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300 Water Street
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Re: Strategic Policy for Bait Management in Ontario (EBR Registry Number 012-9791)

Dear Dr. Gibson,

Thank you for the opportunity to comment on the Strategic Policy for Bait Management in Ontario developed by Ontario's Ministry of Natural Resources and Forestry (MNRF). I am submitting comments in my capacity as Conservation Scientist with Wildlife Conservation Society (WCS) Canada. A national organization, our research and conservation priorities in Ontario are focused primarily on Ontario's Far North.

WCS Canada was a member of the Bait Review Advisory Group (BRAG) through Dr. Mohammed Alshamli during 2014-2015. Our participation on BRAG facilitated and improved our understanding of the challenges of live bait use and harvest in Ontario as well as its impacts on freshwater fish communities and their habitats. WCS Canada previously provided comments on bait policy proposals as they were released by the MNRF for public comment including:

- Bait Use and Commercial Harvest in Provincial Parks and Conservation Reserves (EBR 012-2835)
- Angler Use and Movement of Baitfish in Ontario (EBR 012-2836)
- Commercial Sale and Transport, Allocation and Reporting of Baitfish and Leeches in Ontario (EBR 012-4222)

Recommendation 1. The MNRF give equal weight to the *ecological* value and significance of baitfish species to freshwater systems in Ontario.

WCS Canada strongly agree with the need to revise Ontario's live baitfish use policy and regulations and this current draft offers the most comprehensive approach to addressing bait use and harvest in Ontario to date. The current draft does a good job of bringing together the disparate, but relevant components of bait use and harvest by anglers and commercial operators. However, the current draft provides very little information on the ecological roles and values that baitfish play in freshwater systems. The current strategy is focused, disproportionately, on the economic value of bait fisheries.

“Bait” are in fact a diversity of freshwater fish species, insects, and amphibians that have significant ecological roles within freshwater and terrestrial ecosystems (Kerr 2012). Together, these species maintain processes and functions important in their own right as well as providing ecosystem services beyond the commercial and recreational values emphasized in the current draft. In general, these ecological, functions, and values are poorly described in the present draft.

In the following section, I provide feedback on specific proposals in each section of the current strategy.

Section 2.0. Permitted Baitfish Species and Possession Limits

Recommendation 2. A complete ban on live bait in Ontario (section 2.1).

WCS Canada has respectfully maintained, throughout the process of this review, the need for a complete ban on live bait in Ontario due to the ecological risks associated with live bait use. Ontario remains the only jurisdiction in Canada that still allows live bait. British Columbia banned live bait in 1940, Alberta banned live bait in 1963, and in 2013, Québec prohibited live bait due to the known associated ecological, social, and economic risks associated with this industry. Even native species introduced into waters where they don't occur naturally have the potential to impact existing native fish communities. The current proposal reduces Ontario's list of legal baitfish species from 48 to 33 species and replaces species of sculpins, sticklebacks and darters with other small fish species such as banded killifish and brook silverside. However, it remains unclear from the current strategy how reducing the list of baitfish species to 33 reduces the ecological risks associated with invasive species, diseases, and pathogens or addresses the illegal harvest of species-at-risk, under Ontario's *Endangered Species Act*, and illegal possession of invasive species, under Ontario's *Invasive Species Act*.

Recommendation 3. Assess angler behaviour and knowledge given the revised list of baitfish.

Reducing the number of species on the list may help simplify education and communication by the MNRF with angler's who find it difficult to distinguish between legal baitfish species and illegal invasive species and species-at-risk (Drake and Mandrak 2014). However, the MNRF needs to actually test and monitor this hypothesis.

Recommendation 4. Provide more scientific evidence that commercial bait operators should not require any possession limits (section 2.2).

I do not support the lack of any possession limits for commercial operators. The current strategy justifies no restrictions on the amount of bait harvested by commercial operations strictly on the basis of “enabling industry flexibility to meet customer demands”. Yet, the current strategy provides no scientific evidence that harvest and yields of various bait species in BHAs is sustainable. This aspect demands more research (e.g., Kerr 2012: 24). Given the volume of removal (5 million baitfish and leeches sold in 2013), and the fact management is based on bait harvest areas (BHAs) that do not have any ecological basis for their design, I recommend a more precautionary approach that includes possession limits for commercial bait operators.

