Great Lakes Fishery Commission

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Written Submission for the Pre-Budget Consultation Regarding the Federal Budget

January 2022

- Recommendation : That the government comply with our bi-lateral treaties with the United States regarding the Great Lakes and honour these commitments by funding the Great Lakes Fishery Commission, through Global Affairs Canada, at a rate of $19.44 million in fiscal year 2022-2023 and every year thereafter.

Context

Most Canadians view the Great Lakes as a place to cottage or to fish, and, while true, the Great Lakes are more than just a playground. The Great Lakes are home to 3,500 unique plant and animal species and 30% of Canada's population. The Great Lakes are the source of drinking water for millions of Canadians, they provide sustenance and social influence for countless communities and Indigenous peoples, and they comprise 21% of the planet's fresh surface water. Economically, the Great Lakes are an engine that provide 237,868 jobs, $45.4 billion in direct economic activity, $13 billion in recreation/resource interests, and they facilitate the movement of $19.8 billion worth of goods annually. All this is to say, while the Great Lakes are a resource that is rightly subject to domestic governance and regulation, the Great Lakes are also an important pan-Canadian asset with continental implications given their status as international boundary waters. The Great Lakes are a binational resource that face numerous threats to their long-term sustainability.

The Great Lakes Fishery Commission (GLFC)

In 1955, Canada ratified the *Convention on Great Lakes Fisheries* because history demonstrated that, if we are to preserve the economic and environmental advantages of the Great Lakes, we need to collaborate with our American neighbours.

More than one treaty collapsed as Canada and the US failed to agree on how to tackle shared problems. By 1954, necessity had driven governments to ratify the Convention, and to create the GLFC.

That treaty created the Commission, and assigned three main duties:

1. To formulate and drive a science program upon which to base fishery management decisions;
2. To help the management agencies work together, as "divided governance" led to inconsistent regulations and parochial actions resulted in a "race to the bottom"; and
3. To formulate and deliver sea lamprey control. Sea lamprey is an invasive predator that is incredibly destructive to the fishery and economy.

The Commission ended the cross-border bickering that had resulted in constant conflict, a nearly collapsed fishery, a badly damaged ecosystem, and severe economic losses on both sides of the border. The Commission also created a scientific understanding of the fishery and how to address problems and, notably, it reduced sea lamprey populations by 90%. This work directly facilitated the restoration of the $8 billion fishery.

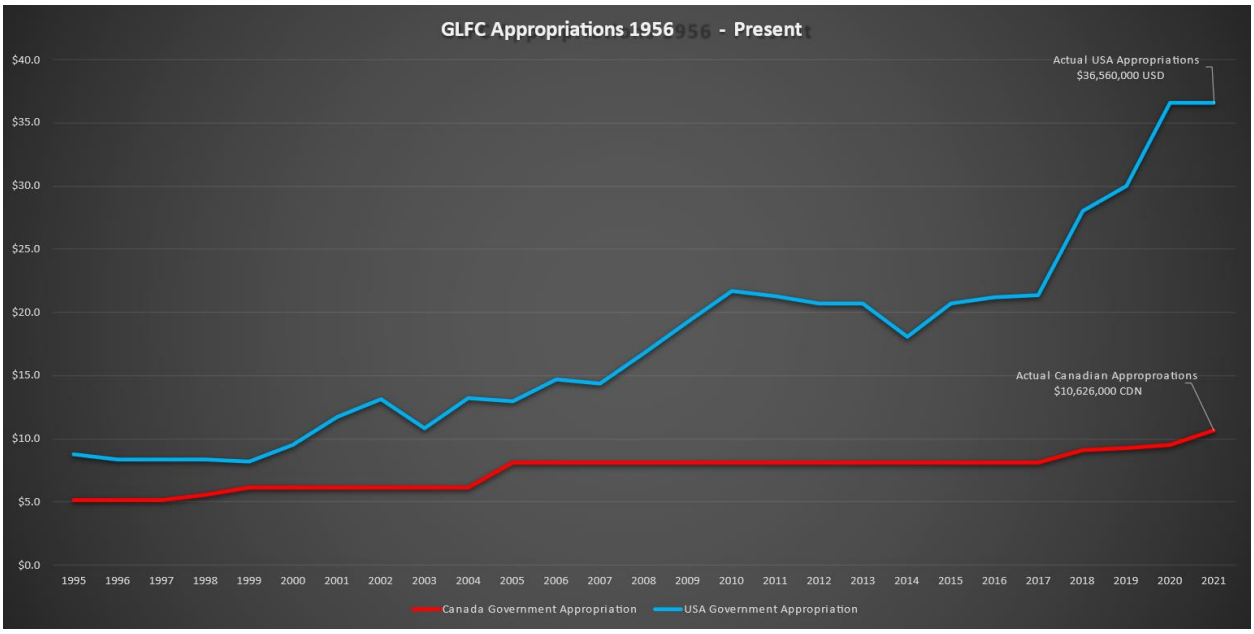
Traditional Funding Formula (commitment versus reality)

As part of the 1954 treaty discussions, Canadian and American negotiators struck an understanding on a funding formula that accounted for the disparity in the differing population sizes, economic output, and geographic area of the lakes falling within each country. That formula prescribed:

- For the sea lamprey control program, the US pays 69% and Canada 31%.
- For science, cross-border coordination, and Secretariat operations, the two nations share costs equally.

