PROJECT NAME: Addressing Ghost Gear in North America

1. **Project duration: from December 2022 to December 2025** (36 months)

2. **Budget: C$ 1,000,000**

3. **Short statement of the issue(s) under this topic, need/gap identified; the project objective(s) and activities to address the issue; and expected outcomes and benefits/beneficiaries (max. 200 words):**

   Ghost gear has been referred to as "the most harmful form of marine debris".[i] It is usually caused by severe weather, snags with natural features, other gear or objects, vessel interactions or, more rarely, intentional discard. Globally, at least 640,000 tonnes of abandoned, lost or discarded fishing gear (ALDFG) enter the ocean every year, harming marine life, reducing fish stocks, and impacting livelihoods.

   The Global Ghost Gear Initiative (GGGI) is the largest cross-sectoral alliance dedicated to solving this issue, around three main goals: improving the health of marine ecosystems, safeguarding human health and livelihoods, and protecting marine life. The GGGI works to build evidence, define best practice, inform policy, and generate and replicate solutions, through a diverse group of participants stemming from the fishing industry, private sector, academia, government, IGOs and NGOs. Canada, Mexico, and the United States are all government members of the GGGI, recognizing it as a key partner to address ghost gear reduction, retrieval, and disposal.

   Through this project, the three countries will work with the GGGI to determine priority activities. These could include ghost gear retrieval activities in high-priority geographical areas, such as known areas of high-risk gear loss identified through the completed foundational hotspot mapping, or areas of past or current fishing activity that species at risk are known to frequent or use as a migratory route. The project could also support better facilitation of retrieval activities in a transboundary area by every country according to its territorial constituency, through compliance with the relevant local regulations and under the supervision of federal authorities, such as the Mexico/US Gulf of Mexico or Tijuana Estuary border areas, hotspots for crab trap loss. To improve management of end-of-life gear, a key aspect of ensuring that gear is not disposed or left in the marine environment after its use, the project could support field research on volume and turnover of gear in select fisheries and help fill other knowledge gaps to advance recycling of end-of-life gear.

   As it builds relationships and promotes dialogue between policy makers and fish harvesters in the region, identifying challenges and capacity limitations, and increasing awareness of ALDFG amongst the fishing industry, the project will reduce and retrieve ALDFG, assist in developing protocols and strategies to address ALDFG best practices in fisheries, build fishing industry understanding and collaboration, identify knowledge and data gaps, and support responsible management of end-of-life fishing gear in coastal fishing communities.

4. **Select the strategic pillar(s) from the 2021-2025 Strategic Plan that the project addresses:**
   ☒ Clean Air, Land and Water
   ☒ Preventing and Reducing Pollution in the Marine Environment
   ☒ Circular Economy and Sustainable Materials Management
   ☐ Shared Ecosystems and Species
   ☒ Resilient Economies and Communities
   ☐ Effective Enforcement of Environmental Laws

5. **Describe how the project uses strategic cross-cutting approaches in its implementation: Innovative and Effective Solutions and/or Diverse and Inclusive Stakeholder Engagement and Public Participation (including gender and diversity effects and opportunities, and youth) (max 100 words).**
   The project is designed to actively engage the diverse stakeholders that are affected by ghost gear and can be part of the solution for its reduction, addressing the cycle of ghost gear from different entry points for more effective solutions developed through inclusive participation.

6. **Explain how the project can achieve more impact through tri-national cooperation (max 100 words):**
   The project will strengthen existing cooperation by providing opportunities for targeted exchanges of knowledge and expertise across the three countries that will allow the identification and development of best practices applicable across North America. It will also create a new space for collaborative and coordinated ghost gear reduction efforts in transboundary areas, protecting and leveraging national investments in those areas.

7. **Describe how the project complements, or avoids duplication with, other national or international work (max 100 words):**
   The project will work with the GGGI as lead implementation partner, recognizing this as the most efficient and effective way to deliver coordinated, non duplicative action and leverage existing knowledge, expertise, and experience in delivering ghost gear reduction efforts.

