APPENDICES

Prepared for

MOWI

Prepared by

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Indian Head Hatchery Expansion Project

March 7, 2024

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SECTION 1 – BACKGROUND

Purpose of the EIS

The purpose of the EIS is to identify the potential positive and negative environmental effects associated with the Project, to identify measures to mitigate against negative effects, to determine the significance of residual environmental effects, and to consult with the public and respond to public concerns. The environmental effects and mitigations associated with the Project may be subject to a comprehensive evaluation through the licensing and permitting processes and regulatory oversight of federal and provincial government agencies. The EIS is a statement of the Proponent's environmental conclusions and commitments related to the Project, and must be explicitly endorsed by the Proponent.

Purpose of the Guidelines

On October 25, 2023, the Minister of Environment and Climate Change (ECC) informed Northern Harvest Smolt Inc. (the Proponent) that an environmental impact statement (EIS) is required for the proposed Indian Head Hatchery Expansion Project (the Project). The purpose of this document is to identify for the Proponent the nature, scope and extent of the information and analysis required in the preparation of the EIS. The Proponent will prepare and submit an EIS that examines the potential environmental effects of the construction, operation, maintenance, decommissioning, reclamation, and abandonment of the Project; identifies mitigation measures; and evaluates the significance of residual effects. Section 3 of these guidelines outlines in detail the content of the EIS to be prepared.

Project Description

The Proponent is proposing to expand the Indian Head Hatchery in Stephenville to provide an additional 2.2 million salmon smolt to stock currently licensed sea cages. The expansion is intended to both increase production capacity and improve smolt quality. The Project would involve upgrades to improve efficiency of the existing hatchery facility, expansion of the hatchery to increase production, and installation of supporting infrastructure such as freshwater and saltwater supply and effluent treatment and discharge. The Project's scope also includes the transport, transfer, rearing and harvesting of additional smolt in the sea farms. The EIS shall describe all components and sea farm sites that are needed to make the Project operational and viable.

SECTION 2 – PREPARATION AND PRESENTATION OF THE EIS

The EIS shall be written in terms understandable to the general public, however, where the complexity of the issues addressed requires the use of technical language, a glossary defining technical words and acronyms shall be included.

Where external sources of information or data are used, they shall be referenced within the body of the EIS and listed as References at the end. Where conclusions that are critical to the assessment of environmental effects are cited from other reports, the EIS shall provide sufficient detail of the original data and analysis to enable a critical review of that material and submit reference material as an appendix to the EIS. All conclusions regarding the receiving environment and predictions of the environmental effects shall be substantiated. The EIS shall reference, rather than repeat, information previously presented in other sections of the document. For clarity and ease of reference, the EIS shall include a Table of Concordance that cross- references the EIS guidelines so that points raised in the guidelines are easily located in the EIS. A Table of Contents, providing location of information in the final document by volume (if applicable), section, sub-section and page number, is required.

The EIS shall provide charts, diagrams, and maps wherever useful to clarify the text, including a depiction of how the developed Project sites will appear from both an aerial and terrestrial perspective. Where possible, maps shall use common scales to allow for comparison and overlay of mapped features and shall indicate common and accepted local place names. Geographic information shall be provided in standard Geographic Information System (GIS) mapping (digital) format, where feasible. The EIS and all associated reports and studies shall use System International (SI) units of measure and terminology.

The EIS shall be a stand-alone document upon which a critical review can be undertaken. The Proponent shall explain and justify all methods used in the preparation of the EIS, including the use of scientific, engineering, Indigenous, local, and other knowledge. All hypotheses and assumptions shall be clearly identified and justified. All data collection methods, models, and studies shall be documented so that the analyses are transparent and reproducible. The degree of uncertainty, reliability, and sensitivity of models used to reach conclusions shall be indicated.

The information included in this document is not intended to be exhaustive - additional detail, studies, and/or examination of components may be required. The content of the EIS should be organized according to the format described in Section 3.

SECTION 3 - OUTLINE OF THE EIS

EXECUTIVE SUMMARY

The executive summary shall contain the following information:

- identification of the Proponent;
- a brief Project description;
- predicted biophysical environmental effects (including cumulative effects associated with the Project, and other existing and reasonably expected future projects in the vicinity of the Project site);
- socio-economic factors;
- alternatives;
- mitigation measures;
- residual effects;
- follow up and monitoring programs;
- all studies and plans required by the EIS guidelines;
- a summary of the fundamental conclusions of the EIS; and
- a glossary of terms.

The Table of Concordance may be included in the executive summary.

EIS PROJECT INFORMATION

1.0 INTRODUCTION

1.1 Name of the Undertaking

1.2 The Proponent

This section shall introduce the Proponent by providing the following pertinent information:

- Corporate body name and contact information;
- Chief Executive Officer's name and contact information ;
- Name and contact information for the principle contact person for the purpose of environmental assessment;
- Names and contact information for key personnel, contractors, and/or sub-contractors responsible for

preparing the EIS; and

- disclosure of any affiliation or partnership with governmental or non-governmental organizations.

This section shall include a description of the Proponent's history of salmon aquaculture and discuss the experiences that have led to the development of this undertaking.

1.3 Overview of the Undertaking

The intent of the overview is to identify the key Project components, rather than provide a detailed description of the Project, which will follow under section 2.0. The Proponent shall briefly summarize the Project by presenting the major Project components, associated activities, scheduling details, timing of each phase of the Project and other key features. If development of the Project will follow a phased approach, information about the incremental and phased development of the Project, including the timing of each phase of the Project, shall be described. The key components of the undertaking shall include but not be limited to:

a) upgrades to improve efficiency within the existing hatchery;
b) all components related to the expansion of the existing hatchery;
c) transfer of fish from the hatchery to sea farms;
d) siting and operation of sea farms; and
e) harvesting of fish.

2.0 THE PROPOSED UNDERTAKING

2.1 Study Areas

The EIS shall contain a description of the geographical settings in which all components of the Project will take place. Maps, aerial images and a precise description of geographic boundaries of all proposed Project sites shall be provided, including but not limited to the following sites:

- hatchery facility and ancillary structures;
- fresh water and saltwater sources;
- effluent discharge locations;
- fish transfer system from the hatchery to transport vessel;
- transport vessel route and fish transfer to sea farms;
- sea farm/sea cage locations; and
- well boat landing sites.

A precise description of the geographic boundaries of the Project shall be presented in relation to the study area for each valued environmental component (VEC) (discussed in section 4.2). The boundary description shall be accompanied by recent maps/aerial imagery of appropriate scale (e.g. 1:30,000, 1:20,000, or other) showing the entire Project study areas, as well as illustrating the boundary of each study area with principle structures and ancillary works. The delineation of the study areas is crucial to scope the extent of the environmental assessment. The rationale used to delineate the boundaries of the study areas shall be provided. This description shall focus on those aspects of the Project and its settings that are important to understand the potential environmental effects of the Project, and shall provide the following information:

a) GPS locations and proximity of Project components to existing environmental features, including but not limited to:
    i. nearest temporary and permanent residential dwellings;
    ii. commercial and industrial sites, including navigation routes;
    iii. commercial and recreational fishing areas;
    iv. other aquaculture sites;
    v. navigation routes; and
    vi. scheduled and non-scheduled salmon rivers.
b) description of the environmental significance and value of the geographical setting in which the Project is proposed to take place, and the surrounding area, including but not limited to:
    i. environmentally sensitive areas, such as national, provincial, and regional parks and reserves and proposed protected areas, such as the South Coast Fjords proposed national marine conservation area and the proposed Facheaux Bay Ecological Reserve and Transitional Reserve area;
    ii. ecologically and biologically significant areas (EBSA);
    iii. wetlands, estuaries, lakes and rivers; and
    iv. habitats of federally or provincially listed species at risk, including critical habitat for the designated species and other sensitive areas.
c) a description of local communities, including any sewage effluent and/or other water discharges that may adversely affect the Project;
d) a description of the hatchery site and landing site for transferring smolt to the well boat;
e) a description of sea farm/sea cage sites and navigation routes: from hatchery to sea cage sites; between sea cage sites; and from sea cage sites to fish processing facility; and
f) a description of the bay management areas (BMAs) where all sea farm /sea cages associated with the Project are located, including a description of other marine use within the BMAs.

An overview map(s)/ image(s) shall be provided, noting the proximity of the study area to the above features.

2.2 Rationale for the Undertaking

The EIS shall describe the rationale for the Project in terms of its need and purpose, such as opportunities that the Project is intended to satisfy, as well as the current and future markets for salmon produced from the Project (e.g., domestic or export use; markets). If the objectives of the Project are related to broader private or public sector policies, plans or programs, this information shall also be included.

The need for the Project refers to a problem or opportunity that the proposed Project is intending to solve or satisfy, and establishes the fundamental justification or rationale for the Project. The purpose of the Project is defined as what is to be achieved by carrying out the Project. The need for and purpose of the Project should be established from the perspective of the Proponent and provide the context for the consideration of alternatives.

2.3 Project Description

The Proponent shall describe the scope of the Project for which the EIS is being conducted including: the construction, operation, maintenance, foreseeable modifications of all Project-related facilities, and the closure, decommissioning and rehabilitation of Project facilities and sites.

2.3.1 General Layout

The EIS shall provide a written and graphic description (e.g. maps, aerial imagery and drawings) of the following physical features of the undertaking:

a) all existing, and proposed hatchery buildings and ancillary structures and proposed expansions to existing hatchery buildings and ancillary structures;
b) all infrastructure for:
    i. fresh and saltwater supply;
    ii. energy supply;
    iii. effluent treatment and discharge;
    iv. waste management and sewage disposal; and
    v. fish transport system to move fish from hatchery to transport vessel.
c) construction sites, lay down sites or storage areas required for the hatchery expansion or sea farm sites;
d) roads (existing or proposed) to access coastline for each sea farm site;
e) wharfs or docking stations required to transport employees and supplies to sea cage sites;
f) layout of each sea farm site depicting and describing infrastructure and equipment required, including sea cages, moorings, ropes, floating platforms, and transportation equipment; and
g) discussion and illustration of the sea farms that have received smolt from the Indian Head Hatchery and sites that will receive smolts after the expansion.

2.3.2 Construction

Details of materials, methods, schedule, and locations of all construction activities (including permanent and temporary infrastructure related to physical features) shall be described, including, but not limited to, the following:

a) construction schedule, including time-frames for site preparation, construction of hatchery expansion components, and construction/assembly of sea cages/sea farms;
b) details of access road upgrades and road construction if required ;
c) details of sea cage construction/assembly, installation, placement of moorings, ropes and collars, installation equipment and vessels, and the presence of temporary and permanent structures;
d) all liquid and solid waste expected to be generated by construction of the hatchery expansion, sea farms, and other project-related construction, and methods to reduce, reuse, recycle, recover, and/or manage residual wastes through disposal;
e) measures that will be undertaken to rehabilitate and stabilize construction sites; and
f) transport, storage, and use of all hazardous materials, fuels, and lubricants.

A Waste Management Plan that includes construction of the Project shall be included in the EIS and may be referenced here and included as an appendix (see section 7.2).

2.3.3 Operation and Maintenance

All aspects of the operation and maintenance procedures for the undertaking shall be described in this section of the EIS, including but not limited to the following:

a) a description of equipment and procedures associated with fish-rearing operations including acquisition of eggs, all hatchery growth stages, transport and transfer of fish to sea cages, grow-out within sea cages; and final harvest and transfer to a processing facility;
b) a description of biosecurity protocols associated with the hatchery/hatchery expansion and sea cage operations;
c) a description of aquatic animal health veterinary services through all the stages identified in a) above;
d) procedures for fish euthanasia (routine activities, and events involving large quantities of fish);
e) proposed use, purpose and method of deployment of all antibiotics, anesthetics, vaccines, pesticides, disinfectants and other substances, agents or chemicals to be used during all Project stages. Provide estimates of typical quantities used during a production cycle. Include procedures and equipment for storage, handling and disposal of waste or unused products;
f) a description of all freshwater and saltwater use in the hatchery/hatchery expansion, from source to

discharge;

g) identification of the groundwater source and operational water withdrawal volumes required for the hatchery/hatchery expansion;
h) identification of the minimum water quality parameters required to support all hatchery/hatchery expansion operations as well as the industry or regulatory standards they meet or exceed. Describe all treatment, testing and monitoring of intake water to ensure sufficient quality for fish life support, including processes and technology involved with screening and filtration, UV radiation, oxygenation, aeration, nitrogen removal, or any other proposed treatment;
i) a description of all treatment, testing and monitoring of hatchery/hatchery expansion effluent, including cleaning, disinfecting, and maintaining treatment equipment. Identify industry/regulatory standards for the treatment of hatchery/hatchery expansion effluent and describe monitoring to ensure the effluent meets or exceeds standards prior to discharge;
j) a description of products, procedures and scheduling for cleaning, disinfecting, and/or maintaining equipment and infrastructure associated with the hatchery/hatchery expansion, sea farms, marine vessels, and floating platforms;
k) a description of the anticipated volume of liquid and solid waste to be generated and waste management methods during normal operations;
l) planned stocking densities for the hatchery expansion and sea cages, including maximum densities at peak production;
m) a description of how hatchery expansion smolt are allocated to sea farms;
n) estimated mortalities at hatchery and sea farms per production cycle.
o) measures that will be undertaken to monitor water conditions and quality in the hatchery/hatchery expansion and sea cages, including but not limited to, water temperature and dissolved oxygen;
p) use of integrated pest management for sea lice (*Caligus elongatus* and *Lepeophtheirus salmonis*) control and monitoring, including provision of designated veterinary services;
q) methods to ensure fish containment within sea cages and during any transfer periods;
r) methods to recapture fish should escapes occur;
s) a description of potential predators and predator controls; and
t) a description of all government reporting, including incident management and public reporting requirements related to the hatchery and sea cage operations.

A Waste Management Plan that includes operation and maintenance of the Project shall be included in the EIS and may be referenced here and included as an appendix (see section 7.2).

2.3.4 Decommissioning and Rehabilitation

The EIS shall predict the lifespan of the undertaking and present an approach for decommissioning, which sets out a commitment from the Proponent to address:

a) expected useful life of major Project infrastructure and life cycle management plans for such infrastructure;
b) removal of fish and aquaculture gear used in the hatchery;
c) identification of potential options for closure and/or reuse of the hatchery facility; and
d) removal of fish and aquaculture gear used at the sea farms.

A Waste Management Plan that includes decommissioning and rehabilitation of the Project shall be included in the EIS and may be referenced here and included as an appendix (see section 7.2).

2.3.5 Regulatory Framework and Government Oversight

The EIS shall provide a comprehensive list of permits and regulatory approvals (municipal, provincial, and federal) required for the undertaking. The list shall include the following details:

- activity requiring regulatory approval;
- name of permit, license or regulatory approval;
- name of legislation applicable in each case; and
- regulatory agency responsible for each permit, license, andapproval.

The EIS shall identify:

a) government policies, resource management plans, and planning or study initiatives pertinent to the Project and/or the environmental assessment;
b) any relevant land use plans, land zoning, or community plans; and
c) regional, provincial, and/or national objectives, standards, codes and/or guidelines that have been used by the proponent to assist in the development of the EIS.

3.0 ALTERNATIVES

3.1 Alternatives to the Undertaking

The EIS shall include a detailed analysis of the advantages and disadvantages to the environment of the undertaking as proposed; an analysis of the alternatives to the undertaking; and a summary with clearly described methods and sufficient information to justify the selection of the preferred alternative, as well as an explanation for rejecting other alternatives. This section shall include a comparative analysis of the environmental effects

and technical and economic feasibility of alternatives that led to the selected Project alternative. The Proponent shall consider describing:

a) functionally different methods of meeting the Project need and achieving the Project purpose; and
b) market and regulatory circumstances that may have influenced the preferred alternative.

3.2 Alternative Methods of Carrying Out the Undertaking

The EIS shall identify and consider the environmental effects of alternative methods of carrying out the undertaking that satisfy the need for the undertaking. The preferred alternatives shall be identified, with the selection based on clearly described methods. An explanation shall be included of how environmental factors affect the design and consideration of alternatives.

The EIS shall provide the rationale for selecting Project components and shall discuss the state of the art of the various technologies being proposed. The EIS shall indicate known experience with and effectiveness and reliability of the equipment, techniques, procedures, and policies, for each alternative, particularly under climate conditions in Newfoundland and Labrador and elsewhere, and their relation to best practice in Newfoundland and Labrador.

The EIS shall analyze and compare the design alternatives for the Project in relation to their environmental and social costs and benefits, including those alternatives which cost more to build and/or operate but which cause less harmful environmental effects. The range of alternatives considered for the annual production and scale of the operation shall be discussed, and the chosen alternative justified. In describing alternative means of carrying out the Project, the Proponent may consider, but not be limited to, a discussion of the following:

a) site selection for hatchery expansion, including operational water source;
b) site selection for grow-out operations;
c) source and selection of eggs and broodstock;
d) hatchery expansion operation (recirculation versus flow-through);
e) land-based versus marine-based options for salmon grow-out; and
f) marine based containment options (i.e., closed containment).

4.0 ENVIRONMENT

4.1 Key Issues

To better focus the EIS, the Proponent shall identify the key issues related to the Project. The issues can be revised and adjusted in relation to the information acquired in the field and during consultations held by the

Proponent in the preparation of the EIS.

The following factors shall be included in the selection of key issues:

- preserving the genetic integrity, biological fitness and population viability of wild Atlantic salmon;
- preserving the economic, cultural, and social significance of wild Atlantic salmon;
- mitigating the environmental effects of the Project on commercial and non-commercial species of fish (including wild Atlantic salmon), invertebrates, other marine organisms, and their respective habitats; and
- mitigating environmental effects on the health and welfare of farmed salmon, such as the transfer of parasites and disease from wild to farmed salmon.

The ensuing sections focus on the components relevant to the key issues and effects of the Project.

4.2 Existing Environment

The EIS shall describe relevant aspects of the existing environment, prior to implementation of the Project, which constitute the reference state of the environment. Using qualitative and quantitative surveys, this section shall include a description of the existing bio-physical and socio-economic environment that will be affected or might reasonably be expected to be affected, directly or indirectly, by the undertaking with emphasis on the valued environmental components (VECs). If the information available from government or other agencies is insufficient or no longer representative, the EIS shall complete the description of the environment by conducting original surveys and research according to generally accepted practices and local knowledge. The EIS shall provide the information required to understand or interpret collected data (methods, survey dates and times, weather conditions, location of sampling stations, etc.). The methods used should be sufficient for the purposes of identifying and assessing the environmental effects and meet or exceed all applicable regulatory standards.

A description of the existing environment shall be developed for the Project and each alternative, drawing specific reference to the VECs. Detailed descriptions shall be developed for the following environmental components:

- atmospheric environment;
- aquatic environment;
- terrestrial environment;
- land and resource use; and
- economy, employment and business.

VECs for each environmental component shall be described.

4.2.1 Atmospheric Environment

The EIS shall describe the relevant components of the atmospheric environment within the study area of the VECs, including, but not limited to, the following:

a) climate information, including monthly and annual minimum, maximum and mean values for precipitation, temperature and wind speed, prevailing wind direction, and storm events;
b) provincial climate change projections for Stephenville and other locations nearest each BMA; and
c) ambient noise levels.

4.2.2 Marine Aquatic Environment

The EIS shall describe the relevant components of the aquatic environment within the study area of the VECs, including, but not limited to, the following:

a) salt water industrial water supply and any testing for quality;
b) ocean currents, wind and wave action, flood and tidal zones, ice dynamics, and storm patterns;
c) bathymetry and substrate characterization as per the Aquaculture Activities Regulations;
d) biological diversity, composition, abundance, distribution, population dynamics, and habitat utilization of fish, invertebrates, marine mammals, and avifauna;
e) species of special interest or conservation concern and their habitat, with an emphasis on rare, vulnerable, or threatened species, including species listed in the **Endangered Species Act**, the **Species at Risk Act**, and species that have been assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Atlantic Canada Conservation Data Centre and the Species Status Advisory Committee (SSAC) as endangered, threatened or special concern/vulnerable;
f) presence and distribution of aquatic invasive species; and
g) description of any Ecologically and Biologically Significant Areas (EBSA) or areas of conservation concern;

4.2.3 Terrestrial Environment

The EIS shall describe the relevant components of wetlands and the terrestrial environment within the study area of the VECs, including, but not limited to, the following:

a) characterization of wetlands and the location and extent of wetlands likely to be affected by project activities according to their size and type (class and form), a description of their function, and species composition;
b) location of rivers and river inputs into BMAs utilized by the Project;

c) surface-water flow, groundwater movement, and aquifer recharge zones;
d) hydrogeologic assessment of the water-supply wells for the hatchery/hatchery expansion, including all testing results for quantity and quality, and metals;
e) operational water withdrawal volumes and groundwater monitoring plan to ensure the long-term security of the groundwater supply;
f) species at risk and of conservation concern and their habitats, including designated critical habitat under the **Endangered Species Act, Species at Risk Act,** and areas of conservation concern (e.g., environmentally sensitive areas, such as national, provincial, and regional parks and reserves, ecologically and biologically significant areas (EBSA); protected areas, conservation agreement lands and habitat enhancement projects).

4.2.4 Land and Resource Use

The EIS shall describe relevant land and resource use within the study area of the VECs, including, but not limited to, the following:

a) commercial, recreational, and Indigenous fisheries;
b) other marine aquaculture operations;
c) tourism operators, outfitter operators, cabins, and recreational activities;
d) marine navigation (e.g., commercial and recreational boat traffic);
e) land tenure, including but not limited to, Crown lands, private land and municipalities with municipal plan and development regulations; and
f) infrastructure or services to be used by the Project and the capacity of the infrastructure and services to support the Project (e.g., municipal infrastructure, Small Craft Harbours marine infrastructure).

4.2.5 Economy, Employment and Business

The EIS shall describe relevant economy, employment and business elements in the study area of the VECs, including the following:

a) economy of the regions in the Project area;
b) value of existing industries, including tourism, cultural and recreational; commercial, recreational, and Indigenous fisheries, marine aquaculture operation; and other major employers;
c) employment in the region;
d) availability of skilled and unskilled labour in the region and in the province;
e) business capacity relative to goods and services; and
f) employment equity and diversity including under-represented groups.

4.3 Baseline Studies

Baseline studies shall provide a description of existing conditions in biophysical and socio-economic environments that could be affected by the Project, both in the immediate vicinity and beyond. This shall include the components of the existing environment and environmental processes, their interrelations and interactions, as well as their variability over time scales appropriate to the effects analysis. The level of detail shall be sufficient to:

- identify and assess any adverse environmental effects that may be caused by the Project;
- identify and characterize the beneficial effects of the Project; and
- provide the data necessary to enable effective follow-up.

The boundaries of the study area shall be defined for each baseline study and the rational for the boundaries shall be provided. Methodology for each baseline study shall be proposed by the proponent, in consultation with resource agencies, as appropriate, and shall be summarized in the EIS.

Where appropriate and possible to do so, the EIS shall present a time series of data and sufficient information to establish the averages, trends, and extremes of the data that are necessary for the evaluation of potential environmental effects. For key environmental and social components, the Proponent should consider how far back in time and how far into the future the study should be conducted. Rationale for the temporal boundaries chosen should be provided.

Baseline Studies shall be prepared for at least the following components:

- Wild Atlantic Salmon
- Sea Farm Sites
- Fish and Fish Habitat

4.3.1 Wild Atlantic Salmon

The baseline study shall provide a detailed description of the status of wild Atlantic salmon in the vicinity of Project components (the hatchery and Bay Management Areas for sea farms). The baseline study shall consider the most recent information from COSEWIC and DFO regarding the at-risk status and stock assessment of wild Atlantic salmon.

The baseline study shall include, but not be limited to, a discussion of the following features:

a) a characterization of the current distribution, abundance, genetic population structure, morphology, health and fitness, and migratory patterns of wild Atlantic salmon along the south coast of the island and

within the vicinity of all Project components;

b) proximity of the sea cages to scheduled and non-scheduled salmon rivers
c) a literature review of the effects of disease and parasites that are prevalent in Newfoundland and affect Atlantic salmon on farms and in the wild, including a review of the transmission of those diseases and parasites;
d) water-quality data at the sea cage sites including water temperature, salinity and dissolved oxygen;
e) genetic and ecological interactions of farmed salmon escapees on wild Atlantic salmon along the south coast of the island;
f) description of the strain of Atlantic salmon to be produced and a breakdown of the ancestries that make up the broodstock;
g) oceanographic and meteorological data at the sea cage sites including water currents, wind and wave action, flood and tidal zones, ice dynamics, and storm patterns;
h) conformity of sea cage design, construction and installation and mooring to meet or exceed standards in the Code of Containment and ability to withstand oceanographic and meteorological conditions identified in g);
i) discuss existing river monitoring and model the potential for farmed salmon escapees in other salmon rivers identified in b).

4.3.2 Sea Farm Sites (Bay Management Areas)

The baseline study shall provide a detailed description of the physical and biological data required to assess the suitability of each farm site for finfish aquaculture.

The baseline study shall include, but not be limited to, a discussion of the following information obtained prior to the introduction of additional fish to the site:

a) within each BMA used by the Project, a site map that shows the exact location of sea farm sites and details of sea cage layouts;
b) benthic surveys which include substrate type, and characterization of flora and fauna;
c) water quality data including water temperature, salinity and dissolved oxygen;
d) oceanographic and meteorological data including bathymetry, water currents, wind and wave action, flood and tidal zones, ice dynamics, and storm patterns;
e) exposure zone modelling for the use of approved fish health treatment products including pesticides, therapeutants, and disinfectants; and

For sites that are undergoing or have completed a production cycle, a discussion of the following information shall be included:

f) identification of past or present fallow periods;
g) benthic monitoring, management of BOD matter and performance; and
h) a discussion of historical information of farm performance that is publicly reported and is also applicable to the expansion, such as fish mortality, deposits of drug or pesticides, disease, escapes, and sea lice.

4.3.3 Fish and Fish Habitat

The baseline study shall characterize fish and fish habitat in the study area, mitigative measures that will be undertaken to protect and conserve these components from the potential effects of the Project, and follow-up monitoring that will be conducted to determine the effectiveness of mitigative measures and residual effects. The baseline study shall include, but not be limited to, a discussion of the following features:

a) identify fish and fish habitat using benthic surveys, including identification of significant habitat, which may include invertebrates, crustaceans, corals and sponges, and eelgrass;
b) identify fish and fish habitat, including species at risk, invasive species (both within and in close proximity to the study area), marine mammals, and those species that directly or indirectly support a fishery, such as: cod, lobster, sea-run trout, herring, sharks, scallops, crab, seals, mussels, and lumpfish;
c) water quality and benthic characteristics consistent with the baseline monitoring requirements of the provincial aquaculture licensing process;
d) aquatic dispersion modelling for the deposition and accumulation of biochemical oxygen demanding (BOD) matter; and
e) identify any Ecologically and Biologically Significant Areas (EBSA) within or adjacent to the BMAs associated with the Project.

5.0 DATA GAPS

The EIS shall explain any extrapolation, interpolation or other manipulation applied to the baseline data used to describe environmental conditions in the study area. Any information gaps from a lack of previous research or practice shall be described indicating information that is not available or existing data that cannot accurately represent environmental conditions in the study area over four seasons. If data gaps remain, the EIS shall describe its efforts to resolve the data gaps, including any direct consultation with governments, non-government organizations, the public and others.

6.0 ENVIRONMENTAL EFFECTS

6.1 Predicted Future Condition of the Environment if the Undertaking Does Not Proceed

The EIS shall describe the predicted future condition of the environment within the expected life span of the Project, if the Project were not to proceed. The predicted future condition of the environment shall help to distinguish Project related effects from environmental change due to natural processes and shall include a discussion of Atlantic salmon populations and climate change.

6.2 Predicted Environmental Effects of the Undertaking

The EIS shall contain a comprehensive analysis of the predicted environmental effects of each Project alternative for the VECs. If the effects are attributable to a particular phase of the Project (construction, operation, maintenance, modification, decommissioning, rehabilitation), or to a particular component, or to accidents or malfunctions, then they should be designated as such. Predicted environmental effects (positive and negative, direct and indirect, and short and long-term) shall be defined quantitatively and qualitatively for each Project alternative and for each VEC. Environmental-effects predictions shall be explicitly stated and the theory or rationale upon which they are based shall be presented in terms of the following parameters:

- nature;
- magnitude (qualitative and quantitative);
- geographic (spatial) extent;
- timing, duration and frequency;
- degree to which effects are reversible or can be mitigated;
- ecological context;
- level of knowledge;
- the capacity of renewable resources that are likely to be significantly affected by the Project, to meet the needs of present and future generations;
- the extent to which biological diversity is affected by the Project; and
- the extent of application of the precautionary principle to Project mitigation measures.

Predicted environmental effects of the Project shall include, but not be limited to a comprehensive analysis of the following:

a) changes in nearby surface and groundwater quality and quantity resulting from water withdrawals from the Project, including potential effects on industrial and other users of nearby surface water and groundwater aquifers;
b) effects of wastewater/effluent discharge from the hatchery to the receiving environment;
c) direct and indirect genetic and ecological interactions between escaped farmed salmon and wild Atlantic salmon, including potential health and fitness effects;
d) effects of transfer of disease and parasites between farmed salmon and wild Atlantic salmon, and

between farmed salmon and other fish;

e) effect of feed, feces, sea cage deposits (i.e. pesticides, chemotherapeutants, and disinfectants), disease and parasites on the adjacent aquatic environment (i.e. lease area), including possible effects on wild Atlantic salmon and other non-target organisms such as wild crustaceans;
f) effects of the Project on marine water quality and benthic characteristics;
g) effects of the Project on fish and fish habitat, including significant habitat, which may include invertebrates, crustaceans, corals and sponges, and eelgrass;
h) effects on Species at Risk within the study area;
i) the potential for proliferation of aquatic invasive species;
j) effects of the Project on commercial, recreational and Indigenous fisheries;
k) effects of the Project on tourism and recreational activities;
l) effects associated with the handling of mortalities from operations; and
m) effects of increasing salmon hatchery capacity in the province.

6.3 Accidents and Malfunctions

The EIS will identify and describe the potential accidents and malfunctions related to the Project, including an explanation of how those events were identified, potential consequences (including the potential environmental effects), the worst case scenarios as well as emergency scenarios that can reasonably be expected to occur, and the effects of these scenarios. The EIS will explain the potential quantity, mechanism, rate, form, and characteristics of the materials likely to be released into the environment during the malfunction and accident events. Potential accidents and malfunctions may include, but not be limited to the following occurrences:

a) escapes of farmed salmon into the surrounding environment;
b) mass mortality at hatchery and/or sea cages, and associated effluent and solid waste management;
c) accidental spills and/or releases of feed, pesticides, chemotherapeutants, chemicals, fuels, and hazardous materials on land and/or in water;
d) failure of water supply and/or power supply at the hatchery/hatchery expansion;
e) contamination of water supply for the hatchery operations/expansion;
f) lost/estranged gear and equipment; and
g) other project components or systems that have the potential, through accident or malfunction, to adversely affect the natural environment.

The EIS shall assess the likelihood of occurrence and consequence severity of the accidents and malfunctions.

6.4 Cumulative Environmental Effects

The EIS shall identify and assess the Project's cumulative environmental effects. Cumulative effects are defined as changes to the environment and resident species in the area due to the Project and combined with the effects of past, present, and planned projects and/or activities. The EIS shall consider the cumulative environmental effects for the life of the Project where those overlap with those of other projects and activities within or near the study area. Boundaries for assessing the cumulative effects of the Project in combination with other projects and activities that have been or will be carried out will generally be different from (larger than) the boundaries for assessing the effects of the Project, and shall:

a) identify and justify the environmental components that will constitute the focus of the cumulative effects assessment, including but not limited to, other aquaculture projects, sewage outfalls, industrial operations, marine navigation, fish harvesters, marinas, cottages, and proposed developments. The Proponent's assessment should emphasize the cumulative effects on the main VECs that could potentially be most affected by the Project;
b) present a justification for the geographic and temporal boundaries of the cumulative effects assessment;
c) describe and justify the choice of projects and selected activities for the cumulative effects assessment; and
d) describe the mitigation measures and determine the significance of the residual cumulative effects.

Rationale shall be provided for the boundaries for assessing the cumulative effects.

6.5 Effects of the Environment on the Project

Environmental changes and hazards that may occur and may affect the Project shall be described (e.g. wind, ocean currents, waves, storm surges, algal blooms, severe precipitation events, flooding, ice, temperature events, etc.). The EIS shall take into account the potential influence of climate change scenarios (e.g. sea level rise, increased severity and frequency of storms and flooding, changes to precipitation quantity and recharge rates), as well as local knowledge. The influence that these environmental changes and hazards may have on the Project, shall be predicted and described. The environmental effects that may occur as a result of the environment acting on the Project shall be assessed.

7.0 Environmental Protection – Mitigations and Plans

7.1 Mitigations

The EIS shall identify and discuss proposed measures that will be implemented to mitigate the significant adverse

effects and enhance beneficial effects of the Project. The rationale for and effectiveness of the proposed mitigation and enhancement measures should be discussed and evaluated. The EIS, where possible, should refer to similar situations where the proposed mitigation has proven to be successful. Mitigation failure should be discussed with respect to risk and severity of consequence.

The EIS shall identify who is responsible for implementing the mitigation measures and the system of accountability, including the obligations of contractors and subcontractors.

Mitigation measures shall be described for the effects identified in section 6.2 of the EIS during construction, operation, maintenance, modification, and decommissioning activities and shall include, but not be limited to, procedures that will be undertaken to:

a) monitor sea cages for structural integrity on a routine basis during operations, including frequency of monitoring as per the requirements of the Code of Containment;
b) ensure containment of farmed salmon in sea cages;
c) prevent escapes of farmed salmon through all stages of production, particularly during fish handling activities such as site transfer, treatment and harvest;
d) enumerate fish during transfer processes to detect and quantify escape events;
e) recapture farmed salmon escapees;
f) enumerate, document, and report on escapes of farmed salmon;
g) support chain of custody and traceability of escapees;
h) identify potential predators, protect caged salmon and damage to sea cages from predators, such as fish, marine mammals and seabirds;
i) minimize the risk of attraction, capture and/or harm to fish, marine mammals and seabirds by the sea cages and Project equipment;
j) minimize the genetic consequences of wild/farmed salmon interactions;
k) regularly evaluate fish health (farmed salmon) through all life stages, particularly prior to authorization of entry to sea cages;
l) mitigate disease and parasites within a sea cage and/or sea farm, and to the surrounding aquatic environment (including wild Atlantic Salmon);
m) mitigate disease and parasites from wild Atlantic salmon to farmed salmon;
n) protect fish and fish habitat beneath and surrounding the sea farms from the effects of deposits (e.g. excess food, fecal matter, therapeutants, pesticides, and disinfectants), including, but not limited to: a description of the monthly minimum water depth below the bottom of net cages at low tide, and a description of planned fallow periods for the sea farms;
o) prevent or minimize deposits in water frequented by fish, marine mammals, and/or seabirds;
p) avoid and protect environmentally sensitive habitat and areas, such as EBSAs and migration routes for

wild Atlantic salmon;

q) site security and biosecurity at the hatchery and sea farms;
r) mitigate any changes in nearby surface and groundwater quality and quantity resulting from water withdrawals from the Project, including potential effects on industrial and other users of nearby surface water and groundwater aquifers;
s) prevent/minimize sedimentation and erosion during construction and operation of facilities and any access roads; and
t) avoid, minimize, or as a last resort, compensate for any potential loss of wetlands or wetland functions.

Other mitigation measures that were considered may be identified, and the rationale for rejecting these measures explained. The implementation of best available technology and best management practices shall be described. Avoidance of environmental effects through implementation of scheduling and siting constraints and pollution prevention opportunities shall be considered. Trade-offs between costs and predicted effectiveness of the mitigation measures shall be justified.

7.2 Plans

The EIS shall include plans, either in section 7.2 or as appendices to the EIS that describe procedures, equipment and responsibilities that are in place to ensure an efficient and effective response to aspects of the Project that could adversely affect the receiving environment, including but not limited to the following plans:

- Emergency Response/Contingency Plan,
- Waste Management Plan, and
- Environmental Effects Monitoring Programs (EEMPs):
    - Genetic and Ecological Interactions of Escaped Farmed Salmon on Wild Atlantic Salmon
    - Groundwater Monitoring Program
    - Benthic Monitoring Program
    - Aquatic Invasive Species Management and Monitoring Program
    - Climate and Meteorological Data Monitoring Program
    - Marine Wildlife Monitoring Program

7.2.1 Emergency Response/Contingency Plan

The EIS shall include an Emergency Response/Contingency Plan outlining procedures to respond to accidents, malfunctions and emergencies, including but not limited to the following:

a) accidental spills and/or releases of chemicals, gasoline and associated products, fish feed, chemotherapeutants, pesticides, or any potentially hazardous substance on land or in water;

b) biosecurity breach at the hatchery and/or sea farms;
c) mass mortality at the hatchery and/or sea farms;
d) escape and/or accidental release of fish from hatchery or sea farms into the surrounding environment;
e) identification of and response to unhealthy fish, parasites, and/or pathogens within the hatchery or sea cages; and
f) environmental emergencies and extreme weather events.

7.2.2 Waste Management Plan

The EIS shall include a Waste Management that shall describe the handling, storage, transport, and final disposal of all liquid and solid waste expected to be generated during construction, operation and maintenance, decommissioning, and rehabilitation of the Project, and methods to reduce, reuse, recycle, recover, and/ or manage residual wastes through disposal. This will include but not be limited to:

a) sanitary wastes;
b) fish mortalities, including a description of procedures and mass mortality plans;
c) chemical waste (e.g. petroleum products, paints, and cleaning products);
d) operational debris and refuse (e.g. feed bags, pallets, rope, nets, buoys, cage materials, and litter);
e) biofouling material (i.e. organisms and matter that accumulate on nets);
f) nutrient loading (e.g. fish feed and fish feces); and
g) water used in the transport of fish.

7.2.3 Environmental Effects Monitoring Programs (EEMPs)

The EIS shall describe the environmental and socio-economic monitoring and follow-up programs to be incorporated into construction, operation and maintenance, decommissioning and rehabilitation activities. The purpose of the follow-up and monitoring program is to verify the accuracy of the predictions made in the assessment of the effects as well as the effectiveness of the mitigation measures. The duration of the follow-up and monitoring shall be as long as is needed to evaluate the effectiveness of the mitigation measures. If the EEMP identifies unforeseen adverse environmental effects, the EIS shall commit to adjusting existing mitigation measures, or, if necessary, develop new mitigation measures. The proposed approach for follow up and monitoring shall be described and shall include:

a) the objectives of the follow up and monitoring program and a schedule for collection of the data required to meet these objectives;
b) the sampling design, methodology, selection of the subjects and indicators to be monitored, (e.g., climate, water quality, water quantity) and their selection criteria;
c) the frequency, duration and geographic extent of monitoring, and justification for the extent;

d) reporting and response mechanisms, including criteria for initiating a response and procedures;
e) the approaches and methods for monitoring the cumulative effects of the Project with existing and future developments in the Project area;
f) procedures to assess the effectiveness of follow-up and monitoring programs, mitigation measures and recovery programs for areas disturbed by the Project; and
g) a communications plan to describe the results of follow up and monitoring to interested parties.

EEMPs shall be developed, at a minimum, for the following:

7.2.3.1 Genetic and Ecological Interactions of Escaped Farmed Salmon on Wild Atlantic Salmon

A Genetic and Ecological Interactions of Escaped Farmed Salmon on Wild Atlantic Salmon Plan must be developed that includes measures to verify and monitor broodstock ancestry, minimize the potential for escapees, identify methods for re-capture in the event of escapes, provide identification and traceability of farmed fish, and provide monitoring to ensure efficacy of escapee prevention strategies.

7.2.3.2 Groundwater Monitoring Program

A groundwater monitoring plan must be developed that includes measures to ensure the long-term security of the groundwater resources and must include a program to monitor water levels and water quality of the hatchery.

7.2.3.3 Benthic Monitoring Program

A benthic monitoring program for sea cages must be developed that describes the sampling parameters, locations, frequency of monitoring and regulatory thresholds for biochemical oxygen demand matter. A response plan must be developed to describe mitigations if regulatory thresholds are exceeded. The response plan is to be consistent with the baseline and operational monitoring requirements of the provincial aquaculture licensing process, as prescribed by the Aquaculture Activities Regulations and associated Aquaculture Monitoring Standard should be described. Additionally, the Benthic Monitoring Program must describe monitoring that will be undertaken to ensure compliance with all federal and provincial regulations related to the use and release of pesticides, therapeutants, and disinfectants in the marine environment.

7.2.3.4 Aquatic Invasive Species Management and Monitoring Program

A program must be developed that identifies the current distributions of Aquatic Invasive Species (AIS) in the Project area and, mitigations and monitoring employed to prevent their introduction, transport and spread. Management and monitoring activities should be tailored to each specific AIS.

7.2.3.5 Climate and Meteorological Data Monitoring Program

A program must be developed for the collection of climate and meteorological data in the BMAs which would include, but not be limited to, monthly and annual minimum, maximum and mean values for precipitation, temperature and wind speed, prevailing wind direction, ice dynamics and storm events.

7.2.3.6 Marine Wildlife Monitoring Program

A program must be developed for the collection of diversity, abundance, distribution, population dynamics, and habitat utilization data for fish, marine mammals and seabirds, including all species at risk within the Project area.

The EIS shall prepare and submit the EEMPs subsequent to the completion of the EIS, but before the initiation of Project construction.

8.0 RESIDUAL EFFECTS AND DETERMINATION OF SIGNIFICANCE

Residual effects are those adverse environmental effects which cannot be avoided or mitigated through, or that remain after, the application of environmental control technologies and best management practices. The EIS shall list and contain a detailed discussion and evaluation of residual effects, which shall be defined in terms of the parameters outlined in section 6.2.

The EIS shall contain a concise statement and rationale for the overall conclusion relating to the significance of the residual adverse environmental effects. The EIS will, for ease of review, include a matrix of the environmental effects, proposed mitigation, and residual adverse effects.

9.0 ASSESSMENT SUMMARY AND CONCLUSIONS

The EIS shall summarize the overall findings of the environmental assessment, with emphasis on the key environmental issues identified.

10.0 PUBLIC CONSULTATION

Under Section 58 of the **Environmental Protection Act**, during the preparation of the EIS, the Proponent shall provide an opportunity for interested members of the public to meet with the Proponent at a place/places adjacent to or in the geographical area of the undertaking, or as the minister may determine, in order to

(a) provide information concerning the undertaking to the people whose environment may be affected by the undertaking; and
(b) record and respond to the concerns of the local community regarding the environmental effects of the undertaking.

Prior to conducting public consultations, the Proponent shall submit the proposed plan to the Minister, through the environmental assessment committee chairperson, for review. The plan should address opportunities for residents across the island to participate in consultations.

Under Section 10 of the Environmental Assessment Regulations, the Proponent shall notify the minister and the public of all meetings scheduled with the public under section 58 of the **Act** not fewer than 7 days before that scheduled meeting. However, a 15-day minimum notification period is recommended.

These concerns expressed during the public meeting(s) shall be presented and addressed in a separate chapter of the EIS document. Protocol for the public meeting(s) shall comply with the legislation and with divisional policy included in Appendix B.

11.0 ENVIRONMENTAL PROTECTION PLAN (EPP)

The Proponent shall prepare an EPP for construction and operations for approval by the Minister of Environment and Climate Change. The EPP shall be a stand-alone document that assigns responsibility to the site foreperson, the Proponent's occupational health and safety staff, the Proponent's environmental staff and any government environmental surveillance staff. The EPP shall address construction, operation and maintenance activities throughout the lifetime of the Project. A proposed Table of Contents and an annotated outline for the EPPs is to be presented in the EIS, which shall address the major construction, operational and maintenance activities, permit requirements, mitigation measures and contingency planning as follows:

a) Proponent's environmental policies and provincial and federal environmental legislation and policies;
b) environmental compliance monitoring;
c) environmental protection measures;
d) mitigation measures;
e) permit application and approval planning;
f) contingency planning for accidental and unplanned events;
g) statutory requirements; and
h) revision procedures and contact lists.

The Proponent shall prepare and submit the EPP subsequent to the completion of the EIS, and where applicable,

prior to the initiation of Project construction.

12.0 REFERENCES

The Proponent shall prepare a complete and detailed bibliography of studies used to prepare the EIS. Supporting documentation shall be referenced in the EIS and submitted in separate volumes or attached as an Appendix to the EIS.

13.0 PERSONNEL

The names and qualifications of key professionals responsible for preparing the EIS and supporting documentation shall be included. A description of the qualifications of scientists conducting surveys and scientific studies associated with the undertaking shall be provided.

14.0 COMMITMENTS MADE IN THE EIS

The EIS is a statement of the Proponent's environmental conclusions and commitments related to the Project and must be explicitly endorsed by the Proponent. **The EIS shall provide a list of all commitments made regarding environmental effects mitigation, monitoring and follow-up. Each commitment must be cross- referenced to the section of the EIS where it has been made.**

15.0 COPIES OF REPORTS

The EIS should be prepared according with these guidelines and, once completed, the Proponent shall submit printed and electronic copies of the EIS to the Department of Environment and Climate Change as specified below:

- 3 electronic copies (USB drives)
- 1 paper copies

The Minister reserves the right to request additional digital and paper copies, if required.

Stand-alone studies associated with the EIS, including baseline studies and all plans required in section 7 of the EIS guidelines shall be included in the body of the EIS or as appendices.

The Proponent shall make printed copies of the EIS available at public libraries or viewing centers in the Project vicinity, in consultation with the Department of Environment and Climate Change.

APPENDIX A

Environmental Protection Act, 2002

Section 57 - Environmental Impact Statement

57. An environmental impact statement shall be prepared in accordance with the guidelines, and shall include,

a) a description of the undertaking;

b) the rationale for the undertaking;

c) the alternative methods of carrying out the undertaking and alternatives to the undertaking;

d) d) a description of the

i. present environment that will be affected or that might reasonably be expected to be affected, directly or indirectly, by the undertaking, and

ii. predicted future condition of the environment that might reasonably be expected to occur within the expected life span of the undertaking, if the undertaking was not approved;

e) a description of the

i. effects that would be caused, or that might reasonably be expected to be caused, to the environment by the undertaking with respect to the descriptions provided under paragraph (d), and

ii. actions necessary, or that may reasonably be expected to be necessary, to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment by the undertaking;

f) an evaluation of the advantages and disadvantages to the environment of the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking;

g) a proposed set of control or remedial measures designed to minimize any or all significant harmful effects identified under paragraph (e);

h) a proposed program of study designed to monitor all substances and harmful effects that would be produced by the undertaking; and

i) a proposed program of public information.

APPENDIX B

Department of Environment and Climate Change
REQUIREMENTS FOR PUBLIC MEETINGS/INFORMATION SESSIONS

Purpose: To clarify for proponents and the public, the format, scheduling, number, notification requirements, etc. for public consultations in relation to undertakings required under the *Environmental Protection Act, SNL 2002 cE-14.2*, (Section 58) to prepare an Environmental Impact Statement (EIS).

1. The proponent is required to conduct public meeting(s) (information sessions) under an EIS process as specified in the legislation. This requirement shall be specified in the Project EIS guidelines.
2. A public meeting shall normally be held in the largest local population centre within the Project area. This shall be the minimum requirement. In addition, when demonstrated public interest or concern warrants, additional meetings may be required. This may take the form of additional meetings to be held in major regional or provincial population centres, or possibly additional meetings within the original community. Such requirements are at the discretion of the Minister based on consensus advice from the environmental assessment committee (EAC) chairperson and based upon public interest as evidenced by public submissions received.
3. The format of the public meeting may be flexible, and the proponent is free to propose a suitable format for approval by the EAC. The format may range from formal public meetings chaired by the Proponent or representative with presentations followed by questions and answers, to a less formal open house forum where the public may discuss the proposal with the proponent or representatives. Other formats may be considered by the EAC. The purpose of the public information session is to

   1) provide information concerning the proposed undertaking to those who may be affected, and 2) to record the concerns of the local community regarding the undertaking. Any format must meet these objectives.
4. The proponent must ensure that each public meeting is advertised in accordance with the following specified public notification requirements, which shall form part of the Project guidelines when appropriate (proponent to substitute appropriate information for italicized items):

PUBLIC NOTICE

Public Information Session on the Proposed

Name of undertaking
Location of undertaking

shall be held at
Date and Time Location

This session shall be conducted by the Proponent,
Proponent name and contact phone number, as part of
the environmental assessment for this Project.

The purpose of this session is to describe all aspects of the proposed Project, to describe the activities associated with it, and to provide an opportunity for all interested persons to request information or state their concerns.

ALL ARE WELCOME

- Minimum newspaper ad size: 2 columns wide and minimum posted ad size: 10 cm x 12 cm.
- Minimum newspaper ad frequency (to be run in newspaper(s) locally distributed within each meeting area or newspaper(s) with the closest local distribution area):
    - for dailies, the weekend between 2 and 3 weeks prior to each session and the two consecutive days prior to each session, or
    - for weeklies, in each of the two weeks prior to the week in which the session is to be held.
- Minimum posted ad coverage: In the local Town or City Hall or office, and the local post office, within the Town or City where the meeting is to be held, to be posted continually for not less than 15 days prior to each session. The proponent is advised to request that the ad and/or notice of the meeting be placed on the community web site, for each community within/adjacent to the Project study area, to be posted continually for not less than 15 days prior to each session.
- Any deviation from these requirements for any reason must receive the prior written approval of the Minister. The proponent must provide the chairperson of the EAC with copies of advertisements and public notices.
- The Proponent is advised to propose other effective means of public notice, including social media announcements, for the Minister's consideration and approval.

