



PORT OF ARGENTIA

Cooper Cove Marine Terminal Expansion Project

Detailed Project Description Part G – Newfoundland and Labrador



March 2024 - 21-3088



March 15, 2024

Newfoundland and Labrador Satellite Office
Impact Assessment Agency of Canada / Government of Canada
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St. John's, Newfoundland and Labrador
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Attention: Leslie Kieley
Project Manager

Cooper Cove Marine Terminal Expansion Project Plain Language Summary Document

Dillon Consulting Limited is pleased to submit revised Part G: Summary of the Detailed Project Description for the Cooper Cove Marine Terminal Expansion in Argentia, NL, on behalf of the Port of Argentia.

Sincerely,

DILLON CONSULTING LIMITED

<Original signed by>

Michelle Roche, EP, RPF
Associate, Environmental Specialist

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- A Record of Engagement
- B ACCDC Report - SAR

Abbreviations

AC CDC	Atlantic Canada Conservation Data Centre
APA	Atlantic Pilotage Authority
BMP	Best Management Practices
DFO	Fisheries and Oceans Canada
DWT	Deadweight tonnage
EA	Environmental Assessment
EAD	Environmental Assessment Division
EH&SP	Environmental Health and Safety Contingency Plans
EMP	Environmental Management Plan
EPP	Environmental Protection Plan
EERP	Environmental Emergency Response Plan
EQS	Environmental Quality Standard
FSC	Food, Social and Ceremonial Fisheries
FTE	full time equivalent
FNI	Federation of Newfoundland Indians
GHG	Greenhouse Gas
GOC	Government of Canada
ha	hectare
HADD	Harmful alteration, disruption or destruction
IAA	Impact Assessment Act
IAAC	Impact Assessment Agency of Canada
DPD	Detailed Project Description
ISPS	International Ship and Port Facility Security
km	kilometre
km ²	square kilometre
LAA	Local assessment area
m	metre
m ²	square metre
m ³	cubic metre
MSS	Marine Safety and Security
MTSR	Marine Transportation Security Regulations
NAFO	Northwest Atlantic Fisheries Organization
NL	Newfoundland and Labrador
NLDECC	Newfoundland and Labrador Department of Environment and Climate Change
NL ESA	Newfoundland and Labrador Endangered Species Act
NOC	National Occupational Classification
NTCF	National Trade Corridor Fund
PDA	Project development area

POA	Port of Argentia
PWGSC	Public Works and Government Services
SACC	Strategic Assessment of Climate Change
SAR	Species at Risk
SARA	<i>Species at Risk Act</i>
t/m ²	ton per square metre
TBD	To be determined
TC	Transport Canada
WRMD	Water Resources Management Division

1.0

Part A: General Information

This document is a summary of Detailed Project Description (DPD) submitted by the Port of Argentia (“the Port or POA”) to the Impact Assessment Agency of Canada (“the Agency”) for the proposed Cooper Cove Marine Terminal Expansion Project (“the Project”) at the port of Argentia, Newfoundland and Labrador (“the port”).

The DPD was prepared in accordance with the federal *Impact Assessment Act* (IAA) and Schedule I of the *Information and Management of Time Limits Regulations*. The purpose of this DPD is to provide an overview of the initial planning for the Project to determine if the Project is a “designated project” under the IAA and to outline the potential environmental, social, and economic impacts, as well as the proposed mitigation measures, to ensure that the Project can be carried out in a responsible and sustainable manner.

This report serves as a basis for further assessments, Indigenous and stakeholder consultations, and regulatory reviews, enabling a determination on the advancement of the Project in accordance with the applicable legislation and guidelines.

1.1

Project Name, Sector, and Location

Project Name: Cooper Cover Marine Terminal Expansion Project

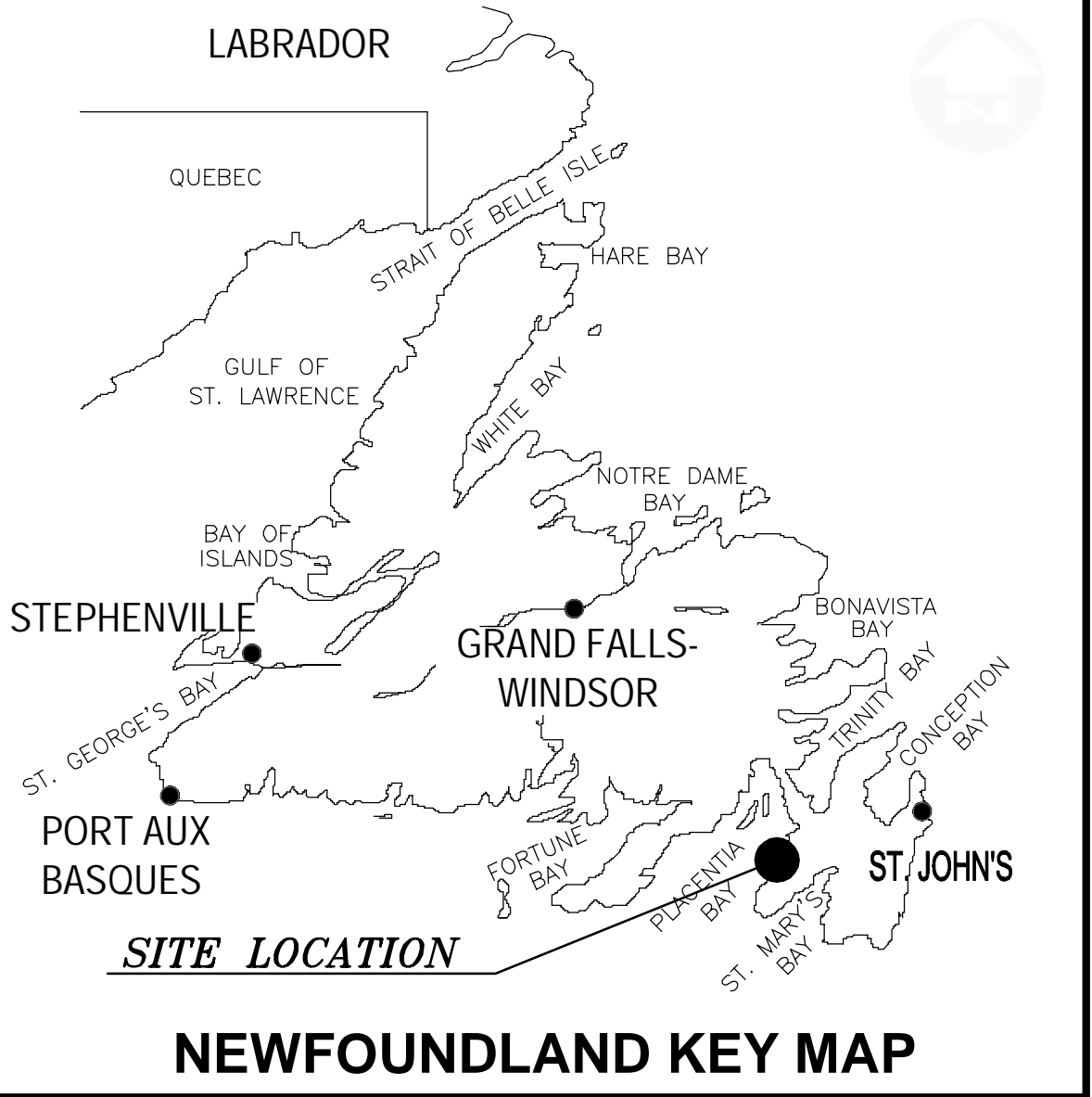
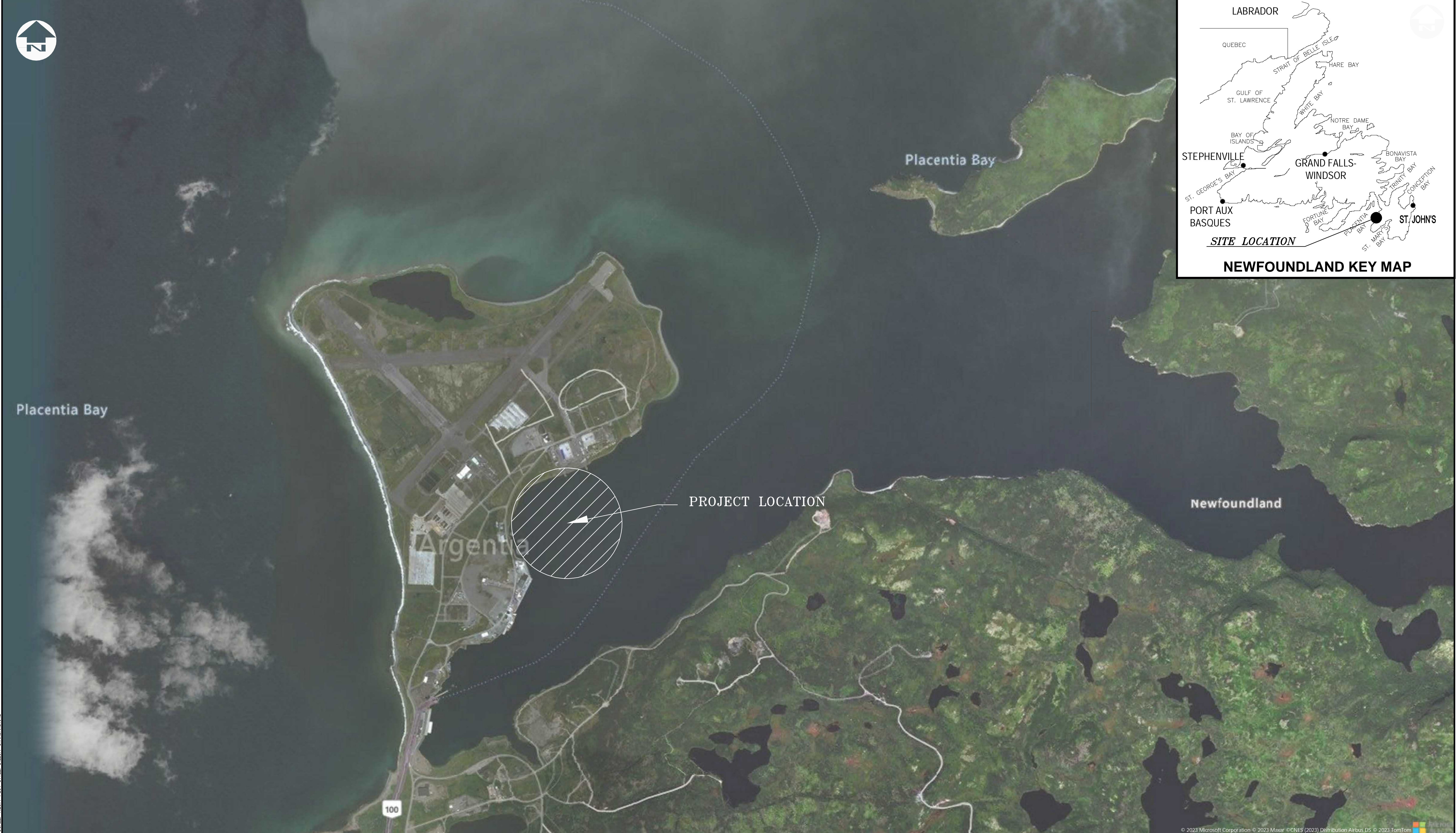
Sector: Industrial Service

Location: The Project development area (PDA) is located within the inner section of Argentia Harbour at Cooper Cove in Placentia Bay, Newfoundland and Labrador, approximately 130 km southwest of St. John’s as shown on Figure 1.

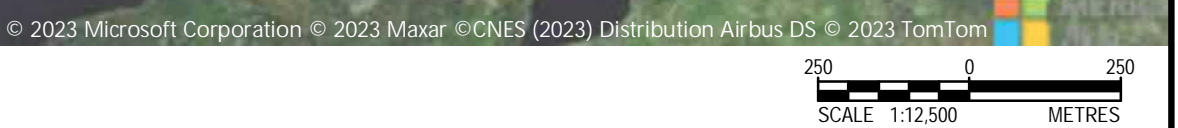
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Proponent

Argentia, once an United States Naval Base, is now being reshaped into a multi-use port with various services supporting several industries like marine transport, renewable energy, aquaculture, offshore oil, and mining. Currently the POA manages over 630 meters (m) of docking space at five berths, and approximately 40 tenants. The Cooper Cove Marine Wharf Extension Project being proposed by the Proponent aims to increase docking space by extending the existing fleet dock, creating a new wharf face, increase quayside infrastructure and installing a roll-on-roll-off (Ro-Ro) ramp and is further outlined in Part C. The Proponent’s contact information is provided below in Table 1.



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COOPER COVE
COOPER COVE MARINE TERMINAL EXPANSION

PROJECT NO.
21-3088-1401

BASEMAP

SHEET NO.
C1

Table 1: Proponent Contact Information

Proponent Name	Name: Port of Argentia Address: P.O Box 95 1 Augusta Avenue Argentia, Newfoundland and Labrador A0B 1W0 Email: contactus@portofargentina.ca
Chief Executive Officer (Project Manager) and Principal Contact Person for the Purpose of the Impact Assessment	Name: Scott Penney Address: P.O Box 95 1 Augusta Avenue Argentia, Newfoundland and Labrador A0B 1W0 Email: s.penney@portofargentina.ca
Vice President – Operations (Strategy & Growth)	Name: Chris Newhook Address: Dillon Consulting Limited 45 Hebron Way, Suite 202 St. John’s, Newfoundland and Labrador A1A 0P9 Email: c.newhook@portoargentina.ca
Indigenous Relations Socio-Cultural Planner	Name: Alana Vigna Official Title: Indigenous Relations and Socio-Cultural Planner Address: PO Box 566, Station C St. John’s, Newfoundland and Labrador A1C 1K4 Email: avigna@dillon.ca
Environmental Specialist	Name: Michelle Roche Official Title: Environmental Specialist, Dillon Consulting Address: Dillon Consulting Limited 45 Hebron Way, Suite 202 St. John’s, Newfoundland and Labrador A1A 0P9 Email: mroche@dillon.ca

2.0

Part B: Planning Phase Results

2.1

Summary of Engagement

The POA is committed to advancing the Project, focusing on a sustainable development framework, prioritizing minimizing environmental impact, benefiting the local community, respecting human rights, and ensuring transparency in its operations. A cornerstone of this sustainable development approach is the engagement with stakeholders—individuals, communities, and organizations that have an interest or could be impacted by the Project—to establish and nurture positive, enduring, and mutually advantageous relationships.



To facilitate effective public participation, the POA has crafted a strategy for future engagement activities, aligning with the "Public Participation for Impact Assessment under the Impact Assessment Act" and the "Public Participation" framework outlined by the Canadian government in 2021.

In alignment with its core values of accountability, transparency, inclusivity, and prosperity, the POA has initiated dialogue with various stakeholders during the Project's preliminary planning phase. This includes federal and provincial government departments, local municipalities, business and industry groups, individuals potentially impacted by the Project, and Indigenous communities and organizations. Engagement efforts have encompassed providing ongoing project-related information through various channels such as letters, presentations, virtual meetings, and email communications. Feedback received to date has been overwhelmingly supportive, with no recorded objections, concerns, or requests for further information or mitigation measures. A comprehensive record of these engagement activities is maintained in the Record of Engagement, Appendix B.

The POA received a Summary of Issues from the IAAC on January 24, 2024, the POA has prepared detailed responses which are discussed further in the Detailed Project Description. These responses aim to address all concerns raised in the Summary comprehensively and transparently, underscoring transparent approach to the impact assessment process.

2.1.1 Organizations Identified for Engagement to Date

This section identifies jurisdictions or other interested parties engaged during the development of the Project, as of September 2023. The following organizations have been notified of the Project, and can be categorized as (in alphabetical order):

- Indigenous Communities:
 - Miawpukek First Nation; and
 - Qalipu First Nation.
- Business and Industry Organizations:
 - Argentia Freezers and Terminals;
 - Avalon West CBDC ;
 - Boskalis;
 - CRH Cement;
 - Econext;
 - Energy NL;
 - Equinor/BP;
 - Integrated Logistics;
 - Mammoet;
 - Newco Metals;
 - Pattern Energy;
 - Placentia Bay Traffic Committee;
 - POA Board of Directors;

- Search Minerals;
- Subsea 7;
- TechnipFMC;
- TMSI Containers; and
- Marine Atlantic.
- **Federal Authorities:**
 - Environment and Climate Change Canada;
 - Impact Assessment Agency;
 - Fisheries and Oceans Canada;
 - Transport Canada; and
 - Transport Canada, National Trade Corridors Fund Team.
- **Speaking Engagements and Public Events:**
 - Placentia Bay Industries Showcase (Star of the Sea Hall);
 - Memorial University; and
 - Marine Renewables Canada Conference (2022).
- **Municipalities:**
 - Town of Long Harbour-Mount Arlington Heights;
 - Town of Fox Harbour;
 - Town of Placentia; and
 - Town of Saint Brides.
- **Provincial Authorities:**
 - Department of Environment and Climate Change;
 - Immigration, Population Growth and Skills;
 - Municipal and Provincial Affairs;
 - Pollution Prevention Division; and
 - Water Resources Management Division.

The Impact Assessment Agency of Canada (IAAC) conducted an initial review of an early draft of the Initial Project Description in July 2023. Their comments noted that they would be engaging with the following organizations during the public comment period.

- ACAP Humber Arm;
- Balaena Institute for Cetacean Conservation Studies;
- Bay St. George Climate Action Network;
- Canadian Parks and Wilderness Society;
- Council of Canadians;
- Ecology Action Centre;
- Environmental Resources Management Association;
- Fish, Food and Allied Workers Union;
- Island Rooms;
- Montevecchi Lab;

- Salmonid Association of Eastern Newfoundland;
- Sierra Club Canada Foundation;
- Whales Release and Stranding's NL; and
- World Wildlife Fund.

To remain consistent with the process and encourage transparency, the POA issued Project notification letters to the above organizations on August 22, 2023, and provided contact information in the event that there may be questions or concerns related to the Project.

The POA also engaged with several newsgroups, magazines, universities, and associations to describe the works and activities associated with the Project and the potential opportunities for the Port's future growth in new economic sectors. They include:

- allNewfoundlandLabrador;
- Globe and Mail;
- Maclean's Magazine;
- Memorial University; and
- Newfoundland and Labrador Construction Association.

No additional questions, concerns, or issues were provided by these organizations. A full summary of engagement and consultation activities and key issues raised is found below in Table 2 and Appendix A.

Table 2: Summary of Consultation and Engagement Activities to Date

Activity	Delivery Method	Date	Stakeholder
Requests for support	Letter and email	March 2022 – September 2022	Business and organisations
Project Overviews	Letters, emails and presentations	September 2022 - On-going	Indigenous Groups, Federal and Provincial Governments, Businesses, and organizations
Speaking engagements	Interview and Speaking engagement	January 23 - On-going	News outlets Universities
Project updates	Virtual meetings	February 2023 - On-going	Federal Government
Ongoing correspondence	Emails	January 2023 - On-going	Federal and Provincial Government
IAAC Public Information Session	Virtual and In-person	December 14, 2023, December 18 and 20, 2024 and January 8, 2024	General Public and Indigenous Groups

2.2

Plan for Future of Consultation and Engagement

The Port of Argentia is committed to ongoing dialogue with Indigenous communities, stakeholders, organizations, and groups at a suitable level. While some parties have shown interest in staying informed about the Project's progress, feedback has been limited. Going forward consultation and engagement initiatives will be specifically designed for Indigenous communities and organizations needing to provide input. Activities proposed for future engagement have been outlined in Table 3.

Table 3: Future Engagement Activities

Engagement Activity	Details and timelines
Project Introduction Workshops	Since the Project is in its early planning stages, initiate "Project Introduction Workshops" specifically for interested parties to clarify the Project's scope and outline potential impacts, including impacts to Indigenous rights, health, social and economic well-being
Public and Stakeholder Open Houses	Organize these sessions approximately bi-annually or based on Project milestones to serve as platforms for direct interaction, addressing concerns, and providing clarifications
Virtual Engagement Sessions	Considering stakeholders' diverse geographical locations, ensure virtual sessions' availability (schedule with workshops, open houses and upon request)
Feedback Sessions	Use surveys, feedback forms during open houses, and dedicated email addresses to gather and address concerns, suggestions, and feedback

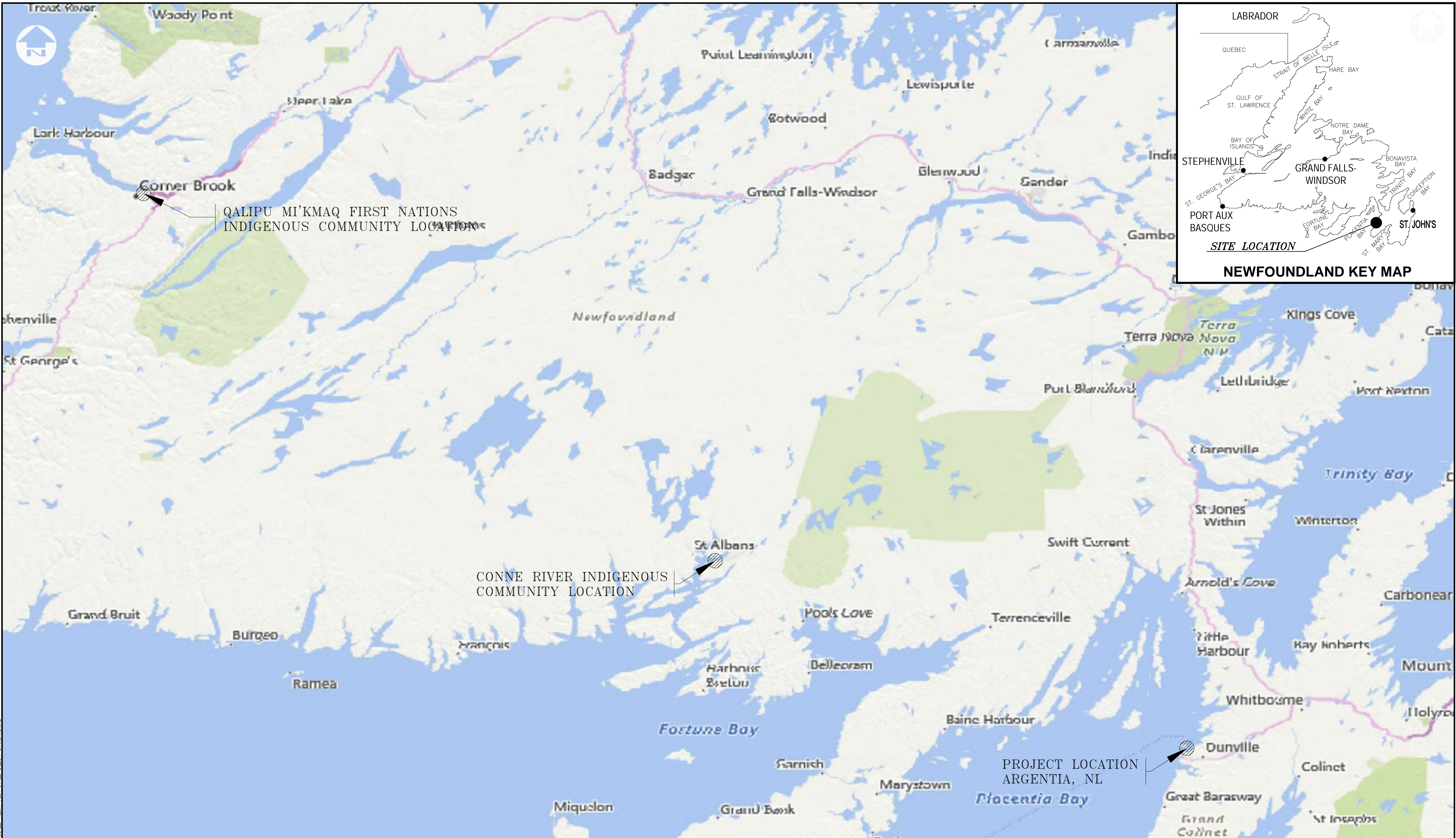
Activities and materials will be planned and utilized to provide information and solicit feedback from Indigenous communities, organizations, provincial agencies, and federal authorities, the general public, and other stakeholders. The engagement and communication strategies will encompass a range of mechanisms. These include; notification letters, direct mail/email campaigns, and newspaper advertisements. Additionally, to foster open dialogue and provide accessible information, the Port will participate in public and stakeholder open houses. These sessions will be conducted in person and virtually, ensuring that all interested parties can participate, regardless of their geographical location.

2.3

Summary of Indigenous Engagement

On the island of Newfoundland, two Indigenous communities were contacted about the proposed project (listed alphabetically), as shown in Figure 2.

- Miawpukek First Nation
- Qalipu First Nation



FILENAME: C:\CAD\DWG\BOWERING\21-3088-1401-COOPER COVE\CAD FILES FOR REV FILES SENT TO TRANSLATOR\FINAL FIGURE 2 - INDIGENOUS COMMUNITIES.DWG PLOTTED BY: BOWERING, DANIELLE
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COOPER COVE MARINE TERMINAL EXPANSION		PROJECT NO. 21-3088-1401
INDIGENOUS COMMUNITIES IN PROXIMITY TO PROJECT LOCATION		SHEET NO. C2

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On February 1, 2023, the PA took the initiative to communicate with the Mi'kmaq Miawpukek and Qalipu First Nations to inform them of the project. Officials provided an overview and visual representation of the completed work and extended an invitation for further discussions.

Another notification letter was sent on August 18, 2023 to provide an update on the status of the Project, including funding from the National Trade Corridors Fund (NCCF), and issue an invitation to respond to any concerns or questions.

Dillon staff, on behalf of the Port of Argentia, reached both groups by telephone and email on August 28, 2023 to confirm receipt of the second letter and gauge their interest in discussing potential concerns. After receiving a list of contacts from the Impact Assessment Agency of Canada, Dillon staff sent another email on September 5, 2023 to establish a connection and provide information about the project.

The Impact Assessment Agency of Canada has committed to funding the engagement efforts of the Miawpukek First Nation and the Qalipu Mi'kmaq First Nation. Although neither First Nation has provided feedback on the project to date, the Port of Argentia remains committed to addressing any concerns or questions that may be raised. He also undertakes to participate in any engagement activity facilitated by the Agency. This section will be updated as new information becomes available.

The Port of Argentia highlights its ongoing engagement with Indigenous communities and its collaboration with federal and provincial regulators to coordinate engagement efforts and consultation needs. He is firmly committed to fostering positive and constructive relationships with stakeholders throughout the project life cycle.

During the IAAC Public Information Sessions, the POA presented a project overview virtually to members of the Qalipu Mi'kmaq First Nation on December 18th and 20th, 2024. The POA is committed to continuing discussions with both organizations to understand their concerns and interests should the Project proceed.

2.4 Project Studies and Assessments

2.4.1 Regional Assessments

The term "regional assessment" talks about any study or plan related to the Project that is happening or has happened in the region of the Project. Regional assessments include official assessments and studies by different authorities or Indigenous governing bodies. Below are the publicly available regional assessments that are relevant:

- Assessment of Offshore Wind Development
 - **Who is conducting the assessment:** Impact Assessment Agency

- Details: This assessment will inform the POA about what Indigenous and non-Indigenous group's values are in the area where the Project and the wider Placentia Bay are.
- Assessment of Offshore Oil and Gas Drilling East
 - **Who is conducting the assessment:** Impact Assessment Agency
 - Details: This gives the POA information on issues brought up by Indigenous and non-Indigenous groups related to commercial fishing, birds, overall environmental impacts, oil spills, fish habitats, and climate change.
- **Transport Canada's Cumulative Effects Assessment**
 - **Who is conducting the assessment:** Transport Canada
 - Pilot Area: Placentia Bay
 - Details: This informs the POA about the potential impacts of marine shipping on the environment and coastal communities in Placentia Bay.

2.4.2 Strategic Assessments

- Strategic assessments under the *Impact Assessment Act*, like the Strategic Assessment of Climate Change (SACC), are important evaluations that help address significant issues, such as climate change. SACC offers a broad look at how Canada approaches environmental challenges and comes with two technical guides:
- Guide 1: Focuses on calculating greenhouse gas (GHG) emissions, looking at impacts on carbon sinks, creating ways to lessen emissions, developing a net-zero plan, and examining upstream GHG emissions.
- Guide 2: Concentrates on understanding how resilient projects and systems are to the possible impacts of climate change.

Although the Project is still in the design phase the Port has committed to having an expert look at the emissions impacts of the Project by completing a Port Electrification Study to look for options to reduce emissions through electrification. The following steps have been taken to achieve this:

- Sending out a request for proposal (RFP) on August 4, 2023, for an electrification study at the port. This study has since been awarded and is anticipated to be complete in spring 2024.
- Committing to allowing renewable energy companies in Argientia to help reduce GHGs globally.

The Port plans to address GHG emissions by incorporating the following guidance document in the Project's planning and operation phases:

- The Strategic Assessment of Climate Change;
- A draft guide for the SACC, which gives guidance on managing net GHG emissions, impacts on carbon sinks, and other aspects; and
- The draft guide for the SACC, focused on assessing resilience to climate change.

3.0 Part C: Project Information

3.1 Purpose for the Project

The proposed Project at the port of Argentia seeks to address the current deficiency in wharf space and quayside infrastructure. While expanding the fleet dock, creating a new wharf face, and installing a roll-on-roll-off (Ro-Ro) ramp, the Project aims to enhance berthage and facilitate smoother cargo flow within Newfoundland and Labrador. Although the project will aid in managing the increased vessel traffic from sectors like the emerging green hydrogen hub, its fundamental purpose is to diversify and strengthen the POA services.