8. **Describe how the project engages traditional ecological knowledge (TEK) experts or Tribal/First Nations/Indigenous communities, if applicable (max 100 words):**
   The project will engage with Tribal/First Nations/Indigenous communities when they are part of the local communities selected as priorities for on-the-ground efforts but is not designed to specifically focus on these communities.

9. **Describe how the project engages new audiences or partners, if applicable (max 100 words):**

The project will engage GGGI as a lead partner and is built around promoting dialogue between policy makers and fish harvesters and promoting partnerships between the fishing industry, coastal communities, non-government organizations, waste management organizations and all levels of government to achieve ghost gear reduction.

10. **Identify the designated partner agencies or organizations committed to implementing this project, as well as other organizations that could be involved, or benefit from it, including through outreach efforts, collaborations, or partnerships (e.g.: federal agencies; other levels of government; academia; NGOs; the private sector; civil society; and youth):**

Lead agencies or organizations	Country
Global Ghost Gear Initiative (GGGI)	International (Canada, Mexico and the U.S. are members)
Fisheries and Oceans Canada	Canada
NOAA	United States
CIMARES https://digaohm.semar.gob.mx/CIMARES.html	Mexico

Other organizations/individuals (if applicable)	Country
NGOs such as Pesca ABC, Sistema Pronatura, Manta Caribbean Project, and others	Mexico
Fishing industry within chosen areas of retrieval and engagement	
Communities and organizations involved in ghost gear hotspot mapping and retrieval	

11. **In the following table, describe: the project objective(s) and the activities and subtasks planned to achieve the objective(s); the corresponding outputs, expected results and how they will be measured (performance measures); baselines (if known), and targets by end of the project; and the timeline and budget.**

Objective 1	Prevent ALDFG in local communities
Activity 1.1 **Budget C$ 91,400**	Promote best practices for responsible fishing to prevent the loss of fishing gear.
Output(s)	• Workshops to engage communities and share information on the Best Practice Framework for the Management of Fishing Gear (C-BPF). • Coordination of letters of support, social media posts and/or participation in forums to support strategic national legislative initiatives that align with and directly promote ALDFG prevention, mitigation and/or remediation in Mexico and bring different groups together. Needs will be identified through legal analysis (sub-task 2.1).
Expected results, performance measures	• Engaged groups, regions or communities are active participants in the reduction of ADLFG in their community.

Baseline (current status), if known	• GGGI has engaged two regions (northwestern Mexico and Yucatan Peninsula) in ALDFG reduction (as of July 2022).	
Target (by project end)	• 3 new groups, regions or communities in Mexico have been engaged in ALDFG reduction.	
Sub-task 1.1.1	Support coordination of advocacy initiatives for prevention, mitigation and/or remediation of ghost gear via communication tactics that include but are not limited to: letters of support, social media posts and/or participation in forums to support strategic national legislative initiatives that align with and directly promote ALDFG prevention, mitigation and/or remediation in Mexico.	**When: Year 1**
Sub-task 1.1.2	Conduct theorical-practical workshops to provide training on best practices for small scale fishing groups, cooperatives, and private sector vertically integrated companies in Mexico to facilitate changes in their supply chains down to fisher level.	**When: Years 1, 2**
Activity 1.2 Budget C$ 72,310	Develop support material to implement ALDFG best practices.	
Output(s)	• Gear removal protocols for specific regions in Mexico. • Trilingual guidelines, best practices, lessons learned, and other support material (such as, but not limited to: requirements related to gear management over its lifecycle; costs and opportunities, protocols, and strategies to support implementation; predictive model identifying locations of fishing gear loss or accumulation in marine waters of Pacific and Atlantic Mexico; as well as institutional GGGI materials such as 2-pager, annual reports, ALDFG videos, etc.).	
Expected results, performance measures	• Communities and stakeholders have material (including in Spanish) to guide them in the reduction of ALDFG.	
Baseline (current status), if known	• Some support materials on best practices for the management of fishing gear, predictive model of occurrence of ghost gear in Mexico, GGGI institutional promotional materials such as annual reports or two-pagers exist in English, while others. exist in Spanish or both English and Spanish (e.g., Mexico's National Action Plan on ghost gear)	
Target (by project end)	• All GGGI-led materials that apply for the North American Net Collection Initiative (NANCI) project in the US, Mexico and Canada are bilingual or where relevant trilingual. • Additional capacity-building materials are developed.	
Sub-task 1.2.1	Create a protocol for ghost gear removal in Mexican waters per relevant region, based on other GGGI-led ghost gear removal protocols.	**When: Year 2**