Appendix B
EIS Key Personnel

Appendix B: EIS Key Personnel

The Environmental Impact Statement (EIS) was prepared by LGL Limited (LGL) of Paradise, NL with input from Stantec Consulting Limited, Butland Communications, and BMT Canada Ltd.. Mowi Canada East (MCE) provided input on the project description, mitigation measures, alternatives analysis, and sea farm baseline study. The management plans were developed by MCE. The *Public Consultation Report* (Appendix C *in* Vol 1) was prepared by Butland Communication, LGL, and MCE. The *MCE Hatchery Effluent Modelling in St. George's Bay, NL* report (Appendix O *in* Vol. 1) and the *Exposure Zone Modelling* report (Appendix B *in* the Wild Atlantic Salmon Baseline Study (Vol 2)) were prepared by BMT. The Farmed Salmon Escape Modelling (Section 7.0 *in* Sea Farm Sites (Bay Management Areas) Baseline Study (Vol 2)) was conducted by Dr. W. Challenger of LGL. The names and qualifications of key personnel responsible for preparing the EIS and its supporting documents are provided in Table 1.

Table 1. Key personnel involved with preparing the MCE EIS.

Name	Organization	Qualification	Years of Experience	Specialization
Moulton, Val	LGL	M.Sc.	28	EA, Management, Marine Mammals, Sea Turtles
Way, Candice	LGL	M.Sc., Adv. Dipl. Sustain. Aquaculture	>30	Aquaculture
Penny-Belbin, Sarah	LGL	M.Sc.	15	Fish, Fish Habitat
Lang, Tony	LGL	Ph.D.	30	Birds
Miles, Lara	LGL	M.Sc.	15	Coral, Sponges, Fish and Fish Habitat
Holst, Meike	LGL	M.Sc.	24	Marine Mammals
Chung, Karen	LGL	B.Sc.	17	GIS
Garofalo, Victoria	LGL	B.Sc.	10	GIS
Challenger, Wendell	LGL	Ph.D.		Statistical Ecology
Gibeau, Pascale	LGL	Ph.D.	18	Community Ecology, Statistical Analysis
Butland, Marilyn	Butland Communications	B. Comm.	>30	Consultation/Stakeholder Engagement
Power, Aaron	Stantec Consulting Ltd.	P.Eng.	11	Hydrogeology
Praamsma, Titia	Stantec Consulting Ltd.	Ph.D.	23	Hydrogeology
Kawaja, Jonathan	MCE	B. Tech. (Environmental Studies)	25	Aquaculture and environmental practices and regulations
Bruce, Louise	BMT	Ph.D.	29	Ecosystem response modelling. Integrated data informatics.
Gunaratne, Gayan	BMT	Ph.D.	17	Aquaculture modelling, Hydrodynamic and water quality modelling, catchment hydrological modelling, Catchment nutrient modelling, Ocean discharge modelling and risk assessments, Data science and Engineering.
Stones, Georgia	BMT	B.Eng. (Civ.) (Hons) B. Maths. (Hons & Pure Maths.)	5.5	Hydrodynamic and water quality modelling
Evans, Amber	BMT	M. EnvSci. (Sustain. Aquaculture)	16	Aquaculture and fisheries, marine research and development, and stakeholder consultation
Roberts, Sophie	BMT	B.Eng. (Hons)	2.5	Hydrodynamic and water quality modelling, mooring analysis, formal safety assessment.
Fattori, Jaret	BMT	M. Eng. (Civ.)	9	Climate change, carbon reduction and climate resiliency. Water resources, flood analysis and dispersion.

Appendix C
Public Consultation Report

INDIAN HEAD HATCHERY ENVIRONMENTAL IMPACT STATEMENT

PUBLIC CONSULTATION REPORT

Prepared for

MOWI

Prepared by

LGL Est. 1971 LIMITED
environmental research associates

LGL Project No. FA0287
April 2025

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1.0 Introduction

Mowi Canada East Inc. (hereafter MCE)[1] is proposing to expand the Indian Head Hatchery (Hatchery) in Stephenville to provide an additional 2.2 million Atlantic salmon smolt to stock licensed sea farms on the south coast of Newfoundland. The "Indian Head Hatchery Expansion Project" (the Project; registration number 1975) requires an Environmental Impact Statement (EIS). An important component of the EIS is to acquire input from public and stakeholder groups and to consider this input during preparation of the EIS. Public consultation is both a planning tool for a potential project and a requirement of Newfoundland and Labrador (NL) Environmental Assessment (EA) Regulations. It is also a requirement in the NL Sea Cage Site Aquaculture Licensing Process (FFA 2020) as well as that of Transport Canada. Input from the public and stakeholders is necessary to mitigate concerns and enhance positive attributes of the Project to the extent practical.

MCE, in consultation with the Department of Environment and Climate Change (ECC), developed a Public Consultation Plan (Appendix C-1) to address Section 10 of the EIS Guidelines for the Project (ECC 2024), which aligns with Section 58 of the *Environmental Protection Act*.[2] The overall purpose of the Plan was to clearly establish the approach and methods to conduct and document the findings of public, Indigenous groups, and stakeholder consultations during the EIS process. In April 2024, the Plan was submitted as a draft to the Environmental Assessment Committee (EAC) for review, followed by presentation to the EAC overviewing the Plan; the EAC had no comments. The Plan was considered a "living" document given the regular feedback received during consultation that led to an adaptive approach to consultations.

Public, Indigenous and stakeholder group engagement and consultation is important to MCE. It remains a continuous process throughout planning and operations, especially in communities near the Hatchery and sea farms, with people and groups interested in the Project and its potential effects.

MCE had meaningful dialogue prior to and after the initial project registration in July 2018. Consultation continued with interested parties, and with the public, as part of the preparation and the submission of the Environmental Preview Report (EPR) in August 2023 (Appendix C-2). Since the Minister's decision in October 2023 to require an EIS, MCE continued to keep key stakeholders informed and engaged.

The approved Public Consultation Plan, as well as the consultation activities and public feedback since October 2023, are described here, including those specified in the EIS Guidelines finalized in March 2024.

[1] The Proponent that originally registered this Project was Northern Harvest Smolt Ltd., which has since been purchased by Mowi Canada East Inc.

[2] https://www.assembly.nl.ca/legislation/sr/statutes/e14-2.htm.

1.1 Project Principles

Mowi's vision statement is 'Leading the Blue Revolution'. To achieve this vision MCE also endorses the company's four overarching guiding principles: Planet, People, Product and Profit. MCE is committed to sustainable aquaculture. MCE's sustainability strategy is centered around the guiding principles of Planet and People and underpins commitments across social and environmental performance through the value chain. Balancing these principles is a prerequisite for the Mowi vision – Leading the Blue Revolution and creating long-term value. This ensures that a premium product can be delivered to consumers with minimal negative impact on the environment and generates value for local communities. MCE has and will continue to ensure that project activities are conducted in full compliance with all applicable environmental, health and safety laws and regulations, by applying the best available technologies and highest standards.

1.2 Government Requirements

Government requirements for public consultation related to proposed new projects are an important means of identifying the real and perceived concerns and interests of the public, especially those of people adjacent to a new project and who could be directly or indirectly affected. Project applicants or proponents can then ensure that their planning, programs and assessment work addresses the issues identified in the consultations.

Consultation is a requirement of the province's Environmental Assessment process, and the aquaculture licensing process for sea cage sites which includes federal Transport Canada procedures to ensure safe navigation and provincial processes of the Department of Fisheries, Forestry and Agriculture (FFA). The processes are described as follows:

1.2.1 EIS Guidelines

The Guidelines for the Indian Head Hatchery Expansion Project EIS (Section 10.0, Public Consultation, pages 28–29; ECC 2024) state:

> "Under Section 58 of the **Environmental Protection Act,** during the preparation of an EIS, the Proponent shall provide an opportunity for interested members of the public to meet with the Proponent at a place/places adjacent to or within the geographical area of the undertaking, or as the minister may determine, in order to:
>
> a) provide information concerning the undertaking to the people whose environment may be affected by the undertaking; and
> b) record and respond to the concerns of the local community regarding the environmental effects of the undertaking.

> Prior to conducting public consultations, the Proponent shall submit the proposed plan to the Minister, through the environmental assessment committee chairperson, for review. The plan should address opportunities for residents across the island to participate in consultations.
>
> Under Section 10 of the Environmental Assessment Regulations, the Proponent shall notify the minister and the public of all meetings scheduled with the public under section 58 of the **Act** not fewer than 7 days before that scheduled meeting. However, a 15-day minimum notification period is recommended.
>
> These concerns expressed during the public meeting(s) shall be presented and addressed in a separate chapter of the EIS document. Protocol for the public meeting(s) shall comply with the legislation and with divisional policy included in Appendix B (of the Guidelines)."

While not required in the Guidelines that were provided, MCE incorporated a broader outreach in the Public Consultation Plan. MCE determined that there could be public interest in attending a Public Information Session outside the geographic area of the project, in major regional population centres across the island of Newfoundland.

1.2.2 Aquaculture Licensing for Sea Cage Sites

The requirement for public consultation in the Sea Cage Site Aquaculture Licensing Process (FFA 2020) outlines two methods:

i. Pre-application submission consultation with stakeholders: In an effort to minimize resource user conflicts, applicants must conduct consultations with stakeholders including, but not limited to, local fisher committees and the Fish, Food and Allied Workers Union (FFAW), municipalities, development groups and local interest groups. Any concerns or potential conflicts identified during this process must be provided during the application process and if a resolution was reached.

ii. Advertising to the public: Once the application has been submitted, assessed internally and forwarded to other agencies for review, the applicant must advertise their intent for the proposed site and request comments from the public. Transport Canada (TC) and the provincial Department of Fisheries, Forestry and Agriculture (FFA), both have advertising requirements to ensure other marine users and members of the general public have an opportunity to provide comments on proposed development. To streamline this process, TC and FFA have established a joint public notification process, and advertising occurs concurrently. TC requires the advertisement of the proposed work through both a regional paper as well as on their NPP External Submission Site (ESS)[3]. FFA requires the advertising of the proposed

[3] https://npp-submissions-demandes-ppn.tc.canada.ca/auth/login-connexion?ret=/&GoCTemplateCulture=en-CA.

work in a minimum of two (a province-wide and a regional) newspapers. Other advertising methods such as websites may be considered in the absence of regional publications.

All MCE sea farms included in the EIS and Project EA have completed the provincial aquaculture licensing process.

2.0 Scope of Consultation Plan

MCE's Public Consultation Plan (Appendix C-1) outlines specific activities intended to maximize outreach to encourage public participation in person, in writing and online. Consultation and engagement approaches and methods were designed and implemented to provide accurate and timely information about the Project to interested and potentially affected people and organizations. Throughout, participants were given the opportunity to ask questions, identify issues and concerns, and share local knowledge and perspectives about the Project and its surrounding environment. MCE considered their feedback, insight, and information for the EIS, and will continue to consider this in on-going Project planning and implementation.

2.1 Geographic Scope

The EA and licensing process prior to this Project, as well as prior to and after the availability of the Project EIS Guidelines, all focused on the need to consult with stakeholders and communities close to the Project locations. MCE has established offices in Stephenville (at its Indian Head Hatchery) and in Harbor Breton (near its sea farm operations). MCE's overall approach to public engagement and community relations is founded on years of understanding and building relationships in the regions where it operates.

MCE personnel travelled throughout the Stephenville and Harbour Breton areas, and to communities in nearby regions to provide information about the Project. MCE actively engaged with local fishers during on-going operations and during preparation of the EIS. MCE engaged with economic development and business groups such as the Bay St. George Chamber of Commerce and local development organizations, local area fishers, municipalities and interested groups and people. MCE also actively engaged students. MCE participated in the World Oceans Day career fair at Bay d'Espoir Academy in June 2024. A field trip tour of the Hatchery was provided to grade 8 science students from Bayview Academy in St. Georges.

While Stephenville and Harbour Breton were the focal point of Project consultations, MCE developed a province-wide approach and hosted Public Information Sessions in Gander and St. John's and consulted province-wide with interest groups and the public through a virtual meeting, and with online platforms throughout preparation of the EIS.

MCE also consulted with aquaculture industry operators and related stakeholders, with dedicated Project and EIS information, at the 2024 Cold Harvest Conference in St. John's in October.

2.2 Duration

MCE continues to engage with the public in the areas it operates since the company came to the province in 2017. Plans for the Hatchery expansion have been made public since the initial project

registration in 2018, when the company introduced the Project to all levels of government, key regulatory agencies and local communities. MCE plans to maintain an active community communication program through its detailed planning, construction and operations.

2.3 Groups Consulted

MCE has been engaged with government agencies at the federal, provincial and municipal level since 2017 for Project approvals, permits and authorizations, in meetings and in Public Information Sessions. MCE has also been addressing community interests through information exchanges with economic development groups, education and training institutions, commercial fishers and special interest groups (Table 2.1).

Table 2.1. Groups that participated in consultations for the Project May 2024–January 2025.

Group	Sub-group	Department/Association
Government	Federal	Fisheries and Oceans (DFO)
		Transport Canada (TC)
	Provincial	Fisheries, Forestry and Agriculture (FFA)
		Municipal and Provincial Affairs
		Environment and Climate Change (ECC)
	Municipal	Community Mayors, Councils and Staff throughout the Coast of Bays, central Newfoundland and Stephenville area
		Local Service District Committees
Stakeholder Groups	Existing Economic Development Groups	Bay St. George Chamber of Commerce
		Community Business Development Corporations (CBDC)
	Businesses	Individual current and potential suppliers
	Indigenous Groups	Qalipu First Nation (QFN)
		Miawpukek First Nation (MFN)
		Indian Head First Nation (IHFN)
	Education/Training Groups	College of the North Atlantic (CNA)
		Marine Institute (MI) / Memorial University of Newfoundland
	Fisheries, Aquaculture, and Processing Organizations	Newfoundland Aquaculture Industry Association (NAIA)
		FFAW|Unifor and Local Fishers
	Salmon Enhancement Associations	Freshwater – Alexander Bay Ecosystem Corp (FABEC)
		Atlantic Salmon Federation (ASF)
		Salmonid Council of Newfoundland (SCNL)
		NL Coalition for Aquaculture Reform (CAR)
	Interested Public	Respondents to advertisements for meetings; participants in Open Houses; contact through online platforms

2.4 Topics Addressed

In the various forums about the MCE Project, key topics of interest included:

- alternatives (land-based and marine closed-containment);
- effectiveness of the technology, equipment, materials and operational practices to eliminate or minimize escapes from the sea cages (due to net damage, predators) and mortality events from changing climate (oxygen levels);
- employment and business opportunities with the Project;

- measures to manage disease and sea lice;
- monitoring and rehabilitation of the benthic habitat;
- source and capacity of the aquifer in Stephenville for the Project;
- waste management (solids and wastewater) from the Hatchery and sea farms, treatment, monitoring and disposal; and
- wild salmon interactions.

The EIS Guidelines require that the EIS address potential effects of the Project on the current biophysical and socio-economic environment, specifically addressing:

- atmospheric environment;
- marine aquatic environment;
- terrestrial environment;
- land and resource use; and
- economy, employment, and business.

MCE sought input from the public on all these topics, through one-on-one meetings, public meetings, meetings with agencies and associations, institutions and individuals, and through emails submitted with comments and questions. MCE sought input from those who support the Project and from those who voiced concern. MCE provided Project information on these topics for the interested public through all its consultation processes.

2.5 Public Consultation Process

MCE has and will continue to work diligently to ensure stakeholders and Indigenous groups are kept up to date on the Project and the EIS process. The approach in the Public Consultation Plan (Appendix C-1) was to ensure stakeholders and the public were provided with multiple opportunities to learn about the project and ensure they were made aware of their opportunities to ask questions and provide feedback. The feedback was then used to support the preparation of the EIS and the development of mitigations.

Ultimately, this consultation will continue to support various development stages of the Project, such as construction, operations, and environmental effects monitoring programs. The following consultation principles were adopted:

- Resources - Provide the appropriate personnel, resources, and procedures to conduct and document meaningful, responsive engagement with the public, Indigenous groups, and stakeholders.
- Connection - Understand who is interested in the Project and seek to build relationships with those key groups, to create a trusted process for engaging in productive and collaborative discussions about managing potential effects and maximizing potential benefits.

- Clarity - Communicate in plain language, in a clear and understandable manner with those most interested in or directly affected by the Project.
- Information - Provide concise multi-media communication materials that educate, inform, and motivate.
- Opportunity - Consult people early in the process and maintain regular and open dialogue throughout the life of the Project, to understand public, community, and Indigenous issues and to identify mutually acceptable approaches to address key concerns.
- Availability - Provide substantial opportunities to receive feedback and exchange ideas, with appropriate adaptations to access opinions across demographic groups (age, gender, etc.), that will help minimize conflict and build constructive consensus.
- Attentiveness - Listen to and carefully consider concerns and ideas, recognizing that diversity of opinions will contribute to fair and informed decisions and will result in the most appropriate project design and operation.
- Punctuality - Communicate decisions in a timely manner and respond to information requests as fully and as quickly as possible.

The plan focused on key consultation activities. It directed the provision of core information and the development of messages to be concise, in plain language, and accessible. Materials included maps, illustrations, animations, audio-visual and virtual reality content, scientific/technical and topic-specific information, banners, information display boards, summary sheets, and signage to accompany discussions and to facilitate an understanding of the Project and the EIS.

- Information and print materials were available in MCE offices and distributed by MCE employees and the EIS team in public activities and meetings.
- MCE established a dedicated Project website www.indianheadproject.ca, and promoted it through MCE's website https://mowi.com/cae/blog/2024/05/31/indian-head-hatchery-expansion-project-public-meetings.
- Social media accounts on Facebook and LinkedIn provided updates and encouraged participation.
- A Project mailing list was developed to provide updates and notifications to people who registered at Public Information Sessions, in meetings, and online.
- A Project email account Stephenville.eis@mowi.com provided the public with interactive contact between MCE's EIS team.
- Newspaper ads were published in The Telegram (Saltwire) (while it remained in operation), as per the Guidelines, to promote Public Information Sessions. Subsequently the required ads were published in online editions of the newspaper.
- Public notices about the Public Information Sessions expanded on the newspaper ads with additional directions and were promoted on the website, on social media and shared by stakeholders, including Chambers of Commerce, municipalities, Newfoundland Aquaculture Industry Association (NAIA) and local media websites.

- Public Information Sessions were held in Gander on 11 June 2024, Harbour Breton on 12 June 2024, and Stephenville on 13 June 2024. A combined public and virtual information session was held in St. John's on 10 October 2024.
- Conference and event exhibits provided additional access for the public and aquaculture industry suppliers during Cold Harvest 2024, the NAIA annual conference.
- Dedicated meetings were held with regulatory agencies/regulators, Indigenous and special interest groups, and community stakeholder groups, some at the invitation of MCE, and others at the request of the interested group.
- Stakeholder comment management included recording and responding to comments, concerns and support.
- News media - Information was also provided through traditional broadcast and electronic media and stakeholder social media.

3.0 Public Consultation Activities

3.1 Information Materials

Information and print materials, including brochures (Figure 3.1 and Figure 3.2), and handout materials (Figure 3.3 and Figure 3.4) were made available in MCE offices located in Stephenville and Harbour Breton, NL, to respond to inquiries and provide a point of contact for local residents. The materials were also distributed by MCE employees and the EIS team in public activities and meetings.

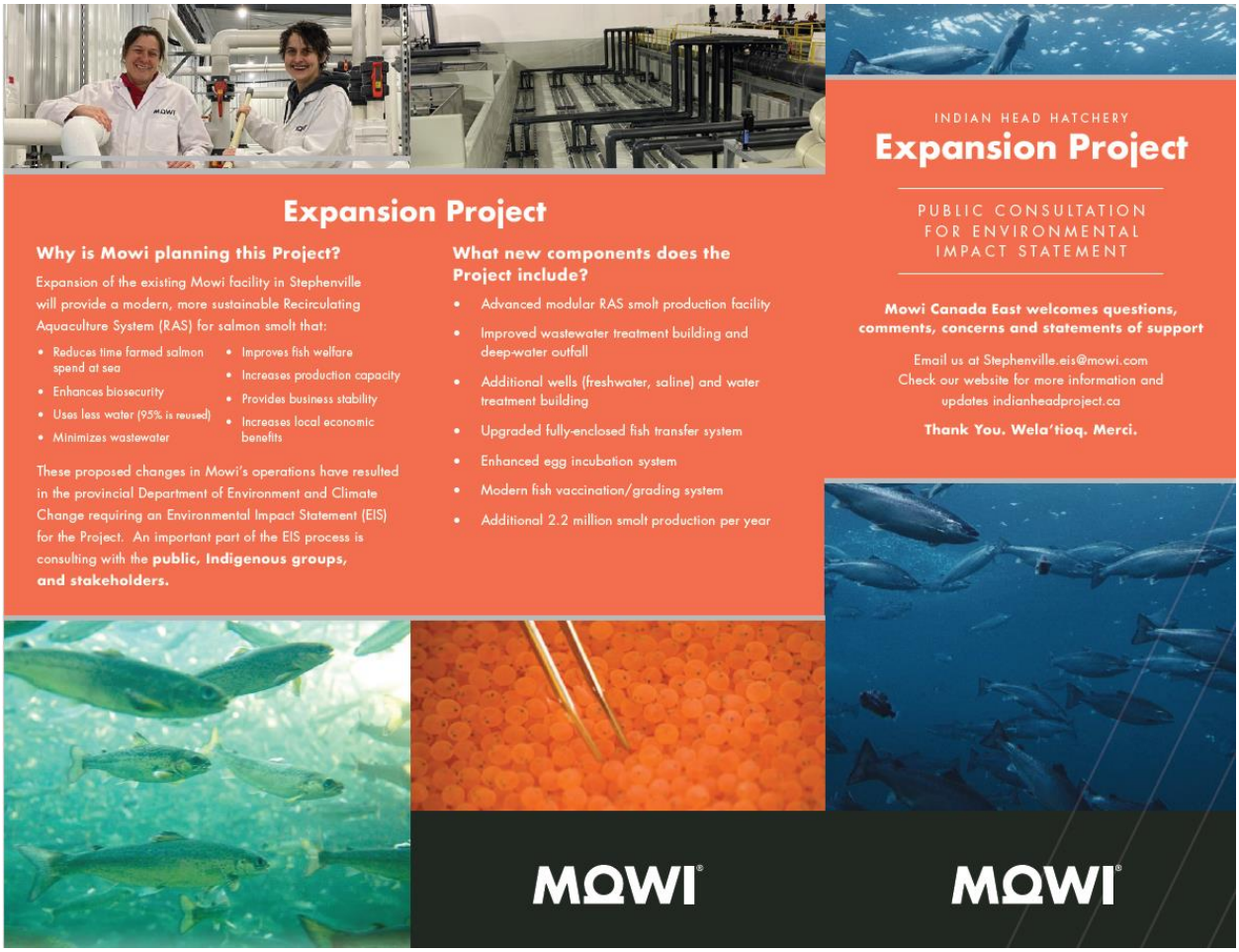


Figure 3.1. Project brochure (exterior content) available at MCE offices in NL and at conferences, meetings and public activities.

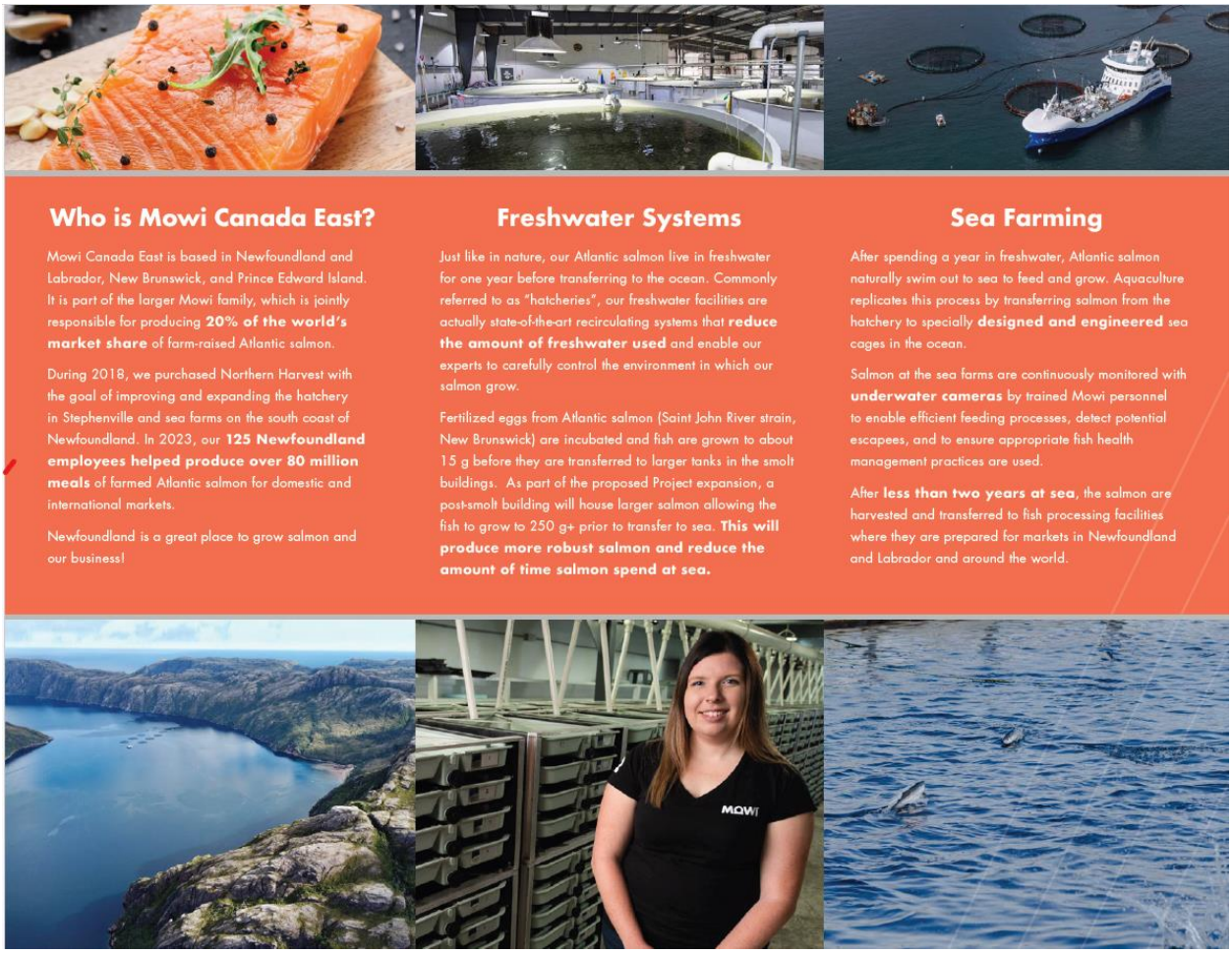


Figure 3.2. Project brochure (interior content) available at MCE offices in NL and at conferences, meetings and public activities.

Figure 3.3. Project bookmark (side 1) available at MCE offices in NL and at conferences, meetings and public activities.

Figure 3.4. Project bookmark (side 2) was available at MCE offices in NL and at conferences, meetings and public activities.

3.2 Project Website

MCE established a separate Project website that provided core sections related to the Project and EIS process (Figure 3.5). A page on MCE's primary website https://mowi.com/cae/blog/2024/05/31/indian-head-hatchery-expansion-project-public-meetings/ provided links to the dedicated Project website, www.indianheadproject.ca. It included detailed information maps, summaries, reference materials, presentations, frequently asked questions, calendar of Public Information Session and events and contact information to submit questions and comments. Key topics included information about MCE, Freshwater Systems, Seawater Systems, Products and People, the EIS Process, and provided a section with more details, and contact information. The Project website provided directions to a dedicated email address (Stephenville.eis@mowi.com).

The 'More Details' link on the website included a 'Frequently Asked Questions' section (Figure 3.6; see section 4.1.1 later). The questions and answers were derived from meetings, emails, as well as the Public Information Sessions held in Gander, Harbour Breton and Stephenville, NL in June 2024.

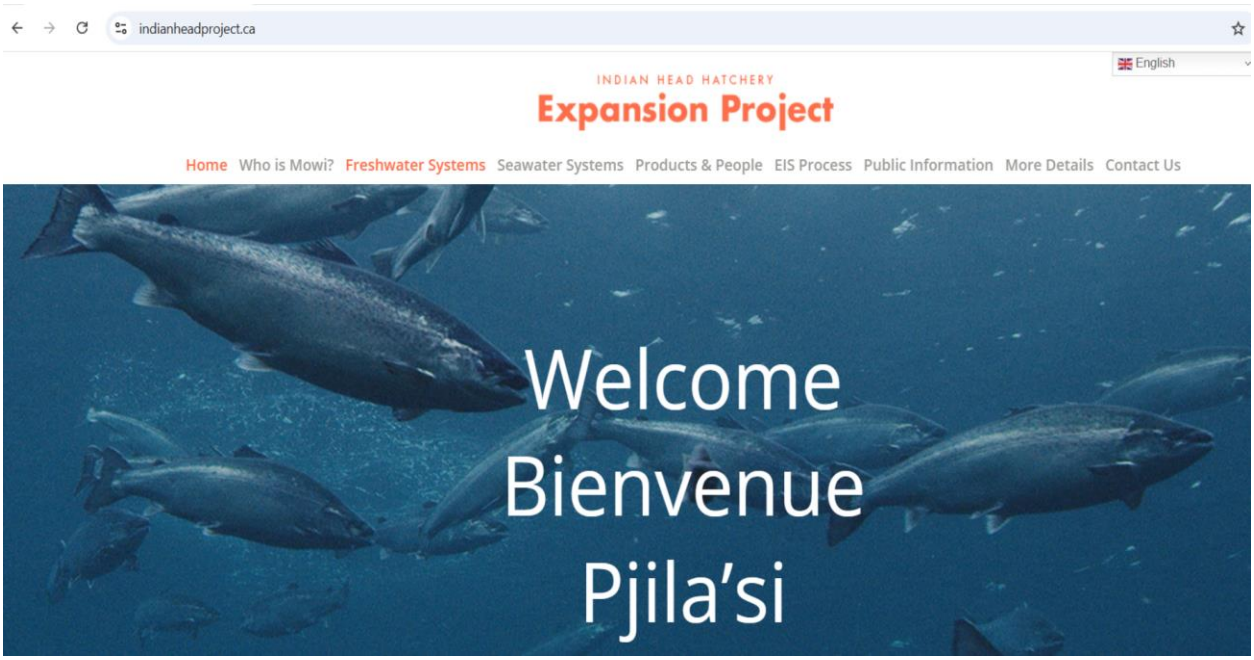


Figure 3.5. Home page of MCE EIS website (https://indianheadproject.ca/).

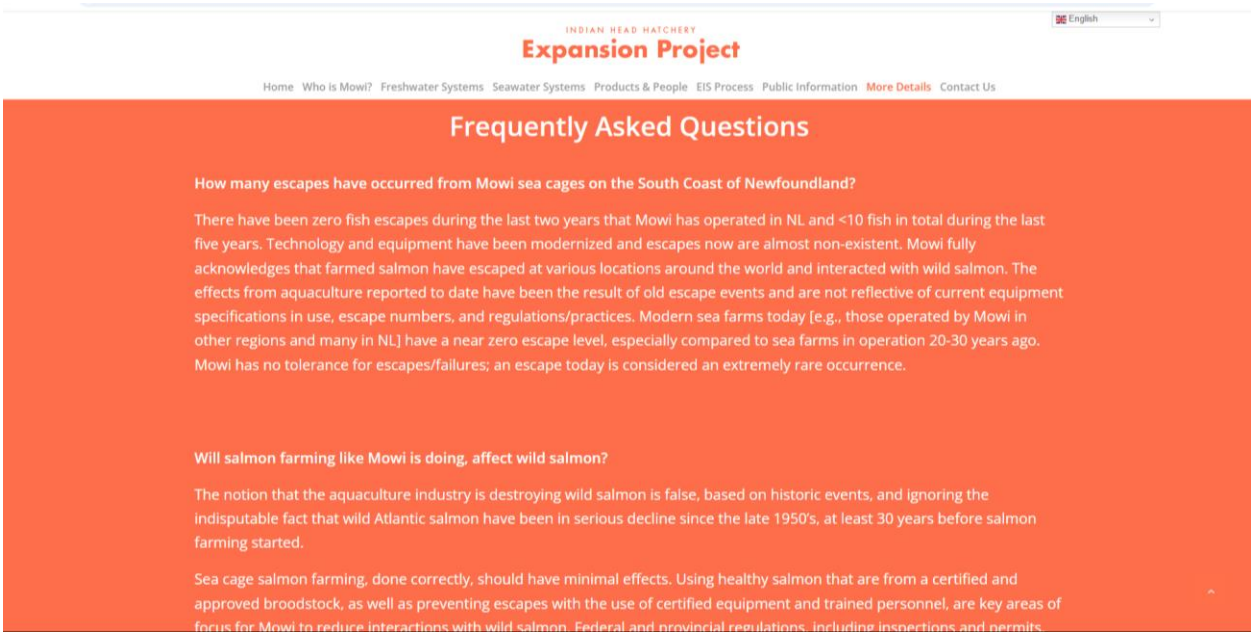


Figure 3.6. Frequently Asked Questions on MCE EIS website.

3.3 Social Media Accounts

Social media was a proactive means of notifying the public. MCE's social media accounts on Facebook, and copied on LinkedIn, provided timely updates and notifications and encouraged participation with notices about the EIS process, and invitations to participate in Public Meetings (Figures 3.7–3.10). These platforms provided opportunities for public feedback during the EIS process.

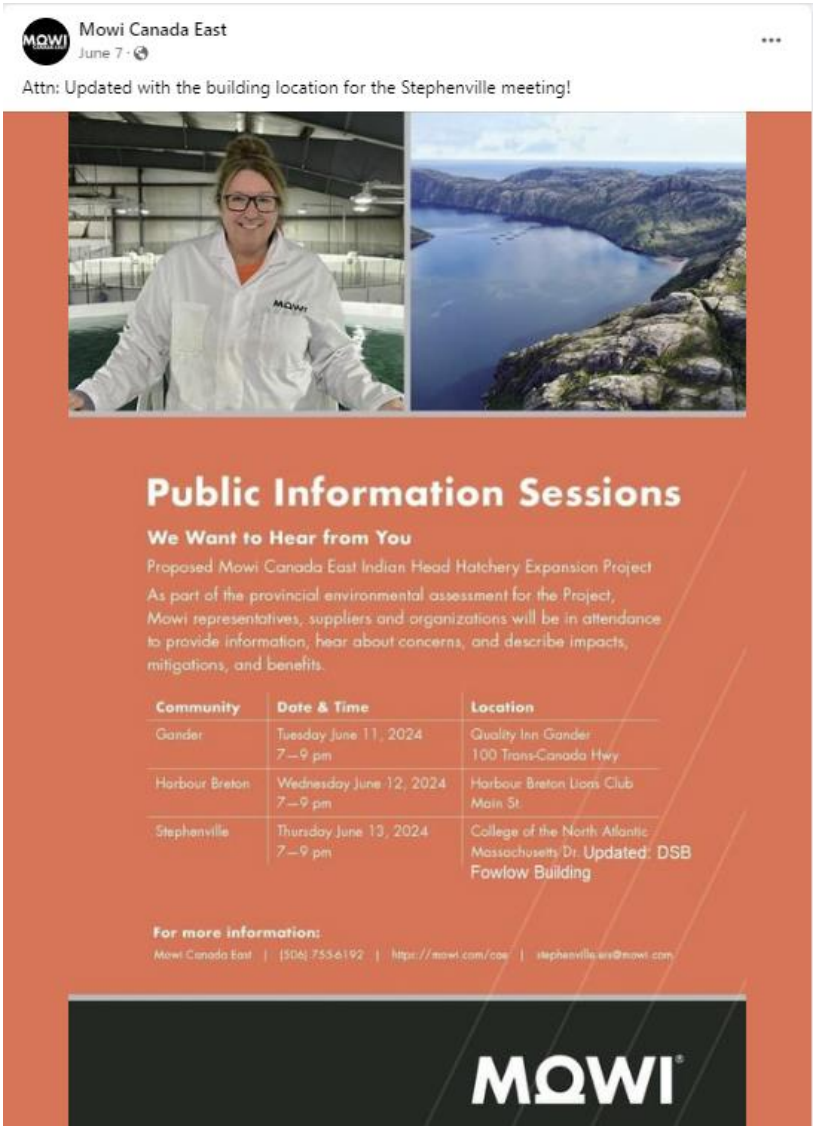


Figure 3.7. Social media post about Public Information Sessions across the province in June 2024 (https://www.facebook.com/search/top?q=mowi%20indian%20head%20hatchery).

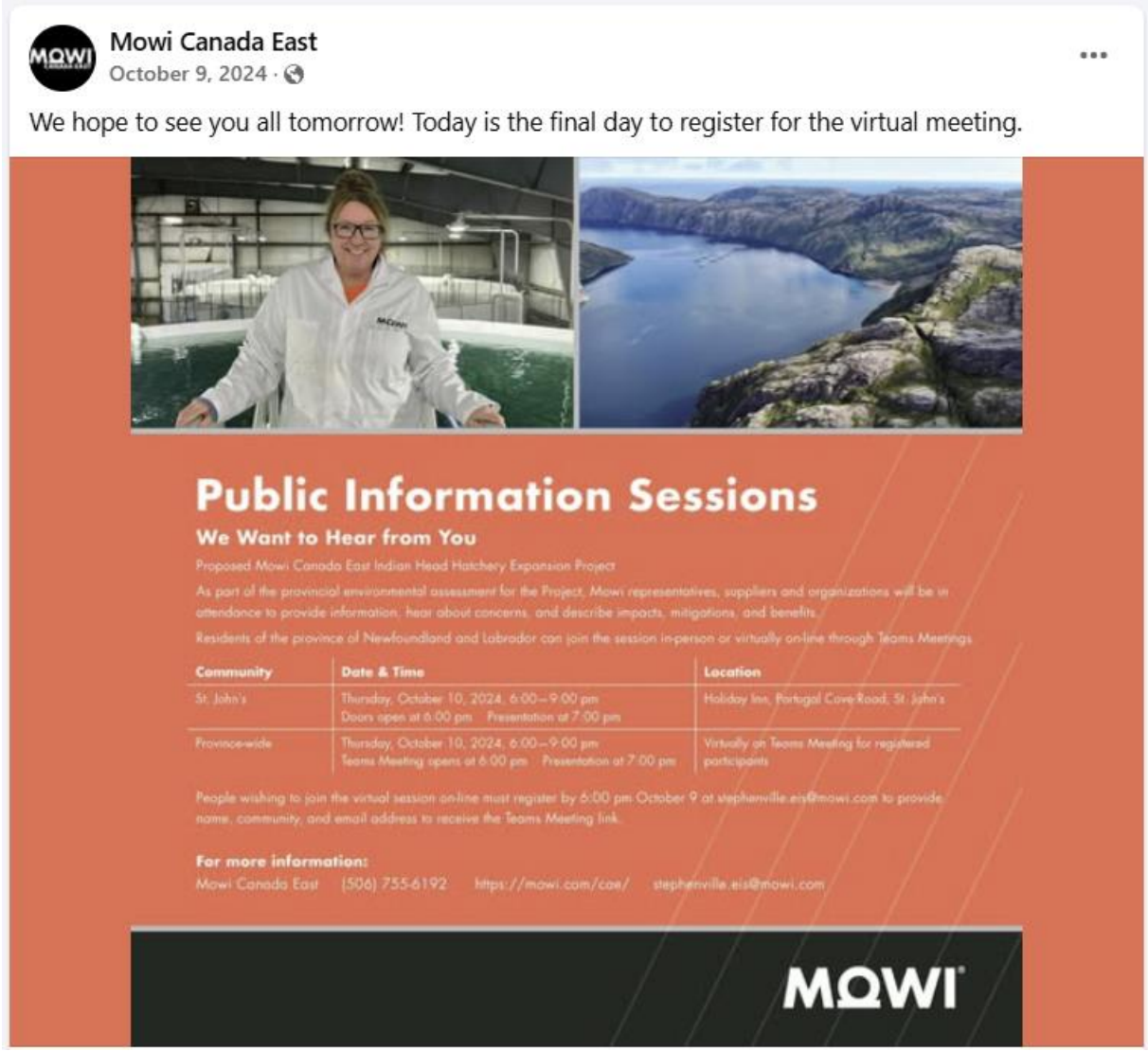


Figure 3.8. Social media post about Public Information Session in October 2024 for in-person and virtual locations (https://www.facebook.com/search/top?q=mowi%20indian%20head%20hatchery).

Figure 3.9. Social media post to thank participants in the three Public Information Sessions in June (https://www.facebook.com/search/top?q=mowi%20indian%20head%20hatchery).

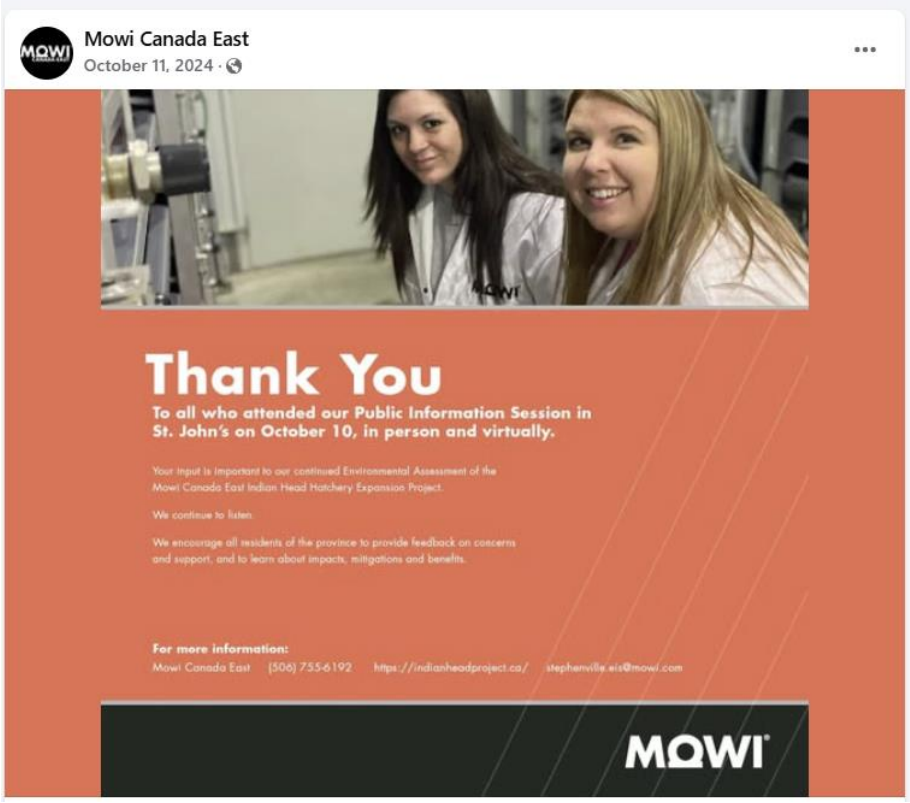


Figure 3.10. Social media post to thank participants in the October Public Information Session (https://www.facebook.com/search/top?q=mowi%20indian%20head%20hatchery).

3.4 Project Mailing List

A Project mailing list was developed to provide updates and notifications to people who registered at Public Information Sessions, in meetings, and online. It was initially compiled from a preliminary contact list of local interest groups, relevant agencies, and community contacts. Throughout the EIS process, MCE identified additional stakeholders. The mailing list was updated and maintained throughout the Project to send Project updates and notifications, as well as to encourage questions, comments, concerns and statements of support.

3.5 Project Email Account

A Project email account Stephenville.eis@mowi.com provided interactive contact between people interested in the Project and MCE and its EIS team. It was created for members of the public and stakeholders to request information and to provide comments directly to the Project Team (Figure 3.11). The email account was internally linked to key Project Team members (including those responsible for consultation record keeping) to provide access to incoming and outgoing messages. The email address was published on public notices, social media, and the website, and distributed with Project information materials.

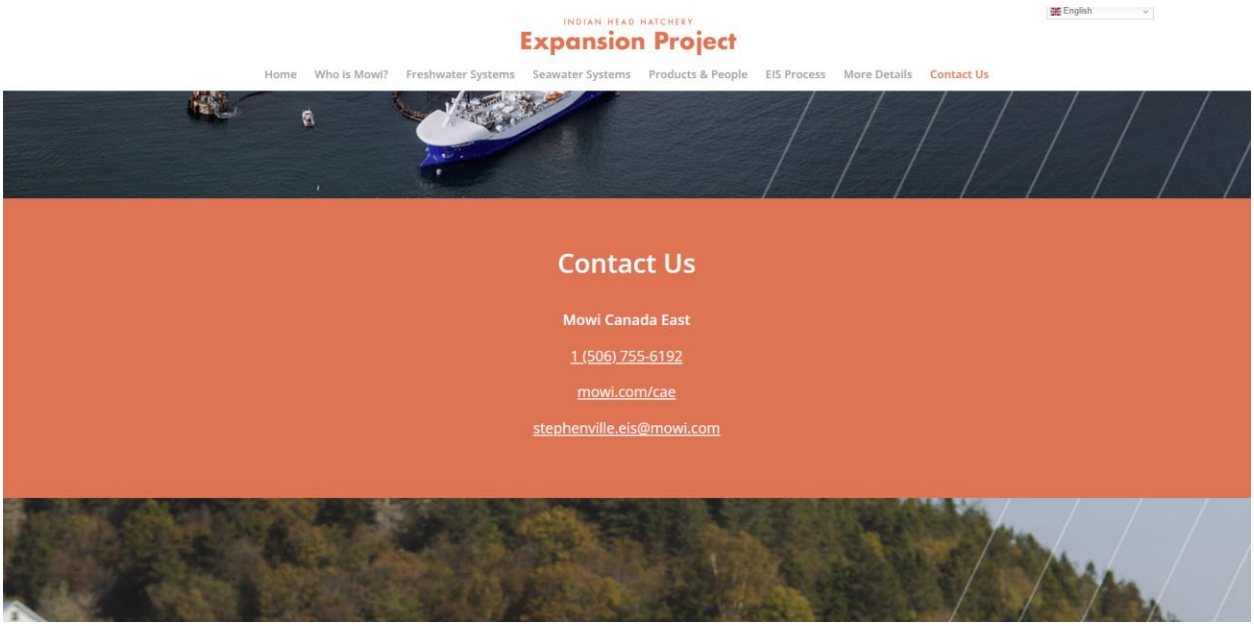


Figure 3.11. Contact information and email address created specifically for the Project.

3.6 Newspaper Advertisements

As stipulated in the EIS Guidelines, public meetings were advertised in local newspapers following the detailed requirements included in Appendix B of ECC (2024) Guidelines. Newspaper ads were published in *The Telegram* to promote Public Information Sessions. The only newspaper available in the province in 2024 was *The Telegram*, which included a printed copy and online versions that displayed four ads for the sessions in June (see Figure 3.7); Friday and Saturday 24 and 25 May and again Saturday 1 June and 8 June (Figure 3.12). For the in-person/virtual session on 10 October 2024 (see Figure 3.8), three ads were displayed in a virtual weekly version of *The Telegram* on 20 September, 27 September, and 4 October (Figure 3.13).

A

PUBLIC NOTICE

Public Information Sessions on the Proposed

Mowi Canada East Indian Head
Hatchery Expansion Project
Stephenville, Newfoundland and Labrador

Shall be held at:

Community	Date & Time	Location
Gander	Tuesday June 11, 2024 7-9 pm	Quality Inn Gander, 100 Trans-Canada Hwy
Harbour Breton	Wednesday June 12, 2024 7-9 pm	Harbour Breton Lions Club, Main St.
Stephenville	Thursday June 13, 2024 7-9 pm	College of the North Atlantic, Massachusetts Dr.

The sessions shall be conducted by the Proponent

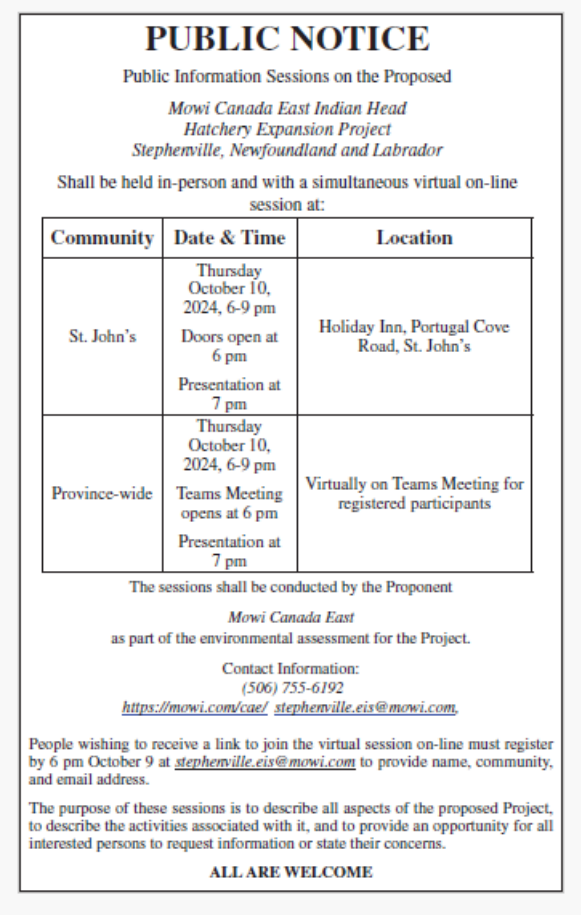
Mowi Canada East (506) 755-6192
https://mowi.com/cae/ stephenville.eis@mowi.com,
as part of the environmental assessment for the Project.

The purpose of these sessions is to describe all aspects of the proposed Project, to describe the activities associated with it, and to provide an opportunity for all interested persons to request information or state their concerns.

ALL ARE WELCOME

B

Figure 3.12. Copy of ad as (A) submitted to *The Telegram* and (B) displayed in Telegram print and online editions.



PUBLIC NOTICE

Public Information Sessions on the Proposed

Mowi Canada East Indian Head Hatchery Expansion Project
Stephenville, Newfoundland and Labrador

Shall be held in-person and with a simultaneous virtual on-line session at:

Community	Date & Time	Location
St. John's	Thursday October 10, 2024, 6-9 pm Doors open at 6 pm Presentation at 7 pm	Holiday Inn, Portugal Cove Road, St. John's
Province-wide	Thursday October 10, 2024, 6-9 pm Teams Meeting opens at 6 pm Presentation at 7 pm	Virtually on Teams Meeting for registered participants

The sessions shall be conducted by the Proponent

Mowi Canada East
as part of the environmental assessment for the Project.

