

TRANSPORT CANADA
CANADIAN ENVIRONMENTAL ASSESSMENT ACT (CEAA)
SCREENING ENVIRONMENTAL ASSESSMENT REPORT

GENERAL INFORMATION

1. EA Title: Application for existing finfish facility at Conville Bay, on Quadra Island in Hoskyn Channel B.C. 2. Referral Receive Date: February 18, 2002; August 18, 2002 new plans received; May 2004 amended application received.	3. EA Start Date: February 18, 2002; September 25, 2002 marine referrals resent; August 18, 2004 referrals resent.
4. Transport Canada File No.: 8200-T-1089 6. DFO File No.: 02-HPAC-PA1-000-000042	5. FEAI or CEAR No.: 32309 7. Provincial File No.: 1401597
8. Other No.:	
9. Proponent: Marine Harvest Canada.	
10. Other Contacts (Proponent, Consultant or Contractor): Marine Harvest Canada 1121 Cypress St. Campbell River, BC V9W 2Z3	
11. Role: Proponent	
12. Source: Land and Water BC (referral to DFO-NWPD) ¹	
13. Project Description: Marine Harvest Canada proposes to continue operating an existing finfish aquaculture facility of 11.9 hectares at Conville Bay, Quadra Island. The proponent application includes replacement of existing netcages, with no changes in existing tenure boundaries. The project involves, as a maximum, installation and operation of 16 netcages (30m x 30m x 16m depth), 1 house / feedshed (30m x 40m), (1 storage / work float (20m x 20m) and 4 harvest transfer pens (15m x 15m x 15m, optional depending on state of production), plus associated lines and anchors for the purpose of producing Atlantic salmon (<i>Salmo salar</i>), chinook salmon (<i>Oncorhynchus tshawytscha</i>) and rainbow trout (<i>Oncorhynchus mykiss</i>). (2003 management plan) Fish production numbers have been submitted to DFO for this application from the proponent for consideration of potential project effects on components of the environment under DFO's mandate. However, DFO has determined that these production numbers should not be included in this CEAA screening report as they are protected under section 55(7) ² of CEAA.	

¹ Responsibility for the *Navigable Waters Protection Act* transferred from Fisheries and Oceans Canada (DFO) to Transport Canada (TC) on March 29, 2004 making TC the Responsible Authority for aquaculture files requiring a permit under the *Navigable Waters Protection Act*.

² Section 55(7) of CEAA states that in order to facilitate public access to records relating to environmental assessments, a public registry shall be established and operated in a manner to ensure convenient public access to the registry. It also states that the public registry shall contain records available to the public, except a record or part, containing third party information. Third party information includes:

- trade secrets of a third party;
- financial, commercial, scientific or technical information that is confidential and supplied to a government institution by a third party and is treated consistently in a confidential manner by the third party;
- Information the disclosure of which could reasonably be expected to result in material financial loss or gain to, or could reasonably be expected to prejudice the competitive position of, a third party; and,
- Information the disclosure of which could reasonably be expected to interfere with contractual or other negotiations of a third party.

14. Location Details Fronting unsurveyed Crown Land, DL 237, Sayward District, Quadra Island approximately 10km north of Heriot Bay, BC 50°10'52" N 125°08'58" W	
15. Trigger: <i>CEAA Law List Regulations</i>	
16. Rationale for Trigger: Approval of a work after the commencement of its construction that may substantially interfere with navigation.	
17. Act(s) & Section(s): Section 5(1) of the <i>Navigable Waters Protection Act</i> (NWPA)	
18. Lead RA: Transport Canada	
19. Other RAs: Fisheries and Oceans Canada	20. CEAA Trigger:
21. Expert Federal Authorities: Fisheries and Oceans Canada; Environment Canada;	22. Matter(s) of Interest: Fish ³ and Fish Habitat, Fish Health; Water Quality, Environmental Quality;
23. Federal Departments/Agencies and Other Organizations Contacted: <input checked="" type="checkbox"/> Federal Agencies: Fisheries and Ocean Canada (DFO); Environment Canada (EC); Indian and Northern Affairs Canada (INAC); Canadian Coast Guard Marine Navigation Services (CCG-MNS) <input checked="" type="checkbox"/> First Nations: Cape Mudge First Nation, Campbell River First Nation, Homalco First Nation, Hamatla Treaty Society, Klahoose First Nation, Comox First Nation. <input checked="" type="checkbox"/> Marine Interests: Council of BC Yacht Clubs (CBCYC); United Fisherman and Allied Workers Union (UFAWU); and Council of Marine Carriers (CMC)	

ENVIRONMENTAL ASSESSMENT

24. Scope of Project The scope of the project includes the installation and operation of the following physical works: barges, net pens, walkways, nets, living accommodations and their associated lines and anchors. Physical works or activities accessory to the principle project include transport of stock to and from the site, transport of fish to the harvesting site, net and equipment cleaning, and disposal of all wastes. As per <i>CEAA</i> Section 15(3), the decommissioning and abandonment of the project was also considered as part of the environmental assessment.
25. Scope of Assessment: The scope of the environmental assessment includes environmental effects identified in paragraph 16 (1)(a) and Section 2 of the <i>Canadian Environmental Assessment Act</i> (CEAA). The factors considered in this assessment include: <ul style="list-style-type: none"> • environmental effects⁴ of the project • environmental effects of malfunctions or accidents that may occur in connection with the project • any cumulative environmental effects that are likely to result from the project in combination with other projects that have been or will likely be carried out • significance of the environmental effects

³ As defined under the *Fisheries Act*

⁴ Environmental Effect includes any change the project may cause in the environment and the effect of any such change on health and socio-economic conditions, physical and cultural heritage, current use of lands and resources by aboriginal persons or any structure site, or thing that is of historical, archaeological, paleontological or architectural significance or any change to the project that may be caused by the environment.

- measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project
- comments from the public that are received in accordance with the Act.

The potential environmental effects of the project are considered within spatial and temporal boundaries that encompass the periods and areas during and within which the project may potentially interact with, and have an effect on, components of the environment. These boundaries may vary with each environmental component, and reflect factors such as:

- the installation, operation, and maintenance phases of the project;
- the natural cycles of a population or ecological component;
- the timing of sensitive life cycle phases in relation to the scheduling of proposed activities;
- the time required for an effect to become evident;
- the time required for a population or ecological component to recover from an effect and return to a pre-effect condition;
- the area directly affected by the proposed project; and
- the area within which a population or ecological component functions and within which a project effect may be felt.

The scope of the project and environmental assessment defines the components of a proposed development and the environmental effects that should be included in the environmental assessment (EA).