3.2 Need for the Project

As a crucial infrastructure upgrade, the proposed Project offers several benefits, such as; enhancing Canada's transportation avenues and stimulating economic growth, particularly in the Placentia region of Newfoundland and Labrador. The Project aligns with and promotes the objectives of Transport Canada's National Trade Corridor Fund (NTCF), focusing on honing transportation priorities and fostering an innovative, green, secure, and integrated transportation system.

Additionally, it plays a pivotal role in facilitating the Port's involvement in the green energy transformation through projects like the green hydrogen, which leverages the region's abundant wind resources to produce green hydrogen, which supports a crucial shift towards more sustainable energy sources. This Project is vital due to the projected surge in investments from renewable energy companies in the Port of Argentia over the next five years, anticipated to lead to a doubling of vessel traffic and cargo volume over the coming 30 years.

Pattern Energy is actively exploring the potential for a renewable energy project at the Port, aiming to produce 400 metric tons per day (MTPD) of green ammonia, a hydrogen electrolysis facility, and a 300-megawatt wind project. This initiative reflects their dedication to sustainable energy solutions and is expected to result in approximately one additional handy-sized vessel visiting the port to transport ammonia per month. Since June 2022, Pattern Energy has held a Ground Lease Option Agreement with the Port of Argentia (POA), amended in May 2023 to incorporate commercial terms related to the Project. Pattern Energy acknowledges the need for capital expenditures, estimated at CAD\$20 million to CAD\$30 million, to enhance the port's infrastructure for the ammonia storage and export terminal. They plan to coordinate these expenditures with the POA and other third parties involved in the Port's marine terminal expansion. If Pattern Energy proceeds with the Project, it will also contribute financially to the Cooper Cove Project, with the amount subject to adjustment based on third-party participation.

The POA, while serving as the landlord, has limited involvement in the Project through its partnership in Argentia Capital Inc. (ACI). ACI has the option to acquire a limited partner equity interest in Pattern's

renewable Project but has no decision-making authority regarding the Project's planning, development, or operation, leaving those decisions solely to Pattern Energy. Notably, the Project's infrastructure improvements are designed to benefit various sectors without being exclusive to any particular industry. The expansion aims to enhance the port's existing infrastructure, enabling it to meet the diverse needs of current and future tenants and companies across various sectors. The POA's primary role remains to provide essential docking facilities and associated infrastructure to facilitate the efficient flow of goods and cargo in and out of the port rather than managing marine shipping within Placentia Bay.

Also, these new enhancements to the port facilities will be vital for encouraging various other developments and collaborations with numerous entities, including Cenovus, Boskalis, Tesla, Equinor, Eimskip, and TMSI. These industries potentials can have a substantial positive impact on economic growth, job creation, and tax revenue in a future that is pivoting away from hydrocarbons.

3.2.1.1 Strategic Location Advantages

The POA, originally a U.S. Navy Military Base during World War II, now serves various industries, including transportation, container shipping, renewable energy, offshore energy, seafood, critical metal smelting, and metal recycling. The naval base closed in 1994, leading to limited investment in new marine infrastructure. The existing marginal wharf is fully utilized, limiting future growth due to a shortage of wharf space. The port is driven by export-oriented business opportunities, with the current traffic volume at 180 to 200 vessels per year, expected to double over the next 30 years. Within the port, Cooper Cove boasts unique seabed features, accommodating heavy marine operations. With a deep approach channel, it can handle vessels up to 35,000 DWT and is ice-free year-round. The port supports various industries, including shipyards, refineries, and transshipment facilities, primarily serving offshore and green energy sectors.

The Port of Argentia and Placentia Bay are critical for maritime trade and regional development, serving as gateways for Newfoundland's local and international trade. The port accommodates diverse vessels and maintains security certifications under Transport Canada regulations. Existing infrastructure includes three major berths strategically placed within the Atlantic regional traffic service zones. The proposed project within the port is strategically located in an industrial zone, well-connected to road networks and conveniently accessible to the northeastern Avalon Peninsula's industrial zones. It is expected to handle approximately 540,000 tonnes of cargo through about 245 vessels in the next five years. It will increase to 371 vessels and approximately 907,405 tonnes of cargo by the year 2052, facilitating trade across the Eastern Seaboard and trans-Atlantic regions.

The POA marine shipping activities are quite complex and crucial in moving goods and cargo. This includes loading and unloading various products, making the port a vital part of the supply chain. These activities are closely related to the Cooper Cove Marine Terminal Expansion Project, which aims to improve the port's infrastructure and capabilities. While the expansion project focuses on the physical aspects of the port, marine shipping activities are closely tied to the industries and trade the port serves.

The POA takes responsibility for the care and control of marine shipping when navigating the POA boundaries and once vessels are docked, but it does not control industry drivers or trade activities. Navigation into the port is often coordinated through the Atlantic Pilotage Authority (APA), which ensures safe pilotage services in the region.

The POA collaborates with third-party stevedore services (Argentia Freezers and Integrated Logistics) to handle vessels, and these partnerships require adherence to safety and regulatory standards. Importantly, the benefits of the marine shipping activities at the POA are not limited to a single tenant or business; the port aims to support a variety of industries and enhance its role as a regional trade hub. Additionally, the POA strongly emphasizes regulatory compliance and security, being certified by Transport Canada as an ISPS-compliant port and following Marine Transportation Security Regulations to maintain safety and security.

3.2.1.2 Existing Infrastructure

The roads serving the existing wharf at the POA handle various traffic types, including industrial vehicles for port operations, goods transportation, maintenance vehicles, and local commuter traffic. The traffic intensity fluctuates throughout the day and week, depending on vessel schedules, cargo handling, and port shifts. In contrast, local commuter traffic follows consistent patterns based on the work schedules of the local population.

In 2023, a major transformation occurred on Waterfront Drive within the POA, involving significant infrastructure upgrades. These upgrades included strategically widening the road and relocating or burying power utility lines. The existing roadway was reconstructed using various materials, making it capable of handling heavy loads, exceeding the typical vehicle and truck loads used for port operations. The main goal of these improvements was to facilitate the efficient and safe transportation of monopiles from the marine terminal to the runway area, demonstrating a proactive effort to optimize the port's logistics and infrastructure to support various industries' smooth flow of goods and materials.

3.3 Physical Activities Regulation and Environmental Assessment Regulations

This Project's potential designation refers to the expansion design of an existing marine terminal. This expansion requires constructing a new berth for ships larger than 25,000 deadweight tonnage (DWT) at the port's existing wharf and construction of a new wharf face into Cooper Cove. According to section 53 of the regulations, a designated project includes;

"The expansion of an existing marine terminal, if the expansion requires the construction of a new berth designed to handle ships larger than 25 000 DWT and, if the berth is not a permanent structure in the water, the construction of a new permanent structure in the water".

Section 26 of the NL *Environmental Assessment Regulations* may also be applicable to the Project activities. While the Project's components are not captured under Part III of the regulations, the Newfoundland and Labrador Department of Environment and Climate Change-Environmental Assessment Division (NLDECC-EAD) has indicated that due to the proposal infill of an area greater than 5 ha the Project necessitates the submission of an Environmental Assessment Registration Document.

For clarity, a cooperative Impact Assessment has been requested to ensure a harmonized approach, reduce duplication and increase efficiencies in the review and Project approval process.

3.4

Activities, Infrastructure, Structures and Physical Works

The Cooper Cove Marine Terminal Expansion Project includes following project components:

1. Preliminary investigations component: The Cooper Cove Marine Terminal Expansion Project involves conducting a geotechnical study and sediment characterization program to ensure the structural integrity and environmental sustainability of the wharf extension, as well as a detailed benthic habitat survey in collaboration with Fisheries and Oceans Canada (DFO) to better understand the marine environment will be completed. The project requires adherence to specific regulations and potential authorizations concerning marine terminal expansions, protection of fish and fish habitat, and navigational impediments, involving a collaborative impact and environmental assessment approach. The POA has proposed a 25-month environmental approval process, ensuring the Project aligns with legislated requirements and is prepared to modify schedules if additional assessments are required.
2. Procurement and design build component: The Project is currently in its preliminary design stage for the wharf infrastructure. Detailed land-based designs will be completed during the design-build stage. This stage requires finalizing detailed designs before initiating the public tendering process, ensuring selections align with the POA's purchasing guidelines. At this time it has not been determined if additional building or structures will be required as part of the land-based design.
3. The construction component – involves the following:

Construction Activity	Design Details
Concrete Caissons and Ro-Ro Ramp Fabrication	<ul style="list-style-type: none"> • Ro-Ro ramp and concrete caissons vital for wharf expansion. • Caissons: approx. 17 m high, 400-500 mm interior wall thickness, contain in-fillable hollow sections (cells). • Designed to be partially submerged and floated into place. • Ro-Ro ramp constructed similarly but lower, with sloped surface for vessel operations.

Construction Activity	Design Details
Dredging Operations (Figure 3)	<ul style="list-style-type: none"> • Essential for removing soft marine sediment for new wharf and infill areas. • Involves mechanical or hydraulic dredging, using specialized equipment and barges. • Average 600mm - thick marine sediment layer needs dredging across the entire wharf footprint. 1200 mm to 2400 mm marine sediment southwest section of infill area. • Anticipated to take place over 5 weeks, possibly parallel to caisson installation. • Collaboration with various stakeholders, including NLDECC, IAAC, TC, and DFO.
Installation of Concrete Caissons (Figure 4)	<ul style="list-style-type: none"> • Follows the completion of dredging operations and rock mattress installation. • Final design details of the rock mattress to be determined at final design stage. • Concrete caissons floated, placed, and anchored with approved fill materials. • Installation might coincide with ongoing dredging operations in different project areas.
Construction and Installation of Ro-Ro Ramp (Figure 4)	<ul style="list-style-type: none"> • General construction follows caisson installation but is subject to contractor's approach. • Involves seabed preparation, dredging, rock mattress placement, and smaller caisson installation. • Ties into the caissons on the west side, bordered by armour stone on the east side.
Infilling Operations (Figure 3)	<ul style="list-style-type: none"> • Takes place post-dredging and caisson installation for an approximate infill area of 10.3 ha. • Not all caissons must be installed for infilling to commence. • Infill placement and compaction in lifts behind caissons, up to design grade. • Precautions needed to protect fill materials from open water areas and wave action.
Placement of Armour Stone along Wharf Face (Figure 4)	<ul style="list-style-type: none"> • Positioned along the front of caissons, atop a segment of the rock mattress. • Serves to shield the rock mattress from currents and wave action.

Construction Activity	Design Details
Access and Utility Corridors and Final Infilling	<ul style="list-style-type: none"> Facilities, utilities, and access incorporated in the future design-build execution plan. Tying into existing access roads and infrastructure. Identification and possible connection into existing underground infrastructure assessed during the design-build stage.
Site Grading and Finishing Work	<ul style="list-style-type: none"> Undertaken after all infilling and underground connections. Final grading and finishing (e.g., gravel or asphalt surface) to be determined during the design-build process.

- Pilotage component: The Port will consult with Transport Canadas (TC) Marine Safety and Security (MSS) and work through Navigation Safety Assessment Process (NSAP), to ensure safety navigation and pilotage requirements are met for the duration of the Project and into operations.
- Commissioning Component: After completing major construction, the project will transition through commissioning and deficiency checks, proceeding to the operational stage for berthing vessels and offloading materials once all issues are resolved.
- The Operation and Maintenance Component: The proposed wharf expansion is anticipated to double vessel traffic and a fourfold increase in cargo volumes over the next three decades. New operational procedures, including container handling and storage, will continue to mirror current practices, ensuring operational consistency. Maintenance activities at the new terminal will also align with the Port's current requirements, including seasonal snow removal and ongoing preventative equipment maintenance schedules.
- Decommissioning and Abandonment Component: Although there are no current plans to decommission the project, it is acknowledged that, like all infrastructure, it will eventually reach the end of its operational life, with a projected service life of 65 to 70 years and regular inspections initiating around the 45 to 50-year mark to uphold structural integrity and inform maintenance schedules. Future decisions regarding the project, whether involving replacement or removal, will depend on various factors, including the structure's condition and landowner preferences, while being mindful of potential environmental effects and conforming to the prevailing regulatory landscape. Once decommissioning is deemed necessary, activities will be assessed and executed in line with the regulatory requirements and environmental considerations applicable at that time.



FILENAME: C:\CAD\DWG\BOWERING\21-3088-1401-COOPER COVE MARINE TERMINAL EXPANSION\FIGURE 3 - INFILL AREAS.DWG PLOTTED BY: BOWERING, DANIELLE ST. JOHN'S
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LEGEND:

EXISTING FLEET DOCK	OUTLINE OF PROPOSED NEW SCOUR PROTECTION
OUTLINE OF PROPOSED NEW WHARF EXTENSION	PROPOSED INFILL AREA
OUTLINE OF PROPOSED NEW RO-RO RAMP	EXISTING ACCESS ROADS (PAVED AND GRAVEL)
OUTLINE OF PROPOSED NEW ROCK MATTRESS	

1 INFILL AREAS
CS 1:1500

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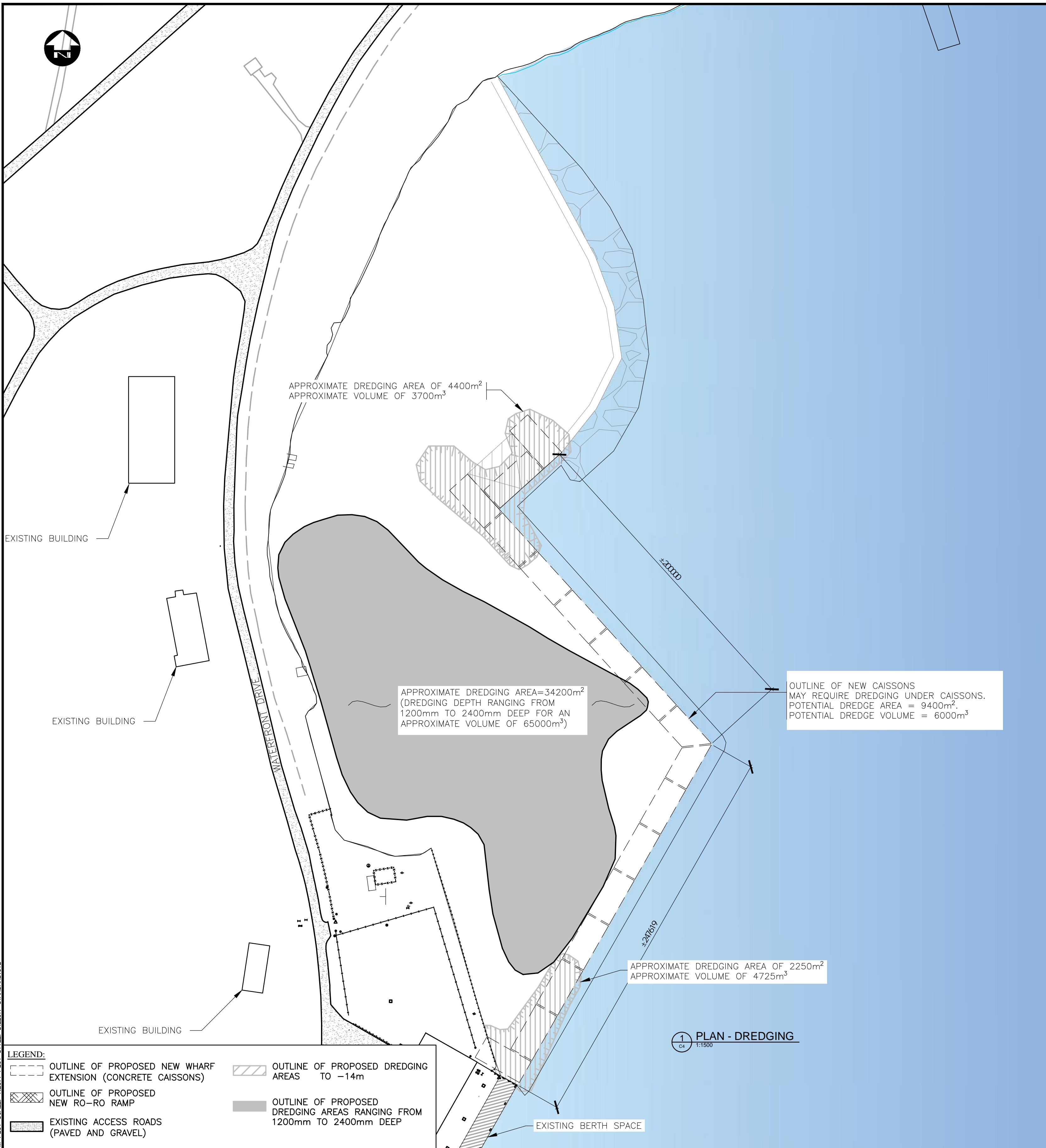
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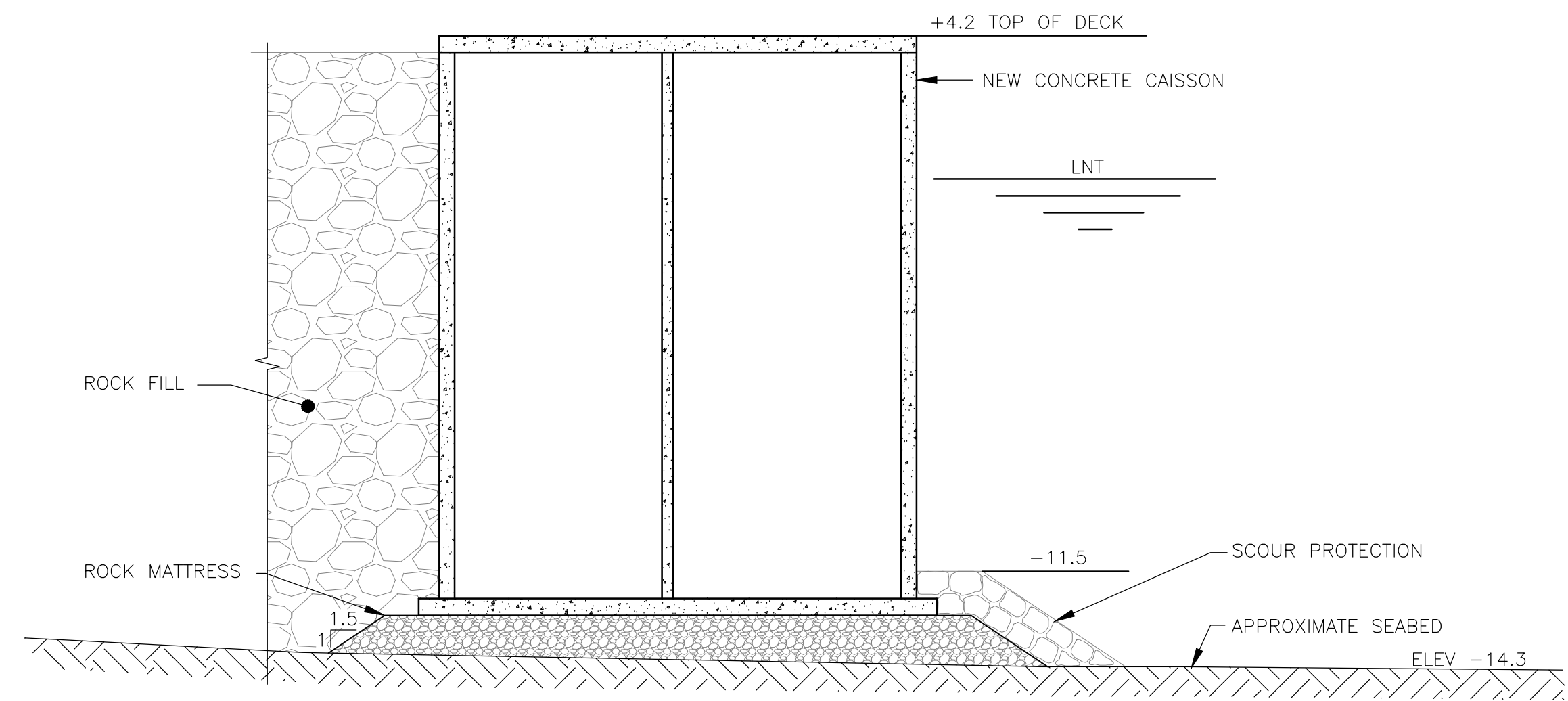
DESIGN	S. PEARCE	REVIEWED BY	S. PEARCE
DRAWN	D. BOWERING	CHECKED BY	D. BOWERING
DATE	MAY 2023		
SCALE	AS SHOWN		
No.	ISSUED FOR	DATE	BY
0	ISSUED FOR FINAL	24-AUG-2023	DSB

COOPER COVE COOPER COVE MARINE TERMINAL EXPANSION		PROJECT NO. 21-3088-1401
INFILL AREAS		SHEET NO. C3

FILENAME: C:\CADD\DWG\BOWERING\21-3088-1401-COOPER COVE MARINE TERMINAL EXPANSION\FIGURE 4 - DREDGING AND SECTIONS (LARGE DREDGING AREA).DWG - PLOTTED BY: BOWERING, DANIELLE
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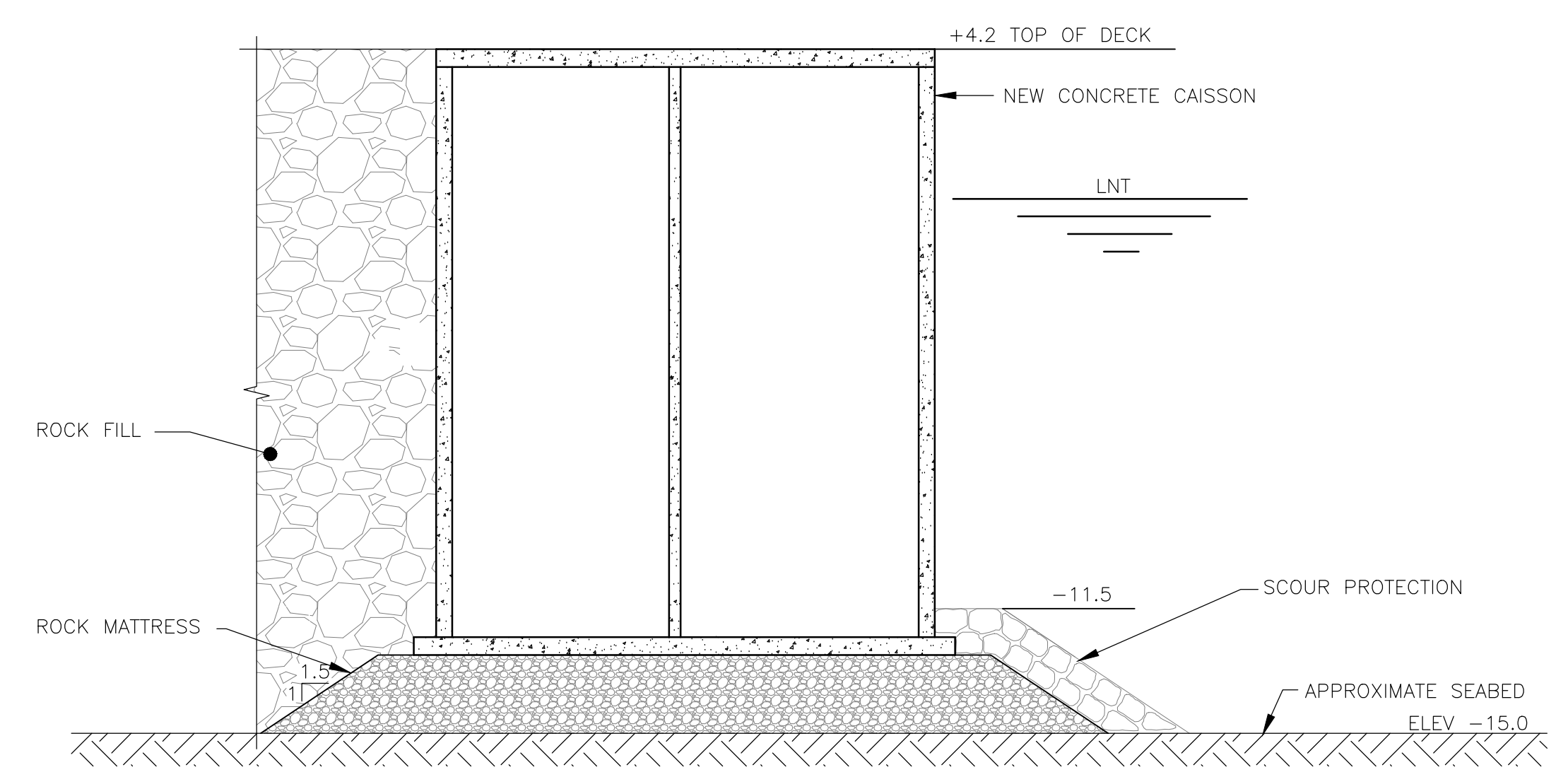


1 PLAN - DREDGING
1/1500



NOTE: SECTION IS SHOWN WITHOUT DREDGING AREAS REMOVED.

2 SECTION - NEW CAISSON
1:150



NOTE: SECTION IS SHOWN WITHOUT DREDGING AREAS REMOVED.

3 SECTION - NEW CAISSON
1:150

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DATE	MAY 2023		
SCALE	AS SHOWN		
ISSUED FOR FINAL	24-AUG-2023	DSB	
No.	ISSUED FOR	DATE	BY

COOPER COVE COOPER COVE MARINE TERMINAL EXPANSION		PROJECT NO. 21-3088-1401
DREDGING AND SECTIONS		SHEET NO. C4

3.5 Capacity Estimate

The proposed PDA within the port of Argentia with access to major North Atlantic shipping lanes, making it a crucial hub for daily cargo movement, access to resources and business and within proximity essential services like repairs, supplies, housing, and other amenities for the site's 40 tenants.

Over the next five years, the Port is expected to handle approximately 540,000 tonnes of cargo, with an average of 245 vessels. This volume is projected to grow significantly, reaching an estimated 371 vessels and around 907,405 tonnes of cargo by 2052.

During operations, the total annual direct employment is expected to be in the 600 - 800-person range, with another 300-400 indirect and direct jobs expected to be generated.

3.6 Preliminary Schedule

The POA is leading the expansion project with a 25-month environmental approval process to align with construction timelines and meet the April 2028 deadline set by Transport Canada's National Trade Corridors Fund. If an Impact Assessment becomes necessary, the schedule will be adjusted to accommodate all its phases. Construction is scheduled to begin in July 2025, spanning 29 months post-environmental approvals. The stages expected for the design, construction and commissioning stages are shown in Figure 5 below.

3.7 Potential Alternatives

3.7.1 Alternative Means of Carrying Out the Project

As part of the feasibility phase of this Project, alternative designs were evaluated for two wharf face layouts:

- **Option A:** a straight extension of the fleet dock; and
- **Option B:** which features a bend needing less infill.

The infill costs were estimated at \$5.2 million for Option A and \$2.4 million for Option B. Alternate locations were not considered, as the proposed PDA is a natural extension of the existing wharf structure. To maintain a seamless operation, the new work area must be adjacent with the current port. Option B was selected as the most technically and economically feasible design alternative for the proposed Project.

Proposed Project Schedule

Task/Milestone	2023												2024												2025												2026												2027												2028			
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
0.0 Start Date																																																																
1.1 Geotechnical - Phase 1																																																																
1.2 Geotechnical - Phase 2																																																																
1.3 Environmental ¹																																																																
1.4 Stakeholder Engagement & Project Scoping																																																																
1.5 Pre-Design to 33%																																																																
1.6 RFQ Process ²																																																																
1.7 RFP Process																																																																
1.8 Contractor Selection/mobilization/start up meetings																																																																
2.0 Construction Start																																																																
2.1 Fabrication/construction of caissons & Ro-Ro-Ramp																																																																
2.2 Dredging operations																																																																
2.3 Caisson Installation fleet dock																																																																
2.4 Caisson Installation New wharf face																																																																
2.5 Ro-Ro Ramp Installation																																																																
2.6 Infill (fleet dock and new wharf face)																																																																
2.7 Armour Stone placement																																																																
2.8 Additional infill adjacent to Ro-Ro Ramp																																																																
2.9 Site grading																																																																
3.0 Commissioning/deficiency checks/demob from site																																																																
3.1 Operation																																																																

Legend

- Planning
- Procurement
- Construction
- Operation
- Possible timeline for a full impact assessment
- ◆ Milestone 1: Ro-Ro ramp and caissons
- ◆ Milestone 2: Fleet dock extension and infill
- ◆ Provincial Environmental Assessment Process (Project-specific timelines may be applicable)



In addition, the following short-term cost-effective alternatives means were considered:

- **Floating Barges and Jetties:** Considered a short-term measure, are platforms for spooling equipment to ensure operational flexibility; and
- **Mooring Dolphins:** Evaluated as potential anchoring points for ships during construction, offering an innovative solution that could defer the need for a major terminal extension in the interim.

While these alternatives were assessed and recognized for their potential to navigate short-term challenges and ensure operational continuity during construction at the Port, they failed to deliver a solution to meet the anticipated diversification of the Port's services and the anticipated increase in vessel and cargo traffic in the long term.

During the planning phase of the Project, the POA will evaluate alternatives to determine the most feasible and cost-effective design that would meet the Project's requirements while carefully considering environmental aspects to ensure that the expansion aligns with responsible and sustainable development framework. These alternatives encompass a wide range of aspects, including:

- **Site Access and Road Placement:** Exploring the most efficient layouts to ensure seamless movement while minimizing environmental impact.
- **Underground Infrastructure:** Designing systems that ensure sustainability, safety, and longevity.
- **Aggregate Supply Sources and Storage:** Identifying reliable and sustainable sources for aggregates and designing effective storage solutions.
- **Dredging Methods:** Adopting techniques that are both efficient and environmentally conscious.
- **Waste Management Practices:** This involves not just disposal, but also a strong emphasis on material recycling, ensuring a circular economy approach.
- **Aquatic Offsetting and Compensation Strategies:** Ensuring any aquatic impact is balanced with strategies that restore and enhance aquatic ecosystems.
- **Effluent Discharge Procedures:** Establishing systems that prioritize the purity of discharges, safeguarding water bodies.
- **Resource Utilization:** Implementing measures to ensure the most efficient use of resources, minimizing wastage and optimizing outputs.