Contact Information:
(506) 755-6192
https://mowi.com/cae/ stephenville.eis@mowi.com,

People wishing to receive a link to join the virtual session on-line must register by 6 pm October 9 at *stephenville.eis@mowi.com* to provide name, community, and email address.

The purpose of these sessions is to describe all aspects of the proposed Project, to describe the activities associated with it, and to provide an opportunity for all interested persons to request information or state their concerns.

ALL ARE WELCOME

Figure 3.13. Copy of ad as submitted to *The Telegram* for 10 October Public Information Session held in-person (St. John's) and virtually.

3.7 Public Notices

Public notices for the Public Information Sessions expanded on the newspaper ads. They were developed and repeated for the website and social media, and shared by several stakeholders, including Chambers of Commerce, municipalities (Figure 3.14), and VOCM website (Figure 3.15).

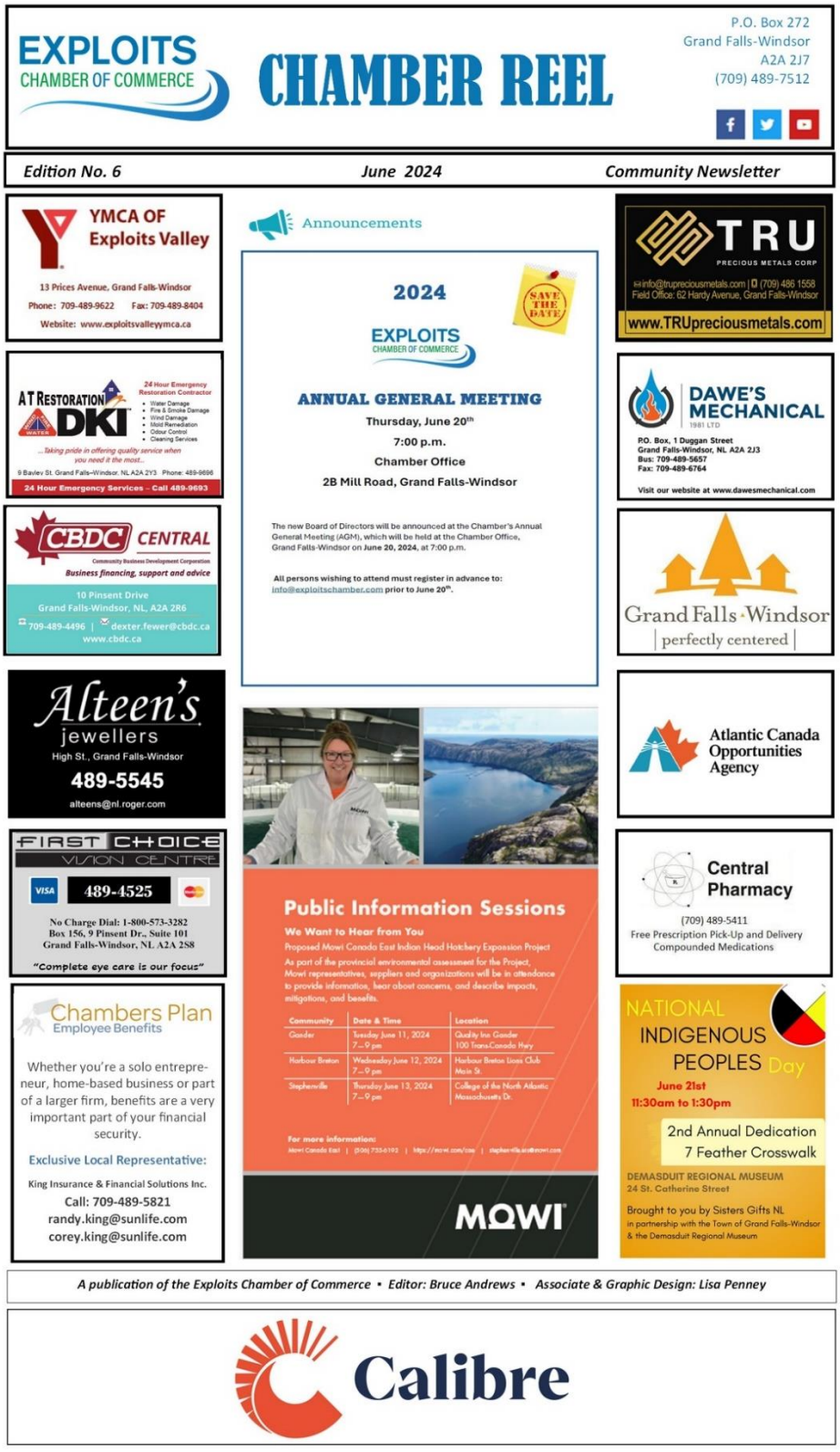


Figure 3.14. Public notices shared on social media and websites for June 2024 Public Information Sessions.

Figure 3.15. Public notice shared on VOCM website for June 2024 Public Information Sessions.

3.8 Public Meetings: In-Person and Virtual

MCE held in-person and virtual public meetings. Organized in the format of an Open House, the in-person meetings were held in Gander on 11 June 2024, Harbour Breton on 12 June 2024, and Stephenville on 13 June 2024. The format included presentations, displays, and information stations (Figures 3.16–3.20). Representatives of MCE and the EIS team were available to provide information and respond to questions, concerns, and expressions of support. Several industry suppliers and organizations were also present in identified information stations to provide information about their role in the Project and with MCE operations. The key objectives were to provide information to the public about the Project and to document the concerns/feedback of local communities adjacent to the Project area and the public outside the immediate areas.

A hybrid virtual and in-person Public Information Session was held in St. John's on 10 October 2024. Similar in format to the Open House sessions held in June, the October session also included a virtual link for participants elsewhere in the province to observe the presentation and ask questions via MS Teams. With the coordination of a facilitator, questions were asked from both virtual and in-person participants. The presentation provided on 10 October is available in Appendix C-3. It was an updated version of the presentation provided in June during the Public Information Sessions held in Gander, Harbour Breton and Stephenville.

Information regarding how to submit feedback was announced and displayed throughout the virtual and Open House sessions.

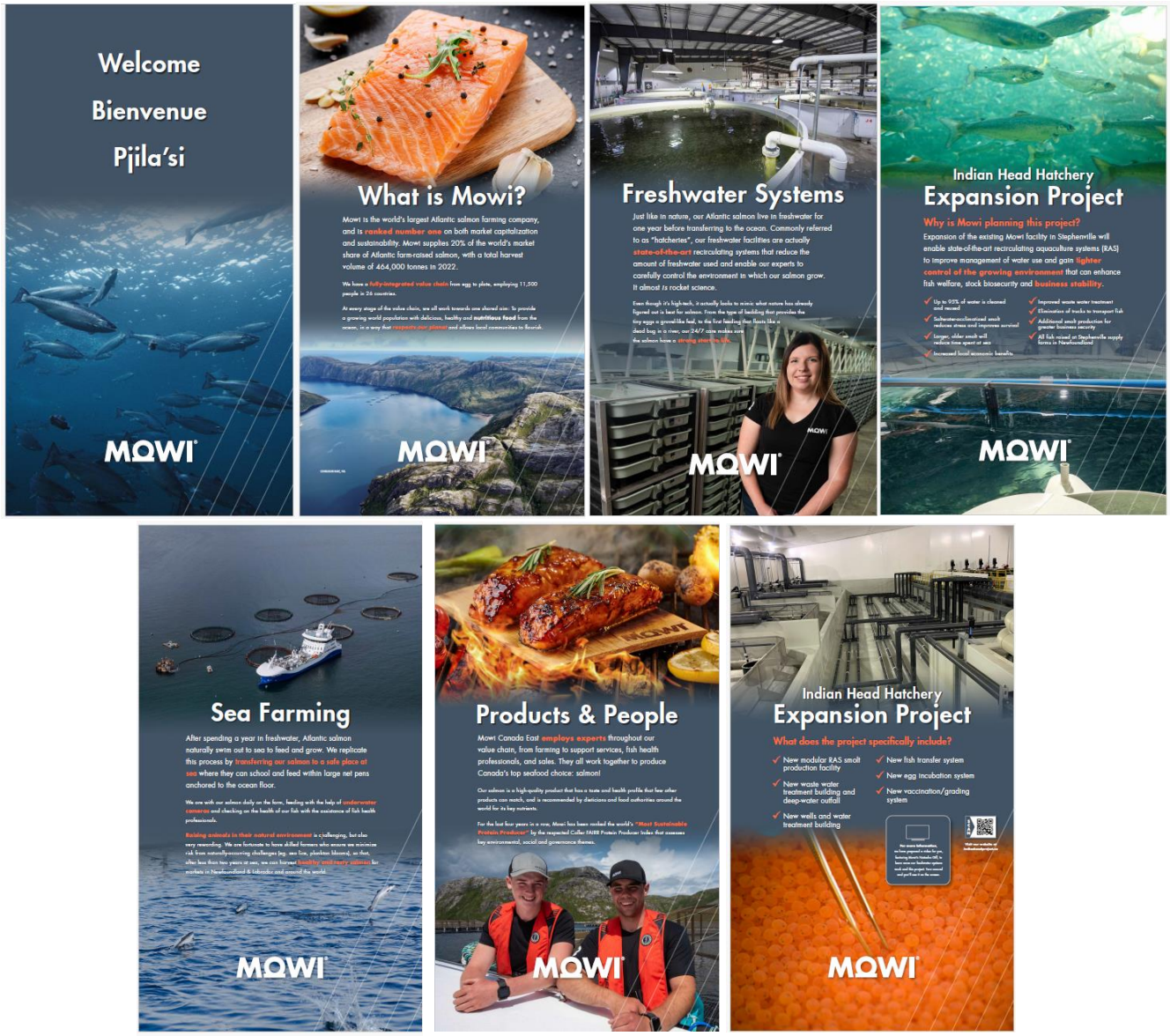


Figure 3.16. Banners displayed in the Open House Sessions held in-person during June and October 2024.

Figure 3.17. Open House Public Information Session in Gander, NL 11 June 2024 (A) supplier booths (B) participant engagement (C) information boards and stations.

Figure 3.18. Open House Public Information Session in Harbour Breton, NL 12 June 2024 (A) participants reading information boards (B) EIS team engaging with participants at information station (C) participants and information displays (D) presentation to participants by MCE.

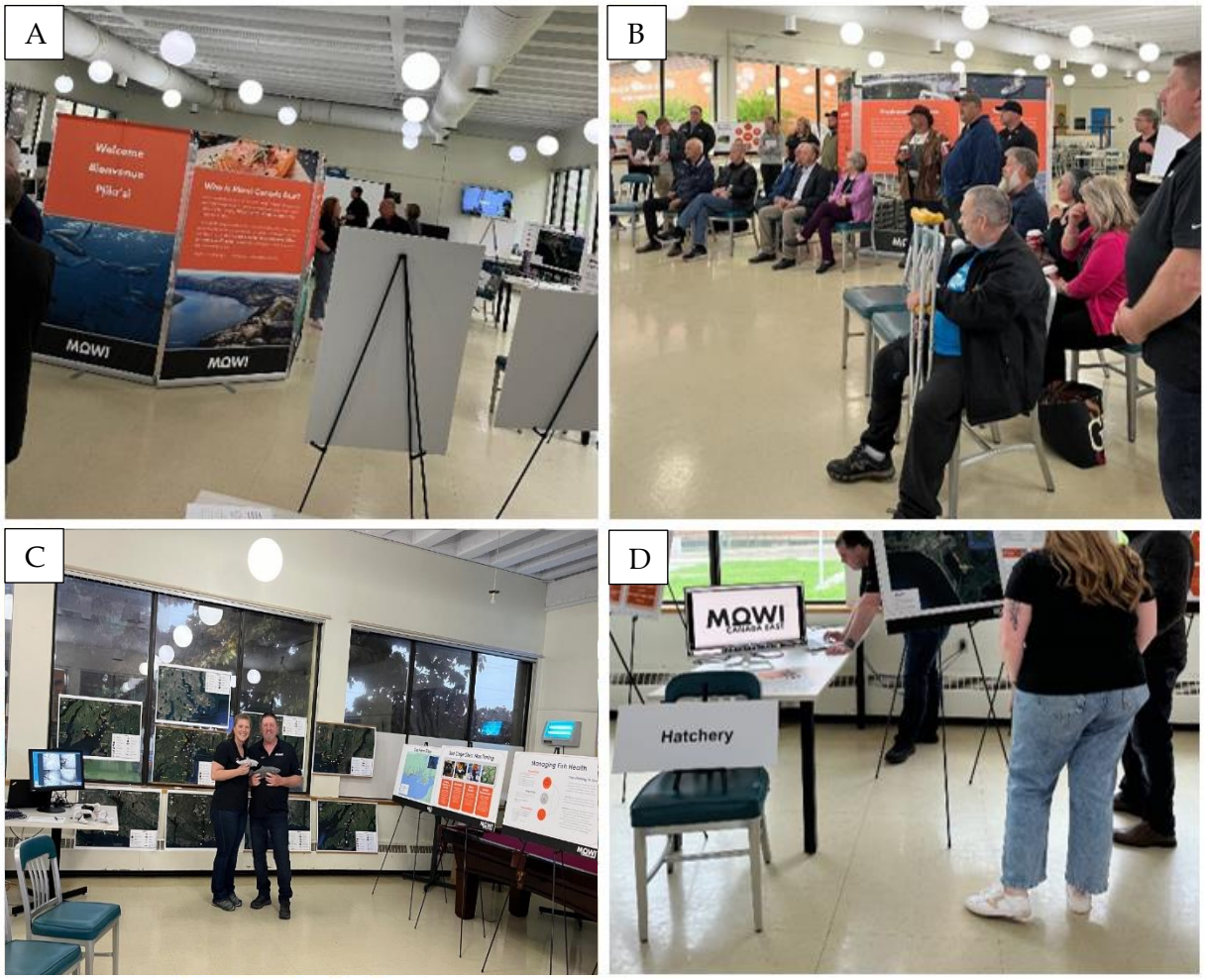


Figure 3.19. Open House Public Information Session in Stephenville, NL 13 June 2024 (A) information board display (B) participants during presentation (C) MCE staff at information station (D) information station for participants to interact with MCE staff.

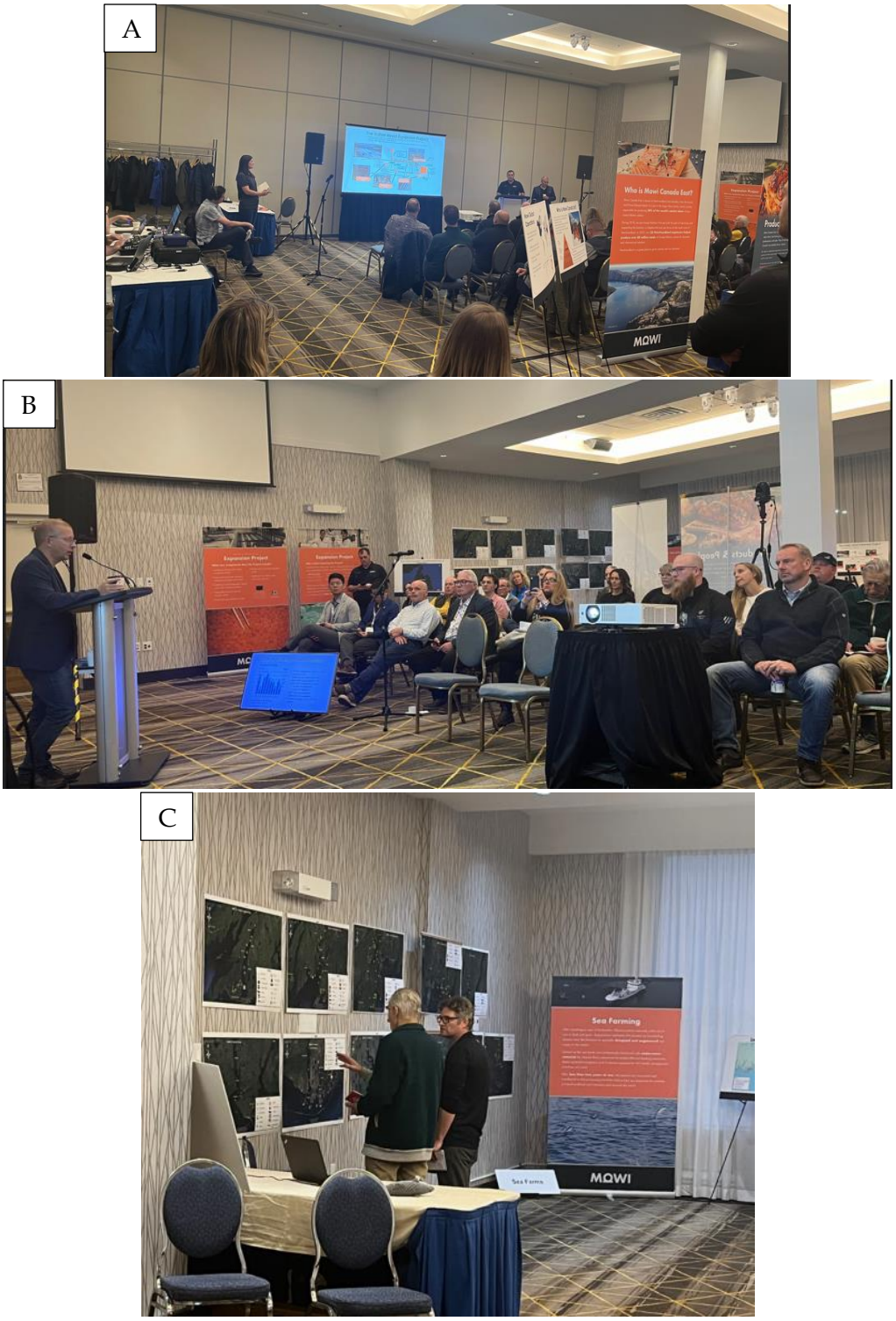


Figure 3.20. Open House hybrid in-person and virtual Public Information Session in St. John's, NL 10 October 2024 (A) presentation (B) questions from audience (C) information boards with participants and MCE staff.

3.9 Aquaculture Conference Booth

Conferences and events provided additional access for the public and aquaculture industry suppliers to receive information regarding the Project. MCE provided an exhibit about the Project alongside its corporate booth at the NAIA Annual Cold Harvest Conference 8–10 October in St. John's (Figure 3.21). Included with its booth was a dedicated section (information boards) about the Project and the EIS. MCE and EIS team members were present to provide information and respond to questions, concerns, issues, and interest in the Project. All conference delegates, exhibitors, presenters and supporters received an invitation in registration kits to visit the booth and information station.

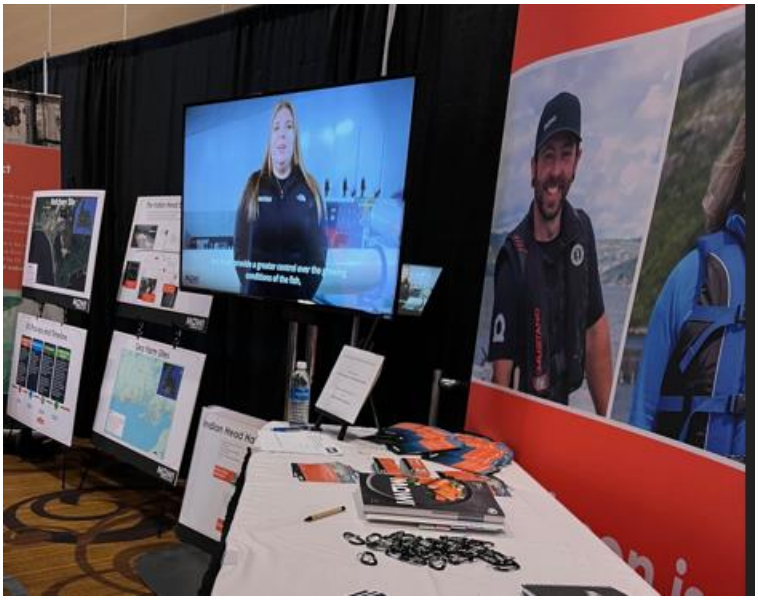


Figure 3.21. MCE corporate booth and Project information booth at the NAIA annual Cold Harvest conference 8–10 October 2024.

During the NAIA Cold Harvest conference, MCE staff also attended and made presentations during sessions including:

- Dynamic Perspectives on Strengthening your Social License – Interactive panel session with James Sibley, Content Creator, Mowi and Salmon Scotland (via call-in).
- Human Resources and Community Development – Chairperson Amy Negrijn, MCE.

3.10 Agency and Stakeholder Meetings

Separate meetings were held with regulatory agencies/regulators, special interest groups and community stakeholder groups during the EIS process (see Table 2.1). Some meetings were

initiated and requested by MCE to address specific areas of interest and concern and Project requirements.

3.10.1 Stakeholder Comment Management

MCE personnel and supporting consultation contractors documented feedback received during all forms of consultations and online submissions. A summary of comments and concerns presented during Public Information Sessions and meetings was developed for the EIS (see Table 4.1 in section 4.0).

3.11 News Media

Information about the Project and consultations was provided through traditional broadcast media and stakeholder social media. Coverage of EIS-related sessions and interviews with MCE included broadcast and electronic media articles by VOCM, Canadian Broadcasting Company (https://www.cbc.ca/listen/live-radio/1-122-the-broadcast/clip/16101256-a-public-meeting-talk-mowi-canada-easts-salmon) and *allnewfoundlandlabrador* (Appendix C-4 for copy of article).

4.0 Consultation Results

MCE has actively engaged in public consultations and meetings with regulators since acquiring the Indian Head Hatchery (2018) and licensed sea farms in Newfoundland (2017 and 2018). The results of these meetings are detailed in the Environmental Assessment in 2018 (Edwards and Mel-Mor Science 2018) and Environmental Preview Report in 2023 (Hiemstra and Townsend 2023).

Public consultation for proposed new projects and expansions is an important means of identifying the real and perceived concerns and interests of the public. It is particularly important, for the public adjacent to a new project or expansion and those who could be directly or indirectly affected. Project applicants or proponents can then ensure that their planning, information program, and assessment work addresses the issues identified. The Public Information Sessions and meetings held by MCE in 2024 and early 2025 at various locations in NL were well attended and represented by a variety of stakeholder groups. Online and in-person exchanges provided similar input. In addition to the Public Information Sessions held by MCE in 2024, a variety of other engagements including meetings, social media posts, tours and conferences were used to provide information to stakeholders. Table 4.1 contains a summary of Project consultations held in 2024/2025 after the Minister's decision in 2023 that an EIS was required for the Project.

Table 4.1. Summary of MCE Project consultations held in 2024/2025.

Event Title	Location	Target Stakeholder Groups	Number of People Engaged	Start Date	End Date	Type of Engagement	Purpose
Town Council Meeting	Harbour Breton	Communities	6	March 19, 2024	November 5, 2024	In-person	Hatchery Expansion – Environmental Impact Statement
Telegram – Public Notice of Project Consultations	N/A	Communities	n.d.	May 24	June 8, 2024	Newsprint	Hatchery Expansion – Environmental Impact Statement
Website – Public Notice of Project Consultations	N/A	Communities	n.d.	June 11, 2024	Ongoing	Social media	Hatchery Expansion – Environmental Impact Statement
Facebook – Public Notice of Project Consultations	N/A	Communities	n.d.	June 1, 2024	Ongoing	Social media	Hatchery Expansion – Environmental Impact Statement
LinkedIn	N/A	Business networks	n.d.	June 1, 2024	Ongoing	Social media	Hatchery Expansion – Environmental Impact Statement
Notice – June Public Information Sessions	N/A	Communities	n.d.	June 1, 2024	June 7, 2024	Social media	Hatchery Expansion – Environmental Impact Statement
Central Newfoundland	Gander	Communities	15	June 11, 2024	June 11, 2024	In-person	Public consultation,

Event Title	Location	Target Stakeholder Groups	Number of People Engaged	Start Date	End Date	Type of Engagement	Purpose
Regional Public Consultation							Information stations and Q&A
Coast of Bays Joint Mayors Committee	Harbour Breton	Communities	3	June 12, 2024	June 12, 2024	In-person	Hatchery Expansion – Environmental Impact Statement
South Coast Newfoundland Regional Public Consultation	Harbour Breton	Communities	26	June 12, 2024	June 12, 2024	In-person	Hatchery Expansion – Environmental Impact Statement
Western Newfoundland Regional Public Consultation	Stephenville	Communities	20	June 13, 2024	June 13, 2024	In-person	Hatchery Expansion – Environmental Impact Statement
Town of Stephenville	Stephenville	Communities	3	June 13, 2024	June 13, 2024	In-person	Hatchery Expansion – Environmental Impact Statement
Qalipu First Nation	Virtual	Communities	1	July 9, 2024	July 9, 2024	Teams	Hatchery Expansion – Environmental Impact Statement
Thank You to June Public Consultation Participants	N/A	Communities	n.d.	July 30, 2024	July 30, 2024	Social media	Hatchery Expansion – Environmental Impact Statement
Miawpukek First Nation Community Engagement	Conne River	Communities	2	August 8, 2024	August 8, 2024	In-person	Hatchery Expansion – Environmental Impact Statement
Government Environment Assessment Regulator Tour of Hatchery Operations	Stephenville	Regulators/authorities	3	August 13, 2024	August 13, 2024	Visits to/tours of Mowi facilities	Hatchery Expansion – Environmental Impact Statement
Supply and Service Sector Outreach	Grand Falls-Windsor	Business networks	12	August 17, 2024	August 21, 2024	In-person	Hatchery Expansion – Environmental Impact Statement
Public Notice – October 10th Public Information Sessions	N/A	Communities	n.d.	August 30, 2024	October 9, 2024	Social media	Hatchery Expansion – Environmental Impact Statement
Community Engagement	Grand Falls-Windsor	Communities	1	September 2, 2024	September 3, 2024	In-person/email	Hatchery Expansion – Environmental Impact Statement
Telegram – Public Notice of Project Consultations	N/A	Communities	n.d.	September 20, 2024	October 4, 2024	Newsprint	Hatchery Expansion – Environmental Impact Statement

Event Title	Location	Target Stakeholder Groups	Number of People Engaged	Start Date	End Date	Type of Engagement	Purpose
Cold Harvest Conference and Trade Show	St. John's	Business networks	Almost 400 delegates	October 8-10, 2024	October 8-10, 2024	In-person	Hatchery Expansion – Environmental Impact Statement
Hybrid In-person and Virtual Province-wide Public Consultation	St. John's /Atlantic Canada	Communities	29	October 10, 2024	October 10, 2024	In-person/Teams	Hatchery Expansion – Environmental Impact Statement
Thank You to October 10th Public Consultation Participants	N/A	Communities	n.d.	October 11, 2024	October 11, 2024	Social media	Hatchery Expansion – Environmental Impact Statement
Town Council Meeting	Harbour Breton	Communities	5	November 5, 2024	November 5, 2024	In-person	Hatchery Expansion – Environmental Impact Statement
Government Environment Assessment Regulator Tour of Sea Farm Operations	Harbour Breton	Regulators/ authorities	2	November 6, 2024	November 6, 2024	Visits to/tours of Mowi facilities	Hatchery Expansion – Environmental Impact Statement
Intermediate School Hatchery Tour	Stephenville	Schools	14	December 2, 2024	December 2, 2024	Visits to/tours of Mowi facilities	Education organized via the Hatchery Expansion – Environmental Impact Statement engagement
Qaliqu First Nation Engagement	Stephenville	Communities	2	December 9, 2024	December 9, 2024	Visits to/tours of Mowi facilities	Hatchery Expansion – Environmental Impact Statement

4.1 Participation, Questions and Concerns

Public Information Sessions and meetings with key stakeholders were held during 2024 in Gander, Harbour Breton, and Stephenville (June), a virtual session (July), a hybrid (virtual and in-person) in St. John's (October), and in-person in January 2025 (Table 4.2). Participation in the Project Consultations was more concentrated with individuals who have strong connections to aquaculture and to MCE and its EIS team, rather than generating high levels of public interest or attention. Close to 275 individuals connected in the various types of consultations, in the Public Information Session, online and in meetings. Many of the 400+ delegates and suppliers who attended NAIA's Cold Harvest Conference in St. John's in October 2024 also made direct connections and visited the MCE Project EIS information booth at the conference.

Many questions and concerns about the proposed Project were raised following the initial registration in 2018, and the subsequent EA release at that time. Similar questions and concerns were repeated within the EPR in 2023 and again during this EIS process. The questions and comments received during the original EA and EPR process were addressed at that time (Edwards and Mel-Mor Science 2018; Hiemstra and Townsend 2023).

There were constructive dialogue and exchanges throughout the in-person, online and virtual consultations. Issues and concerns and interests raised during the 2024–2025 EIS consultation initiatives are addressed here. Some of the issues and concerns that were raised in the earlier phases of the Project persisted in this phase. Main interests and concerns identified throughout the consultations were compiled as questions and answers and presented on the project website as frequently asked questions. All concerns and feedback raised in the public consultations and associated on-line contacts, meetings, and elsewhere, have been compiled. They have been considered with attention and care to support the development of MCE project commitments and are reflected throughout the full EIS.

Table 4.2. Location, access, stakeholder groups represented and key discussion points at each Open House Public Information Session and other meetings held by MCE in 2024/2025.

Location/Access Date	Stakeholder Groups Represented	Key Discussion Points
Gander Public Information Session Holiday Inn 11 June 2024	Public ASF, FABEC, QFN, Town of Gander, Barry Group, 360 Marine, Skretting, EastChem, CNA, NAIA	• Interaction of farmed and wild salmon • Hatchery water use with expansion • Operational procedures (i.e., sea lice, vaccination, predators etc.) • Hatchery expansion specifications • Location of sea cages expansion • Why sea cages are included in EIS for Hatchery expansion • Why movement of additional salmon smolt was not included in original EA submission • Use of sites without cages • Can sea cages handle the additional 2.2 million smolt? • Land based production by Mowi elsewhere? • Escape impacts on Conne River • Necessity of expansion; impact on overall aquaculture industry • Sufficiency of consultation with Indigenous people • Comparison of NL regulations with other countries • Inclusion of impact of sea surges and exposure to prevailing winds in the EIS • Options for closed containment systems • Potential for Hatchery waste to be used as fertilizer • Impact of proposed NMCA and MCE operations • Consideration of climate change and its cumulative effects
Harbour Breton Meeting Lions Club 12 June 2024	Mayors of Coast of Bays	• Economic, employment and social impacts to the area • Operational concerns (i.e. disease, escapes and waste) • Accuracy of study of Conne River wild salmon declines; consideration of other impacts • Use of St. Albans processing plant • Opportunities for value added processing • Opportunity for a feed plant • Relationship with Harbour Breton processor • Volume of seashore garbage from aquaculture industry
Harbour Breton	Public	• Waste from aquaculture operations in local bays, coves and harbours • Locations of sea cages

Location/Access Date	Stakeholder Groups Represented	Key Discussion Points
Public Information Session Lions Club 12 June 2024	ASF, Town of Harbour Breton, Town of Hermitage-Sandyville, NAIA, Barry Group, 360 Marine, Skretting, Connaigre Fish Farms, Member of House of Assembly	• Processing plans for future (secondary processing?) • Options for land-based operations in NL • Economic benefits of the Project • Proposed National Marine Conservation Area • Any presence of ISA and disease • Current feed suppliers, and new opportunities • Escapes • Opportunities for value added processing • Availability of locally grown salmon for local purchase • Impact of proposed NMCA on MCE and other operations; lack of local consultation on NMCA • Salmon fishery by Saint Pierre et Miquelon • Availability of local labour supply in declining populations
Stephenville Public Information Session College of North Atlantic Campus 13 June 2024	Public Bay St. George Chamber of Commerce, Town of Stephenville, Indian Head Band Council, ASF, Gales Wastewater Services, QFN, FFAW, Barry Group, 360 Marine, Skretting	• Disposal of solid waste from Hatchery • Hatchery water use, waste water treatment and monitoring programs • Use of Stephenville aquifer; volumes with expansion, if wind energy project is included • Environmental safety of fresh and saltwater effluent • Impacts of ISA at Hatchery • Wild salmon populations and Conne River salmon decline • Economic benefits of the Project • Rationale for EIS after expansion started • Plans for sea farms in Stephenville area • Independent monitoring for ISA, when moving fish • Opportunity for feed plant in NL • Availability of local labour supply in declining populations
Town of Stephenville Council Meeting 13 June 2024	Mayor and Council	• Project update • Economic opportunities • Regulatory monitoring
Qalipu First Nation Virtual Meeting 9 July 2024	QFN	• Project update • Parks Canada feasibility review of Marine Protected Area • Wild salmon populations
Miawpukek First Nation Meeting 8 August 2024	MFN officials	• Project update, background, opportunities to provide feedback • First Nation socio-economic impacts
Government of NL EA Hatchery Tour and Meeting 13 August 2024	Officials	• Facility orientation
Grand Falls Business Community Outreach Meeting 17 August 2024	Business owners	• Project update, background, opportunities to provide feedback
Cold Harvest Conference Sheraton Hotel	Aquaculture Industry operators, suppliers, regulators, municipal and	• Project update • Business opportunities • Technologies

Location/Access Date	Stakeholder Groups Represented	Key Discussion Points
8-10 October 2024	provincial officials, Minister, media	• Regulations • Public awareness and education
St. John's Public Information Session Virtual Session Holiday Inn 10 October 2024	Public ASF, NLCAR, NAIA, New Democratic Leader (James Dinn), MUN/MI, allnewfoundlandlabrador, CBC, SCNL, 360 Marine, Simcorp	• Waste from Hatchery and sea cages; effluent treatment systems and regulations; build up under cages impact on BOD and nutrient overloading on sea floor • Disease and sea lice • Wild salmon concerns • Alternatives to the Project • Sea cage operations; locations • Composition of feed, amount of wild fish products required, and source of plant material • Disease pressure on wild smolt in Bays West (Grey River) • Monitoring sea lice impact on sea trout
Town of Harbour Breton Meeting 5 November 2024	Mayor and Council	• Economic, employment and social impacts to the area • Operational concerns (i.e. disease, escapes and waste) • Accuracy of study of Conne River wild salmon declines; consideration of other impacts • Use of St. Albans processing plant • Opportunities for value added processing • Opportunity for a feed plant • Relationship with Harbour Breton processor • Volume of seashore garbage from aquaculture industry
Government of NL EA Sea Farm Operations and Meeting 6 November 2024	Officials	• MCE sea farm orientation and practices
Atlantic Salmon Federation Virtual Meeting 12 November 2024	Officials	• Wild salmon populations and input on future monitoring
Bayview Academy, Hatchery Tour 2 December 2024	Science students	• Education • Facility orientation
Qalipu First Nation Hatchery Tour and Meeting 9 December 2024	Chief Brake and officials	• Facility orientation • Project update, background, opportunities to provide feedback • First Nation socio-economic impacts
Member of House of Assembly for Stephenville – Pot au Port	MHA Wakeham	• Facility orientation • Project update, background, opportunities to provide feedback
FFAW I Unifor Meeting 17 January 2025	Union officials	• Project update, background, opportunities to provide feedback
Online	Public, municipalities, suppliers, economic	• Support for the Project as an economic generator and source of business • Employment inquiries and opportunities

Location/Access Date	Stakeholder Groups Represented	Key Discussion Points
Emails, submissions May 2024 – February 2025	development organizations	• Waste management • Indigenous involvement

4.1.1 Questions and Answers Developed from the Public Consultations

Question: How many escapes have occurred from Mowi sea cages on the South Coast of Newfoundland?

Answer: There have been zero fish escapes during the last two years that Mowi has operated in NL and <10 fish in total during the last five years. Technology and equipment have been modernized, and escapes now are almost non-existent. Mowi fully acknowledges that farmed salmon have escaped at various locations around the world and interacted with wild salmon. The effects from aquaculture reported to date have been the result of old escape events and are not reflective of current equipment specifications in use, escape numbers, and regulations/practices. Modern sea farms today [e.g., those operated by Mowi in other regions and many in NL] have a near zero escape level, especially compared to sea farms in operation 20–30 years ago. Mowi has no tolerance for escapes/failures; an escape today is considered an extremely rare occurrence.

Question: Will salmon farming like Mowi is doing, affect wild salmon?

Answer: The notion that the aquaculture industry is destroying wild salmon is false, based on historic events, and ignoring the indisputable fact that wild Atlantic salmon have been in serious decline since the late 1950's, at least 30 years before salmon farming started.

Sea cage salmon farming, done correctly, should have minimal effects. Using healthy salmon that are from a certified and approved broodstock, as well as preventing escapes with the use of certified equipment and trained personnel, are key areas of focus for Mowi to reduce interactions with wild salmon. Federal and provincial regulations, including inspections and permits, ensure aquaculture facilities operate in a manner that prevents disease spread to wild Atlantic salmon while still facilitating market access. In addition, Mowi has developed rigorous management processes and operating procedures that focus on minimizing the potential for interaction between farmed and wild Atlantic salmon.

Question: Does Mowi do any land-based smolt rearing?

Answer: Mowi is investing in post-smolt freshwater facilities (on land) that are producing larger juvenile fish (smolt) for transfer to sea cages. This reduces the amount of time a smolt is in the sea. In Newfoundland and Norway, a balance of an extended period on land (post smolt) before

transfer to sea to reach harvest size is considered optimal for salmon aquaculture in areas that are remote from product distribution hubs such as Boston or Montreal.

Question: What is ISA and what steps are you taking to prevent it?

Answer: ISA [Infectious salmon anaemia] is a natural disease, which is endemic in Canadian waters. It is therefore a disease that can occur in the industry. Mowi continuously monitors the health and welfare of its fish and has recently introduced the screening of all brood stock Atlantic salmon with ISA carriers removed before spawning. This year was the first year to have an entire juvenile stock ISA-free because of this practice and is expected to contribute to fewer outbreaks in seawater production.

Question: If you get a disease or virus like ISA in the hatchery, can it be discharged into the environment in Stephenville? Are there any other chemicals being discharged that would be harmful for humans? What monitoring is in place to assure this?

Answer: The hatchery operates UV treatment that is rated to kill any water-borne viruses. Additionally, the fish are regularly screened for viruses or any other signs of disease. Veterinarians with Mowi and the Province conduct routine surveillance samples to test the health of the fish.

The water in the hatchery, including effluent, is continually monitored 24 hours per day. The effluent quality is sampled monthly for all common environmental water parameters (e.g., metals, etc.). This is required by the hatchery's Water Use License. Besides monitoring the effluent, the quantity and quality of influent, is monitored with real time data loggers by the provincial department of Environment and Climate Change.

Mowi does not use any steroids, hormones, or anything that would cause harm to people. There has been no antibiotic use by Mowi in NL during the last two years.

Question: Is the aquifer used by Mowi large enough to supply the planned increased smolt production?

Answer: Mowi has completed numerous assessments of the aquifer since 2011 and on-going monitoring by Mowi and the provincial department of Environment and Climate Change confirms that current and planned water use is adequate for all hatchery operations.

Question: Are there any plans for sea cage sites in the Stephenville region as part of the expansion?

Answer: No, there are no plans for sea cage sites in the Stephenville region. All of Mowi's sea cage sites in NL are located on the south coast of Newfoundland.

Question: Why are the licensed and operational sea cage sites included in this EIS?

Answer: This was an unusual regulatory decision. Following an initial decision in 2018 to release the project from environmental assessment Mowi invested >$85 million and completed the first facility. However, following a legal process, the provincial government made a decision to withdraw the original approval. The existing hatchery is licensed to produce a maximum of 4.5 million smolts that are used to supply the company's sea farms on the south coast of Newfoundland. These sea cage sites have been included as part of the EIS to assess how the additional 2.2 million smolt produced as part of the hatchery expansion may affect the environment. The new total capacity of the Stephenville hatchery will be 6.7 million smolt annually. The hatchery expansion will align production with the targets committed to the provincial Department of Fisheries, Forestry and Agriculture. Mowi continues to pursue its hatchery expansion because above and beyond the economic benefits of developing an independent self-sustaining business unit in the province, the investment will improve the overall viability and sustainability of its sea farm operations in the province. The environmental and production security are achieved by reducing dependency on smolt imports from outside the province and by decreasing the amount of time salmon will be grown at sea per production cycle.

Question: Where does all the waste from the hatchery go?

Answer: The solids (uneaten fish feed and feces) are separated from the water in the hatchery by filtration and forms a 'sludge'. This sludge is collected by a local waste management company that has received approval and permits from the province for processing this product.

Question: How do therapeutants get rid of sea lice? Does it hurt the fish or the environment?

Answer: Therapeutants act in the same general way as other medicines e.g., lice powder for children. They rely on the concentration of the therapeutant being differentially harmful to the parasite and not the host animal. All products have been environmentally assessed and licensed by Health Canada. The amounts and types of therapeutants used are regulated by and reported to government regularly. All therapeutants are prescribed and administered by veterinary staff.

Question: What are the waste products beneath sea cages? Do they impact the environment with noxious gases?

The waste products beneath the cages are temporary and consist of uneaten feed pellets and feces. The waste is wholly organic and is generally referred to as biochemical oxygen demand (BOD) in regulation. It is in MCE interest to ensure feed is effectively managed and water quality is maintained on its farms. Farmed salmon depend on a healthy environment and the maintenance of good water quality. MCE carefully calculates the amount of feed required for its fish and monitors feeding to maximize consumption by the salmon. The waste that settles below the cages is monitored and sampled and is reported to regulatory authorities for review. Through the

practice of low stocking densities, effective feeding, and farm fallowing there is no build up of waste products.

Question: How is effluent at the hatchery treated? What regulations apply?

Answer: The hatchery is issued a provincial Water Use License that includes specific requirements related to the use of the water. The discharge water passes through a high-capacity filtration system with all solids removed and retained for on disposal at an approved facility on the west coast of Newfoundland. After the solids are removed the water is also treated with UV before being discharged to St. George's Bay.

Question: Can waste products from the hatchery be converted to fertilizer for agriculture farms?

Answer: The fish waste sludge is collected and retained for on land disposal at an approved facility. MCE is continuously seeking innovative ways of recycling all waste products. MCE presents its material in a condition that is amenable for various land use applications (including agriculture) and is open to working with land holders to support such opportunities.

Question: How is power sourced in remote sea cage areas? And how does Mowi respond to malfunctions?

Answer: The seawater farms do not require a constant power source therefore malfunctions are not an issue. Diesel is the primary energy source due to the remote locations. MCE sea farms are always staffed and regularly inspects and maintains its equipment to ensure it is in good working order.

Question: Where will the additional 2.2 million smolt be stocked in sea cages?

Answer: The 2.2 million smolt will be transferred to MCE licensed sea farms.

Question: Have you considered closed containment systems?

Answer: Mowi is always reviewing available systems and innovations, but at the moment, there are no commercially proven examples in existence. They are all conceptual at this time and reliant on speculative investment, as the industry continues to seek innovations. When they become operational and economically viable, Mowi will adopt their use where appropriate.

Question: Are the potential impacts to be assessed in the EIS framed by factors in the broader context of where the farms are located, to consider setting, climate change, ship traffic, and cumulative effects?

The EIS requires this broader context to be considered and evaluated, including cumulative effects from many relevant factors, such as climate change and shipping.

Question: Will the proposed South Coast Fjords National Marine Conservation Area (NMCA) impact Mowi's operations?

Answer: The EIS will address existing and proposed protected areas in the vicinity of MCE operations. Marine Conservation Areas and aquaculture are mutually exclusive. The NMCA would prohibit salmon aquaculture, and therefore cannot coexist with aquaculture in MCE farming regions.

4.1.2 Summary of Core Concerns and Feedback Expressed in Public Information Sessions and Consultations by Theme

Participants of MCE public consultations, meetings and online asked questions and offered various perspectives on salmon aquaculture and the proposed project. There was dialogue and an exchange of information and perspectives. This section presents a summary of those concerns. MCE has taken this feedback and used the information to support its approach and commitments in the EIS. Table 4.3 includes summaries of these points and provides information on the sections of the EIS where they are addressed.

4.1.2.1 Land-based Salmon Farming

- Attendees in Stephenville, Gander and St. John's requested information on the Hatchery process, equipment and monitoring for waste produced by uneaten feed and feces from the fish (sludge). What regulations are in place for the discharge, where does the solids and waste water get discharged and is it safe for the environment?
- In Stephenville, attendees requested information about the aquifer and its capacity along with potential other users.

4.1.2.2 Open Cage Sea Farming

- Opponents to open sea cage aquaculture in Gander and St. John's pressed for land-based hatchery salmon farming as an alternative. Many other public inquiries related to understanding why and how the Hatchery/sea cages system works, how the combination of growing salmon up to three pounds in a land-based hatchery and then growing them to about eleven pounds in one year in the cages would be of benefit in NL.
- There are individuals and groups in the province, country and indeed, elsewhere in the world, that strongly opposes open sea cage fish farming. There have been incidents of farmed fish escaping from cages and inter breeding with wild salmon. There have been incidents as well of chemicals (therapeutants) used to treat farmed fish infected

with disease and/or sea lice (a naturally occurring copepod salmon parasite) entering the ocean. Concerns and questions surrounding these topics were heard at Public Information Sessions in all locations in June and October.

4.1.2.3 Predator Incursions

- Predators such as sharks, seals and birds are present in the areas that sea farms are located.

4.1.2.4 Effects on Benthic Habitat

- Uneaten feed and feces settling as waste to the seafloor and can cause BOD and nutrient overloading impacting the flora and fauna that exist under the sea cages.

4.1.2.5 Waste from Operations

- Harbour Breton attendees indicated that there is waste material (plastic, rope, foam etc.) in the local coves and bays and questioned if it belonged to MCE operations.

4.1.3 Economy and Business

During the consultations, participants presented economic and business-related concerns that were of importance and value to them, but too far outside the scope of the proposed undertaking to include in the EIS. Because the EIS socio-economic discussion will not directly address all these topics, the concerns and MCE perspectives are presented below.

Concern: The economy of Newfoundland, particularly outports and smaller communities on the west and south coast, is known for recent surges and declines, and a boom-and-bust economy associated with major projects; as well as serious declines and changes in wild fish stocks, and changes in market demand and supply systems that impact seafood processing employment in provincial plants. During Public Information Sessions held at all locations in NL in 2024/2025, the largest number of comments/concerns were centered on the potential for declining population and employment in the area without aquaculture operations. Numerous attendees, especially at the Harbour Breton Public Information Sessions, expressed gratitude for long-term, meaningful employment for themselves, spouses and children; and expressed concern about if this were to be lost.

Response: The EIS existing environment section will offer perspective on MCE contributions to regions' economy and gainful employment on the West Coast and Coast of Bays. Maintaining and building on these benefits is only possible with a stable regulatory and business environment that supports the production growth that is being proposed in the EIS. Globally competitive growth is required to secure the investments in

innovation and technology transfers that lead to the best environmental and economic outcomes for NL.

Concern: Various inquiries were made regarding fish processing, such as: will the fish plant in St. Alban's be open for processing; will the future include secondary processing (value added) here in NL; and why is MCE salmon grown locally not available to buy locally?

Response: These considerations are outside the scope of the proposed undertaking; however, these opportunities are only possible with a stable regulatory and business environment that supports the production growth that is being proposed in the EIS.

Concern: Will MCE build a feed plant in NL?

Response: This consideration is outside the scope of the proposed undertaking. Mowi owns feed plants in Europe; however, the current feed demand in NL does not support the costs of constructing a feed plant in NL at this time. This opportunity will only be possible with a stable regulatory and business environment that supports continued production growth.

Concern: Various inquiries were made regarding the proposed South Coast Fjords National Marine Conservation Area (NMCA): will, and how, it affects MCE operations. Concerns were raised regarding the MPA committee's level of community consultation.

Response: The planning and activities of the proposed NMCA and committee are outside the scope of the EIS. However, the EIS guidelines do require a description of the proposed NMCA relative to the study area. MCE position is that aquaculture cannot coexist with a NMCA. The creation of an NMCA would result in all aquaculture facilities in the region (not just MCE) collapsing as investment would stop in the province.

Table 4.3 contains a summary of the comments and concerns from the Open House Public Information Sessions, meetings with stakeholder groups and received through various outlets (i.e., email, social media etc.).

Table 4.3. Summary of the comments and concerns from the Open House Public Information Sessions, stakeholder meetings and various outlets including social media and email.