Sub-task 1.2.2	Translate to/from Spanish/English a series of essential materials to ensure understanding and comprehension of information for preventing, mitigating, and remediating ghost gear. Materials such as, but not limited to predictive model identifying locations of fishing gear loss or accumulation in marine waters of Pacific and Atlantic Mexico; as well as institutional GGGI materials such as 2-pager; annual reports; and videos of ALDFG, among others.	**When: Years 1, 2, 3**
Activity 1.3 Budget C$ 312,375	**Pilot market-ready new technology to reduce ghost gear and its impacts.**	
Output(s)	• Delivered technology devices to selected groups. • Training for fishers and authorities to use technology. • Data on efficacy of gear location technology and efficacy of harm-reduction fishing techniques.	
Expected results, performance measures	• Fishers and authorities using technology. • Technology transfer and strengthened capacity to use new gear. • Reduction in gear loss and ease of gear retrieval.	
Baseline (current status), if known	• Limited gear loss technologies are currently being used in Mexican fisheries. • No gillnet marking technologies operational in Canadian fisheries.	
Target (by project end)	• Three different gear technologies trialed in pots or traps, gillnets, and FADs fisheries. • Gear technologies trialed in two different MPAs in Mexico. • Different gillnet marking technologies (number of technologies TBD) trialed in one pilot Canadian fishery.	
Sub-task 1.3.1	Identify, acquire, and deliver technologies for pilot testing, and agree on pilot test approach, in consultation with potential partners, such as fishers, other fishers' groups and/or fishing authorities (INAPESCA) interested in testing technologies to secure fishing gear for reducing economic losses and protecting underwater wildlife.	**When: Year 2**
Sub-task 1.3.2	Conduct training workshop and gear trials in Mexico with potential partners, such as fishers, fishers' groups and/or fishing authorities (INAPESCA), to strengthen capacity for implementing the C-BPF and new gear-tracking/marking technology (smart buoys [ResqUnit, Satlink, Blue Ocean Gear and CLS]).	**When: Year 2**
Sub-task 1.3.3	Conduct gear trials of new technology for the marking of gillnets in Canadian fisheries (technologies TBD).	**When: Year 3**
OBJECTIVE 2	**Remove ALDFG in North American waters.**	
Activity 2.1 Budget C$56,760	Support gear retrieval efforts in priority areas.	

Output(s)	• Workshops on ghost gear removal and gear removal protocol. • Retrieval activities at selected sites in Mexican waters. • Updated ghost gear hotspot maps for Mexico.
Expected results, performance measures	• Reduction in the immediate threat posed by ghost gear in Mexican waters. • Retrieval efforts in transboundary areas are addressed collaboratively.
Baseline (current status), if known	• Hotspot mapping is available for Pacific and Atlantic Mexico (showing accumulation as of August 2022) but there is no data available for other North American waters. • Retrievals in transboundary areas are addressed only through national efforts.
Target (by project end)	• Training of a group of multi-sectoral stakeholders in Mexico on ghost gear removal. • At least two ghost gear removal exercises in Mexico. • Hotspot mapping updated for Mexico.