26. Responses Received from Federal Departments/Agencies and Organizations:

- EC: referred on June 11, 2002; response letter July 16, 2002, no CEAA trigger; response August 13, 2002, no objection subject to implementation of mitigation measures.
- INAC: referred on February 18, 2002; Re-sent on September 25, 2002; new information was referred to INAC on August 13, 2004. On August 19, 2004 INAC stated that they do not have a responsibility under Section 5 of CEAA and that they do not have specialist advice to offer.
- DFO: referred on May 9 and June 11, 2002; responses January 5, 2005 and July 19, 2005 including mitigation measures to be implemented.
- CCG-MNS: Referred September 25, 2002; response October 17, 2002: the installation does not appear to impact the operation or performance of any existing aids to navigation. New information referred August 13, 2004. Response August 23, 2004: the installation does not appear to impact the operation or performance of any existing aids to navigation.
- CBCYC: referred on February 18, 2002; no response filed. Re-sent on September 25, 2002; response October 4, 2002; interest not affected. New information referred August 13, 2004. No response received (previous response received October 4, 2002 interest unaffected).
- CMC: referred on February 18, 2002; no response filed. Re-sent on September 25, 2002; response November 6, 2002, not considered to present a navigational problem. New information referred August 13, 2004. Response August 26, 2004: the proposal is not considered to present a navigational hazard for the log towing / tug barging operations in that area.
- UFAWU: referred on February 18, 2002. Re-sent on September 25, 2002; response letter not filed

27. Public Notification:

Yes ☒

No ☐

Public participation as defined under Subsection 18(3) of CEAA was not deemed necessary for this review.

However, public notification was conducted in the form of advertisement as per section 9(3) of NWPA, requesting comments on the project's impact on navigation. As required under the *Navigable Waters Protection Act* (NWPA), plans for the project were deposited in the office of Registry in Victoria, in the Province of British Columbia and notices requesting comments on the project's effect on navigation, were published in the Canada Gazette and local newspapers (October 2002).

Comments or objections regarding navigation effects were not received within the 30 days of publication of the above notices.

28. First Nations Involvement:

The project location and site plans were referred to the Cape Mudge First Nation, Campbell River First Nation, Homalco First Nation, Hamatla Treaty Society, Klahoose First Nation, Comox First Nation on September 29, 2005.

The Cape Mudge First Nation, Campbell River First Nation, and Comox First Nation have deferred comments to the Hamatla Treaty Society. A second letter requesting information from the Hamatla Treaty Society as to current use of lands and resources for traditional purposes in the vicinity of the project was sent on April 20, 2006. A third letter including a draft of the CEAA screening document was sent to the Hamatla Treaty Society on June 19, 2006.

A second letter requesting information from the Klahoose First Nation as to current use of lands and resources for traditional purposes in the vicinity of the project was sent on May 9, 2006. A third letter including a draft of the CEAA screening document was sent to the Klahoose First Nation on June 19, 2006.

No specific information was received from the Hamatla Treaty Society or the Klahoose First Nation with respect to current use of lands and resources for traditional purposes in the vicinity of the project and potential effects of the project on that use.

The Homalco First Nation recommended that Transport Canada access the Johnstone Butte Coastal Plan for First Nation use information. The information from that Coastal Plan pertaining to First Nation use as well as responses from Fisheries and Oceans Canada are included in Table 1.

A screening report with issues raised by the Homalco First Nation and responses from DFO and TC was provided to the Homalco First Nation on July 21, 2008. No further response was received from the Homalco First Nation.

29. Summary of public comments/concerns and significance:

No comments were received from the public.

30. Alternatives to the Project that were considered:

No alternatives have been identified that are technically and/or economically feasible

31. Environmental Description:Biophysical Environment

The Discovery Islands are a chain of small and medium-sized islands located at the north end of the Strait of Georgia between Vancouver Island and mainland British Columbia. The area is characterized by snowcapped mountains and deep inlets with numerous islands and islets that offer diverse wildlife viewing and recreational activities. The proponent Commercial Finfish Management Plan presents information on the physical and biological environment near the Conville Bay site. The proponent has supplied environmental information that includes: current/tidal movements (2000), and mapped information (from the provincial Land Use Coordination Office) on existing aquaculture sites with reference to herring spawning areas, kelp and eelgrass beds, bird colonies, eagle nesting sites, sea lion haulouts, anadromous streams, CDC red/blue listed species, and shellfish farms / beds.

Socio-community and Cultural Environment

The area is noted for its environmental, recreational and scenic attributes. In order to help conserve those attributes, and to provide a management plan for the future, the Ministry of Sustainable Resource Management developed the Vancouver Island Land Use Plan which encompasses the Discovery Islands. The plan is to provide a framework for a range of economic activities in the area without impairing the long-term viability of the area's supporting biophysical values.

The proponent Commercial Finfish Aquaculture Management Plan presents mapped information (Land Use Coordination Office) on: designations such as protected areas, management zones, and First Nations Reserves. The site is in the traditional territory of the Cape Mudge First Nation, Campbell River First Nation, Homalco First Nation, Hamatla Treaty Society, Klahoose First Nation, and the Comox First Nation.

Navigation

The area within which this project is located is used by tug and tow, commercial fishing vessels, recreational and coastal vessels. The NWPD state that the number of farms in the embayments on Hoskyn Channel may impact available anchorage, although most sites are relatively steep with limited potential for anchorage. The Bay is exposed

to southerly and easterly winds and relatively deep at the site for small craft anchorage. The North end of Hoskyn Channel has two passages – one to Calm Channel and one to Okisollo Channel. Both are narrow and restricted by depth and encumbered.

32. Environmental Effects, Mitigation and Significance:

Table 1 summarizes potential adverse effects of the proposed project on key Valued Ecosystem Components (VECs), and the effects of project-related changes in the environment on Valued Social Components (VSCs). The table also contains information on proposed avoidance and mitigation measures, and identifies the significance of the residual environmental effects that are likely to exist after mitigation.

Mitigation Measures

Mitigation Measures specified by Transport Canada – Navigable Waters Protection Division, Fisheries and Oceans Canada, and Environment Canada are listed in the Appendix. Additional measures that the proponent must comply with are:

Best Management Practices Plan pursuant to BC Finfish *Aquaculture Waste Control Regulations (BC Waste Management Act)*

Standards of Practice and Best Management Practices for Fish Escape Prevention and Response, pursuant to Appendix 2 of the *BC Aquaculture Regulations (BC Fisheries Act)*

Fish Health Management Plan, which forms part of the provincial aquaculture licence

BC Salmon Farmers Association Code of Practice

Atlantic Salmon Importation Policy

Fish Health Protection Regulations

Atlantic Salmon Watch Program

National Code on Introductions and Transfers of Aquatic Organisms

Federal Authority identified as providing assistance during implementation of mitigation measures

FA responsible	Mandate related to mitigation measures
Fisheries and Oceans Canada	Fish Health, Fish and Fish Habitat
Environment Canada	Water Quality, Environmental Quality

Potential Adverse Environmental Effects

Project components/activities were deemed to have negligible to low significance of residual adverse effect after consideration of mitigation (Table 1).

Accidents and Malfunctions

Accidents and malfunctions are not likely to yield significant adverse environmental effects. Marine Harvest Canada has developed operations and procedure protocols for staff prescribing practices for handling, including;

- fish to avoid fish escapes/mortalities,
- deleterious substances (such as fuel and anti-fouling agents) to avoid spillage,
- netpen installations/ routine inspections to detect and avoid torn mesh and subsequent escapes,
- equipment maintenance,
- transport of live fish to minimise escapes,
- boats and other special equipment, and
- other activities associated with the netpen operation.

