

FISHERIES AND OCEANS
CANADIAN ENVIRONMENTAL ASSESSMENT ACT (CEAA) 2012
Breakwater Extensions and Jetty Construction, Alma Small Craft Harbour
PROJECT EFFECTS DETERMINATION REPORT

GENERAL INFORMATION <i>(for guidance see page 12 of "The Canadian Environmental Assessment Act, 2012 - Project Effects Determination Process for SCH Projects" document)</i>	
1. Project Title:	Breakwater Extensions and Jetty Construction, Alma Small Craft Harbour
2. Proponent:	Fisheries and Oceans Canada - Small Craft Harbours (DFO-SCH)
3. Other Contacts: a) Public Services and Procurement Canada – Nicolas Rolland, Environmental Services b) Fisheries and Oceans Canada – Fisheries Protection Program – Georges Brown, Senior Fishery Protection Biologist c) Transport Canada – Navigation Protection Program d) Parks Canada	4. Role of each contact: a) OGD consultant b) Regulatory Authority c) Regulatory Authority d) Land owner
5. Source of Project Information if project is a referral: Monique Pellerin – Project Manager (PSPC)	
6. Project Review Start Date: 2017-08-01	7. PATH No.:
8. DFO File No: N/A	9. Other Relevant File Numbers: PSPC File No. – R.083208.001 DFO-FPP #17-HGLF-00232 TC NPP # TC NEATS #

BACKGROUND
(for guidance see page 12 of "The Canadian Environmental Assessment Act, 2012 - Project Effects Determination Process for SCH Projects" document)

10. Background about Proposed Development (including a description of the proposed development):

The proposed project will take place at Alma DFO-SCH, an active Small Craft Harbour facility servicing the commercial fishery. The proposed project consists of the extension and improvements to two existing breakwaters and the construction of a jetty. The project will also require the construction of temporary access roads and installation of a snow fence, followed by the reinstatement of the vegetation once construction is complete. The work will require work below the high water mark. The approximate coordinates of the project area are: 45°35'59.01" N and 64°56'41.52" W.

Alma DFO-SCH is considered a core fishing harbour and continues to be a valuable resource for the commercial fishery, therefore abandonment and displacement of the fishing fleet of approximately 20 home port fishing vessels was not considered to be a viable socio-economic alternative. The proposed project is considered the most feasible option in order to improve the overall safety and access to the harbour.

This PED report is being conducted to fulfill the requirements under Section 67 of the *Canadian Environmental Assessment Act, 2012*. A review of the SCH Project Environmental Risk Assessment Form determined that this project is considered high-risk, and is being assessed as such.

Two authorizations may be required for the project including:

- Fisheries Act authorization for potential serious harm to fish habitat as a result of the the destruction of up to 6,600 m² of fish habitat; and
- Navigation Protection Act authorization for the construction of breakwaters in navigable waters and below the high water mark.

PROJECT REVIEW

(for guidance see page 13 to 17 of "The Canadian Environmental Assessment Act, 2012 - Project Effects Determination Process for SCH Projects" document)

11. DFO's rationale for the project review:

Project is on federal land and;

- DFO is the proponent.
- DFO to issue *Fisheries Act* Authorization or *Species at Risk Act* Permit.
- DFO to provide financial assistance to another party to enable the project to proceed.
- DFO to issue licence or lease federal land to enable the project to proceed.

12. a) ***Fisheries Act* Section(s) (if applicable):** Paragraphs 35(1) and 35(2)(b)

b) ***Species at Risk Act* Section(s) (if applicable):** N/A

13. **Primary Authority:** DFO-SCH

14. Primary Authority's rationale for involvement:

- Primary Authority is the proponent.
- Primary Authority to provide financial assistance to enable the project to proceed.
- Primary Authority to provide a licence or an interest in land.
- Primary Authority to issue a regulatory permit, approval or authorization.

15. Other Authorities involved in review:

- a. DFO-Fisheries Protection Program (FPP)
- b. Transport Canada, Navigation Protection Program (NPP) and Environmental Affairs and Aboriginal Consultation Unit (TCEA)
- c. New Brunswick Department of Environment and Local Government (NBDELG)

16. Each Authority's rationale for involvement:

- a. Approval Requirement: The project was referred to the DFO-Fisheries Protection Program (FPP) and is currently under review. The proponent will comply with all/any of the conditions of the FPP letter/approval.
- b. Approval Requirement: A Navigation Protection Act (NPA) approval is required for this project. The proponent will comply with all/any conditions of the NPA approval.
- c. Approval Requirement: The project is being registered as an Environmental Impact Assessment (EIA) pursuant to the EIA Regulation (87-83) of the New Brunswick *Clean Environment Act*.