Sub-task 2.1.1	Identify two priority areas for retrieval efforts and convene multi stakeholders' workshops on ghost gear removal training based on the ghost gear removal protocols (See Sub-task 1.2.1). Site selection will be based on the hotspot mapping and predictive model of fishing gear loss or accumulation in marine waters of Pacific and Atlantic Mexico.	**When: Years 2,3**
Sub-task 2.1.2	Conduct retrieval efforts in the two priority Mexican sites mentioned in Sub-task 2.1.1.	**When: Years 2, 3**
Sub-task 2.1.3	Collect data for hotspot map and update the existing predictive model.	**When: Year 3**
OBJECTIVE 3	**Build knowledge to inform and enhance end-of-life gear collection, disposal, and recycling in North America.**	
Activity 3.1 Budget C$345,395	Conduct cost-benefit analysis to understand end-of-life gear management opportunities in the United States, Canada, and Mexico.	

Output(s)	• New ports, communities and companies contributing gear to NANCI effort across North America. • One additional collection point for EOL fishing nets in a region other than northwestern Mexico; and set-up of additional collection "bins" in other locations in Mexico. • One new collaboration with a local Mexican recycling partner for materials other than nylon and PPE. • Analysis of EOL issues in select project geographies across North America and recommendations on better EOL management options, given local conditions, etc.
Expected results, performance measures	• Improved understanding of the issue of EOL gear and the challenges to more sustainable approaches in managing EOL gear across North America. • Improved ability to address end-of-life gear management and ghost gear. • Improved and expanded gear recycling at select sites. • Increased number of communities and companies participating in the NANCI program. • Identification of EOL gear recycling opportunities across the North American region.

Baseline (current status), if known	• The North American Net Collection Initiative (NANCI), focused on Mexico's Baja California and the US state of California, has established one hub in Ensenada, Mexico, for collecting and pre-processing end-of-life nets from northwestern Mexico (as of June 2022). • GGGI works with Bureo, whose proprietary net processing facility (based in Oxnard, California) can currently only take multifilament material. Most of the small-scale fishing industry in Mexico uses monofilament mesh.	
Target (by project end)	• Increased number of net collection points and/or pre-processing hubs. • Expanded GGGI collaboration with at least one new company who recycles monofilament. • Research study on EOL gear management across North America.	
Sub-task 3.1.1	Conduct a study on opportunities to enhance gear disposal, especially gear recycling across North America *(select a few locations where data and information on gear type, turnover and quantity of EOL gear being generated by certain fisheries or ports would be collected)*.	**When: Year 2**
Sub-task 3.1.2	In collaboration with Bureo, establish one additional collection point for EOL fishing nets from a region other than northwestern Mexico and set-up collection "bins" in other areas.	**When: Year 3**
Sub-task 3.1.3	Explore new partnerships with companies that recycle other fishing net materials to broaden our current spectrum of recycling partners.	**When: Year 3**
OBJECTIVE 4	**Share knowledge from cooperative effort.**	
Activity 4.1 **Budget C$121,760**	Outreach to showcase project results.	
Output(s)	• Events to inform partners and engage new audiences.	
Expected results, performance measures	• Increased communications and collaboration to address ALDFG in North America.	
Baseline (current status), if known	• The NANCI project has published two blogs and participated in 1 regional festival (as of June 2022).	
Target (by project end)	• NANCI project featured in at least three events (one per year).	
Sub-task 4.1.1	Develop communications material for participation in conferences, festivals, or congress to position NANCI/CEC initiatives and support attendance at targeted events.	**When: Year 2**
Sub-task 4.1.2	Hold virtual event on project results and lessons learned.	**When: Year 3**

12. Describe post-project expected impacts:

Expected impact (by when)	SMART performance measure(s)
By 2025	Cross border retrieval efforts in select transboundary areas are addressed through collaborative actions.
By 2028	Hotspot mapping shows a net decrease in hotspot numbers and volume of gear at hotspots.

By 2030	Small fishing communities in the North American region have options for the collection and recycling/reuse of end of life fishing gear, contributing to promote a circular economy.

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[i] https://www.ghostgear.org/