The US has more than fulfilled its funding commitments while Canada has underfunded the GLFC for years. To offset Canada's shortfall, the US has temporarily (potentially ending in 2021) supplemented its annual appropriation to the Commission by adding funding from the *Great Lakes Restoration Initiative* Program, a short-term measure to sustain the Commission's research and operational programs.

To meet the funding formula as stated, Canada should be contributing $19.44 million annually, which compares to Canada's actual contribution of $10.6 million. This amounts to a $8.84 million annual Canadian shortfall. This gap is exacerbated when the underfunding is considered in terms of operational impacts, and when inflationary factors are considered. The following graphically demonstrates the growing Canada/US funding disparity.



Operational Impacts

If Canada were to fully fund the GLFC's treaty mandate, as recommended by the Committee in *Recommendation #78* of the February 2020 pre-budget consultation

report, and again in Recommendation #99 of the February 2021 pre-budget consultation report, the GLFC would:

- Devote full attention to sea lamprey control. Research confirms we are underfunding sea lamprey control by 25% and, therefore, not taking full advantage of the fishery. A failure to adequately fund control measures would allow a sea lamprey population rebound which would threaten fish stocks.
- Concentrate on new research needed for sound fishery management in the face of emerging trade, climate, environmental, and infrastructure challenges.
- Help agencies work more collaboratively and communicate our work to those who utilize it in real-world situations. Such cooperation would allow all involved to better prevent and prepare for future challenges such as grass carp and other emerging invaders.

With additional funds, Canada would, for the first time in more than a generation, meet its treaty commitments. Specific budget tables are attached in Appendix A.

Relationship Impacts

Our treaty is premised on genuine binational cooperation and partnership. Canada's traditional funding shortfall has caused considerable Congressional angst. As but one example, on April 22nd, 2016, eight Great Lakes Senators wrote Canada's Ambassador, stating:

> "As members representing Great Lakes states, we remain strongly committed to the Commission's program and to good relations between our two nations. As such, we were disappointed to learn that the recently tabled Canadian budget did not provide adequate funding for Canadian operations… We hope Canada will find a way, as soon as possible, to fund the Commission consistent with the funding formula."

American concern continues and was again expressed in March of 2020, when a delegation of Canadian parliamentarians attended Great Lakes Week on Capitol Hill. During bilateral meetings, Canada's lack of fiscal commitment to the GLFC was raised as an indicator that Canada was less than fully committed to sustaining the Great Lakes and the related cross-border relationship.

Since then, twelve Member of the US Congress (representing both the House and Senate, and both the Republican and Democratic parties) have written to Canada with their concerns on the subject. The matter was also formally raised with the Prime Minister during the November 2021 North American Leader's Summit in Washington.

US Actions

COVID-19 has altered our day-to-day lives since the Committee's February 2021 pre-budget consultation report was released. Most agree that the depth of the crisis demands that any post COVID-19 recovery strategy leverage every asset and opportunity. Congress has accepted this premise and placed the Great Lakes at the centre of their strategy by approving millions of dollars in new resources for programs such as the Great Lakes Restoration Initiative (see Appendix B). By their actions, US lawmakers understand that public investment in the Great Lakes reaps an economic multiplier effect, sparks jobs creation, and leads to broad regional economic growth. Similar Canadian investment, including full funding of the GLFC mandate, will maximize corresponding opportunities on the Canadian side of the border.

Additionally, at a time when bilateral partnerships are critical to environmental protections and general trade success, it seems short-sighted to fall short of an important and long-standing commitment to Canada's most important trading partner.

Conclusion

The Great Lakes fishery is important culturally and economically and is well-worth this small investment. Canada and the US have a proven mechanism in place to manage this binational resource. Although the mechanism works well today, the lack of Canadian funding has long raised eyebrows in Washington and threatens the very foundation of what is supposed to be a respected and reciprocal commitment.

The GLFC has a 65-years track record of success and the $8 billion fishery is proof. But there is much more to gain. This Committee can help preserve the Great Lakes and the Canada/US relationship that is mutually beneficial to both nations and that has saved the Great Lakes.

The GLFC asks for a recommendation that would see the Government of Canada fund the GLFC in accordance with Canada's traditional commitments and in keeping with the Committee's previous recommendations.

