

Re: CIRNAC Comments to NIRB Re: Notice of Screening and Comment Request for Canadian Museum of Nature’s “Arctic Kelp Forests and Seaweed Biodiversity in Cambridge Bay” Project Proposal

NIRB File No.: 26YN007

We thank CIRNAC for these helpful comments and welcome the opportunity to clarify our project's fuel management approach, handling of chemicals, and waste management plan.

Our response is listed under each comment.

CIRNAC #1: Shoreline Hydrocarbon Contamination Risks

The proposed project requires 1,100 L of gasoline: 500 L stored in 25 plastic jerry cans for small boat operations and 600 L stored in three metal drums for the 33-foot research vessel R/V Blue Nanook. The application identifies significant gasoline use for both small boats and the R/V Blue Nanook, but does not describe fuel staging locations, transfer procedures, spill response measures, or secondary containment requirements. This presents an environmental concern, as manual fuel transfer and shoreline storage without containment increase the risk of accidental releases. Hydrocarbon spills can contaminate soils, groundwater, and adjacent waterbodies, while Arctic conditions significantly slow petroleum biodegradation. CIRNAC recommends that the Proponent consider:

- Submitting a site-specific spill contingency plan that outlines fuel transfer protocols;
- identifying the staging and storage locations for all fuel containers on land and/or at shore access points; and
- maintaining spill response kits and using drip trays or secondary containment during fuel storage and transfer activities.

RESPONSE:

Thank you for the opportunity to clarify the project's fuel management approach.

The application's reference to 1,100 L of gasoline reflects the estimated maximum total fuel consumption over the entire field season, not the quantity to be stored on-site at any one time. The project does not involve bulk fuel storage at the field site. Instead, fuel will be obtained daily from the existing retail fuel station in Cambridge Bay (Qilaq Gas Station, <https://share.google/hcNuhDiORIFs1VmCh>), with only the quantity required for that day's operations transported to and used at the site. This approach was chosen specifically to minimize the environmental risks associated with large-volume shoreline storage.

In practice, only a minimal amount of fuel (one 200L fuel drum or 5-6 20L jerry cans, depending on the vessel) will be present on the vessels at any given time, and no fuel drums or staged fuel caches will be maintained on shore. The Proponent acknowledges that this operational approach was not clearly described in the original application and thanks CIRNAC for raising this point.

In response to CIRNAC's recommendations, the Proponent commits to the following measures:

1. Fuel transfer procedures: All fueling of small boats and the R/V Blue Nanook will be conducted using approved fuel transfer equipment. Fueling will take place away from the water's edge where practical, and personnel will be present throughout the transfer process.
2. Spill response: A spill response kit will be maintained on board the R/V Blue Nanook for the duration of field operations. All field crew will be familiar with its location and use.
3. Secondary containment: Drip trays or absorbent matting will be used during fuel transfer activities as a precautionary containment measure.
4. Incident reporting: Any accidental fuel release, however small, will be documented and reported in accordance with applicable territorial and federal requirements.

The Proponent is satisfied that this daily-resupply approach, combined with the above measures, appropriately addresses the environmental concerns raised by CIRNAC and eliminates the need for a site-specific spill contingency plan for bulk fuel storage. We remain open to further discussion should CIRNAC or the Board require additional information.

CIRNAC #2: Specimen Preservation Chemicals

The application indicates that seaweed and benthic invertebrate specimens will be collected and brought back to the lab for study and identification, but identifies hazardous material and chemical use as 'none.' The application does not clarify whether any preservatives, reagents, solvents, or other laboratory chemicals will be used for sample preservation, transport, sorting, or identification. CIRNAC recommends that the Proponent clarify whether any such substances will be used, provide quantities/container types if applicable, maintain Safety Data Sheets on site, and describe containment, storage, and backhaul/disposal procedures for any chemical products and wastes.