17. Other Contacts and Responses (Government Agencies, Aboriginal Consultation, Public Consultation, Other Organizations, Harbour Authority, etc.):

- a. Mr. Terry Rossiter – Harbour Authority Representative for Alma DFO-SCH
- b. Mr. Sean Winstanley – DFO Area Aboriginal Coordinator
- c. Parks Canada

Aboriginal Consultation

PSPC, on behalf of DFO-SCH, carried out an Aboriginal Assessment at Alma in accordance with DFO-SCH's Preliminary Duty to Consult Assessment Guide. This Guide is intended to provide basic information to DFO-SCH in the Maritimes and Gulf Regions and to assist its Program Managers in making informed, prudent decisions that take into account statutory and other legal obligations, as well as policy objectives, related to Aboriginal and treaty rights. The Supreme Court of Canada has held that the Crown has a duty to consult and, where appropriate, accommodate when the Crown contemplates conduct that might adversely impact potential or established Aboriginal or treaty rights. While there may be other reasons to undertake consultations (e.g., good governance, policy-based, etc.), three elements are required for a

legal duty to consult to arise:

1. There is contemplated or proposed Crown conduct.
2. The Crown has knowledge of potential or established Aboriginal or treaty rights.
3. The potential or established Aboriginal or treaty rights may be adversely impacted by the Crown.

Although there are no significant adverse environmental impacts anticipated as a result of this project and work activities will be undertaken within the existing harbour property which has been developed to serve the fishing industry, there is the potential for Aboriginal vessels to fish for commercial purposes from the Small Craft Harbour and the footprint of the breakwaters in proximity to the Upper Salmon River may infringe on Aboriginal treaty rights and interests.

18. Scope of Project (details of the project subject to review):

Project Description

The proposed project consists of the extension and improvements to two existing breakwaters and the construction of a jetty at the DFO-SCH in Alma.

The project activities will first include the on-site transportation of material and equipment, followed by the construction of a temporary access road on the upper land where the south-breakwater is connected and the installation of a snow fence to secure the area along the access road. A fabric layer will be laid down to protect the fragile and local vegetation underneath the temporary access road. This procedure was successfully applied during the construction of the actual south-breakwater in 2016.

The main construction activities will include the extension of the breakwater on the sea side (south-breakwater), the construction of a breakwater extension on the land side (east-breakwater) and the construction of a jetty along the Upper Salmon River (Figures 2-6 in Appendix A).

Once completed, the temporary access road will be removed and the impacted area will be followed by the reinstatement of native vegetation. The work will require work below the high water mark. The total footprint of the structures will be 9,200 m² with 6,600 m² occurring below the higher high water large tide (HHWLT).

Operation / Maintenance

The Environmental Management System (EMS) with an integrated Environmental Management Plan (EMP) for the Harbour Authority of Alma covers operational aspects of environmental management and is the mitigation measure for the environmentally responsible aspects of harbour operation (fuelling, waste disposal, activities on the property and water). The proposed project will not affect continued operations at the Alma DFO-SCH.

Decommissioning

This facility is not presently planned to be decommissioned. At the time of decommissioning, DFO-SCH will develop a site specific re-use or reclamation plan that is appropriate for the applicable environmental legislation and Fisheries and Oceans Canada policies.

Scheduling

In order to avoid interactions with environmental and socio-economic receptors, including fauna (Atlantic Salmon), local businesses that benefit from summer tourism, and local residents, the proposed construction activities are expected to begin no sooner than late November 2017 and be completed by March 31, 2018, depending on approvals and funding.

19. Location of Project:

The Alma DFO-SCH (Harbour Code 2501) is located along the southern coastline of New Brunswick in waters of the Bay of Fundy (Figures 1 in Appendix A). The approximate coordinates of the project area are Latitude 45°35'59.01" N and Longitude 64°56'41.52" W.