Table 1: Summary of the Commission's program requirements and cost estimates for FY 2022/2023. All figures in millions of Canadian dollars.

FUNCTION	FY 2022/2023 BUDGET REQUEST
Sea Lamprey Control	$12.78
Infrastructure (largely for sea lamprey control)	$1.93
Science and Research	$3.57
Fishery Management and Coordination	$0.59
Communications, Policy, and Legislative Affairs	$0.57
CANADIAN TOTAL	$19.44

Appendix A

FUNCTION	RISK	CONSEQUENCES	REMEDIES	OUTCOMES	REQUEST	
Sea Lamprey Control	• Infrastructure: Deterioration or removal of sea lamprey barriers throughout the Great Lakes basin.	• Thousands of kilometers of additional habitat become available, sea lamprey population grows, millions of kilograms of fish are destroyed, and fishery restoration is significantly impaired. • As an alternative to infrastructure repair or replacement, tens of millions of dollars in additional lampricide costs accrue annually in an attempt to keep sea lamprey population levels within fish community objectives.	• Rehabilitate existing infrastructure (barriers) or construct new barriers depending on the condition of the most dilapidated structures. • Refurbish or replace in-water physical structures used to control invasive species. Infrastructure funds would serve to match U.S. infrastructure investment (provided) for similar structures in the U.S.	• Refurbishing/reconstructing at least three barriers to block sea lamprey spawning migrations can protect more than 680 kilometers of existing and potential "up-river" habitat from infestation, thereby reducing current and potential lampricide treatment costs per barrier by $176,600/year for 50 years-plus (life of barrier). Without this action, more than 600,000 additional larval sea lamprey would be produced and over 120,000 parasitic juvenile sea lamprey would survive to enter the lakes ANNUALLY causing the loss of more than 2,160,000 kilograms of fish worth a conservative value of $35,640,000.	$1,930,000	$14,710,000
	• Insufficient capacity to treat high-priority infested tributaries and new sea lamprey producing rivers.	• Millions of kilograms of fish lost per year to sea lamprey predation in existing, exposed habitat that cannot be protected with new barriers. • Loss of fishery restoration progress.	• Deploy all the necessary crews, products, and equipment to deliver a full sea lamprey control program.	• Sea lamprey control to protect at least 19,400,000 kilograms of fish ANNUALLY worth a conservative annual value of $655,900,000.	$12,780,000	
Science and Research	• Insufficient science to inform native fish rehabilitation initiatives in areas of life history, ecology, behaviour, movement, and habitat use; science not applied or communicated; traditional ecological knowledge not incorporated.	• Inability to sustain healthy populations of native and desirable species. • Limited conservation and restoration planning. • Lost opportunity to include important knowledge sources.	• Fund competitive fishery research based on priority theme areas. • Support the coregonine science initiative. • Better develop relationships with indigenous communities.	• Healthy Great Lakes ecosystem with balanced predator-prey and sufficient habitat to support sustainable fisheries. • Coordinated science, incorporated into fishery management; conservation; and restoration initiatives.	$511,938	$3,570,000
	• Insufficient science to implement a cost-effective sea lamprey control program.	• No new supplemental sea lamprey control techniques will be developed. • Sea lamprey abundance explodes due to lampricide resistance or loss of social license. • Continued reliance on dams and chemicals.	• Fund competitive sea lamprey research based on priority theme areas. • Direct research toward new techniques such as alarm cues, pheromones, new "greener" lampricides, and cutting edge genetic methods.	• Viable control alternatives that: (1) reduce dependence on expensive infrastructure; (2) reduce impacts on aquatic species; (3) diversify control techniques; and (4) enhance use of "greener" control tactics.	$1,008,525	
	• Inability to "transfer" science to those who will put it into practice.	• Top quality science will not be translated into fishery management and sea lamprey control. • Uninformed decisions may be made. • Public communications will be less effective.	• Implement the Commission's "Science Transfer Program" to put science in the hands of those who will use it. • Further develop the science transfer toolkit (http://www.glfc.org/science-transfer-toolkit.php).	• Healthy Great Lakes ecosystems with balanced predator-prey relationships and functional habitat to support fish production and sustainable fisheries. • Coordinated science, incorporated into fishery management; conservation; and restoration initiatives.	$21,777	
	• Fishery management and sea lamprey control not guided by coordinated research, appropriate technical assistance, or specialized research structures already in place.	• Lost opportunity for international capacity to advance sea lamprey control and fishery management. • Inability to leverage tens of millions of dollars of external funds for science. • Lost ability for quality assurance and registration in the sea lamprey control program. • The Great Lakes Acoustic Telemetry Observation System (GLATOS) will be lost. • Funding for FishPass will be lost.	• Establish and/or maintain support for key partnerships: - The Hammond Bay Biological Station (HBBS); - The Upper Midwest Environmental Sciences Center (UMESC); - The University of Guelph Centre for Ecosystem Management (CEM); - The Quantitative Fisheries Center (QFC) at Michigan State University; - The Partnership in Ecosystem Research and Management Program (PERM) at Guelph and Michigan State; - GLATOS; and - FishPass.	• HBBS will remain at the forefront of fishery and sea lamprey research; UMESC will maintain the safety of lampricides. • PERM, QFC, and CEM will bring together academia, stakeholders, NGOs, managers, and governments to advance cross-border ecosystem management. • Tens of millions of dollars will be leveraged. • GLATOS will revolutionize fishery management. • FishPass will restore selective connectivity while maintaining invasive species control.	$2,027,760	
Fishery Management and Coordination / Communications, Policy, and Legislative Affairs	• Poorly informed and uncoordinated fish passage and barrier removal efforts as improved aquatic connectivity is sought. • Increasing lack of awareness of the decimation of the Great Lakes fishery prior to sea lamprey control and integrated fishery management from fishery managers and the public. • Inability to implement integrated invasive species and overall fishery management in an increasingly complex Great Lakes governance milieu.	• Diminished ability to restore desirable fish species. • Loss of social license to build and maintain barriers. • Compromise the $8 billion fishery if sea lamprey cannot be controlled after dams are removed to improve connectivity. • Misplaced confidence that the Great Lakes fishery can be protected without invasive species control and strategic fishery management informed by sound science. • Inability to communicate with stakeholders (anglers, commercial fishers, cottage owners, urban dwellers along tributaries, etc.), elected officials, and policy makers.	• Develop an adaptive approach to balance invasive species control with enhanced aquatic connectivity using selective fish passage. • Increase Commission capacity to integrate fishery and sea lamprey control objectives with improved aquatic connectivity. • Complete historical documentary of the Great Lakes fishery, with an emphasis on conditions before and after the 1954 Convention of Great Lakes Fisheries. • Increase capacity to engage stakeholders, elected officials, policy makers, etc.	• Restored aquatic connectivity with enhanced invasive species management (control/eradication) due in large part to advancement of novel approaches to selective fish passage—initiative has global implications. • Better protection of "social license" to use lampricides and barriers for sea lamprey control and integrated pest management. • Better communication with and advice to governments (elected officials and policy makers) regarding aquatic invasive species management and integrated Great Lakes fishery management.	$1,160,000	$1,160,000
				TOTAL (in Canadian dollars)	$19,440,000	