Cumulative Environmental Effects

Potential cumulative effects of salmon farming were examined for the Hoskyn and Okisollo Channels area. The assessment included examination of potential effects of the Conville Bay site and six additional existing salmon farms and other human activity in that area. Four farms, including Dunsterville Bay, Bear Bay, Conville Bay and Conville Point are located in the Hoskyn Channel and three farms (Brent Island, Cyrus Rocks and Venture Point) are in the Okisollo Channel area. Other sources potentially contributing to cumulative effects in this area include recreational vessel traffic and logging operations/activities.

Assessment of cumulative effects on individual VECs and VSCs is summarized in Table 2. Cumulative effects assessment of each VEC or VSC considered existing and foreseeable projects/activities, geographical/temporal

scope, potential severity, geographic extent, duration/frequency, reversibility, and area-fragility related to each VEC or VSC. The assessment also considered site-specific and area-wide mitigation, results of previous/on-going assessments, risks/probability of occurrence, worst-case/best-case conditions. The project is not likely to result in significant adverse cumulative effects in combination with other projects in the area.

Potential Effects of the Environment on the Project

Potential effects of environmental factors on the project are summarized in Table 3.

Table 1: Project components and activities and their potential direct environmental effects on Valued Ecosystem Components (VECs) or Valued Social Components (VSCs), associated mitigation measures, and significance of residual effects. Significance of effect; negligible, low, intermediate, high, or unknown.

VECs/VSCs	Project component or activity	Potential project-environment interaction	Mitigation measures	Significance of residual adverse effects
Marine Water Quality	Handling and use of potentially hazardous materials (antifoulants, fuel/lubricants, disinfectants) and netcleaning	<ul style="list-style-type: none"> Water quality degradation Possible effects on wild organisms and/or human health 	Marine Harvest Canada will follow measures outlined in it's Best Management Plans, pursuant to requirements of the provincial <i>Finfish Aquaculture Waste Control Regulations (Waste Control Act)</i>	Negligible
	Storage/disposal of fish mortalities	<ul style="list-style-type: none"> Water quality degradation Possible effects on wild organisms and/or attraction of predators 	<p>Marine Harvest Canada will follow measures outlined in it's Best Management Plans, pursuant to requirements of the provincial <i>Finfish Aquaculture Waste Control Regulations (Waste Control Act)</i></p> <p>All fish mortalities will be stored in gas vented closed containers which have been designed to prevent animal and avian access and attraction.</p>	Negligible
	Blood water and fish offal discharge in association with harvest	<ul style="list-style-type: none"> Water quality change, disease transmission to wild populations, and/or predator attraction. 	<p>Marine Harvest Canada will follow measures outlined in its Best Management Plans, pursuant to requirements of the provincial <i>Finfish Aquaculture Waste Control Regulations (Waste Control Act)</i>.</p> <p>All fish mortalities will be stored in gas vented closed containers designed to prevent animal and avian access and attraction. In order to isolate the containers and their contents from the net pens, closed steel vented containers will be stored on the house feed shed barge or on a smaller float attached to the house feed barge</p>	Negligible
	Feeding and rearing of farmed fish	<ul style="list-style-type: none"> Water quality degradation; nutrient effects 	Administration of feed by hand and mechanised feeding methods will be done with the objective of optimizing feed conversion ratios. Feed will be administered and monitored to minimize feed loss outside the containment structures by using a combination of experienced trained employees, constant observation of fish behaviour, and underwater cameras. Production data will be reviewed to identify and prevent potential feed waste issues.	Negligible
	Human waste/sewage storage and disposal	<ul style="list-style-type: none"> Water quality degradation 	Marine Harvest Canada will follow measures outlined in it's Best Management Plans, pursuant to requirements of the provincial <i>Finfish Aquaculture Waste Control Regulations (Waste Control Act)</i> and measures specified by Environment Canada (Appendix A3)	Negligible
Fish habitat <i>General</i>	Installation and/or decommissioning of the facility	<ul style="list-style-type: none"> Fish habitat may be disrupted 	No direct modification of substrate or foreshore is proposed to occur in association with proposed physical works. No construction is proposed to occur on the site or at the upland of the site. When planning the decommissioning of this project the proponent will confer with DFO habitat staff regarding intended approaches.	Negligible

VECs/VSCs	Project component or activity	Potential project-environment interaction	Mitigation measures	Significance of residual adverse effects
Fish habitat <i>Algae/ Primary production</i>	Presence of netpens	<ul style="list-style-type: none"> Decreased primary production in immediate vicinity of net pens due to shading of water column 	The water column directly beneath the net pen structures will be shaded. Impacts to primary production of macro and micro algae will be localized owing to the restricted area of shading and to natural low light levels at typical depths.	Negligible
Fish Habitat <i>Benthic substrate</i>	Feeding and rearing of farmed fish	<ul style="list-style-type: none"> Excess fish food and fish faecal materials may accumulate on benthic substrates in the vicinity of the facility, altering the ecosystem and productive capacity of the area. 	Administration of feed by hand and mechanised feeding methods will be done with the objective of optimizing feed conversion ratios. Feed will be administered and monitored to minimize feed loss outside the containment structures by using a combination of experienced trained employees, constant observation of fish behaviour, and underwater cameras. Production data will be reviewed to identify and prevent potential feed waste issues.	Low
	Handling and use of potentially hazardous materials (antifoulants, fuel, lubricants, therapeutants, disinfectants), netcleaning, and storage/removal of fish mortalities	<ul style="list-style-type: none"> Sediment quality degradation 	Marine Harvest Canada will follow measures outlined in it's Best Management Plans, pursuant to requirements of the provincial <i>Finfish Aquaculture Waste Control Regulations (Waste Control Act)</i> .	Negligible
Fish Habitat <i>Sensitive fish habitat</i>	Presence and operation of cage facilities	<ul style="list-style-type: none"> Reduction in fish habitats that are particularly critical or sensitive (e.g. salt marsh, kelp beds, eel grass beds, herring spawn areas, etc.) as a result of direct physical disruption or the release of substances from the fish farm. 	<p>Marine Harvest Canada reports no eelgrass or kelp beds in the immediate vicinity of the proposed fish farm, and no herring spawn areas noted by DFO as vital, major or important within a 1 km radius of the proposed tenure renewal location. It is believed that proper siting of the facility a safe distance away from sensitive or critical habitats according to DFO/Provincial farm siting guidelines has mitigated potential effects on sensitive habitat.</p> <p>Stream surveys commissioned by the proponent identified a stream within 240 m of the Conville Bay site which has potential for anadromous fish; however, the habitat conditions were poor (no fish were captured) based on gradient and lack of flow. The study report stated that fish attempting to establish themselves in the system would experience poor survival due to unreliable flows and exposure to predators.</p>	Low