20. Environment Description:

Physical Environment

Alma DFO-SCH facility is located within the Atlantic maritime ecozone and more precisely inside the Southern New Brunswick Uplands ecoregion which forms a 40-km-wide band that runs parallel to the Bay of Fundy and along the United States border to the Saint John River valley (Ecological Stratification Working Group, 1995). Inside this large ecoregion, Alma DFO-SCH is part of the Fundy Coast ecoregion which covers a narrow coastal strip along the Bay of Fundy in New Brunswick and Nova Scotia (Ecological Stratification Working Group, 1995). The landscape of the Fundy Coast ecoregion owes much of its scenic diversity to the varied types of bedrock, from seaside salt marshes and estuaries to towering

cliffs overlooking the Bay of Fundy (Zelazny, 2007). Mean elevation is under 100 m, although some coastal cliffs can reach over 300 m. All rivers in the ecoregion flow into the Bay of Fundy or one of its subsidiary bays and basins. Some rivers meet the ocean directly as waterfalls or swift streams, whereas others enter more gently through coastal estuaries or marshes before mingling with the salt water (Zelazny, 2007). Its proximity with the Atlantic Ocean strongly influence its climate with high winds, high humidity, and fog. Summers are usually cool and wet while winter are mild and wet with most precipitation falling as rain (Ecological Stratification Working Group, 1995).

Canadian Climate Normals (1981-2010) for nearby Alma weather station (45°36' N; 64°57' W) indicate that the project area receives an average of 1,510.1 mm of precipitation annually and experiences measurable precipitation (≥ 0.2 mm) 171.5 days per year. Extreme precipitation events of up to 179.1 mm have been recorded. The temperatures range from an extreme minimum of -31.0°C to an extreme maximum of 35.5°C with an annual daily mean temperature of 5.7°C (Environment Canada, 2017a).

Surficial geology maps identifies the surrounding land area of the Alma DFO-SCH as being made primarily by Late Wisconsinan morainal sediments which consist of lodgment till, ablation till, and associated sand and gravel deposited directly by Late Wisconsinan ice or with minor reworking by water (Rampton, 1984). Blanket soil is generally expected to be mainly stony till (more than 35 % of clasts pebble-sized and larger). Bedrock in the area of the site consists of Early Carboniferous stratified rocks (Mabou Group) (NBDTR, 2008).

A marine sediment sampling program completed in July 2015 collected a total of seven samples in an area adjacent to the breakwater extensions. Grain size analysis showed sediment to be dominated by sand followed by gravel with minimal amounts of silt and clay (Amec, 2015, see Appendix B). Chemical analysis of the sediment indicated that there were no exceedances of CEPA, CCME SQGs, RBCA Tier 1 Version 3.0 RBSLs or SESLs.

The mean tidal range of the nearby Chignecto Bay (Cape Chignecto to Martin Head) is approximately 9.6 m with a maximum value of approximately 13.0 m. The mean tidal volume reaches $9,752.71 \times 10^6 \text{m}^3$ with a mean tidal current of 0.56 m/s which peak at 0.88 m/s (Gregory *et al.*, 1993).

Biological Environment

Through the Fundy Coast ecoregion, the Alma DFO-SCH is more precisely located inside the Fundy Coastal ecodistrict which comprises the southern coastline of New Brunswick along the Bay of Fundy from east Passamaquoddy Bay to Shepody Bay. It also encompasses the Western Isles, including Campobello, Deer, and Grand Manan islands. The cool and wet climate has created a forest composition with many boreal elements, except for the prominence of red spruce (*Picea rubens*). Forest stands on higher plateaus in the east consist almost solely of pure red spruce. Elsewhere, forests comprise a mixture of red spruce with white spruce (*Picea glauca*) and black spruce (*Picea mariana*), or balsam fir (*Abies balsamea*) with some red maple (*Acer rubrum*), white birch (*Betula papyrifera*), and yellow birch (*Betula alleghaniensis*). Typically, black spruce is associated with the margins of bogs and wet areas; white spruce is the predominant spruce species in a narrow band along the shoreline and on abandoned pastures and fields. Trembling aspen (*Populus tremuloides*), red pine (*Pinus resinosa*) and Jack pine (*Pinus banksiana*), a non-native species, can also be found near the project area.

In the immediately adjacent waters of the Bay of Fundy, there are lobster (*Homarus americanus*), scallop (*Placopecten magellanicus*), and rock crab (*Cancer irroratus*) fishing grounds. Clam beds are noted as existing adjacent to the project site, while periwinkles (*Littorina* sp.) are harvested along the coast, approximately 500 m east of the harbour. The harbour is located at the mouth of the Upper Salmon River which contains populations of several anadromous, catadromous and freshwater fish including: brook trout (*Salvelinus fontinalis*), American eel (*Anguilla rostrata*), rainbow trout (*Oncorhynchus mykiss*), white perch (*Morone americana*), and rainbow smelt (*Osmerus mordax*). In addition, Atlantic salmon (*Salmo salar*, endangered Inner Bay of Fundy (iBoF) population) smolts migrate from the Upper Salmon River to the ocean during the month of May, with the adult Salmon migrating back to the river from mid-August to the end of October where they will overwinter in the upper reaches of the river.