RESPONSE:

Thank you for this comment. We can confirm that seaweed (macroalgae) specimens will not be preserved using any chemical reagents. Algal samples will be either pressed and dried as herbarium vouchers or dried in silica gel for subsequent molecular and morphological analysis, in keeping with standard practice for preserving herbarium specimens. No preservatives, fixatives, or solvents are required for this component of the work.

However, the Proponent acknowledges that the application should have identified a limited use of 85% ethanol by a project collaborator conducting benthic invertebrate work. Small quantities of ethanol (≤ 2 L total, in sealed bottles) will be used in the Canadian High Arctic Research Station (CHARS) teaching laboratory for the preservation of invertebrate specimens. We regret the omission of this information from the original application.

In response to CIRNAC's recommendations, we confirm the following:

1. Chemical use: Ethanol (≤ 2 L, in small sealed bottles) is the only chemical product that will be used in association with this project. No other preservatives, reagents, or solvents will be employed.
2. Safety Data Sheets: The teaching laboratory at CHARS where we will be working maintains Material Safety Data Sheets (MSDS/SDS) for all chemicals on site, including 85% ethanol. Personnel will be familiar with safe handling procedures prior to use.
3. Storage and containment: Ethanol will be stored in the CHARS laboratory in accordance with the facility's existing chemical storage protocols. Containers will be kept sealed when not in use.
4. Disposal: The CHARS laboratory has stringent standard operating protocols for chemical storage and disposal. We will follow their protocols carefully while working at CHARS. Ethanol-preserved invertebrate samples will be returned to the CMN when we leave Cambridge Bay, and any waste ethanol will be temporarily stored at CHARS. We have been advised that CHARS is currently working with the Polar Continental Shelf Program (PCSP) and their hazardous waste management partner in Ottawa to develop a process for packaging waste in Cambridge Bay and shipping it south on the sealift at the end of the season.

The Proponent is confident that these measures are appropriate given the very small quantities involved and the use of an established, equipped laboratory with standard operating procedures for chemical handling. We are happy to provide any additional information should CIRNAC or the Board require it.

CIRNAC #3: Municipal Solid Waste Management

The application indicates that no waste will be generated, while the waste management sections provide no waste data / indicate that information is unavailable. The Project proposes 4 personnel on site for 21 days and associated marine research activities. CIRNAC recommends that the Proponent identify anticipated domestic and project-related waste streams, including packaging and scientific consumables, and confirm how all wastes will be handled, stored, and disposed of through Canadian High Arctic Research Station (CHARS) and/or municipal waste management systems, as applicable.

The Proponent thanks CIRNAC for this comment; the following clarification is provided.

The project will involve four personnel on site for approximately 21 days, conducting daily marine research operations from the R/V Blue Nanook and associated small boats. Anticipated waste streams include domestic waste (food packaging, personal waste) and project-related consumables

(sampling bags, labels, gloves, and similar field supplies). No hazardous waste will be generated by the project.

All waste management will be handled as follows:

1. Domestic and project-related waste: All domestic and project-related waste will be managed through CHARS and disposed of via the Hamlet of Cambridge Bay's municipal waste management system, consistent with CHARS facility protocols.
2. Scientific consumables: Used scientific consumables (sampling bags, labels, gloves, and similar field supplies) will be stored at CHARS and, where applicable, returned to the Canadian Museum of Nature (CMN) at the end of the field campaign for appropriate disposal. Any extra collected seaweed that cannot be used for scientific specimens will be donated to the greenhouses at CHARS to use as compost.
3. Waste during field operations: Any waste generated during daily boat operations will be retained on board and returned to CHARS at the end of each field day for disposal through the above-noted waste management pathways. No waste will be discarded at sea or left at field sites.

The Proponent is satisfied that this approach, conducted in coordination with CHARS facility management, appropriately addresses all anticipated waste streams associated with the project. We are happy to provide further information if required.