VECs/VSCs	Project component or activity	Potential project-environment interaction	Mitigation measures	Significance of residual adverse effects
Fish resources: <i>Wild fish populations</i>	Introductions and transfers of fish onto the farm site	<ul style="list-style-type: none"> Potential introduction and/or transmission of disease and/or parasites from farm fish could impact wild fish populations. 	<p>Under the Atlantic Salmon Importation Policy, Atlantic salmon smolts cannot be imported from overseas; only fertilized eggs or milt from certified sources are allowed into the country. Imports are limited, held in quarantine, and closely examined before introduction to farms. Species being imported from outside Canada for culture must be certified disease free therefore no impacts are expected. Fish transferred under Section 56 of the <i>Fishery (General) Regulation</i> must not have any disease or disease agent that may be harmful to the protection and conservation of fish.</p> <p>The proponent will adhere to standard introduction and transfer policies. In addition, the existing <i>Fish Health Protection Regulations</i> requires that any facility serving as a source of salmon must undergo rigorous health testing before fish can be provided to culture operations.</p> <p>In addition, a Fish Health Management Plan is required to address issues of fish health for farmed fish and takes into account interactions with wild fish. This Fish Health Management Plan also requires a mandatory sea lice monitoring program to further minimize risks to wild fish populations. The Fish Health Management Plan will be reviewed on an annual basis and will be updated as necessary in conjunction with an adaptive management approach. BCMAFF will conduct audits of sites on a random basis and take compliance enforcement actions where necessary.</p> <p>Site, vessel and visitor-related fish-health protocols (including use of foot baths, disinfection of any equipment used with fish or sediment monitoring) are in place. This is in accordance with the industry-wide protocols in BC.</p>	Low

VECs/VSCs	Project component or activity	Potential project-environment interaction	Mitigation measures	Significance of residual adverse effects
		<ul style="list-style-type: none"> Escape of farm fish may have genetic effects from farm salmon inbreeding with wild salmon of the same species, and/or population and ecological effects from farm salmon competing for resources with wild salmon species. 	<p>Marine Harvest Canada has developed an Escape Prevention and Response Plan in accordance with the Provincial Aquaculture Regulation that includes mitigation measures such as net strength standards, containment structure, anchoring equipment and net pen design. Protocols have been developed to reduce potential risk of fish escape during fish handling, smolt delivery, harvesting, emergency towing of fish in cages, and vessel operations. In addition, protocols have been developed for routine equipment inspection (prior to fish introduction, monthly inspections of active net pens and structures, daily surface inspection of equipment) as well as post-storm event equipment and anchoring system inspection. Predator control mitigation measures (such as use of shark guards, predator exclusion nets and weighting of nets for tautness) and protocols will be followed to minimise risk of fish escape due to predator damage to nets. Escape prevention and response training will be provided to employees. These measures will be implemented to reduce potential risk of fish escape. Federal siting guidelines locate the facility an adequate distance from salmonid bearing streams.</p> <p>Concerns regarding the establishment of feral Atlantic salmon populations are to some degree addressed by the Atlantic Salmon Watch Program (ASWP), a cooperative research program operated by DFO and BC MAFF. The ASWP monitors the fresh water and ocean catches of Atlantic salmon, operates a public interaction/reward program for information and catches of Atlantic salmon, and conducts active monitoring for, and removal of, Atlantic salmon from streams. The program has recently been expanded.</p>	Low
	Therapeutant and antibiotic use	<ul style="list-style-type: none"> Use of therapeutants (e.g. sea lice treatments) and antibiotics may have direct toxic or immunological impacts on non-target organisms (e.g. crustaceans), affect the surrounding environment, and/or potentially result in a human food safety risk. 	<p>As above, Marine Harvest Canada has a Fish Health Management Plan to address issues of fish health for farmed fish and takes into account interactions with wild fish resources.</p> <p>Use of therapeutants will be prescribed under the direction of a fish health veterinarian. Measures will be implemented to avoid losses of medicated feed to the environment and therefore availability to non-target organisms. Levels of contaminants such as copper and zinc will be monitored as part of Provincial monitoring requirements.</p>	Low

VECs/VSCs	Project component or activity	Potential project-environment interaction	Mitigation measures	Significance of residual adverse effects
	Use of night lighting to enhance fish growth	<ul style="list-style-type: none"> Attract wild fish to the net pens, increasing the chance for disease transfer. 	The proponent will not use night-lighting.	Negligible
Fish Resources: Local Shellfish/ Invertebrate Populations	Farm waste (unconsumed fishfood and faeces)	<ul style="list-style-type: none"> Effects on shellfish/invertebrate habitat and populations Human use of shellfish/invertebrates 	The project adheres to minimum distances between netcages and shellfish beds outlined in fish-farm siting criteria. Marine Harvest Canada will follow measures outlined in it's Best Management Plans, pursuant to requirements of the provincial <i>Finfish Aquaculture Waste Control Regulations (Waste Control Act)</i>	Negligible
Marine mammals	Predator control measures	<ul style="list-style-type: none"> Mortality of animals that are attracted to the fish farm and become nuisance predators of farm fish. 	<p>According to the proponent, the proposed farm location is not in close proximity to areas known to support substantial use by marine mammals. The Marine Harvest Canada Aquaculture Management Plan Standard Operating Procedures include a predator avoidance plan. Mitigation measures to be implemented on site to reduce pinniped predation on farm fish include use of predator exclusion nets, net stiffening, net tensioning, and proper husbandry techniques including regular collection of mortalities and proper storage of mortalities, feed, and garbage.</p> <p>When non-lethal measures have proven ineffective, a predator removal permit will be sought from DFO. The proponent must follow the conditions of any nuisance pinniped control licence and all applicable Acts and Regulations, and may also be required to implement further mitigation measures accordingly.</p> <p>The proponent will implement good husbandry practices, such as proper storage of garbage, weekly or more frequent removal of floating dead fish and storage in sealed access-proof containers, to minimise attraction of predators. As well, a Predator Avoidance Plan will be implemented that includes the use of bottom-weights, net stiffening, shark guards and top-netting / string-lines as required. Mortalities will be regularly removed from the site.</p>	Negligible
Wildlife resources: shark species, birds, and terrestrial wildlife	Predator control measures	<ul style="list-style-type: none"> Mortality of individuals that are attracted to the site and become nuisance predators. 	Marine Harvest Canada will follow measures outlined in it's Best Management Plans, pursuant to requirements of the provincial <i>Finfish Aquaculture Waste Control Regulations (Waste Control Act)</i> and <i>Aquaculture Regulations (BC Fisheries Act)</i>	Low
Species/Habitat of special concern	Physical existence and operation of the aquaculture facility	<ul style="list-style-type: none"> Reduction in species or habitats that are 	Marine Harvest Canada presented mapped information from the provincial Coastal Resource Management System, including data from the provincial Conservation Data Centre on red and blue listed species. No red or blue listed species were identified in the vicinity of the farm site.	Negligible