3.7.2 Alternatives to the Project

When considering the expansion of the existing wharf facilities at the port, the POA has explore various alternatives to ensure the optimal path forward is chosen that aligns with environmental, economic, and technical viability. Following are the alternatives to the Project that were explored, keeping the overarching goal and purpose of the project in mind.

- **'Do Nothing' Approach:**
 - **Description:** This approach would involve retaining the current infrastructure without any enhancements or expansions.
 - **Evaluation:** Although this would have the least immediate environmental and financial implications, it wouldn't meet the project's purpose of enhancing berthage capabilities and

accommodating the forecasted increase in cargo and vessel traffic. Economically, in the long run, this could result in lost opportunities for growth and might not support the evolving needs of the region.

- **Utilization of Alternative Ports:**
 - **Description:** Another approach could be diverting some of the cargo and vessel traffic to other ports within the region.
 - **Evaluation:** While this might alleviate some of the immediate pressures on the port, it would not foster focused economic growth for the POA. Additionally, relying on external ports might not be economically viable in the long run due to transportation costs, potential delays, and logistical challenges. It also aligns differently with the project's purpose of strengthening the POA capabilities.
- **Modular Expansion Over Time:**
 - **Description:** The port could consider phased or modular growth instead of a comprehensive expansion. This would involve expanding the port in smaller increments over a longer period.
 - **Evaluation:** This approach might be less costly in the short term and might reduce immediate environmental impacts. However, it may not efficiently provide a solution for the anticipated rapid increase in vessel and cargo traffic. Incremental developments might also result in intermittent disruptions to port activities.
- **Technological Enhancements without Physical Expansion:**
 - **Description:** Leveraging advanced technologies to optimize the current operations of the port without expanding its physical infrastructure.
 - **Evaluation:** While technology can enhance operations to a degree, the physical constraints of berth space and quayside infrastructure still pose limitations. The Project's primary objective of addressing these physical constraints might not be fully realized with this alternative.
- **Collaborative Operations with Nearby Ports:**
 - **Description:** Form strategic partnerships with nearby ports to handle cargo and vessel traffic collaboratively.
 - **Evaluation:** While this might help in distributing the traffic and economic benefits, there are other solutions to the specific needs of the POA. Furthermore, the complexity of multi-port coordination might introduce new challenges.

In summary, while several alternatives can be considered, it is important to weigh them against the specific needs and objectives of the Project. The primary focus remains on revitalising the POA capabilities and ensuring its readiness to meet the evolving demands of the region.

4.0

Part D: Location Information and Context

The proposed PDA is located within Argentia in the inner section of Argentia Harbour in Newfoundland and Labrador. Positioned on the Argentia Peninsula, approximately 130 km southwest of St. John's, the project strategically leverages the proximity of surrounding communities like Fox Harbour, Saint Brides, and Placentia, offering essential services and accommodations. Spanning 319 hectares of harbor lands, the PDA is under the ownership and operation of the Port of Argentia following a 2022 "Agreement to Transfer" Parcel 2021-2 from the Public Works and Government Services. Zoned as 'Industrial' according to the Town of Placentia's Development Regulations and situated within the 'Transportation' classified marine water lot, the project aligns seamlessly with established land-use guidelines and regulations, making it exceptionally well-suited for development in this region.

4.1

Geographic Coordinates

The expansion of the existing fleet dock is proposed to commence at coordinates N5243008.89, E274755.81, marking the Project's starting point. The expansion will proceed until it reaches its end point at N5242739.41, E274633.14, where the new wharf face begins (Table 4). This new wharf face will then extend towards the state-of-the-art Ro-Ro ramp, located at N5242609.3, E274727.78.

Table 4: Proposed Geographic Coordinates

Location	Longitude	Latitude	Easting (m) NAD83	Northing (m) NAD83
Fleet Dock Expansion Start	-53.979667902358855	47.301796614893	E274755.81	N5243008.89
Fleet Dock Expansion Stop/New Wharf Face Begins	-53.981152150804235	47.299332861310354	E274633.14	N5242739.41
New Wharf face Ends	-53.97983624381367	47.298196220654035	E274727.78	N5242609.3

4.2

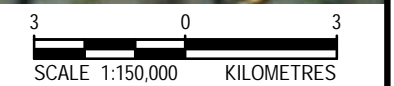
Projects Proximity to Residence and Nearby Communities - Community Profile

The Project is located in Argentia, a seaport located within the town of Placentia, which consists of the port of Argentia (Argentina Industrial Park), Townside Placentia, Freshwater, Gallardin Point, Dunville, Southeast Placentia, Point Verde, and Jerseyside. Other nearby municipalities include the towns of Fox Harbour, Saint Brides, and Long Harbour-Mount Arlington Heights (see Figure 6).

Based on the 2021 and 2016 Census, the current demographics of these municipalities is as follows in Table 5.



FILENAME: C:\CAD\DWG\BOWERING\21-3088-1401-COOPER COVE\CAD FILES FOR REVIEWS SENT TO TRANSLATOR\FINAL FIGURE 6 - SUBJECT AND COMMUNITIES.DWG PLOTTED BY: BOWERING, DANIELLE
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COOPER COVE COOPER COVE MARINE TERMINAL EXPANSION		PROJECT NO. 21-3088-1401
PROJECT LOCATION AND SURROUNDING COMMUNITIES		SHEET NO. C6

Table 5: Community Demographics

Municipality	Population (2021 ¹)	Population (2016)	% Change, 2016 to 2021	Age	Gender
Placentia	1,338	1374	-2.6%	125: 0-14 yrs ² 680: 16-64 yrs 525: 65+ yrs 60: 85+ yrs	670 M 665 F
Fox Harbour	226	252	-10.3%	15: 0-14 yrs 140: 16-64 yrs 65: 65+ yrs 30: 85+ yrs	125 M 100 F
Saint Brides	318	252	+26.2%	15: 0-14 yrs 180: 16-64 yrs 120: 65+ yrs 10: 85+ yrs	175 M 140 F
Long Harbour- Mount Arlington Heights	185	250	-26%	10: 0-14 yrs 95: 16-64 yrs 80: 65+ yrs 5: 85+ yrs	100 M 90 F
Total	2067	2,128	-3%	N/A	

¹ Source for 2021 and 2016: <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?LANG=E&GENDERlist=1,2,3&STATISTIClist=1&DGUIDlist=2021S05101575,2021A00051001254,2021A00051001228,2021A00051001263&HEADERlist=37,36,,21,19,,42,44,40,43,41&SearchText=long%20harbour>

² Yrs = Years; N/A = Not Applicable

Port of Argentia

Cooper Cove Marine Terminal Expansion Project

Detailed Project Description Part G – Newfoundland and Labrador

March 2024 - 21-3088



The total population between these four municipalities is 2,067, down 3% from 2016. Communities tend to be generally balanced between genders, however there are more males than females. The majority of the population is within working age (16-64 years old), with those 65+ making up most of the remainder. Of the 2,067 people residing in these municipalities, 2021 Census data indicate 15 are Indigenous (Statistics Canada 2023).

Average household income levels were not available for Fox Harbour or Long Harbour-Mount Arlington Heights. Based on the average household income levels for Placentia and Saint Brides, it is assumed that average household income levels in this area are around \$54,000. Additionally, the majority of the population of these municipalities have a high school degree (or equivalent) or higher.

Based on the 2021 Census, the current labour and employment of these municipalities is as follows in Table 6.

4.3 Projects Proximity to Lands of Significant for Indigenous Peoples

Located at the mouth of Conne River's on Newfoundland's south coast, the Miawpukek First Nation is approximately 224 km away from the service hub of Gander, Newfoundland. Established in 1987 as a reserve, Miawpukek has witnessed rapid growth and development. The community, accessible by land, air, and water, boasts a total population of 3,100 as of April 2023, with 835 members residing in the Conne River reserve and an additional 2,263 living outside the reserve.

Established in 2011 under the Indian Act, the Qalipu First Nation is a Mi'kmaq Indigenous Band. While the Qalipu do not possess any reserve land, their collective representation of 67 Mi'kmaq communities in Newfoundland positions them as one of Canada's largest First Nations groups. This "landless band" is divided into nine electoral wards on the island's west or northern coasts. The membership, now exceeding 25,000 as of April 2023, spans various communities in the province. Their historical presence stretches from western to central Newfoundland, and they currently represent the nine Mi'kmaq bands formerly under the Federation of Newfoundland Indians (FNI).

4.4 Projects Proximity to Federal Lands

A Marine Navigation Light (property number 34873) located within Argentia, is a federally owned property, and the closest to the PDA, situated about 2 km away which is operated by Fisheries and Oceans Canada, followed by a crown owned radio facility (property number 34849) located approximately 5 km from the PDA. The Miawpukek First Nation is roughly a 500 km drive from the PDA.

Table 6: Labour and Employment

Municipality	Median Household Income (2020 ³)	Unemployment Rate	Education	Total Population with a High School Degree (or higher)
Placentia	\$53,600	19%	260: High School Diploma (or equivalent) 555: Post-Secondary certificate, diploma, or degree 100: Bachelor's Degree or higher	915 (of 1338)
Fox Harbour	N/A	31%	75: High School Diploma (or equivalent) 85: Post-Secondary certificate, diploma, or degree 0: Bachelor's Degree or higher	160 (of 226)
Saint Brides	\$54,400	39%	145: High School Diploma (or equivalent) 90: Post-Secondary certificate, diploma, or degree 15: Bachelor's Degree or higher	250 (of 318)
Long Harbour-Mount Arlington Heights	N/A	31.8%	45: High School Diploma (or equivalent) 130: Post-Secondary certificate, diploma, or degree 15: Bachelor's Degree or higher	190 (of 185)*

*population data from 2021 Census may not be accurate.

³ Source: <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?LANG=E&GENDERlist=1,2,3&STATISTIClist=1&DGUIDlist=2021S05101575,2021A00051001254,2021A00051001228,2021A00051001263&HEADERlist=37,36,9,,21,19,,42,44,40,43,41,1&SearchText=long%20harbour>

5.0 Physical and Biological Environmental Setting

5.1 Climate, Air Quality, Noise, Light

According to the most recent data available from Canadian climate normals from 1991-2020 from the Gander station, the daily average temperatures in the area ranges from a low of -6.6°C to a high of 16.6°C , with extreme temperatures recorded as low as -31.1°C and as high as 35.6°C . On average, Gander receives approximately 103 mm of precipitation annually.

The Port of Argentia serves as an active marine port, and its emissions mirror the daily marine traffic, industrial undertakings, and vehicular movement. Noise levels within the port are influenced by areas actively engaged in the loading and unloading of goods, machinery operations, ship engines, and vehicle traffic. Given that the port might operate round-the-clock, overhead lights, ship lights, and facility illumination are consistently used.

5.2 Physiography and Geology

The PDA is positioned entirely within the Port of Argentia marine water lot which is zoned for transportation purposes. The land parcel is zoned for industrial use and predominantly features native gravel, cobble, and boulder material, complemented by low and sparse shrubby vegetation. The proposed infill and wharf development area has an artificial shoreline extending eastward towards Cooper Cove water lot.

Geologically, the PDA is identified as a Marine-terrace, as per the provincial government's classification of the Landforms and Surficial Geology of the Argentia Map Sheet. The site comprised clay, silt, sand, gravel, and cobble. These materials predominantly originate from erosion and marine wave activity acting upon glacially deposited sediments.

5.3 Surface Water and Groundwater

The Port of Argentia receives domestic water from the Placentia municipal water supply. While Husky Energy operates a settling pond in the northwestern part of the Port of Argentia industrial site, this water is not anticipated to be utilized for construction or operational activities at the PDA. Surface and groundwater from the PDA align with the local terrain, flowing towards the downslope towards the marine waterlot.

5.4 Terrestrial Environment

The PDA is located within the Maritime Barrens Ecoregion, characterized by its limited forest cover, primarily consisting of shrubs like alder and conifers like black spruce. The industrial nature of the site

has resulted in a sparse presence of terrestrial mammals. However, the broader Argentia area is home to various animals, including otters, muskrats, moose, rodents, snowshoe hares, minks, foxes, and masked shrews.

In terms of avian life, Placentia Bay hosts a diverse range of birds with approximately 26 species of seabirds, 13 species of waterfowl, 10 species of shorebirds, and 7 raptor species. Notably, the Cape St. Mary Ecological Reserve is situated approximately 75 km away from the PDA.

5.5 Aquatic Environment

The PDA is located within the Placentia Bay - Grand Banks Integrated Management Area and the expansive Large Ocean Management Area, which covers approximately 550,000 km² of the Atlantic Ocean. This is a significant area for Canada, recognized as a priority for Integrated Management due to the surge in human activities, hence being identified as a Coastal Management Area. Also, the locale falls under the Newfoundland and Labrador Shelves Ecozone and the Atlantic Zone Monitoring Program. Placentia Bay is active with year-round fisheries and serves as a habitat for diverse species such as Atlantic Cod, American Eel, barnacles, mussels, hermit crabs, and lobsters.

5.6 Species at Risk

In a historical environmental assessment in 2012 for a nearby projects, no significant nesting, feeding, or overwintering areas for at-risk bird and mammal species were found in the nearshore area. However, a 2021 Baseline Marine Sediment Sampling Program and Multibeam Survey revealed seven rare animal records in the Argentia Harbour vicinity. This included three records for Short-eared Owls and one for a Harlequin Duck, both designated as special concerns under the Committee on the Status of Endangered Wildlife in Canada and vulnerable under the provincial Endangered Species Act. Six rare plant records were also identified near Argentia, with three being Water Pygmyweed, also recognized as vulnerable under the provincial Endangered Species Act.

Fast forward to 2023, a search of the Atlantic Canada Conservation Data Centre findings indicated potential Species of Conservation Concern (SoCC) within a 5 km radius of the Project area (Table 7, Appendix B). This encompassed specific plants, such as the Water pigmy-weed and the Sago Pondweed, and birds like the Short-eared Owl and Harlequin Duck. Fish species of conservation concern in Placentia Bay could include the Atlantic Cod and the American Eel. Additionally, certain marine mammals might be present in Placentia Bay and Cooper Cove, including the Blue Shale and the Harbour Porpoise. Although, Atlantic Canada Conservation Data Centre 2023 projections suggested that species like the Boreal felt lichen and Rusty blackbird might be within 5km of the site, no direct observations confirmed their presence.

Table 7: Species at Risk within 5 km radius of the Project

Common Name	Scientific Name
<i>Plants</i>	
Water pigmy-weed	<i>Crassula aquatica</i>
Sago pondweed	<i>Stuckenia pectinata</i>
Maritime sea-blite	<i>Suaeda maritima</i>
Southern Running-Pine	<i>Diphasiastrum digitatum</i>
Boreal Felt Lichen	<i>Erioderma pedicellatum</i>
<i>Animals</i>	
Short-eared Owl	<i>Asio flammeus</i>
Harlequin Duck	<i>Histrionicus</i>
American Golden-Plover	<i>Pluvialis dominica</i>
Black-bellied Plover	<i>Pluvialis squatarola</i>
Horned Lark	<i>Eremophila alpestris</i>
Northern Harrier	<i>Circus hudsonius</i>
Lesser Yellowlegs	<i>Tringa flavipes</i>
Northern Harrier	<i>Circus hudsonius</i>
Greater Yellowlegs	<i>Tringa melanoeuca</i>
Sanderling	<i>Calidris alba</i>
Red Crossbill	<i>Loxia curvirostra</i>
Rusty Blackbird	<i>(percna subspecies)</i>
Barrows Goldeneye	<i>Euphagus carolinus</i>
Atlantic Cod	<i>Bucephala islandica</i>
American Plaice	<i>Gadus morhua</i>
Atlantic Salmon	<i>Salmo salar</i>
Banded Killifish	<i>Fundulus diaphanous</i>
Blue Whale	<i>Balaenoptera musculus</i>
Fin Whale	<i>Balaenoptera physalus</i>
Harbour Porpoise	<i>Phocoena phocoena</i>
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>
North Atlantic Right whale	<i>Eubalaena glacialis</i>
White Shark	<i>Carcharodon carcharias</i>
Spotted Wolffish	<i>Anarhichas minor</i>
Northern Wolffish	<i>Anarhichas denticulatus</i>
White hake	<i>Urophycis tenuis</i>
Thorny skate	<i>Amblyraja radiata</i>
Acadian redfish	<i>Sebastes fasciatus</i>

5.7 Social, Economic and Health Context

5.7.1 Site History

Argentia, originally used as a small fishing port by local residents, was expropriated and developed into a base for the United States Navy during World War II. Over the years, it has evolved into a busy center for diverse industries. Presently, it plays a pivotal role in supporting sectors such as transportation, container shipping, renewable and offshore energy, seafood, and metal smelting, including nickel, copper, and cobalt.

Since the closure of the Argentia Naval Base in 1994, there has been a noticeable pause in marine infrastructure development. However, with the current wharf fully utilized, there's a clear vision for growth. Addressing the current constraints, there is an ambitious plan to expand the available wharf space and enhance the options for quayside facilities.

5.7.2 Social Context

The Placentia Bay region, situated on the southeastern coast of Newfoundland, is home to 3,289 residents, with a population density of 56.9 per square kilometre. The area's diverse terrain offer ample recreational opportunities for both locals and tourists, including fishing, trapping, camping, and hunting. While there are no First Nations lands within the vicinity of the PDA, the reserve lands of Miawpukek First Nation are located roughly a 500 km drive away. However, Placentia Bay does include several Food, Social and Ceremonial and Commercial Fisheries (FSCC). Lastly, the Castle Hill National Historic Site is 5 kilometres from the PDA, and the Cape St. Mary's Ecological Reserve is about 75 kilometres away.

5.7.3 Economic Context

The Port of Argentia has been pivotal to Newfoundland and Labrador's economic growth, particularly when the Hibernia oil platform's construction in the 1990s ushered in new economic avenues. The current Project, seen as a crucial economic asset, promises substantial employment, income, and trade prospects. The potential for the Project is significant, with the anticipation of 315 person-years of direct employment and a surge of up to 800 jobs during its construction phase.

In collaboration with Strategic Concepts, Incorporated, the Port of Argentia developed a comprehensive economic impact estimate using models based on projected capital and operating expenditures for the Project. The findings were significant. Over a span of three years, the estimated impact is 805 person-years of employment, of which 670 person-years will benefit Newfoundland and Labrador directly. Capital expenditure impacts are expected to unfold over 6-8 years, yielding approximately 20,000 person-years of employment over a decade, with 11,000 in Newfoundland and Labrador. Once operational, the Project is set to provide 600-800 direct jobs and an additional 300-400 indirect and induced jobs within Newfoundland and Labrador.

5.7.4 Health Context

The Placentia Health Care Centre currently support the Placentia Bay region. As the primary healthcare facility in the area, it offers a comprehensive range of services tailored to meet the diverse health needs of its residents. From general medicine to specialized care, the center ensures that the community has access to timely and quality healthcare close to home.

With the start of the Project, there is more than just economic growth on the horizon; there is the prospect of a healthier future for the community. The Project has the potential to strengthen the healthcare infrastructure through a surge of economic stimulus and population growth, allowing for advancements in medical technology, recruitment of specialized professionals, and expansion of the facility's service offerings. Additionally, by generating more employment opportunities and increasing the average income of residents, the Project can play a pivotal role in reducing poverty.

6.0 Part E: Federal, Provincial, Indigenous and Municipal Involvement and Effects

6.1.1 Federal Funding or Federal Lands

The estimated cost of the Cooper Cove Marine Terminal Expansion Project is \$104 million. Funding for the expansion will be sourced from various channels. The National Trade Corridor Fund, administered by Transport Canada, has approved nearly \$38 million in funding for the Project components outlined in the "Marine Terminal Expansion - Port of Argientia Multi-Tenant Dock" comprehensive project proposal, and a contribution agreement is currently being drafted which will include only eligible activities for this funding. Additionally, the Port of Argientia will contribute up to \$21 million towards the Project and the Provincial Government contributing \$15.1 million as announced on December 19, 2023. As outlined in section 3.1 Pattern Energy's amended lease agreement stipulates the necessity of substantial capital investments, ranging from CAD\$20-30 million, to upgrade the port's infrastructure for an ammonia storage and export terminal. Additionally, if Pattern Energy chooses to exercise its leasing option and proceed with the development of a wind farm and a green hydrogen/ammonia terminal (contingent upon Pattern's discretion), the company has committed to providing financial support for the Cooper Cove Project, with the precise amount subject to reduction if additional third-party contributors participate in the project.

Table 8: Contributors to the Project

Cost Summary	Amount to be Contributed to the Project (\$CAD)
Eligible Costs (NTCF)	\$ 84,333,363
Ineligible Costs (NTCF)	\$ 19,766,650
Total Project Costs	\$ 104,100,013

Cost Summary	Amount to be Contributed to the Project (\$CAD)
Contributors	
Transport Canada, National Trade Corridor Fund	\$ 37,950,013
Pattern Energy	\$ 30,000,000
Port of Argentia	\$ 20,970,000
Government of NL	\$15,180,000
Total Contributions towards Eligible Costs	\$ 104,100,013

6.2 Authorities in Respect of the Project

When relevant, the POA will review, verify, and secure all necessary permits, licenses, and approvals before initiating the Project's construction. Below is a summary of the primary federal, provincial, and municipal legal frameworks expected to be relevant to the proposed Project.

The following is a list of the anticipated permits, licenses and approvals required for an undertaking of this nature.

6.2.1 Federal

The *Impact Assessment Act* (IAA) applies to Projects listed in the *Physical Activities Regulations* or those designated by the Minister. The *Physical Activities Regulations*, under its Section 53, encompasses the expansion of an existing marine terminal if the expansion requires the construction of a new berth designed to handle ships larger than 25,000 DWT and, if the berth is not a permanent structure in the water, the construction of a new permanent structure in the water. Therefore, this DPD is presented to meet the criteria for a specified Project, allowing IAAC to decide if this specific Project necessitates an impact assessment under the IAA.

Additionally, several federal permits, approvals, or other forms of authorization will likely be required following the completion of the impact assessment, as listed in Table 9.

Table 9: Federal Powers, Duties, or Functions of Federal Authorities in Respect of the Project

Powers, Duties, or Functions of Federal Authorities (Including Approvals/Permits/Authorizations)	Federal Authority
<i>Impact Assessment Act</i> - Impact Assessment	Impact Assessment Agency of Canada
* <i>Canadian Environmental Protection Act</i> – Disposal at Sea Authorization	Environment and Climate Change Canada
* <i>Canadian Navigable Waters Act</i> (CNWA) Authorization	Transport Canada
* Request for Review and possible <i>Fisheries Act</i> Authorization	Fisheries and Oceans Canada

Powers, Duties, or Functions of Federal Authorities (Including Approvals/Permits/Authorizations)	Federal Authority
Provision of Federal Funding through the National Trade Corridor Fund (NTCF) for approved scope of work in the Comprehensive Project Proposal	Transport Canada

*denotes permits that are dependent on design

6.2.2 Provincial

Upon review of the NL *Environmental Assessment Regulations*, 2003 list of designated undertakings, an environmental assessment (EA) may not be necessary for the proposed Project activities. Despite this uncertainty, the NLDECC-EAD has been consulted early in the planning and design stages to clarify these potential requirements. Table 10 provides a list of possible provincial permits and approvals needed before initiating specific construction tasks, all aimed at preserving Newfoundland and Labrador's natural resources. In addition, the POA is dedicated to following several regulatory approvals, including guidelines from the NLDECC-WRMD regarding the construction and maintenance of wharves, breakwaters, slipways, and boathouses.

If an EA is required, season-specific field studies may be necessary. The POA will consult with NLDECC regarding option for a cooperative impact assessment to reduce duplication and increase efficiencies in the review and Project approval process.

Table 10: Provincial Approvals, Permits, and Registrations Required for the Project

Provincial Approvals/Permits/Registrations	Provincial Agency
*Provincial Environmental Assessment	NL Department of Environment and Climate Change Environmental Assessment Department (NLDECC-EAD)
Permit to Alter a Body of Water	NL Department of Environment and Climate Change, Water Resources Management Division (NLDECC-WRMD)
Water Use License	NL Department of Environment and Climate Change, Water Resources Management Division (NLDECC-WRMD)
*Permit for Construction a Non-Domestic Well	NL Department of Environment and Climate Change, Water Resources Management Division (NLDECC-WRMD)
*Certificate of Approval for Storage and Handling of Gasoline and Associated Products/Used oil used glycol control regulations	Service NL
Certificate of Approval (Industrial Compliance)	NL Department of Environment and Climate Change, Pollution Prevention Division (NLDECC-PPD)

*denotes permits that are dependent on design

6.2.3 Municipal

The Cooper Cove Marine Wharf Extension Project is situated in the Municipality of Placentia. The area is zoned for both Industrial land use and transportation use, specifically for the marine water lot.

6.3 Federal Interests

The Project requires adherence to multiple federal acts such as the *Fisheries Act*, the *Species at Risk Act* (SARA), *Migratory Birds Convention Act* (MBCA) and the *Canadian Navigable Waters Act* (CNWA). The Fisheries Act, especially post-2019 amendments, mandates the prevention of "harmful alteration, disruption, or destruction" of fish habitats, permitting only those alterations that assure minimal impact and constructive offsetting of any negative effects through improvement and restoration of fish habitats. Additionally, the SARA, which categorizes species as extirpated, endangered, or threatened, necessitates assessments and permitting, ensuring any Project activities have minimal impact on the species and their habitats and that any adverse effects are not just incidental but are also mitigated.

Compliance with the MBCA and the CNWA is also required. The MBCA, which emphasizes the safeguarding of migratory birds, nests, and eggs, may necessitate coordination with the Canadian Wildlife Service (CWS) of Environment and Climate Change Canada (ECCC) to ensure that the Project activities, particularly those that might cause habitat disturbances or require vegetation removal, are timed to prevent disruption during critical breeding seasons or are justified and permitted by ECCC. Meanwhile, adherence to the CNWA ensures the unimpeded right to navigate in Canada's waterways, which requires a thorough navigation safety assessment and an approval from Transport Canada. Any works on navigable waterways requires public notification to enable input from local stakeholders and indigenous communities, thereby ensuring the project does not significantly impede navigation or ecological balance in the area. The integral role of these federal acts ensures that the Project prioritizes infrastructural development and ensures safety, ecological and environmental protection at its core.

6.4 Status Environmental Studies and Approvals

Project planning includes assessing environmental and socio-economic conditions in and around the PDA. Preliminary studies completed include:

- Infill feasibility study;
- Environmental screening of species at risk within a 5 km radius of the PDA;
- Benthic and Fish Habitat Study;
- Port Electrification Study;
- Assessment of potential residual effects during construction and operation; and
- Geotechnical and marine sediment sampling program.

Coordination with DFO will facilitate the underwater benthic habitat survey within Cooper Cove, with the technical report being integrated into the Project's approval process. Submissions of a Project-specific "Request for Review" application package to DFO and a CNWA authorization application to Transport Canada's Navigation Protection Program are also planned.

7.0 Part F: Potential Effects of the Project

7.1 Changes to Components of the Environment within Federal Jurisdiction

The Cooper Cove Marine Terminal Expansion is an infrastructure project with potential implications for various components of the local environment. In line with federal guidelines, the POA has conducted a preliminary evaluation of the potential impacts of this Project requiring legislative and regulatory approvals.

The preliminary assessment outlined in Section 5.2.1 addresses three primary environmental components: fish and fish habitat as defined in subsection 2(1) of the Fisheries Act; aquatic species, as outlined in subsection 2(1) of the Species at Risk Act; and migratory birds as defined in subsection 2(1) of the Migratory Birds Convention Act, 1994. Recognizing the potential for the Project's construction and operational activities to interact with these components, it's imperative to detail and understand any possible effects. This understanding forms the foundation for subsequent planning and potential mitigation measures outlined in Section 6.5.

7.2 Changes to the Environment on Federal and Transboundary Lands

In compliance with the *Canadian Environmental Assessment Act*, 2012, an evaluation of potential environmental changes that might arise from implementing the Project was completed through a preliminary impact assessment and environmental effects assessment as seen in Table 13.

As a result, no environmental changes are anticipated on federal lands as a direct or indirect consequence of the proposed Project. The Project is situated within the POA-tenured lands without any overlap with federal territories. Furthermore, the assessment has determined that there will be no environmental implications in provinces other than the one in which the Project is set to be conducted.

Additionally, the Project does not anticipate inducing any environmental shifts outside of Canada. All potential environmental interactions and effects are restricted within Canadian boundaries.

7.3 Changes to the Environment on Indigenous Peoples

The Port is committed to uphold the rights and interests of the Indigenous peoples of Canada, a preliminary assessment was undertaken regarding the potential impacts of the Project on Indigenous

communities, particularly the Miawpukek First Nation (MFN). Based on available public information and engagement efforts to date, no direct impact on the physical and cultural heritage of the MFN or any other Indigenous communities has been identified. It is important to note that the MFN reserve lands are located approximately 500 km by road from the PDA, which establishes a significant distance between the two areas.

7.4 Health, Social, or Economic Conditions

Taking into consideration the distance between the PDA and the MFN reserve lands, as well as data from public sources and engagement sessions with Indigenous communities, no notable changes to the health, social, or economic conditions of the MFN or other Indigenous peoples in Canada are projected as a result of the Cooper Cove Marine Terminal Expansion.