Comments and Concerns Presented to MCE Regarding the Indian Head Hatchery Expansion Project	
Issue	**Section in EIS**
Land-Based Operations	
Location	
*Where is the Project located?	**Vol. 1:** 2.0 The Proposed Undertaking
*Where is the expansion located?	
Disposal of Solid Waste from Hatchery	
* Where is the solid waste from Hatchery disposed?	**Vol. 1:** 2.4.3.2 Overview and Layout of Additional Hatchery Infrastructure (*Effluent Treatment and Discharge*)
	Vol. 1: 2.4.3.4 Operations and Maintenance (*Water Quality Monitoring and Maintenance*)
	Vol. 1: 2.4.3.4 Operations and Maintenance (*Waste and Waste Management*)
	Vol. 1: 2.5.1.2 Operations and Maintenance (*Waste Management*)
	Vol. 2: Appendix E-1 - *Freshwater Environmental and Waste Management Plan*
Disposal of Wastewater from Hatchery	
*Where does the waste water from Hatchery get disposed?	**Vol. 1:** 2.4.3.2 Overview and Layout of Additional Hatchery Infrastructure (*Effluent Treatment and Discharge*)
	Vol. 2: Appendix E-1 - *Freshwater Environmental and Waste Management Plan*
*What monitoring, how often and who for waste water being disposed?	**Vol. 1:** 2.4.3.4 Operations and Maintenance (*Water Quality Monitoring and Maintenance*)
	Vol. 2: Appendix E-1 - *Freshwater Environmental and Waste Management Plan*
*Is the effluent safe for the environment?	**Vol. 1:** 2.4.3.4 Operations and Maintenance (*Waste and Waste Management*)
	Vol. 2: Appendix E-1 - *Freshwater Environmental and Waste Management Plan*
*What systems are in place to treat the effluent?	**Vol. 1:** 2.5.1.2 Operations and Maintenance (*Waste Management*)
	Vol. 2: Appendix E-1 - *Freshwater Environmental and Waste Management Plan*
*What regulations apply to the waste water effluent?	**Vol. 1:** 2.3 Regulatory Framework and Government Oversight
Volume of Discharge Through Outfall	
* How much waste water is disposed from Hatchery?	**Vol. 1:** 2.4.3.4 Operations and Maintenance (Water Supply for Indian Head Hatchery)
	Vol. 2: Appendix E-1 - *Freshwater Environmental and Waste Management Plan*
Source of Aquifer for Hatchery	
*Does MCE use the same aquifer as the Town of Stephenville?	**Vol. 1:** 2.4.3.4 Operations and Maintenance (*Water Supply for Indian Head Hatchery*)
*Will MCEs aquifer be used for WEGH2	**Vol. 1:** 4.3.3 Groundwater and Surface Water Resources
*Will there be freshwater and saltwater influent?	**Vol. 1:** 4.4.5.1 Hatchery (Municipal) (Water Supplies)

Comments and Concerns Presented to MCE Regarding the Indian Head Hatchery Expansion Project	
Issue	**Section in EIS**
Capacity of Aquifer for Hatchery	
*How much water is in the aquifer MCE uses and how is this determined?	**Vol. 1:** 2.4.3.4 Operations and Maintenance (*Water Supply for Indian Head Hatchery*)
* will expansion increase water use in the Hatchery?	**Vol. 1:** 4.3.3 Groundwater and Surface Water Resources
Is there a cumulative effect from removing water from the aquifer?	**Vol. 1:** 4.3.3 Groundwater and Surface Water Resources
	Vol. 2: Appendix F - 3D Model Predictions of the Worst-Case Response of the Mowi Canada East - Northern Harvest Smolt Ltd. Freshwater Aquifer to Long Term Withdrawals, Stephenville, NL
Operational Tasks	
* How does MCE vaccinate its fish?	**Vol. 1:** 2.4.3.4 Operations and Maintenance (*Fish Health and Veterinary Services*)
Alternatives	
*Does MCE operations elsewhere globally do land-based production?	**Vol. 1:** 1.1 The Proponent
	Vol. 1: 2.6.7.5 Conceptual Alternative 5. Land-based vs Marine-based Options
*Will there be land-based operations in NL?	**Vol. 1:** 2.6.7.5 Conceptual Alternative 5. Land-based vs Marine-based Options
EIS Process	
Comment that the expansion process is already partly completed for the Project. Please explain EIS process and that the Hatchery is operating	**Vol. 1:** 2.0 The Proposed Undertaking
	Vol. 1: 2.4.3.1 Overview and General Layout of Primary Ancillary Structures
	Vol. 1: 2.4.3.2 Overview and Layout of Additional Hatchery Infrastructure
	Vol. 1: 2.4.3.3 Hatchery Construction
Marine-Based Operations	
Location	
*Where is the Project located	**Vol. 1:** 2.0 The Proposed Undertaking
*Where is the expansion located?	
*Where will the sea cages be located?	
*Does Mowi operate sea farms in Norway?	
*Does MCE operate in Mal Bay?	
*Are there plans for sea farms in Stephenville region as part of the expansion?	
*Does MCE own sea farms in Hall's Bay?	
Effects on Benthic Habitat	
* Does waste build up under sea farms causing BOD and nutrient overloading on sea floor?	**Vol. 1:** 2.5.2.2 Operations and Maintenance (*Effects on Marine Habitat*)
	Vol. 3: Sea Farm Sites (BMA) Baseline Study
Waste from Operations (Foam Floats, Plastics, Rope etc.)	
*Concern raised regarding "garbage" in local coves and bays that may be from aquaculture industry	**Vol. 2:** Appendix J - Environmental Management and Waste Management Plan (Section 3.4)
Predators and Sea Cages	
*Concern raised about predators at sea cage sites	**Vol. 1:** 2.4.4.3 Operations and Maintenance (*Predator Control*)
	Vol. 1: 2.5.2.2. Operations and Maintenance (*Predator Protection and Control*)
	Vol. 2: Appendix J - Environmental and Waste Management Plan

Comments and Concerns Presented to MCE Regarding the Indian Head Hatchery Expansion Project	
Issue	**Section in EIS**
Disease and Disease Management	
Is there independent monitoring for ISA (particularly for moving fish)?	**Vol. 1:** 2.3 Regulatory Framework and Government Oversight;
	Vol. 1: 2.4.4.3 Operations and Maintenance (*Transfer of Smolt to Sea Cages and Fish Health and Veterinary Services*)
	Vol. 1: 2.5.1 Indian Head Hatchery (*Fish Health*)
	Vol. 1: 2.5.2 Sea Farms (*Fish Health*)
	Vol. 2: Appendix G - Salmonid Fish Health Management Plan
Concern raised about previous ISA outbreak at Hatchery?	**Vol. 1:** 2.4.3.4 Operations and Maintenance (*Fish Health and Veterinary Services*)
	Vol. 1: 2.5.1.2 Operations and Maintenance (*Broodstock and Egg Supply*)
	Vol. 2: Appendix G - Salmonid Fish Health Management Plan
Is ISA and disease still an issue for MCE?	**Vol. 1:** 2.4.3.4 Operations and Maintenance (*Fish Health and Veterinary Services*)
	Vol. 1: 2.5.1.2 Operations and Maintenance (*Broodstock and Egg Supply*)
	Vol. 2: Appendix G - Salmonid Fish Health Management Plan
Feed	
Who supplies the feed used by MCE?	**Vol. 1:** 2.4.3.4 Operations and Maintenance (*Feeding*)
	Vol. 1: 2.4.4.3 Operations and Maintenance (*Feeding*)
Concerns raised about the composition of feed used by MCE and amount of wild fish product required to produce it and where plant material is sourced (sustainability)?	**Vol. 1:** 2.4.3.4 Operations and Maintenance (*Feeding*)
	Vol. 1: 2.4.4.3 Operations and Maintenance (*Feeding*)
Escapes	
Concern raised about escapes	**Vol. 1:** 2.5.2.2 Operations and Maintenance (*Fish Escape Prevention and Enumeration*)
	Vol. 2: Appendix J - Environmental and Waste Management Plan
Concern raised about escapes relative to Conne River	**Vol. 3:** Wild Atlantic Salmon Baseline Study
Wild Salmon Interactions	
Concern for disease pressure on wild smolt in Bays West (Grey River)	**Vol. 1:** 2.5.2.2 Operations and Maintenance (*Fish Health* and *Pathogen/Parasite Transfer Between Farmed and Wild Atlantic Salmon)*
How will MCE address guideline requirement of understanding interaction between wild and farmed salmon?	**Vol. 3:** Wild Atlantic Salmon Baseline Study
Does MCE operations affect wild salmon?	**Vol. 1:** 2.5.1.2 Operations and Maintenance (*Broodstock and Egg Supply; Fish Health*)
	Vol. 1: 2.5.2.2 Operations and Maintenance (F*ish Health; Pathogen/Parasite Transfer Between Farmed and Wild Atlantic Salmon; Effects on Marine Habitat*)
MCE opinion of Conne River stock decline	**Vol. 3:** Wild Atlantic Salmon Baseline Study
Concerned for any potential salmon population decline	**Vol. 3:** Wild Atlantic Salmon Baseline Study
Concern that DFO recent study regarding decline in Conne River salmon does not reflect all data, pre-aquaculture activity and other factors	**Vol. 3:** Wild Atlantic Salmon Baseline Study
Sea Lice	
Is monitoring for sea lice on sea trout part of this Project?	Outside scope of EIS.
	Vol. 3: Fish and Fish Habitat provides background on sea trout.
	Vol. 1: 2.4.4.3 Operations and Maintenance (*Pest Management*) provides background on sea lice monitoring
	Vol. 2: Appendix G - Salmonid Fish Health Management Plan provides information on sea lice monitoring
What challenges exist for sea lice treatment at sea farms in sheltered bays?	**Vol. 1:** 2.5.2.2 Operations and Maintenance (*Fish Health: Sea Lice Control*)

Comments and Concerns Presented to MCE Regarding the Indian Head Hatchery Expansion Project	
Issue	**Section in EIS**
Sea Farms	
Why does MCE continue to hold sites that are not expected to hold fish?	**Vol. 1:** 2.4.4.3 Operations and Maintenance (*Sea Farm Construction and Installation*)
	Vol. 1: 2.5.2.2 Operations and Maintenance (*Fish Health; Pathogen/Parasite Transfer Between Farmed and Wild Atlantic Salmon; Effects on Marine Habitat*)
	Vol. 3: Sea Farm Sites (BMA) Baseline Study
Why are the sea farms included in the EIS for the expansion of the land-based facility?	**Vol. 1:** 2.1.1 History and Background of the Project
Why was the 2.2 million smolt moving from the Hatchery to sea farms on south coast of NL not part of the original EA submission?	**Vol. 1:** 2.1 Overview of the Undertaking
Will the additional 2.2 million smolt as part of the expansion go to existing sea cages?	**Vol. 1:** 2.4.4.3 Operations and Maintenance (*Planned Stocking Densities*)
How confident is MCE the sea cages can handle the expansion fish (additional 2.2 million) given the mortality event in 2019?	**Vol. 1:** 2.4.4.1 Overview and General Layout (*Sea Cage Systems*)
	Vol. 1: 2.5.2.2 Operations and Maintenance (Water Quality Monitoring)
Will sea surges and exposure to prevailing winds be covered in the EIS	**Vol. 1:** 4.2.2.3 Wind and Wave Action
	Vol. 1: 4.2.2.4 Flood and Tidal Zones
	Vol. 1: 6.0 Effects of the Environment on the Project
	Vol. 3: Sea Farm Sites (BMA) Baseline Study
Alternatives	
What are the options for closed containment?	**Vol. 1:** 2.6.7.6 Concept Alternative 6 - Marine-based Containment Options
Economy & Business	
Employment & Business Opportunities	
*Will the fish plant in St. Alban's be open for processing?	**Vol. 2:** Appendix C - Public Consultation Report
*Will MCE build a feed plant in NL?	**Vol. 2:** Appendix C - Public Consultation Report
*Will the future include secondary processing (value added) here in NL?	**Vol. 2:** Appendix C - Public Consultation Report
Concerns raised about population and employment declining in the area. MCE operations bring employment and support to the area (Section 4.1.4 Testimonials Received)	**Vol. 1:** 4.5 Economy, Employment and Business
	Vol. 1: 2.6 Alternatives
Is there potential for solid waste from the Hatchery to be used for fertilizer?	**Vol. 2:** Appendix E-1 - Freshwater Environmental and Waste Management Plan
Is MCE expansion necessary for survival of aquaculture industry in NL?	**Vol. 1:** 2.6.7.7 Conceptual Alternative 7 -'No Expansion (i.e., Alternative Supply of Smolt)'
What is MCE relationship with The Barry Group?	**Vol. 1:** 2.4.4.3 Operations and Maintenance (*Transfer of Fish from Sea Cages to a Processing Plant*)
Why is MCE salmon grown locally not available to buy locally?	**Vol. 2:** Appendix C - Public Consultation Report. (Section 4.1.3 Economy and Business)
Indigenous Groups	
Concern raised that QFN have not been sufficiently engaged or acknowledged?	**Vol. 2:** Appendix C - Public Consultation Report
Marine Protected Area	
Will a MPA affect MCE operations?	**Vol. 2:** Appendix C - Public Consultation Report. (Section 4.1.3 Economy and Business)
How will the MPA affect MCE operations?	**Vol. 2:** Appendix C - Public Consultation Report. (Section 4.1.3 Economy and Business)
Concern that industry and towns (Harbour Breton) not consulted during the MPA process	Outside scope of EIS.
General Question	
Is there a salmon fishery on St. Pierre et Miquelon?	**Vol. 1:** 4.4.1.1 Commercial Fisheries
	Vol. 3: Wild Salmon Baseline (4.1 Status)
Will the Project be considered in the context of climate change and the impact of cumulative effects?	**Vol. 1:** 6.0 Effects of the Environment on the Project
	Vol. 1: 7.6 Cumulative Effects
	Vol. 2: Appendix E-1 - Freshwater Environmental and Waste Management Plan
	Vol. 2: Appendix J - Environmental and Waste Management Plan
Regulations	
Concern that NL regulations are not on par with other countries such as Norway	**Vol. 1:** 2.3 Regulatory Framework and Government Oversight

4.1.4 Testimonials Received

Testimonials were received during the Public Information Sessions as well as following these sessions through emails. Below are just some of the testimonials provided to MCE. Appendix C-5 also contains support letters received.

> "Look forward to seeing the hatchery grow and help build the community!"
> **~Mitchell Gill**

> "A great project for area and support for Canadian food security."
> **~ Steve Backman**

> "I support the hatchery expansion; it will help build prosperity in our communities."
> **~ Nicole Tiller**

> "I support the hatchery expansion fully. Helps build & support communities."
> **~ Chris Pardy**

> "I 100% support aquaculture in the Harbour Breton region& the Stephenville region. Without this industry, it would be devastating to these areas."
> **~ Chris Bungay**

> "I think the aquaculture industry has a positive impact on NL. The jobs created are year-time, full-time, with good benefits and leave system. In my four years I have seen a significant growth in the south coast area."
> **~ Geoff Strong**

> "This industry is the present & future of rural Newfoundland. I myself have 4 people employed in my family. (And to add the salmon is delicious) :) "
> **~ Not specified**

> "The industry is very important to the community that has made my family and I very welcome. Expansion would mean it's more likely for my family and families like mine to settle here."
> **~ Shaun Mackinnon**

> "Without the industry rural NL especially the Coast of Bays area would quickly die. It provided many good paying and substantial job."
> **~ Harvey Jensen**

"I support this Expansion project that Mowi in planning, an Economic Environmentally Friendly Project is always Welcomed in the Bay St. George Region."
~ **Arch Locke**

"On behalf of the BSG Chamber of Commerce, please accept this message of support for the proposed expansion to the Indian Head Hatchery. As a chamber, we support all environmentally friendly projects that promote and encourage economic growth and development in the region."
~ **Debbie Brake-Patten, B.Sc., D.C., M.Ed.**

"On behalf of the Harbour Breton Investment Corporation, please accept this email as a show of support for MOWI Canada East, in their Stephenville expansion. MOWI started on the South Coast of Newfoundland in 2018. Since that time, they have become a great asset to the communities in the Coast of Bays region. Having a huge positive impact on the local economy, MOWI offers great employment opportunities, along with a great product, and it does not stop there. MOWI has made substantial donations to local non-profits such as Connaigre Arena & Fitness Centre, splash parks, and food banks only to mention a few. The Harbour Breton Investment Corporation, believes that MOWI Canada East, will have a significant positive impact on any community they choose to business with.
~ **Tina Bungay, Economic Development Officer, Town of Harbour Breton**

"As a small business owner in The Town of Stephenville Crossing I think the expansion project for MOWI would be beneficial for many reasons. The economy on the West Coast of Newfoundland has taken many hits over the past number of years without any replacement of industry. This expansion project would be a good opportunity to bring prosperity to the West coast and help families and business survive here. I returned to Newfoundland 20 years ago after completing my University education and working in Ottawa for a few years. We returned to Newfoundland to start a family and were lucky to find jobs and be able to make a living. I would love for my kids and grandkids to be able to do the same. My family and I fully endorse the expansion of the MOWI hatchery. "
~ **Stephen Shea, Owner Shea's Building Supplies Ltd., Stephenville Crossing**

"Our Community, Rencontre East has residents employed in the aquaculture industry. The Harbour Authority & Town council also supplies Mowi with two buildings in our community to store and operate out of should they need it.

Mowi's operations have been an important part of our town and contribute to the employment of 8 residents currently but over 20 residents in the past. The base of business we have with Mowi and the aquaculture industry allows us to actively

support and work with other businesses and organizations in our community and the province, especially in rural areas.

As the aquaculture industry grows and expands its operations and production, with modern farming practices and processes, so will the economy of our region and our businesses will grow and strengthen in our community.

We are fully supportive of the expansion of Mowi's Indian Head Hatchery in Stephenville. It demonstrates Mowi's commitment to investing in Newfoundland and Labrador and helps sustain our community and businesses and region."
~ **Town Council Rencontre East**

4.1.5 Support Letters Received

MCE received letters of support from the following:

- Town of Harbour Breton
- AKVA Group
- Atlantic Canada Fish Farmers Association
- Eastchem (NL) Inc.
- Port of Stephenville
- Bay St. George Ready-Mix Ltd.
- Town of Stephenville

5.0 Conclusion

Mowi is aware that people are key to their success and maintains a common goal to focus on safety and pride in the workplace and the communities where they operate. As part of Mowi's vision and values, MCE's information and consultation initiatives have focused on the residents and communities nearest to the Project. Multiple communications practices and media have reached the public and aquaculture communities throughout the province and beyond.

As referenced previously, the level of interest and attention for this Project throughout consultations came mostly from people directly connected to aquaculture and MCE. The consultation process did not demonstrate that it is a highly public provincial issue or interest. The individuals who participated reflected their concentrated interest, both as supporters and opponents, to the industry overall. The high degree of public notice and promotion ensured there was province-wide reach to garner attention. Close to 275 individuals connected in the Public Information Session, online and in meetings. Many of the 400+ delegates and suppliers who attended NAIA's Cold Harvest Conference in St. John's in October 2024 also made direct connections and visited the MCE EIS information booth at the conference, and some attended the subsequent public session.

The consultations have been constructive and informative, and the information gathered has strengthened MCE's undertaking and the comprehensiveness of its EIS. There are project activities that will require additional stakeholder engagement as the project progresses and MCE is committed to further engagement to support its planning and development.

Throughout the consultation process, there remain common and persistent themes and concerns, as were initially raised in previous environmental assessment considerations. Supporters of aquaculture remain steadfast and want to see economic expansion, especially in rural parts of the province. MCE's continuous improvements and investments in the assets acquired in 2017, and any associated legacy issues, are made with best practice equipment, management, and safe food production systems. Many of the concerns raised are addressed throughout the EIS. With awareness and education, public interest and attention is expected to improve. Adhering to the Mowi vision "Leading the Blue Revolution" and its principles, MCE intends to be a transformative contributor to the provincial economy.

6.0 Literature Cited

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Appendix C-1

Indian Head Hatchery Expansion Project

Public Consultation Plan for Environmental Impact Statement

Indian Head Hatchery Expansion Project
Public Consultation Plan for
Environmental Impact Statement

Prepared by

BUTLAND communications

with

LGL Est. 1971 LIMITED
environmental research associates

Prepared for

MOWI

Mowi Canada East Inc.

August 2024
LGL Reference: FA0287A

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1.0 Introduction

Mowi Canada East Inc. (hereafter MCE)[1] is proposing to expand the Indian Head Hatchery in Stephenville to provide an additional 2.2 million Atlantic salmon smolt to stock currently established sea cage sites on the south coast of Newfoundland. The "Indian Head Hatchery Expansion Project" (the Project; registration number 1975) requires an Environmental Impact Statement (EIS). An important component of the EIS is acquiring the input of the public and stakeholder groups and to consider this input during preparation of the EIS to mitigate concerns and enhance positive attributes of the Project to the extent practical.

This document is MCE's Public Consultation Plan and has been developed to address Section 10 of the EIS Guidelines for the Project (DECC 2024), which aligns with Section 58 of the *Environmental Protection Act*.[2] The overall purpose of this Plan is to clearly establish the approach and methods to conduct and document the findings of public, Indigenous group, and stakeholder consultations during the EIS process. In April 2024, this Plan was submitted as draft to the Environmental Assessment Committee (EAC) established for the EIS for review followed by presentation to the EAC overviewing the Plan; the EAC had no comments. The Plan is considered a "living" document given the regular feedback received during consultation, which requires an adaptive approach to consultations.

1.1 Project Background

The Indian Head Hatchery Expansion Project is intended to both increase production capacity of farmed Atlantic salmon and improve smolt quality at MCE's Stephenville hatchery. The Project will involve upgrades to improve efficiency of the existing hatchery facility, expansion of the hatchery to increase production, and installation of supporting infrastructure such as freshwater and saltwater supply and effluent treatment and discharge. The Project also includes the transport, transfer, rearing and harvesting of additional smolt in MCE's sea cage sites in its existing Bay Management Areas (BMAs) on the south coast of Newfoundland.

1.2 Objectives of the Public Consultation Plan

This Public Consultation Plan outlines MCE's approach to address the primary objectives of consulting with the public, agencies, community stakeholders, Indigenous groups, special interest groups, and local businesses to address concerns and strengthen the validity of EIS predictions and follow-up measures. More specifically, the Plan is intended to:

[1] The Proponent that originally registered this Project was Northern Harvest Smolt Ltd., which has since been purchased by Mowi Canada East Inc.

[2] https://www.assembly.nl.ca/legislation/sr/statutes/e14-2.htm.

- Establish approaches and protocols to efficiently manage processes for stakeholder information sharing, feedback, and input, and documentation for the EIS.
- Ensure balanced, accessible, and inclusive involvement of the public and their organizations who are affected or likely to be affected by, or having an interest in, the environmental decision-making.
- Apply techniques for effective communication that ensures public understanding of the assessment process and the Project, and its impacts and benefits, including health, social, and economic interests.
- Effectively provide opportunities for agreement or compromise on key issues relevant to the Project.
- Establish the foundation for ongoing discussions for environmental and social impact assessment processes and permitting.

Consultation findings may influence Project activities, including protection and mitigation measures during construction, operation and maintenance, and decommissioning and rehabilitation phases of the Project. This Plan is designed to involve the people who are impacted and interested, gather input from participants, and conduct targeted outreach to stakeholders with the overall goal of addressing concerns and strengthening the validity of EIS predictions and follow-up measures.

2.0 Public Consultation Program

2.1 Approach

MCE's overall approach to public engagement and community relations is founded on years of building relationships and understanding the regions where it operates. The company will continue to listen and seek out concerns and feedback, and then demonstrate and describe how each issue and concern, and opportunity, will be addressed and mitigated as required. MCE will work diligently to ensure stakeholders and Indigenous groups are up to date on the Project and the EIS process and are aware of their opportunities to ask questions and provide feedback.

Ultimately, this will establish the foundation to support how the Project will be advanced through construction, development, and operation, with a longer view for rehabilitation and reclamation. Furthermore, it will shape the continued development of MCE's ongoing consultation and engagement program that is intended to:

- Provide the appropriate personnel, resources, and procedures to conduct and document meaningful, responsive engagement with the public, Indigenous groups, and stakeholders.
- Understand who is interested in the Project and seek to build relationships with those key groups, to create a trusted process for engaging in productive and collaborative discussions about managing potential effects and maximizing potential benefits.

- Communicate in plain language, in a clear and understandable manner with those most interested in or directly affected by the Project.
- Provide concise communications materials that educate, inform, and motivate.
- Consult people early in the process and maintain regular and open dialogue throughout the life of the Project, to understand public, community, and Indigenous issues and to identify mutually acceptable approaches to address key concerns.
- Provide substantial opportunities to receive feedback and exchange ideas, with appropriate adaptations to access opinions across demographic groups (age, gender, etc.), that will help minimize conflict and build constructive consensus.
- Listen to and carefully consider concerns and ideas, recognizing that diversity of opinion will contribute to fair and informed decisions and will result in the most appropriate project design and operation.
- Communicate decisions in a timely manner and respond to information requests as fully and as quickly as possible.

This strategy, and the ongoing familiarity and experience with current stakeholders and Indigenous groups, will inform the Public Consultation Plan specific to the development of the EIS.

2.2 Communications Tools and Strategies

MCE will use a variety of means to communicate information about the Project and solicit feedback from the public, Indigenous groups, regulatory agencies, and stakeholder groups. Core information and messages will be developed that are concise, in plain language, and accessible. These materials will include maps, illustrations, animations, audio-visual materials, scientific/technical and topic-specific information, summary sheets, and signage to accompany discussions and to facilitate an understanding of the Project and the EIS.

2.2.1 Information Materials at MCE Offices

MCE has operational offices in Stephenville and Harbour Breton, Newfoundland and Labrador (NL). Information including print materials on the Project and the EIS process will be available at these offices, which can serve as a point of contact for local residents. The print materials will complement online information, including MCE's contact information and instructions to provide comments and concerns relevant to the Project and the EIS. Print materials will also be distributed at public activities and meetings.

2.2.2 Project Website

MCE will establish a separate Project website (linked to MCE's primary website) that provides core sections related to the Project and EIS process. Key communication assets of the website will include summaries, maps, presentations, announcements, contact information for the Project

Team, and a digital program for posing and addressing questions. In addition, a calendar and commitment to consultation events will be provided.

As part of MCE's Project website, a dedicated email address has been created to register for information and to provide comments so that members of the public and stakeholders can submit comments directly to the Project Team. If required, online surveys can be used to obtain input and feedback from the public and stakeholders on specific topics. The Project Team will regularly update the project email list with new user information obtained via the website. Through the Project website, users are invited to contact the Project Team through the online contact form or the Project email account.

2.2.3 Social Media Accounts

MCE's existing social media accounts (Facebook and LinkedIn, as appropriate) will be used to post Project updates and notifications, including notices about the EIS process, and requests to participate in Public Meetings etc. The Project Team will be responsible for informing the public through social media content about ways to provide feedback during the EIS process. The social media accounts will not be used as a means of soliciting or accepting direct feedback, but as a proactive means of notifying the public.

2.2.4 Project Mailing List

MCE has compiled a preliminary contact list of local interest groups, relevant agencies, and community contacts and is actively engaged in identifying additional stakeholders. The mailing list will be updated and maintained throughout the Project and groups will be sent regular Project updates and notifications.

2.2.5 Project Email Account

An email account (Stephenville.eis@mowi.com) has been established to facilitate email correspondence between the Project Team and those with an interest in the Project. The email account will be internally linked to key Project Team members (including those responsible for consultation record keeping) to provide access to incoming and outgoing messages. This email will be posted on all social media platforms. Stakeholders will be proactively contacted with updates and links for seeking information.

2.2.6 Newspaper Advertisements

As stipulated in the EIS Guidelines, public meetings will be advertised in local newspapers following the detailed requirements included in Appendix B of DECC (2024).

2.2.7 Public Meetings: In Person and Virtual

As specified in the EIS Guidelines, MCE will undertake in person and virtual public meetings. Organized in the format of an Open House, in person meetings will include presentations, displays, and information stations. Representatives of MCE and the EIS team will be available to provide information and respond to questions, concerns, and expressions of support. These sessions will involve professional facilitation and management and include approaches for active listening and monitoring. As a minimum, a public meeting will be held in each of Stephenville, Harbour Breton, and Gander. The key objectives are to provide information to the public about the Project and to document the concerns/feedback of local communities adjacent to the Project Area.

A hybrid virtual/in-person meeting in St. John's will provide opportunities for input from people unable to attend meetings in person, as well as ensure island-wide reach for the public to attend. Using a recognized format (Teams, Zoom, or other format), MCE will provide the same presentation as used in the public meetings, and provide a facilitated and managed system to respond to questions and concerns. Information about how to submit feedback will be announced and displayed throughout the virtual meeting.

2.2.8 Aquaculture Conference Booth

MCE will have a booth and display presence at Cold Harvest 2024, the Newfoundland Aquaculture Industry Association annual conference in St. John's from October 8-10. Included with its booth will be a dedicated section about the Project and the EIS, with support personnel present to provide information and respond to questions, concerns and issues, and interest in the Project.

2.2.9 Agency and Stakeholder Meetings

As required, separate meetings will be held with regulatory agencies/regulators, special interest groups or community stakeholder groups during the EIS process. It is anticipated that separate meetings will be initiated or requested by MCE, as well as by groups to address specific areas of interest and concern and Project requirements.

2.2.10 Stakeholder Comment Management

MCE personnel and supporting contractors will carefully document feedback received during all forms of consultations, including through digital submissions. Comment tracking tables (separate public and agency tracking tables) will be used. Dedicated Project Team members will be assigned to track comments, which will facilitate timely responses during the EIS process.

2.3 Potential Stakeholders and Indigenous Groups

MCE is developing its list of potential stakeholders (Table 2.1), including special interest, community, and Indigenous groups. Generally, stakeholders are comprised of locally affected individuals and communities, agencies, associations, non-governmental organizations, and special interest groups with an interest in a project and/or who may be directly or indirectly affected by a project.

MCE will reach out to the Miawpukek First Nation and Qalipu First Nation to determine how they would prefer to be consulted during the EIS process, and with whom. Qalipu First Nation will provide Indigenous considerations for its members. While some band councils are not officially recognised through the federal Indian Act Section 35, self-identified local band councils will be consulted in relevant regions. Concerns and interests related to the local community with the local band councils will be treated as such, similar to other community groups.

Types of contact for consultation will include letter notifications and invitations, telephone conversations, and email correspondence to target people within MCE's Project databases, as well as to target organized groups of relevant stakeholders. Consultation will be made in public meetings and dedicated group meetings with presentations and discussions with MCE's EIS team. There will likely be repeated and continued consultation with some groups. MCE will document all stakeholders' views on the potential environmental and socio-economic effects of the Project, and their priorities and interests, which will be considered during the EIS development.

For the purposes of this Public Consultation Plan, potential Stakeholder and Indigenous groups and the proposed consultation approach are identified (Table 2.1). These are known or potentially anticipated groups who may come forward. Also identified are expected and potential interests and key concerns related to the Project. This table will be updated throughout the EIS process.

Table 2.1. Potential stakeholder and Indigenous groups, consultation approaches, and potential interests/concerns that may arise.

Stakeholder Group	Consultation Approach	Potential Interests and Concerns
Municipalities Towns and Local Service Districts in Stephenville, Coast of Bays, and southwest coastal areas. Municipal committees and related boards	Dedicated meetings, and regular project update meetings in person and virtually Communications through direct contact, social media, and website Open Houses	Municipal and regional plans – services, land use, recreation, business areas, taxation, waste management, emergency services, housing, roads and highway use, grants and other interests and concerns. Impacts on property, value, availability, services Community infrastructure Municipal support and services e.g., water usage, regulations, accessibility to land Community supports for employees and contractors

Stakeholder Group	Consultation Approach	Potential Interests and Concerns
		Community development agreements Local employment, training, and business opportunities Environmental impact
Recognized Indigenous Groups Qalipu First Nation Qalipu Holdings Miawpukek First Nation Local Band Councils (self-identified Indigenous)	Dedicated meetings, and regular project update meetings, in person and virtually Inclusion in public consultations and events Communications through direct contact, social media, website Open Houses	Employment, training, and business opportunities Cultural, archaeological, traditional land and marine use and impacts
Land Use Groups Trail societies and committees Hunters, anglers, berry pickers, hikers, recreational boaters, and ATV users Cabin owners – individuals and associations Outfitters Agriculture associations	Meetings as identified Communications through social media, website Open Houses	Land use, mapping and infrastructure planning Mitigating impacts Support and assistance
Community Groups Youth and elder groups Social and health committees Heritage societies	Meetings as identified Communications through social media, website Open Houses	Community supports
Business Community Companies Contractors Industry associations Chambers of Commerce	Meetings as identified Communications through social media, website Open Houses Select industry events and conferences as identified	Supplier opportunities and gaps Information and introduction of supply chain and contractors Procurement systems Project updates, budgets and schedules Partnership and joint venture opportunities Economic impact
Elected Representatives Provincial Members of House of Assembly Members of Parliament Government committees	Dedicated meetings, and regular project update meetings, in person and virtually Communications through direct contact, social media, website Open Houses	Opportunities and impact on constituents Awareness of regulatory processes

Stakeholder Group	Consultation Approach	Potential Interests and Concerns
Candidates for elections		
Economic Development Organizations Regional committees and boards	Meetings as identified Communications through social media, website Open Houses	Economic impact and opportunities Strategic and development planning Regional surveys and impact monitoring
Marine Sector Aquaculture organizations Fishers and fish harvesters Related unions and committees Harbour and port authorities Marine Traffic Control and Harbour Pilotage Boat tour operators and Outfitters Marine vessels and transporters	Dedicated meetings, and regular project update meetings, in person and virtually Meetings as identified Communications through social media, website Open Houses	Infrastructure Service requirements Traffic impact Regulations Impact mitigation Monitoring
Employment Organizations Unions Trades organizations Groups for diversity, inclusion, equity, and underrepresented employment	Meetings as identified Communications through social media, website Open Houses	Opportunities for employment Training Diversity, Inclusion and Equity planning Workforce planning
Educators High schools Colleges – public and private (e.g. College of North Atlantic) University (i.e., Memorial University and Marine Institute)	Meetings as identified Communications through social media, website Open Houses Job fairs	Planning to address gaps and opportunities for skills and expertise Employment and on-the-job training opportunities Research and development Innovation
Government Agencies and Organizations Relevant provincial and federal departments Crown agencies Utilities	Meetings as identified Communications through direct contact, social media, website	Regulatory Permitting
Special Interest Groups	Meetings as identified Communications through social media, website Open Houses	Salmon protection, conservation, mitigation

2.4 General Schedule for Public Consultation During the EIS Process

MCE will use a phased approach for public consultation during its EIS process as outlined in Table 2.2.

Table 2.2. General schedule for public consultations for Mowi's EIS process.

Phase	Timing	Key Tasks
Pre-consultation	April-May (ongoing)	- Develop Project and EIS- specific content and information - Development website, social media accounts - Development of information products - Office set up with Project / EIS information - Planning and training, protocols, and administration - Team assignment - Stakeholder list - Schedule of meetings
Phase 1	May	- Issue invitations for Stakeholder meetings - Contact Indigenous Groups - Issue public notices for Public Meeting events in Stephenville, Harbour Breton, Gander
Phase 2	June	- Stakeholder meetings: in person and virtually in locations as required. - Public Meetings in Stephenville, Harbour Breton, and Gander - Indigenous Group meetings - Stakeholder registration, monitoring, questions, and responses
Phase 3	Summer	- Stakeholder meetings where possible - Indigenous Group meetings - Stakeholder registration, monitoring, questions, and responses
Phase 4	Fall	- Complete stakeholder / Indigenous Group meetings - Stakeholder registration, monitoring, questions, and responses - Public Meetings (hybrid—virtual/in-person) if and as required
Post-consultation	Late Fall	- Prepare documentation for EIS

3.0 References

DECC (Department of Environment and Climate Change). 2024. Environmental Impact Statement Guidelines, Indian Head Hatchery Expansion Project. Prepared by the Newfoundland and Labrador Department of Environment and Climate Change. 33 p.

Appendix C-2

Indian Head Hatchery Expansion Registration 1975

Environmental Preview Report

9.0 PUBLIC ENGAGEMENT

Guidelines: An Open House Public Information Session shall be held at a place adjacent to or in the geographical area of the undertaking, or as the Minister may determine, in order to:

- *provide information concerning the undertaking to the people whose environment may be affected by the undertaking;*
- *record and respond to the concerns of the local community regarding the environmental effects of the undertaking; and,*
- *present the information gathered to fulfill the requirements of Section 5 of these guidelines.*

The purpose of this session is to describe all aspects of the proposed project, to describe the activities associated with it, and to provide an opportunity for all interested persons to request information or state their concerns. You are required to notify the Minister and the public of the scheduled meeting not fewer than 7 days before that meeting. Public concerns shall be addressed in a separate section of the EPR.

As per the directions in the Environmental Preview Report (EPR) Guidelines, public engagement events were organized for the purpose of providing project information and an opportunity for all interested persons to request more information and/or state their concerns or support for the project.

These events included an Open House in-person public information session held in the Town of Stephenville, in the geographical area of the Hatchery Expansion, a project website with a Comment Forum, and a virtual live Question and Answer Session. This section provides the details of these events and public responses.

A fourth method of public engagement - focused events – was organized for individual groups to engage privately and have discussions specific to their interests. These events are also included as they provide an indication of public interest in the project.

9a Public Engagement Plan

A Public Engagement Plan was prepared that included the format, schedule, and other details of the proposed information sessions. The draft plan was presented to the Minister, via the Environmental Assessment Committee (EAC) on Mar 14, 2023, and was approved Mar 29,

2023.

The approved plan included an in-person Open House at the Town of Stephenville, a dedicated website for project information with a comment forum, and a virtual live question and answer session.

Not included in the approved plan, a radio interview with the CBC Newfoundland Morning Show and one print release with the Canadian Press Weekly News advertised the project and engagement events to a wide audience.

In addition to the events in the approved plan, focused events for specific groups were also arranged in response to requests received at the Open House. Table 88 provides the project information events and dates.

Table 88 Project Information Events and Dates

Date(s)	Information Event
April 19, 2023	Radio Interview, CBC Newfoundland Morning Show
April 20, 2023	Public In-person Open House, Town of Stephenville
April 20, 2023	Print Media, Canadian Press Weekly News
April 20, 2023 & ongoing	Focused Events
April 20-June 1, 2023	IndianHeadProject.ca website and Comment Forum
May 11, 2023	Public Virtual Live Q & A Session

Advertising

Public events were advertised in newspapers and social media sites as per the specifications provided in Appendix A of the EPR Guidelines. Public events were also advertised during radio and print interviews, on the project website, and through personal communication.

Table 89 provides the public engagement event information with advertising dates, methods, and other details. Appendix E: Public Engagement Notifications provides the advertising requirements and a copy of the notifications.

Table 89 Public Engagement Events and Advertising Information

Public Engagement	Event Date(s)	Advertising Method	Date(s)	Advertising Details
In-person Open House, Stephenville, NL	Apr 20, 2023	Print Media, Newspaper	April 8, Apr 14-15, Apr 18-19-20, 2023	The Telegram, distributed throughout the Island of Newfoundland
		Personal Communications	April 8-20, 2023	Emails, phone calls, personal discussions: ECC Minister Davis, FFA Minister Loveless, ADM Roberts, EAC, MHA Wakeham, Stephenville Mayor & Council, Qalipu First Nation, Miawpukek First Nation, Port of Stephenville, Stephenville Airport, local businesses
		Radio Interview	April 19, 2023	CBC Newfoundland Morning Show - project history and description and invitation to attend the Open House
		Social Media	Apr 5-May 11, 2023	Town of Stephenville Crossing Bulletin Facebook page Town of Stephenville Facebook page Mowi Canada East Inc. Facebook page
IndianHeadProject.ca and **Comment Forum**	Website: Apr 21-ongoing Comment Forum: Apr 21-Jun 1, 2023	Personal Communications	Apr 20-June 1, 2023	During Open House: Discussions and website demonstration Email, phone calls, responses to queries
		Print Media	April 20, 2023	Bookmarks with URL and QR code provided at In-person Open House
		Social Media	Apr 5-May 11, 2023	Town of Stephenville Crossing Bulletin Facebook page Town of Stephenville Facebook page Mowi Canada East Inc. Facebook page
Virtual Live Q&A Session	May 11, 2023	Personal Communications	Apr 20-June 1, 2023	During Open House: Discussions and website demonstration Website & Comment Forum: Online responses to queries and personal assistance with site use Email, phone calls, personal communications
		Print Media	April 20, 2023	Bookmarks with URL and QR code handed out to participants at Public In-person Open House
		Social Media	Apr 5-May 11, 2023	Town of Stephenville Crossing Bulletin Facebook page Town of Stephenville Facebook page Mowi Canada East Inc. Facebook page
		Print Media	April 20, 2023	Canadian Press Weekly News Interview - project history and description and invitation to access the website and comment forum and attend virtual live Q & A Session
		Project website	Apr 21-May 11, 2023	Invitation to join Q&A session displayed on first page of the website, link to join the session via website

9b Public Engagement Events and Results

Three opportunities were organized for the public to learn more about the project and provide their comments – an in-person open house in Stephenville, a project website with a comments section, and a virtual live Q&A session. This section provides the event information and the results of the public comments.

Engagement Results Recap

Table 90 provides a recap of the public information events. The Open-House and the IndianHeadProject.ca website and Comment Forum had the greatest participation and highest numbers of questions and comments. Full details of the questions and comments and MCE responses are provided in the individual event sections below.

Table 90 Recap of Public Engagement Participation and Hatchery Expansion Support

Event	Attendees or Website Access*	Public Questions and Comments		
		Questions and MCE Responses+	Comments Supporting the Project	Comments Not Supporting the Project
In-person Open House	60	15	13	0
Website and Comment Forum	273	7	9	2
Virtual Live Q & A Session	6	2	1	0
Totals	**339**	**24**	**23**	**2**

*Not including MCE representatives or web administration

+Questions are included in the Questions column numbers not in Comments columns.

1. In-person Open House

Time/Date: 6:30-8:45pm April 20, 2023

Location: Days Inn, Stephenville, Province of Newfoundland and Labrador

The Open House displayed detailed project information through a series of large banners and a project video showing the Indian Head Hatchery technology. Attendees progressed through the project information at their own pace and MCE representatives were stationed at the banners to answer questions and provide additional information.

Attendees engaged Mowi Canada East Inc. (MCE) representatives and could pose their questions and discuss their interests and/or concerns. Attendees were encouraged to discuss

the project as a group, individually, or in private with MCE representatives. For individuals and groups that requested additional information, MCE made a commitment to provide the information and offered to arrange a future meeting, and/or a hatchery tour.

Attendees

The Open House had approximately sixty people attending, not including MCE representatives. Forty-nine attendees voluntarily registered and at least ten others attended but did not fill out the register. Attendees included the following.

- Stephenville-Port au Port MHA attended and engaged with MCE representatives.
- The Town of Stephenville Deputy Mayor, three councilors, and Chief Administrative Officer were in attendance.
- The Qalipu First Nation, Indian Head First Nation, and Port au Port Mi'kmaq Band also sent representatives.
- Local residents, business owners, and stakeholders attended from the Town of Stephenville, Stephenville Crossing, Kippens, West Bay, Piccadilly, Point au Mal, Noels Pond, and Corner Brook.

Questions and Comments

Attendees were provided three opportunities to provide their opinion of the project:

1) directly to MCE representatives during discussions and/or
2) privately complete a written comment form and/or
3) provide comments online at project website.

Most opted to provide comments verbally, 14 written comments forms were received, and no online comments were recorded during the Open House event. The following recaps the discussions and submitted comments. The details are also provided below.

Public Comments Recap

- All attendees supported the project. No negative opinions or concerns were expressed.
- The format of the Open House with information banners and direct communication with MCE representatives was well received.
- The Open House continued to ensure all questions about the project were answered to the satisfaction of the attendees.
- Attendees felt heard and enjoyed engaging directly with MCE representatives.
- Several requests for Focused Events were received as were invitations to provide more information to specific groups.

Written Comments

A prepared form with a series of questions and a general comment section was made available at the event and a total of fourteen (14) forms were completed. The following provides the questions and verbatim answers as provided in the submissions. Please note not all the questions were answered in all submissions.

1. Question: Do you feel this is a positive project for the area?

- Yes 13
- Neutral 1
- No 0

2. Question: Please explain your answer in the previous question.

- Yes responses from previous question
    - Brings lots of opportunity to the area.
    - Answered all my questions.
    - This project will eliminate risks of groundwater contamination during shipping and loading (of fish being transported).
    - It brings in a lot of jobs to the area.
- Neutral response from previous question
    - I can see the benefits but would like greater understanding.

3. **Question: Is the environment where you live affected by the project?**

- Yes 1
- Not really 2
- No 11

4. **Question: How does the project affect the environment you live in?**

- Yes response from previous question.
    - There is always an environmental affect.
- Not really and No responses from previous question
    - Improves the economy.
    - Improves the economy.
    - Improves the economy.
    - Economy will improve.
    - I feel that fish farming will allow the natural stocks to recover.
    - Affects the environment in a positive way.
    - Absolutely nothing negative.
    - It doesn't affect at all environmentally.
    - No negative effect to be seen. Very clean location around the buildings.

5. **Question: Were all your questions answered at the information session?**

- Yes 13
- No 0

6. **Question: Do you need to know more information about the project?**

- Yes 1
- No 13

7. **Question: Do you have other comments?**

- I support the project.
- I absolutely support this project.
- Yes, I support the project.
- Yes to the project.
- This project has my full support.
- I support this project.
- I support this project 100%.
- Great Initiative.
- Positive all around, employment, sustainable food etc.
- Excellent for the community and province. Lots of advanced technology.
- Its great for the area! It should be supported more.
- I support the project.

Verbal Questions and Mowi Responses

The following provides some of the questions directed to Mowi representatives during the event and the responses that were provided.

1. **Question: How do we know the aquifer will not run dry from the hatchery use? Some communities run out of water already in summer.**

Response: Several surveys of the aquifer were done that included modelling the water use over 10 years to see how quickly the water level in the aquifer can come back after water is used. These surveys showed there is ample water for the hatchery and for other users. The Water Use Division of the Department of Environment and Climate Change manages the hatchery water use with real-time data from the wells and regular reports from the hatchery.

2. **Question: I saw the pipes laying on the ground. Are they going to stay there? I'm referring to the black pipes currently stored (on the hatchery site) that can see from the road.**

Response: The pipes you can see from the road are for the remaining part of the project that has not been completed. Once the project can proceed, the pipes will be used to complete the project and will no longer be laying on the ground.

3. **Question: When will the project start? When will the project be finished**?

Response 1: The project has started, and construction is partially complete. The project started when we received the release in 2019 from the Minister of Department of Environment and Climate Change. In 2021 the Minister determined the project construction could not be completed until an Environmental Preview Review was submitted. We are currently preparing the Environmental Preview Review and plan to submit it in June or July.

Response 2: If the project is released from further environmental review in September 2023, the construction will start immediately on fish culture buildings modules 3 and 4. Weather depending, the construction will be completed in December 2024.

4. **Question: What size are the fish when they go to sea?**

Response: Salmon are around 120 plus grams when they go to sea.

5. **Question: What is a well-boat used for?**

Response: Well-boats are used to move the salmon from the hatchery to the sea farms. They are also used to treat the fish for sea lice. Well-boats can remove lice from fish and remove the lice from the environment.

6. **Question: The fish transport line (from the hatchery to the well-boat at the port which is part of the project) is not finished – are you going to finish it? Why don't you continue to truck the fish to the boat like you do now?**

Response: Yes, the fish transport line will be completed. The transport line is more efficient with fewer environmental concerns. The line is fully enclosed with no opportunity for fish or fish culture water to escape into the environment. It is efficient and easy on the fish and the well-boat can be filled in much less time. The fish culture water from the hatchery used to move the fish along the line can be returned to the hatchery.

8. **Question: Hatchery had a big fish die off. Is the hatchery still under quarantine? How do we know this won't happen again?**

Response: Last year fish had to be culled in accordance with government fish health regulation due to the detection of ISA Infectious Salmon Anaemia, a natural pathogen that affects fish. We are working to make sure this doesn't happen again. The hatchery is still under quarantine, but we are expecting the quarantine to be lifted once the results of the most recent swab tests are complete. (Please Note: the hatchery is no longer under quarantine)

9. **Question: Do diseases go into the environment from the hatchery?**

Response: All fish culture water leaving the hatchery is screened to ensure no fish leave the hatchery, also the particles like fish faeces and scales down to a very small size 37 microns are removed, and all the water is UV disinfected to remove all pathogens before being discharged.

10. **Question: Will there be jobs for local people? Will local people be hired for the rest of the construction? I'm working away out of the province right now and need work closer to home.**

Response: Local people and local service companies are preferentially hired. Currently the staff at the hatchery in Stephenville live in the area.

11. **Question: I worked on original project construction and need more work. When will the construction start?**

Response: We expect to hear from the Department of Environment and Climate Change by September 2023 that the project is released and can go ahead. Construction will start shortly after that.

12. **Question: How many staff will be required for growing the additional fish?**

Response: The full culture cycle, egg to harvest, requires a ratio of about 15 staff to 1 million smolt, therefore the 2 million project fish would require 30 extra staff business-wide, approximately 10 of the additional staff would be at the hatchery.

13. **Question: Where can we send an application?**

Response: Contact information was provided for applications. (Note one CV was received that evening)

14. **Question: Will additional services, like the airport, be required once the project is complete?**

Response: Mowi plans to use Stephenville Airport to transport fertilized eggs to the hatchery for rearing.

15. **Question: This session was very good, are you planning to provide more information in future?**

Responses:

- Arrangements are being discussed with representatives of two new Bands in the area to meet and provide more details.
- Future presentations will be provided to the Stephenville Chamber of Commerce at their regular meetings to keep the members up to date on the project and the hatchery work.
- Quarterly updates will be provided to the Town of Stephenville Mayor and Council.

- Discussions were initiated with representatives of the College of North Atlantic in Stephenville for presentations at the institute.
- Hatchery tours were offered, and contact information provided to those who may be interested in future tours.

Verbal Comments

The following are statements made by session attendees to Mowi representatives at the event.

- The more services the hatchery will use is a very good thing for the area.
- More sessions like this would be great to continue to educate us on the hatchery and salmon growing.
- I'm very supportive of the project.
- This style of event is good, much better than a formal presentation where everyone has to sit down and listen.

2. Project Website and Comment Forum

URL: IndianHeadHatchery.ca

Launched: April 20, 2023

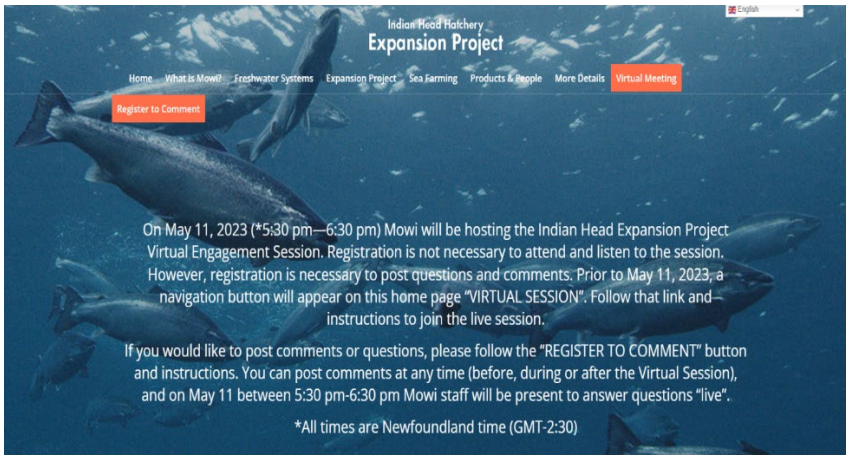
The IndianHeadProject.ca website was developed to engage a wider public audience throughout the province and globally. The website provided project information and housed the Comment Forum where the public could ask questions and provide comments. The website also provided advertisements for the Virtual Live Question and Answer Session and was the access point for the event.