VECs/VSCs	Project component or activity	Potential project-environment interaction	Mitigation measures	Significance of residual adverse effects
		special concern	<p>Northern abalone is distributed throughout BC coastal waters. Northern abalone has been listed as a threatened species under the <i>Species at Risk Act</i> as a result of over-exploitation from poaching activities. Ongoing operations of these aquaculture facilities are not likely to cause adverse effects to northern abalone.</p> <p>Any future changes to these existing operations, such as site expansions or production level increases, will be reviewed to ensure they do not jeopardize the survival or recovery of the northern abalone, as well as under other relevant federal legislation.</p>	
First Nation current use of lands and resources	Physical existence and operation of the aquaculture facility	<ul style="list-style-type: none"> Exclusion from, or damage to, current use of lands and resources for traditional purposes by First Nations. <p>Potential issue identified in Johnstone Bute Coastal Plan: Effect of finfish aquaculture facility on in and outmigrating salmon, rock cod, ling cod, herring, perch and shellfish</p>	<p>The Cape Mudge First Nation, Campbell River First Nation, and Comox First Nation have deferred comments to the Hamatla Treaty Society.</p> <p>No specific information was received from the Hamatla Treaty Society or the Klahoose First Nation with respect to current use of lands and resources for traditional purposes in the vicinity of the project and potential effects of the project on that use.</p> <p>The Homalco First Nation recommended that Transport Canada access the Johnstone Bute Coastal Plan for First Nation use information.</p> <p>DFO Response: Federal habitat siting is intended to protect critical and sensitive marine habitats in the vicinity of the proposed footprint location. It is believed that proper siting of the facility a safe distance away from sensitive or critical habitats according to DFO and provincial farm siting guidelines has mitigated potential effects on sensitive habitat. The provincial government requires monitoring of the benthic condition within the tenure under the provincial <i>Finfish Aquaculture Waste Control Regulation</i>.</p> <p>Proponents must adhere to standard introduction and transfer policies; section 56 of the <i>Fisheries (General) Regulations</i> and the National Code on Introductions and Transfers apply to ensure that fish being transferred do not have any disease or disease agent that may be harmful to wild populations. The existing <i>Fish Health Protection Regulations</i> requires that any facility serving as a source of salmon must undergo rigorous health testing before fish can be provided to culture operations. In addition, a Fish Health Management Plan is required to address issues of fish health for farmed fish and takes into account interactions with wild fish and is overseen by a provincial veterinarian.</p> <p>DFO does not plan on altering fisheries in the area as a result of the operation of these facilities. DFO's management of wild fisheries is based on Integrated Fisheries Management Plans, consultative processes and science-based stock assessments to guide managers for allocating wild</p>	Low

VECs/VSCs	Project component or activity	Potential project-environment interaction	Mitigation measures	Significance of residual adverse effects
			<p>resources. It is our understanding that First Nations would not be excluded in any significant way from fishing opportunities, as regulation and allocation of fisheries stock is not affected by the physical presence of the facility. If there is further specific information about the use of the area that would help us understand if the fish farm would affect your ability to meet your fishing needs please provide that to DFO for review.</p> <p>Stock assessments are conducted by scientists to support fisheries management including protection and allocation of resources. Their reports and decisions are further evaluated by the Pacific Scientific Advice Review Committee (PSARC), a group of highly-regarded scientists, experts and observers from a broad range of backgrounds, including First Nations, universities as well as Fisheries and Oceans Canada. PSARC ensures that stock assessment research and recommendations are scientifically sound, and represent the best possible knowledge for managing fisheries and conserving marine resources. This same process is used to generate sound science for the management of aquaculture.</p> <p>Stock assessment scientists have identified groundfish populations are susceptible to local area depletion from fisheries. Inshore rockfish are likely over-utilized in the Strait of Georgia. Management of groundfish includes an Integrated Fisheries Management Plan, which includes the use of fisheries observers and a quota system. As well, DFO has initiated Rockfish Conservation Areas intended to protect rockfish that are sensitive to fishing pressure. DFO's strategy to ensure the protection and conservation of sensitive populations of groundfish includes implementing closures in areas of the Strait of Georgia, Johnstone Strait and the Juan de Fuca Strait. Recreational and commercial fishing for other species is also restricted in Rockfish Conservation Areas.</p> <p>Ling cod are not considered migratory.</p> <p>With respect to risk associated with aquaculture, there may be potential for displacement of groundfish in an area due to an increase in organic deposition, depending on the site specific nature of habitat in the area. Siting restrictions are in place to minimize this potential.</p> <p>Herring stocks are monitored and managed by Fisheries Management and Stock Assessment Division. Siting guidelines avoid herring spawn areas noted by DFO as vital, major or important within a 1 km radius of the proposed farm site. Herring information can be found at URL: http://www.pac.dfo-mpo.gc.ca/sci/herring/herspawn/pages/stockreg_e.htm. As well, the destruction of herring spawn by means other than fishing is not permitted.</p> <p>Siting facilities away from areas frequented by surf perch (i.e. marinas,</p>	

VECs/VSCs	Project component or activity	Potential project-environment interaction	Mitigation measures	Significance of residual adverse effects
			<p>pilings) is expected to prevent any effects on surf perch. Further Information on surf perch can be found in the following document http://www.dfo-mpo.gc.ca/csas/Csas/publications/ResDocs-DocRech/2002/2002_123_e.htm</p> <p>At this time there is no conservation concern for crab populations; stocks are expected to fluctuate in response to environmental variables. There is currently ongoing research into the potential effects of aquaculture on prawn populations and there have been no conclusions confirmed at this time. Existing information using test sets would indicate that catch rates have not been significantly affected by the presence of aquaculture facilities. In the event that measurable loss can be attributed to finfish aquaculture, DFO would engage with the industry and the province to determine appropriate measures necessary for the protection of stocks.</p>	
Structure, site, or thing of historical, archaeological, paleontological, or architectural significance	Physical existence and operation of the aquaculture facility	<ul style="list-style-type: none"> • Damage to structure, site, or thing of historical, archaeological, paleontological, or architectural significance 	There is little potential for the project to impact on archaeological resources given that project is located mainly in relatively deep water. Under terms of the tenure agreement, the proponent must take all reasonable precautions to avoid disturbing or damaging any archaeological material found on or under the Land and, upon discovering any archaeological material on or under the Land, the proponent must immediately notify the Ministry responsible for administering the <i>Heritage Conservation Act</i> .	Negligible
Physical/cultural heritage resources	Physical existence and operation of the aquaculture facility	<ul style="list-style-type: none"> • Loss of heritage attribute resulting from changes in the environment caused by the project. 	The site is more than 1 km from an existing federal, provincial or regional park.	Negligible
Navigation	Physical existence and operation of the aquaculture facility	<ul style="list-style-type: none"> • Risk to Marine Navigational Safety. 	<p>TC-NWPD has determined that the project has the potential for medium impact on current and potential waterway use. TC-NWPD has prescribed conditions to mitigate potential effects (Appendix A1).</p> <p>Mitigation measures including yellow cautionary buoys and lighting will be placed according to the NWPA approval requirements. Approximately 1250 metres width remains of deep water channel. NWPD will monitor the site for compliance with marking requirements.</p>	Negligible
Commercial Fishery	Physical existence and operation of the aquaculture facility	<ul style="list-style-type: none"> • Interruption of this use. 	<p>No conflicts with existing commercial fishing locations or activities were identified.</p> <p>Potential effects and risks to existing wild salmon stocks from escapes, sea lice, effects of drug treatments on other fish resource and the environment are discussed in sections of the tables above.</p>	Negligible
Recreational	Physical existence and	<ul style="list-style-type: none"> • Interruption of 	No conflicts with existing recreational fishing locations or activities were	Negligible