7.5 Preliminary Impact Assessment/Environmental Effects Assessment

The Port is providing an early assessment of how the project might affect important aspects of the environment, even though the laws under the IAA do not require it for the DPD. This extra step was taken to help the Agency make informed decisions according to a specific part of the IAA (Section 16(1)).

7.5.1 Selection of Valued Components

Valued components (VCs) are parts of the environment and social settings important to various groups, including regulatory agencies, local communities, and Indigenous people. Choosing these VCs considers laws, scientific factors, and guidelines. Also, advice and input from various meetings with regulatory bodies, the public, Indigenous communities, experts, and field observations are crucial in deciding which VCs are selected.

For the Project, the identified VCs include:

- Atmospheric Environment;
- Acoustic Environment;
- Potable Water Resources;
- Marine ecosystem (covering fish and their habitats);
- Freshwater environment (including fish and fish habitat);
- Wetlands and terrestrial vegetation;
- Terrestrial fauna and their habitats;
- Socioeconomic conditions;
- Human Health;
- Navigation;
- Heritage resources; and
- Indigenous Rights.

The core of the environmental/impact assessment lies in recognizing how the Project might overlap with these VCs, potentially leading to environmental impacts. Given that each phase of the Project has distinct activities and might have varying overlap with the VCs, the effects assessments for the construction and operation phases were conducted separately.

The assessment of possible environmental interactions with the VCs spans two primary areas: the Project Development Area (PDA) and the Local Assessment Area (LAA).

Project Development Area (PDA)

The Project Development Area (PDA) is defined as the area of physical disturbance (or physical footprint) associated with the Project. As outlined in Figure 7, the PDA consists of a total area of up to approximately of 10, 300 m² of the marine water lot extending from the existing wharf at the POA into Cooper Cove. Land use for this Project will be determined as part of the design-build stage.

Local Assessment Area (LAA)

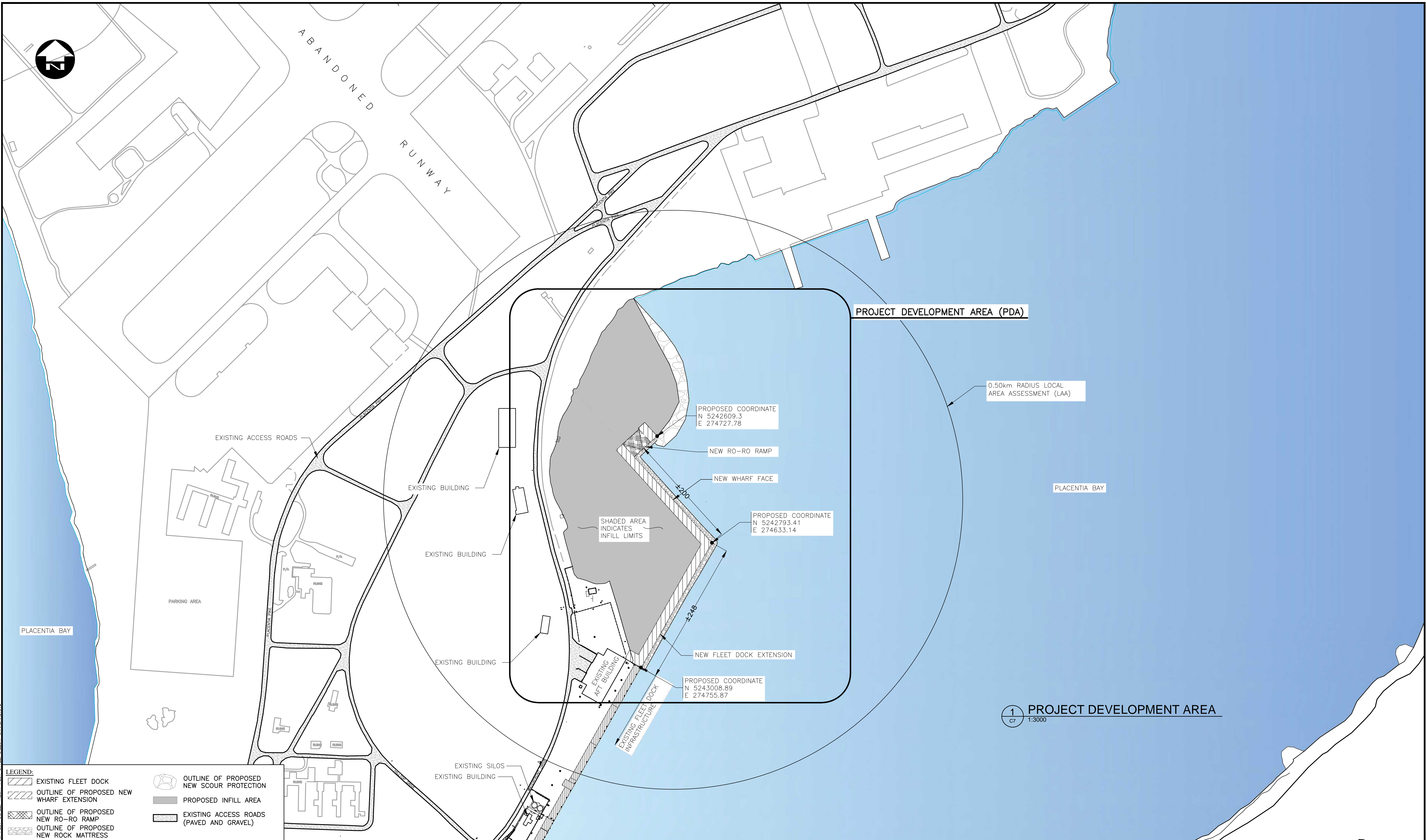
The local assessment area (LAA) is defined as the maximum area where Project-specific environmental interactions can be predicted and measured with a reasonable degree of accuracy and confidence (i.e., the “zone of influence” of the Project on each VC) as show in Figure 7. The LAA, which can vary by VC, is summarized for each VC in Table 13.

7.6 Project-Valued Component Interactions

A preliminary assessment, presented in Table 13, was conducted to determine potential interactions between the Project and each VC. Only those interactions predicted to result in a tangible negative impact on the VC underwent a preliminary assessment. VCs that still showed residual impacts post-mitigation were further evaluated for the significance of these effects (Table 13). Conversely, any impacts that did not indicate a substantive environmental change as a result of proposed activities required for the Project were not further assessed.

In identifying VCs and their interactions with a project, certain VCs are determined not to have anticipated interactions across any project phase, as highlighted in the table above. Notably, Potable Water Resources are not anticipated to be impacted by the Project activities, due to the nearest Public Water Supply Area, Larkin's Pond, positioned roughly 4km away. Similarly, due to the absence of freshwater watercourses within a 100m radius of the Project development area, interactions are not anticipated. Furthermore, given the heavily industrialized project location lacking vegetation and wetlands, no interactions are anticipated. These non-interacting VCs are acknowledged and considered in the subsequent environmental effects evaluation.

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 PLOT DATE: 2023-08-23 3:22:48 PM PLOT SCALE: 1:3000 PLOT STYLE: DILLON-STANDARD.CTB



LEGEND:

	EXISTING FLEET DOCK		OUTLINE OF PROPOSED NEW SCOUR PROTECTION
	OUTLINE OF PROPOSED NEW WHARF EXTENSION		PROPOSED INFILL AREA
	OUTLINE OF PROPOSED NEW RO-RO RAMP		EXISTING ACCESS ROADS (PAVED AND GRAVEL)
	OUTLINE OF PROPOSED NEW ROCK MATTRESS		

Conditions of Use
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DESIGN	S. PEARCE	REVIEWED BY	S. PEARCE
DRAWN	D. BOWERING	CHECKED BY	D. BOWERING
DATE	MAY 2023		
SCALE	AS SHOWN		
ISSUED FOR	24-AUG-2023	DATE	DSB

COOPER COVE COOPER COVE MARINE TERMINAL EXPANSION		PROJECT NO. 21-3088-1401
PROJECT DEVELOPMENT AREA LOCAL AREA ASSESSMENT		SHEET NO. C7

All other VC's have been evaluated to determine the significant of residual impacts and environmental effects in Table 13. The descriptors that will be used to assess the significance of impacts/environmental effects are provided in Table 14.

Table 11: Project Interactions with Value components (VC) of the Environment

Valued Component (VC)	Project Phases				
	Construction				Operation
	<u>Phase 1</u> Dredging	<u>Phase 2</u> Caisson Placement	<u>Phase 3</u> Infilling	<u>Phase 4</u> Top-side Infrastructure	
Atmospheric Environment	✓	✓	✓	✓	✓
Acoustic Environment	✓	✓	✓	✓	✓
Potable Water Resources					
Marine Environment (Including Fish and Fish Habitat)	✓	✓	✓	✓	✓
Freshwater Environment (Including Fish and Fish Habitat)					
Wetlands and Terrestrial Vegetation					
Terrestrial Wildlife and Wildlife Habitat					✓
Indigenous Rights*	✓	✓	✓		✓
Socioeconomic Environment	✓	✓	✓	✓	✓
Human Health	✓	✓	✓	✓	✓
Navigation	✓	✓			✓
Heritage Resources	✓				

7.7

Greenhouse Gas Emissions Associated with the Project

The Project anticipates producing GHG emissions in construction, mainly from heavy machinery and vehicles as outlined in the 2023 National Inventory Report. The amount of greenhouse gas emissions from the construction work was estimated to be 22,511 tonnes of carbon dioxide equivalent. It is important to mention that this estimate specifically looked at the emissions caused by the construction activities and didn't include any details about how much fuel or electricity would be used on the site or how the equipment would operate. Because of this, an assessment of the emissions for the regular day-to-day operations of the project could not be completed at this time. The POA will conduct an additional study to gather a baseline inventory of its GHG emissions for operations.

During the operation phase, the Project commits to reducing its carbon footprint and operating newly built marine infrastructure with as little carbon emission as possible. The Port will actively encourage tenants to use practices that produce little to no emissions, further reducing GHGs. The Port will also host renewable energy companies, indirectly supporting global GHG reduction efforts.

While considering these actions and the dedication to include improved emissions reduction technologies when they're available, the Project aims to lessen its environmental impact and promote practices that are good for the environment throughout the building and operation phases.

The POA has also begun an Electrification Study that is designed to outline a comprehensive strategy aimed at reducing carbon emissions throughout the port's lifespan, from its current operations to eventual decommissioning. This initiative begins with a workshop where key personnel and stakeholders will come together to outline the study's goals, set up data collection methods, and review relevant decarbonization standards and policies. A crucial early task is to compile a detailed inventory of the Port's energy usage and greenhouse gas (GHG) emissions, establishing a baseline that covers everything from the facilities' infrastructure to their operational activities. The study will then move to assess the impact of carbon sinks, explore opportunities for decarbonization and electrification across various time frames, and recommend the best technologies and practices to facilitate the transition to electrified port operations.

As the study progresses, it will analyze potential emission reduction measures, including adopting innovative technologies and alternative energy sources to enhance the sustainability of port operations. A significant focus will be on evaluating the Port's fleet for electrification and assessing the feasibility, costs, and benefits through an Energy System Optimization model, which will also be used for further analysis and sensitivity testing by POA staff. Toward the end of the study, it will identify necessary management system controls, implement new policies, and ensure continuous adherence to environmental standards such as the Green Marine Certification. This holistic approach aims not only to transition POA towards a more sustainable operational model but also includes planning for a net-zero future beyond 2050, marking a significant step towards minimizing its carbon footprint.

7.7.1 Wastes and Emissions

Table 12 offers a breakdown of the anticipated waste products and emissions that are projected to arise during the project's construction and operational stages. This overview aims to give stakeholders a clear understanding of potential environmental considerations throughout the Project's lifecycle.

Table 12: **Anticipated Waste/Emissions**

Environmental Component to which Emissions and Wastes are Released	Applicable Project Phase	Type/Source or Emission or Waste
Air	Construction	<ul style="list-style-type: none"> • Dust emissions • Emissions from heavy equipment • Noise • Light
	Operation	<ul style="list-style-type: none"> • Dust emissions • Emissions from heavy equipment • Noise • Light
Land	Construction	<ul style="list-style-type: none"> • Solid waste • Regulated industrial solid • Vibration
	Operation	<ul style="list-style-type: none"> • Solid and domestic waste • Regulated industrial solid • Vibration
Water	Construction	<ul style="list-style-type: none"> • Temporary increased sedimentation • Liquid waste • Domestic sewage • Storm water runoff
	Operation	<ul style="list-style-type: none"> • Storm water runoff

Table 13: Summary of Potential Residual Effects during Construction and Operation, and Significance Determination

Valued Component (VC)	Potential Effects (Without Mitigation)	Mitigation Measures	Residual Effects (After Mitigation has been applied)	Characterization of Residual Effect	Significance	Confidence
Atmospheric Environment	<p><u>Construction</u></p> <ul style="list-style-type: none"> -Emissions of combustion gases from the combustion of fossil fuels by heavy equipment and vehicles associated with on-site construction activities and from transport of materials on- and off-site could result in air contaminants that could disperse in the atmosphere to off-site receptors. -Emissions of fugitive dust from earth moving activities, and from transport of materials on- and off-site during construction activities could be generated and disperse in the atmosphere to off-site receptors. -The combustion of fossil fuels from the operation of mobile equipment and on-site trucks during construction activities could result in emissions of greenhouse gases. <p><u>Operation</u></p> <ul style="list-style-type: none"> -Emissions of combustion gases and greenhouse gases from the combustion of fossil fuels by heavy equipment and vessels associated with the operation of the Project could result in air contaminants that could disperse in the atmosphere to off-site receptors. -Marine vessels using of auxiliary engines while at berth and increased vehicle traffic. 	<ul style="list-style-type: none"> -Monitoring of weather (wind conditions and storm events) and stabilization of construction materials to minimize airborne fine particulate matter. -Vehicles and equipment will be maintained in proper working order. -A non-idling policy will be implemented and followed. -Adopting best management practices during construction such as minimization of the quantity of aggregate stockpiled at the construction site, minimizing drop distances for material transfer, and appropriate stockpile formation (slope angles and direction). -Complete Port Electrification Study. -Complete baseline assessment and SACC if required. -Water will be used to reduce dust, as necessary. Chemical dust suppressants will not be used at the proposed PDA. 	<p><u>Construction</u></p> <ul style="list-style-type: none"> -Interactions between the Project and the atmospheric environment are expected to be primarily related to the operation of heavy mobile equipment and vehicles as well as the transport of materials on- and off-site. These activities have the potential to result in changes to the local air quality through the generation of emissions of fugitive dust and particulate matter from material movement as well as combustion emissions associated with the combustion of fossil fuels in heavy equipment. -Emissions of combustion gases from the combustion of fossil fuels by heavy equipment and vehicles during on-site construction activities and from transport of materials on- and off-site will be mitigated by implementing a non-idling policy and ensuring that equipment is in good working order. -Similarly with emissions of combustion gases, the emissions of greenhouse gases from the operation of mobile equipment and on-site trucks during construction activities will be mitigated by a anti-idling policy. Equipment will also be in good working order which will also keep emissions of GHGs as low as possible. <p><u>Operation</u></p> <ul style="list-style-type: none"> -Although an increase in emissions due to operational capacity increases are expected; the POA will be looking at options for electrification at the POA. 	<p>Magnitude: low Geographic Extent: local Duration: long term Frequency: intermittent Reversibility: reversible Ecological or Socioeconomic Context: high</p>	Not significant	High

Valued Component (VC)	Potential Effects (Without Mitigation)	Mitigation Measures	Residual Effects (After Mitigation has been applied)	Characterization of Residual Effect	Significance	Confidence
Acoustic Environment	<p><u>Construction</u> Elevated noise levels at adjacent and nearby receptors during Project construction phases related to heavy equipment use, materials movement/delivery potential blasting.</p> <p><u>Operation</u> Elevated noise levels at adjacent and nearby receptors during Project operation phases.</p>	<p>-A noise reduction plan will be established and communicated to the contractors and operators prior to construction.</p> <p>-Vehicles and equipment will be properly muffled and maintained according to noise suppression standards.</p> <p>-During construction, nearby residents will be notified of the schedule for construction activities and the likely duration.</p> <p>-Construction equipment will be well maintained and will be turned off when not in active use to minimize excess idling.</p> <p>-POA will ensure drivers know the designated vehicle routes, parking locations, no-idling policy, normal delivery hours, and use of engine brakes policy.</p> <p>-Complaints related to noise from the construction will be addressed by POA.</p>	<p><u>Construction</u> -Interactions between the Project and the acoustic environment are expected to be primarily related to the operation of heavy mobile equipment and vehicles as well as the transport of materials on- and off-site. Developing a noise reduction plan to consider the closes residential receptor (Sunset RV Park), located approximately 2.5 km from the PDA.</p> <p><u>Operation</u> -Although elevated noise levels are anticipated during Project operation phase; they are not anticipated to be substantially more than current operations and as such residual effects due to the operations phase are not anticipated.</p>	<p>Magnitude: low Geographic Extent: local Duration: long-term Frequency: intermittent Reversibility: reversible Ecological or Socioeconomic Context: high</p>	Not significant	Moderate
Marine Environment	<p><u>Construction</u> -The permanent loss of fish habitat (i.e., harmful alteration, disruption, or destruction of fish habitat) from dredging and marine infilling activities. -Temporary change to fish habitat (through dredging activities). -A change in local surface water quality in POA due to the potential release of deleterious substances, including sediment, petroleum hydrocarbons and/or chemicals. -Change in marine fish populations and fish habitat (e.g., adult fish, juveniles, eggs and larvae, invertebrates and marine plants) through direct mortality, disruption (due to construction associated noise), injury or indirectly through alteration or destruction of habitat. -Introduction or spread of invasive species in the marine environment.</p> <p><u>Operation</u> -The marine environment may be impacted by the operation of the new facility through</p>	<p>-If determined by Fisheries and Oceans Canada (DFO) that the Project may cause HADD (harmful alteration, disruption or destruction) of fish habitat, POA shall apply for and obtain an authorization under Section 35(2) of the <i>Fisheries Act</i>, with applicable offsetting and monitoring.</p> <p>-Complete dive survey (underwater benthic habitat study) in consultation with DFO.</p> <p>-The work will be conducted in accordance with a site-specific Environmental Protection Plan (EPP) to systematically reduce the likelihood of potential effects.</p> <p>-Dredged soils will be disposed of in approved areas and as outlined in the EPP and approved by appropriate regulatory authorities.</p> <p>-Only clean fill material from a provincially approved source will be used to develop the land level expansion.</p> <p>-Dredging will be limited to areas required for the Project.</p> <p>-Ground disturbance shall be minimized to the extent possible to reduce the potential for construction debris to reach the marine environment.</p> <p>-Construction material and stockpiled materials will be set back a minimum of 30 m from Cooper Cove.</p> <p>-If practical, work will be scheduled so as to avoid periods of significant storm events.</p>	<p><u>Construction</u> -Approximately 10,000 m² of work (i.e., dredging and infilling) will occur below the high-water mark. Of that area, approximately 75,000 m² will be the land level expansion and result in the permanent loss of fish habitat. Approximately 25,000 m² will be temporarily altered beyond the permanent footprint. This temporary impact area will be a sloped transition to provide stability to the land level expansion and is expected to infill naturally overtime returning to existing conditions and function. Furthermore, although mitigation measures to prevent and minimize death of fish will be implemented, some incidental death of fish may occur during the construction phase of the Project.</p> <p>-The fish habitat within the PDA is not specialized or limited with abundant habitat similar in nature throughout the harbour. Given the industrial/commercial nature of the POA, habitat is not expected to be of</p>	<p><u>Dredging:</u> Magnitude: moderate Geographic Extent: site-specific Duration: short-term Frequency: intermittent Reversibility: reversible Ecological or Socioeconomic Context: high</p> <p><u>Marine Infilling:</u> Magnitude: moderate Geographic Extent: site-specific Duration: permanent Frequency: intermittent Reversibility: irreversible Ecological or Socioeconomic Context: high</p> <p><u>Other Construction and Operation Activities:</u> Magnitude: low Geographic Extent: local Duration: short-term to permanent</p>	Not Significant	Moderate

Valued Component (VC)	Potential Effects (Without Mitigation)	Mitigation Measures	Residual Effects (After Mitigation has been applied)	Characterization of Residual Effect	Significance	Confidence
	<p>changes in local surface water quality related to use of typical chemicals and equipment used in shipbuilding due to the proximity of the Project to the marine environment.</p> <p>-The marine environment may be impacted by elevated noise levels during operations, causing sensory disturbance to fish or marine mammals.</p>	<p>-Construction material and stockpiled materials will be checked daily, and prior to major storm events, to ensure they are properly stored/secured.</p> <p>-Visual monitoring of the turbidity will be required in the vicinity of the dredging to ensure that the turbidity is limited. If excessive change occurs in the turbidity (i.e., distinct colour difference) beyond the harbour entrance as a result of the dredging activities, the work will stop.</p> <p>-Equipment that has been in the marine environment (i.e., excavators, piping, etc.) will be cleaned of any sediments, plants or animals and washed before and after construction to avoid the transfer of invasive species.</p> <p>-Development of mitigate invasive species introduction possible during construction activities, anchoring activities and the introduction of invasive species in ballast water.</p> <p>-Implement silt curtains, sediment traps, or sedimentation ponds to capture and settle suspended particles before they reach water bodies</p> <p>-Best management practices will be adopted during the dredging activities to minimize sedimentation such as: low ascent and decent speeds of the dredging bucket.</p> <p>-A bubble curtain will be used to isolate the site and to assist in the prevention of sedimentation being transported off-site.</p> <p>-All Project work must follow the <i>Canada Shipping Act, 2001</i> and its regulations and requirements for inspection and certification of vessels used in the project, as well as the appropriate training and certification of competency for operators. More information on the Act can be found at the following: http://www.tc.gc.ca/ActsRegulations/acts/2001c26/menu.htm</p> <p>-For in-water work during dredging and land level expansion, the contractor will adhere to the conditions set by DFO and NLDECC-WRD approvals.</p> <p>-Should blasting be required, prior to commencing with underwater blasting, a blast control and monitoring plan that adheres to DFO's "Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters" will be submitted and approved by DFO and the UXO legacy sites program approved by DND.</p> <p>-Underwater blasting will be scheduled to the extent possible to avoid peak and sensitive migration periods, in consultation with DFO.</p>	<p>high quality and higher quality habitat is expected to be available elsewhere. Furthermore, the area of temporary impact is expected to infill naturally overtime returning to existing conditions.</p> <p><u>Operation</u> Residual effects are not anticipated from daily operations as they will not be substantially different than current operations.</p>	<p>Frequency: intermittent Reversibility: reversible Ecological or Socioeconomic Context: high</p>		

Valued Component (VC)	Potential Effects (Without Mitigation)	Mitigation Measures	Residual Effects (After Mitigation has been applied)	Characterization of Residual Effect	Significance	Confidence
		<ul style="list-style-type: none"> -Acoustic measures (hazing) will be used to repel fish and mammals immediately prior to underwater blasts as directed by DFO. -Underwater blasting will be conducted in accordance with the "Measures to Avoid Causing Harm to Fish and Fish Habitat" on DFO's website. POA will ensure that procedures are in place to address the safe handling and storage of hazardous products. Furthermore, the facility will have an Environmental Emergency Response Plan. -Consult with DFO on the protection of eelgrass beds within proximity of the Project. -Prohibit the release of ballast water into the marine environment. -Consult with DFO and ECCC in the development of the Benthic Habitat Study 				
Terrestrial Wildlife and Wildlife Habitat	<p><u>Construction</u></p> <ul style="list-style-type: none"> -Sensory disturbance from construction activities could result in disruption to wildlife species and avoidance of the PDA. -Heavy equipment use during the construction activities may cause direct injury or death of birds through collisions and destruction of food sources; and -Food scraps remaining at the PDA could enhance populations of scavenging birds in the active construction area. <p><u>Operation</u></p> <ul style="list-style-type: none"> -Though unlikely to be present, terrestrial wildlife may be impacted by the operation of the new facility through potential wildlife interactions at the PDA. 	<ul style="list-style-type: none"> -All workers will adhere to the <i>Migratory Birds Convention Act, 1994</i> and the <i>Migratory Birds Regulations (MBR)</i>, which protect migratory birds from undue harm, injury, harassment, or death, and outlines that no migratory bird nests or eggs may be moved or obstructed during the construction and operation phases of the Project. -Project-related lighting during construction and operation shall be directed downwards to the extent possible and will be shielded as necessary to prevent undue attraction of birds. -Though no clearing is expected to take place to accommodate the Project, the ground shall be visually surveyed for the presence of nesting activity by ground-nesting bird species during this period prior to carrying out earth moving activities or stockpiling of dredge spoils. -If a nest or young birds are encountered, the contractor shall immediately cease work in the immediate area of the nest and contact the POA HSE and/or biologist representative. -Concentrations of seabirds, waterfowl, or shorebirds should not be approached. -To minimize bird encounters, the site and working areas shall be kept clean of food scraps and garbage and will be removed from the site daily. -In the case of bird or nest encounters, the following shall be implemented. 	<p><u>Construction</u></p> <ul style="list-style-type: none"> -Development of the Project will not result in the permanent loss of terrestrial wildlife habitat; however, it may interact with wildlife through sensory disturbances such as noise vibration, light or by increased traffic during construction and operation if wildlife species are present. Due to the lack of vegetation and industrial activities at the PDA, terrestrial wildlife (with the exception of birds) are not expected to occur within the PDA. Furthermore, although migrating and overwintering birds may visit the PDA for foraging purposes, there is no critical or well-suited habitat identified within the PDA. -Project activities are likely to result in sensory disturbances to birds and thus most bird species are likely to avoid the areas during each phase of work, thereby limiting the potential for injury or mortality of bird species. <p><u>Operation</u></p> <ul style="list-style-type: none"> -Although there is the potential for interactions with wildlife during operations, 	<p>Magnitude: low Geographic Extent: site-specific Duration: long-term Frequency: intermittent Reversibility: reversible Ecological or Socioeconomic Context: high</p>	Not Significant	High

Valued Component (VC)	Potential Effects (Without Mitigation)	Mitigation Measures	Residual Effects (After Mitigation has been applied)	Characterization of Residual Effect	Significance	Confidence
		<ul style="list-style-type: none"> -No attempt will be made by any worker at the PDA to chase, catch, divert, follow, or otherwise harass birds by vehicle or on foot. -If the nest of any bird is encountered during construction and operation activities, work around the nest shall immediately cease until a biologist representative assesses the situation and appropriate mitigation measures are applied. -A 100 m buffer zone shall be established around any discovered nests, within which no work will be permitted to take place until a biologist can confirm that the chicks have fledged, and the nest is empty. -To minimize disruptions with bird activity at night, the Project construction activities will be limited to daylight hours. -In the event of a mortality of a bird species at risk, or if mortality of 10 birds of any species occurs, ECCC and the NL Department of Fisheries, Forestry and Agriculture shall be notified within 24 hours of the discovery. <p>Should interaction with wildlife become problematic during the operations phase, POA will develop a response plan.</p>	<p>these interactions would be similar to present day activities and as such, residual effects on wildlife and wildlife habitat during operations are not anticipated.</p>			
Socioeconomic Environment	<p><u>Construction</u></p> <ul style="list-style-type: none"> -With an increasing number of high-density developments, there is a greater chance of land use conflicts between industrial and residential uses, in the form of dust particles and noise-pollution from Project activities -Creation of jobs during the construction phase of the Project. <p><u>Operation</u></p> <ul style="list-style-type: none"> -Ongoing job creation and economic activity in the Placentia Bay region from the ongoing operation of the POA. 	<ul style="list-style-type: none"> -Refer to atmospheric environment VC for mitigation related to air quality. -Refer to acoustic environment VC for mitigation related to noise. -POA will engage with local residents prior to and throughout the Project to identify and consider concerns. -Vehicles and equipment will be equipped with mufflers and maintained, and dust suppression will be applied to stockpiled soil during dry periods. -Working hours will conform to site operations policies and should work be completed during nighttime conditions within allotted working times, directional lighting will be used on site with a downward lateral focus to minimize light leaving the site. -A transportation plan will be developed for the Project to manage truck and equipment flow on-site and off-site. -Although not anticipated, all necessary permits will be obtained, and industry best practices will be followed for special moves or traffic interruptions on public roads. -Where possible, the labour force will be drawn from the local economy. -Inclusion of Gender-based Violence (GBV) in the Health and Safety Plans for all work conducted at the PDA. 	<p><u>Construction</u></p> <ul style="list-style-type: none"> -Refer to atmospheric environment VC for residual effects related to air quality. -Refer to acoustic environment VC for residual effects related to noise. -With a growing local economy, it is likely that the labour force will be absorbed into other construction projects in the region after this shipyard expansion is complete. -As the POA continues to prioritize economic growth within the Placentia areas, there will continue to be increased residential density within the surrounding communities in proximity to the PDA. -With the incorporation of the above outlined measures, in combination with additional planning and development by-laws at the municipal level, residential effects are not anticipated. <p><u>Operation</u></p> <ul style="list-style-type: none"> -As the new facility operations are not anticipated to be substantially different than 	<p>Magnitude: low Geographic Extent: local Duration: long-term Frequency: intermittent Reversibility: reversible Ecological or Socioeconomic Context: high</p>	Not significant	High