Section 3.0. Movement of Bait

Recommendation 5. Implement a Bait Management Zone (BMZ) approach (section 3.1) and movement rules for BMZ A (section 3.2).

- I support the current proposed BMZ approach however it would be more useful to include a figure that shows the primary and secondary watershed boundaries to better understand where the MNRF has made modifications to current watershed boundaries.
- Given our programmatic focus on Ontario's Far North, I support movement rules regarding BMZ A. Bait should not be allowed to move from adjacent BMZs into BMZ A given the greater prevalence of invasive species and disease in southern BMZs.
- I am supportive of the proposed requirement for receipts (section 3.3).

Section 4.0. Specific Bait Restrictions

Recommendation 6. Harvest and possession of bait be prohibited in native Brook Trout lakes (section 4.1).

I support the current MNRF proposal. However, it remains unclear what constitutes a "native Brook Trout lake" and where they are located in each BMZ. The MNRF should clarify both of these elements. While this proposal seems proactive in terms of addressing bait fisheries impacts on brook trout, I urge the MNRF to address the *cumulative impacts* of other factors, including climate change, and consider additional protections.

Recommendation 7. Possession of bait and commercial harvest of bait in wilderness, nature reserve, natural environment, waterway and cultural heritage class provincial parks should be prohibited (section 4.2.1 and section 4.2.2).

I support the current MNRF proposal because it recognizes the primary purpose of Ontario's protected area system which is to permanently protect the best examples of Ontario's ecosystems and manage them to ensure that native species, natural processes, water, and land are maintained or restored. A ban of live bait in these classes of provincial parks also supports the stated goals of ecological integrity under Ontario's *Provincial Parks and Conservation Reserves Act*.

That said, the strategy states that "provincial parks and conservation reserves are part of a landscape approach for protecting and maintaining aquatic ecosystem diversity, connectivity, structure and function, including fish habitat." I remain skeptical about the value of Ontario's current network of provincial parks and conservation reserves in conserving freshwater biodiversity for a number of reasons.

- Protected area strategies typically rely on reserve design and management; yet there is limited congruence between terrestrial and freshwater biodiversity in North America (Herbert et al. 2010, Abell et al. 2011).
- Terrestrial reserves are often inadequate for conserving freshwater ecosystems because the scale of protection for terrestrial systems typically fails to consider hydrological connectivity which is necessary for freshwater conservation (Pringle 2001, Saunders et al. 2002, Dudgeon et al. 2006).

- Terrestrial protected areas often allow for multiple uses of freshwater systems that could potentially alter aquatic habitats, including stocking of non-native fish species and fishing of native species (Pittock et al. 2008).

Nonetheless, freshwater conservation planning can benefit from the tools and systematic approaches typically applied to terrestrial conservation planning (Nel et al. 2009, Linke et al. 2011, Juffe-Bignoli et al. 2016). Unfortunately, I have not seen any evidence that the MNRF considers these approaches during land use planning or in its approval processes for permits (e.g., environmental assessment). In addition, protected areas are subject to other threats, aside from fishing and personal use and commercial harvest of live baitfish species, such as development and water management within waterways and watersheds and climate change (e.g., Schindler and Smol 2006, Sietz et al. 2011). Addressing cumulative impacts on freshwater systems should be a high priority for protected area design and management in Ontario. Yet, the MNRF does not appear to have any strategy associated with protected area design for the purpose of freshwater conservation and it is unknown how relevant the current protected area network is for conserving freshwater biodiversity now or in the future under a changed climate and intensifying land use. This is particularly evident in Ontario's Far North where the MNRF is leading planning with interested First Nations communities to deliver on a commitment to protect at least 50% of the region. Given there is more freshwater than land in Ontario's Far North, it remains to be seen how the current piecemeal and *ad hoc* planning approach to protected area design will deliver on freshwater biodiversity conservation.