Project information was provided as a series of web pages accessible through tabs at the top of the page. A Hatchery Expansion video link on the home page provided information on salmonid freshwater culture processes, technology, MCE goals, and the Hatchery Expansion rationale.

The website also houses the Comment Forum where the public was invited to post comments or questions from April 20 to June 1, 2023, and have MCE respond directly to their queries. All entries, including MCE responses, are available for public viewing through the website until September 30, 2023, and can be accessed at Indian Head Project | Indian Head Hatchery Expansion Project.

Figure 55 shows the top section of the IndianHeadProject.ca home page with information and links to the Comment Forum and the live Virtual Q & A Session and shows the tabs along the top that link to project information by topic.

Figure 55 IndianHeadProject.ca Home Page Section



Website Activity

The purpose of the website was to provide easy access to project information. The website was live on April 20, 2023, and as of June 1 (7 weeks) 273 individuals visited the website 303 times for project information for a total of 1,188 visits to various project information web pages, see Table 91. These numbers do not include website management or MCE project team activity.

Table 91 IndianHeadProject.ca Project Summary of Visitors by Week

Week	New Visitors	Total Visitors	Page Views
Apr 17- 23	53	53	209
Apr 24-30	57	60	304
May 1-7	93	103	392
May 8-14	42	53	186
May 15-21	5	6	23
May 22-28	13	16	29
May 29-Jun 1	10	12	45
Totals	273	303	1188

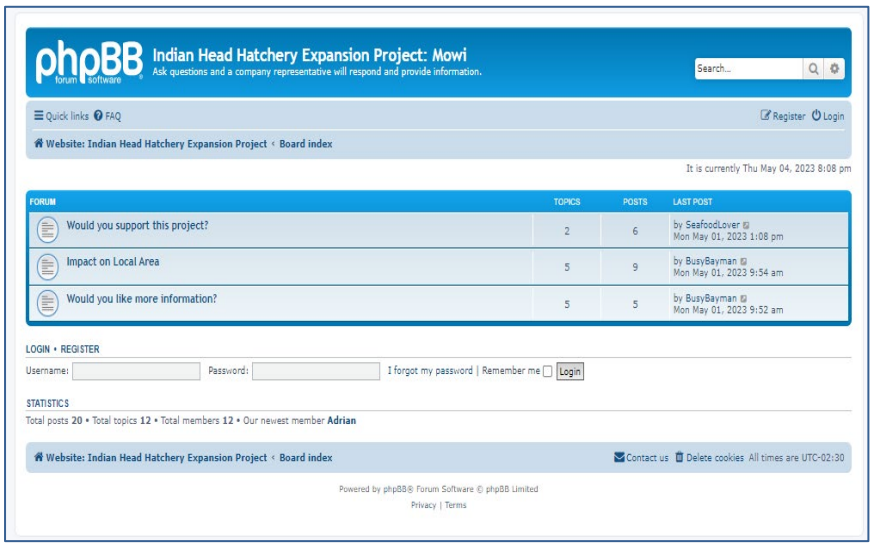
Comment Forum Activity

The purpose of the Comment Forum was to provide an accessible method to post project questions and comments and receive timely responses from MCE.

The Comment Forum was accessed via clearly marked buttons on the IndianHeadProject.ca website. Everyone could read all posts and those wishing to ask a question or send a comment to MCE were asked to set up an account.

MCE provided questions in three areas that registrants could respond to plus there was the option to post other questions and comments, see Figure 56.

Figure 56 IndianHeadProject.ca Comment Forum



Questions, Responses and Comments

A total of 17 individuals entered 32 questions or comments in the three areas as listed in Figure 56. The posts covered 14 topics and MCE provided responses to six questions.

The questions and comments posted prior to the May 11th Virtual Live Q & A Session are provided below. Comments and questions received during the Q & A Session are provided in the next section.

All comments, questions and responses were visible to the public. Anyone could post to the Comment Forum by signing in. The Comment Forum was open for posting questions and comments from April 21 to June 1. No new posts were entered after the Q & A Session responses were posted.

Area 1: Would you support the project?

Topic 1: Do you support this project and want it to succeed?

by Dean Bailey Sat Apr 29, 2023 10:55 am

Our company, Bailey's Marine Service LTD is in support of this expansion project. As a local provider of professional diving services, we employ between 5-10 local employees throughout the year and have been doing so for 30 years. We look forward to any opportunities this expansion will create not only for our employees but for the Bay ST George region as a whole.

By BusyBayman Mon May 01, 2023 9:49 am

I fully support this capital investment in our province. Having a reputable company such as MOWI wanting to invest in our province and its people is amazing. This investment will create jobs and business opportunities throughout the supply chain from egg-to-plate. Aquaculture is the most environmentally friendly form of protein farming on earth.

By SeafoodLover Mon May 01, 2023 1:08 pm

I fully support this project. Rural communities are thriving where aquaculture exists, and farming is the most reliable and sensible way to provide good healthy food as our populations grow. Newfoundland is lucky to be in an area where this activity can grow and prosper. It's good for people, good for the environment (I don't listen to belligerent activists, I can see and read and think for myself thanks), and good for the province. A solid fishery combined with a solid aquaculture industry are going to be a key part of any success we have here in NL.

By Jmaye Fri May 05, 2023 8:28 am

Yes I support this project.

By Trevor Ryan Thu May 11, 2023 6:08 pm. Posted during the Virtual Live Q & A Session, please see this comment in the next section.

By Millions-of-Morts Tue Apr 25, 2023 2:10 pm

Why even pretend this is ethical, and not ecocidal? It's like the tobacco industry suggesting smoking doesn't cause cancer. People are sick of company spin doctors and employees destroying the planet and our health. Externalizing pollution, feed, etc costs onto Nature and the public domain is 1900s thinking. Besides, "biologcal factors" now exceed feed costs. When will Mowi learn this method is not in tune with how salmon evolved and live in Nature AND that the constant fish health issues being amplified by Mowi cannot and should not be made the ecosystem/everyone's problem?

How's the salmon and trout fishing this year near Mowi's net pens? How many parasites and diseases are being amplified in the tanks and pens and dumped into the ecosystem on struggling wild fish populations?

Get it contained and made at least a little sustainable and maybe people will be more accepting. Stop buying cheap netting and start pouring more concrete and get the tank effluent

issues solved.

Question 1: Look at what Sustainable Blue is doing in NS. Why has Mowi not bought a license to use their technology? Profits, is of course, the answer. It's cheaper to pollute and destroy, always has been.

Response By Mowi Canada East: by admin Thu May 11, 2023 3:08 pm

Mowi does not have access to recreational fishing data. Feedback on wild catch received during public information sessions and on the online feedback forum will be included in the Environmental Preview Report submitted to the Newfoundland government.

Healthy fish are vital to Mowi's success, and fish health is managed by licensed veterinarians and fish health professionals. Each salmon is vaccinated to help guard against disease challenges endemic to the region.

Area 2: Impact on the area

Topic 2: Do you feel this is a positive project for the area? Yes/No/Neutral?

by BusyBayman Mon May 01, 2023 5:24 am

Yes. This capital investment and ongoing employment during operations will be a great benefit for the area. As well, the increased production of sustainable seafood for here at home and tables around the world helps to alleviate the increasing issue of food insecurity.

by Jmaye Fri May 05, 2023 4:00 am

Yes.

Topic 3: How are you affected by the project?

by Jmaye Fri May 05, 2023 4:02 am

Any job created in this province is good for all in the province.

Topic 4: Is the environment you live in affected by the project?

by Dean Bailey Sat Apr 29, 2023 6:28 am

No, I have not seen any indication of negative effect to the environment in the area. As a lifelong resident, I spend a lot of time in and around Port Harmon both for work and recreation and I can say I have seen no negative environmental impact from the hatchery operation.

by Jmaye Fri May 05, 2023 4:03 am

No.

Topic 5: How many metric tons of microplastics per net pen site per year

by Millions-of-Morts Tue Apr 25, 2023 9:28 am

Question 2: Hi; Can someone from Mowi estimate the number of metric tons of microplastics that enter the ocean from each net pen site? A recent study suggested it was a LOT of metric tons. https://www.sciencedirect.com/science/a ... 6X22004763

Response by Mowi Canada East by admin Thu May 11, 2023 10:41 am

Mowi was not party to the study you link to, so we cannot comment on its methodology nor accuracy. More information about microplastics, Mowi's efforts to reduce use and increase reuse, and potential effect on seafood safety is provided at https://mowi.com/blog/the-blue-revolution-plan/ and https://mowi.com/blog/reduce-reuse-recy ... g-plastic/ .

Topic 6: Can Mowi verify 1.5 metric tons/site plastics figure?

by Millions-of-Morts Tue Apr 25, 2023 10:04 am

Question 3: Hi Folks; Can someone from mowi verify the 1.5MT estimate figure? https://www.youtube.com/watch?v=K_ILVd2dxZY Also, is there any independent proof of a lack of microplastics in the NL Mowi salmon's flesh? And what about it's interaction with disease? https://www.sciencedaily.com/releases/2 ... 151532.htm.

Response by Mowi Canada East by admin Thu May 11, 2023 10:40 am

We cannot verify the results referred to in the YouTube link provided. The Food and Agricultural Organization of the United Nations (FAO) reports that while trace amounts of microplastics can be found in the gastrointestinal tract of fish, the research concludes that "no particular concern should arise from the consumption of microplastic-contaminated fish, since most of the microplastics will be removed when the animal is eviscerated (except in small fish, which are typically eaten whole)". The gastrointestinal tract (gut) of our salmon is removed before being sold in the market.

We continue to closely monitor microplastics in our products and results monitoring show no plastic-related contaminants in our salmon products.

More information about microplastics, Mowi's efforts to reduce use and increase reuse, and potential effect on seafood safety is provided at The Blue Revolution Plan - Mowi Company Website and Reduce, Reuse, Recycle: Managing plastic - Mowi Company Website.

Area 3: Would you like more Information?

Topic 7: Environmental Benefits

by Trevor Ryan Thu May 11, 2023 1:14 pm. Posted during the Virtual Live Q & A Session, please see the question and MCE response in the next section.

Topic 8: Importance of NLFD

by Trevor Ryan Thu May 11, 2023 1:21 pm. Posted during the Virtual Live Q & A Session, please see the question and MCE response in the next section.

Topic 9: Employment and Business Opportunities

by BusyBayman Mon May 01, 2023 5:22 am

Question 4: Can you provide statistics such as:

1. Number of jobs by currently

2. Estimated number of jobs as a result of the expansion at the hatchery, sites and throughout the supply chain?

3. What business opportunities will arise from the expansion?

4. What is the estimated economic benefit to Stephenville and surrounding area through taxation etc?

Response by Mowi Canada East by admin Thu May 11, 2023 10:55 am

1. Number of jobs by currently?

> The Indian Head Hatchery employs 25 people, fulltime. Our saltwater farms in NL employ 69 full-time staff which we expect to increase to 100 full-time staff in the coming months due to work volume.

2. Estimated number of jobs as a result of the expansion at the hatchery, sites and throughout the supply chain?

> The full culture cycle for Atlantic salmon, egg to harvest, requires a ratio of about 15 farming staff to 1 million smolt produced, therefore the project 2.2 million fish would require 30 additional staff throughout freshwater and saltwater farming.
>
> This expansion would also require additional administrative/office staff at Mowi, as well as increased business throughout the supply chain (transport, maintenance, processing

etc).

3. What business opportunities will arise from the expansion?

The Hatchery Expansion will require building contractors, fish culture systems contractors, site preparation including excavation and pipe laying and site finishing, waste management etc. To date, approximately $86 million has been invested in the hatchery buildings and equipment and the additional smolt produced at the hatchery will create additional business for operational services such as Stephenville Airport for egg transport, Gale Septic for fish waste removal, Port of Stephenville for smolt transport etc. Operational costs for 2022 were approximately $7 million and this will increase once the project has been completed.

At our saltwater farms, local service and supply contracts are a critical part of our company's success in NL. Examples of services that will benefit from this proposed expansion are research facilities, divers, net washers, fish movers, trucking, environmental consultants, wharves, offices, maintenance, and transportation services.

There are 7 communities that maintain long-standing arrangements to provide wharf use and services. 4. What is the estimated economic benefit to Stephenville and surrounding area through taxation etc?

In 2022, the Indian Head Hatchery property, water and sewer, and business taxes were approximately $206,000.

Topic 10: Plastic biofiltration balls dumped in bay via effluent?

by Millions-of-Morts Tue Apr 25, 2023 8:53 am

Question 5: Hi Folks; Not long ago (may 2020), what must have been ?millions? of plastic biofitration tubes about 1.5 inches by 1 inch were discovered in the estuary in front of the hatchery? Can someone from mowi explain how this happened and why they were left to blow around for weeks in the water? Also, how many cubic meters of these filters were lost? Example image of similar.

Response by Mowi Canada East Response by admin Thu May 11, 2023 10:53 am

We can acknowledge this incident did occur but cannot estimate the amount of material that bypassed the screens nor comment on the response time to recover materials. The Indian Head Hatchery Expansion Project will feature new technologies and updated design that includes triple screening to prevent a similar event from occurring.

Topic 11: Formaldehyde dumping in St. George's Bay

by Millions-of-Morts Tue Apr 25, 2023 1:42 pm

Question 6: While the hatchery dumps many types and huge quantities of poison into Bay St.George annually, I specifically want to know how many drums or litres of the known carcinogen/mutagen formaldehyde (like the one below) have been dumped in St.George's Bay via the effluent from the hatchery since the hatchery started? This drum was actually sent to the hatchery in Stephenville for use. https://photos.app.goo.gl/xukxfxeDejWa57GGA

Response by Mowi Canada East by admin Thu May 11, 2023 3:23 pm

The Health Canada approved and licensed use of formaldehyde to cure bacterial challenges at Canada's freshwater land-based fish facilities is made publicly available by the Department of Fisheries and Oceans Canada at this website: National Aquaculture Public Reporting Data - Land-Based and Freshwater Data 2021 - Open Government Portal (canada.ca)

Topic 12: Repeated ISVa outbreaks in the hatchery, where from?

by Millions-of-Morts Tue Apr 25, 2023 1:48 pm

Question 7: Hi; Can someone from Mowi explain how ISAv (an WOAH World Organization Animal Health, the animal version of the United Nations W.H.O. reportable disease) got in an deep underground, aquifer supplied, biosecure, hatchery several times? Also, what were the viral titres (concentration of viruses) in the effluent heading out into the 7 River's Bay after it was amplified in the bioreactors/tanks and which independent 3rd party verified the sampling results?

Response by Mowi Canada East Response by admin Thu May 11, 2023 3:22 pm

Infectious salmon anemia (ISAv) was found during routine fish health sampling at the Indian Head facility in Stephenville and reported publicly at MCE_ISAv_Stephenville_-_March_22_2022.pdf (naia.ca). ISAv is a naturally occurring virus and is not a human health

issue nor a food safety issue. Following all government regulations to protect fish health, the salmon group was immediately quarantined within the facility upon detection, and affected fish euthanized.

ISAv was transmitted vertically from the parental group – not via the water source (not horizontal transmission via aquifer). As Mowi announced last year, we have assembled a team of international experts to assist in developing plans to prevent vertical transmission in family groups. Throughout the event, the Provincial Government of NL made several site visits and drew samples.

3. Virtual Live Question & Answer Session

Time and date: 5:30-6:30pm May 11, 2023

Meeting access: Open to the public via meeting link provided 1 hour prior to the meeting on the IndianHeadProject.ca website.

The Virtual Live Q & A Session was an open public meeting that anyone could attend from the comfort of their home or office to hear and see project information and to post questions and/or comments for MCE response during the meeting.

Program

The Q & A Session was moderated by Aaron Bennett, MCE Development and Environmental Compliance Director and followed the agenda provided in Table 92.

Table 92 Virtual Live Question and Answer Session

Time*	Activity	Moderator
5:30-5:40	Welcome and Agenda	Aaron Bennett
5:40-6:00	Project Description and Information Questions and Responses from the Public In-person Open House	Pre-recorded
6:00-6:27	Questions and Comments Posted to the Comment Forum and Mowi Responses	Aaron Bennett
6:27-6:30	Closing Remarks	Aaron Bennett

*Newfoundland Time

The session started with a walk through the website which provided project information, followed by reading the questions and MCE responses from the public in-person Open House

held at Stephenville in April. The remainder of the program was dedicated to discussing participant's questions. The session was recorded including the attendees, presentations, questions, and responses. Details are provided in this section.

Attendees were encouraged throughout the Virtual Live Q & A Session to post questions and comments in the Comment Forum. The posting links were tested prior to the event and during the session to ensure continuous full functionality. Several attendees posted questions and no issues were reported. The Comment Forum remained open for additional questions or comments after the Q & A Session until June 1, 2023. The website and Comment Forum can be viewed until September 30, 2023.

Attendees

The event was held in the evening to not conflict with work hours, however, the attendance was low with only six (6) participants that were not Mowi representatives, see Table 93.

Table 93 Virtual Live Question and Answer Session Attendees

Attendees	Name	Affiliation
1	Guest	unknown
2	Jeff	unknown
3	Jon Kawaja	Department of Fisheries, Forestry and Agriculture
4	Nick Travis	The Navigator Magazine
5	Trevor Ryan	unknown
6	Adrian Sierra	Work Global Canada
Mowi Representatives		
	Aaron Bennett	Mowi Canada East Inc.
	Morgan Townsend	Mowi Canada East Inc.
	Linda Hiemstra	Mowi Canada East Inc.
	Amy Negrijn	Mowi Canada East Inc.
	Gideon Pringle	Mowi Canada East Inc.

Questions and Comments and MCE Responses

The questions posted during the Virtual Live Q & A Session and MCE responses are provided in this section with comments and questions posted prior provided in the previous section. MCE responses were discussed at the Q & A Session and posted directly after the session or the following day. There were no posts to the Comment Forum after that.

Topic 1: Do you support this project and want it to succeed?

By Trevor Ryan Thu May 11, 2023 6:08 pm

My questions were answered thoroughly and clearly. I fully support this project.

Topic 7: Environmental Benefits

by Trevor Ryan Thu May 11, 2023 1:14 pm

I see you have added an advanced water filtration system. Are there other features or upgrades at the facility that provide environmental benefits?

Response by Mowi Canada East by admin Fri May 12, 2023 8:19 am

The project has been designed to improve the environmental performance of freshwater production. In no particular order, here are some of the benefits that this project will provide:

All fish stay in the province, raised at Stephenville and supply farms in Newfoundland.

Improved wastewater treatment - new wastewater treatment with additional levels of treatment and disinfection reduces harmful components before discharge to a new deep-water outfall.

New real-time monitoring of the freshwater source ensures continuous high-quality water for all users and continuously provides data to the government managers.

Up to 97% of fish culture water is re-used with the new recirculating aquaculture technology reducing the volume of water required to grow each fish.

New fish transport line keeps fish contained and reduces potential spillage into natural water ways. eliminating the need for trucks and road transport of fish

Saltwater-acclimatized smolt reduces stress and improves fish health and survival.

Larger, older smolt will reduce time spent at sea to harvest.

Increased local economic benefits with expanded production.

Additional smolt production for greater business security and more secure jobs

Topic 8: Importance of NLFD

by Trevor Ryan Thu May 11, 2023 1:21 pm

Do you foresee a long-term and/or growing commitment to Newfoundland for Mowi operations? If so, why is Newfoundland such a desirable location for farming?

Response by Mowi Canada East by admin Fri May 12, 2023 8:11 am

Mowi is very committed to its farming business in Newfoundland and the people we employ throughout the supply chain. That is why we are looking to expand operations at our Indian Head Hatchery – to create an independent business unit Newfoundland, to provide year-round jobs throughout the supply chain, and to supply strong market demand year-round both in Canada and internationally.

Newfoundland is unique in many ways – and a good place to grow salmon in both freshwater and seawater.

The Stephenville hatchery is a good location to grow young salmon. The facility is in close proximity to the ocean on the shore of Bay St. George providing access to saltwater for the culture of larger more robust smolt. The natural aquifer has abundant water for the Hatchery Expansion Project and the water quality is ideal for salmon culture. Slope of the land allows for gravity fed water to the culture systems, this environmentally friendly method of water movement reduces energy usage for the facility, decreases the cost of salmon production and the pressure on natural resources, and reduces the facility carbon footprint. The hatchery is in the Port of Stephenville Industrial Park, serviced by the Town of Stephenville. Paved roads, potable water, power, are all readily available.

While farming in seawater in Newfoundland is a challenge due to wide-ranging winter and summer temperatures, and the weather can be rough at times, our company can draw on its international experience and the knowledge of over 11,000 experts around the world. Prior to selecting a site for a salmon farm, Mowi considers the alternatives. Extensive data is collected on many potential sites and only sites with excellent characteristics for salmon culture are candidates for application for an aquaculture licence. Several government agencies review the potential for environmental impact from salmon farming at the site and verify minimal impact as part of the licence process.

We are confident in our ability to grow and process healthy, top-quality salmon in Newfoundland and support the government’s vision of growing its aquaculture sector.

4. Interviews and Print Media

The Canadian Broadcasting Corporation (CBC) and Canadian Press both requested an interview with MCE to discuss the Indian Head Expansion Project. The interviews provided opportunities for project information to reach those living in rural parts of the Province of Newfoundland and Labrador and a wider Canadian audience.

Interviewers developed informed questions from public concerns and the subsequent MCE responses provided listeners with key project information. The interviews were also opportunities for public engagement events to be advertised.

CBC Newfoundland Morning Show

Hosts: Bernice Hill, Marten Jones

Date: April 19, 2023

https://www.cbc.ca/listen/live-radio/1-210-cbc-newfoundland-morning/clip/15979195-government-said-yes-court-ruling-said-no.-now

Canadian Press Weekly News

Interview: Jaymie White, Local Journalism Initiative Reporter, Wreckhouse Weekly News

Date: April 20, 2023

https://www.pentictonherald.ca/spare_news/article_285153ae-9923-5d57-b32a-87f8a94edabf.html

5. Focused Events

Focused events were organized in addition to the previously described public engagements for those wanting specialized information on the Hatchery Expansion or wishing to discuss private details such as business opportunities. Focused events were requested prior to the public engagements and during the Open House.

Focused events offer an opportunity to discuss specific interests with a select group that have a vested interest in the particular topic. All groups and individuals requesting a focused event were in support of the project.

These events include presentations and information sessions, virtual and in-person meetings, and tours of the Indian Head Hatchery. This type of public engagement is part of the MCE Good Neighbour Policy and will continue as the project progresses and after the project is completed. This section includes events completed as well as planned future events.

One reason for requesting a focused event is to have a private discussion – often business related. For this reason, general information is provided in this section, but detailed discussion information is not.

Town of Stephenville

Date: July 20, 2023
Attendees:

- Town of Stephenville: Mayor Tom Rose, three senior Town of Stephenville staff
- Mowi Canada East: Aaron Bennett, Development and Environmental Compliance Director

Letter of Support provided for the Hatchery Expansion with recognition of the contribution to the community in employment, service contracts, and taxes and municipal fees, See Appendix F: Town of Stephenville Letter of Support for the Indian Head Hatchery Expansion Project.

Qalipu First Nation

Event: Hatchery Tour
Date: April 12, 2023
Attendees:

- Qalipu First Nation: Charles Pender, Jonathan Strickland, Jon Davis
- Mowi Canada East: Cristian Roman, Hatchery Manager and Natasha Gill, Hatchery Operations Manager

General Information: The Indian Head Hatchery tour covered salmon rearing facilities including incubation, fry, and post smolt production. Discussions during the tour covered questions about the project as well Mowi business units in Canada and Mowi worldwide operations. There is a standing invitation to the Qalipu Nation for hatchery tours and information meetings.

Indian Head First Nation

Event: Hatchery Tour
Date: June 9, 2023
Attendees:

- Indian Head First Nations: Chief Byron Alexander, Vice Chief Jason Burroughs, and four others
- Mowi Canada East: Paul Fletcher, Freshwater Operations and Technical Manager (Stephenville Hatchery) and Natasha Gill, Hatchery Operations Manager

General Information: Discussions at the Open House led to an invitation to tour the hatchery and become better acquainted with the fish culture processes. The tour covered the need for cleanliness in fish rearing, duty of care for the welfare of the fish and how Mowi is constantly moving forward to make salmon farming more sustainable. Other discussion points were how the farm will impact the surrounding area and community engagement.

Miawpukek First Nation

Event: Project Status Update and Other Discussions
Date: April 17, 2023
Attendees:

- Miawpukek Nation: Chief Misel Joe, Ross Hinks, Director Natural Resources
- Mowi Canada East: Gideon Pringle, Managing Director, Aaron Bennett, Development and Environmental Compliance Director, Kristina White, HR Manager

General Information: MCE has other projects either underway or upcoming with the Nation. Regular meetings are an opportunity to provide updates on the Hatchery Expansion and discuss other collaborations.

Bay St. George Chamber of Commerce

Event: Chamber of Commerce General Meeting
Date: May 23, 2023
Attendees:

- Chamber members
- Mowi Canada East: Natasha Gill, Operations Manager Indian Head Hatchery

General Information: At the Open House, MCE made a commitment to attend the Chamber of Commerce meetings to answer any questions on the project and to provide regular project updates to the Town of Stephenville. The first Chamber meeting was on May 23 and was attended by Natasha Gill.

Appendix C-3

Stephenville Hatchery Expansion

Public Consultations

MOWI CANADA EAST

Stephenville Hatchery Expansion

Public Consultations

October 10, 2024

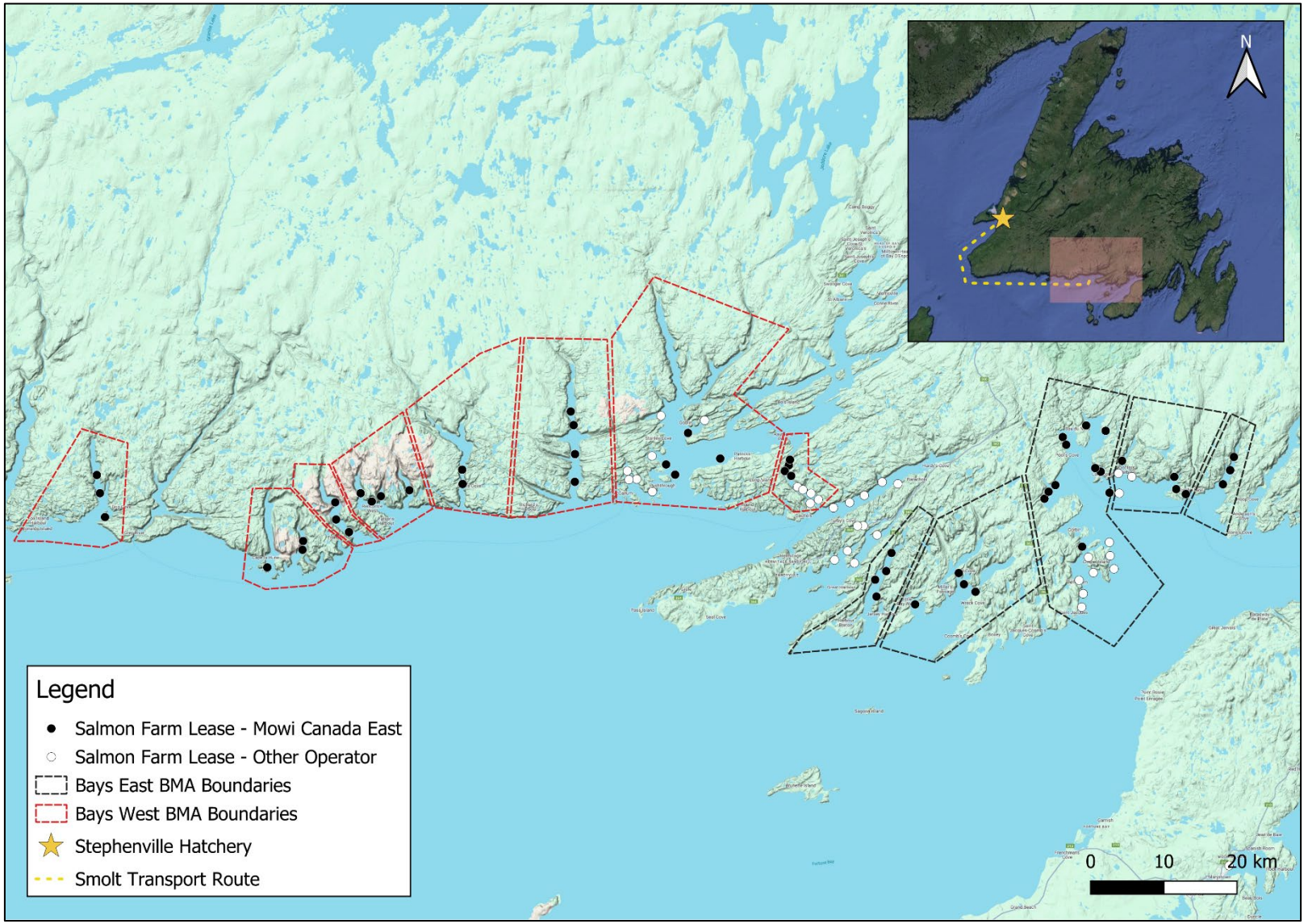
MOWI CANADA EAST

Welcome

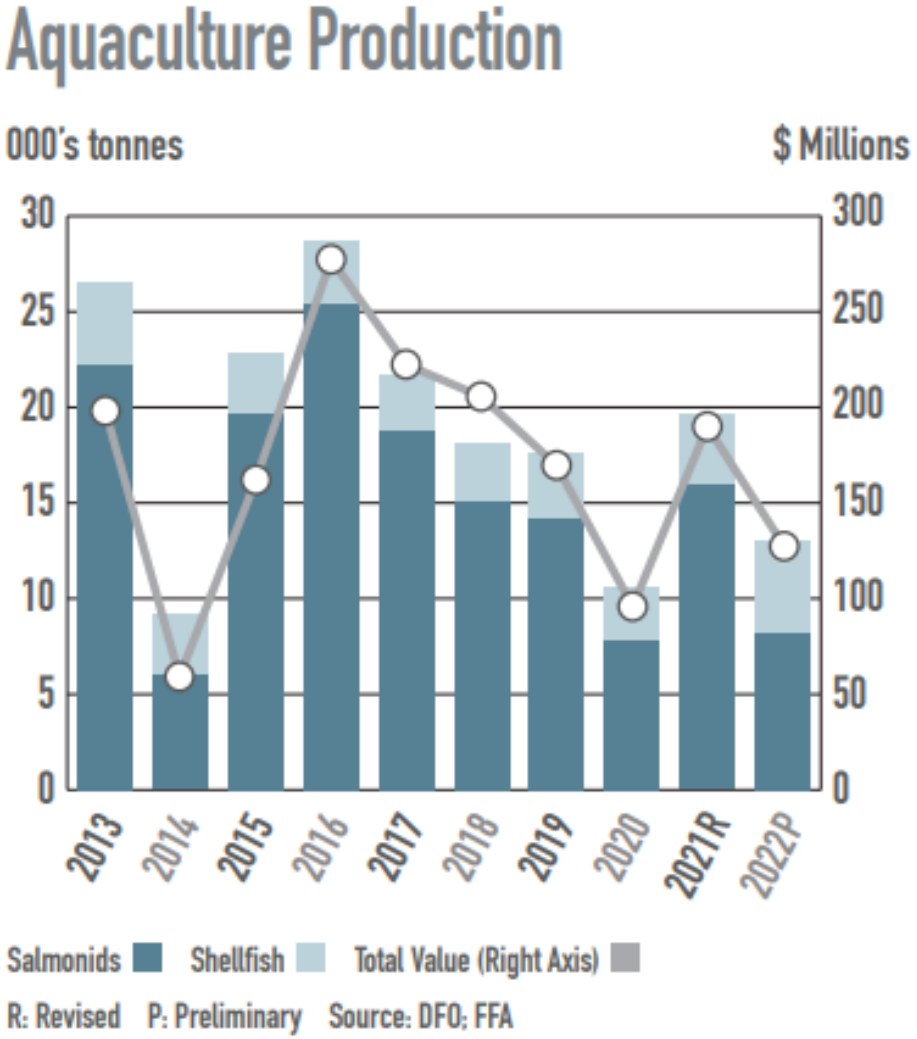
Who is Mowi Canada East?

- Salmon farming company that has been operating in the province since acquiring Northern Harvest in July 2018.
- Northern Harvest had been operating in the province since the 1990s.
- Mowi operates in 26 countries and Canada East is part of this global operation.
- Currently employs 125 people in Newfoundland.
- Seawater operations on the South Coast of Newfoundland and a Freshwater Hatchery in Stephenville.

Salmon Farming – Newfoundland



Salmon Farming – Newfoundland



- Atlantic salmon and steelhead trout are grown in NL.
- There are over 100 commercial salmonid licences granted in NL.
- 19,942 MT of production (2023)
  - 15,645 MT Salmonid
  - 4,297 MT Shellfish
- 523 direct ppl employed
- 1,000 indirectly employed
- Market value has ranged $75-250 million.

Source: NL Seafood Industry Year in Review 2022

The Indian Head Expansion Project

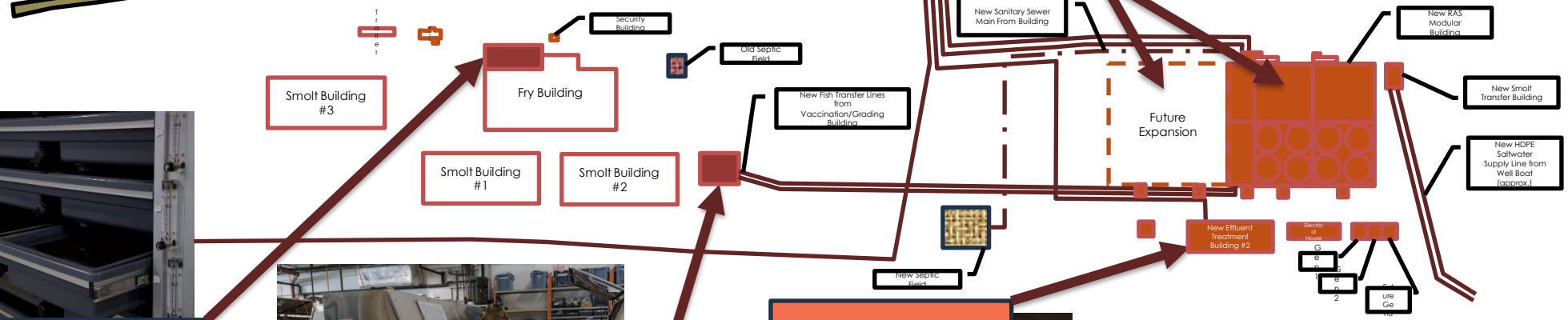
- Produce larger, more robust smolt and increase production by 2.2 million smolt per year.
- Add >30 new employees in Newfoundland (both Freshwater and Seawater)
- To date, ~$86 million has been invested in the Hatchery Expansion (>$100 million by completion).

The Indian Head Expansion Project - Key Features

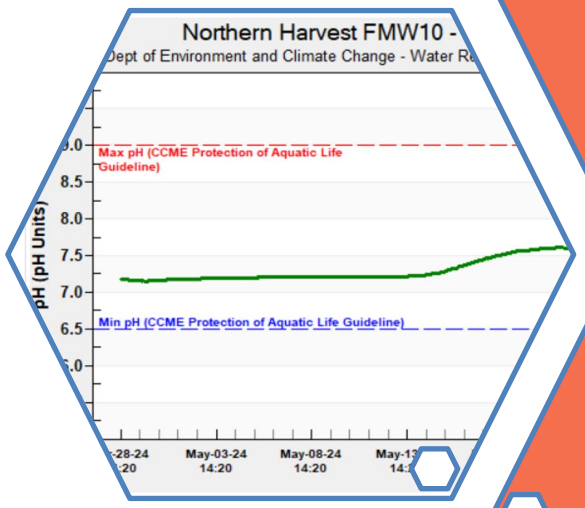
The Indian Head Expansion Project - Key Features

The Indian Head Expansion Project

- Produce larger, more robust smolt and increase production by 2.2 million smolt per year.
- Add >30 new employees in Newfoundland
- To date, ~$86 million has been invested in the Hatchery Expansion (>$100 million by completion).



Hatchery: Monitoring



Water Quality

- pH
- Oxygen
- Ammonia
- Nitrate/Nitrite
- Temperature

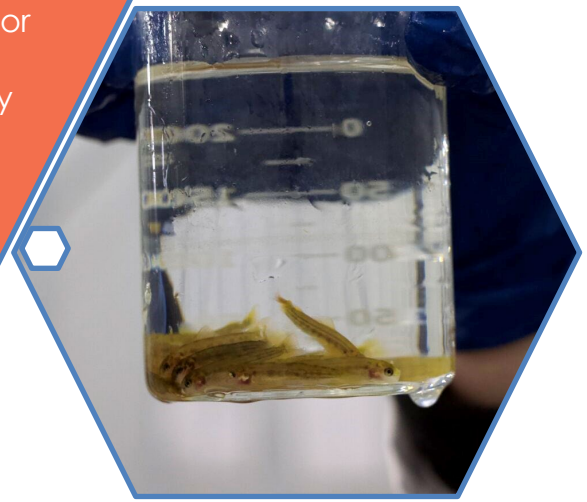
Real Time

- Live on Department of Environment website
- Well water parameters (e.g. pH, temp)

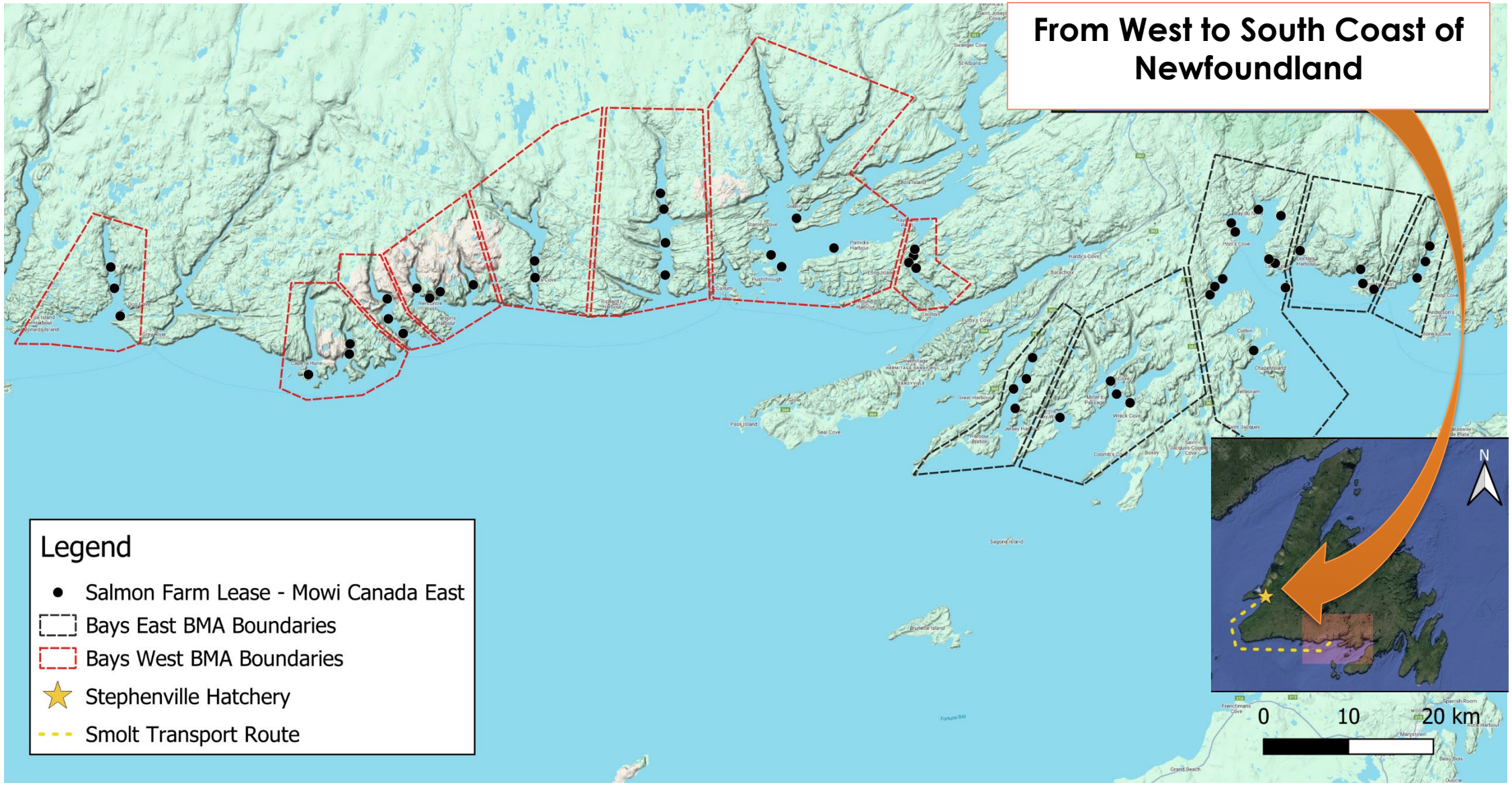
Fish Health

(Mowi and Provincial)

- Daily checks by staff (health and behaviour)
- Veterinarian checks (monthly and quarterly for bacteria and viruses)
- Health Permits issued by Provincial vets before transfer to sea



Fish Transfer from Land to Sea



EIS Process and Timeline

Court Case determined sea farms to be included

Registration and Review

The Project was registered July 2018 reviewed and initially released.

In July 2021 an Environmental Preview Report (EPR) was requested.

Minister Decision

Following submission of the EPR, the Minister determined an Environmental Impact Statement (EIS) was required October 2023.

EIS Preparation

Final EIS guidelines issued March 2024.

Preparation of the EIS (baseline studies/plans) and public consultations are ongoing.

EIS Review and Decision

ECC Minister will decide to approve, reject, or deem the EIS incomplete.

The Minister then makes recommendation to Cabinet (expected 2025).

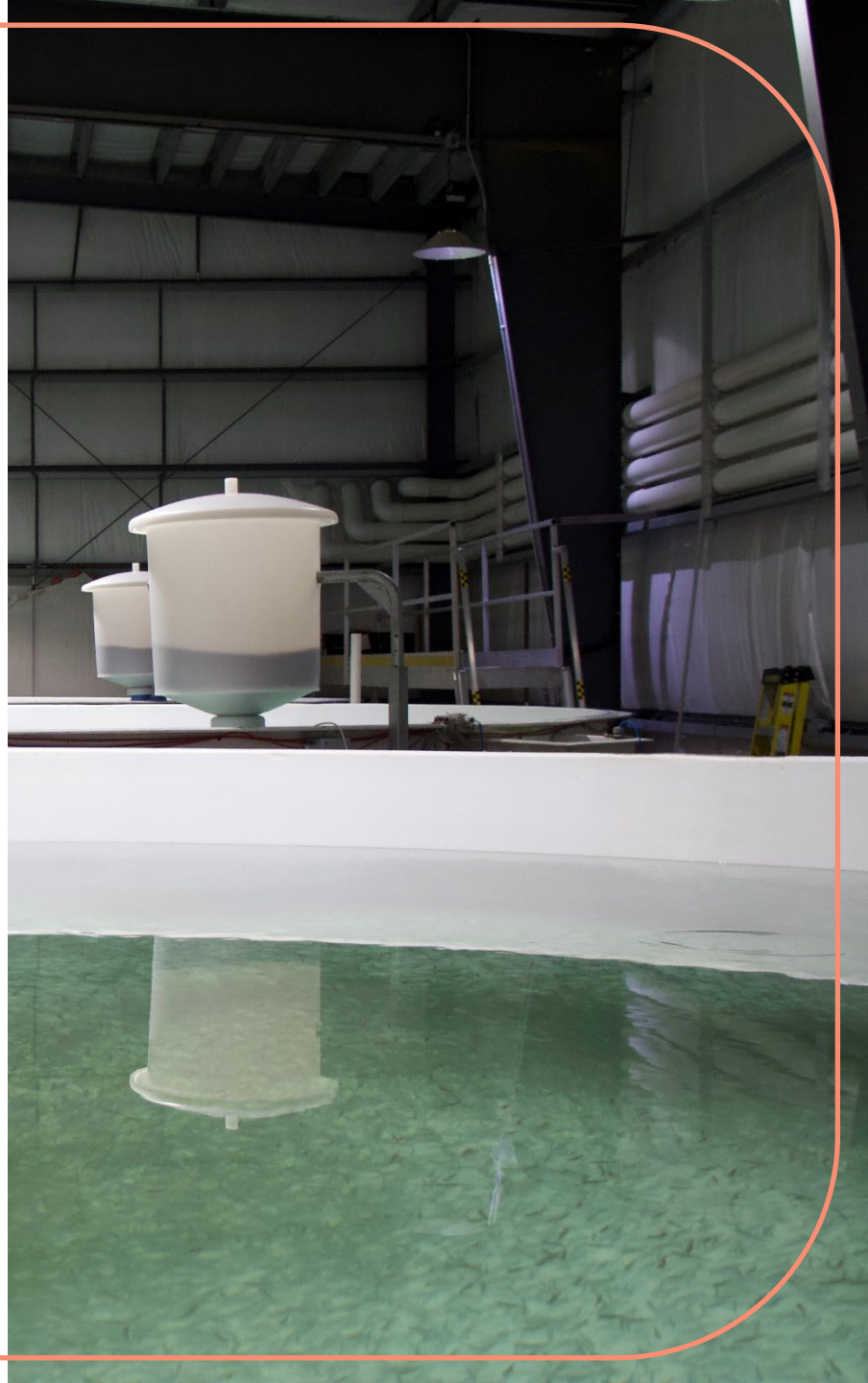
2018 2023 2024 2025

We Are Here

EIS Preparation

Public Consultation

- Approved Public Consultation Plan
- Public information sessions, Meetings with Indigenous groups and stakeholder meetings
- Document concerns, questions, and statements of support
- Summarize and address concerns for inclusion in the EIS



EIS Methods: Overview

Scoping of Assessment

Step 1: **Selection of Valued Environmental Components (VECs)**

- Rationale for selection
- Regulatory and policy setting
- Identification of spatial and temporal boundaries

Existing Conditions

Step 2: **Description of Existing Conditions**

- Existing conditions methods (field and desktop studies)
- Establishment of existing environmental conditions (including focused Baseline Studies)

Assessment Criteria and Methods

Step 3: **Description of Assessment Criteria and Methods**

- Residual effects characterization
- Identification of potential effects
- Screening of Project-environment interactions
- Analytical assessment techniques (e.g., modelling)

VEC Assessment

Step 4: **Mitigation and Management Measures**

Step 5: **Assessment of Predicted Environmental Effects of the Undertaking**

- Description of Project residual environmental effects
- Characterization of predicted (residual) environmental effects

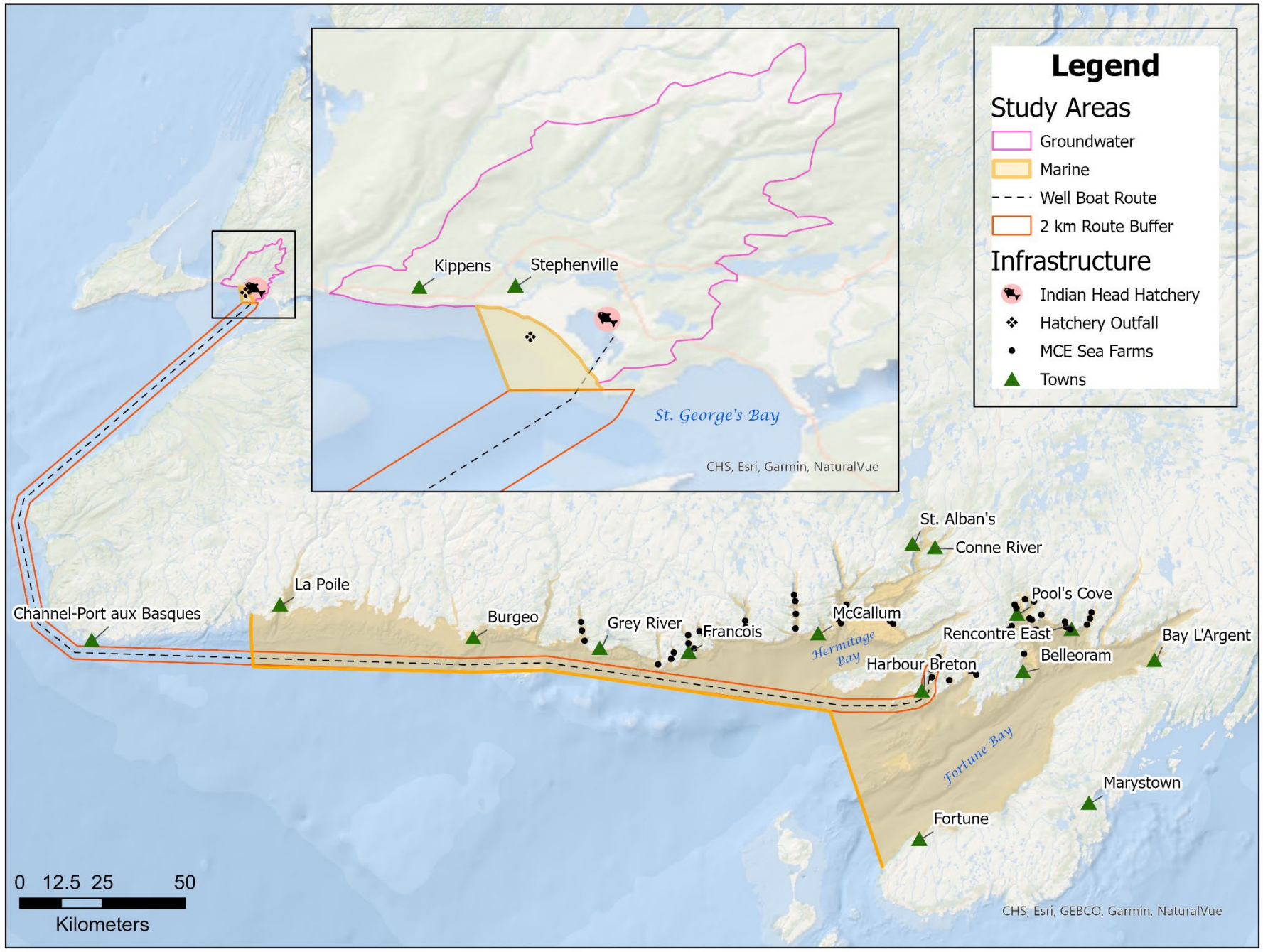
Repeat for each Environmental Effect

Step 6: **Determination of Significance**

Step 7: **Prediction of Confidence**

Step 8: **Follow-Up and Monitoring**

Study Areas


Legend
Study Areas
Groundwater
Marine
Well Boat Route
2 km Route Buffer
Infrastructure
Indian Head Hatchery
Hatchery Outfall
MCE Sea Farms
Towns
Kippens
Stephenville
St. George's Bay
CHS, Esri, Garmin, NaturalVue
St. Alban's
Conne River
La Poile
Channel-Port aux Basques
Burgeo
Grey River
Francois
McCallum
Hermitage Bay
Pool's Cove
Rencontre East
Bay L'Argent
Belleoram
Harbour Breton
Fortune Bay
Marystown
Fortune
0 12.5 25 50
Kilometers
CHS, Esri, GEBCO, Garmin, NaturalVue

Baseline Studies

Wild Atlantic Salmon

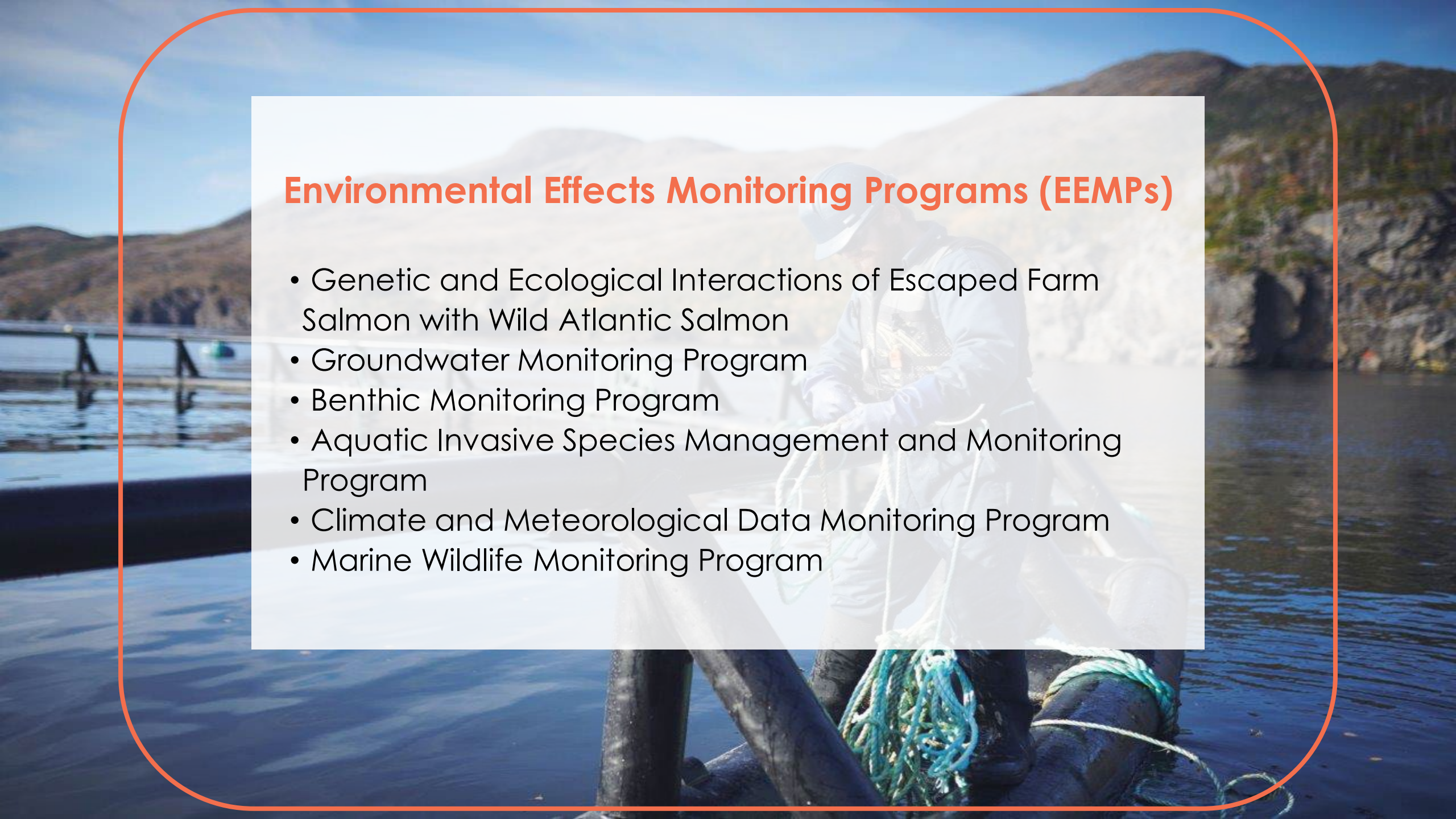
- Population abundance, distribution, and migration
- Proximity of sea farms to rivers
- Genetic and ecological interactions with farmed salmon
- Model to predict potential for farmed salmon escapees

Sea Farms (Bay Management Areas)

- Historical performance (escapees, sea lice, mortalities, treatments)
- Exposure zone modelling for fish health products
- Oceanographic, meteorological, water quality, and benthic habitat data and information
- Sea cage location and layout information

Fish and Fish Habitat

- Identify fish and fish habitat including those that support a fishery
- Identify Species at Risk, Aquatic Invasive Species, and marine mammals
- Benthic surveys and aquatic dispersion modelling



Environmental Effects Monitoring Programs (EEMPs)

- Genetic and Ecological Interactions of Escaped Farm Salmon with Wild Atlantic Salmon
- Groundwater Monitoring Program
- Benthic Monitoring Program
- Aquatic Invasive Species Management and Monitoring Program
- Climate and Meteorological Data Monitoring Program
- Marine Wildlife Monitoring Program

Genetic and Ecological Interactions of Escaped Farmed Salmon with Wild Atlantic Salmon

- Develop in close consultation with Fisheries and Oceans Canada. They already complete work annually on the South Coast of NL.
- Continued engagement with special interest groups
- Methodology to be determined in the Environmental Effects Monitoring Program (EEMP)

Meeting Outcomes and Next Steps

- **Interact** with Mowi staff, consultants, and industry members
- in attendance
- **Ask Questions** to the Experts
- **Provide Comments**: note your support for the Project and concerns about any specific Project features
  - Valuable for our team for preparation of Consultation Report that will be submitted to Department of Environment and to improve our industry.