Valued Component (VC)	Potential Effects (Without Mitigation)	Mitigation Measures	Residual Effects (After Mitigation has been applied)	Characterization of Residual Effect	Significance	Confidence
		-Development of Hiring Strategy that includes Diversity and Inclusion Policy.	current operations, adverse residual effects are not anticipated. The Shipyard will continue to create jobs and provide economic activity for the Placentia Bay region.			
Human Health	-Worker safety and occupational health and safety are beyond the scope of this DPD. The only other pathway that might result in effects to human health is from emissions to the atmospheric environment. The potential environmental effects of the Project on human health would be from fugitive air emissions, which are assessed in under the atmospheric environment VC. As such, the atmospheric environment and human health VCs were assessed together. Please refer to the atmospheric environment VC for potential interactions, mitigation measures and residual effects pertaining to human health.	Refer to atmospheric environment above.	Refer to atmospheric environment above.	Magnitude: low Geographic Extent: local Duration: long-term Frequency: intermittent Reversibility: reversible Ecological or Socioeconomic Context: neutral	Not significant	High
Navigation	<p><u>Construction</u> Temporary delay or access disruption to vessel traffic (commercial or recreational) due to marine construction phase.</p> <p><u>Operation</u> The new facility will interact with recreational and commercial boat movement during operation.</p>	<p>All Project work must follow the <i>Canada Shipping Act, 2001</i> and the <i>Navigation Protection Act</i> as well as their Regulations (permits from TC will be obtained for impediments to navigation caused by the Project);</p> <p>-To the extent practical, work will be scheduled so as to avoid periods when the Project activities are anticipated to affect navigation in the harbour; and</p> <p>The POA will coordinate harbour activities for the duration of the Project so as to avoid unnecessary interference with harbour users.</p> <p>-Consult with the Atlantic Pilotage Authority, Marine Communications and Traffic Services: Placentia Bay, Placentia Bay Traffic Committee and other stakeholders regarding construction schedules, safety zones, berthing schedules and other relevant information.</p> <p>-Formalized the maritime traffic strategy for navigation within the POA marine waterlot.</p> <p>-Develop operational handbook to outline protocols for travelling within the POA marine water lot.</p> <p>-Development of shoreline sensitivity mapping within 5km of the PDA.</p>	<p><u>Construction</u> -While the Project is not anticipated to impede use of existing wharf facilities nor the social, economic, or cultural purposes among the public particularly after mitigation measures are implemented.</p> <p>-Disruptions to navigation during construction are not anticipated to have residual effects.</p> <p><u>Operation</u> -Though the Project is not anticipated to impede the flow of vessels.</p> <p>-Applications to TC will be submitted for approval in order to proceed with the Project. From the proponents perspective the Project effects on navigation are not significant, however this will be confirmed by TC in the review and permitting process.</p>	Magnitude: low Geographic Extent: local Duration: long-term Frequency: continuous Reversibility: irreversible Ecological or Socioeconomic Context: high	Not significant	High

Valued Component (VC)	Potential Effects (Without Mitigation)	Mitigation Measures	Residual Effects (After Mitigation has been applied)	Characterization of Residual Effect	Significance	Confidence
Heritage Resources	<p><u>Construction</u> -Accidental disruption/destruction of heritage resources within the PDA Project development area during construction due to dredging and caisson placement activities.</p> <p><u>Operation</u> Not applicable</p>	-Minimize the extent of disturbance of the PDA by planning as small a disturbance area as possible.	<p><u>Construction</u> -The PDA is in an area of historically used as a Naval Base. Alternation to the site are not anticipated to have any impact to historical resources.</p> <p><u>Operation</u> -Not applicable</p>	Magnitude: low Geographic Extent: site-specific Duration: short-term Frequency: intermittent Reversibility: irreversible Ecological or Socioeconomic Context: Neutral	Not significant	Moderate
Indigenous Rights*	<p><u>Construction</u> -Based on feedback during pre-engagement and available information, the highest level of impact is assumed to relate to potential impact on fisheries in POA, due to the Project's impact on the marine habitat through marine dredging and infrastructure placement associated with the Project that will result in loss of fish habitat within the footprint of the Project-related facilities. -The Project activities of dredging, caisson placement, and infilling have potential effects on the following Indigenous rights: Food Social and Ceremonial Fishery, and the Right to a Moderate Livelihood (Commercial Fishing). -Project activities were assessed against the Hunting, Trapping and Gathering Rights; the Right to land and to Establish Treaties, and the Right to Ceremony. The potential effects of the Project activities on these rights was determined to be low, given the Project's industrial location, absence of known archaeological findings, and the absence of known ceremonial activities taking place within the PDA. -To date no concerns have been raised through engagement efforts*.</p> <p><u>Operation</u> -Potential interactions between the Project and Indigenous rights during the operation phase are not anticipated.</p>	<p>-The Proponent will continue to engage Indigenous persons and communities (if they so choose) throughout the Project to share Project-related information, exchange ideas, address issues and concerns, and seek further clarity on which, if any, Indigenous rights are being affected by the Project, to what extent, and how they might be accommodated. -Refer to the marine environment VC for mitigation related to fish and fish habitat. -The POA is interested in other ways that it can mitigate any cultural impacts associated with this Project and will continue work toward building a stronger relationship with communities including finding ways of addressing real or perceived barriers to Indigenous employment at the POA.</p>	<p><u>Construction</u> -Refer to the marine environment VC for the evaluation of residual effects to fish and fish habitat. -Indigenous people have an inherent right to fish, including within the POA. Although the footprint of the Project is relatively small in comparison to the amount of habitat available in the Placentia Bay, the Project will impact fishing activities in Cooper Cove, and while fishing activity is not known to occur at this location, this does not extinguish the right of Indigenous people to fish in these waters if they so choose. -Even with mitigation measures in place, building relationships with Indigenous communities will continue. The mitigation efforts will additionally not account for the cumulative effects that stem from historical colonization and the displacement of Indigenous people where the Project is located. These effects are historical and not connected to the Project itself.</p> <p><u>Operation</u> As the new facility operations are not anticipated to be substantially different than current operations, adverse residual effects are not anticipated.</p>	Magnitude: low Geographic Extent: regional Duration: long-term Frequency: intermittent Reversibility: irreversible Ecological or Socioeconomic Context: neutral	Not significant	Moderate

Table 14: Effects Significance Evaluation

Characterization Criteria	Criteria Definition	Range of Criteria
Duration	The length of time the residual effect is expected to persist	Short-term: Effect lasts less than 1 year (i.e., during one specific sub-phase of the project such as dredging or infilling). Medium-term: Effect lasts 1-5 years (i.e., the duration of the construction phase of the project) Long-term: Effect lasts greater than 5 years until the end of useful life of the Project. Permanent: Indefinitely; beyond the useful life of the Project.
Magnitude	The expected size or intensity of the residual effect on a VC	Negligible: No detectable changes from baseline conditions. Low: Change that is not likely to have a definable, detectable, or measurable effect above baseline (i.e., potential effect is within a normal range of variation) or is below established thresholds of acceptable change (e.g., water quality guideline) Moderate: Change that is definable, measurable, or detectable and differs from the average value for baseline conditions and approaches the limits of natural variation but is equal to or only marginally above standards/guidelines or established thresholds of acceptable change. High: Change that is easily definable, measurable, or detectable and from baseline conditions, exceeding guidelines or established thresholds of acceptable change and results in changes beyond the natural range of variation.
Geographic Extent	The spatial area over which the residual effect on the VC is anticipated to occur	Discrete: Effect occurs within the PDA. Local: Effect extends beyond the PDA but not beyond the LAA. Regional: Effect occurs beyond the LAA but within the regional area (i.e., within the Town of Placentia Bay and surrounding communities). Beyond Regional: Effect extends beyond Placentia Bay.
Frequency	How often the residual effect occurs	Once: Effect occurs once during any phase of the Project. Intermittent: Effect occurs at intermittent or sporadic intervals during any phase of the Project. Regular: Effect occurs at regular intervals during any phase of the Project. Continuous: Effect occurs continuously during any phase of the Project.
Reversibility	The degree of permanence of a residual effect and whether the residual effect can be reversed once the physical activity or activity causing the disturbance ceases	Reversible Short-Term: Effect ceases when the activity ceases and is readily reversible over a short period of time (i.e., within a 1-year period). Irreversible: Effect that persists even after the activity causing it ceases, and cannot be reversed (i.e., is permanent).
Ecological or Socioeconomic Context	The sensitivity and resilience of a VC to changes caused by the Project given existing conditions, cumulative effects of other projects and activities, and the impact of natural and human-caused trends on the condition of the VC	High context: The VC has high resilience to disruption in the receiving environment and can adapt to the effect. Or the characteristics of the area in which the VC have significantly affected by human activities. Neutral context: The VC has neutral sensitivity and resilience to disruption in the receiving environment and may be able to adapt to effect. Or the characteristics of the area in which the VC is located have been somewhat affected by human activities. Low context: The VC has low resilience to disruption in the receiving environment and will not easily adapt to effect. Or the characteristics of the area in which the VC are located relatively pristine and have not been affected by human activities.

7.7.2 Potential Environmental Impacts, Accidents and Malfunctions during Construction and Operation

The POA is committed to develop management plans in consultation with regulators to meet all legal and regulatory requirements for the Project's construction and operational phases to ensure environmental risks are mitigated, including accidental ones. The management plans that will be developed for construction phase include:

- **Environmental Protection Plan (EPP):** Overarching framework for managing environmental risks and accidental environmental impacts.
- **Environmental Management Plans (EMPs):** Help manage impacts from activities like infill and dredging.
- **Best Management Practices (BMPs):** Outline specific requirements for construction activities to mitigate environmental impacts.
- **Environmental Health and Safety Contingency Plans (EH&S):** Developed to identify potential accidents/malfunctions during construction and consider external threats like severe weather.
- **Environmental Emergency Response Plans (EERP):** Prepared to manage responses to environmental emergencies.

This commitment extends to reducing air and noise pollution, managing hazardous waste, protecting water resources, and ensuring the health and safety of workers and nearby communities during construction. All the plans above aim to anticipate, manage, and mitigate possible environmental impacts from construction activities such as dredging and infilling and operation activities like increased cargo vessel traffic.

7.7.3 Overview of Potential Environmental Effects

Table 13 offers an overview of the possible environmental effects and residual impacts of the Project. Further clarification on this information will be achieved through continued engagement activities, the environmental approval process, and investigations and environmental studies for the extension.

The *Impact Assessment Act* mandates the consideration of potential cumulative effects. These cumulative effects will be evaluated and mitigated as part of the continued planning for the Project. For the Project, future assessment will likely encompass cumulative effects related to increase marine shipping, dredging, infilling within the marine water lot. The aim is to expand or adjust the facilities developed during the planning stage, ensuring that environmental disturbances are kept to a minimum where feasible.

A full outline of the potential environmental effects and their associated mitigation measures for the Cooper Cove Marine Terminal Expansion Project can be reviewed in the Detailed Project Description.

This document presents a summary of the DPD, shedding light on anticipated impacts, their consequences, and the proposed strategies for mitigation.

8.0

Closing

This Detailed Project Description (DPD) was prepared by Dillon Consulting Limited (Dillon) on behalf of the Port of Argentia (POA). Dillon has used the degree of care and skill ordinarily exercised under similar circumstances at the time the work was performed by reputable members of the environmental consulting profession practicing in Canada. Dillon assumes no responsibility for conditions which were beyond its scope of work. There is no warranty expressed or implied by Dillon.

The material in the report reflects Dillon's best judgment in light of the information available to Dillon at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Dillon accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. This report has been prepared by a team of Dillon professionals on behalf of the Port of Argentia.

Sincerely,

DILLON CONSULTING LIMITED

<Original signed by>

Michelle Roche, EP, RPF
Associate, Project Manager

Appendix A

Record of Engagement

Contact List

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	Ian Sullivan Manager of Environment and Natural Resources	isullivan@qalipu.ca 709-634-0998
	Jenny Brake Interim Chief	jbrake@qalipu.ca 709-638-5753
Miawpukek First Nation	Ross Hinks, Director, Department of Natural Resources	rhinks@mfn.gov.ca 709-882-3002
	Brad Benoit, Administrative Chief	sagamaw@mfn.gov.ca
	Vanessa King, Chief's Assistant	ca@mfn.gov.ca

Engagement Log: Indigenous Communities – Qalipu Mi'kmaq

Date	From	To	Method	Content	Response/Concerns
February 1, 2023	Port of Argentia	Qalipu Mi'kmaq - Chief Brendan Mitchell - Jonathan Strickland - Andrew Simms - Paulette Brinston	Letter	Notice of Project Expansion	N/A
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Qalipu Mi'kmaq -Chief Brendan Mitchell -Ian Sullivan	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 28, 2023	Dillon Consulting Limited	Ian Sullivan, Manager of Environment and Natural Resources	Email	Forwarded original message and if there were any questions, coordinate a time to meet	
September 6, 2023	Dillon Consulting Limited	Charles Pender, Band Manager cc. Ian Sullivan, Manager of Environment and Natural Resources	Email	Forwarded original message and if there were any questions, to contact. Noted that the Agency indicated Charles and Ian as the contacts for engagement protocols.	
September 13, 2023	Diedre Halbot, Director of Environment and Natural Resources	Michelle Roche, Dillon Consulting Limited cc. Charles Pender, Brendan Mitchell, Alana Vigna	Email	Question regarding whether there are any other documents associated with the Project.	
September 14, 2023	Michelle Roche, Dillon Consulting Limited	Diedre Halbot, Director of Environment and Natural Resources cc. Charles Pender, Brendan Mitchell, Alana Vigna	Email	Provided an update regarding the Initial Project Description (IPD) and that the Project Team will share the IPD once submitted. Offered the option to discuss the project by email or phone call.	

Record of Engagement
Port of Argentia

Date	From	To	Method	Content	Response/Concerns
December 18, 2023	Andrew Mallam, Impact Assessment Agency of Canada	Charles Pender, Band Manager Alana Vigna, Michelle Roche, Stephen Pearce, Danielle Bowering, Dillon Consulting Limited Chris Newhook, Port of Argentia Leslie Kieley, Shauna O'Brien, Jill Adams, IAAC	Virtual Meeting	IAAC provided an overview of the impact assessment process. Dillon and Port of Argentia provided an overview of the Project. Open discussion for questions, feedback, etc.	Qalipu First Nation is interested in employment and contracting opportunities with the Port of Argentia. Charles Pender is interested in a site visit.
December 20, 2023	Andrew Mallam, Impact Assessment Agency of Canada (IAAC)	Diedre Halbot, Director of Environment and Natural Resources Alana Vigna, Michelle Roche, Dillon Consulting Limited Chris Newhook, Port of Argentia Leslie Kieley, IAAC	Virtual Meeting	IAAC provided an overview of the impact assessment process. Dillon and Port of Argentia provided an overview of the Project. Open discussion for questions, feedback, etc.	Qalipu First Nation has concerns about invasive species from increased vessel traffic. Qalipu First Nation wants to see more traditional use studies applied in Project work and prefer to complete this work themselves.
December 20, 2023	Michelle Roche, Dillon Consulting Limited	Diedre Halbot, Director of Environment and Natural Resources Alana Vigna, Dillon Consulting Limited Chris Newhook, Port of Argentia	Email	Supplemental information based on December 20, 2023 virtual meeting. Attached Project outline	
January 31, 2024	Michelle Roche, Dillon Consulting Limited	Diedre Halbot, Director of Environment and Natural Resources Cc: Charles Pender, Band Manager Ian Sullivan, Manager of Environment and Natural Resources Jenny Brake, Interim Chief Scott Penney, Port of Argentia	Email	Regulatory and Project update, offer opportunity to schedule meeting	
January 31, 2024	Charles Pender, Band Manager	Michelle Roche, Dillon Consulting Limited Ltd. Cc: Ian Sullivan, Manager of Environment and Natural Resources Jenny Brake, Interim Chief Scott Penney, Port of Argentia	Email	Thanking Michelle for the update and noted that Diedre no longer works with Qalipu First Nation. Ian Sullivan has assumed Diedre's duties in the interim.	

Date	From	To	Method	Content	Response/Concerns
January 31, 2024	Michelle Roche, Dillon Consulting Limited	Charles Pender, Band Manager Cc: Ian Sullivan, Manager of Environment and Natural Resources Jenny Brake, Interim Chief Scott Penney, Port of Argentia	Email	Provided a brief Project outline to Ian Sullivan and to touch base if they have any questions or want to arrange a call.	
February 1, 2024	Michelle Roche, Dillon Consulting Limited	Charles Pender, Band Manager Ian Sullivan, Manager of Environment and Natural Resources Jenny Brake, Interim Chief	Email	Follow up to organize site visits for those interested.	
February 1, 2024	Charles Pender, Band Manager	Michelle Roche, Dillon Consulting Limited Ltd. Ian Sullivan, Manager of Environment and Natural Resources Jenny Brake, Interim Chief	Email	Expressed interest in a site visit in the spring and will reach out to coordinate next time they are in St. John's.	

Engagement Log: Indigenous Communities – Miawpukek First Nation

Date	From	To	Method	Content	Response/Concerns
February 1, 2023	Port of Argentia	Miawpukek First Nation -Chief Mise'l Joe -Ross Hinks -Vanessa King	Letter	Notice of Project Expansion	N/A
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Miawpukek First Nation -Chief Mise'l Joe	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 28, 2023	Dillon Consulting Limited	Vanessa King, Chief's Assistant	Voicemail	Called to confirm Aug 18 letter was received, any questions or concerns. Follow up in an email	
August 28, 2023	Dillon Consulting Limited	Vanessa King, Chief's Assistant	Email	Forwarded original message and if there were any questions, coordinate a time to meet	
September 6, 2023	Dillon Consulting Limited	Ross Hinks, Director, Department of Natural Resources	Email	Forwarded original message and if there were any questions, to contact. Noted that the Agency indicated Ross as the contact for engagement protocols.	
February 2, 2024	Dillon Consulting Limited., on behalf of Port of Argentia	Miawpukek First Nation -Administrative Chief Brad Benoit -Ross Hinks -Vanessa King	Letter	Project notification, regulatory update, opportunity to meet and discuss	

Engagement Log: Government Departments and Agencies; Local Municipalities; Business and Industry organizations; Individuals

Date	From	To	Method	Content	Response/Concerns
March 14, 2022	Port of Argentia	Town of Placentia CRH Cement Subsea 7 TMSI Containers Argentia Freezers and Terminals	Email	Request for support for Marine Terminal Expansion	N/A
March 15, 2022	Port of Argentia	Newco Metals Pattern Energy TechnipFMC Econnext Integrated Logistics	Email	Request for support for Marine Terminal Expansion	N/A
March 18, 2022	Port of Argentia	Mammoet Search Minerals Boskalis	Email	Request for support for Marine Terminal Expansion	N/A
March 30, 2022	Town of Placentia	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
March 30, 2022	CRH Cement	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
March 30, 2022	Subsea 7	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
March 30, 2022	TMSI Containers	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
March 31, 2022	Argentia Freezers and Terminals	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
March 31, 2022	Newco metals	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
March 31, 2022	Pattern Energy	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
March 31, 2022	TechnipFMC	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
April 1, 2022	Econnext	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
April 1, 2022	Integrated Logistics	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
April 1, 2022	Energy NL	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
April 11, 2022	Mammoet	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
April 14, 2022	Search Minerals	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
May 24, 2022	Boskalis	Port of Argentia	Letter	Support for Marine Terminal Expansion	No additional issues raised
September 16, 2022	Port of Argentia	The Honourable Seamus O'Regan	Presentation	Project overview with the Minster and senior staff	No additional issues raised
September 20, 2022	Port of Argentia	Equinor/BP	Presentation	Project overview with senior staff	No additional issues raised
September 26, 2022	Port of Argentia	Energy NL	Presentation	Project overview	No additional issues raised
October 29, 2022	Port of Argentia	Newfoundland and Labrador Construction Association	Presentation	CEO speaking engagement on Port's future plans	No additional issues raised
January 11, 2023	Port of Argentia	Department of Industry, Energy, and Technology	Presentation	Project overview with Minister Andrew Parsons and senior staff	No additional issues raised
January 18, 2023	Port of Argentia	Transport Canada, National Trade Corridors Fund	Email		N/A
January 19, 2023	Port of Argentia	Maclean's Magazine	Interview	Interview regarding Port growth	N/A
January 25, 2023	Town of Placentia	Port of Argentia, Boskalis	Meeting	Interface meeting	No additional issues raised
January 25, 2023	Port of Argentia	Transport Canada, National Trade Corridors Fund	Email		N/A
January 30, 2023	Port of Argentia	Transport Canada, National Trade Corridors Fund	Email		N/A
February 10, 2023	Port of Argentia	Transport Canada, National Trade Corridors Fund	Email		
February 13, 2023	Port of Argentia	Transport Canada, National Trade Corridors Fund	Email		
February 14, 2023	Port of Argentia	Transport Canada, National Trade Corridors Fund	Email		
February 20, 2023	Port of Argentia	Transport Canada, National Trade Corridors Fund	Email		

Record of Engagement
Port of Argentia

Date	From	To	Method	Content	Response/Concerns
February 22, 2023	Port of Argentia	Memorial University	Speaking Engagement	A new paradigm to operations in the 21 st century	N/A
February 23, 2023	Port of Argentia	Transport Canada, National Trade Corridors Fund	Virtual Meeting	Discussion regarding Project	N/A
February 27, 2023	Globe and Mail	N/A	News Article	Newfoundland's dreams of a wind-powered hydrogen future are starting to take shape	N/A
March 2, 2023	Maclean's Magazine	N/A	News Article	Bay du Nord: The \$16-billion oil project that could make or break Newfoundland	N/A
March 2, 2023	Port of Argentia	Transport Canada, National Trade Corridors Fund	Email		N/A
March 6, 2023	ACI	Port of Argentia Board of Directors	Presentation	Presentation from project partner regarding...	
March 8, 2023	Port of Argentia	Transport Canada, National Trade Corridors Fund	Email		
March 13, 2023	Port of Argentia	Transport Canada, National Trade Corridors Fund	Email		
March 27, 2023	allNewfoundlandLabrador	N/A	News Article	...	
March 27, 2023	Port of Argentia	Avalon West CBDC	?	'provision of information'	
March 27, 2023	Port of Argentia	Placentia Bay Traffic Committee	Letter	Notice of Project Expansion	N/A
March 27, 2023	Port of Argentia	Town of Placentia	Letter	Notice of Project Expansion	N/A
March 27, 2023	Port of Argentia	Town of Long Harbour and Mount Arlington Heights	Letter	Notice of Project Expansion	N/A
March 27, 2023	Port of Argentia	Town of Fox Harbour	Letter	Notice of Project Expansion	N/A
March 27, 2023	Port of Argentia	Town of St. Brides	Letter	Notice of Project Expansion	N/A
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	World Wildlife Fund	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Whale and Release Strandings	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Sierra Club Canada Foundation	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Salmonid Association of Eastern Newfoundland	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Montevecchi Lab	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Island Rooms	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Fish, Food & Allied Workers Union	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Environmental Resources Management Association	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Ecology Action Centre	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Canadian Parks and Wilderness Society	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	The Council of Canadians	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Bay St. George Climate Action Network	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17

Record of Engagement
Port of Argentia

Date	From	To	Method	Content	Response/Concerns
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	Balaena Institute for Cetacean Conservation Studies	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
August 18, 2023	Dillon Consulting Limited, on behalf of Port of Argentia	ACAP Humber Arm	Letter	Notice of Project Expansion Opportunity to meet/discuss issues	*letter is dated Aug 17
October 11, 2023	Michelle Roche, Dillon Consulting Limited	Vicki Ficzero, Government of NL Leslie Kieley, IAAC Jason Flanagan, Transport Canada Melissa Ginn, Transport Canada	Email	Project update that the team is examining the geotechnical report and that preliminary insights have raised considerations that might influence the proposed dimensions of the dredging area	
October 11, 2023	Vicki Ficzero, Government of NL	Michelle Roche, Dillon Consulting Limited	Email	Thanking Michelle for Project update	
October 17, 2023	Michelle Roche, Dillon Consulting Limited	Vicki Ficzero, Government of NL Christa Skinner, Government of NL Leslie Kieley, IAAC Jason Flanagan, Transport Canada Carl Sheppard, Port of Argentia Chris Newhook, Port of Argentia	Email	Project update that the Initial Project Description is expected to be submitted the week of October 30, 2023.	
October 18, 2023	Jason Flanagan, Transport Canada	Michelle Roche, Dillon Consulting Limited	Email	Thanking Michelle for Project update	
October 31, 2023	Alana Vigna, Dillon Consulting Limited (on behalf of Michelle Roche, Dillon Consulting Limited)	Murray Hupman, Marine Atlantic cc. Tara Laing, Marine Atlantic	Email	Notice of Project Expansion Opportunity to meet/discuss issues	
October 31, 2023	Alana Vigna, Dillon Consulting Limited (on behalf of Michelle Roche, Dillon Consulting Limited)	Officer-in-Charge: MCTS Operations	Email	Notice of Project Expansion Opportunity to meet/discuss issues	
December 14, 2023	Impact Assessment Agency of Canada (IAAC)	All	Virtual Information Session	Provide overview of the impact assessment process. Provide overview of the Project and associated timelines, etc.	No one from the public was in attendance.
December 18, 2023	Impact Assessment Agency of Canada	All	Virtual Information Session	Provide overview of the impact assessment process. Provide overview of the Project and associated timelines, etc.	Fish Food and Allied Workers Union (FFAW) attended and offered support should any issues arise with their members in relation to the Project.
December 18, 2023	Michelle Roche, Dillon Consulting Limited	Katie Power, Energy Industry Liaison, FFAW Cc: Alana Vigna, Dillon Consulting Limited	Email	Notice of Project Expansion Opportunity to meet/discuss issues	

Date	From	To	Method	Content	Response/Concerns
December 18, 2023	Katie Power, FFAW	Michelle Roche, Dillon Consulting Limited Cc: Alana Vigna, Dillon Consulting Limited Courtney Gloade, Dwan Street, FFAW	Email	Circulated slide decks from virtual session internally for review. Expressed availability to disseminate materials to FFAW members on behalf of the Project team as well as arrange meetings for feedback as part of the consultation process. Expressed that continued communication and information is key. Noted that FFAW will be submitting comments as part of IAAC's process.	
January 8, 2024	Impact Assessment Agency of Canada (IAAC)	All Interested Participants	Public Information Session	IAAC provided an overview of the Impact Assessment process. Dillon Consulting Limited provided an overview of the Project on behalf of the Proponent. Question and answer period.	<p>What types of things could trigger the need to conduct an EA? <i>IAAC: Effects (residual) in federal jurisdiction that can't be mitigated by the PoA or through permitting.</i></p> <p><i>Separate provincial process occurring as well.</i></p> <p>What else are you doing besides this public session to get feedback? <i>IAAC: Advertised through various print media (newspapers, radio), open line; did not advertise on Facebook; Agency website and socials; TC cumulative effects project contact list; virtual sessions; posters around town; online commenting period by submission, mail or email.</i></p> <p>What are indelible costs? <i>Dillon/PoA: HST, specific upgrades</i></p>
January 17, 2024	Melanie, DFO	Olivia Butty, Dillon Consulting Limited Cc: Michelle Roche, Dillon Consulting Limited	Email	Confirmation that DFO received Project Proposal and noted DFO file number: 23-HNFL-0076. Project Proposal requires further review and has been triaged to the Marine Infrastructure, Oil and Gas Regulatory Review unit.	

Record of Engagement
Port of Argentia

Date	From	To	Method	Content	Response/Concerns
January 31, 2024	Michelle Roche, Dillon Consulting Limited	Katie Power, FFAW	Email	Offer opportunity to meet with membership to provide Project overview and answer questions related to fishing in 3Ps.	
January 31, 2024	Katie Power, FFAW	Michelle Roche, Dillon Consulting Limited	Email	Offer to meet has been received and appreciated. FFAW will discuss internally a suitable person to attend the meeting.	
January 31, 2024	Michelle Roche, Dillon Consulting Limited	Katie Power, FFAW	Email	Expressed that POA can accommodate what works best for the group.	

Qalipu Mi'kmaq First Nation
Communications Log



Vigna, Alana <[REDACTED]>

Fwd: Cooper Cove Marine Terminal Expansion Project

5 messages

Roche, Michelle <[REDACTED]>
To: Alana Vigna <[REDACTED]>

Mon, Aug 21, 2023 at 10:57 AM

FYI this was sent on Friday.

----- Forwarded message -----

From: Roche, Michelle <[REDACTED]>
Date: Fri, 18 Aug 2023 at 15:13
Subject: Cooper Cove Marine Terminal Expansion Project
To: <[REDACTED]>
Cc: Scott Penney <[REDACTED]>

Good Afternoon,




As part of our commitment to transparent communication and community engagement, Port of Argentia's (POA) management has undertaken an effort to distribute information regarding the Cooper Cove Marine Terminal Expansion Project (the Project). This endeavor encompasses sharing project details with Indigenous Peoples and Governments, local communities, groups, and organizations within the region and extending the information to interested parties across the province.

As depicted in the accompanying attachment below, this initiative has been conceptualized to augment existing and new infrastructure and facilities. The expansion Project holds the potential to significantly contribute to the development of innovative and sustainable industries within the region.

Please do not hesitate to contact me by phone: [REDACTED] or email: [REDACTED] if you require further information or wish to engage in a more detailed discussion about the Cooper Cove Marine Terminal Expansion Project.

--






Michelle Roche
Associate
Dillon Consulting Limited
45 Hebron Way Suite 202
St. John's, Newfoundland and Labrador, A1A 0P9
T - [REDACTED]
[REDACTED]
www.dillon.ca
  

If you are receiving this email outside of your typical working hours, I hope you feel no pressure to read or respond until your schedule and workload permit.

Vacation Alert: August 28 to September 7

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Michelle Roche
Associate
Dillon Consulting Limited
45 Hebron Way Suite 202
St. John's, Newfoundland and Labrador, A1A 0P9
T - [REDACTED]
[REDACTED]
www.dillon.ca
  

If you are receiving this email outside of your typical working hours, I hope you feel no pressure to read or respond until your schedule and workload permit.