CIRNAC #4: Consultation with Interested Parties

CIRNAC recommends that the Proponent continue engaging with the Hamlet of Cambridge Bay, the Ekaluktutiak Hunters & Trappers Organization, and any other relevant organizations and individuals regarding its project proposal. As part of these consultation activities, several issues should be considered, including but not limited to:

- Incorporation of Inuit Qaujjimajatuqangit and community knowledge in project activities;
- Mitigation measures to prevent any disturbance to wildlife and the environment;
- Mitigation measures to prevent disturbance to sites of cultural, archaeological, and/or environmental significance;
- The experience of community members who may participate in traditional harvesting activities within or in close proximity to the project area;
- Training and employment opportunities for Inuit and community members;
- Procurement opportunities for local and Inuit-owned businesses; and
- Regular updates on the status of project activities.

We thank CIRNAC for this recommendation and welcome the opportunity to describe our ongoing community engagement activities, which have been a central component of this research program since its inception.

The Proponent has maintained an ongoing relationship with the Ekaluktutiak Hunters & Trappers Organization (EHTO) throughout the course of this research program, including during the 2022, 2023, and 2024 field seasons. The EHTO has been kept informed of project activities and objectives, and the Proponent has benefited from the guidance and perspectives of EHTO members and other community members in shaping the research.

With respect to the specific issues identified by CIRNAC, we provide the following:

1. Incorporation of Inuit Qaujimaqatugangit (IQ) and community knowledge.

Local and community knowledge has directly informed the design of this research. Specifically, input from community members and local knowledge holders guided the selection of survey locations, ensuring that fieldwork was directed toward areas of ecological and community relevance. We are committed to continuing this practice in the upcoming field season.

2. Wildlife and environmental disturbance.

Field activities are non-extractive in nature (with the exception of small voucher specimens collected under our DFO permit) and are conducted from vessels in open water. Survey methods are designed to minimize disturbance to wildlife and the marine environment. We will continue to follow all applicable mitigation measures and permit conditions.

3. Cultural, archaeological, and environmentally significant sites.

We are aware of the cultural and environmental significance of the project area and will continue to operate respectfully within it. Should any sites of potential significance be identified during fieldwork, we will take appropriate steps in consultation with relevant authorities.

4. Traditional harvesting activities.

We are mindful that community members engage in traditional harvesting activities in and around the project area. We maintain open communication with the EHTO and community members regarding field schedules and will continue to coordinate to avoid interference with harvesting activities.

5. Training, employment, and procurement.

We have partnered with local boat operators and guides during past field seasons and are committed to continuing to prioritize local partnerships and procurement opportunities for the upcoming season. We actively seek opportunities to involve community members in field activities.

6. Regular updates on project status.

We have provided in-person presentations of project results to the Cambridge Bay community following previous field seasons and are committed to doing so again following the completion of the 2025 field season. We view community knowledge-sharing as an integral part of this research program, not an ancillary activity.

We are deeply grateful for the relationships we have developed with the Ekaluktutiak HTO and the broader Cambridge Bay community and we look forward to continuing to build on these partnerships. We are happy to provide any additional information regarding our consultation activities if required.



NIRB File: 26YN007, 126433
NIRB online registry www.nirb.ca/project/126433
**Canadian Museum of Nature's "Arctic Kelp Forests
and Seaweed Biodiversity in Cambridge Bay"**
Nunavut Planning Commission File No.: 151101

June 4, 2026

Amanda Savoie
Canadian Museum of Nature
1740 chemin Park
Gatineau, Quebec J9J 3N7

Sent via email: asavoie@nature.ca

Re: **Opportunity to Address Comments – Due by June 18, 2026**

Dear Amanda Savoie:

The Nunavut Impact Review Board (NIRB or Board) received comments from the following parties on your project proposal that require clarification and additional information prior to the Board making its assessment decision.

<i>Commenting Party</i>	<i>NIRB Doc ID No.</i>
<i>Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)</i>	<i>361644</i>

Please submit the information through your account and application on the Public Registry or info@nirb.ca. Questions or updates should be directed to the undersigned at femingak@nirb.ca.

Sincerely,

Francis Emingak, Screening Officer
Nunavut Impact Review Board