Recommendation 8. Existing commercial bait harvest be phased out of wilderness, nature reserve, natural environment, waterway and cultural heritage class parks (section 4.2.3).

Our previous position on phase-out timelines called for immediate phase out of **commercial** operations in provincial protected areas. We based this recommendation on experience in Québec where an immediate phase-out of all live bait use was announced when new regulations were developed in early 2013. I am aware that the MNRF is already committed to phasing-out live bait use in 32 provincial parks (approximately 100 BHAs) and while generally supportive of the timeline, the MNRF should clarify why five years is necessary given this process is already underway.

Section 5.0. Personal Harvest

Recommendation 9. Personally harvested bait may not be transported beyond the waterbody where it was caught (i.e., no overland transport). In BMZ A, anglers may transport bait overland beyond the waterbody if the angler possesses the appropriate documentation (e.g., harvest license, personal log) and the bait stays within the BMZ where it was harvested.

Our previous position on the movement of bait by anglers was that bait movement needed to be restricted to watersheds in which the bait was harvested. Given the proposed creation of BMZs that follow watershed boundaries, I support the current proposal which recognizes the difference in ecological risk between the northern BMZs (A, B, C, D) and southern BMZs. Since invasive species and pathogens are much more prevalent in the south, there should be additional restrictions on the movement of personally harvested bait by anglers in these southern BMZs. I also support the proposal that these exceptions do not apply to conservation reserves and recreational class parks within these zones.

Section 6.0. Storage of Bait

Recommendation 10. The storage of bait in BMZ A, B, C and D (both commercial and personally harvested) must be stored in the same BMZ where it was purchased or harvested or consistent with movement exceptions in section 3.2.

- I support the current proposal for storage of personal bait given the proposed creation of BMZs and stated movement restrictions. Our original position on the storage of personally harvested bait was to prohibit the storage of bait altogether given the large average distance traveled by anglers with purchased baitfish (~ 319 km) and a survey that found half of the anglers discarded the contents of their bait buckets at the end of fishing trips into the final waterbody (Litvak and Mandrak 1993).
- Within provincial parks and conservation reserves, I support the proposal that the storage of angler's personally harvested bait from waterbodies in recreational class provincial parks and conservation reserves would be restricted to the waterbody where the bait was harvested.
- I also support the current proposal that commercial storage of bait would be prohibited in provincial parks (of all classes) and conservation reserves with limited exceptions. The exceptions associated with commercial storage seem reasonable. However, it is difficult to know from the strategy, how many provincial parks and conservation reserves may still meet these criteria and be impacted by commercial storage operations.

Section 7.0. Commercial Storage of Bait

- I support the proposal for training of commercial bait harvesters and dealers as well as designates listed under a commercial harvester's licence. I support the requirement that designates must take the training before they can be added to the commercial harvester's licence (section 7.1). This proposal aligns with our original position on certification and training. In addition, I recommend:
 - The MNRF enable audits by a third party to reduce violations and support monitoring and compliance.
 - The MNRF make public, data on the number of individuals trained and the number of training programs offered since 2011.
- While our original position on equipment was to implement standard gear requirements across Ontario, I am supportive of the proposal in section 7.2 to standardize gear in multi-use BHAs. It is unclear why this restriction is not relevant in exclusive use BHAs and why a Best Management Practices (BMP) approach is preferred. Requiring standard equipment across all BHAs would minimize incidental by-catch of native non-target species and limit catches of species-at-risk and native non-target species. Gear restrictions on mesh size would also select for certain live baitfish species size and age classes.
- I support the need to increase awareness of species-at-risk through training and appreciate the value of developing best management practices to support education for commercial bait operators (section 7.3). However, our original position was that commercial bait storage in known and suspected habitats for freshwater species-at-risk should be prohibited. Ontario's live baitfish industry is the second most important threat to freshwater species-at-risk (Kerr et al. 2005, Dextrase and Mandrak 2006).
- I do not support the proposal that BMP be the only way in which species-at-risk and their habitats are considered by commercial bait operators. The MNRF must acknowledge and

prioritize its responsibilities for protecting and recovering freshwater species-at-risk as well as their habitats more explicitly in this strategy.