Table 2: Proposed allocation of the FY 2022/2023 program. Canadian contribution only. An amount consistent with a funding formula for each program area has been requested from the U.S..

Appendix B

Source: the July 2020 House of Representatives appropriations bills.

Marine Debris Program (NOAA)	National Ocean Service / Office of Response and Restoration	$1 million above FY2019	$1.52 million below FY2020	$15 million[xxxii]	$9 million[xxxiii]
Coastal Zone Management Grants (NOAA)	National Ocean Service / Ocean and Coast Management and Services	$77 million	Eliminated	$77 million	$78 million
Harmful Algal Blooms (NOAA)	National Ocean Service / Coastal Science and Assessment	$19 million	Eliminated	$25 million	$22 million[xxxiv]
Clean Water State Revolving Fund (EPA)	State and Tribal Assistance Grants / Infrastructure Assistance	$1,639 million	$1,119 million	$3,400 million	$1,639 million[xii]
	Emergency Supplemental Funding				$6,355 million[xiii]
Drinking Water State Revolving Fund (EPA)	State and Tribal Assistance Grants / Infrastructure Assistance	$1,126 million	$863.24 million	$2,320 million	$1,126 million[xiv]
	Emergency Supplemental Funding				$3,855 million[xv]
Small and Disadvantaged Communities (EPA)	State and Tribal Assistance Grants / Infrastructure Assistance Grants	$25.4 million	Eliminated	$25.4 million	$26 million
Lead Testing in Schools (EPA)	State and Tribal Assistance Grants / Infrastructure Assistance Grants	$26 million	$15 million	$26 million	$26 million
	Emergency Supplemental Funding				$50 million
Reducing Lead in Drinking Water (EPA)	State and Tribal Assistance Grants / Infrastructure Assistance Grants	$19.5 million	$20 million	$20 million	$20 million
	Emergency Supplemental Funding				$1,000 million[xvi]
Sec. 106 Clean Water State Grants (EPA)	State and Tribal Assistance Grants / Categorical Grants	$223.3 million	$153.68 million	$231 million	$248 million
Sec. 221 Sewer Overflow and Stormwater Reuse Municipal Grants (EPA)	State and Tribal Assistance Grants	$28 million	$61.45 million	$225 million[xvii]	$56.7 million
	Emergency Supplemental Funding				$400 million[xviii]