Thank you!

For more information, please visit our website:

indianheadproject.ca

SCAN

Website/Email

Email us at stephenville.eis@mowi.com

- Questions
- Comments
- Concerns
- Statements of Support

MOWI

Thank you

MOWI
CANADA EAST

Appendix C-4

allNewfoundlandandLabrador News Article

allNEWfOUNDLANDLABRADOR

Mowi NL Boss Calls Past 'Painful,' Future Bright

By Bonnie Belec

Oct 25, 2024

Global salmon farmer **Mowi ASA**'s **Gideon Pringle** is more of a forward thinker than one for dwelling on the past.~

However, the company's newish regional manager for **Atlantic Canada** was drawn back to 2019 during a public hearing for its planned fish hatchery expansion in **Newfoundland**, to a time when production was suffering after a string of disease outbreaks and mass mortalities.

"The past is the past," he told the hearing, at the **Holiday Inn** in **St. John's**.

"We are plagued by the past. Yes, history is painful, but we're able to do better."

The **Norwegian**-based Atlantic salmon farmer's **Mowi Canada East** business arm appointed Pringle, who works out of **Saint John, N.B.**, in 2022.

Through its subsidiary **Northern Harvest**, the company has been working on a 140,000-square-foot extension at its **Indian Head Hatchery** in **Stephenville** for several years, which includes increasing production by 2.2 million smolt, bringing the total to 6.7 million annually.

The $86-million project is up for approval for a second time after being stalled by a court challenge, where environmentalists argued the regulations weren't strict enough.

Canada East also includes farms on the **Bay of Fundy** and freshwater facilities on **Prince Edward Island**, and sites on Newfoundland's south coast.

Local salmon fisher **Dave Hennessey** asked Pringle how confident he was that the farm could handle more fish after the devastating loss of 2.6 million salmon in 2019 due to prolonged warm water at several sites in the **Coast of Bays**, **Fortune Bay**.

The 30-year aquaculture veteran, who has worked in **Scotland**, Norway and **Chile**, said the company's confidence level is high.

"I don't want to go back there... Mowi took it on the chin," Pringle said.

"Today, in that same situation what happened wouldn't happen," he said adding the company has installed new, updated equipment and overhauled staff.

Between 2021 and early 2022, Mowi also reported losing more than 1.7 million fish at its

Newfoundland subsidiaries.

Leo White, of the **Salmonid Council of Newfoundland & Labrador**, made several comments about production losses over the years from diseases and die-offs, and said he feared the fish farms would one day end up as nothing more than "wasteland."

Pringle said he agreed with White's historical account of production levels, but said Mowi sees the capacity growing on the south coast, saying it could exceed 26,000 tonnes in the future.

"We're modernizing it. It is a journey. I've been here two years now and the current crops are up there with the best in the industry," he said.

The company has struggled with its operations in Newfoundland since acquiring Northern Harvest for $315 million in 2018, followed by the purchase of **Gray Aqua Group** for $15 million.

Three years ago, Mowi CEO **Ivan Vindheim** announced a sweeping overhaul of its "challenging" East Coast operations, attempting to make them leaner and profitable as losses dragged on (see 2021-02-18).

During its Q2 presentation in August, he told analysts the company is preparing to install bigger pens at its operations on province's south coast while reviewing its **Canada West** business arm in **British Columbia** due to the province's ban on open pen farming (see 2024-08-22).

bonnie@allnewfoundlandlabrador.com; 709-722-7244

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Appendix C-5

Indian Head Hatchery Expansion

Letters of Support

Town of Harbour Breton

P.O. Box 130, Harbour Breton, NL A0H 1P0 Tel: 709-885-2354 Fax: 709.885.2095
Email: harbourbreton@nf.aibn.com Economic Development: 709-885-2885

Subject: Indian Head Hatchery Expansion

October 9, 2024

To whom it may concern;

I am writing to you today to express the Town of Harbour Breton's support of the Indian Head Hatchery Expansion Project.

This project is important to the long term growth and success of aquaculture in Harbour Breton and the Coast of Bays Region. It was made possible through a huge multi-million dollar investment by Mowi, and it will result in bigger and better fish being raised by the many people employed by Mowi in the Coast of Bays.

As this project is now once again in front of the Provincial Government for environmental approvals, I ask that any review be conducted quickly, and that you do what is necessary to see that the project is completed successfully. This company has made many substantial investments since it came to our province, and we would like to make sure their major projects aren't hung up or stopped without just cause.

Thank You
Town of Harbour Breton

Lloyd Blake
Mayor

October 11, 2024

To Whom It May Concern,

Letter of Support for the Indian Head Hatchery Expansion Project – Northern Harvest Smolt Ltd.

On behalf of AKVA Group North America, I am pleased to provide this letter of support for the proposed expansion of the Indian Head Hatchery in Stephenville by Northern Harvest Smolt Ltd. The project aligns with the growing needs of the aquaculture industry and will significantly contribute to the sustainability and success of salmon production in Newfoundland and Labrador.

As a leading supplier of technology and services to the aquaculture industry, AKVA Group North America recognizes the importance of modernizing and expanding production facilities to meet increasing global demand for high-quality seafood. The proposed upgrades and expansion will not only improve the efficiency and capacity of the hatchery but also ensure that the highest standards of environmental management are met through enhanced freshwater and saltwater supply systems and advanced effluent treatment.

Northern Harvest Smolt Ltd. has consistently demonstrated a commitment to innovation and environmental responsibility in their operations. This expansion project will further position the company to continue contributing to the region's economy while enhancing the sustainability of their salmon production practices. We believe that projects like these are crucial for advancing the future of aquaculture in Atlantic Canada.

AKVA Group North America looks forward to continued collaboration with Northern Harvest Smolt Ltd. and remains committed to supporting initiatives that foster growth and technological advancement in the aquaculture sector.

Please feel free to reach out should you require any further information.

Sincerely,

Brian Bosien
General Manager
AKVA Group North America
bbosien@akvagroup.com
1(506)754-1792

acffa Atlantic Canada Fish Farmers Association

Providing a strong, regional voice on behalf of the salmon farming industry

November 25, 2024

Gideon Pringle
Managing Director
Mowi Canada East

Re: Indian Head hatchery in Stephenville, NL

Dear Gideon,

This communication is to voice our strong support for Mowi's proposed expansion at its Indian Head hatchery in Stephenville, NL. Mowi has been ranked the most sustainable protein producer for the fifth year in a row by the award nominated Coller FAIRR Protein Producer Index. Their proposed expansion in Newfoundland will improve fish welfare, increase local economic benefits and minimize water use and wastewater production. It will also increase in-province salmon smolt production by 2.2 million, so that more Atlantic Salmon will be grown in the province.

By almost all measures farmed Atlantic salmon is the most sustainable large-scale animal protein. In 2019 the Food and Agriculture organization of the United Nations listed it as the best in carbon emissions, freshwater use and production space efficiency. By allowing this proposed expansion Mowi will be helping Newfoundland remain at the forefront of the salmon farming industry and helping to feed the world while providing good paying local jobs for Newfoundlanders.

ACFFA is an industry-funded nonprofit association providing advocacy and resource support services for the fish farming industry operation in Atlantic Canada. We have members in all four Atlantic provinces, including farmers, feed producers, support services and more. We understand the salmon farming industry and believe the Indian Head Hatchery expansion is vital to sustainable production growth for the Newfoundland industry.

Best Regards,

Susan Farquharson, MA, PMP, MCMP
Executive Director

226 Limekiln Road | Letang, NB | E5C 2A8 | Tel: 506-755-3526 | Fax: 506-755-6237
www.atlanticfishfarmers.com

EASTCHEM (NL) INC
1288 Kenmount Road, Paradise NL A1L 1N3
TEL: 709.747.3777 FAX: 709.747.5306

To: Whom it may concern

Re: Indian Head Hatchery Expansion Project

Eastchem (NL) Inc. is involved in providing goods and services to the aquaculture industry. We supply Mowi, Grieg, Cookes, and others with equipment, water treatment compounds, sanitation products, biosecurity products, and other general chemistries to support the aquaculture industry.

Eastchem(NL) Inc. has had a business relationship with the hatchery located at Stephenville-Indian Head, NL since 2018.

Eastchem (NL) Inc. has a 20+-year business relationship with the aquaculture industry.

Through my business interactions with MOWI, I have found that they are excellent stewards of the environment.
All supplies purchased from our company were subjected to a thorough review to ensure the least possible environmental impact within its intended use.

Ensuring excellent environmental management is engrained in the mandate of MOWI.
Good environmental stewardship is critical to the livelihood of all aquaculture companies.

Mowi's operations have been an important portion of our business, which directly contributes to our employment of 7 people throughout the Avalon and Central region of NL. The base of business we have with Mowi and the aquaculture industry allows us to actively support and work with other businesses and organizations in our community and the province, especially in rural areas.

As the aquaculture industry grows and expands its operations and production, with modern farming practices and processes, so will the economy of our region and our business grow and strengthen our communities.

We are fully supportive of the expansion of Mowi's Indian Head Hatchery in Stephenville. It demonstrates Mowi's commitment to investing in Newfoundland and Labrador and helps sustain our business and region.

Best Regards,

Danny Eveleigh B.Sc, ADFS
Eastchem (NL) Inc.

To: Aaron.Bennett@mowi.com; EAProjectComments@gov.nl.ca; stephenville.eis@mowi.com

Our company, _Port of Stephenville is involved in providing goods and services to the aquaculture industry. We supply Mowi with Port Facilities.

Mowi's operations have been a significant/major/important portion of our business, which contributes to our employment of 7 people throughout the Bay St. George region. The base of business we have with Mowi and the aquaculture industry allows us to actively support and work with other businesses and organizations in our community and the province, especially in rural areas.

As the aquaculture industry grows and expands its operations and production, with modern farming practises and processes, so will the economy of our region and our business grow and strengthen our communities.

We are fully supportive of the expansion of Mowi's Indian Head Hatchery in Stephenville. It demonstrates Mowi's commitment to investing in Newfoundland and Labrador and helps sustain our business and region.

Sincerely,

John Targett

Port Manager

Port of Stephenville

Tel # 709 214 6736

BAY ST. GEORGE READY-MIX LTD.

To: Aaron.Bennett@mowi.com; EAProjectComments@gov.nl.ca; stephenville.eis@mowi.com

December 17, 2024

Our company, Bay St. George Ready Mix Ltd. is involved in providing goods and services to the aquaculture industry. We supply Mowi and various sub-contractors with Ready Mix Concrete.

Mowi's operations have been a significant/major/important portion of our business, which contributes to our employment of 15 people throughout the Bay St. George region. The base of business we have with Mowi and the aquaculture industry allows us to actively support and work with other businesses and organizations in our community and the province, especially in rural areas.

As the aquaculture industry grows and expands its operations and production, with modern farming practises and processes, so will the economy of our region and our business grow and strengthen our communities.

We are fully supportive of the expansion of Mowi's Indian Head Hatchery in Stephenville. It demonstrates Mowi's commitment to investing in Newfoundland and Labrador and helps sustain our business and region.

Sincerely,

William D. Fitzpatrick, CPA, CA, CMA, MBA

President

Bay St. George Ready Mix Ltd.

Corner Brook Office
P.O. Box 160, Corner Brook, NL A2H 6C7

Telephone: ***(709) 634-8255***
Fax Administration: ***(709) 634-3939***
Fax Purchasing: ***(709) 634-0469***

Stephenville Office
P. O. Box 9 Stephenville, NL A2N 2Y7
32A Brook Street, Stephenville

Office Telephone: ***(709) 643-4375***
Plant Telephone: ***(709) 643-2441***
Fax: ***(709) 643-5343***

The Town of Stephenville
P.O. Box 420, 125 Carolina Avenue
Stephenville, NL A2N 2Z5
Tel:(709) 643-8360; Fax: (709) 643-2770
www.stephenville.ca

January 20, 2025

Re: Letter of Support for the MOWI Expansion in the Town of Stephenville

Dear Mr. Bennett,

On behalf of the Town of Stephenville, I would like to express our full support for the continued expansion of the MOWI Salmon Aquaculture Facility. Having had the privilege of hosting the Northern Harvest facility over the years and now seeing the ongoing growth of the MOWI facility, the Town is excited to see this continued development and fully supports this further expansion.

The expansion will have a positive and lasting impact on our community. The proposed increase will not only provide direct employment within the Town of Stephenville but also benefit the surrounding areas. The security and longevity of these jobs will have a significant and lasting impact on the local workforce, which will contribute to the long-term sustainability of the community.

Furthermore, the operation of the MOWI Aquaculture Facility has already been a significant contributor to the local economy through the purchase of goods and services. As the facility continues to expand, the demand for contractors will increase, particularly in the areas of construction and operational support. This will create additional opportunities for local businesses and further stimulate the regional economy.

In addition to job creation and economic stimulation, the MOWI facility has consistently made a substantial contribution to municipal revenues. In 2024, the facility paid over $400,000 in taxes, including water and sewer charges, as well as business taxes. These contributions play a crucial role in supporting the municipal services and infrastructure that benefit all residents of the Town of Stephenville.

Given the importance of this expansion to the continued success and growth of our community, the Town of Stephenville remains fully supportive of this development. We ask that every consideration be given to ensuring the timely approvals necessary to move forward with this crucial project.

Thank you for your attention to this matter. We look forward to seeing this expansion and to the continued benefits it will bring to our community.

Sincerely,

Tom Rose
Mayor

Appendix D
Recapture License [2025 Revision Date]

Fisheries and Oceans Pêches et Océans

2025

EXPERIMENTAL (RECAPTURE) LICENCE

LICENCE # NL-8657-24

Marine Harvest Atlantic Canada
2 Salar Court
St. George, NB
E5C 3N1

Contact: [redacted]

Pursuant to Section 52 and Section 56 of the *Fishery (General) Regulations,* permission is hereby granted to **Marine Harvest Atlantic Canada**, or designates, to fish, collect biological samples, and transport farm-origin Atlantic salmon and wild Atlantic salmon mortalities subject to the following conditions:

1. This licence is valid from **January 1, 2025 to December 31, 2025.**

2. **Purpose:** To remove and/or biologically sample suspected and known farm-origin Atlantic salmon in fish-bearing waters and from aquaculture sites to identify the origin of escaped farm-origin Atlantic salmon and to determine the biological characteristics of escaped or wild Atlantic salmon in order to evaluate and mitigate potential impacts on wild Atlantic salmon populations.

3. **Locations:** Coastal waters on the South Coast of Newfoundland in Salmon Fishing Area 11.

4. **Fishing Gear:** Gill nets. All gear must be marked with licence number **NL-8657-25.**

5. **Species:** Farm-origin Atlantic salmon and wild Atlantic salmon

6. Fishing under authority of this licence will not commence prior to discussion with DFO Aquaculture Management. However, for incidents that occur where there is no breach in containment and farmed salmon are observed outside of the cage, employee(s) are authorized to use a handheld tool such as, a dip net, for immediate recapture efforts without first engaging DFO. If this event does happen, it is still subject to the notification protocols as defined in the Code of Containment for Salmonids in NL.

7. Each day will consist of six one-hour tended sets at locations determined in consultation with DFO.

8. Gillnetting efforts will be conducted daily unless otherwise directed by DFO.

9. All gillnet sets are to cease if recovery efforts result in <u>two</u> wild Atlantic salmon mortalities.

10. All living wild fish are to be immediately released back into the water in a manner that causes the least amount of harm.

Canada

11. Fish caught under the authority of this licence cannot be sold and must be destroyed following completion of experimental (recapture) efforts unless determined to be wild Atlantic salmon. All wild Atlantic salmon mortalities must be held for collection by DFO.

12. Data and biological samples (scale sample and fin clips) to be collected as per attached sampling instructions and held for collection by DFO.

13. All fishing activities must be overseen by DFO personnel. Records of all fishing activity must be recorded and submitted daily to Chris Hendry (Christopher.Hendry@dfo-mpo.gc.ca). A "nil report" with explanation of why there was no fishing activity must be submitted for days when no fishing activities occur. **Recapture efforts will continue until DFO advises that recapture efforts will cease.**

14. Prior to activities taking place, the Conservation and Protection (C&P) Supervisor, C&P must be notified verbally of your activities (**Marystown, 279-7850**).

15. This licence must be carried at all times and must be produced for inspection upon request of a Fishery Officer or Fishery Guardian.

16. **Marine Mammal Interactions**:

    You must provide information regarding all lethal and non-lethal marine mammal interactions during fishing trips. For the purposes of these conditions lethal and non-lethal marine mammal interactions is defined as interactions that include bycatch or collision of all marine mammals and all sightings of marine mammals entangled in fishing gear.

    You must complete the DFO Marine Mammal Interaction Form and it must be submitted as per the instructions provided on the form. The form is located online at https://www.dfo-mpo.gc.ca/species-especes/mammals-mammiferes/report-rapport/page01-eng.html

    This form can be completed and submitted online or if you prefer, you can fax or email the printed form. This form must be completed and submitted for all lethal and non-lethal marine mammal interactions.

    If there is a whale (alive or dead) caught in fishing gear during recovery efforts, call 1-888-895-3003 immediately.

    You must report all sightings of North Atlantic Right Whales by calling 1-888-895-3003 as soon as possible or at least 24 hours after sighting.

    It is prohibited to disturb a marine mammal. You are not permitted to move or entice or cause a marine mammal to move from the immediate vicinity in which it is found. You are not permitted to trap it or its group between a vessel and the shore or between a vessel and one or more other vessels. For additional prohibitions, please refer to the Marine Mammal Regulations.

17. **Species at Risk**

    In accordance with the recovery strategy for the Northern Wolffish (*Anarhichas denticulatus*) and Spotted Wolffish (*Anarhichas minor*), the licence holder is permitted to carry out experimental fishing activities authorized under the *Fisheries Act* that may incidentally kill,

harm, harass, capture or take the Northern Wolffish and/or Spotted Wolffish as per subsection 83(4) of the *Species at Risk Act* (SARA) subject to the following conditions:

Licence holders are required to return Northern Wolffish and Spotted Wolffish to the place from which it was taken, and where it is alive, in a manner that causes it the least harm.

Licence holders are required to report in the attached SARA Questionnaire any interaction with Northern Wolffish or Spotted Wolffish.

18. Aquatic Invasive Species

Best practices must be undertaken to prevent the introduction and spread of Aquatic Invasive Species (AIS), including:

- routine vessel maintenance (i.e. cleaning the hull and using anti-fouling paint to prevent bio-fouling)
- cleaning, draining and drying gear and ropes to prevent movement between Bay Management Areas
- avoiding transportation of large amounts of water from one location to another
- and recognizing and reporting any AIS to DFO for early detection at DFO.NLAIS-EAETNL.MPO@dfo-mpo.gc.ca

More information and maps of aquatic invasive species in Newfoundland and Labrador can be found at Identify an Aquatic Invasive Species.

Failure to comply the conditions of this licence will result in the cancellation of the licence.

Fisheries and Oceans Pêches et Océans

2025

EXPERIMENTAL (RECAPTURE) LICENCE

LICENCE # NL-8656-25

Northern Harvest Sea Farms NL Ltd.
2 Salar Court
St. George, NB
E5C 3N1

Contact: [redacted]

Pursuant to Section 52 and Section 56 of the *Fishery (General) Regulations*, permission is hereby granted to **Northern Harvest Sea Farms NL Ltd.**, or designates, to fish, collect biological samples, and transport farm-origin Atlantic salmon and wild Atlantic salmon mortalities subject to the following conditions:

1. This licence is valid from **January 1, 2025 to December 31, 2025.**

2. **Purpose:** To remove and/or biologically sample suspected and known farm-origin Atlantic salmon in fish-bearing waters and from aquaculture sites to identify the origin of escaped farm-origin Atlantic salmon and to determine the biological characteristics of escaped or wild Atlantic salmon in order to evaluate and mitigate potential impacts on wild Atlantic salmon populations.

3. **Locations:** Coastal waters on the South Coast of Newfoundland in Salmon Fishing Area 11.

4. **Fishing Gear:** Gill nets. All gear must be marked with licence number **NL-8656-25.**

5. **Species:** Farm-origin Atlantic salmon and wild Atlantic salmon

6. Fishing under authority of this licence will not commence prior to discussion with DFO Aquaculture Management. However, for incidents that occur where there is no breach in containment and farmed salmon are observed outside of the cage, employee(s) are authorized to use a handheld tool such as, a dip net, for immediate recapture efforts without first engaging DFO. If this event does happen, it is still subject to the notification protocols as defined in the Code of Containment for Salmonids in NL.

7. Each day will consist of six one-hour tended sets at locations determined in consultation with DFO.

8. Gillnetting efforts will be conducted daily unless otherwise directed by DFO.

9. All gillnet sets are to cease if recovery efforts result in <u>two</u> wild Atlantic salmon mortalities.

10. All living wild fish are to be immediately released back into the water in a manner that causes the least amount of harm.

Canada

11. Fish caught under the authority of this licence cannot be sold and must be destroyed following completion of experimental (recapture) efforts unless determined to be wild Atlantic salmon. All wild Atlantic salmon mortalities must be held for collection by DFO.

12. Data and biological samples (scale sample and fin clips) to be collected as per attached sampling instructions and held for collection by DFO.

13. All fishing activities must be overseen by DFO personnel. Records of all fishing activity must be recorded and submitted daily to Chris Hendry (Christopher.Hendry@dfo-mpo.gc.ca). A "nil report" with explanation of why there was no fishing activity must be submitted for days when no fishing activities occur. **Recapture efforts will continue until DFO advises that recapture efforts will cease.**

14. Prior to activities taking place, the Conservation and Protection (C&P) Supervisor, C&P must be notified verbally of your activities (**Marystown, 279-7850**).

15. This licence must be carried at all times and must be produced for inspection upon request of a Fishery Officer or Fishery Guardian.

16. **Marine Mammal Interactions**:

    You must provide information regarding all lethal and non-lethal marine mammal interactions during fishing trips. For the purposes of these conditions lethal and non-lethal marine mammal interactions is defined as interactions that include bycatch or collision of all marine mammals and all sightings of marine mammals entangled in fishing gear.

    You must complete the DFO Marine Mammal Interaction Form and it must be submitted as per the instructions provided on the form. The form is located online at https://www.dfo-mpo.gc.ca/species-especes/mammals-mammiferes/report-rapport/page01-eng.html

    This form can be completed and submitted online or if you prefer, you can fax or email the printed form. This form must be completed and submitted for all lethal and non-lethal marine mammal interactions.

    If there is a whale (alive or dead) caught in fishing gear during recovery efforts, call 1-888-895-3003 immediately.

    You must report all sightings of North Atlantic Right Whales by calling 1-888-895-3003 as soon as possible or at least 24 hours after sighting.

    It is prohibited to disturb a marine mammal. You are not permitted to move or entice or cause a marine mammal to move from the immediate vicinity in which it is found. You are not permitted to trap it or its group between a vessel and the shore or between a vessel and one or more other vessels. For additional prohibitions, please refer to the Marine Mammal Regulations.

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Licence holders are required to report in the attached SARA Questionnaire any interaction with Northern Wolffish or Spotted Wolffish.

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Best practices must be undertaken to prevent the introduction and spread of Aquatic Invasive Species (AIS), including:

- routine vessel maintenance (i.e. cleaning the hull and using anti-fouling paint to prevent bio-fouling)
- cleaning, draining and drying gear and ropes to prevent movement between Bay Management Areas
- avoiding transportation of large amounts of water from one location to another
- and recognizing and reporting any AIS to DFO for early detection at DFO.NLAIS-EAETNL.MPO@dfo-mpo.gc.ca

More information and maps of aquatic invasive species in Newfoundland and Labrador can be found at Identify an Aquatic Invasive Species.

Failure to comply the conditions of this licence will result in the cancellation of the licence.

Appendix E
Freshwater Environmental and Waste Management Plan

and

Managing and Mitigating Risks from Surface Contaminates to the MOWI-East Well Fields

Appendix E-1

Freshwater Environmental and Waste Management Plan

Freshwater Environmental and Waste Management Plan

MOWI Canada East: Stephenville Hatchery

Stephenville, NL

Doc. ID #	Revision	Date	Responsibility
FWEWMP – V 6.1		Nov 2024	Environment and Development

SECTION	PAGE	DATE	UPDATE
2	1-4	November 6, 2024	Added response actions to each mitigation plan
3	4-8	November 6, 2024	Added Management practices for Construction and decommissioning
Appendix C	28	November 7, 2024	Updated Appendix C: Escape during Truck/Wellboat Loading, Transport and Unloading
Appendix B		November 7, 2024	Updated SOP: Escape Prevention and Response Plan: Freshwater Hatchery Operations
5.4.2	19	November 6, 2024	Updated effluent monitoring program
App E: Environmental Emergency Response Plan	41	November 6, 2024	Updated MCE Emergency Management Team Fish Health Contact, Removed section on Response
App E: Environmental Emergency Response Plan	42	February 12, 2024	Updated MCE Emergency Management Team Fish Health Contact
App E: Environmental Emergency Response Plan	41	February 12, 2024	Updated FFA ADM contact phone number
2.1 Well Contamination: Emergency Planning	4	February 12, 2024	Updated Wellfield Contamination Plan details
Appendix B	26-28	February 10, 2023	Updated Escape Prevention and Response Plan – FW Hatchery Operations SOP
Appendix C	30-32	February 10, 2023	Updated Escape During Truck Transport SOP
3.2.2	8	February 2, 2023	Updated annual fish feces/fish culture water amounts
2.2	5	February 2, 2023	Removed individual staff face respirators
Whole plan		January 31, 2023	Updated company contacts
7.4	16	April 22, 2022	Updated effluent discharge section
7.4.1	16	May 2, 2023	Added dosage of UV sterilization

TABLE OF CONTENTS

1.0 INTRODUCTION

This document is developed for the Stephenville Hatchery on the West Coast of Newfoundland. The Freshwater Environmental and Waste Management Plan (EWMP) is developed for fish production and affiliated activities and responds to the requirements of the Best Aquaculture Practices Certification Standards, the Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture (FFA) regulations and applicable federal regulations and requirements.

2.0 ENVIRONMENTAL MITIGATION AND RESPONSE PLAN

An environmental event for the purpose of this document is any event that is naturally occurring in the environment that may cause adverse effects to salmon farming operations, including potential damage to gear and equipment and potential impacts to the health and welfare of salmon stocks at the hatchery. Environmental events considered in this document are those most likely to occur at the Stephenville Hatchery and include:

- Well Contamination
- Wild Fires (Near the Hatchery Site)
- Tsunamis
- Climatic Events – Hurricane Force winds; Heavy Rains; and Extreme Cold Events

See Appendix E – Environmental Emergency Response Plan for additional details on the emergency response team, contact information, and reporting information.

2.1 Well Contamination

The Stephenville Hatchery well field is adjacent to roads and in close proximity to a small regional airport. As such there is the potential for an accident that could result in the contamination of our freshwater wells. This would result in the hatchery not having a flow of freshwater to supply the production hatching units and production tanks.

Frequency:
Unlikely, would be due to vehicle or aircraft accident on or near the wellfield

Duration:
Variable, depending on the quantity nature of the spill in the wellfield and the availability of emergency resources.

Mitigation Strategies:

Emergency Planning

Mowi Canada East has a plan to address cleanup in the event of wellfield contamination that was prepared by a third party Hydrogeologist (i.e., Technical Memorandum - Managing and Mitigating Risks from Surface Contaminates to the MOWI-East Well Fields, February 20, 2024, FracFlow Consultants Inc). This plan ensures that the site is cleaned up as quickly as possible, with as little impact to the wellfield. It provides the immediate steps for hatchery staff to take to protect the water supply wells and maintain the flow of water to the hatchery, as well as the timeline needed to mitigate impacts and to remove any contaminates.

Infrastructure:

The Stephenville Hatchery has the ability to be placed on a completely closed recirculation loop which would not require any makeup water. This could be maintained for a period of approximately 48 hours to allow time for proper cleanup of spills in the wellfield; and

There are 6 production wells at the hatchery to supply makeup water. Depending on the magnitude and severity of the spill, there is the potential that one or more wells may remain viable even if the other(s) are impacted.

Response:

Hatchery will operate on a closed recirculation loop for 48 hours as necessary. Wells not at risk of contamination will be utilized where possible. If it is not possible to bring well(s) back online, fish will be depopulated from the facility. In the event that fish must be depopulated from the hatchery, fish transfer permits would be sought.

2.2 Wild fires (Near the Hatchery Site)

Wild fires are an infrequent event in Newfoundland. One with such a magnitude to effect the hatchery operations is only effected to be a 1 in 25 year event. Potential effects would be power loss to the hatchery, air quality, visibility, site access.

Frequency:
Unlikely, depending on environmental and climatic conditions; however they could occur at any time of the year, with more severe fires occurring in the spring and fall. Likely only a 1 in 25 year event.

Duration:
Variable, depending on the size of the wild fire and wind conditions and availability of emergency resources.

Mitigation Strategies:

Staff Availability at Site:

Hatchery staff are onsite 24 hours a day, 7 days a week. There is always a minimal complement of staff on site to service the facility.

Infrastructure:

The hatchery site has backup generators on site which can run for 48 hours in the event of a power outage and there is supplemental fuel on site to service the boilers that could be used to top up the main generator tanks;

The buildings are built to National Building Code of Canada standards and steel framing, steel siding and steel roofs were selected as they are more resilient to storm damage. In addition steel structures are faster to repair in the event of damage (in comparison to traditional wood frame structures); and

There are block heaters on the generators for starting in extreme cold temperatures.

Supplies on Site:

There is a minimum of 1 week worth of fish feed on site at any given time to maintain the facility if deliveries cannot access site.

There are 30 days of oxygen supply on site (when the oxygen tanks are full).

Response:

Hatchery backup generators will operate to maintain fish production systems in the event of a power outage. Feed and oxygen reserves will be relied on if alternative supply must be organized.

2.3 Tsunamis

Tsunamis are a rare event in Newfoundland (last recorded event on the Burin Peninsula in 1929. The effects of Tsunamis are dependent on size of the impact waves. Small waves (2 meter or less) would be absorbed by land above water the normal tide line.

Frequency:
Unknown, no tsunamis have occurred on the west coast of Newfoundland previously, however this may change due to shifts in climatic weather patterns.

Duration:
Variable

Mitigation Strategies:

Site Selection:

Part of the initial site selection for the Stephenville Hatchery included the evaluation of the impact of large wave/extreme high tide events and the hatchery was constructed at an elevation that was safe from these events. However, tsunamis may have tide/wave impacts that are greater than expected during the initial site selection; and
The Stephenville Hatchery site is on Port Harmon, which is an enclosed harbor, with a small access channel, it is unlikely that large tide/wave impacts would reach the inner harbor shores.

Response:

Hatchery would be evacuated. Following the event, staff would return and assess whether the fish production systems were compromised. Corrective actions would be implemented depending on damages, which may include use of back-up generators, and debris clean-up. If operations were compromised such that fish health and welfare could not be maintained, the facility would be depopulated as per the Fish disposal plan.

In the event of an escape, all appropriate notification to authorities will be made as per the Incident and Crisis Management Plan and the Escape SOPs found in Appendices B & C of this document.

2.4 Climatic Events – Hurricane Force winds; Heavy Rains; and Extreme Cold Events

Climatic events include storms that occur year-round, high winds, and extreme cold events. All of these can result in structural damage and power outages at the hatchery, which can cause disruption to operations.

Frequency:
Any time of the year, with stronger more severe storms occurring in fall, winter and spring.

Duration:
Variable

Mitigation Strategies:

Staff Availability at Site:

Hatchery staff are onsite 24 hours a day, 7 days a week. There is always a minimal complement of staff on site to service the facility.

Infrastructure:

The hatchery site has backup generators on site which can run for a minimum of 48 hours in the event of a power outage and there is supplemental fuel on site to service the boilers that could be used to top up the main generator tanks;
The buildings are built to National Building Code of Canada standards and steel framing, steel siding and steel roofs were selected as they are more resilient to storm damage. In addition steel structures are faster to repair in the event of damage (in comparison to traditional wood frame structures); and
There are block heaters on the generators for starting in extreme cold temperatures.

Supplies on Site:

There is minimum of 1 weeks' worth of fish feed on site at any given time to maintain the facility if deliveries cannot access site; and
There are 30 days of oxygen supply on site (when oxygen tanks are full).

Site Development:

The Stephenville Hatchery site has proper site drainage and highly porous substrates which ensures that run-off that does not have effects on the buildings and operations.

Training:

Staff are trained in site inspection protocols and in site preparation for potential storm events.

Response:

Hatchery backup generators will operate to maintain fish production systems in the event of a power outage. Feed and oxygen reserves will be relied on, if alternative supply must be organized.

3.0 WASTE MANAGEMENT PLAN

3.1 Introduction

MOWI Canada East (MCE) is dedicated to the principles of social and environment sustainability including for materials handling and waste management. Since 2008, MOWI (the parent company of MCE) has worked with the World Wildlife Fund to strengthen sustainable aquaculture and to improve the industry's environmental standards and the company reports annually on environmental performance.

The guiding principle of this plan is to ensure all materials are handled in a responsible manner in order to minimize potential risk to the environment. This will be achieved by applying the following priorities.

1. Reduction of the volume and non-recyclable wastes through efforts such as identifying and reducing single use plastics containers.
2. Recycling and re-purposing of waste materials over landfill dumping whenever possible.
3. Treatment and monitoring of the effluent released from the hatchery into the marine environment and mitigation and/or clean-up undertaken as required.

Materials storage, handling and waste management practices, as provided in this document, have been developed to reduce potential risks to the environment. The plan ensures that all waste materials are handled in a responsible manner that prioritizes recycling over landfill dumping whenever possible. All facilities shall ensure that non-biological or non-organic material is not discharged into marine or freshwater environments.

3.2 Waste Management

At all times the potential effect on the environment will be considered when collecting and disposing of wastes. All wastes will be securely contained in enclosed dedicated receptacles at designated locations on site.

3.2.1 Waste Reduction

Waste material handling and disposal is controlled by Newfoundland and Labrador Department of Environment and Climate Change (ECC) (sewage), recycling SOPs, Health and Safety Program requirements and certification requirements. The following waste reduction practices will be employed:

- Purchasing program which controls on-site supplies by restricting staff purchases for most household and production supplies to a single approved list
- Corporate sustainability reporting includes performance measures on various sustainability aspects and encourages strategies where possible to reduce waste.

3.2.2 Management Practices - Construction

Any construction activities for the Indian Head Hatchery are performed by 3rd party general construction contractors and include the removal of waste associated with construction as part of the contract. Generally, nonhazardous construction and demolition material that cannot be recycled would be disposed via the Western Newfoundland Waste Management Authority. There may be opportunity to salvage metals and certain plastics (e.g., high density polyethylene (HDPE)). The recycling and disposal of all construction waste will be presented in the hatchery Environmental Protection Plan that will be prepared by the general contractor and presented for approval prior to construction.

3.2.3 Management Practices - Operations

The table below provides a list of waste materials expected to be generated with approximate volume and management practices Stephenville Hatchery.

*negligible = <1MT annually, n.d. = unable to determine

Waste Materials	**Approximate Volume* (MT annually)**	**Waste Management Practices**
Household Recycling: • Paper/cardboard • Plastic • Tin cans • Glass	• negligible	• Household recyclables (plastic and cans) will be collected in a central place on site, sorted as required and delivered to a recycling depot. • All efforts will be taken to reduce the amount of garbage that cannot be recycled. Garbage will be collected in a central location on the site and delivered to the disposal depot by Containerized Sanitation Ltd.
Household/production Garbage**	• n.d.	
Oil	• 1.5 MT	• Used oils and waste fuel are collected on site and recycled. • Use captured in global sustainability reports.
Fuel	• negligible	

Therapeutants	• negligible	• In the event of excess medicated feed, the company veterinarian shall be contacted for disposal method. • Outdated medicated feed is returned to feed manufacturer for disposal.
Cleaners and Disinfectants	• negligible	• Expired biosecurity chemicals are collected at site and shipped to an appropriate lab facility for disposal via appropriate contractor. • Arrangements will be made with the Fish Health and Welfare Director.
Paint	• negligible	• Old paint will be collected onsite in a secure container and transported to a depot to be disposed of. • Arrangement may be made with a service provider.
Facility Maintenance – metal, wood & PVC	• 2.5MT	• Regular maintenance schedule will include all aspects of the facility • Repairs are undertaken so as no debris or materials will be discarded in the water and all repair materials will be collected and disposed of as appropriate on land.
Fish Feces/Fish Culture Water	• 29MT (555m^3 of sludge @ 5% solids) of solids in waste water 7,730 gallons @ 3.75 Kg/gallon) • 2,672,302MT (2,672,302 m^3 @ 1,000 kg/m^3)	• Fish are fed to satiation only and systems are designed with an expected amount of feces generated. • Feces will be transported via the fish culture water from the fish tanks to effluent treatment system using closed pipes. <u>Effluent Use</u> • Effluent from fish culture is rich in nutrients and discussions are underway to provide the liquid and potentially the solids for use in other applications. <u>Effluent Treatment</u> • Large solids settled out. • Larger solids captured with 80-micron drum filtration with finer solids captured with 40-micron drum filtration. • Ultra Violet sterilization. • Combined effluent discharged to the marine environment in the St. George's Bay. • Regular program assessing the effluent water on a monthly basis. • Sludge from settling and filtration is stored in tanks onsite and removed periodically by a contractor (Gales Septic Services Ltd.) and disposed of in their licensed septic lagoon (South Branch, NL).
Fish Discards, Mortalities	• 35MT morts • 30MT culls	• Currently mortalities are stored in 1 cubic meter insulated fish totes. • All mortalities and discards will be recorded in Mercatus AquaFarmer. • Disposal of mortalities will be contracted to a contractor (New World Dairy) and sent as needed depending on the number.
Feed Waste	• negligible	• Feed is rotated in the feed storage area to ensure that it doesn't go out of date prior to use.
Empty Feed Bags	• 2MT	• Feed packaging will be collected in a central area and sent to the local land fill. See Appendix A for additional information.

Empty Salt Bags	• 6.5MT	• Salt packaging will be collected in a central area and sent to the local land fill.
Household Greywater - Human Waste, Septic	• 1MT of solids in septic system	• Waste will be collected on site and will be removed by Gales Septic Services Ltd. and disposed of in their licensed septic lagoon (South Branch, NL) in a responsible manner consistent with CFIA regulations, and provincial regulations.
Printer Cartridges	• negligible	• Where available, arrangements will be made to drop off at a depot for recycling.
Retired Technology (computers etc.)	• negligible	• Return to company IT Department for recycling.
Damaged Production Equipment or Parts	• negligible	• Where appropriate, parts/materials are recycled, donated or sold, otherwise disposed of according to provincial regulations at Western Regional Waste Management, Bay St. George Waste Disposal Site. • Disposal is at the discretion of the Hatchery Manager.
Out-of-service Production Equipment	• negligible	• Proceed at the discretion of the Hatchery Manager. • Where appropriate, equipment will be recycled, donated or sold otherwise disposed of according to provincial regulations at Western Regional Waste Management, Bay St. George Waste Disposal Site.

**negligible = <1MT annually, n.d. = unable to determine*

*** Household/production garbage – If additional information is required, the size of dumpster and the number of times emptied annually could be provided.*

3.2.4 Management practices – Decommissioning

Should decommissioning be required, the first step would be to prepare a comprehensive decommissioning and restoration work plan in collaboration with provincial and federal agencies to ensure all regulatory and environmental requirements are addressed. The following are considerations for this plan.

- MCE will preferentially arrange with local service suppliers for the removal of infrastructure and equipment.
- All structures, including buildings, culture systems and sub-surface pipelines, will be removed from the site as per direction of the regulatory agencies.
- Fisheries and Oceans Canada (DFO) and the Department of Environment and Climate Change (ECC) will be consulted to provide specific direction on removal of the effluent discharge outlet located in Bay St. George.
- Salmon culture systems are independent, and deconstruction of each system can be accomplished without affecting other systems. Therefore, if required a staged or partial decommissioning can be completed. Egg incubation has four independent culture units, fry rearing has 2 units, smolt rearing has six independent culture systems in three buildings, and post-smolt has four independent modules.

- Each of the five production buildings – incubation/fry, smolt 1-2-3, and Modular RAS (post-smolt) – were constructed with dedicated freshwater lines, independent water treatment systems, dedicated power and back-up power supply, and effluent lines. These buildings can be isolated and dismantled separately after the fish culture systems have been removed.
- The sub-surface water and effluent lines have been installed in the same trench whenever possible which facilitates locating and removing the lines.
- Equipment in good condition, such as fish culture tanks, pumps, vaccination and grading, RAS technology, and site tools, will be used at other MCE facilities, sold to other companies, or recycled.
- Buildings intact or dismantled and in pieces, such as steel supports, doors, roofs etc., will be used at other MCE facilities or sold.

Equipment and building infrastructure that is not re-used or sold will be recycled and if required the residual will be disposed of responsibly through the Western and Central Newfoundland Waste Authorities, as construction and demolition waste or in the engineered waste management facility as appropriate based on the materials classifications.

3.3 Mandatory Training

Staff receive training regarding waste management practices relevant to their time on the job, work experience and duties.

3.4 Waste Management Agencies and Companies

Town of Stephenville

- Regional land fill and garbage pickup, municipal sewage disposal.

Western Regional Waste Management

- Disposal services for construction and demolition waste, household hazardous waste, scrap metal and bulk waste, electronic waste and large production equipment that cannot be recycled will be sent to the Bay St. George Waste Disposal.

Regeneration Paint Recycling

- Product Care Association operates Regeneration, a province-wide industry-led and government-approved paint recycling program that provides residents and businesses with province-wide drop-off locations and collection events.

Envirosystems Inc.

- Envirosystems Inc. (formerly Crosbie Industrial Services Ltd.) provides province- wide a commercial collection service for hazardous waste as well as proper disposal of oil tanks and filters.

Containerized Sanitation Ltd

- Containerized Sanitation Ltd. provides waste removal and dumpster rentals to residential, commercial and industrial customers at Bay St. George and the surrounding area.

Pardy's Waste Management and Industrial Services Ltd.

- Province-wide commercial collection service for hazardous waste including disposal of oil tanks and filters.

Gale's Septic Services Ltd.

- Province-wide collection of liquid and semi liquid waste including the solids and sludge produced from filtering the production effluent

Greenfield Enterprises

- Province wide collection of finfish aquaculture mortalities.

New World Dairy

- Disposal of fish mortalities and silage.

Scotia Recycling Ltd

- Collection, processing, sales, and brokerage of recyclable materials

4.0 ESCAPE RESPONSE PLAN

4.1 Introduction

This document describes the escape response plan for the MOWI Canada East: Stephenville Hatchery on the West Coast of Newfoundland. These plans conform to the requirements of the Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture (FFA).

Stephenville Hatchery staff shall monitor, evaluate and maintain the hatchery and equipment to eliminate the potential for escapes. Staff shall be trained to respond with appropriate actions if an escape is suspected or if one occurs. Refer to Stephenville Hatchery applicable SOPs for additional information. Refer to the Fish Escape Response Flowchart below for more information.