VECs/VSCs	Project component or activity	Potential project-environment interaction	Mitigation measures	Significance of residual adverse effects
Fishery	operation of the aquaculture facility	this use.	identified. Potential effects and risks to existing wild salmon stocks from escapes, sea lice, effects of drug treatments on other fish resource and the environment are discussed in sections of the tables above.	
Human Health	Physical existence and operation of the aquaculture facility	<ul style="list-style-type: none"> • Introduction / exposure to health hazards, e.g. garbage, hazardous materials 	Marine Harvest Canada includes worker safety protocols in their best management practices. Marine Harvest Canada must comply with handling and disposal of materials such as fuels and other hazardous material and garbage / sewage generated on site in accordance with applicable legislation, guidelines, and their best management practices based on such legislation. Staff are trained in the appropriate storage and handling procedures for hazardous materials such as fish medications, fuels, etc. in Workplace Hazardous Materials Information System (WHMIS).	Negligible
		<ul style="list-style-type: none"> • Potential contamination of other organisms used as food sources. 	Therapeutants that Marine Harvest Canada may use at the fish farm site are prescribed by a veterinarian, under the release control of Health Canada, and only accessible by the company's biologists. Emamectin benzoate is available only through an Emergency Drug Release from a Veterinarian to Health Canada. Health Canada places restrictions on the number of times per production cycle and per year emamectin benzoate may be used at a farm site. Cultured salmon must undergo a required withdrawal period after treatment with therapeutants before they may be harvested. The salmon farm respects all siting buffers for shellfish farm or shellfish beds	Negligible
Ecotourism	Physical existence and operation of the aquaculture facility	<ul style="list-style-type: none"> • Interruption of tourism opportunities in the area. 	The aquaculture facilities will likely be visible to some recreational boaters traveling in nearby marine areas. Potential effects of the project on the environment that may affect tourism are addressed in sections of the tables above.	Negligible

Table 2: Cumulative environmental effects analysis of the significance of residual effects on Valued Ecosystem Components and Valued Social Components. Significance of cumulative effects; low, intermediate, high, or unknown.

Valued Ecosystem or Social Component	Residual Effects (After Mitigation) & Significance of these Effects	Other Activities/Projects Contributing to Cumulative Effects	Comments	Significance of Cumulative Effects
Benthic fish Habitat	Excess fish food and faecal materials may accumulate on benthic substrates in the vicinity of the fish farm altering the ecosystem and productive capacity of the area.	<p>Similar potential effects may occur within 0.8 to 3.8 km of the Conville Bay site (Hoskyn Channel), at 3 Marine Harvest sites (Bear Bay, Conville Point and Dunsterville Bay).</p> <p>At a greater distance, 12.2 to 27 km, similar effects would occur in Okisollo Channel at 1 Marine Harvest site (Cyrus Rocks), 1 SKM site, operated by Heritage Salmon Ltd. (Barnes Bay), 1 Pan Fish site (Sonora Island), and 2 Heritage Salmon Ltd sites (Brent Island and Venture Point – Sonora Island).</p> <p>Log handling facilities in the vicinity may affect benthic habitat. Log handling facilities (booming grounds and log dump sites) could also affect benthic fish habitat by the addition of highly refractory carbon.</p> <p>Other sources potentially contributing to cumulative environmental effects in the Hoskyn and Okisollo Channel area are 2 Shellfish farms, float homes and recreational boating, and heli-logging barge ramp.</p>	<p>Benthic solids-depositions from salmon farms proposed for Hoskyn and Okisollo Channel are expected to be localized in the vicinity of each set of cages and not likely to have significant cumulative adverse effects on fish populations utilizing benthic habitat in the inlets/channels. Marine Harvest, Pan Fish, and Heritage Salmon Ltd. must monitor benthic substrates in compliance with government regulations and undertake measures to reduce effects if they are detected in benthic habitat.</p> <p>Log handling facilities in the vicinity are reviewed under the <i>Fisheries Act</i> such that any impact on benthic habitat is avoided or is accounted for through compensation habitat (required as part of a Section 35(2) Fisheries Act Authorization).</p>	Low
• Fish resources: wild fish populations	Potential intermittent introduction and/or transmission of disease and/or parasites from farm fish to wild fish populations.	<p>Similar potential effects may occur within 0.8 to 3.8 km of the Conville Bay site (Hoskyn Channel), at 3 Marine Harvest sites (Bear Bay, Conville Point and Dunsterville Bay).</p> <p>At a greater distance, 12.2 to 27 km, similar effects would occur in Okisollo Channel at 1 Marine Harvest site (Cyrus Rocks), 1 SKM site, operated by Heritage Salmon Ltd. (Barnes Bay), 1 Pan Fish</p>	Pathogens that originate in salmon farms at renewal sites in Hoskyn and Okisollo Channels are not likely to have significant cumulative adverse effects on migratory salmonids. Uncertainty exists with respect to the migratory patterns of salmonids along the channels/inlets in the area, and on effects associated with groups of salmonids migrating past multiple farm sites a short distance apart (potential IHN reservoir locations). Measures outlined in the companies Fish Health Management Plans reduce likelihood of transmission and effects on wild fish populations.	Low

Valued Ecosystem or Social Component	Residual Effects (After Mitigation) & Significance of these Effects	Other Activities/Projects Contributing to Cumulative Effects	Comments	Significance of Cumulative Effects
		site (Sonora Island), and 2 Heritage Salmon Ltd sites (Brent Island and Venture Point – Sonora Island).	Most existing sites in the area are managed by two companies, which further reduces pathogen transmission risks by enabling area-wide fish-health management protocols. Two sites (Conville Bay and Conville Point) are less than 1 km apart.	
<ul style="list-style-type: none"> Fish resources: wild fish populations 	Potential intermittent escapes of farm fish create concern over possible genetic effects from farm salmon inbreeding with wild salmon of the same species, and/or population and ecological effects from farm salmon competing for resources with wild salmon species.	<p>Similar potential effects may occur within 0.8 to 3.8 km of the Conville Bay site (Hoskyn Channel), at 3 Marine Harvest sites (Bear Bay, Conville Point and Dunsterville Bay).</p> <p>At a greater distance, 12.2 to 27 km, similar effects would occur in Okisollo Channel at 1 Marine Harvest site (Cyrus Rocks), 1 SKM site, operated by Heritage Salmon Ltd. (Barnes Bay), 1 Pan Fish site (Sonora Island), and 2 Heritage Salmon Ltd sites (Brent Island and Venture Point – Sonora Island).</p>	Intermittent escapes of Atlantic salmon from existing salmon farms along Okisollo/Hoskyn Channels will be minimized with the proposed escape prevention and response plans; small numbers of fish will possibly escape and those that do will not have a detectable effects on ecologic, genetic and disease status of wild fish species. Similarly, intermittent escapes of Pacific salmon or sablefish from existing fish farms in the area also are not likely to be of sufficient magnitude or duration to have significant cumulative adverse effects on wild fish populations in that area.	Low
<ul style="list-style-type: none"> Marine water quality Fish resources: wild fish populations Fish resources : local shellfish/invertebrate populations Human health 	Therapeutants (e.g. sea lice treatments) and antibiotics may be used periodically with some residual material entering receiving water.	<p>Similar potential effects may occur within 0.8 to 3.8 km of the Conville Bay site (Hoskyn Channel), at 3 Marine Harvest sites (Bear Bay, Conville Point and Dunsterville Bay).</p> <p>At a greater distance, 12.2 to 27 km, similar effects would occur in Okisollo Channel at 1 Marine Harvest site (Cyrus Rocks), 1 SKM site, operated by Heritage Salmon Ltd. (Barnes Bay), 1 Pan Fish site (Sonora Island), and 2 Heritage Salmon Ltd sites (Brent Island and Venture Point – Sonora Island).</p>	Chemicals and therapeutants from salmon farms proposed for tenure renewal in Hoskyn/Okisollo Channels are not likely to have significant cumulative adverse effects on fish populations utilizing benthic habitat in that area or lead to concentrations in non-target organisms that will pose risks to human health. Use of compounds will be infrequent and proposed measures to minimize use indicate that direct toxic or immunological impacts on non-target organisms (e.g. crustaceans) and/or human food safety risk are unlikely.	Low
<ul style="list-style-type: none"> Marine mammals Wildlife resources: shark species, birds, and terrestrial wildlife 	Mortality of animals that are attracted to the fish farm and become nuisance predators of farm fish.	<p>Similar potential effects may occur within 0.8 to 3.8 km of the Conville Bay site (Hoskyn Channel), at 3 Marine Harvest sites (Bear Bay, Conville Point and Dunsterville Bay).</p> <p>At a greater distance, 12.2 to 27 km, similar effects would occur in Okisollo Channel at 1 Marine Harvest site (Cyrus</p>	Marine mammal predator control at the salmon farm sites along Hoskyn and Okisollo Channels may have cumulative adverse effects on marine mammal populations in that area, given proposed predator avoidance measures, primarily due to the proximity of two sites (Dunsterville Bay and Cyrus Rocks) to pinniped haulout areas.	Low to Intermediate