- I support the proposed requirement that all commercial bait licence holders document in their MNRF prescribed logbooks, all bait transactions between licence holders, including when the transfer occurred, the quantity of bait transferred and to/from whom bait is purchased/received and sold (section 7.4). At a minimum, these data would help the MNRF to address the sustainability and impacts of the baitfish industry on freshwater systems by documenting how much is harvested, the location of BHAs providing the most bait to the industry, and the sustainability of harvests in each BHA. Documentation of bait transactions would increase traceability, discourage black market operations, and enable the MNRF to better understand supply and demand.
- I support the proposal for a compliance framework based on a demerit systems (section 7.5). This proposal aligns with our original position supporting greater penalties for operators that commit major infractions or multiple minor infractions as well as lower penalties for minor infractions.
- I support the need for the MNRF to conduct a comprehensive licensing review (section 7.6.1). At present, the current fee paid by harvesters (Canadian \$32 for each BHA) doesn't compare to the value of the volume of baitfish harvested and neither the license fee nor BHA fees have increased since 1999. As mentioned above, baitfish species are important components of freshwater and terrestrial ecosystems that should be managed in the public interest, rather than for profit or economic gain by a few Ontarians. Having the resources to study, monitor, and manage these resources are also provincial responsibilities. In addition, the bait industry is a known pathway for invasive species, diseases and pathogens. The industry should participate in offsetting such costs, and a portion of the revenues could be used by the MNRF to offset the costs of controlling and eradicating invasive species in Ontario. As such, I recommend that MNRF establish fees that are proportionate to the full administrative cost of managing the bait harvest and allocation program as well as addressing the impacts of the industry on species-at-risk and their habitats (e.g., protection, restoration) and mitigating impacts of invasive species on freshwater systems.
- I support the proposal to shift all BHAs, except those with high bait densities, to be exclusive-use allocations rather than multi-use, regardless of the type of bait being harvested (i.e., baitfish and/or leeches) (section 7.6.3). I also encourage the MNRF to undertake a critical review of the BHA approach to management of bait, as well as the impacts of live bait use. I also support the proposal to split BHAs where the BHA is intersected by a BMZ and have the BMZ form the boundary of the BHA.
- In general, I am supportive of the proposal to implement a revised point system for re-allocation of BHAs that become available as well as criteria for decision making. However, it is not clear if the emphasis on Indigenous peoples in this section is because Indigenous peoples have expressed interest in opportunities to engage in commercial bait fisheries. In general, it is not clear how the allocation of BHAs by the MNRF affects aboriginal and Treaty rights in Ontario.
- In addition, the feedback from commercial harvesters during BRAG, suggested that BHAs are abandoned when they are no longer profitable for that harvester suggesting the BHA is not being sustainably managed. It is unclear how this revised point system addresses this explicitly and I encourage a more critical review of the BHA before simply reallocating to a new licensee. Reallocating BHAs to new harvesters without this review may jeopardize baitfish communities as well as other freshwater resources and ecosystems.

- I find the description of the actual management process (by the BHA license holder, not the MNRF) surprising. The focus on rotations, fallows, and “standing crop of fish” equates fishery management to agriculture or industrial forestry. I reiterate my initial concerns about the lack of scientific information on the sustainability and management of management of these important species and their ecosystems.

In conclusion, this draft strategy is an important step in the right direction in terms of advancing bait management in Ontario and reducing some of the ecological risks that the bait industry poses to freshwater systems in southern and northern Ontario. This strategy would be improved if the MNRF provide equal attention to the *ecological* roles, functions, and values of “baitfish species” as well as the way in which baitfish is actually managed for ecological sustainability rather than solely economic gain. As always, I am happy to engage in any discussions regarding these recommendations and comments. You may contact me at 807-285-9125 or cchetkiewicz@wcs.org to do so. Thank you for this opportunity to provide feedback.

Yours sincerely,



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