Mowi Canada East

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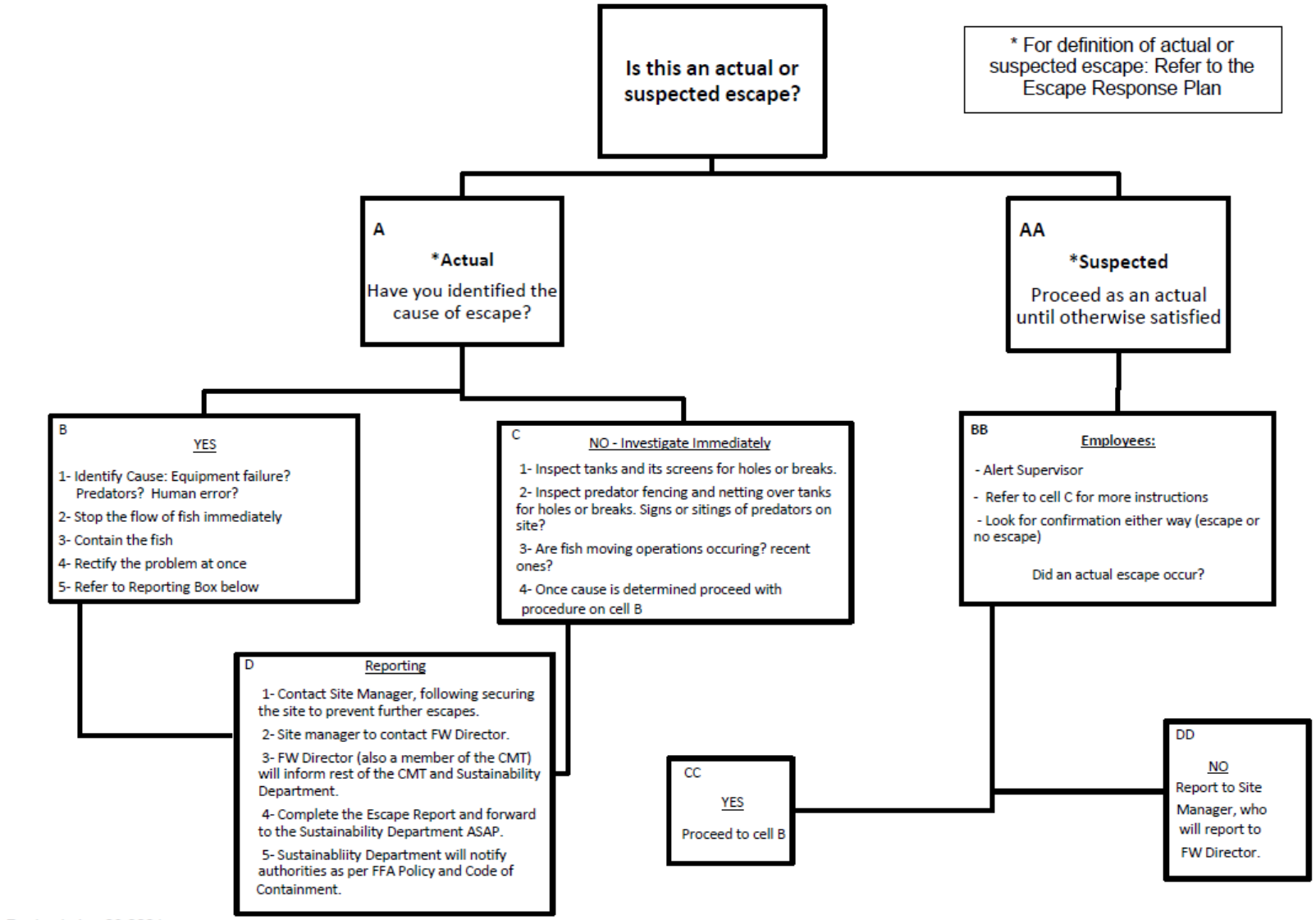
Document #: 12

Fish Escape Response Flowchart- Freshwater



Revised: Jan 29 2021

4.2 Escape Response – Freshwater Hatchery Operations

Appendix B outlines the steps, areas of responsibility and procedures in brief that the hatchery site staff will go through when a suspected or actual escape occurs.

4.3 Escape Response – Truck to Vessel Transfer

Appendix C outlines the steps, areas of responsibility and procedures in brief that the site staff, truck staff and vessel staff will go through when a suspected or actual escape occurs.

4.4 Procedure for Notifications

4.4.1 Northern Harvest Smolt - Initial Incident Response

In the event of an escape, Stephenville Hatchery will initiate its Incident and Crisis Management System (ICMS) as per FFA Aquaculture Policy (AP) 2 and 17, immediately completing all necessary required reporting to regulators and internal stakeholders and initiating escape response activities.

4.4.2 Fisheries, Forestry and Agriculture

FFA defines an escape as: Escapement of fish from a freshwater site or vehicle into the wider marine or freshwater
environment.

PER FFA Aquaculture Policy (AP) 17, NHS will make the following notifications upon confirmation of an escape.

Verbal Notification: Stephenville Hatchery shall immediately (following actions taken to ensure the safety of farmed fish, structure or vessel) notify the Assistant Deputy Minister (ADM) of Fisheries and Aquaculture, the Department of Fisheries, Forestry and Agriculture:

ADM Phone: (709) 729-1725
Aquaculture Development: (709) 292-4100

Written Notification: Stephenville Hatchery shall provide written notification to the ADM of Fisheries and Aquaculture, the Department of Fisheries, Forestry and Agriculture within 24 hours of becoming aware of the escape. The written notification will include:

a. the site(s) of the escape;
b. the species escaped;
c. the cause of the escape;
d. the estimated number of fish escaped;
e. the recapture plan for escaped animals; and
f. any other information deemed by the department to be reportable.

4.4.3 Fisheries and Oceans Canada

Verbal/Email Notification: Stephenville Hatchery will immediately upon discovery of an escape or when it is reasonable to suspect that any escape incident has occurred, report verbally or by email to Department of Fisheries and Oceans (DFO) Aquaculture Management

Phone: (709) 772-0183 or (709) 772-3265

The same information provided to the province (above) will be provided to DFO.

Written Notification: Stephenville Hatchery file a written report (Appendix 4 of the NL Salmonid Code of Containment – Appendix D of this document) within 72 hours of the escape incident to:

Mail: Director, Aquaculture Management
Fisheries Management Branch, Fisheries and Oceans Canada
P.O. Box 5667
St. John's, NF
A1C 5X1

4.4.4 Public Reporting

Upon completion of Sections 4.4.1 to 4.4.3 and approval of a response plan by FFA and other applicable agencies, Stephenville Hatchery will publicly report the escape and planned response. Public reporting will be via public communication acceptable to FFA, in addition to the MOWI or industry association websites. Public reporting will occur within 24 hours of confirming the escape incident.

For suspect escapes, the information that will be made publicly available is as follows:

a. the site(s) of the escape; and
b. species escapes

For confirmed escapes, the information that will be made publicly available is as follows:

a. the site(s) of the escape;
b. the species escaped;
c. the cause of the escape;
d. the estimated number of fish escaped; and
e. the recapture plan for escaped animals.

5.0 ENVIRONMENTAL IMPACTS MANAGEMENT

5.1 Environmental Impact – Physical Environment

The current expansion at the Stephenville Hatchery is located in a previously disturbed site within an industrialized area and is adjacent to an airport. The project was registered for Environmental assessment (EA) and a full description of the site and surrounding area was given in the EA submission. The project was assessed and released from Environmental Assessment. Documentation related to the EA and the release of registration can be found on the ECC website:
https://www.gov.nl.ca/ecc/projects/project-1975/

5.2 Impact on Nearest Aquaculture Sites

The closest licensed aquaculture site in proximity of the Stephenville Hatchery is a blue mussel farm which belongs to Plastik Industries of Canada and is located approximately 120km west of the Project in Piccadilly Bay.

5.3 Environmental Impact: Wild Species

FFA is responsible for managing and conserving Newfoundland and Labrador's biodiversity and wildlife resources for the benefit of present and future generations (Government of Newfoundland and Labrador, 2018). Newfoundland and Labrador's Endangered Species Act provides special protection for plant and animal species considered to be endangered, threatened, or vulnerable in the province, and fulfils the province's commitment under the National Accord for the Protection of Species at Risk (Government of Newfoundland and Labrador, 2018).

Species identified by the Species Status Advisory Council (SSAC), Committee on the Status of Endangered Wildlife (COSEWIC) and the Species at Risk Act (SARA) are given a specific status based on their risk of extinction which include special concern, vulnerable, threatened, endangered or extirpated.

The following species have been identified under the NL legislation or the federal SSAC, COSEWIC and SARA, are suspected or known to have distribution ranges or migratory patterns that encompass the west coast of Newfoundland.

- Birds: Piping Plover *(Charadrius melodus melodus),* Bobolink (*Dolichonyx oruzivorus*),
- Fish: American Eel *(Anguilla rostrate),* Atlantic Codfish *(Gadus morhua)*
- Marine Mammals: Harbour Porpoise *(Phocoena phocoena)*
- Plants: Gmelin's Watercrowfoot *(Ranunculus gmelinii),* Low Northern Rockcress *(Braya humilis or Neotorularia humilis),* Tradescant's Aster *(Symphyotrichum tradescantii),* Wooly Arnica *(Arnica angustifolia subsp. tomentosa)*

It should be noted that none of the above species were observed within Stephenville Hatchery property during site investigations pertaining to recent expansions and it is unlikely that the project will affect any of these species given the location of the project and range of activities associated with the project. Stephenville Hatchery will post information on all SARA species that may be observed at the hatchery and staff will report any suspected sightings to company management. Stephenville Hatchery will report these sightings to applicable Provincial and Federal agencies.

5.4 Environmental Impact: Effluent Discharge

Hatchery effluent includes wastewater, fish feces, fish food waste, sludge, ammonia and dissolved chemicals used in the facility culture water. Solid waste (including fish food waste, and fish feces, are removed through mechanical filtration before waste water leaves the facility.

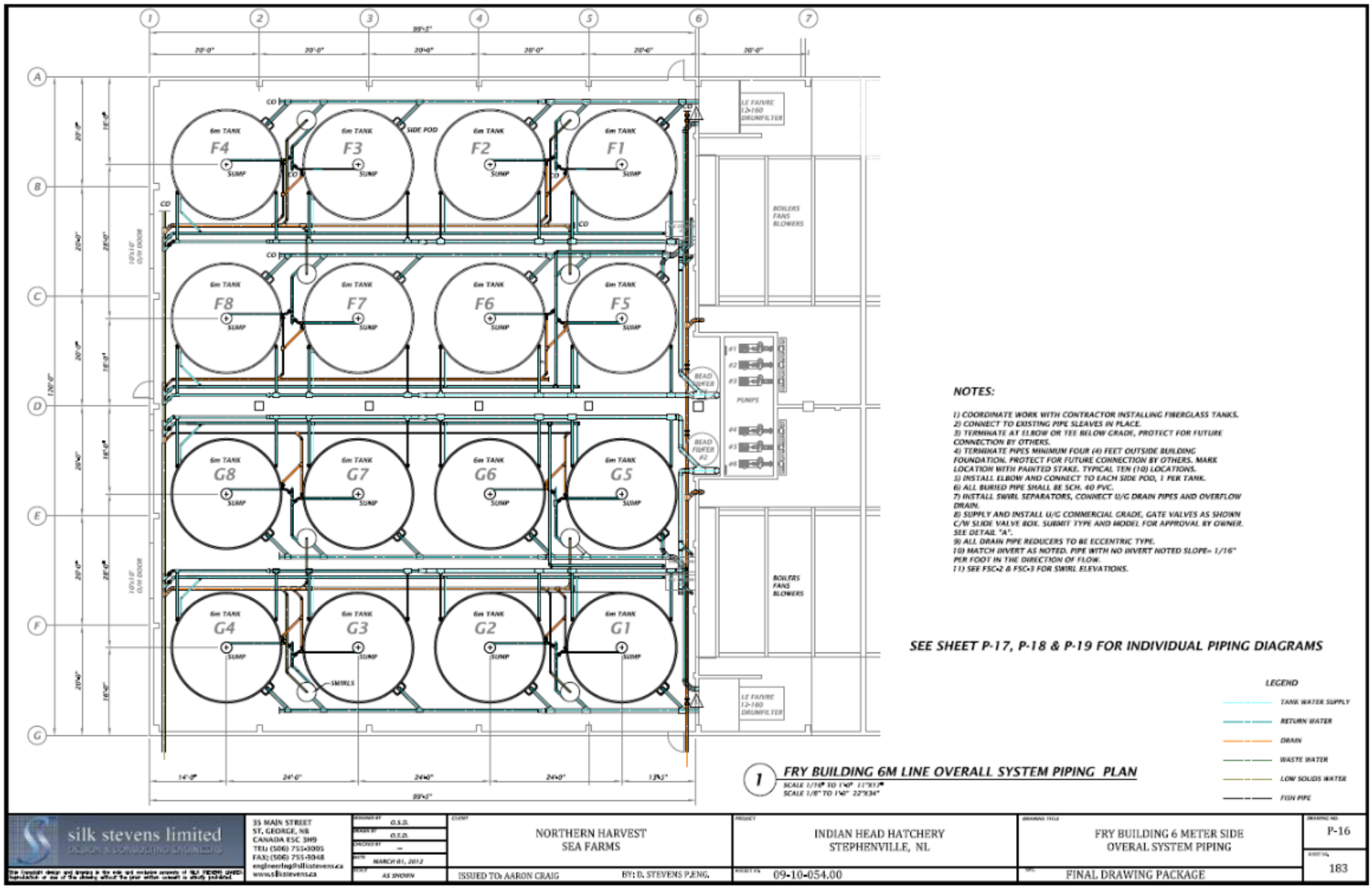
5.4.1 Wastewater Treatment System

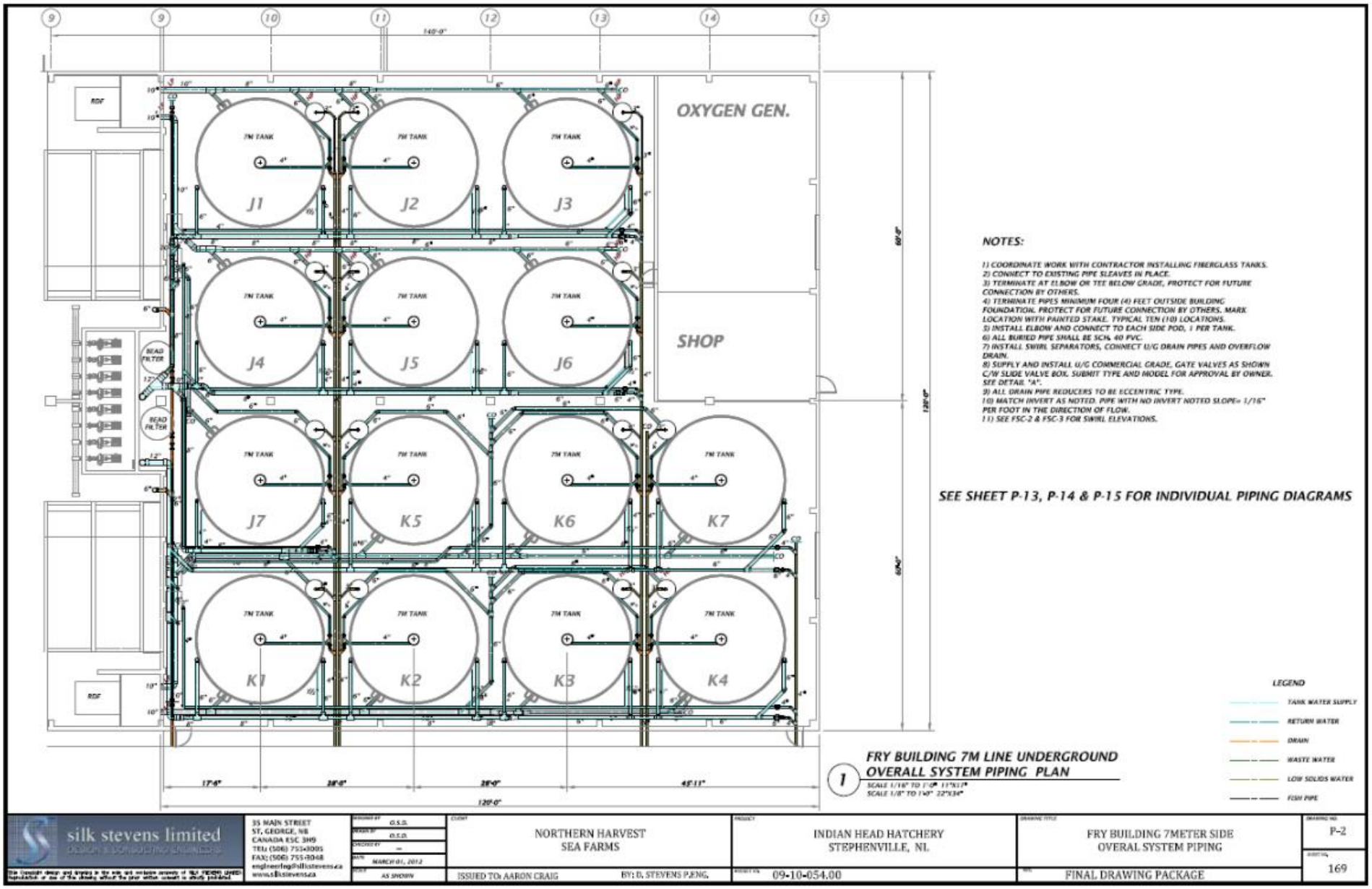
Waste water from the production tanks will have solids removed and passed through screens to ensure no fish escape prior to being pumped to discharge to the marine environment. Filtration will be as follows:

1. Rotating Drum filtration (RDF) in the Recirculating Aquaculture System;
2. Radial flow separators (or swirl separators)in the Recirculating Aquaculture System;
3. Settling tanks; and

4. 40-80-micron Rotating Drum Filter in the final waste treatment system to remove smaller particles prior to final discharge.
5. Ultra Violet sterilization in the final waste treatment system: A UV dosage of 100mj/cm^2

These components are used effectively reduce the total suspended solids, total nitrogen and biological oxygen. The waste treatment system removes more than 90% of the monthly mass of fish feed that remains in the effluent water. See following pages for piping plans for the fry and smolt buildings. A new wastewater treatment system was added in 2021 to accommodate the post smolt building. The process flows for this system are demonstrated on the following pages; drawing for the new system are identified as prepare by PRAqua.


6m TANK
F4
F3
F2
F1
F8
F7
F6
F5
G8
G7
G6
G5
G4
G3
G2
G1
SUMP
SIDE POD
CO
SWIRLS
LE FAIVRE 12-160 DRUMFILTER
BOILERS FANS BLOWERS
PUMPS
BEAD FILTER #1
BEAD FILTER #2
NOTES:
1) COORDINATE WORK WITH CONTRACTOR INSTALLING FIBERGLASS TANKS.
2) CONNECT TO EXISTING PIPE SLEAVES IN PLACE.
3) TERMINATE AT ELBOW OR TEE BELOW GRADE, PROTECT FOR FUTURE CONNECTION BY OTHERS.
4) TERMINATE PIPES MINIMUM FOUR (4) FEET OUTSIDE BUILDING FOUNDATION. PROTECT FOR FUTURE CONNECTION BY OTHERS. MARK LOCATION WITH PAINTED STAKE. TYPICAL TEN (10) LOCATIONS.
5) INSTALL ELBOW AND CONNECT TO EACH SIDE POD, 1 PER TANK.
6) ALL BURIED PIPE SHALL BE SCH. 40 PVC.
7) INSTALL SWIRL SEPARATORS, CONNECT U/G DRAIN PIPES AND OVERFLOW DRAIN.
8) SUPPLY AND INSTALL U/G COMMERCIAL GRADE, GATE VALVES AS SHOWN C/W SLIDE VALVE BOX. SUBMIT TYPE AND MODEL FOR APPROVAL BY OWNER. SEE DETAIL "A".
9) ALL DRAIN PIPE REDUCERS TO BE ECCENTRIC TYPE.
10) MATCH INVERT AS NOTED. PIPE WITH NO INVERT NOTED SLOPE= 1/16" PER FOOT IN THE DIRECTION OF FLOW.
11) SEE FSC-2 & FSC-3 FOR SWIRL ELEVATIONS.
SEE SHEET P-17, P-18 & P-19 FOR INDIVIDUAL PIPING DIAGRAMS
LEGEND
TANK WATER SUPPLY
RETURN WATER
DRAIN
WASTE WATER
LOW SOLIDS WATER
FISH PIPE
1 FRY BUILDING 6M LINE OVERALL SYSTEM PIPING PLAN
SCALE 1/16" TO 1'-0" 11"X17"
SCALE 1/8" TO 1'-0" 22"X34"
silk stevens limited
DESIGN & CONSULTING ENGINEERS
35 MAIN STREET
ST. GEORGE, NB
CANADA E5C 3H9
TEL: (506) 755-3005
FAX: (506) 755-3048
engineering@silkstevens.ca
www.silkstevens.ca
DESIGNED BY O.S.D.
DRAWN BY O.S.D.
CHECKED BY --
DATE MARCH 01, 2012
SCALE AS SHOWN
CLIENT
NORTHERN HARVEST SEA FARMS
ISSUED TO: AARON CRAIG
BY: D. STEVENS P.ENG.
PROJECT
INDIAN HEAD HATCHERY
STEPHENVILLE, NL
PROJECT No. 09-10-054.00
DRAWING TITLE
FRY BUILDING 6 METER SIDE OVERAL SYSTEM PIPING
REV. FINAL DRAWING PACKAGE
DRAWING NO. P-16
SHEET No. 183


OXYGEN GEN.
SHOP
J1
J2
J3
J4
J5
J6
J7
K5
K6
K7
K1
K2
K3
K4
7M TANK
BEAD FILTER
RDF
140'-0"
120'-0"
17'-6"
28'-0"
28'-0"
45'-11"
NOTES:
1) COORDINATE WORK WITH CONTRACTOR INSTALLING FIBERGLASS TANKS.
2) CONNECT TO EXISTING PIPE SLEAVES IN PLACE.
3) TERMINATE AT ELBOW OR TEE BELOW GRADE, PROTECT FOR FUTURE CONNECTION BY OTHERS.
4) TERMINATE PIPES MINIMUM FOUR (4) FEET OUTSIDE BUILDING FOUNDATION. PROTECT FOR FUTURE CONNECTION BY OTHERS. MARK LOCATION WITH PAINTED STAKE. TYPICAL TEN (10) LOCATIONS.
5) INSTALL ELBOW AND CONNECT TO EACH SIDE POD, 1 PER TANK.
6) ALL BURIED PIPE SHALL BE SCH. 40 PVC.
7) INSTALL SWIRL SEPARATORS, CONNECT U/G DRAIN PIPES AND OVERFLOW DRAIN.
8) SUPPLY AND INSTALL U/G COMMERCIAL GRADE, GATE VALVES AS SHOWN C/W SLIDE VALVE BOX. SUBMIT TYPE AND MODEL FOR APPROVAL BY OWNER. SEE DETAIL "A".
9) ALL DRAIN PIPE REDUCERS TO BE ECCENTRIC TYPE.
10) MATCH INVERT AS NOTED. PIPE WITH NO INVERT NOTED SLOPE= 1/16" PER FOOT IN THE DIRECTION OF FLOW.
11) SEE FSC-2 & FSC-3 FOR SWIRL ELEVATIONS.
SEE SHEET P-13, P-14 & P-15 FOR INDIVIDUAL PIPING DIAGRAMS
LEGEND
TANK WATER SUPPLY
RETURN WATER
DRAIN
WASTE WATER
LOW SOLIDS WATER
FISH PIPE
1
FRY BUILDING 7M LINE UNDERGROUND
OVERALL SYSTEM PIPING PLAN
SCALE 1/16" TO 1'-0" 11"X17"
SCALE 1/8" TO 1'-0" 22"X34"
silk stevens limited
DESIGN & CONSULTING ENGINEERS
35 MAIN STREET
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CANADA E5C 3H9
TEL: (506) 755-3005
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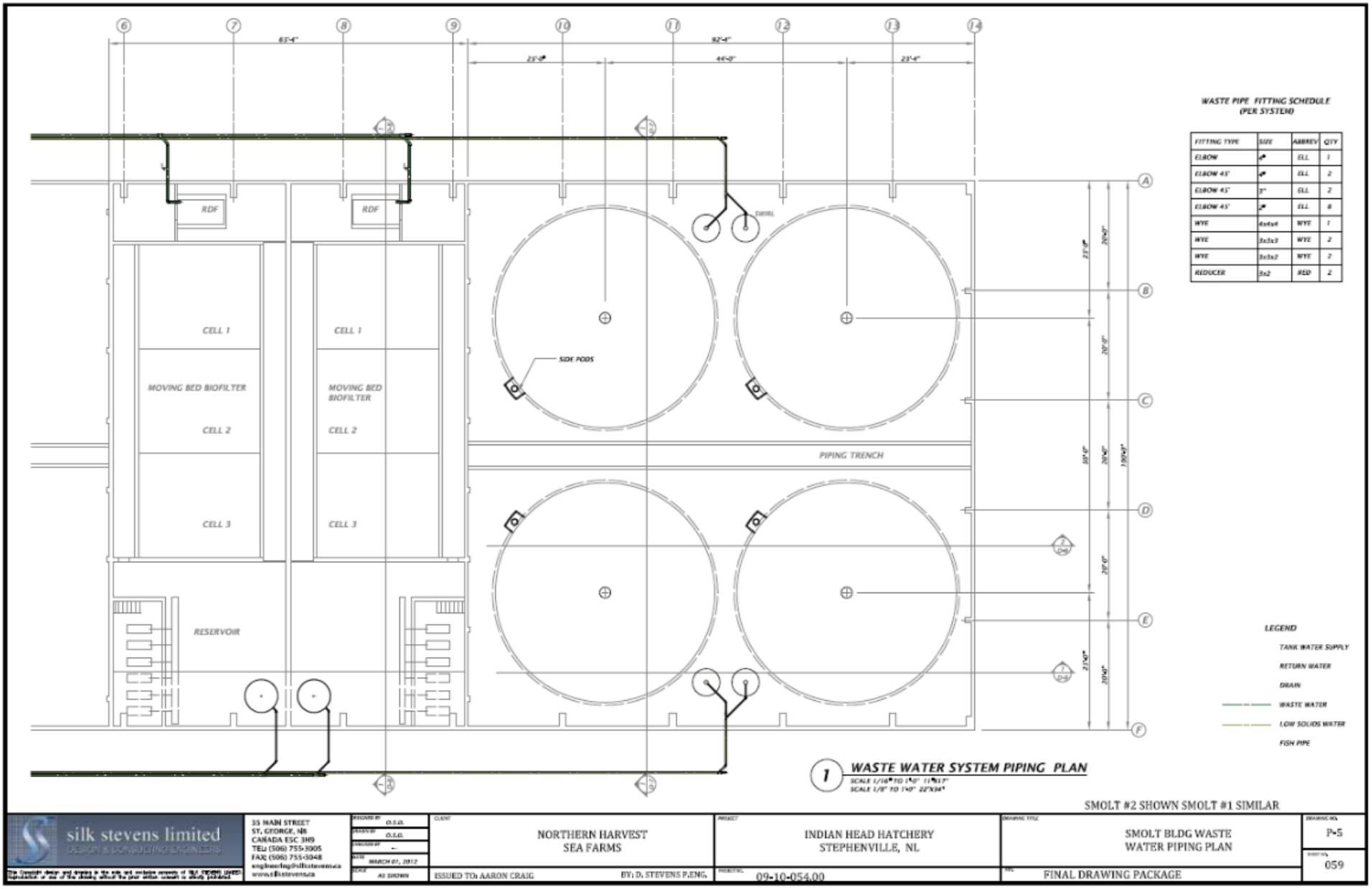
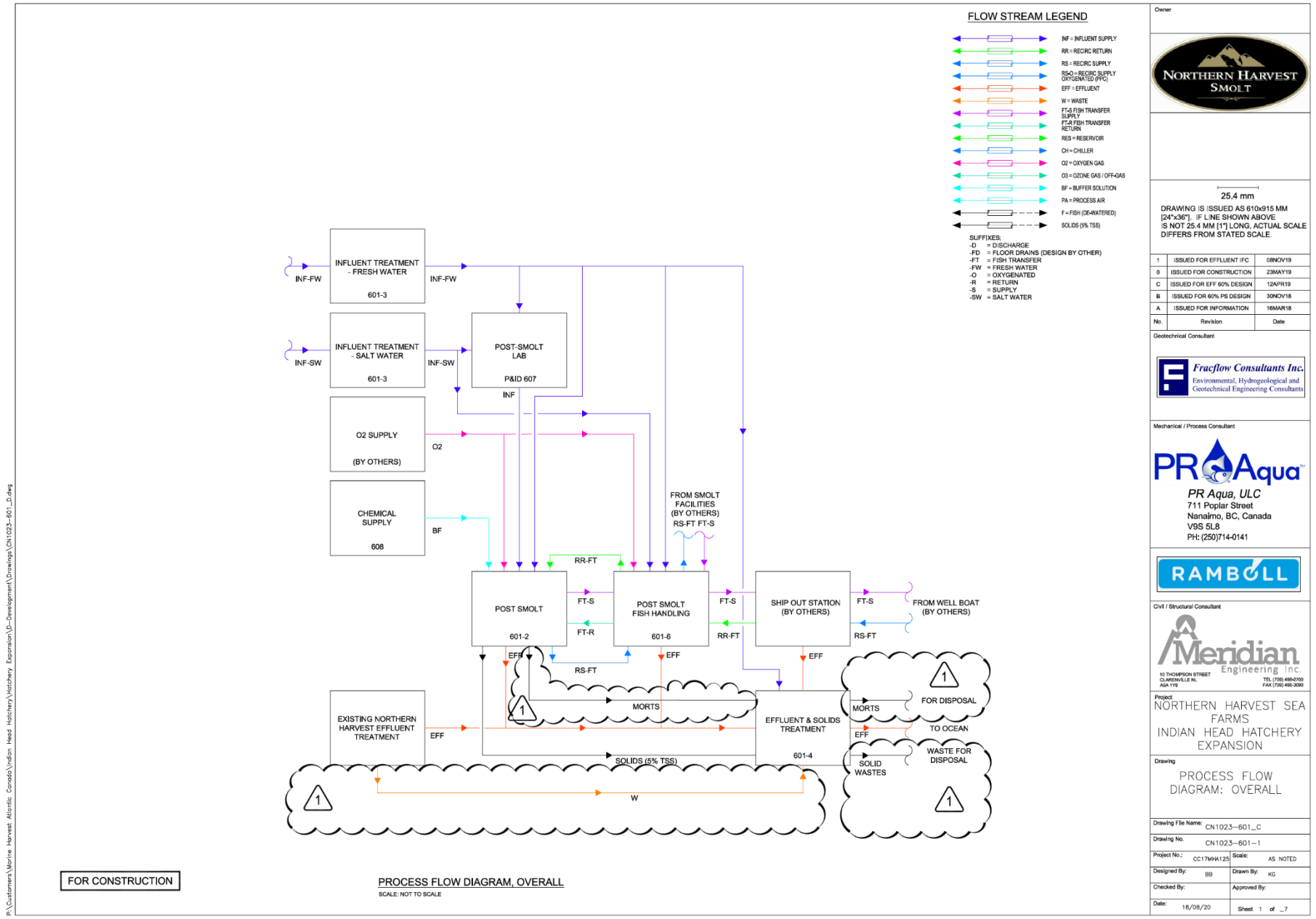
G.S.D.
G.S.D.
MARCH 01, 2012
AS SHOWN
NORTHERN HARVEST
SEA FARMS
ISSUED TO: AARON CRAIG
BY: D. STEVENS P.ENG.
INDIAN HEAD HATCHERY
STEPHENVILLE, NL
09-10-054.00
FRY BUILDING 7METER SIDE
OVERAL SYSTEM PIPING
FINAL DRAWING PACKAGE
P-2
169


6
7
8
9
10
11
12
13
14
65'-4"
92'-4"
25'-8"
44'-0"
23'-4"
A
B
C
D
E
F
RDF
RDF
CELL 1
CELL 1
MOVING BED BIOFILTER
CELL 2
MOVING BED BIOFILTER
CELL 2
CELL 3
CELL 3
RESERVOIR
SIDE PODS
PIPING TRENCH
SWIVEL
WASTE PIPE FITTING SCHEDULE
(PER SYSTEM)
FITTING TYPE | SIZE | ABBREV | QTY
ELBOW | 4" | ELL | 1
ELBOW 45° | 4" | ELL | 2
ELBOW 45° | 3" | ELL | 2
ELBOW 45° | 2" | ELL | 8
WYE | 4x4x4 | WYE | 1
WYE | 3x3x3 | WYE | 2
WYE | 3x3x2 | WYE | 2
REDUCER | 3x2 | RED | 2
LEGEND
TANK WATER SUPPLY
RETURN WATER
DRAIN
WASTE WATER
LOW SOLIDS WATER
FISH PIPE
1
WASTE WATER SYSTEM PIPING PLAN
SCALE 1/16" TO 1'-0" 11"X17"
SCALE 1/8" TO 1'-0" 22"X34"
SMOLT #2 SHOWN SMOLT #1 SIMILAR
silk stevens limited
DESIGN & CONSULTING ENGINEERS
35 MAIN STREET
ST. GEORGE, NB
CANADA E5C 3H9
TEL: (506) 755-3005
FAX: (506) 755-3048
engineering@silkstevens.ca
www.silkstevens.ca
DESIGNED BY D.S.S.
DRAWN BY D.S.S.
CHECKED BY —
DATE MARCH 07, 2012
SCALE AS SHOWN
CLIENT
NORTHERN HARVEST
SEA FARMS
PROJECT
INDIAN HEAD HATCHERY
STEPHENVILLE, NL
DRAWING TITLE
SMOLT BLDG WASTE
WATER PIPING PLAN
DRAWING NO. P-5
SHEET NO. 059
ISSUED TO: AARON CRAIG
BY: D. STEVENS P.ENG.
PROJECT NO. 09-10-054.00
REV. FINAL DRAWING PACKAGE


FLOW STREAM LEGEND
INF = INFLUENT SUPPLY
RR = RECIRC RETURN
RS = RECIRC SUPPLY
RSO = RECIRC SUPPLY OXYGENATED (RFC)
EFF = EFFLUENT
W = WASTE
FT-S FISH TRANSFER SUPPLY
FT-R FISH TRANSFER RETURN
RES = RESERVOIR
CH = CHILLER
O2 = OXYGEN GAS
O3 = OZONE GAS / OFF-GAS
BF = BUFFER SOLUTION
PA = PROCESS AIR
F = FISH (DE-WATERED)
SOLIDS (5% TSS)
SUFFIXES:
-D = DISCHARGE
-FD = FLOOR DRAINS (DESIGN BY OTHER)
-FT = FISH TRANSFER
-FW = FRESH WATER
-O = OXYGENATED
-R = RETURN
-S = SUPPLY
-SW = SALT WATER
INFLUENT TREATMENT - FRESH WATER
601-3
INF-FW
INFLUENT TREATMENT - SALT WATER
601-3
INF-SW
POST-SMOLT LAB
P&ID 607
INF
O2 SUPPLY
(BY OTHERS)
O2
CHEMICAL SUPPLY
608
BF
FROM SMOLT FACILITIES (BY OTHERS)
RS-FT FT-S
RR-FT
POST SMOLT
601-2
FT-S
FT-R
POST SMOLT FISH HANDLING
601-6
FT-S
RR-FT
SHIP OUT STATION (BY OTHERS)
FT-S
RS-FT
FROM WELL BOAT (BY OTHERS)
EFF
RS-FT
MORTS
FOR DISPOSAL
EFFLUENT & SOLIDS TREATMENT
601-4
MORTS
EFF
TO OCEAN
SOLIDS (5% TSS)
SOLID WASTES
WASTE FOR DISPOSAL
EXISTING NORTHERN HARVEST EFFLUENT TREATMENT
EFF
W
1
FOR CONSTRUCTION
PROCESS FLOW DIAGRAM, OVERALL
SCALE: NOT TO SCALE
Owner
NORTHERN HARVEST SMOLT
25.4 mm
DRAWING IS ISSUED AS 610x915 MM [24"x36"]. IF LINE SHOWN ABOVE IS NOT 25.4 MM [1"] LONG, ACTUAL SCALE DIFFERS FROM STATED SCALE.
1 ISSUED FOR EFFLUENT IFC 08NOV19
0 ISSUED FOR CONSTRUCTION 23MAY19
C ISSUED FOR EFF 60% DESIGN 12APR19
B ISSUED FOR 60% PS DESIGN 30NOV18
A ISSUED FOR INFORMATION 16MAR18
No. Revision Date
Geotechnical Consultant
Fracflow Consultants Inc.
Environmental, Hydrogeological and Geotechnical Engineering Consultants
Mechanical / Process Consultant
PR Aqua
PR Aqua, ULC
711 Poplar Street
Nanaimo, BC, Canada
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RAMBOLL
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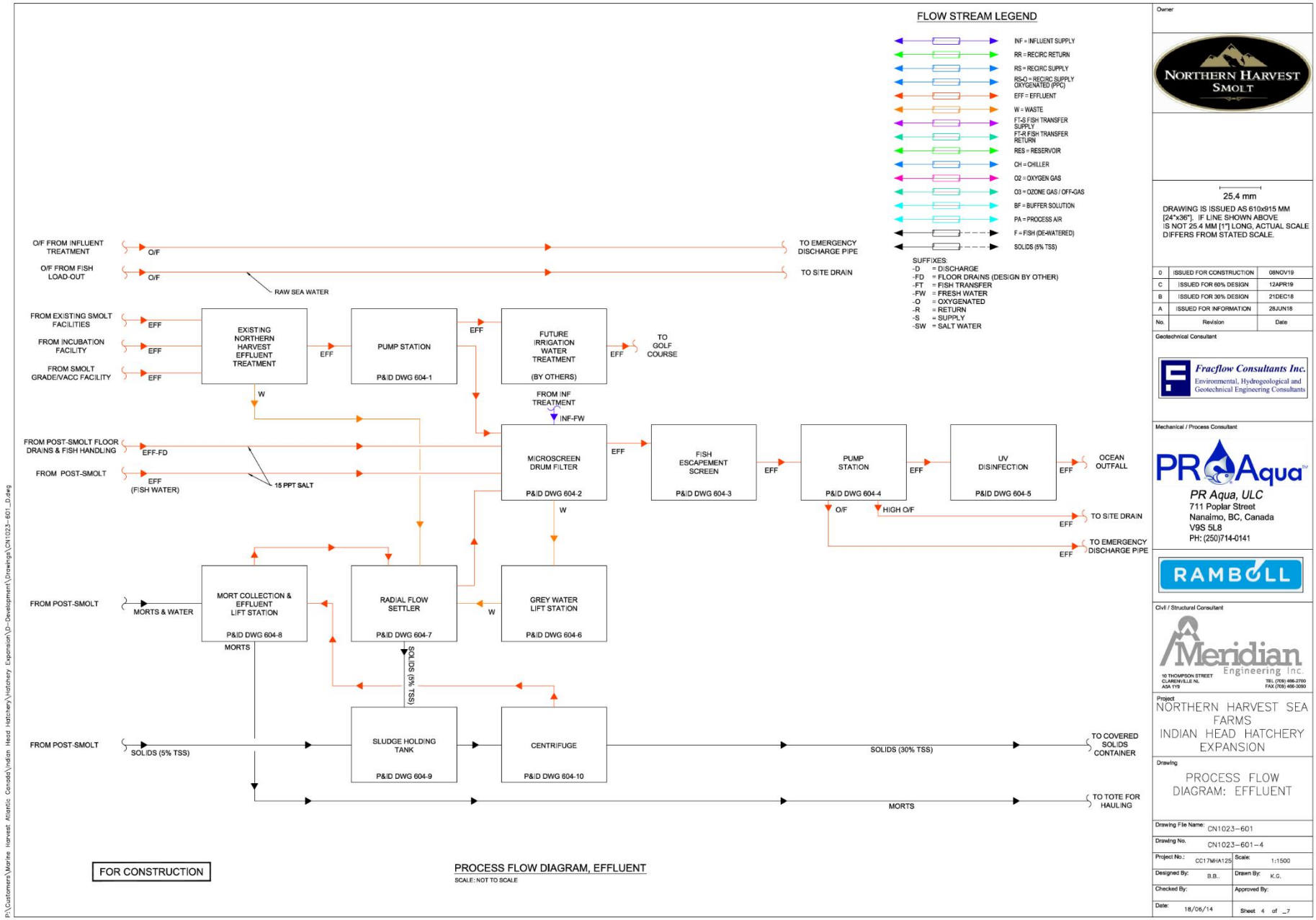
10 THOMPSON STREET CLARENVILLE NL A5A 1Y9
TEL (709) 466-2700 FAX (709) 466-3090
Project
NORTHERN HARVEST SEA FARMS
INDIAN HEAD HATCHERY EXPANSION
Drawing
PROCESS FLOW DIAGRAM: OVERALL
Drawing File Name: CN1023-601_C
Drawing No. CN1023-601-1
Project No.: CC17MHA125
Scale: AS NOTED
Designed By: BB
Drawn By: KC
Checked By:
Approved By:
Date: 18/08/20
Sheet 1 of _7
P:\Customers\Marine Harvest Atlantic Canada\Indian Head Hatchery\Hatchery Expansion\D-Development\Drawings\CN1023-601_D.dwg


FLOW STREAM LEGEND
INF = INFLUENT SUPPLY
RR = RECIRC RETURN
RS = RECIRC SUPPLY
RS-O = RECIRC SUPPLY OXYGENATED (PPC)
EFF = EFFLUENT
W = WASTE
FT-S FISH TRANSFER SUPPLY
FT-R FISH TRANSFER RETURN
RES = RESERVOIR
CH = CHILLER
O2 = OXYGEN GAS
O3 = OZONE GAS / OFF-GAS
BF = BUFFER SOLUTION
PA = PROCESS AIR
F = FISH (DE-WATERED)
SOLIDS (5% TSS)
SUFFIXES:
-D = DISCHARGE
-FD = FLOOR DRAINS (DESIGN BY OTHER)
-FT = FISH TRANSFER
-FW = FRESH WATER
-O = OXYGENATED
-R = RETURN
-S = SUPPLY
-SW = SALT WATER
O/F FROM INFLUENT TREATMENT
O/F FROM FISH LOAD-OUT
O/F
RAW SEA WATER
TO EMERGENCY DISCHARGE PIPE
TO SITE DRAIN
FROM EXISTING SMOLT FACILITIES
FROM INCUBATION FACILITY
FROM SMOLT GRADE/VACC FACILITY
EFF
EXISTING NORTHERN HARVEST EFFLUENT TREATMENT
PUMP STATION
P&ID DWG 604-1
FUTURE IRRIGATION WATER TREATMENT
(BY OTHERS)
TO GOLF COURSE
W
FROM INF TREATMENT
INF-FW
FROM POST-SMOLT FLOOR DRAINS & FISH HANDLING
EFF-FD
FROM POST-SMOLT
EFF (FISH WATER)
15 PPT SALT
MICROSCREEN DRUM FILTER
P&ID DWG 604-2
FISH ESCAPEMENT SCREEN
P&ID DWG 604-3
PUMP STATION
P&ID DWG 604-4
UV DISINFECTION
P&ID DWG 604-5
OCEAN OUTFALL
O/F
HIGH O/F
TO SITE DRAIN
TO EMERGENCY DISCHARGE PIPE
FROM POST-SMOLT
MORTS & WATER
MORT COLLECTION & EFFLUENT LIFT STATION
P&ID DWG 604-8
MORTS
RADIAL FLOW SETTLER
P&ID DWG 604-7
GREY WATER LIFT STATION
P&ID DWG 604-6
SOLIDS (5% TSS)
FROM POST-SMOLT
SOLIDS (5% TSS)
SLUDGE HOLDING TANK
P&ID DWG 604-9
CENTRIFUGE
P&ID DWG 604-10
SOLIDS (30% TSS)
TO COVERED SOLIDS CONTAINER
MORTS
TO TOTE FOR HAULING
FOR CONSTRUCTION
PROCESS FLOW DIAGRAM, EFFLUENT
SCALE: NOT TO SCALE
Owner
NORTHERN HARVEST SMOLT
25.4 mm
DRAWING IS ISSUED AS 610x915 MM [24"x36"]. IF LINE SHOWN ABOVE IS NOT 25.4 MM [1"] LONG, ACTUAL SCALE DIFFERS FROM STATED SCALE.
0 ISSUED FOR CONSTRUCTION 08NOV19
C ISSUED FOR 60% DESIGN 12APR19
B ISSUED FOR 30% DESIGN 21DEC18
A ISSUED FOR INFORMATION 28JUN18
No. Revision Date
Geotechnical Consultant
Fracflow Consultants Inc.
Environmental, Hydrogeological and Geotechnical Engineering Consultants
Mechanical / Process Consultant
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PR Aqua, ULC
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Project
NORTHERN HARVEST SEA FARMS
INDIAN HEAD HATCHERY EXPANSION
Drawing
PROCESS FLOW DIAGRAM: EFFLUENT
Drawing File Name: CN1023-601
Drawing No. CN1023-601-4
Project No.: CC17MHA125
Scale: 1:1500
Designed By: B.B.
Drawn By: K.G.
Checked By:
Approved By:
Date: 18/06/14
Sheet 4 of _7
P:\Customers\Marine Harvest Atlantic Canada\Indian Head Hatchery\Hatchery Expansion\D-Development\Drawings\CN1023-601_D.dwg

5.4.2 Effluent Discharge

The effluent is pumped underwater before discharging to an ocean outfall. The ocean outfall is designed in accordance with the ECC Guidelines. The effluent quality monitoring program is designed around the Global Aquaculture Alliance's (GAA) Best Aquaculture Practices (BAP) Hatchery Standard.

APPENDIX A – FEED BAG MANAGEMENT – STEPHENVILLE HATCHERY

Feed Bag Management – Stephenville Hatchery

Application & Purpose

- To standardize feed bag management for all freshwater operations
- To ensure continued environmental stewardship and proper disposal of materials from site
- To maintain compliance with regulatory authorities, specifically AP 16 – Feed Bag Handling

Responsibility and Authority

Feed bag management procedures are the responsibility of all staff.
Site staff are responsible for ensuring no loss of feed bags during transport and appropriate disposal.

Description

All feed bags shall be disposed of according to the approved procedures outlined below.

1. **Collect** empty 20kg feed bags and roll them up into 1 empty 20Kg feed bag or empty 1 tonne feed bags into 1 empty 1 tonne feed bag, as applicable.
2. **Secure** collected feed bags in centralized waste dumpster. Ensure that bags are deposited to the dumpster to prevent being blown by wind and conditions during transport.
3. **Transport** to Bay St George Regional Waste Management Facility when a full dumpster load has been collected.

Proper securing and disposal of feed bags is a condition of our licence. If we do not comply, we could have our licence suspended or be issued a fine.

APPENDIX B – ESCAPE PREVENTION AND RESPONSE PLAN: FRESHWATER HATCHERY OPERATIONS

Title: Escape Prevention and Response Plan-
Freshwater Hatchery Operations

SOP Number: FW017

Purpose & Authority:

Internal: This procedure describes the methods used to prevent and respond to escapees at/ from freshwater sites. These plans conform to the requirements of the Global Aquaculture Alliance's (GAA) Best Aquaculture Practices (BAP) Hatchery Standard.

Regulatory Authorities: To maintain compliance with regulatory authorities, specifically: AP 17 Public Reporting (Newfoundland) and New Brunswick Aquaculture Act and Regulations.

One MOWI: Escape Prevention and Mitigation

Responsibilities:

All hatchery staff are responsible for understanding and following this procedure

Hatchery Managers are responsible for providing training or coordinating training to ensure that all staff are properly trained on these procedures, including an annual drill, and annual (minimum) Activity-Based Risk Assessments.

References:

SOP_ FW018 Escape During Truck/Wellboat Loading, Transport, and Unloading

Escape Response Flow Chart for Freshwater: Fish Escape Response Flowchart FW Jan 29 2021 corrected.pdf

Definitions and Abbreviations:

MCE= MOWI Canada East
Site= a bio-secure area indicated by a gate and/or signage; may be indoor and/or outdoor. A Hatchery is classified as a Site.

Equipment and Supplies:

Hatchery Site Fish Spill Response Kit: at minimum, the following contents are required:

- Enough TMS on-site to euthanize a truck if required
- 1 seine net
- Garbage bags (minimum 100)
- 1 shovel (not wooden)
- 1 rake (not wooden)
- dip nets (minimum 2)
- Large 20' x 20' tarp (minimum)
- garbage cans (minimum 6)
- High visibility vests (minimum 4)
- Headlamps (minimum 4)
- Rubber gloves (minimum 4 pairs)

Form(s):

MOWI Escape and Investigation Report

Procedure:

1. General Requirements

- Equipment design, installation, use and maintenance must prioritize escape prevention
- It is the responsibility of the person in charge of the site at the time of the escape to take all necessary steps to prevent further loss and to ensure all of the procedures below are adhered to

2. Escape Prevention

a) **Equipment and Operations:**

- **Tank Dome Covers**
  - Covers and domes are designed to prevent a predator from accessing the fish
  - The covers and domes are subject to random inspections
  - Site Staff are responsible for conducting repairs as soon as they are discovered
  - Condition, observations and repairs are logged
  - Materials used to conduct repairs, as well as those used for maintenance of tanks are to meet or exceed the original material

- **Screens**
  - Where applicable for licences to operate or for BAP certification, the hatchery should have a minimum of 3 screens in the water flow effluent system
  - Screens are to be inspected daily

- Inspections with any findings are recorded on the site's daily log

b) Training:

- Written protocols for all regular and special activities are maintained at each freshwater site
- All staff must complete their online fish escape training on MOWI Academy
- Staff are familiar with fish husbandry practices that minimize the potential of fish escape
- Staff shall receive training specific inspection and maintenance of required screens and to this procedure

3. Escape Response

Refer to the Fish Escape Response Flow Chart for Freshwater for the steps to take in the event of a suspected or an actual escape

a) Response Equipment (in the form of a packed, ready-to-use kit):

- Active hatchery sites must have a minimum of 1 complete response kit
- Store kits in an easily accessible location known to all workers and contractors.
- Store contents in labelled portable container(s) suitable to hold contents of kit.
- Refer to SOP_ FW018 Escape During Truck/Wellboat Loading, Transport, and Unloading procedure for the list of items in the kits

b) Responding to a Suspected Escape:

I. **If fish are found outside screens** (e.g., in side box, swirl, drum filter, etc):

- Contain the fish by applying changes or fixing the problem as soon as possible, making temporary arrangements if required to prevent further loss
- Contact the Site Manager immediately
- Investigate the situation with the Manager as instructed
- Record findings and actions in the site logbook

II. **Finding fish outside the tanks**

- Fish may jump outside tanks. When a fish is noticed on the ground, collect it immediately, euthanize it if it's still alive, and dispose in a designated container
- Should you witness a live fish being taken away by a predator (bird, etc.) report the incident to the Site Manager as this constitutes an escape
- Follow the Internal Reporting instructions outlined in Section 4 below

c) **Responding to an Actual Escape:** An actual escape is a circumstance where at least one fish has physically been seen exiting or observed outside of containment.