Valued Ecosystem or Social Component	Residual Effects (After Mitigation) & Significance of these Effects	Other Activities/Projects Contributing to Cumulative Effects	Comments	Significance of Cumulative Effects
		Rocks), 1 SKM site, operated by Heritage Salmon Ltd. (Barnes Bay), 1 Pan Fish site (Sonora Island), and 2 Heritage Salmon Ltd sites (Brent Island and Venture Point – Sonora Island).		
<ul style="list-style-type: none"> • Structure, site, or thing of historical, archaeological, paleontological, or architectural significance • First Nation current use of lands and resources 	Physical existence and operation of the aquaculture facility Exclusion from, or damage to, current use of lands and resources for traditional purposes by First Nations.	<p>Similar potential effects may occur within 0.8 to 3.8 km of the Conville Bay site (Hoskyn Channel), at 3 Marine Harvest sites (Bear Bay, Conville Point and Dunsterville Bay).</p> <p>At a greater distance, 12.2 to 27 km, similar effects would occur in Okisollo Channel at 1 Marine Harvest site (Cyrus Rocks), 1 SKM site, operated by Heritage Salmon Ltd. (Barnes Bay), 1 Pan Fish site (Sonora Island), and 2 Heritage Salmon Ltd sites (Brent Island and Venture Point – Sonora Island).</p>	<p>The Cape Mudge First Nation, Campbell River First Nation, and Comox First Nation have deferred comments to the Hamatla Treaty Society.</p> <p>No specific information was received from the Hamatla Treaty Society or the Klahoose First Nation with respect to current use of lands and resources for traditional purposes in the vicinity of the project and potential effects of the project on that use.</p> <p>The Homalco First Nation recommended that Transport Canada refer to the Johnstone – Bute Coastal Plan for First Nation use information. Information from the Coastal Plan and responses from Fisheries and Oceans Canada re included in Table 1 of this screening report.</p> <p>Consideration was given to the residual effects of this project in combination with past, present and reasonably foreseeable future projects on current use of lands and resources in the vicinity of the project by the Homalco First Nation. Given site-specific avoidance and mitigation measures as outlined in this report, the project, in combination with other projects in the area, is not expected to cause significant adverse cumulative effects on current use of lands and resources in the vicinity of the project by the Homalco First Nation.</p>	Low

Table 3: Potential direct effects of the environment on the project and associated mitigation measures. Note that residual effects are not considered here, as these are effects on the project and not on Valued Ecosystem Components or Valued Social Components.

Project Component	Potential Adverse Effects to the Project Caused by the Environment	Mitigation Measures
Physical structure of facility	Weather and wave action, as well as ice accumulation, may result in loss/damage of equipment, and consequently loss of product.	The site infrastructure has been engineered to withstand extreme weather conditions as they may occur at the site. The MAFF license requires that a certified professional must inspect the facility once installed to ensure design parameters have been met, that anchors are secure, and that the system can accommodate anticipated ice and snow loading. Mooring systems will be regularly reviewed and upgraded, and consultants will assess any new deployment.
Product	Algal blooms resulting from environmental conditions (e.g. warm water, etc.) may result in mass mortality of farm fish.	The proponent has developed a Water Quality Contingency Plan to reduce the chance of harmful algal blooms affecting fish stocks. Water quality will be monitored regularly by qualified, trained employees. Management practices are to reduce fish stress and keep fish deep during harmful surface algal blooms. Depending on the species of bloom and the species and age of fish being cultured, an air-lift system may be used to displace the bloom.
	Transfer of disease from wild fish to farm fish.	A Fish Health Management Plan (FHMP) is required. This plan includes sea lice monitoring. FHMPs are comprehensive and designed to protect the health of farmed fish as well as consider any potential impacts to wild fish health. Audit is conducted by BCMAFF as well as compliance and enforcement actions where necessary. The FHMPs will be reviewed on an annual basis and updated as required. Any therapeutants will be administered as necessary according to the advice of a licensed veterinarian.
	Loss of stock due to predation	Measures will be employed to discourage predators, including birds, sharks, and marine mammals, in accordance with the proponent's Predator Avoidance Plan.

33. Follow-up Program:

None identified. No follow up program is proposed for the project as mitigation measures proposed are not based on new or unproven technologies and the environmental assessment has been conducted using standard assessment techniques.

34. Other Monitoring and Compliance Requirements:

TC-NWPD will conduct a site inspection to ensure that the markings have been installed as per specifications required by TC.

CEAA Determination**35. CEAA Determination:**

Transport Canada, a Responsible Authority as defined in the *Canadian Environmental Assessment Act*, delegated the completion of the *CEAA* Screening document to Fisheries and Oceans Canada pursuant to Section 17 of the *CEAA*. Fisheries and Oceans Canada has completed the review, on behalf of Transport Canada, of the environmental effects potentially involved in the installation, operation and decommissioning of new fish culture equipment for continued finfish aquaculture at the Conville Bay site. The environmental assessment was conducted utilising information and expert advice provided by expert Federal Authorities with respect to issues under their mandate, First Nations and other interested parties.

All relevant factors required by Section 16 of *CEAA* were considered including the environmental effects of the project and their significance. Based on the assessment, Transport Canada concludes that the project is not likely to cause significant adverse environmental effects. In accordance with Section 20(1) (a) of *CEAA*, such a determination allows the Navigable Waters Protection Division of Transport Canada to proceed, if appropriate from a navigation perspective, with the issuance of an Approval under Section 5(1) of the *Navigable Waters Protection Act*.