Vacation Alert: August 28 to September 7

 **PoA Letter to Qalipu Mi'kmaq First Nation Band_Cooper Cove Expansion_17Aug2023.pdf**
225K

Vigna, Alana <[redacted]>
To: [redacted]
Cc: "Roche, Michelle" <[redacted]>

Mon, Aug 28, 2023 at 10:20 AM

Good morning Ian,

My name is Alana Vigna and I am an Indigenous Relations/Socio-Cultural Planner with Dillon Consulting Ltd. On August 18, 2023, my colleague sent the below email and attachment to Chief Brendan Mitchell regarding the Port of Argentia's Cooper Cove Marine Terminal Expansion Project. I wanted to reach out to provide you with a copy of the letter in the event you haven't seen it yet. Should you or your team have any questions about the Project, I would be happy to coordinate a time to discuss.

Thank you and have a great week.
Alana

--



Alana Vigna
Dillon Consulting Limited
274 Sydney Street Suite 200
Saint John, New Brunswick, E2L 0A8
T - S [redacted]
[redacted]
www.dillon.ca
  

****Vacation Alert: September 14-29, 2023****

[Quoted text hidden]

 **PoA Letter to Qalipu Mi'kmaq First Nation Band_Cooper Cove Expansion_17Aug2023.pdf**
225K

Vigna, Alana <[redacted]>
To: [redacted]
Cc: [redacted]

Wed, Sep 6, 2023 at 9:20 AM

Good morning Charles,

My name is Alana Vigna and I am an Indigenous Relations/Socio-Cultural Planner with Dillon Consulting Ltd. I was advised through the Impact Assessment Agency of Canada that both you and Ian Sullivan are their contacts regarding engagement within your organization. I am forwarding you the message sent first to Chief Mitchell and then to Ian for your reference and have cc'd Ian to this correspondence as well regarding the Port of Argentia's Cooper Cove Marine Terminal Expansion Project.

Should you or your team have any questions about the Project or would like to learn more, I would be happy to coordinate a time to discuss.

Have a great day,
Alana Vigna
[Quoted text hidden]

 **PoA Letter to Qalipu Mi'kmaq First Nation Band_Cooper Cove Expansion_17Aug2023.pdf**
225K

Diedre Halbot <[redacted]>
To: "[redacted]" <[redacted]>
Cc: "a [redacted]" <[redacted]>, Charles Pender <[redacted]>, Brendan Mitchell <[redacted]>

Wed, Sep 13, 2023 at 11:29 AM

Good morning,

My name is Diedre Halbot I am the Director of Environment and Natural Resources for Qalipu First Nation (QFN) and I have reviewed the letter on behalf of the department of Natural Resources (QNR), Is there any other documents associated with this request such as an EA? Or just the letter which was addressed to Chief Brendan Mitchell?

Thank you for your feedback,

Diedre Halbot

[Quoted text hidden]

[Quoted text hidden]

This message is directed in confidence solely to the person(s) named above and may contain privileged, confidential or private information which is not to be disclosed. If you are not the addressee or an authorized representative thereof, please contact the undersigned and then destroy this message.

Ce message est destiné uniquement aux personnes indiquées dans l'entête et peut contenir une information privilégiée, confidentielle ou privée et ne pouvant être divulguée. Si vous n'êtes pas le destinataire de ce message ou une personne autorisée à le recevoir, veuillez communiquer avec le soussigné et ensuite détruire ce message.

Roche, Michelle <[REDACTED]> Thu, Sep 14, 2023 at 2:11 PM
To: Diedre Halbot <[REDACTED]>
Cc: "[REDACTED]" >, Charles Pender <[REDACTED]>, Brendan Mitchell <[REDACTED]>

Good Afternoon Diedre,

Thanks for reaching out, and it's a pleasure to connect with you (virtually). We're in the last stages of preparing the summary documents for the Cooper Cove Marine Wharf Expansion's Initial Project Description. We are happy to share those once they are ready.

If you would like to discuss the project or have specific questions, I am happy to address those by email. Alternatively, I can schedule a call with our project team at your convenience.

We look forward to discussing the project during the Impact Assessment Agency Engagement Session, where we will provide information packages.

[Quoted text hidden]



Vigna, Alana <[redacted]>

Cooper Cove Marine Terminal Expansion Project, Port of Argentinia

1 message

Roche, Michelle <[redacted]>
To: Diedre Halbot <[redacted]>
Cc: Alana Vigna <[redacted]>, Chris Newhook <[redacted]>

Wed, Dec 20, 2023 at 3:39 PM

Hi Diedre,

It was great meeting you this afternoon.

As noted during our call, here is some information to supplement what we discussed.

Regarding vessel traffic and invasive species, both Transport Canada and DFO have regulations in place for invasive species and ballast water. The Port of Argentinia adheres to the regulations where it can, however individual vessels are responsible for compliance. More information can be found at the following links:

- [Transport Canada - Managing Ballast Water](#)
- [Fisheries and Oceans Canada - Aquatic Invasive Species Regulations](#)

Regarding traditional use, any information you are open to sharing would be much appreciated as it relates to the Project area. Dillon is interested in discussing how this work could be completed by Qalipu First Nation and would be happy to set up a call to discuss further.

Also, as mentioned on the call here is a link to Transport Canada's Cumulative Effects of Marine Shipping Project.

- <https://open.canada.ca/data/en/dataset/e218c8cb-5039-4706-b58f-d54c6c11a6fc>

Lastly, I have attached a brief project outline below. Should you have any questions, please don't hesitate to get in touch.

Happy Holidays,
Michelle

--



Michelle Roche
Associate
Dillon Consulting Limited
45 Hebron Way Suite 202
St. John's, Newfoundland and Labrador, A1A 0P9
T: [redacted]
[redacted]
www.dillon.ca

If you are receiving this email outside of your typical working hours, I hope you feel no pressure to read or respond until your schedule and workload permit.

PoA Letter to Qalipu Mi'kmaq First Nation Band_Cooper Cove Expansion Dec 20 2023.pdf
719K



Where potential launches opportunity

December 20, 2023

Deidre Halbot
Qalipu Mi'kmaq First Nation Band
3 Church Street
Corner Brook, NL
A2H 2Z4

Cooper Cove Marine Terminal Expansion Project, Port of Argentia

Port of Argentia's (POA) mission is to provide effective stewardship of the seaport and industrial property assets at Argentia for the long-term benefit of the communities and people of the Placentia region of Newfoundland and Labrador. As part of the review process, POA management is providing information on the Project to communities, groups, and organizations in the region and across the province.

The Port is a large busy ice-free port located in Placentia Bay. Originally constructed as a base for the United States Navy during World War II, the Port supports traditional marine supply chain traffic in the transportation, container shipping, renewable energy, offshore energy, seafood, critical metal smelting (nickel, copper, cobalt), and metal recycling industries. Currently the Port is in the midst of a remarkable transformation from a heavy industry port to a hub for innovation across multiple sustainable industries. To support and accelerate this transition, management identified the requirement for the Cooper Cove Marine Terminal Expansion Project (the Project) as illustrated in the graphic below. Based on estimated timelines, POA expects construction to be completed by November 2027. Specifically, the Project involves:

- Fabrication and construction of new concrete caissons for the fleet dock expansion and new wharf face to extend the existing fleet dock 250 m- 270 m;
- Construction and installation of concrete caissons for 200 m of new wharf face connecting to the fleet dock expansion and extending to the North and transitioning into a roll on roll off ramp at the end which will allow for loading and unloading of modules and other heavy loads;
- Infill of approximately 10 ha in the area behind the fleet dock expansion and new wharf face to allow for storage, laydown, warehousing facilities and fabrication halls; and
- Shoreline stabilization and protection to exposed infill area slopes.

Cont'd.../2

On February 1, 2023, I wrote to you regarding an application for funding that POA submitted for the Project under Canada's National Trade Corridors Fund (NTCF). As noted in my letter, the funding request for the Project was approved on December 16, 2022. This Project offers a myriad of benefits, from improving the efficiency of Canada's transportation corridors to stimulating significant direct economic growth in the Placentia region of NL and the broader Canadian economy. This Project also aligns with Transport Canada's NTCF objectives, which seek to bolster Canada's connection to international markets, driven by the private sector's growing demand and aims to improve transportation priorities, specifically creating a safe, secure, green, innovative, and integrated transportation system that supports middle-income employment, trade, and economic growth. On July 19, 2023, the Canadian Government, led by Minister of Transport Omar Alghabra, declared an investment of up to \$38 million from the National Trade Corridors Fund for the Cooper Cove Marine Terminal Wharf Extension Project. This investment is intended to enhance cargo operations in the Port of Argentia, Placentia, NL.

Prior to regulatory approval and construction, the Project's scope of work and planned activities must be reviewed by the Impact Assessment Agency of Canada and the Government of Newfoundland and Labrador's Department of Environment and Climate Change. Should you have any questions or concerns related to the Project, or are interested in meeting with the POA team, please contact Michelle Roche, Environmental Specialist, Dillon Consulting Limited (email: mroche@dillon.ca; telephone: (709) 764-6863). My team and I would greatly appreciate discussing the Project with you further.

Sincerely,

<Original signed by>

(
(

Scott R. Penney
Chief Executive Officer

cc: Ian Sullivan, Manager of Environment and Natural Resources

Enclosure:

***Cooper Cove marine terminal expansion project conceptual rendering image
(note: final design may be different than this conceptual layout).***





Vigna, Alana <[redacted]>

Updates regarding the Cooper Cove Marine Terminal Expansion Project

6 messages

Roche, Michelle <[redacted]> Wed, Jan 31, 2024 at 1:11 PM
 To: Diedre Halbot <[redacted]>
 Cc: Charles Pender <[redacted]>, [redacted], [redacted], Alana Vigna <[redacted]>, Scott Penney <[redacted]>

Good afternoon Diedre,

I wanted to reach out to provide some updates regarding the Cooper Cove Marine Terminal Expansion Project. When we met on December 20, 2023, the Impact Assessment Agency of Canada provided an overview of the impact assessment process, and I provided an overview of the Project which included the following:

- Fabrication and construction of new concrete caissons for the fleet dock expansion and new wharf face to extend the existing fleet dock 250 m- 270 m;
- Construction and installation of concrete caissons for 200 m of new wharf face connecting to the fleet dock expansion and extending to the North and transitioning into a roll on roll off ramp at the end which will allow for loading and unloading of modules and other heavy loads;
- Infill of approximately 10 ha in the area behind the fleet dock expansion and new wharf face to allow for storage, laydown, warehousing facilities and fabrication halls; and
- Shoreline stabilization and protection to exposed infill area slopes.

While the opportunity to provide the Agency comments closed on January 10, 2024, should the Qalipu Mi'kmaq First Nation have concerns or interests related to the Project, the Agency will continue to accept comments. The Port of Argentia would also be happy to arrange a meeting to discuss your concerns or interests and work towards appropriate mitigation and accommodation methods.

As for next steps, the Agency published their Summary of Issues on January 19, 2024. The Port of Argentia is now working towards a response to the Summary of Issues explaining how the Port intends to address those issues, and will also submit a Detailed Project Description, anticipated by the end of January 2024. The Agency has 10 days to conduct its review of the Detailed Project description, and then will render its opinion as to whether an impact assessment is required. Newfoundland and Labrador's Department of Environment and Climate Change issued their determination on January 18, 2024 that the Project is released from further environmental assessment so long as all permits and authorizations are provided, and all commitments in the environmental assessment submission are upheld.




Please feel free to reach out if you have any questions or are interested in scheduling a meeting.

Have a great day,

Michelle

--



Michelle Roche
 Associate
Dillon Consulting Limited
 45 Hebron Way Suite 202
 St. John's, Newfoundland and Labrador, A1A 0P9
 [redacted]
 [redacted]
www.dillon.ca
  

If you are receiving this email outside of your typical working hours, I hope you feel no pressure to read or respond until your schedule and workload permit.

Charles Pender <[redacted]> Wed, Jan 31, 2024 at 3:53 PM
To: "Roche, Michelle" <[redacted]>, Diedre Halbot <[redacted]>
Cc: "jbrake@qalipu.ca" <[redacted]>, Ian Sullivan <[redacted]>, Alana Vigna <[redacted]>, Scott Penney <[redacted]>

Good afternoon, Michelle,

Thank you for sharing this with us.

I want to inform you that Diedre is no longer working with Qalipu, Ian Sullivan, who is copied on this email has assumed her duties in the interim.

Charles

From: Roche, Michelle <[redacted]>
Sent: Wednesday, January 31, 2024 1:42 PM
To: Diedre Halbot <[redacted]>
Cc: Charles Pender <[redacted]>, Ian Sullivan <[redacted]>; Alana Vigna <[redacted]>; Scott Penney <[redacted]>
Subject: Updates regarding the Cooper Cove Marine Terminal Expansion Project

You don't often get email from [redacted]. [Learn why this is important](#)

[Quoted text hidden]

This message is directed in confidence solely to the person(s) named above and may contain privileged, confidential or private information which is not to be disclosed. If you are not the addressee or an authorized representative thereof, please contact the undersigned and then destroy this message.


Ce message est destiné uniquement aux personnes indiquées dans l'entête et peut contenir une information privilégiée, confidentielle ou privée et ne pouvant être divulguée. Si vous n'êtes pas le destinataire de ce message ou une personne autorisée à le recevoir, veuillez communiquer avec le soussigné et ensuite détruire ce message.

Roche, Michelle <[redacted]> Wed, Jan 31, 2024 at 4:01 PM
To: Charles Pender <[redacted]>, Ian Sullivan <[redacted]>
Cc: Alana Vigna <[redacted]>, Scott Penney <[redacted]>

Thank you for the update, Charles

Ian, if you have any questions please feel free to contact me. We are happy to set up a call to discuss the Cooper Cove Marine Wharf Expansion Project. In the meantime I have attached a brief outline of the Project for your review below.

Have a great day,
[Quoted text hidden]

 **PoA letter to Miawpukek First Nation_Cooper Cove Expansion_17Aug2023.pdf**
225K

Roche, Michelle <[redacted]>
To: Charles Pender <[redacted]>, Ian Sullivan <[redacted]>
Cc: Alana Vigna <[redacted]>

Wed, Jan 31, 2024 at 4:09 PM

My apologies, please disregard the last attachment. Updated Project outline is attached below.

[Quoted text hidden]

 **PoA Letter to Qalipu Mi'kmaq First Nation Band_Cooper Cove Expansion.pdf**
719K

Charles Pender <[redacted]>
To: "Roche, Michelle" <[redacted]>, Ian Sullivan <[redacted]>
Cc: Alana Vigna <[redacted]>, Jenny Brake <[redacted]>

Thu, Feb 1, 2024 at 8:22 AM

Thank you Michelle

[Quoted text hidden]

Roche, Michelle <[redacted]>
To: Charles Pender <[redacted]>
Cc: Ian Sullivan <[redacted]>, Alana Vigna <[redacted]>, Jenny Brake <[redacted]>

Thu, Feb 1, 2024 at 10:27 AM

No problem, Charles

Also, I'd be happy to organize site visits for you and any others interested in the Project at your preferred time. Please don't hesitate to reach out to me whenever it's convenient.

Have a great day!

[Quoted text hidden]

Charles Pender <[redacted]>
To: "Roche, Michelle" <[redacted]>
Cc: Ian Sullivan <[redacted]>, Alana Vigna <[redacted]>, Jenny Brake <[redacted]>

Thu, Feb 1, 2024 at 11:26 AM

Thanks Michelle,

I would certainly be interested in a site visit at some point in the spring, we will reach out to coordinate next time we are in St John's.

[Quoted text hidden]



Where potential launches opportunity

January 31, 2023

Interim Chief Jennifer Brake
Qalipu Mi'kmaq First Nation Band
3 Church Street
Corner Brook, NL
A2H 2Z4

Cooper Cove Marine Terminal Expansion Project, Port of Argentia

Port of Argentia's (POA) mission is to provide effective stewardship of the seaport and industrial property assets at Argentia for the long-term benefit of the communities and people of the Placentia region of Newfoundland and Labrador. As part of the review process, POA management is providing information on the Project to communities, groups, and organizations in the region and across the province.

The Port is a large busy ice-free port located in Placentia Bay. Originally constructed as a base for the United States Navy during World War II, the Port supports traditional marine supply chain traffic in the transportation, container shipping, renewable energy, offshore energy, seafood, critical metal smelting (nickel, copper, cobalt), and metal recycling industries. Currently the Port is in the midst of a remarkable transformation from a heavy industry port to a hub for innovation across multiple sustainable industries. To support and accelerate this transition, management identified the requirement for the Cooper Cove Marine Terminal Expansion Project (the Project) as illustrated in the graphic below. Based on estimated timelines, POA expects construction to be completed by November 2027. Specifically, the Project involves:

- Fabrication and construction of new concrete caissons for the fleet dock expansion and new wharf face to extend the existing fleet dock 250 m- 270 m;
- Construction and installation of concrete caissons for 200 m of new wharf face connecting to the fleet dock expansion and extending to the North and transitioning into a roll on roll off ramp at the end which will allow for loading and unloading of modules and other heavy loads;
- Infill of approximately 10 ha in the area behind the fleet dock expansion and new wharf face to allow for storage, laydown, warehousing facilities and fabrication halls; and
- Shoreline stabilization and protection to exposed infill area slopes.

Cont'd..../2

On February 1, 2023, I wrote to you regarding an application for funding that POA submitted for the Project under Canada's National Trade Corridors Fund (NTCF). As noted in my letter, the funding request for the Project was approved on December 16, 2022. This Project offers a myriad of benefits, from improving the efficiency of Canada's transportation corridors to stimulating significant direct economic growth in the Placentia region of NL and the broader Canadian economy. This Project also aligns with Transport Canada's NTCF objectives, which seek to bolster Canada's connection to international markets, driven by the private sector's growing demand and aims to improve transportation priorities, specifically creating a safe, secure, green, innovative, and integrated transportation system that supports middle-income employment, trade, and economic growth. On July 19, 2023, the Canadian Government, led by Minister of Transport Omar Alghabra, declared an investment of up to \$38 million from the National Trade Corridors Fund for the Cooper Cove Marine Terminal Wharf Extension Project. This investment is intended to enhance cargo operations in the Port of Argentia, Placentia, NL.

Prior to regulatory approval and construction, the Project's scope of work and planned activities must be reviewed by the Impact Assessment Agency of Canada and the Government of Newfoundland and Labrador's Department of Environment and Climate Change. Should you have any questions or concerns related to the Project, or are interested in meeting with the POA team, please contact Michelle Roche, Environmental Specialist, Dillon Consulting Limited (email: mroche@dillon.ca; telephone: (709) 764-6863). My team and I would greatly appreciate discussing the Project with you further.

Sincerely,

<Original signed by>

Scott R. Penney
Chief Executive Officer

cc: Ian Sullivan, Manager of Environment and Natural Resources

Enclosure:

***Cooper Cove marine terminal expansion project conceptual rendering image
(note: final design may be different than this conceptual layout).***



Miawpukek First Nation Communications Log



Vigna, Alana <[REDACTED]>

Fwd: Cooper Cove Marine Terminal Expansion Project

3 messages

Roche, Michelle <[REDACTED]>
To: Alana Vigna <[REDACTED]>

Mon, Aug 21, 2023 at 10:56 AM

FYI this was sent on Friday.

----- Forwarded message -----

From: Roche, Michelle <[REDACTED]>
Date: Fri, 18 Aug 2023 at 15:11
Subject: Cooper Cove Marine Terminal Expansion Project
To: <SAQAMAW@[REDACTED]>
Cc: Scott Penney <s.penney@[REDACTED]>

Good Afternoon,

As part of our commitment to transparent communication and community engagement, Port of Argentia's (POA) management has undertaken an effort to distribute information regarding the Cooper Cove Marine Terminal Expansion Project (the Project). This endeavor encompasses sharing project details with Indigenous Peoples and Governments, local communities, groups, and organizations within the region and extending the information to interested parties across the province.

As depicted in the accompanying attachment below, this initiative has been conceptualized to augment existing and new infrastructure and facilities. The expansion Project holds the potential to significantly contribute to the development of innovative and sustainable industries within the region.

Please do not hesitate to contact me by phone: [REDACTED] or email: [REDACTED] if you require further information or wish to engage in a more detailed discussion about the Cooper Cove Marine Terminal Expansion Project.

--



Michelle Roche
Associate
Dillon Consulting Limited
45 Hebron Way Suite 202
St. John's, Newfoundland and Labrador, A1A 0P9
T - 709.754.2374 ext. [REDACTED]
[REDACTED]
www.dillon.ca

If you are receiving this email outside of your typical working hours, I hope you feel no pressure to read or respond until your schedule and workload permit.

Vacation Alert: August 28 to September 7

--



Michelle Roche
Associate
Dillon Consulting Limited
45 Hebron Way Suite 202
St. John's, Newfoundland and Labrador, A1A 0P9
T - 709.754.2374 ext. [REDACTED]
[REDACTED]
www.dillon.ca

If you are receiving this email outside of your typical working hours, I hope you feel no pressure to read or respond until your schedule and workload permit.

Vacation Alert: August 28 to September 7

 **PoA letter to Miawpukek First Nation_Cooper Cove Expansion.pdf**
720K

Vigna, Alana <[redacted]>
To: CA@[redacted]
Cc: "Roche, Michelle" <[redacted]>

Mon, Aug 28, 2023 at 10:01 AM

Good morning Vanessa,


My name is Alana Vigna and I am an Indigenous Relations/Socio-Cultural Planner with Dillon Consulting Ltd., following up on the letter sent by my colleague below to Chief Mi'sel Joe, regarding the Port of Argentia's Cooper Cove Marine Terminal Expansion Project. I realized that in the original message you were not cc'd, and am passing this along to you for your reference. Please note that I also left you a voicemail earlier this morning to touch base about this.

Should you or your team have any questions about the Project, I would be happy to coordinate a time to meet.

Kind regards,
Alana

--



Alana Vigna
Dillon Consulting Limited
 274 Sydney Street Suite 200
 Saint John, New Brunswick, E2L 0A8
 T - 506.633.5000ext. [redacted]
 [redacted]
www.dillon.ca
  

****Vacation Alert: September 14-29, 2023****

[Quoted text hidden]

 **PoA letter to Miawpukek First Nation_Cooper Cove Expansion.pdf**
720K

Vigna, Alana <[redacted]>
To: rhinks@[redacted]

Wed, Sep 6, 2023 at 9:20 AM

Good morning Ross,

My name is Alana Vigna and I am an Indigenous Relations/Socio-Cultural Planner with Dillon Consulting Ltd. I was advised through the Impact Assessment Agency of Canada that you are their contact regarding engagement within your organization. I am forwarding you the message sent first to Chief Mise'l Joe and then to Vanessa King for your reference/records regarding the Port of Argentia's Cooper Cove Marine Terminal Expansion Project.

Should you or your team have any questions about the Project or would like to learn more, I would be happy to coordinate a time to discuss.

Have a great day,
Alana Vigna

[Quoted text hidden]

 **PoA letter to Miawpukek First Nation_Cooper Cove Expansion.pdf**
720K



Where potential launches opportunity

August 17, 2023

Chief Mi'sel Joe
Miawpukek First Nation
P.O. Box 10
Conne River, NL
A0H 1J0

Cooper Cove Marine Terminal Expansion Project, Port of Argentia

Port of Argentia's (POA) mission is to provide effective stewardship of the seaport and industrial property assets at Argentia for the long-term benefit of the communities and people of the Placentia region of Newfoundland and Labrador. As part of the review process, POA management is providing information on the Project to communities, groups, and organizations in the region and across the province.

The Port is a large busy ice-free port located in Placentia Bay. Originally constructed as a base for the United States Navy during World War II, the Port supports traditional marine supply chain traffic in the transportation, container shipping, renewable energy, offshore energy, seafood, critical metal smelting (nickel, copper, cobalt), and metal recycling industries. Currently the Port is in the midst of a remarkable transformation from a heavy industry port to a hub for innovation across multiple sustainable industries. To support and accelerate this transition, management identified the requirement for the Cooper Cove Marine Terminal Expansion Project (the Project) as illustrated in the graphic below. Based on estimated timelines, POA expects construction to be completed by November 2027. Specifically, the Project involves:

- Fabrication and construction of new concrete caissons for the fleet dock expansion and new wharf face to extend the existing fleet dock 250 m- 270 m;
- Construction and installation of concrete caissons for 200 m of new wharf face connecting to the fleet dock expansion and extending to the North and transitioning into a roll on roll off ramp at the end which will allow for loading and unloading of modules and other heavy loads;
- Infill of approximately 10 ha in the area behind the fleet dock expansion and new wharf face to allow for storage, laydown, warehousing facilities and fabrication halls; and
- Shoreline stabilization and protection to exposed infill area slopes.

Cont'd.../2

On February 1, 2023, I wrote to you regarding an application for funding that POA submitted for the Project under Canada's National Trade Corridors Fund (NTCF). As noted in my letter, the funding request for the Project was approved on December 16, 2022. This Project offers a myriad of benefits, from improving the efficiency of Canada's transportation corridors to stimulating significant direct economic growth in the Placentia region of NL and the broader Canadian economy. This Project also aligns with Transport Canada's NTCF objectives, which seek to bolster Canada's connection to international markets, driven by the private sector's growing demand and aims to improve transportation priorities, specifically creating a safe, secure, green, innovative, and integrated transportation system that supports middle-income employment, trade, and economic growth. On July 19, 2023, the Canadian Government, led by Minister of Transport Omar Alghabra, declared an investment of up to \$38 million from the National Trade Corridors Fund for the Cooper Cove Marine Terminal Wharf Extension Project. This investment is intended to enhance cargo operations in the Port of Argentia, Placentia, NL.

Prior to regulatory approval and construction, the Project's scope of work and planned activities must be reviewed by the Impact Assessment Agency of Canada and the Government of Newfoundland and Labrador's Department of Environment and Climate Change. Should you have any questions or concerns related to the Project, or are interested in meeting with the POA team, please contact Michelle Roche, Environmental Specialist, Dillon Consulting Ltd. (email: mroche@dillon.ca; telephone: (709) 764-6863). My team and I would greatly appreciate discussing the Project with you further.

Sincerely,

<Original signed by>

Scott R. Penney
Chief Executive Officer

cc: Ross Hinks, Director of Natural Resources – RHINKS@MFNGOV.CA
Rene Jeddore, Director of Training and Economic Development - RJEDDORE@MFNGOV.CA

Enclosure:

***Cooper Cove marine terminal expansion project conceptual rendering image
(note: final design may be different than this conceptual layout).***





Vigna, Alana <[redacted]>

Cooper Cove Marine Terminal Expansion

1 message

Roche, Michelle [redacted] Fri, Feb 2, 2024 at 1:22 PM

To: [redacted]
Cc: [redacted] Scott Penney [redacted], Alana Vigna

Good Afternoon,

On behalf of the Port of Argentia and Dillon Consulting Limited, I would like to take this opportunity to congratulate you as the new Chief of Miawpukek First Nation as well as provide you with some information regarding the Cooper Cove Marine Terminal Expansion Project.

I have attached a project outline below for your review. If you have any questions or would like to schedule a meeting or site visit to discuss this Project further please feel free to contact me by phone at [redacted] or by email at [redacted]

--



Michelle Roche
Associate
Dillon Consulting Limited
45 Hebron Way Suite 202
St. John's, Newfoundland and Labrador, A1A 0P9

www.dillon.ca
  

If you are receiving this email outside of your typical working hours, I hope you feel no pressure to read or respond until your schedule and workload permit.

 **Cooper Cove Project .pdf**
718K



Where potential launches opportunity

February 2, 2024

Chief Brad Benoit
Miawpukek First Nation
P.O. Box 10
Conne River, NL
A0H 1J0

Cooper Cove Marine Terminal Expansion Project, Port of Argentia

I wanted to take this opportunity to congratulate you as the new Chief of Miawpukek First Nation as well as provide you with some information regarding the Cooper Cove Marine Terminal Expansion Project. The Port of Argentia's (POA) mission is to provide effective stewardship of the seaport and industrial property assets at Argentia for the long-term benefit of the communities and people of the Placentia region of Newfoundland and Labrador. As part of the review process, POA management is providing information on the Project to communities, groups, and organizations in the region and across the province.

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- Infill of approximately 10 ha in the area behind the fleet dock expansion and new wharf face to allow for storage, laydown, warehousing facilities and fabrication halls; and
- Shoreline stabilization and protection to exposed infill area slopes.

Cont'd.../2

The Project's scope of work and planned activities is currently being reviewed by the Impact Assessment Agency of Canada and the Government of Newfoundland and Labrador's Department of Environment and Climate Change. The Agency published their Summary of Issues on January 19, 2024. The Port of Argentia is working towards a response to the Summary of Issues explaining how the Port intends to address those issues, and will also submit a Detailed Project Description, anticipated by the end of January 2024. The Agency has 10 days to conduct its review of the Detailed Project description, and then will render its opinion as to whether an impact assessment is required. Newfoundland and Labrador's Department of Environment and Climate Change issued their determination on January 18, 2024 that the Project is released from further environmental assessment so long as all permits and authorizations are provided, and all commitments in the environmental assessment submission are upheld.

While the opportunity to provide the Agency comments closed on January 10, 2024, should the Miawpukek First Nation have concerns or interests related to the Project, the Agency will continue to accept comments. The Port of Argentia would also be happy to arrange a meeting to discuss your concerns or interests and work towards appropriate mitigation and accommodation methods. Should you have any questions or concerns related to the Project, or are interested in meeting with the POA team, please contact Michelle Roche, Environmental Specialist, Dillon Consulting Ltd. (email: mroche@dillon.ca; telephone: (709) 764-6863). My team and I would greatly appreciate discussing the Project with you further.

