison@dal.ca](mailto:hannah.harrison@dal.ca)) at Dalhousie University.