I. **If one or more fish has escaped containment:**

- Immediately notify coworkers for assistance (e.g., call out or radio) and
- Identify the cause of escape to prevent any more fish from escaping (e.g., equipment failure, predator, or human error)
  - If the escape was caused by equipment failure, immediately cease operations
  - Immediately stop the flow of fish
  - Contain the fish
  - Rectify the problem at once
  - Refer to the Internal Reporting Section (4) below

4. Internal Reporting

Once certain that the escape is under control, the person in charge or individual who discovered the escape will:

1. Contact the Site Manager
2. Contact the Freshwater Director [redacted] The Freshwater Director will inform the rest of the Crisis Management Team and contact the Sustainability Department
3. Complete the MCE Escape and Investigation Report
4. Live fish taken offsite by a predator (e.g., birds) are to be reported to the Crisis Management Team immediately upon discovery. Fish found in the settling pond or suspected to have reached the settling pond must also be reported to the Crisis Management Team

5. Record Keeping

- Records shall be maintained on site and kept available for inspection and shall contain the following information:
  - Origin of fish, transfer (if applicable) and introduction of fish
  - Mortality; collected on a routine and frequent basis
  - MOWI Escape and Investigation Report
  - Inspection records of screens
  - Training of site staff
- If an escape occurs, keep all accurate and detailed records of all events leading up to the discovery of the escape, response process and all the communications related to the event

Summary of Revisions and Reviews:

Date	Section(s)	Description of Change(s) and/ or Review	Initials of Editor
19 Sep 2024	All	Updated SOP from 2023; minor revisions	MI

APPENDIX C - ESCAPE DURING TRUCK/WELLBOAT LOADING, TRANSPORT, AND UNLOADING

Title: Escape During Truck/Wellboat Loading, Transport, and Unloading

SOP Number: FW018

Purpose & Authority:

Internal: This procedure outlines the methods used to prevent and respond to escapes during transports.

Regulatory Authorities: To maintain compliance with regulatory authorities, specifically: AP 17 Public Reporting (Newfoundland) and New Brunswick Aquaculture Act and Regulations.

One MOWI: Escape Prevention and Mitigation

Responsibilities:

The Logistics Manager, vessel captain/ skipper or appointed representative is responsible for visually inspecting and documenting that all hose and pipe connections are in place and properly secured during boat loading

Transport truck operators are responsible for familiarizing themselves with this procedure, ensuring that this procedure is in the truck during transport, operating their vehicle diligently, reporting incidents or near misses, and ensuring that a complete Transport Escape Response kit is stored in their truck during transport.

Freshwater staff are responsible for ensuring that they are trained in these response procedures, bringing the appropriate Fish Spill Response Equipment, and wearing the appropriate PPE including high visibility vests.

References:

SOP_FW017 Escape Prevention and Response Plan-Freshwater Hatchery Operations

Escape Response Flow Chart for Freshwater: Fish Escape Response Flowchart FW Jan 29 2021 corrected.pdf

Definitions and Abbreviations:

MCE= MOWI Canada East
Site= a bio-secure area indicated by a gate and/or signage; may be indoor and/or outdoor. A Hatchery is classified as a Site.

Equipment and Supplies:

Fish Escape Prevention Equipment:

- Fish Counters
- Flex hose
- Secondary containment nets

Response Equipment

Truck Transport Escape Response Kit:

- 1 Seine net
- Garbage bags
- 1 large 20x20 tarp
- Net bag (minimum 1)
- High visibility vests
- High visibility caution tape (1 roll)
- headlamps
- Rubber gloves
- Folding pylons

Eggs Transport Response Kit (if applicable):

- Headlamps
- High visibility vests
- Rubber gloves
- Silt fencing to catch egg spillage if it occurs
- Folding shovel
- Folding pylons
- High visibility caution tape
- Garbage bags
- Aquarium sized dip nets

Hatchery Site Equipment and Supplies

Hatchery Site Fish Spill Response Kit: at minimum, the following contents are required:

- Enough TMS on-site to euthanize a truck if required
- 1 seine net
- Garbage bags (minimum 100)
- 1 shovel (not wooden)

- 1 rake (not wooden)
- dip nets (minimum 2)
- Large 20' x 20' tarp (minimum)
- garbage cans (minimum 6)
- High visibility vests (minimum 4)
- Headlamps (minimum 4)
- Rubber gloves (minimum 4 pairs)

Form(s):

MCE Escape and Investigation report

Procedure:

1. General Requirements

• All freshwater sites must be prepared to respond to any fish spill too large to be handled by the truck crew alone and therefore, site staff must be prepared to respond in a timely manner • The response equipment listed above must be stored in the form of a kit and be ready to be quickly transported to the incident site

2. Fish Escape Prevention:

• Secondary containment nets: o Secondary containment nets must be used around pipes during fish transfers to prevent fish loss o These must be inspected and well-secured
• Equipment used to move or count fish must be inventoried at each site o Refer to Appendix 1 – Fish Counting Equipment Inventory Control for the location and inventory of counters o Fish counting equipment should be stationary when possible with lines checked prior to moving them
• Setting up fish counters for moving fish o Flex hose must be used from a pump to a counter, as well as from the counter to the tank or truck o Flex hose and camlocks must be size appropriate for the fish and properly secured to one another

3. Fish Escape Response:

Refer to the Fish Escape Response Flow Chart for Freshwater for the steps to take in the event of a suspected or an actual escape

a) Fish Spill Response During Transport

- If needed, call the nearest hatchery for assistance
- Act only is safe to do so
- Spill near any waterways must be contained immediately using a seine net or equally efficient method
- Call for assistance as soon as possible (refer to contact list in Section 4b below)

b) Fish Spill Response Corrective Actions

- If fish escape, all operations will be stopped
- Determine root cause of escape
  - If hose or coupling is defective, immediately repair or replace
  - If tank or box pipe fitting is defective, it will be taken out of service until repairs are made
  - If fish remain to be transferred and proper repair cannot be made immediately, then a safety net must be secured in a fashion to prevent fish loss
  - Number of fish escapees will be recorded on Smolt Manifest and reported to Freshwater Director, Logistics Manager, Freshwater Hatchery Manager, and the Saltwater Site Manager
  - Complete the MCE Escape Investigation Report

4. Reporting

a) Once the fish spill is completely secured:

- Refer to the Contact list (Section 4b) below
- The truck driver is responsible for calling if the spill occurred during transport, while the Site Manager is responsible for calling if the spill took place prior to leaving the hatchery
- A message is not considered a contact. Continue attempting to contact until you have physically spoken with a contact person
- Be ready to disclose the following information:
  - Your location
  - Estimated number of escapees
  - Which hatchery the fish came from
  - Current situation conditions
  - A list of equipment/ supplies needed to secure the situation if not already available at the site of the incident

b) Contact List:

1st call: Contact the Freshwater Director [redacted] who will contact the Crisis Management Team and Sustainability Department

2nd call: Logistics Manager [redacted]

3rd call: Contact the Hatchery Manager

5. Record Keeping

- Make notes of the events preceding and following the incident
- Have all relevant manifests available
- Complete the MCE Escape and Investigation report

Summary of Revisions and Reviews:

Date	Section(s)	Description of Change(s) and/ or Review	Initials of Editor
19 Sep 2024	All	Updated SOP from 2023, Changed title from "Escape During Truck Transport" to "Escape During Truck/Wellboat loading, Transport, and Unloading" Added reference to Appendix 1 for the inventory and location of fish counters	MI

Appendices

Appendix 1 – Fish Counting Equipment Inventory Control

Freshwater Site	Equipment Type	Area	Inventory	Comments
Stephenville	Vaki	Fry	1	An area-specific Vaki is used for fish counts from tank to tank and for grading; as well as for fish counts onto trucks for CAR transfers and smolt transfers. In addition, an automated vaccination machine counts the fish as they are vaccinated.
	Vaki	Smolt	1	An area-specific Vaki is used for fish counts from tank to tank and for grading; as well as for fish counts onto trucks for CAR transfers and smolt transfers. In addition, an automated vaccination machine counts the fish as they are vaccinated.
	Vaki	Post smolt	1	An area-specific Vaki is set up on an outside platform and used for fish counts on to trucks during smolt transports. In addition, an automated vaccination machine counts the fish as they are vaccinated.

APPENDIX D – NL SALMONID CODE OF CONTAINMENT

APPENDIX 4: ESCAPE REPORT

This form or template of information is to be completed and faxed to: 709-772-3628 or emailed to DFO.NLITC-CITTNL.MPO@dfo-mpo.gc.ca with the Aquaculture Management, Ecosystems Management Branch, Department of Fisheries and Oceans, within 72 hours of an escape incident.

Site Licence #: _____

Location: _____

Licensee: _____

Contact Name: _____

Telephone: _____

E-mail: _____

Details of the Escape

Date/Time of Occurrence: _____

Cause of Escape: _____

_____

_____

_____

Species/Strain of Fish Escaped: _____

Number of Cages Subject to Loss: _____

Estimated Number of Fish Escaped: _____

Average Size of Fish Escaped: _____

Amount of Time from Escape Event to Deployment of Recapture Gear: _____

Additional Notes/Comments:

Post Escape/Incident Review

All escapes or incidents with potential for escape shall be reviewed by FFA and DFO to determine if the incident(s) require new amendments to the Code of Containment or the adoption of other management strategies to prevent such incidents from happening again.

Licensee shall submit the attached **Escape/Incident Report** once the site involved has been secured and any associated recapture efforts have been concluded. FFA and DFO will conduct a review of the escape/incident as follows:

- The **Escape/Incident Final Report** shall be reviewed to determine:
  - Cause of the escape/incident;
  - Whether the escape/incident was preventable;
  - Level of remedial actions taken by the Licensee;
  - Success of recapture effort (if any); and
  - Appropriateness of proposed future preventative measures for that type of incident.
- History of site and Licensee regarding escapes and incidents.
- Assessment of site documentation required by the Code of Containment (Weekly Site Surface Inspection/Net Inspection).
- Review of the previous Code of Containment Inspection undertaken by FFA.

Upon completion of the review, the following steps will be undertaken:

1) If it is determined that the Licensee has performed its due diligence with regards to escape prevention, mitigation and response and the incident was not preventable, then no further action is required.

2) If it is determined that the Licensee's proposed escape/incident prevention measures are inadequate, the Licensee shall be required to resubmit new prevention measures for reevaluation.

3) If it is determined that the Licensee has not demonstrated due diligence with regards to the Code or has a history of similar escapes, FFA may take action under the *Aquaculture Act*.

4) If it is determined that escapes of a similar nature have occurred industry-wide, FFA/DFO may propose changes to the Code of Containment to address the specific area of concern and present it to the Code of Containment Liaison Committee for inclusion into the Code.

All escape incidents or incidents that may have led to an escape will be identified in the Annual Compliance report, including what was done to prevent future escapes of a similar nature.

Escape/Incident Final Report

Incident Description:

_____

_____

_____

Date of Incident:

_____

Identified Causes of the incident:

_____

_____

_____

Escape Response Efforts:

_____

_____

_____

Date	Gear Deployed	Numbers Captured

28

Follow-up Measures to Prevent Future Escapes:

_____

_____

_____

_____

_____

29

APPENDIX E – ENVIRONMENTAL EMERGENCY RESPONSE PLAN

Environmental Emergency Response Plan

Prepared By:

Stephenville Hatchery

Version 5.0

Doc. ID #	Revision	Date	Responsibility
		November 15, 2024	Sustainability Division

MOWI Canada East (MCE) has developed responses to specific emergency situations as presented here. This response plan will be posted on each site and be available to provide directions to staff in these circumstances.

1.0 Objective

The objective of this plan is to guide responses in the event of environmental emergencies. Environmental Emergencies.
All staff will have an emergency contact list on all sites and will be briefed on emergency response procedures for all emergencies.

Environmental emergencies trigger the MCE Incident and Crisis Management System (ICMS). Initiation of the ICMS leads to notification of the appropriate authorities and implementation of appropriate response plans and contingencies.

2.0 Environmental Emergency Contacts

Environmental Emergency Agencies Call List:

Canadian Coast Guard – Environment and Climate Change Canada **- Environmental Emergencies Spill Response Line**	**1 800 563-9089**
Regional Aquaculture Coordinator, DFO	**709-772-6674**
Conservation and Protection Supervisor, Fishery Officer, DFO	**(709) 279-7850 or (709) 277-7391 (cell)**
Senior Officer, Preparedness Environment and Climate Change Canada	**709-772-4285**
Emergency Response Coordinator, Canadian Wildlife Services	**902-426-6405**
Director Aquaculture Development, Fisheries, Forestry and Agriculture	**1-709-292-4111**
Director Aquatic Animal Health, Fisheries, Forestry and Agriculture	**1-709-729-6872**
Assistant Deputy Minister, Fisheries and Aquaculture, Fisheries, Forestry and Agriculture	**1-709-729-3765**

MCE Emergency Management Team:

Position	Name	Cell Phone Number
Managing Director (Team Leader)		**Contact information redacted**
Development & Environmental Compliance Director		**Contact information redacted**
Processing Manager		**Contact information redacted**
Fish Health Manager		**Contact information redacted**
Salt Water Production Director		**Contact information redacted**
Freshwater Production Director		**Contact information redacted**

Appendix E-2

Managing and Mitigating Risks from Surface Contaminates to the Mowi-East Well Fields

Fracflow Consultants Inc.
Environmental, Hydrogeological and
Geotechnical Engineering Consultants

MOWI®

TECHNICAL MEMORANDUM

TO: Aaron Bennett FFC-NL-3113-071

FROM: Fracflow Consultants Inc.

DATE: February 20, 2024

SUBJECT: Managing and Mitigating Risks from Surface Contaminates to the MOWI-East Well Fields

1.0 INTRODUCTION

The freshwater groundwater supply for the MOWI-East fish hatchery (NHSL) is provided by two well fields (**Figure 1**). The first or original well field (Well Field 1), located immediately north of the NHSL fish hatchery, consists of two 200 mm diameter water supply production wells (HW1 and HW2) that were constructed in 2010 and one 250 mm water supply production well (HW3) that was constructed in 2019. The second field, Well Field 2, consists of one 200 mm (MHPW1) and two 250 mm diameter (MHPW2 and MHPW4) water supply production wells with the final two wells being completed in 2019. A third well field, a saline water production well field, is located on the shore of Bay St. George and is not yet operational or complete. This saline water well field consists of two barrier wells and two production wells with the 3D model showing that a third barrier well is required to block the freshwater flow to the saline water production wells. **Table 1** provides the relevant details of well diameter, screen depth, depth to water and nominal well yield.

The freshwater aquifer was found to consist of high permeability sands and gravels to depths of up to 80 m, underlain by a carbonaceous bedrock. The vertical overburden column included a low permeability paleo-surface in some areas at approximately 5 to 6 m below ground surface which impedes local groundwater recharge and creates a perched water table condition over the area that is overlain by an extensive marsh or bog area. Layers of clay were intersected at depths of approximately 70 m in the new freshwater well field and at approximately 35 m of depth in the saline water well field.

The continuity of the paleo-surface under the marsh area is unknown. In the area to the west of Well Field 1, where the airport was constructed, the marsh or bog layer has been removed and a perched water table does not exist in that area. The paleo-surface layer is not expected to exist below the various perched ponds in the immediate aquifer area but the pond sediment layer is expected to have low permeability.

The areas in which the existing freshwater well field (Well Field 1) and the new freshwater well field (Well Field 2) are located have been subjected to significant military activities and commercial/industrial development. However, repeated water sampling on a quarterly basis has not shown any obvious groundwater chemistry impacts from those activities in the well field areas.

Potential risks to the two well fields from normal surface release of contaminates are considered in terms of known temporary sources, primarily due to accidents during truck transport of hydrocarbons and/or septic tank waste solids and fluids. Given the proximity of the well fields to the airport runway approaches, a third risk factor would consist of a plane crash on the bog area at or close to the well fields or into Muddy Pond which is close to Well Field 2. All three potential sources will have a finite volume of potential contaminates, measuring in several thousand litres up to 20,000 L. The worst case scenario would be (1) a spill of hydrocarbons on Highway 490 adjacent to production wells MHWP1 or MHWP4, (2) a septic tank truck spill along the gravel road that passes MHWP1 and MHWP2, and (3) a plane crash into Muddy Pond or onto the bog area near either of the two well fields.

2.0 HYDRAULIC GRADIENTS AND DEPTH TO WATER LEVELS

Table 1 shows the water table levels under pumping conditions at Well Field 1 and non-pumping conditions at Well Field 2. The water table levels at Well Field 2 are located approximately 18 to 19 m below ground surface. The hydraulic head contours in **Figure 2,** computed using a 3D flow and transport model and calibrated with the field measurements of water levels in approximately 28 monitoring wells, show that there is a fairly uniform northeast to southwest hydraulic gradient of 0.004 to 0.006. Most of the ponds in this area are perched. Well Field 2 is located between 150 and 400 m east to southeast of the Muddy Pond shoreline.

Figure 2 shows that the model simulation that was completed to evaluate what impact changing the water levels in the three source ponds would have on the groundwater system that supplies the existing well fields. The model confirms that Muddy Pond and Noels Pond both have very low permeability pond sediments that produce a perched pond condition. Muddy Pond and Noels Pond, while both ponds do provide limited recharge to the aquifer, have little to no impact on the underlying water table elevations. This is confirmed by the actual water level measurements in three nearby monitoring wells (BH2, MW1 and NSW1-S) and other monitoring wells (**Figure 3**) where the water level in Muddy Pond and Noels Pond are approximately 21 m above mean sea level while the average non-pumping water levels/hydraulic heads in the underlying aquifer ranges from 11 to 13 m elevation. Changes in the water levels in Muddy Pond and in Noels Pond will have no significant negative impact on the groundwater resources that can be removed from the granular aquifer. However, a contaminate release in either pond could potentially have some impact on the water quality in Well Field 2.

3.0 CONTAMINATE PATHWAYS AND TRAVEL TIMES

Contaminates in the 3D model were released at the top of the first saturated layer and allowed to travel down through the saturated zone to the production zone in each well. This requires the contaminate to have enough volume in the release to generate unsaturated flow vertically downward in the overburden above the water table, a distance of approximately 18 to 24 m, to the water table and then approximately 25 to 30 m down to the level of the production zone or the well screened level and then to migrate variable distances to the specified production well. The model shows the pathways and travel times (**Figures 4 and 5**) that are followed by contaminates that are released at different locations along Highway 490 and along the gravel road that runs on the west side of the MHPW1 and MHPW2 production wells. Travel times from various release areas are measured in days to years. The same travel times will be required for a hydrocarbon release from a plane crash in either Muddy Pond(**Figure 6**) or on the bog area.

4.0 MITIGATION STEPS REQUIRED TO MINIMIZE IMPACTS ON THE NHSL WATER SUPPLY

The steps required to mitigate the impacts of a surface released contaminate on the freshwater water supply from the existing production wells and on the proposed saline water production wells include:

1. Remedial steps have to be taken immediately once a spill has been reported or detected using trash pumps or vacuum trucks to remove any pooled liquid that contains contaminates and this contaminated liquid has to be disposed of at a licensed facility.

2. If the contaminate release takes place on Highway 490 within a 300 to 400 m distance from MHPW1 or MHPW4 and if the ditch is filled with moving water, both MHPW1 and MHPW4 must be shut down immediately.

3. Once MHPW1 and MHPW4 have been shut down, MHWP2 can continue to operate at a 1,500 to 1,800 Lpm rate while the contaminate release is being remediated.

4. The additional make-up water needed to supply the fish hatchery can be obtained by increasing the withdrawal rates for HW1 and HW3 to the maximum withdrawal rates and by turning HW2 back on to produce at a rate that does not draw the water level in either of the three wells down to within 3 m of the top of each pump.

5. Similarly, if the contaminate release takes place on the gravel road that is located immediately west of MHPW1 and MHPW2, both MHPW1 and MHPW2 must be shut down immediately and remedial activities must be immediately initiated.

6. Once MHPW1 and MHPW2 have been shut down, MHPW4 can continue to operate at its full discharge rate for 30 days. The additional make-up water can be provided as described in item 4 above.

7. If the spill results from a plane crash into Muddy Pond, the groundwater quality impacts will be limited. In that case, Well Field 2 and Well field 1 can operate at their normal withdrawal rates. However, the withdrawal rates for the production wells in Well Field 2 should be reduced if the fish hatchery can operate on a lower water supply volume.

8. If the contaminate release results from a plane crash on the bog area within 400 m of either well field, then the production well withdrawal rates for the well field that is closest to the plane crash should be reduced until the site has been remediated.

9. If a contaminate release occurs within 300 m of the saline water well field, then the two saline water production wells, if operating, must be shut down immediately. If the fish hatchery can operate without a saline water supply, the two barrier wells should also be shut down while the site is being remediated. If the fish hatchery requires a saline water supply and if the third barrier well or the fifth well has been constructed and is operational, then the saline water production wells can operate at 50% capacity while the barrier wells are operating at full capacity.

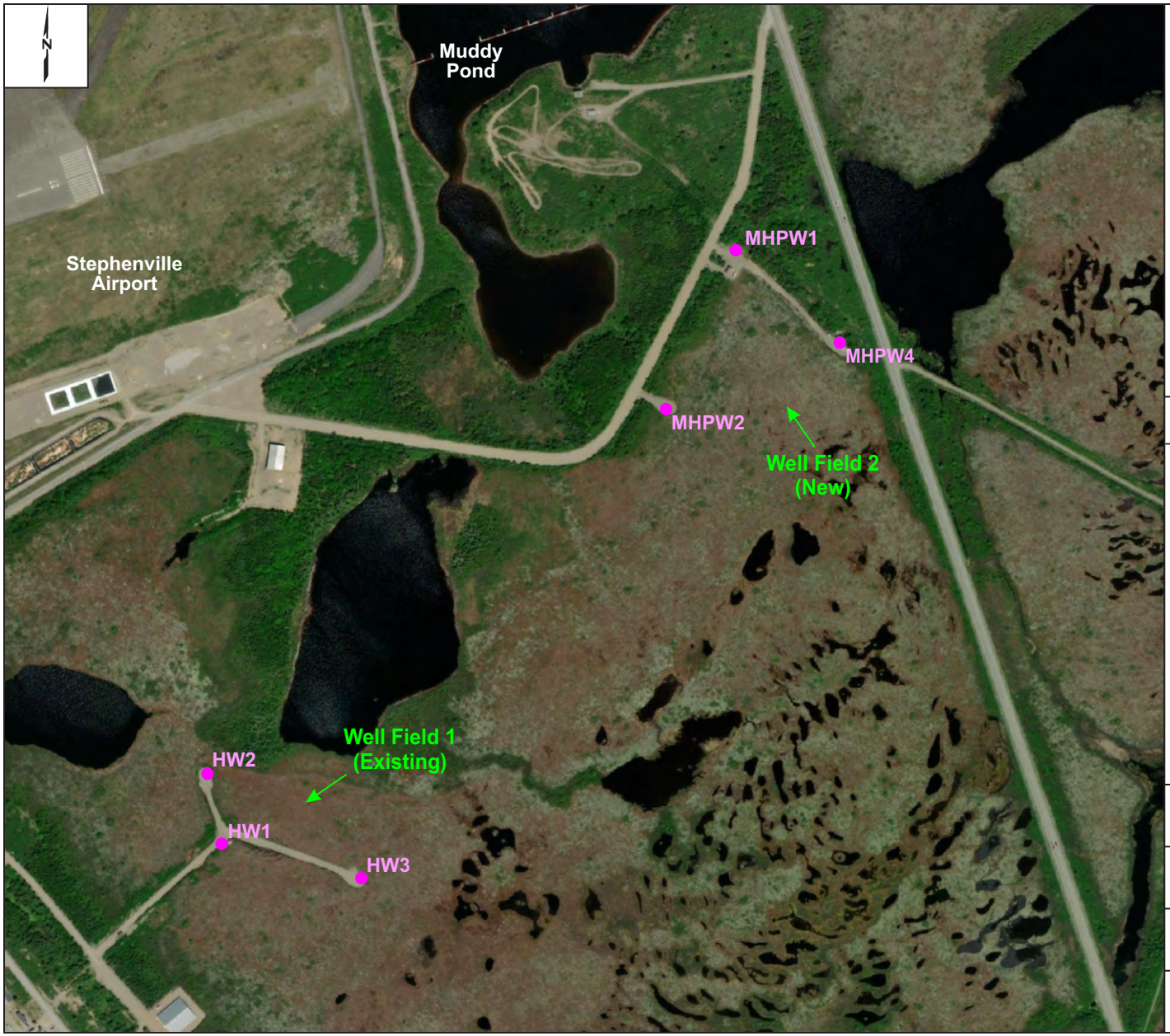
10. Remediation of a contaminate release at the surface near Well Field 2 must recognize that there is approximately 20 m or so of unsaturated overburden between the surface and the water table that the contaminate has to migrate through to reach the water table before it can migrate towards either of the operating production wells. Remedial activities will most likely consist of recovery and removal of any existing liquid contaminates, followed by excavation of any contaminate impacted soil to depths of approximately 3 to 4 m. The excavation should then be backfilled with buried perforated pipe, and encased in crushed stone which in the case of a hydrocarbon spill would be subjected to negative soil vapour pressures to remediate residual, vapour and dissolved hydrocarbon phases. One or more monitoring wells will have to be drilled into the middle of the spill into the water table and pumped and sampled to monitor for hydrocarbons.

11. In the event the contaminate release is a liquid and solid septic waste material, the same approach of recovery and disposal of the liquid and solid material, followed by excavating the impacted soil to 3 to 4 m of depth will be required. In this case the perforated pipe placement would be used to inject a solution that could destroy any bacteria and viruses that might still populate the soil. Several monitoring wells and a 150 mm production wells should be installed to and into the water table in the middle of the spill and pumped to waste until the spill site has been remediated and the added solution has been removed or degraded to acceptable levels.

Table 1 Details of the production and monitoring wells near the two well fields at the MOWI fish hatchery site.

Hole ID	Well Field	Well Type	Easting (MTM)	Northing (MTM)	Ground Elevation* (m)	Well Diameter		Depth to Water** (m bgs)	Hydraulic Head** (m)	Screen Depth (m)		Nominal Well Yield (m^3/day)
						mm	in			Top	Bottom	
HW1	Well Field 1	Production	302708.6	5378108.7	28.25	203	8	--	--	46.97	58.97	1550
HW2		Production	302691.5	5378192.8	28.70	203	8	--	--	47.7	59.8	1200
HW3		Production	302877.0	5378067.2	30.50	254	10	--	--	53.49	69.49	2400
NSW2-S		Monitoring	302678.9	5378093.4	28.01	51	2	23.34	4.67	43.91	47.24	--
MW2		Monitoring	302502.7	5377915.4	9.83	51	2	6.24	3.59	17.90	24.00	--
MHPW1	Well Field 2	Production	303327.7	5378823.2	31.12	203	8	18.02	13.10	49.6	64.9	2180
MHPW2		Production	303243.7	5378631.7	30.60	254	10	--	--	49.11	63.45	2180
MHPW4		Production	303453.1	5378711.8	31.10	254	10	--	--	53.23	69.56	1910
NSW1-S		Monitoring	303322.2	5378810.7	30.53	51	2	18.23	12.30	38.30	41.67	--
BH2		Monitoring	303344.2	5378903.6	31.77	51	2	19.18	12.59	15.76	23.38	--
MW1		Monitoring	303118.6	5378578.4	28.36	51	2	18.83	9.53	23.20	29.30	--

Note: * Elevation data were extracted from a DEM data set where survey data were not available.
** The depth to water and hydraulic head data were measured in October 2018 when Well Field 1 was under pumping condition and Well Field 2 was under non-pumping condition.



Legend

Production well location

0 50 100 150 200 250

Scale, m

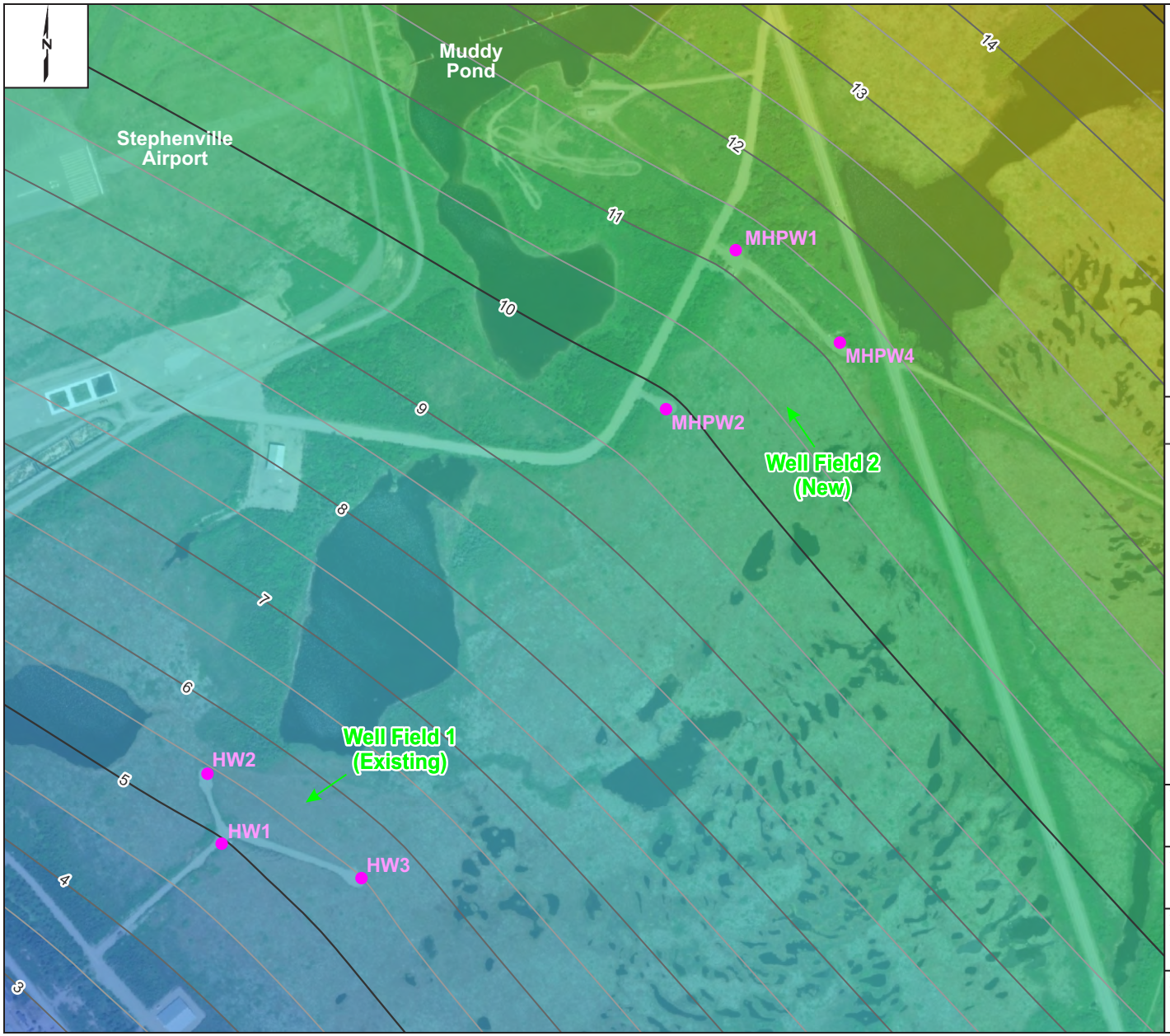
Note: Base orthorectified image from ESRI (2024).

Figure 1

Location map of the two well fields and the production wells at the MOWI fish hatchery site.

Document Reference	FFC-NL-3113-071
Location	Stephenville, NL
Project No.	3113
Date	February 2024

FFC



Legend

Production well location

Legend - Contours (m)

1 5 10 15 >20

0 50 100 150 200 250

Scale, m

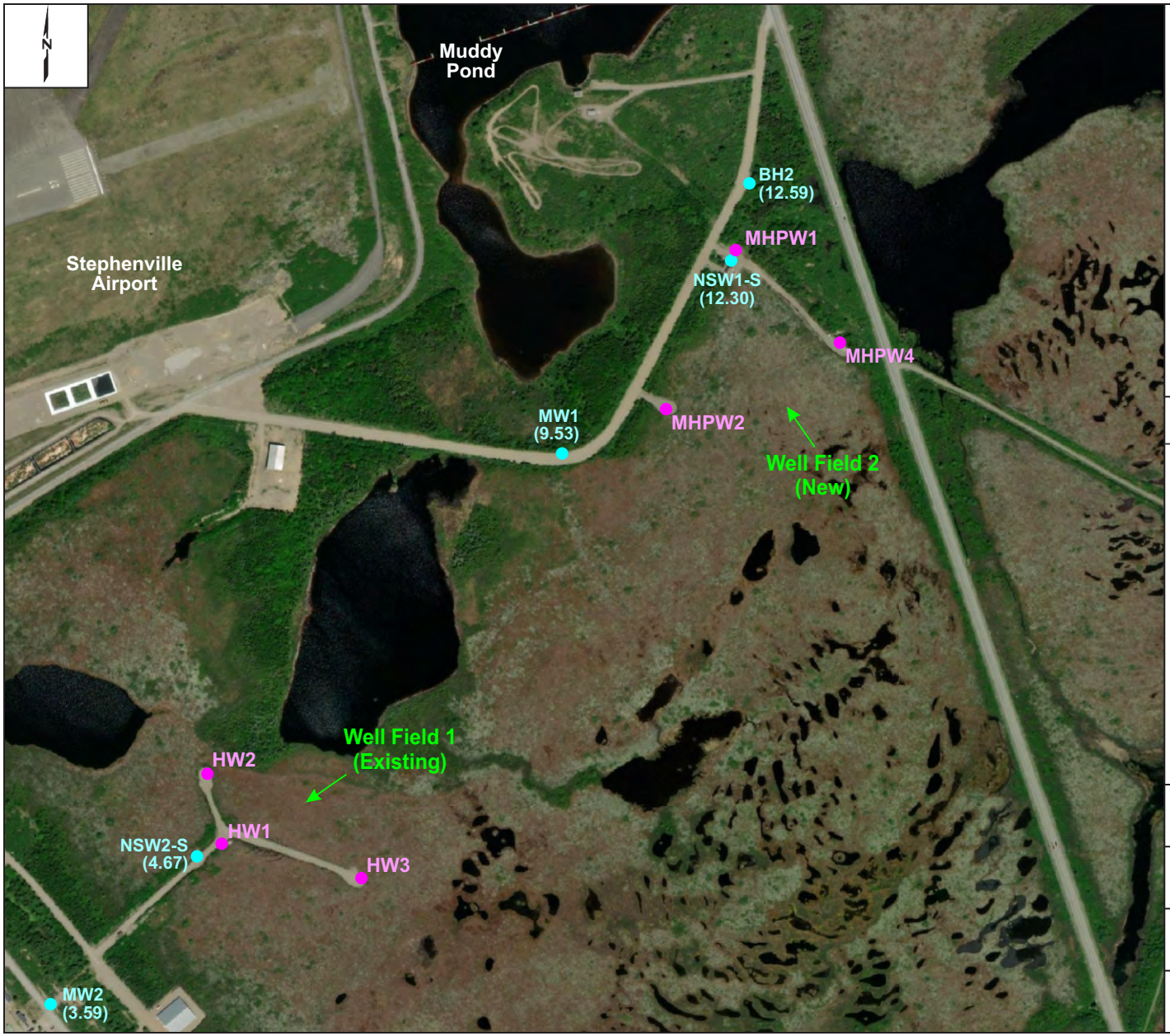
Note: Base orthorectified image from ESRI (2024).

Figure 2

Contour map of the water elevation (hydraulic head) for the pumping condition at the water table level at the MOWI fish hatchery site.

Document Reference	FFC-NL-3113-071
Location	Stephenville, NL
Project No.	3113
Date	February 2024

FFC



Legend

- Production well location
- Monitoring well location

0 50 100 150 200 250

Scale, m

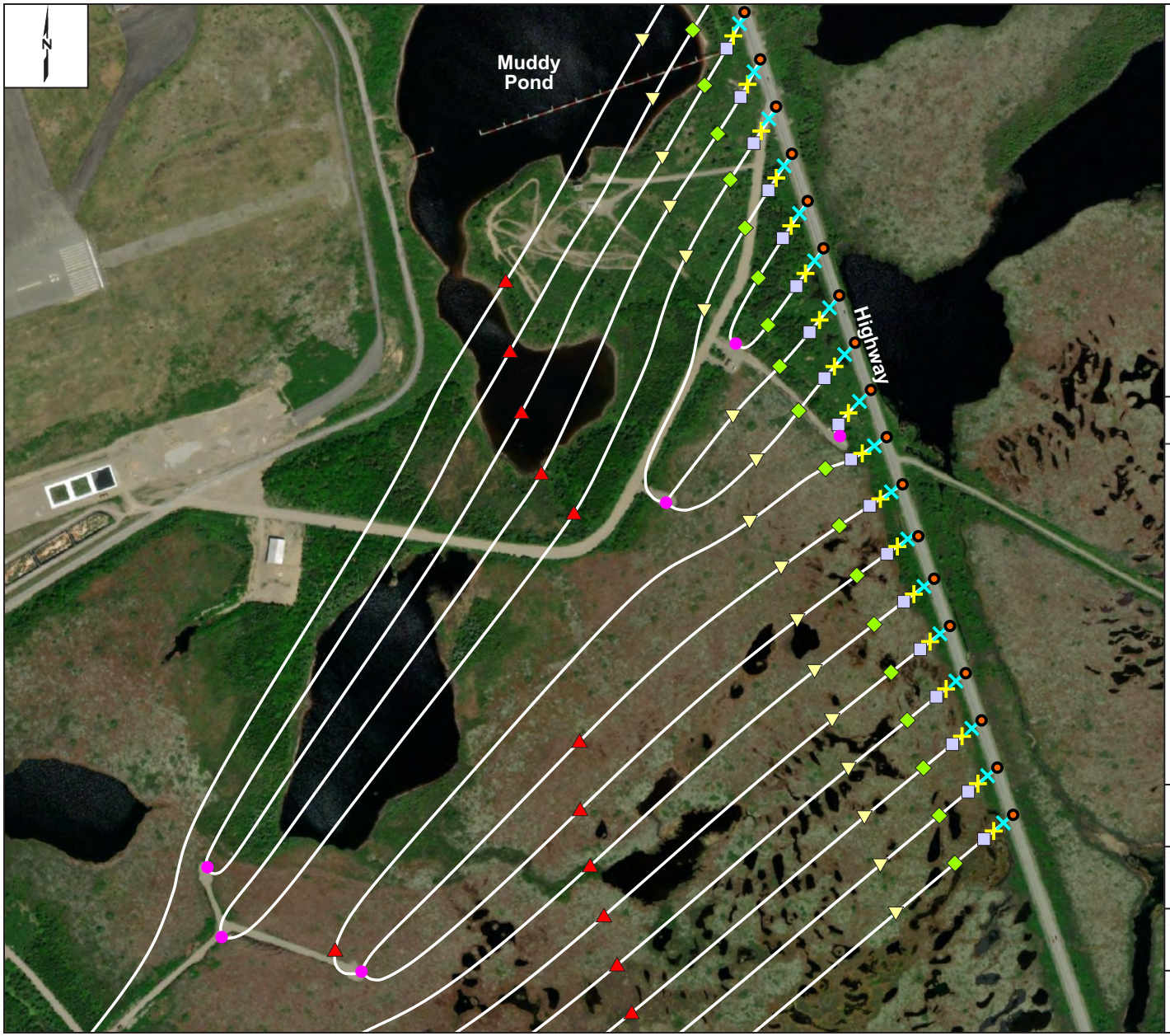
Note: Base orthorectified image from ESRI (2024).

Figure 3

Location map of the monitoring wells in the two well fields with their water level measurements in 2018 at the MOWI fish hatchery site.

Document Reference	FFC-NL-3113-071
Location	Stephenville, NL
Project No.	3113
Date	February 2024

FFC



Legend

- Particle release point
- Production well location

Marker (Particle Track)

- 1 month
- 2 months
- 3 months
- 6 months
- 1 year
- 3 years

0 50 100 150 200 250

Scale, m

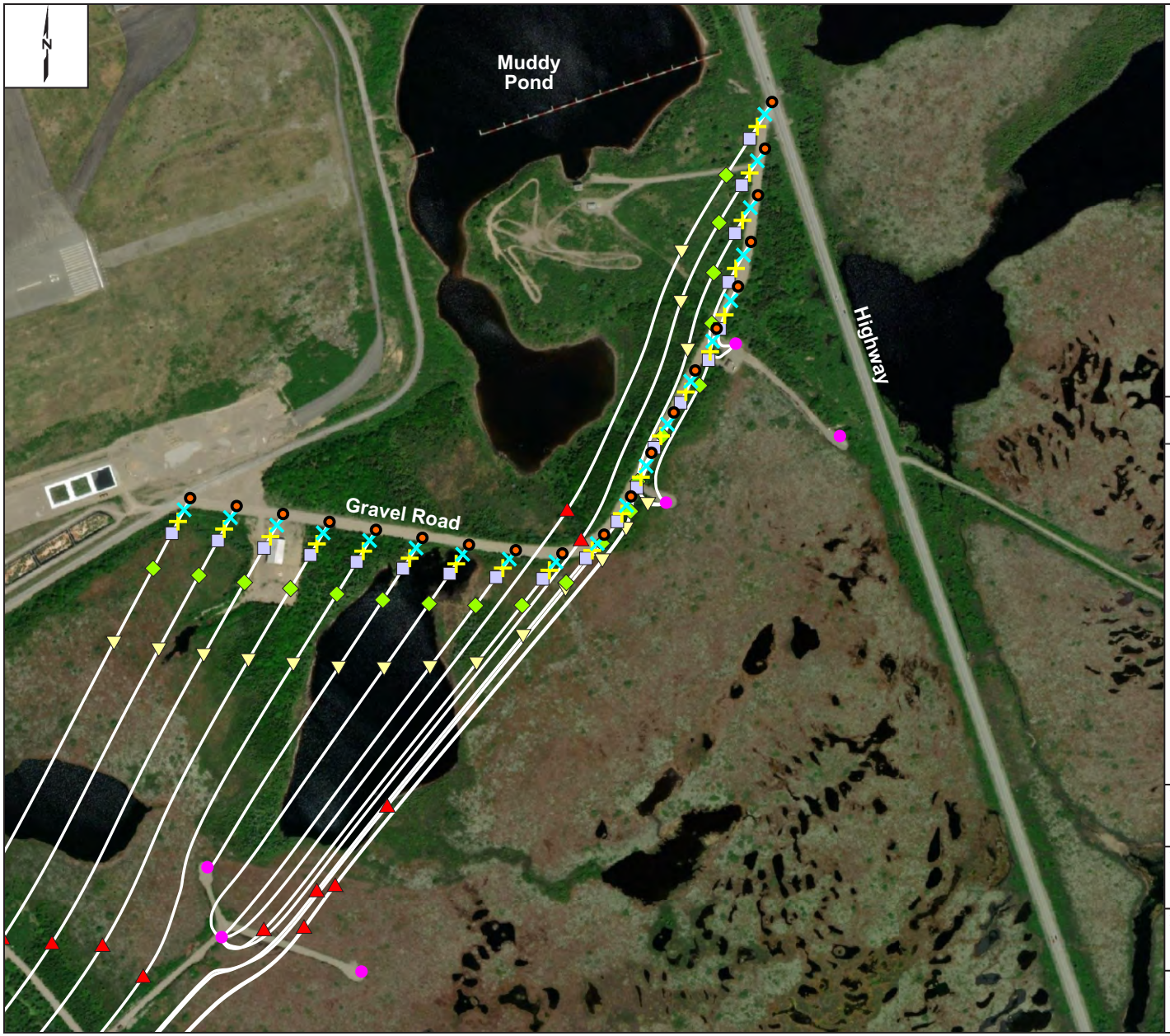
Note: Base orthorectified image from ESRI (2024).

Figure 4

Forward particle tracks released along the highway at the water table level showing pathways and travel times between 1 month and 3 years under pumping condition for both well fields.

Document Reference	FFC-NL-3113-071
Location	Stephenville, NL
Project No.	3113
Date	February 2024

FFC



Legend

Particle release point

Production well location

Marker (Particle Track)

1 month

2 months

3 months

6 months

1 year

3 years

0 50 100 150 200 250

Scale, m

Note: Base orthorectified image from ESRI (2024).

Figure 5

Forward particle tracks released along the gravel road at the water table level showing pathways and travel times between 1 month and 3 years under pumping condition for both well fields.

Document Reference

FFC-NL-3113-071

Location

Stephenville, NL

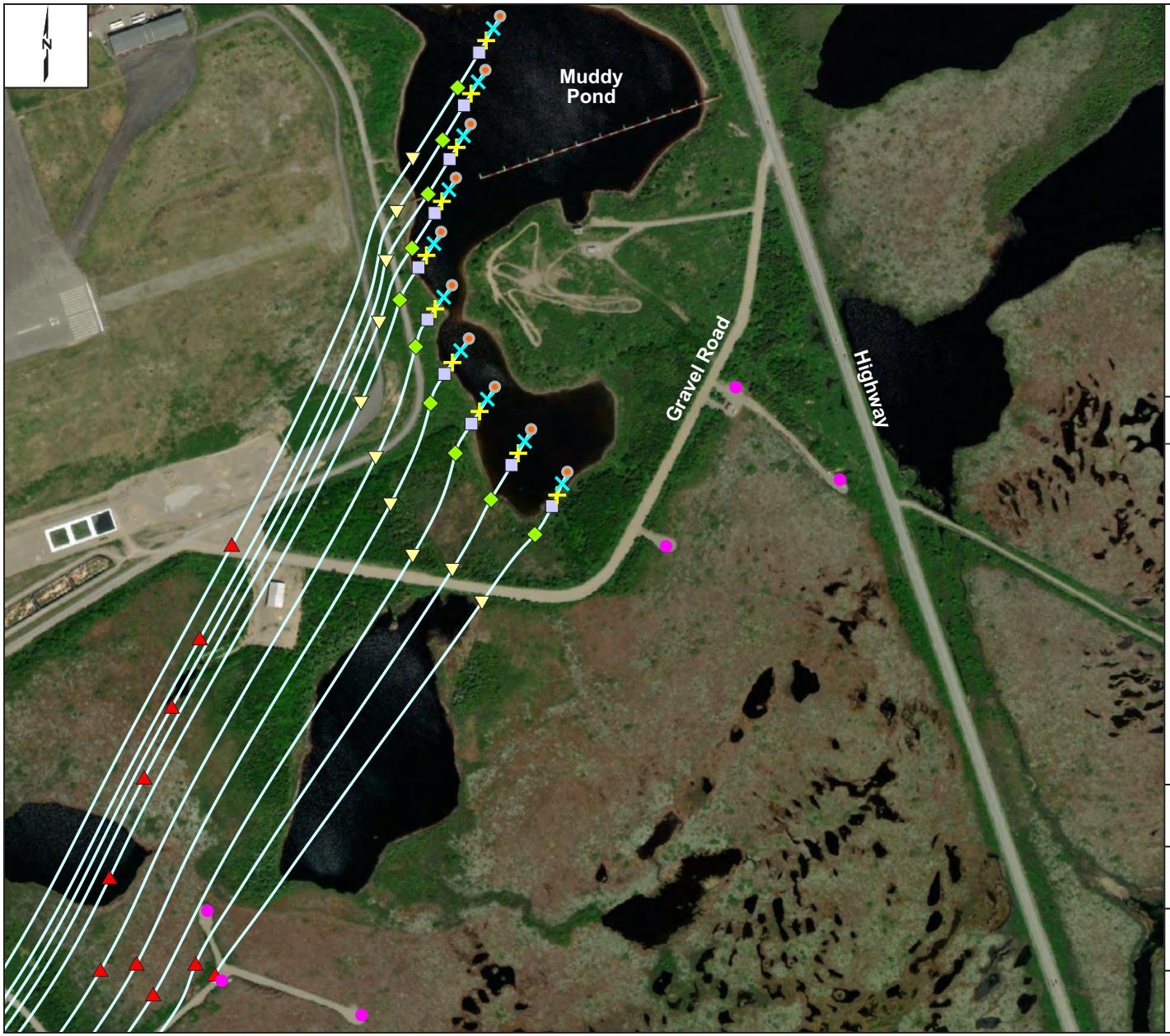
Project No.

3113

Date

February 2024

FFC



Legend

Particle release point

Production well location

Marker (Particle Track)

1 month

2 months

3 months

6 months

1 year

3 years

0 50 100 150 200 250

Scale, m

Note: Base orthorectified image from ESRI (2024).

Figure 6

Forward particle tracks released below Muddy Pond at the water table level showing pathways and travel times between 1 month and 3 years under pumping condition for both well fields.

Document Reference

FFC-NL-3113-071

Location

Stephenville, NL

Project No.

3113

Date

February 2024

FFC