Sincerely,

<Original signed by>

Scott R. Penney
Chief Executive Officer

cc: Ross Hinks, Director of Natural Resources – RHINKS@MFNGOV.CA
Rene Jeddore, Director of Training and Economic Development - RJEDDORE@MFNGOV.CA

Enclosure:

***Cooper Cove marine terminal expansion project conceptual rendering image
(note: final design may be different than this conceptual layout).***



Non-Government Organizations
Communications Log



Vigna, Alana <[redacted]>

Cooper Cove Marine Terminal Expansion Project

3 messages

Roche, Michelle <[redacted]> Mon, Dec 18, 2023 at 12:40 PM
To: [redacted]
Cc: Alana Vigna <[redacted]>

Hi Katie,

It was a pleasure meeting you over the virtual session for the Cooper Cove Marine Terminal Expansion Project today.




For your interest and reference, please see attached letter outlining the project and some of the information that was shared during the session.

The Port of Argientia and the Dillon team would be happy to meet with you again to go over any questions, concerns, or interests as it relates to commercial fishing or the Project in general.

Happy Holidays,
Michelle

--



Michelle Roche
Associate
Dillon Consulting Limited
45 Hebron Way Suite 202
St. John's, Newfoundland and Labrador, A1A 0P9
[redacted]
www.dillon.ca
  

If you are receiving this email outside of your typical working hours, I hope you feel no pressure to read or respond until your schedule and workload permit.

 **PoA letter to FFAW_Cooper Cove Expansion.pdf**
327K

Katie Power <[redacted]> Mon, Dec 18, 2023 at 12:53 PM
To: "Roche, Michelle" <[redacted]>
Cc: Alana Vigna <[redacted]>, Courtney Glode <[redacted]>, Dwan Street <[redacted]>

Thanks Michelle. I've circulated the slide decks internally for review. Should we have any immediate questions or concerns I will reach out. Again, I am happy to disseminate any materials to FFAW members on behalf of the project team as well as arrange meetings for feedback with our membership as part of the consultation process, should there ever be a need. We can target communications directly to harvesters in 3Ps and by species fished, etc..

Continued communication and information sharing between mutual organizations will ensure the awareness piece of this project is covered. That will be key in determining what mitigations may be required. FFAW will submit relevant comments as part of your initial public comment period by January 10th.

Have a wonderful holiday!



Where potential launches opportunity

August 17, 2023

Greg Pretty
Fish, Food & Allied Workers Union
368 Hamilton Avenue
P.O. Box 10, Station C
St. John's, NL
A1C 5H5

Email: communications@ffaw.ca

Cooper Cove Marine Terminal Expansion Project, Port of Argentia

Port of Argentia's (POA) mission is to provide effective stewardship of the seaport and industrial property assets at Argentia for the long-term benefit of the communities and people of the Placentia region of Newfoundland and Labrador. As part of the review process, POA management is providing information on the Project to communities, groups, and organizations in the region and across the province.

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- Shoreline stabilization and protection to exposed infill area slopes.

Cont'd..../2

In June 2022, POA submitted an application for funding a Marine Terminal Expansion Project (Project) under Transport Canada's National Trade Corridors Fund (NTCF). On December 16th 2022, Transport Canada notified management at the Port that its proposed Project had been approved for federal funding. This Project offers a myriad of benefits, from improving the efficiency of Canada's transportation corridors to stimulating significant direct economic growth in the Placentia region of Newfoundland and Labrador (NL) and the broader Canadian economy. This Project also aligns with Transport Canada's NTCF objectives, which seek to bolster Canada's connection to international markets, driven by the private sector's growing demand and aims to improve transportation priorities, specifically creating a safe, secure, green, innovative, and integrated transportation system that supports middle-income employment, trade, and economic growth. On July 19, 2023, the Canadian Government, led by Minister of Transport Omar Alghabra, declared an investment of up to \$38 million from the National Trade Corridors Fund for the Cooper Cove Marine Terminal Wharf Extension Project. This investment is intended to enhance cargo operations in the Port of Argentia, Placentia, NL.

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Sincerely,

<Original signed by>

Scott R. Penney
Chief Executive Officer

Enclosure:
Cooper Cove marine terminal expansion project conceptual rendering image
(note: final design may be different than this conceptual layout).



Best,

Katie

Katie Power (she/her)
Energy Industry Liaison

Fish, Food and Allied Workers Union (FFAW-Unifor)

368 Hamilton Ave, St. John's, NL

[Redacted address]

www.ffaw.ca



[Quoted text hidden]

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Roche, Michelle <[Redacted]> Wed, Jan 31, 2024 at 12:50 PM
To: Katie Power <[Redacted]>
Cc: Alana Vigna <[Redacted]>, Courtney Glode <[Redacted]>, Dwan Street <[Redacted]>, Scott Penney <[Redacted]>

Hi Katie,

Thank you for providing comments on behalf of FFAW to the Impact Assessment Agency of Canada regarding the Cooper Cove Marine Terminal Expansion Project. As we continue working through the planning process for impact assessments, the Port of Argentia would like to formally offer the opportunity to meet with you and your membership to provide a Project overview as well as answer any questions as it relates to fishing in the 3Ps region that Cooper Cove resides in.

The POA is also open to including Fisheries and Oceans Canada in this discussion, should there be a need or preference. If there is interest in scheduling a meeting, please let me know.

Thank you,
Michelle

[Quoted text hidden]

----- Forwarded message -----

From: **Roche, Michelle** <[REDACTED]>
Date: Wed, 31 Jan 2024 at 13:35
Subject: Re: Cooper Cove Marine Terminal Expansion Project
To: Katie Power <[REDACTED]>

Great,

There is no specific timeline, we can accommodate what works best for the group.

On Wed, 31 Jan 2024 at 13:31, Katie Power <[REDACTED]> wrote:

Hi Michelle,

Your offer is well received and appreciated. I will take it internally as to decide who is best to attend and get back to you as soon as possible. Is there a preferred timeline to complete this next step of engagement?

Best,

Katie Power (she/her)
Industry Relations Representative

Fish, Food and Allied Workers Union (FFAW-Unifor)

368 Hamilton Ave, St. John's, NL

www.ffaw.ca



[Quoted text hidden]
[Quoted text hidden]
[Quoted text hidden]

Government
Communications Log



Vigna, Alana <[redacted]>

Fwd: [External/Externe]: Re: Cooper Cove Marine Terminal Expansion Project IPD update

1 message

Roche, Michelle <[redacted]>
To: Alana Vigna <[redacted]>

Wed, Oct 18, 2023 at 8:33 AM

For the ROE

----- Forwarded message -----

From: **Flanagan, Jason (TC/TC)** <[redacted]>
Date: Wed, 18 Oct 2023 at 08:57
Subject: RE: [External/Externe]: Re: Cooper Cove Marine Terminal Expansion Project IPD update
To: Roche, Michelle <[redacted]>

UNCLASSIFIED / NON CLASSIFIÉ

Thanks for the update Michelle!

J. Jason Flanagan, M.Sc.

Senior Environmental Advisor
Environmental Programs and Indigenous Relations
Transport Canada, Atlantic Region
[redacted] Tel. : [redacted] TTY: 1.888.675.6863

Conseiller principal en environnement
Programmes environnementaux et Relations Autochtones
Transports Canada, Région de l'Atlantique
[redacted] | ATS: 1.888.675.6863

From: Roche, Michelle <[redacted]>
Sent: Tuesday, October 17, 2023 12:38 PM
To: Ficzero, Vicki <[redacted]>; Skinner, Christa V (ECC) <[redacted]a>; Kieley, Leslie (IAAC/AEIC) <[redacted]>; Flanagan, Jason (TC/TC) <[redacted]>; Carl Sheppard <[redacted]>; Chris Newhook <[redacted]>
Subject: [External/Externe]: Re: Cooper Cove Marine Terminal Expansion Project IPD update

Good Afternoon,

I wanted to inform you that we are expecting to have the IPD for the Cooper Cove Marine Terminal Expansion Project prepared for submission during the week of October 30th.

If you have any questions at all please do not hesitate to contact me.

On Wed, 11 Oct 2023 at 14:33, Ficzero, Vicki <[REDACTED]> wrote:

Michelle,

Thank you for the update. Very much appreciated.

Vicki

Vicki Ficzero

Manager of Environmental Assessment

Environmental Assessment Division

Dept. of Environment and Climate Change

From: Roche, Michelle <[REDACTED]>

Sent: Wednesday, October 11, 2023 2:31 PM

To: Ficzero, Vicki <[REDACTED]> Kieley, Leslie (IAAC/AEIC) <[REDACTED]>; Flanagan, Jason (TC/TC) <[REDACTED]>; Ginn, Melissa <[REDACTED]>

Cc: Alana Vigna <[REDACTED]>; Pearce, Stephen <[REDACTED]>

Subject: Cooper Cove Marine Terminal Expansion Project IPD update

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Afternoon,

I'm writing to share a brief update regarding the IPD submission timeline for the Cooper Cove Marine Terminal Expansion Project.

Our team is examining the geotechnical report, an essential component of our project planning and design phase. Preliminary insights from the report have raised considerations that might influence the initially proposed dimensions of the dredging area.

I will receive an updated project timeline from them by the end of this week.

In the meantime if there are any questions please do not hesitate to contact me,

--



Michelle Roche

Associate

Dillon Consulting Limited

45 Hebron Way Suite 202

St. John's, Newfoundland and Labrador, A1A 0P9

T - 709.754.2374 ext. [REDACTED]

[REDACTED]

www.dillon.ca



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Vigna, Alana <[REDACTED]>

Fwd: Request for Review - Cooper Cove Marine Terminal Expansion Project

1 message

Roche, Michelle <[REDACTED]>
To: Alana Vigna <[REDACTED]>

Wed, Jan 17, 2024 at 9:32 AM

For the ROE

----- Forwarded message -----

From: **NL FFHPP / PPPH TNL (DFO/MPO)** <DFO.NLFFHPP-PPHTNL.MPO@dfo-mpo.gc.ca>

Date: Wed, 17 Jan 2024 at 10:01

Subject: Request for Review - Cooper Cove Marine Terminal Expansion Project

To: Butty, Olivia <[REDACTED]>

Cc: Roche, Michelle <[REDACTED]>

Hello Olivia,

The Fish and Fish Habitat Protection Program of Fisheries and Oceans Canada (DFO) received your proposal for the Cooper Cove Marine Terminal Expansion Project, Port of Argientia. Please note the DFO file number is 23-HNFL-0076.

Based on the information provided, the Program is of the view that your proposal requires further review, as such your proposal has been triaged to the Marine Infrastructure, Oil and Gas Regulatory Review Unit for further assessment.

Should you have any questions please contact Anne Cheverie via e-mail <[REDACTED]>. Please refer to the file number referenced above when corresponding with the Program.

Thank you for your continued patience and cooperation during our review process.

Melanie

Triage

Fish Habitat Protection Program & Biodiversity Management

Aquatic Ecosystems Branch

Newfoundland and Labrador Region

Fisheries and Oceans Canada

DFO.NLFFHPP-PPHTNL.MPO@dfo-mpo.gc.ca

<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>



Triage

Programme de Protection du Poisson et de son L'habitat, & Gestion de la Biodiversité

Écosystèmes Aquatiques

Région de Terre-Neuve-et-Labrador

Pêches et Océans Canada





DFO.NLFFHPP-PPPHTNL.MPO@dfo-mpo.gc.ca

<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>



--



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Appendix B

ACCDC Report - SAR

Roche, Michelle <mroche@dillon.ca>



RE: New Data Request: 2023-04-18 18:18:27

Durocher, Adam <AdamDurocher@gov.nl.ca>
To: "mroche@dillon.ca" <mroche@dillon.ca>

27 April 2023 at 09:57

Hi Michelle,

Attached are the data request results for your Cooper Cove point of interest at the Port of Argentia in Newfoundland & Labrador.

Summary: Within 5km of your point of interest, there were 15 rare animal records and 8 rare plant records found. Of these 8 rare plant records, 5 of them are for Water Pygmyweed (*Tillaea aquatica*), a plant listed as Vulnerable under our provincial Endangered Species Act (ESA). The other plant records are for plants which are not found on the provincial ESA or federal COSEWIC lists, and outside of Newfoundland and Labrador, none of them are considered globally rare.

As for the 15 rare animal records, there was 1 Lesser Yellowlegs record (Threatened under COSEWIC), 1 Harlequin Duck record (Special Concern under COSEWIC, Vulnerable under our ESA), and 4 Short-eared Owl records (Threatened under COSEWIC, Vulnerable under our ESA). The remaining animal records are for species which are not found on the provincial ESA or federal COSEWIC lists, but they are considered rare on the Island of Newfoundland.

Secondly, our Expert Opinion Maps are the result of our work with species-specific experts to gather suggestions about locations where species at risk - either provincially or COSEWIC listed - may be found. While we don't have observations in our database for these species within your study area, our Expert Opinion Maps suggest that Boreal Felt Lichen, Red Crossbills, and Rusty Blackbirds are possible; while Banded Killifish are possible, but unlikely. Your area is also said to be within the Barrow's Goldeneye's range.

For more information, including a map of the area showing the locations of the rare flora and rare fauna, please refer to the following attached documents:

Map.jpg - shows the locations of the rare fauna, rare flora and the 5 km buffer around the point of interest.

RareFauna.xls - a list of rare animal records, including their SRANK, NRANK, GRANK and habitats.

RareFlora.xls - a list of the rare plant records, including their SRANK, NRANK, GRANK and habitats.

Data Dictionary.doc - explains the various columns in RareFlora.xls and RareFauna.xls.

Ranking.rtf - explains the S, N and GRANKS.

Herbaria.xls - A list of herbariums in case you would like to follow up on the specimens included in this request.

Caveats.doc - The fine print - please read. This is also included at the end of this email.

RQ1044.pdf - Invoice for the data request.

Please do not hesitate to contact me if you have any questions.

Adam Durocher
Data Manager
Atlantic Canada Conservation Data Centre
Corner Brook, NL
709-637-2494

DATA SOURCES:

All data housed at Atlantic Canada Conservation Data Centre (ACCDC). Refer to the 'CITATION' field for data sources.

CAVEATS:

ACCDC rare taxa occurrence records are offered as a guide recognizing that the ability to find plants and animals will depend upon the season. The ACCDC makes a strong effort to verify the accuracy of all the data it obtains, generates and manages, but it will not be held responsible for inaccuracies in data that it provides.

PLEASE NOTE:

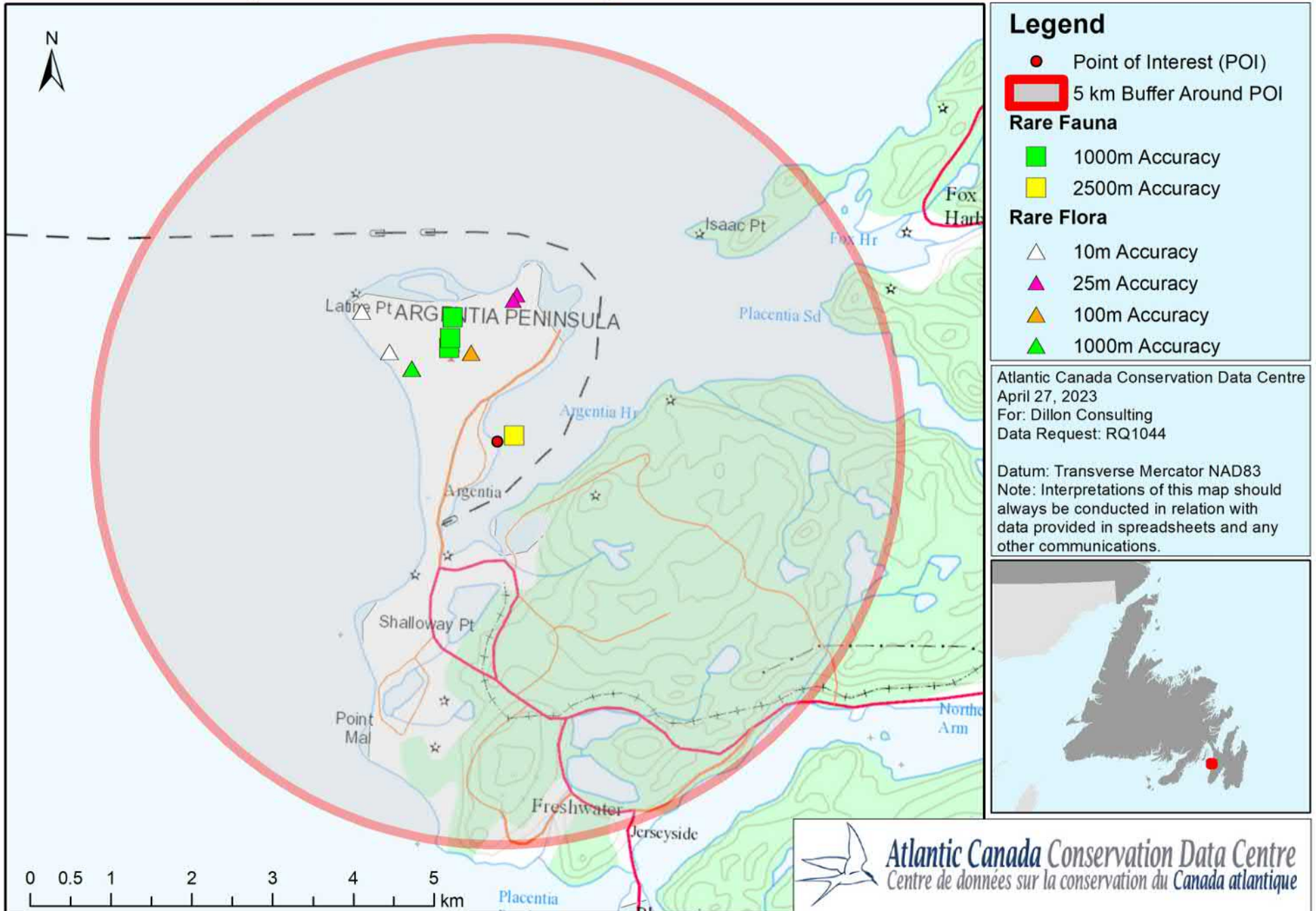
* ACCDC data is restricted for use by the specified data user only; any third party requiring data must make its own request to the ACCDC.

* Specified data users may not publish any information provided by the ACCDC or its partners without prior permission.

* To ensure the currency of the data, the ACCDC requires Data Users to destroy all copies of data 18 months after the date of receipt.

* ACCDC data reports are restricted to that data in our Data System at the time of the request.

GIS Scan of Rare and Provincially/Federally Listed Species for Cooper Cove at the Port of Argentia in Newfoundland and Labrador



- * Data accuracy is qualified as to location (Accuracy) and time (Date)
- * ACCDC data reports are not to be constructed as exhaustive inventories of taxa in an area.
- * The non-occupancy of a taxon cannot be inferred by its absence in an ACCDC data report.
- * Museum databases, which are the basis for more accessible public databases, such as those of the ACCDC, are works in progress. Essentially, they are finding aids and dynamic data records, constructed primarily to serve scientists engaged in the continuing, active process of plant systematics and taxonomy. Ongoing additions of new collections, and frequent upgrades to the identifications of all plant specimens housed in museum herbaria, may not always be reflected, in real time, by databases such as those of the ACCDC. Specifically, the conservation status of individual species recorded in the ACCDC database may not be absolutely current. It is therefore the responsibility of the data user to contact the relevant museums directly, in order to check for the most current identifications of specimens of interest, and to ascertain from the scientists concerned, their current understanding of the conservation status of individual species in question. The absolute conservation status of any given species is dynamic, and subject to change over short periods of time.

-----Original Message-----

From: Charity Robicheau <charity.robicheau@accdc.ca>
Sent: Tuesday, April 18, 2023 3:50 PM
To: Durocher, Adam <AdamDurocher@gov.nl.ca>
Subject: FW: New Data Request: 2023-04-18 18:18:27

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Hi Adam,

Here's a data request!

Charity

Charity Robicheau
Conservation Data Analyst
Atlantic Canada Conservation Data Centre (AC CDC) charity.robicheau@accdc.ca

-----Original Message-----

From: James Churchill <James.Churchill@accdc.ca>
Sent: Tuesday, April 18, 2023 3:19 PM
To: Jocelyn Pender <jocelyn.pender@accdc.ca>; Charity Robicheau <charity.robicheau@accdc.ca>
Subject: FW: New Data Request: 2023-04-18 18:18:27

From: Apache <apache@webserv2.mta.ca>
Sent: Tuesday, April 18, 2023 3:18:28 PM (UTC-04:00) Atlantic Time (Canada)
To: James Churchill
Subject: New Data Request: 2023-04-18 18:18:27

New Data Request:

name: Michelle Roche
company: Dillon Consulting
phone: 7097646863
email: mroche@dillon.ca
email2: mroche@dillon.ca
jobnum: 21-3088-1402
area: Port of Argentia
details: Cooper Cove Species at Risk Survey
lat: 47.2993337
lon: -53.9827741
comment:
asap: standard








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8 attachments



Map.jpg
1992K

-  **RQ1044.pdf**
335K
-  **RareFauna.xls**
36K
-  **RareFlora.xls**
41K
-  **Caveats.doc**
27K
-  **DATA DICTIONARY.doc**
34K
-  **herbaria.xls**
24K
-  **RANKING.rtf**
194K

GNAME	GCOMNAME	FAMILY	Observer	TotalNumber	Month	Day
Asio flammeus	Short-eared Owl	Strigidae		2	7	0
Histrionicus histrionicus	Harlequin Duck	Anatidae		1	1	25
Asio flammeus	Short-eared Owl	Strigidae	Bruce Mactavish		7	20
Asio flammeus	Short-eared Owl	Strigidae	Bruce Mactavish		7	23
Pluvialis dominica	American Golden-Plover	Charadriidae	Bruce Mactavish,	2	9	2
Pluvialis squatarola	Black-bellied Plover	Charadriidae	Bruce Mactavish,	1	9	2
Asio flammeus	Short-eared Owl	Strigidae	Bruce Mactavish	1	7	17
Eremophila alpestris	Horned Lark	Alaudidae	Bruce Mactavish	10	7	17
Circus hudsonius	Northern Harrier	Accipitridae	Bruce Mactavish	1	9	5
Pluvialis squatarola	Black-Bellied Plover	Charadriidae	Bruce Mactavish	15	8	18
Tringa flavipes	Lesser Yellowlegs	Scolopacida	Bruce Mactavish	1	8	18
Circus hudsonius	Northern Harrier	Accipitridae	Bruce Mactavish	1	8	18
Tringa melanoleuca	Greater Yellowlegs	Scolopacida	Bruce Mactavish	3	8	18
Calidris alba	Sanderling	Scolopacida	Bruce Mactavish	4	9	5
Pluvialis dominica	American Golden-Plover	Charadriidae	Bruce Mactavish	3	9	5

Year	SRANK_2015	SRANK_2	NRANK	GRANK	GeneralStat	COSEWIC_ST	PROVINCIAL
1991	S3B,SUM	S3B	J4B,N3N,N	G5	Secure	Threatened	Vulnerable
1947	S3B, S2N,SUM	S3B,S2N	J4B,N3N,N	G4	Secure	Special Concern	Vulnerable
2019	S3B,SUM	S3B	J4B,N3N,N	G5	Secure	Threatened	Vulnerable
2019	S3B,SUM	S3B	J4B,N3N,N	G5	Secure	Threatened	Vulnerable
2020	S3M	S4N	J4N5B,N5M	G5	Secure		
2020	S3M	S4N	J3B,N5N,N	G5	Secure		
2021	S3B,SUM	S3B	J4B,N3N,N	G5	Secure	Threatened	Vulnerable
2021	S3B,SUM	S4B	J5B,N5N,N	G5	Secure		
2020	S3B,SUM	S3?B	N5B,N4N	G5	Secure		
2021	S3M	S4N	J3B,N5N,N	G5	Secure		
2021	S3M	S3N	J4N5B,N5M	G5	Secure	Threatened	
2021	S3B,SUM	S3?B	N5B,N4N	G5	Secure		
2021	S3B, S4M	S4B,S5M	J5B,N4N,N	G5	Secure		
2020	S3M	S4N	J3B,N4N5M	G5	Secure		
2020	S3M	S4N	J4N5B,N5M	G5	Secure		

CITATION	IDNUM
Canadian Wildlife Service	mstr1009443
Montevecchi list	mstr1006198
nf.birds, Jul 20, 2019	mstr1055739
nf.birds, Jul 23, 2019	mstr1055741
nf.birds, Sep 2, 2020	mstr1056971
nf.birds, Sep 2, 2020	mstr1056972
nf.birds, Jul 17, 2021	mstr1061861
nf.birds, Jul 17, 2021	mstr1061862
nf.birds, Sep 5, 2020	mstr1061730
nf.birds, Aug 18, 2021	mstr1061886
nf.birds, Aug 18, 2021	mstr1061887
nf.birds, Aug 18, 2021	mstr1061888
nf.birds, Aug 18, 2021	mstr1061889
nf.birds, Sep 5, 2020	mstr1061726
nf.birds, Sep 5, 2020	mstr1061727

GNAME	GCOMNAME	OBSERVER	MONTH	DAY	YEAR
Crassula aquatica	Water Pigmy-Weed	Fernald, M.L., B. Long, B.	8	26	1924
Stuckenia pectinata	sago pondweed	Fernald, M.L., B. Long, B.	8	26	1924
Suaeda maritima	Maritime Sea-blite	Fernald, M.L., B. Long, B.	8	26	1924
Diphasiastrum digitatum	southern running-pine	Bouchard, A., S. Hay, L. B	7	15	1988
Crassula aquatica	Water Pigmy-Weed	J. E. Maunder	9	20	2006
Crassula aquatica	Water Pigmy-Weed	J. E. Maunder	9	20	2006
Crassula aquatica	Water Pigmy-Weed	John Maunder, Susan Ma	8	17	2020
Crassula aquatica	Water Pigmy-Weed	John Maunder, Susan Ma	8	17	2020

Verification	SRANK_2010	SRANK_2015	NRANK	GRANK	FAMILY
v	S1	S1	N4N5	G5	Crassulaceae
v	S2	S2S3	N5	G5	Potamogetonace
v	S3	S3	N5	G5	Amaranthaceae
v	S2	S2	N5	G5	Lycopodiaceae
v	S1	S1	N4N5	G5	Crassulaceae
v	S1	S1	N4N5	G5	Crassulaceae
v	S1	S1	N4N5	G5	Crassulaceae
v	S1	S1	N4N5	G5	Crassulaceae

PROV_END_A	COSEWIC	DESCR_HABIT/ACCURACY_ME	SYNAME	SITE_NAME
Vulnerable		Sandy and peaty	1000 Crassula aquatic	Argentina
		Sandy and peaty	1000 Potamogeton pe	Argentina
		Damp depression	1000	Argentina
		In turfy gravel; ol	100 Lycopodium digit	Argentina
Vulnerable		Shallow depress	10 Crassula aquatic	Argentina
Vulnerable		Shallow depress	10 Crassula aquatic	Argentina
Vulnerable		in cracks and de	25 Crassula aquatic	Airstrip, NE end,
Vulnerable		in cracks and de	25 Crassula aquatic	Airstrip, NE end,

SURVEYSITE	ACRONYMS_O	COLLECTION	SOURCES	IDNUM	EST_NF_ID
Argentina.	GH	26737	Bouchard, A. Dε	SP024093	975829
Argentina.	GH	26229	Bouchard, A. Dε	SP026226	448307
Argentina.	GH	26645	Bouchard, A. Dε	SP024028	636771
Argentina.	MT; CAN	88044	Bouchard, A. Dε	SP026422	376418
Argentina, Argentina Pe			Water Pygmywe	SP068700	975829
Argentina, Argentina Pe			Water Pygmywe	SP068701	975829
			Email correspon	SP095784	975829
			Email correspon	SP095785	975829

DATA SOURCES:

All data housed at Atlantic Canada Conservation Data Centre (ACCDC). Refer to 'CITATION' field for data sources.

CAVEATS:

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- * Data accuracy is qualified as to location (Accuracy) and time (Date)
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- * Museum databases, which are the basis for more accessible public databases, such as those of the ACCDC, are works in progress. Essentially, they are finding aids and dynamic data records, constructed primarily to serve scientists engaged in the continuing, active process of plant systematics and taxonomy. Ongoing additions of new collections, and frequent upgrades to the identifications of all plant specimens housed in museum herbaria, may not always be reflected, in real time, by databases such as those of the ACCDC. Specifically, the conservation status of individual species recorded in the ACCDC database may not be absolutely current. It is therefore the responsibility of the data user to contact the relevant museums directly, in order to check for the most current identifications of specimens of interest, and to ascertain from the scientists concerned, their current understanding of the conservation status of individual species in question. The absolute conservation status of any given species is dynamic, and subject to change over short periods of time.