Signatories

Environmental Screening Report

Drafted By: Fisheries and Oceans Canada

Environmental Screening Report

Reviewed by:

To Anne McDonald
ES. W/EE

Date:

April 3, 2009

Name:

Title:

Environmental Officer, Environmental Services
Transport Canada, Pacific Region

Contents and conclusions of the CEAA Screening Report are based on advice from expert Federal Departments, other Federal Authorities, internal Branches of TC, and other interested parties as defined under CEAA.

Confirmation by Proponent

I, Chloe Bachman, having the authority to commit funds and activities on behalf of News Hearst Canada, have read and understood the above material outlining conditions for the above project. I confirm that MHC will undertake all of the mitigation conditions outlined in this environmental screening report and any additional measures necessary to ensure protection of the environment and compliance with environmental regulations during the operation, maintenance and decommissioning of this project.

Signed by:

Title:

[Signature] for Chloe Bachman
Director Environmental Relations

Date:

April 3, 2009

Environmental Screening Report

Approved by:

Name:

Robert Sisler

Title:

Regional Manager, Environmental Services
Transport Canada, Pacific Region

Date:

2009-04-03

Contents and conclusions of the CEAA Screening Report are based on advice from expert Federal Departments, other Federal Authorities, internal Branches of TC, and other interested parties as defined under CEAA.

Appendix. Agency Mitigation Measures

A1 Transport Canada – Navigable Waters Protection Division

1. Any materials or equipment used in construction or other operations are to be marked in accordance with the Collision Regulations of the Canada Shipping Act if located in or on the waterway.
2. Ensure that equipment used in construction or in other operations does not interfere with navigation, and that all materials, equipment, temporary structures and debris are removed from the waterway upon completion of the work.
3. Construction material, netting, and similar debris are not allowed to become waterborne. Should debris become waterborne the proponent will effect recovery without delay
4. In the event that use of the facility is no longer required, it will be your responsibility to maintain or remove the works and associated equipment in its entirety.
5. Yellow cautionary buoys are to be placed and maintained along the outside perimeter of the works. These buoys are to be no less than 60 meters apart, no less than 0.6 meters in diameter. Horizontal bands of yellow reflective tape not less than 10 cm in width and 15 cm in length shall be placed at intervals around the horizontal circumference of the buoys so as to be visible from all directions seaward of the works.
6. A yellow flashing light shall be placed on the four corner(s) of the facility, and midpoint on the long axes. The light will display a 0.5 second flash every 4 seconds, with a minimum nominal range of 1 nautical mile.
7. Mort floats and/or other ancillary equipment shall show a similar light and shall display reflective material so as to be visible from all directions.
8. All mooring lines are to be fabricated of non-buoyant material, and/or counterweighted to prevent them from floating, and to provide for safe vessel access. Rock Pins/shore anchors if used are to be placed at, or below the Low Water mark.
9. The proponent shall provide unimpeded access to the Minister or his/her representative.
10. The Navigable Waters Works Regulations apply.
11. The site/work shall be adequately marked/lit during all phases of construction/operation to safeguard marine navigation.
12. Notice to Shipping action shall be taken by contacting the agency below at least 10 days in advance of your intended date of commencement.

Canadian Coast Guard
Vessel Traffic Services
Room 2308
555 West Hastings Street
Vancouver, BC V6B 5G3

Tel (604) 666-6011
Fax (604) 666-8453

A2 Fisheries and Oceans Canada

1. The proponent, Marine Harvest Canada shall ensure that all work associated with the subject project complies with the requirements of the *Federal Fisheries Act*, and all other applicable legislation, guidelines, and best management practices.
2. Only those structures applied for in the Commercial Aquaculture Management Plan have been approved. Any additional residences, net washing facilities, etc. that are required to service this site must be reviewed for effects to fish habitat under separate application.
3. All debris and deleterious materials generated by the proponent shall be collected and disposed of at appropriate upland locations in accordance with all applicable legislation, guidelines, and best management practices.
4. It is understood that by proceeding with the subject works, the proponent and their agent(s) and/or contractor(s) shall have indicated that they understand, accept and have agreed to all conditions. In this regard, a copy of the Navigable Waters Protection Approval and all Fisheries and Oceans Canada mitigation measures are to be provided to any contractors prior to work commencing and are to be retained on site at all times when the subject works are underway.
5. The production levels at the site should be carefully monitored and not exceed the production amount modeled by DEPOMOD as of June 7, 2004.
6. All necessary measures must be adopted to prevent the release of Cultured fish to the wild.
7. All necessary measures to prevent effects to marine mammals and their habitat must be implemented including minimizing predator attraction.
8. It is suggested that floats be located in 10m of water or greater at low tide (i.e. at 0 chart datum).
9. Operations should be conducted in such a way to minimize effects from shading on habitat. For this reason, it is suggested that water depth be 10m from the bottom of all net pens at low tide (i.e. at 0 chart datum).

In addition to the above specific mitigation measures, the following measures will be key in ensuring that any potentially adverse effects on fish and fish habitat will be mitigated:

- Through the BC Finfish Aquaculture Waste Control Regulation, all marine finfish sites are subject to provincial management and monitoring requirements. These requirements include monitoring of benthic habitat impacts and set out specific thresholds for impacts and associated corrective measures.
- DFO and the province of BC have reached an agreement to share ongoing monitoring and site management information, to ensure that specific mitigation related to fish and fish habitat is carried out, and to continue to improve joint management of the aquaculture industry.
- The province of BC has committed to applying the DEPOMOD particle tracking model to the existing aquaculture site based on current configurations and production levels. This application of the model will serve to ground-truth the predictions of organic loading that it provides, and will establish a baseline data set for assessing effects of any future changes to the existing operations.
- DFO, the province of BC and industry representatives have agreed that any future changes to site operations must be reported, and that the potential effects of those changes to fish and fish habitat must be assessed and managed in a manner consistent with any new aquaculture site applications.

A3 Environment Canada

1. Please be advised that under the *Fisheries Act*, Management of Contaminated Fisheries Regulations, the harvesting of bivalve molluscs, (oysters, clams, mussels) is prohibited within 125 metres of certain permanent or floating structures which may be a source of contamination. These structures include any wharf, dock, platform or other structure used for vessel moorage, or any permanently anchored floating structure, including float homes, barges, platforms and vessels.
2. Any fuel stored or used on the site is to be contained and transferred as required in a manner that minimizes the risk of accidental spillage of fuel into the aquatic environment and appropriate clean-up materials are to be kept on hand to allow clean-up of any spillage which may occur.
3. Any timber preservatives are to be applied in a manner consistent with current Best Management Practices (BMP). Documentation regarding BMP is available directly from several member agencies, including Environment Canada.
4. The use of organotin (or tributyltin) anti-foulant paints on salmon farm nets poses a considerable threat to marine life, particularly oysters, due to the occurrence of toxic effects at extremely low concentrations. Present federal legislation prohibits the use of tributyltin based anti-foulants for use in aquaculture operations. Should you have any questions regarding the use of anti-foulant paints please contact Stan Liu at 666-2104 or 201-401 Burrard Street, Vancouver, BC V6C 3S5.
5. All of Fisheries and Oceans Canada concerns are to be fully addressed.