DATA DICTIONARY

GNAME	Scientific Name of taxon
GCOMNAME	Common name of taxon
FAMILY	Family of taxon
OBSERVER	Person or persons who observed the taxon
TOTAL NUMBER	The number of specimens at a given observation.
MONTH	Month of survey
DAY	Day of survey
YEAR	Year of survey
SRANK_2010	Subnational rank - CDC ranking system
SRANK_2015	Subnational rank - CDC ranking system
NRANK	National Rank - CDC ranking system
GRANK	Global Rank - CDC ranking system
GeneralStatusRanks	General Status text for the province
COSEWIC_STATUS	Denotes the COSEWIC status.
PROVINCIAL_STATUS	Denotes if the species is on the provincial endangered species list.
SARA	Denotes if the species is on the federal SARA list.
HABITAT	Description of the habitat where plant or animal was found
SITE_NAME	The name of the place where the occurrence occurred
ACCURACY	The accuracy in metres of the location.
SYNAME	Synonym for the plant or animal name in cases it is known by more than one scientific name.
ACRONYM OF HERBARIA	Acronym of the herbarium where this specimen is kept, see the complete definitions of the acronyms in the HERBARIA.xls
COLLECTION NUMBER	The collection number assigned to the specimen by the collector, this should be used to refer to the specimen when contacting the herbarium
CITATION	Primary source of the data
IDNUM	Field Office Number: Internal ACCDC record reference (not the EONUM)

ACRONYM	HERBARIUM	ADDRESS	PO_BOX	CITY	PROVINCE	POSTALCODE
ACAD	Acadia University	32 University Avenue	P.O. Box 48	Wolfville	Nova Scotia	B4P 2R6
ALTA	University of Alberta			Edmonton	Alberta	T6G 2E9
CAN	Canadian Museum of Nature		P.O. Box 3443 Station D	Ottawa	Ontario	K1P 6P4
CO	Museum National d'Histoire Naturelle		B.P. 225	Concarneau		F-29125
DAO	Eastern Cereal and Oilseed Research Centre, Agriculture and Agri-Food Canada	Wm. Saunders Building, Central Experimental Farm 1350 Regent Street Centre, Canadian Forest Service		Ottawa	Ontario	K1A 0C6
FFB	Atlantic Forestry Centre		P. O. Box 4000	Fredricton	New Brunswick	E3B 5P7
GH	Gray Herbarium, Harvard University	22 Divinity Avenue		Cambridge	Massachusetts	02138-2020
GMNP	Gros Morne National Park		P.O. Box 130	Rocky Harbour	Newfoundland	A0K 4N0
H	University of Helsinki		P.O. Box 7	Helsinki		FIN-00014
LD	Botanical Museum	Östra Vallgatan 18		Lund		S-223 61
MB	Herbarium fur Spezielle Botanik, Philipps Universitat			Marburg		D-35032

MO	Missouri Botanical Gardens		P.O. Box 299	St. Louis	Missouri	63166-0299
MT	Herbier Marie-Victorin, Universite de Montreal	4101, rue Sherbrooke est		Montreal	Quebec	H1X 2B2
NASC	Massachusetts College of Liberal Arts	375 Church Street		North Adams	Massachusetts	01247-4100
NFLD	Ayre Herbarium, Memorial University of Newfoundland			St. John's	Newfoundland	A1B 3X9
NFM	Provincial Museum of Newfoundland and Labrador	9 Bonaventure Avenue	P.O. Box 1800	St. John's	Newfoundland	A1C 5P9
NY	New York Botanical Garden	William and Lynda Steere Herbarium		Bronx	New York	10458-5126
OAC	Univeristy of Guelph			Guelph	Ontario	N1G 2W1
QFA	Herbier Louis-Marie, Universite de Laval	Pavillon C.-E. Marchand Sainte-Foy		Quebec	Quebec	G1V 0A6
SLRO	Slippery Rock University	Herbarium Biology Department		Slippery Rock	Pennsylvania	16057-1326
SWGK	Sir Wilfred Grenfell College			Corner Brook	Newfoundland	
TNPN	Terra Nova National Park			Terra Nova	Newfoundland	
TRTE	Erindale College	Herbarium Department of Biology, 3359 Mississauga Road, N		Mississauga	Ontario	L5L 1C6

TSM	Museo Civico di Storia Naturale	Piazza Hortis 4		Trieste		I-34123
UAC	University of Calgary	Department of Biological Sciences		Calgary	Alberta	T2N 1N4
UBC	UBC Herbarium, Beaty Biodiversity Museum	3529-6270 University Boulevard Connell Memorial Herbarium Biology		Vancouver	British Columbia	V6T 1Z4
UNB	University of New Brunswick	Department of Botany United States National Herbarium	P.O. Box 4400	Fredricton	New Brunswick	E3B 5AE
US	Smithsonian Institute	Department of Botany NMNH, MRC-	P.O. Box 37012	Washington	District of Columbia	20013-7012
UWO	University of Western Ontario	Herbarium, Department of Biology		London	Ontario	N6A 5B7
WAT	University of Waterloo	Herbarium, Biology Department		Waterloo	Ontario	N2L 3G1

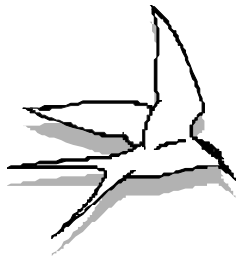
NOTE: All contact information presented here has been extracted from the online Herbaria of the World Index. url: <http://sweetgum.nybg.org/ih/index.php> fc

COUNTRY	URL	PHONE	CORRESPONDENT	TITLE	EMAIL
Canada	http://museums.ualberta.ca/vascularplants/index.aspx	[1] 902/ 585-1335	Ruth Newell	Curator	ruth.newell@acadiu.ca
Canada		[1] 780/ 492-5523	Jocelyn Hall	Curator of Vascular Plant Herbarium	jocelyn.hall@ualberta.ca
Canada		[1] 613/ 364-4076.	Jennifer Doubt	Chief Collection Manager	jdoubt@mus-nature.ca
France	http://res2.agr.ca/ecorc/dao/index_e.htm	[33] 2/ 98 97 0659	Marie Le Gal	Curator	ylegal@sb-roscoff.fr
Canada		[1] 613/ 759-1373	Paul Catling	Curator	catlingp@agr.gc.ca
Canada	http://www.Atl.cfs.NRCan.gc.ca	[1] 506/ 452-3515	J. Hurley	Curator Manager of Systematics Collections	J.Edward.Hurley@NRCan.gc.ca
USA	http://www.huh.harvard.edu	[1] 617/ 495-2365	Emily Wood		ewood@oeb.harvard.edu
Canada	http://www.fmnh.helsinki.fi/english/botany/index.htm	Contact [1] 709/ 458-2418	Michael Burzynski	Chief Park Interpreter Director, Head Curator of Phanerogams	Michael.Burzynski@pc.gc.ca
Finland		[358] 9/ 1911	Pertti Uotila		pertti.uotila@helsinki.fi
Sweden	http://www.biomus.lu.se/indexBe.html	[46] 46/ 222 95 58	Ingvar Kärnefelt	Director	ingvar.karnefelt@botmus.lu.se
Germany	http://staff-www.uni-marburg.de/	[49] 6421/ 282 2091	Hans Weber	Curator	weberh@mail.uni-marburg.de

USA	http://www.mobot.org/	[1] 314/ 577-5169	James Solomon	Curator of Vascular Plants	jim.solomon@mobot.org
Canada	http://www.irbv.umontreal.ca/francais/herbier/accueil.htm	[1] 514/ 872-8496	Luc Brouillet	Curator	brouille@irbv.umontreal.ca; luc.brouillet@umontreal.ca
USA		[1] 413/ 662-5342	C. Hellquist	Curator of Vascular Plants	bhellqui@mcla.mass.edu
Canada		[1] 709/ 737-7498	Peter Scott	Curator	pscott@mun.ca
Canada	http://www.therooms.ca/museum/	[1] 709/ 729-5007	Nathalie Djan-Chekar	Curator	nathaliedjanchekar@therooms.ca
USA	http://www.nybg.org/	[1] 718/ 817-8626	Barbara Thiers	Director	bthiers@nybg.org
Canada	http://www.uoguelph.ca/ib/facilities/herbarium.shtml	[1] 519/ 824-4120, ext. 58581	Carole Ann Lacroix	Curator of Phanerogam Collections	botcal@uoguelph.ca
Canada	www.herbier.ulaval.ca	[1] 418/ 656-7538	Serge Payette	Curator	serge.payette@herbier.ulaval.ca
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USA	http://www.nmnh.si.edu/sysbiology/	[1] 202/ 633-0920.	George Russell	Collections Manager	russellr@si.edu
Canada	http://www.science.uwaterloo.ca/biology/	[1] 519/ 661-2111	Jane Bowles	Curator	jbowles@uwo.ca
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For more information please visit the url provided.



Part I. Conservation Data Centre Subnational Rarity Ranks

Biological diversity or biodiversity can be described at a number of levels, from molecules to ecosystems. Biodiversity is a combination of species diversity (the variety of species), genetic diversity (the genetic variability among individuals of that species), and ecological diversity (the variety of ecosystems/habitats in which they live). Conservation Data Centres (CDCs), as part of The NatureServe* international network, track biodiversity at two levels: species and ecological communities. Species and ecological communities are referred to as **elements** of biodiversity. Elements are ranked in each jurisdiction (province or state) and at global and national levels in order to help prioritize conservation efforts.

NatureServe and all CDCs (called Heritage Programs in the US) use a standardized element ranking system that has evolved over some 30 years, with input from hundreds of scientists, managers and conservationists. The following material describes this element ranking system at the subnational (S) or provincial level and explains how ranks are assigned for species elements of biodiversity. (The community ranking process is slightly different.)

* Formerly known as The Nature Conservancy (TNC)

Definitions of Provincial (subnational) ranks - SRANKS

- S1 Critically Imperiled**—Critically imperiled in the jurisdiction because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the jurisdiction.
- S2 Imperiled**—Imperiled in the jurisdiction because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from jurisdiction.
- S3 Vulnerable**—Vulnerable in the jurisdiction due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4 Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5 Secure**—Common, widespread, and abundant in the jurisdiction.
- SX Presumed Extirpated**—Species or ecosystem is believed to be extirpated from the jurisdiction (i.e., nation or state/province). Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

- SH Possibly Extirpated**— Known from only historical records but still some hope of rediscovery. There is evidence that the species or ecosystem may no longer be present in the jurisdiction, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching or some evidence of significant habitat loss or degradation; (2) that a species or ecosystem has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction.
- S#S# Range Rank** — A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem. Ranges cannot skip more than two ranks (e.g., SU is used rather than S1S4).
- SU Unrankable**—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
- SNR Unranked**—National or subnational conservation status not yet assessed.
- SNA Not Applicable** —A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities.

Not applicable cases:

Hybrid – Element represents an interspecific hybrid without conservation value. (Note that hybrids may be assigned a numeric rank if they do have a conservation value.)

Exotic Origin – Element is not native to the nation or subnation.

Accidental/Nonregular – Element is not regularly found in the nation or subnation, in other words, infrequent and outside of normal range.

Not Confidently Present – Element’s presence in the nation or subnation has been reported, but the report is unconfirmed or doubtful; Element has been falsely reported, and may or may not potentially occur; Element may potentially occur (e.g., habitat is suitable); Element was never present in the nation or subnation despite presence in surrounding areas.

No Definable Occurrences – Element is native and appears regularly but lacks practical conservation concern in the subnation because it is transient or occurs in a dispersed, unpredictable manner.

Synonym – Element reported as occurring in the nation or subnation, but the national or provincial data center does not recognize this taxon; therefore the Element is not assigned a national or subnational rank.

Rank Qualifier

- S#?** **Inexact Numeric Rank**—Denotes inexact numeric rank. This designation should not be used with any of the variant national or subnational conservation status ranks or NX, SX, NH, or SH.

Breeding Status Qualifiers⁴

- B Breeding**—Conservation status refers to the breeding population of the species in the nation or state/province.
- N Nonbreeding**—Conservation status refers to the non-breeding population of the species in the nation or state/province.
- M Migrant**—Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the nation or state/province.

⁴ 4A breeding status is only used for species that have distinct breeding and/or non-breeding populations in the nation or state/province. A breeding-status S-rank can be coupled with its complementary non-breeding-status S-rank if the species also winters in the nation or state/province. In addition, a breeding-status S-rank can also be coupled with a migrant-status S-rank if, on migration, the species occurs regularly at particular staging areas or concentration spots where it might warrant conservation attention. Multiple conservation status ranks (typically two, or rarely three) are separated by commas (e.g., S2B,S3N or SHN,S4B,S1M).

Part II. The Ranking Process

To rank species elements, 8-10 different biological criteria are assessed for each species. The ten factors considered in assigning status ranks are described below.

Ranking Matrix Eight ranking criteria and value of letter scores for each criterion.

MATRIX SCORE									
CRITERIA	A	B	C	D	E	F	G	H	I
Population size	1-50	50-250	250-1000	1000-2500	2500-10000	10000-100000	100000-1000000	>1000000	
Range Extent	<100km ²	100-250km ²	250-1000km ²	1000-5000km ²	5000-20000 km ²	20000-200000 km ²	200000 – 2500000 km ²		
Short-term Trend	Decline >90%	Decline of 80-90%	Decline of 70-80%	Decline of 50-70%	Decline of 30-50%	Decline of 10-30%	Relatively Stable (<10% change)	Increase of 10-25%	Increase of >25%
Long-term Trend	Decline >90%	Decline of 80-90%	Decline of 70-80%	Decline of 50-70%	Decline of 30-50%	Decline of 10-30%	Relatively Stable (<10% change)	Increase of 10-25%	Increase of >25%
Area of Occupancy	<0.4km ²	0.4-4km ²	4-20km ²	20-100km ²	100-500km ²	500-2000km ²	2000-20000km ²	>20000 km ²	

Number of Element Occurrences (EOs)	0-5	6-20	21-100	>100					
Number of EOs with Good Viability	No occurrences with excellent or good viability or ecological integrity	Very few (1-3) occurrences with excellent or good viability or ecological integrity	Few (4-12) occurrences with excellent or good viability or ecological integrity	Some (13-40) occurrences with excellent or good viability or ecological integrity	Many (41-125) occurrences with excellent or good viability or ecological integrity	Very Many (>125) occurrences with excellent or good viability or ecological integrity			
Environmental Specificity	Very Narrow	Narrow	Moderate	Broad					
Threat Scope	Pervasive (71-100%)	Large (31-70%)	Restricted (11-30%)	Small (1-10%)					
Threat Severity	Pervasive (71-100%)	Large (31-70%)	Restricted (11-30%)	Small (1-10%)					

1. Population Size

Population size is the estimated current total population of the species which is naturally occurring and wild within the area of interest (globe, nation, or subnation), and that is of reproductive age or stage (at an appropriate time of the year), including mature but currently non-reproducing individuals, which should be included in counts or estimates. Abundance is measured in different ways depending on the biology of the species. For animal populations it is usually measured by the number of individuals, for plants it may be measured by the area occupied by a distinct population, and for aquatic invertebrates it may be measured by the stream length that the species occupies:

Z = Zero, no individuals believed extant (i.e., species presumed extinct)

A = 1–50 individuals

B = 50–250 individuals

C = 250–1,000 individuals

D = 1,000–2,500 individuals

E = 2,500–10,000 individuals

F = 10,000–100,000 individuals

G = 100,000–1,000,000 individuals

H = >1,000,000 individuals

U = Unknown

Null = Factor not assessed

*A value range (e.g., DE) can also be used to indicate uncertainty.
(DE would indicate between 1000 – 10000 individuals).

2. Range Extent

This denotes the approximate range of the species as a percentage of the province's area. It is defined as the current area contained within the shortest continuous imaginary boundary which can be drawn to encompass all the known, inferred or projected sites of occurrence, but, *excluding* significant areas where the species does not occur due to unsuitable habitat. Thus the estimate of range for a species exhibiting a linear use of coastal forests or riverine habitats would not consider tracts of unsuitable habitat in the interior of the polygon.

Z = Zero (no occurrences believed extant; species presumed extinct or ecosystem believed eliminated throughout its range)

A = <100 km²

(less than about 40 square miles)

B = 100–250 km²

(about 40–100 square miles)

C = 250–1,000 km²

(100–400 square miles)

D = 1,000–5,000 km²

(400–2,000 square miles)

E = 5,000–20,000 km²

(2,000–8,000 square miles)

F = 20,000–200,000 km²

(8,000–80,000 square miles)

G = 200,000–2,500,000 km²

(80,000–1,000,000 square miles)

H = >2,500,000 km²

(greater than 1,000,000 square miles)

3. Short-term Trend

The rating code that best describes the observed, estimated, inferred, or suspected degree of change in population size, extent of occurrence (range extent), area of occupancy, number of occurrences, and/or number of occurrences or percent area with good viability or ecological integrity over the short term, whichever most significantly affects the conservation status assessment in the area of interest (globe, nation, or subnation). Consider short-term historical trend within ten years or three generations (for long-lived taxa), whichever is the longer (up to a maximum of 100 years), or, for communities and systems, typically 30 years, depending on the characteristics of the type.

The trend may be recent or current, and the trend may or may not be known to be continuing. Trends may be smooth, irregular, or sporadic. Fluctuations will not normally count as trends, but an observed change should not be considered as merely a fluctuation rather than a trend unless there is evidence for this. Conservation Status Assessments: Factors for Assessing Extinction Risk 25

In considering trends, do not consider newly discovered but presumably long existing occurrences, nor newly discovered individuals in previously poorly known areas.

Also, consider fragmentation of previously larger occurrences into a greater number of

smaller occurrences to represent a decreasing area of occupancy as well as decreasing number of good occurrences or populations.

- A = Decline of >90%**
- B = Decline of 80–90%**
- C = Decline of 70–80%**
- D = Decline of 50–70%**
- E = Decline of 30–50%**
- F = Decline of 10–30%**
- G = Relatively Stable ($\leq 10\%$ change)**
- H = Increase of 10–25%**
- I = Increase of >25%**
- U = Short-term trend unknown**
- Null = Factor not assessed**

4. Long-term Trend

The rating code that best describes the observed, estimated, inferred, or suspected degree of change in population size, extent of occurrence (range extent), area of occupancy, number of occurrences, and/or number of occurrences or percent area with good viability or ecological integrity over the long term (ca. 200 years) in the area of interest (globe, nation, or subnation).

- A = Decline of >90%**
- B = Decline of 80–90%**
- C = Decline of 70–80%**
- D = Decline of 50–70%**
- E = Decline of 30–50%**
- F = Decline of 10–30%**
- G = Relatively Stable ($\leq 10\%$ change)**
- H = Increase of 10–25%**
- I = Increase of >25%**
- U = Long-term trend unknown**
- Null = Factor not assessed**

5. Area of Occupancy

Area of occupancy for taxa can be defined as (modified from the International Union for the Conservation of Nature 2001):

“...the area within its ‘extent of occurrence’, which is occupied by a taxon or ecosystem type, excluding cases of vagrancy. The measure reflects the fact that a taxon or type will not usually occur throughout the area of its extent of occurrence, which may contain unsuitable or unoccupied habitats. In some cases, (e.g., irreplaceable colonial nesting sites, crucial feeding sites for migratory taxa) the area of occupancy is the smallest area essential at any stage to the survival of existing populations of a taxon. The size of the area of occupancy will be a function of the scale at which it is measured, and should be

at a scale appropriate to relevant biological or ecological aspects of the taxon or type, the nature of threats and the available data.”

- A** = <0.4km²
- B** = 0.4-4
- C** = 4-20 km²
- D** = 20-100 km²
- E** = 100-500 km²
- F** = 500-2000 km²
- G** = 2000-20000 km²
- H** = >20000 km²

5b. Linear Distance of Occupancy

Ecosystems that occur as linear strips. They are often ecotonal between terrestrial and aquatic ecosystems. In undisturbed conditions, typical occurrences range in linear distance from 0.5 to 100 km.

- A** = <4km²
- B** = 4-40
- C** = 40-200 km²
- D** = 200-1000 km²
- E** = 1000-5000 km²
- F** = 5000-20000 km²
- G** = 20000-200000 km²
- H** = >200000 km²

6. Number of Element Occurrences (EOs)

An “element occurrence” is the mapping unit of CDC methodology. It is generally defined as an area of land or water on which an “element of biodiversity” (plant and animal species or natural community) is or was present. It is a physical location important to the conservation of a species or community, an area worth preserving to insure the survival of a community or species at risk. For a species it is generally the habitat occupied by a local population, for a community it is the area containing a stand or patch. What constitutes an occurrence also varies between species (e.g. hibernacula, den sites, breeding ponds where adults, egg masses and/or larvae have been identified, breeding colonies, etc.). Some species can have more than one type of occurrence, for example breeding and wintering occurrences.

A single letter code (below) represents the number of estimated occurrences believed extant for the species in the province. When a species’ distribution is extremely limited and there are very few site occurrences, it is very susceptible to any number of ecological disturbances, both predictable and unpredictable. This criteria is therefore an important factor influencing SRANK when the number of occurrences is few. If the letter code for this field is A or B, the species usually qualifies for a rank of S1 or S2.

- A** = 0 - 5 occurrences
- B** = 6 - 20 occurrences

- C** = 21 - 100 occurrences
- D** = 101+ occurrences

7. Number of EOs with Good Viability

For species, an occurrence with at least good (i.e., excellent-to-good) viability exhibits favorable characteristics with respect to population size and/or quality and quantity of occupied habitat; and, if current conditions prevail, the occurrence is likely to persist for the foreseeable future (i.e., at least 20–30 years) in its current condition or better. See Hammerson et al. (2008) for more details. For ecosystems, an occurrence has excellent-to-good ecological integrity when it exhibits favorable characteristics with respect to reference conditions for structure, composition, and function, operating within the bounds of natural or historic disturbance regimes, and is of exemplary size (Faber-Langendoen et al. 2008). One would expect only minor to moderate alterations to these characteristics for an occurrence to maintain good ecological integrity.

For many occurrences, viability or ecological integrity assessments or ranks have been applied by biologists and ecologists throughout the NatureServe network. For species, these Element Occurrence (EO) ranks estimate the probability of persistence of the occurrence. For ecosystems, the rank is a succinct assessment of the degree to which, under current conditions, an occurrence of an ecosystem matches reference conditions for that system, without any presumptions made about future status or persistence. Ranks for species and ecosystems are based on a set of “occurrence rank factors,” namely size (including population size and/or occupied area), abiotic and biotic condition, and landscape context. These factors may be further refined to specific indicators or metrics. The overall ranks range from A = Excellent viability/integrity, to D = Poor viability/integrity

A = No occurrences with excellent or good (assessed as A or B) viability or ecological integrity

B = Very few (1–3) occurrences with excellent or good viability or ecological integrity

C = Few (4–12) occurrences with excellent or good viability or ecological Integrity

D = Some (13–40) occurrences with excellent or good viability or ecological integrity

E = Many (41–125) occurrences with excellent or good viability or ecological integrity

F = Very many (>125) occurrences with excellent or good viability or ecological integrity

U = Unknown number of occurrences with excellent or good viability or ecological integrity

Null = Factor not assessed

8. Environmental Specificity

Environmental Specificity is the degree to which a species or ecosystem depends on a relatively scarce set of habitats, substrates, food types, or other abiotic and/

or biotic factors within the overall range. Relatively narrow requirements are thought to increase the vulnerability of a species or ecosystem. This factor is most important when the number of occurrences, and the range extent or area of occupancy, are largely unknown.

- A =** Very Narrow. Specialist or ecosystem with key requirements scarce. For species, specific habitat(s), substrate(s), food type(s), hosts, breeding/non-breeding microhabitats, or other abiotic and/or biotic factor(s) are used or required by the species or ecosystem in the area of interest, with these habitat(s) and/or other requirements furthermore being scarce within the generalized range of the species or ecosystem within the area of interest, and the population (or the number of breeding attempts) expected to decline significantly if any of these key requirements become unavailable. For ecosystems, environmental requirements are both narrow and scarce (e.g., calcareous seepage fens).
- B =** Narrow. Specialist or ecosystem with key requirements common. Specific habitat(s) or other abiotic and/or biotic factors (see above) are used or required by the species or ecosystem, but these key requirements are common and within the generalized range of the species or ecosystem within the area of interest. For ecosystems, environmental requirements are narrow but common (e.g., floodplain forest, alpine tundra).
- C =** Moderate. Generalist or community with some key requirements scarce. Broad-scale or diverse (general) habitat(s) or other abiotic and/or biotic factors are used or required by the species or ecosystem, but some key requirements are scarce in the generalized range of the species or ecosystem within the area of interest. For ecosystems, environmental requirements are broad but scarce (e.g., talus or cliff forests and woodlands, alvars, many rock outcrop communities dependent more on thin, droughty soils per se than specific substrate factors).
- D =** Broad. Generalist or community with all key requirements common. Broad-scale or diverse (general) habitat(s) or abiotic and/or biotic factors are used or required by the species or ecosystem, with all key requirements common in the generalized range of the species or ecosystem in the area of interest. For animals, if the preferred food(s) or breeding/non-breeding microhabitat(s) become unavailable, the species switches to an alternative with no resulting decline in numbers of individuals or number of breeding attempts. For ecosystems, environmental requirements are broad and common (e.g., forests or prairies on glacial till, or forests and meadows on montane slopes).

9. Threat Severity

Within the scope (as defined spatially and temporally in assessing the scope of the Threat), severity is the level of damage to the species or ecosystem from the Threat that can reasonably be expected with continuation of current circumstances and trends

(including potential new threats) (Table 7). Note that severity of Threats is assessed within a ten-year or three-generation time frame, whichever is longer (up to 100 years).

For species, severity is usually measured as the degree of reduction of the species' population. Surrogates for adult population size (e.g., area) should be used with caution, as occupied areas, for example, will have uneven habitat suitability and uneven population density. For ecosystems, severity is typically measured as the degree of degradation or decline in integrity (of one or more key characteristics).

Extreme	Within the scope, the Threat is likely to destroy or eliminate the occurrences of an ecological community, system or species, or reduce the species population by 71–100%
Serious	Within the scope, the Threat is likely to seriously degrade/reduce the effected occurrences or habitat or, for species, to reduce the species population by 31–70%
Moderate	Within the scope, the Threat is likely to moderately degrade/reduce the effected occurrences or habitat or, for species, to reduce the species population by 11–30%
Slight	Within the scope, the Threat is likely to only slightly degrade/reduce the effected occurrences or habitat or, for species, to reduce the species population by 1–10%

10. Threat Scope

Scope is defined herein as the proportion of the species or ecosystem that can reasonably be expected to be affected (that is, subject to one or more stresses) by the Threat within ten years with continuation of current circumstances and trends (Table 6). Current circumstances and trends include both existing as well as potential new threats. The ten-year time frame can be extended for some longer-term threats, such as global warming, that need to be addressed today. For species, scope is measured as the proportion of the species' population in the area of interest (globe, nation, or subnation) affected by the Threat. For ecosystems, scope is measured as the proportion of the occupied area of interest (globe, nation, or subnation) affected by the Threat. If a species or ecosystem is evenly distributed, then the proportion of the population or area affected is equivalent to the proportion of the range extent affected by the Threat; however, if the population or area is patchily distributed, then the proportion differs from that of range extent.

Pervasive	Affects all or most (71–100%) of the total population or occurrences
Large	Affects much (31–70%) of the total population or occurrences
Restricted	Affects some (11–30%) of the total population or occurrences.
Small	Affects a small (1–10%) proportion of the total population or occurrences.

11. Intrinsic Vulnerability

Note that this factor is not used if the Threats status factor has been assessed.

Intrinsic Vulnerability is the observed, inferred, or suspected degree to which characteristics of the species or ecosystem (such as life history or behavior characteristics of species, or likelihood of regeneration or recolonization for ecosystems) make it vulnerable or resilient to natural or anthropogenic stresses or catastrophes. For ecosystems, Intrinsic Vulnerability is most readily assessed using the dominant species and vegetation structure that characterize the ecosystem, but it can also refer to ecological processes that make an ecosystem vulnerable or lack resiliency (e.g., shoreline fens along estuarine and marine coasts subject to rising sea levels).

Since geographically or ecologically disjunct or peripheral occurrences may show additional vulnerabilities not generally characteristic of a species or ecosystem, characteristics of Intrinsic Vulnerability are to be assessed for the species or ecosystem throughout the area of interest, or at least for its better occurrences. Information on population size, number of occurrences, area of occupancy, extent of occurrence, or environmental characteristics that affect resiliency should not be considered when assessing Intrinsic Vulnerability; these are addressed using other status factors.

Note that the Intrinsic Vulnerability characteristics exist independent of human influence, but may make the species or ecosystem more susceptible to disturbance by human activities. The extent and effects of current or projected extrinsic influences themselves should be addressed in the comments field of the Threats status factor.

A = Highly Vulnerable. Species is slow to mature, reproduces infrequently,

and/or has low fecundity such that populations are very slow (>20 years or five generations) to recover from decreases in abundance; or species has low dispersal capability such that extirpated populations are unlikely to become reestablished through natural recolonization (unaided by humans). Ecosystem occurrences are highly susceptible to changes in composition and structure that rarely if ever are reversed through natural processes even over substantial time periods (>100 years).

B = Moderately Vulnerable. Species exhibits moderate age of maturity, frequency of reproduction, and/or fecundity such that populations generally tend to recover from decreases in abundance over a period of several years (on the order of 5–20 years or 2–5 generations); or species has moderate dispersal capability such that extirpated populations generally become reestablished through natural recolonization (unaided by humans). Ecosystem occurrences may be susceptible to changes in composition and structure but tend to recover through natural processes given reasonable time (10–100 years).

C = Not Intrinsicly Vulnerable. Species matures quickly, reproduces frequently, and/or has high fecundity such that populations recover quickly (<5 years or 2 generations) from decreases in abundance; or species has high dispersal capability such that extirpated populations soon become reestablished through natural recolonization (unaided by humans). Ecosystem occurrences are resilient or resistant to irreversible changes in composition and structure and quickly recover (within 10 years).

U = Unknown

Null = Factor not assessed

12. Other Considerations

Other considerations in determining the rank that are not apparent from the letter codes selected for the above criteria. Generally, these considerations will raise rather than lower the rank, e.g., "Never sexually reproduces" or "All occurrences are in areas under development".

References

Master, L., D. Faber-Langendoen, R. Bittman, G. A. Hammerson, B. Heidel, J. Nichols, L. Ramsay, and A. Tomaino. 2009. NatureServe Conservation Status Assessments: Factors for Assessing Extinction Risk. NatureServe, Arlington, VA.