The iBoF Atlantic salmon population is listed as endangered on Schedule 1 of SARA, and critical habitat for this species has been identified within the Upper Salmon River watershed (DFO, 2010). The iBoF salmon are at very low levels and extirpations have occurred in several rivers. Juvenile salmon are present in rivers with Live Gene Bank (LGB) support, but densities are extremely low in rivers without support. Annual mortality of immature salmon at sea has increased along side with annual mortality of post-spawning adults. Under present conditions, the population is highly unstable and without human intervention it is accepted that iBoF Atlantic salmon population will go extinct on the time scale of 10-15 years (DFO, 2004). The number of adult salmon observed in the fall in the Upper Salmon River was recorded for 22 years between 1963 and 1994 (Amiro, 2003). The highest recorded count was 1,200 fish in 1967 and 900 fish were counted in 1979. Counts from 1991 to 1994 did not exceed 50 fish in any year. Nowadays, with LGB support, the Upper Salmon River shows signs of increased juvenile salmon abundance which confirm that such program has slowed or halted the decline of Atlantic salmon in this river (DFO, 2010). Therefore it is necessary that any construction activities in the Alma DFO-SCH should not coincide with the presence of salmon in the area, such as during their migration activities which occurs from early spring to the end of October. Smolts and kelts generally migrate from the Upper Salmon River to the

ocean during the month of April and May, while the adult Salmon migrating back to the river from mid-August to the end of October where they winter in the upper reaches of the Upper Salmon River.

Alma DFO-SCH is well positioned on the Atlantic bird migration route, and over 260 bird species have been identified in the nearby Fundy National Park or on the adjacent bay (Parks Canada, 2017). The Maritime Breeding Bird Atlas identifies a total of 96 species of birds in the geographical block which contains the harbour (20LR45), 34 of which are listed as confirmed for breeding in the vicinity of the project area (IBA Canada, 2017).

An Underwater Benthic Habitat Survey was conducted in July 2015 (Amec Foster Wheeler, 2015, see Appendix C). Substrate and benthic communities were characterized along six transects in the harbour. Macrofaunal life was observed in three of the six transects, but was limited to a common or abundant occurrence of Northern rock barnacle (*Semibalanus balanoides*). Macrofloral life was observed in five of the six transects but was generally sparse. Green algae (*Spongomorpha* sp. and *Enteromorpha* sp.), Soft sour weed (*Desmarestia viridis*) and Bladderwrack (*Fucus vesiculosus*) were the most predominant species. A single area of Rockweed (*Ascophyllum nodosum*) was also noted in the survey. The areas underneath the east and south breakwaters extensions are mostly made of a mix of sand and cobbles and no macroflora was observed during site visit in July 2017. Both areas have therefore low potential for fish habitat (Figures 2-5).

Species at Risk (Aquatic and Terrestrial)

A search of the Atlantic Canada Conservation Data Centre database was conducted (ACCDC, 2017). The ACCDC provided a list of nationally and/or provincially rare/unique species (i.e. plants and animals) within a 5 km buffer zone (standard ACCDC procedures) of the site of the proposed work. All species were cross-referenced with Schedule 1 of the Species at Risk Act (SARA). Species at risk or of concern are listed below:

- The **Bicknell's Thrush** (*Catharus bicknelli*) is listed as Threatened by both Schedule 1 of SARA and COSEWIC. The thrush breeds mainly in high elevation, dense and stunted fir/spruce forests. Most populations are confined to altitudes of 914 m to the tree line on rocky peaks, but some scattered pairs breed down to 762 m. The subalpine forests favoured by this species are characterized by a wet, cool, windy climate that increases in severity with elevation. Average canopy height ranges from 3-7 m in New Brunswick. The species is an above-ground nester, building bulky, well-constructed nests in small or medium-sized spruce and fir (and sometimes, in alder, birch or striped maple). Most nests are built relatively close to the ground (1-4.5 m above ground level). Nest construction occurs in early June, shortly after the birds arrive on the breeding grounds. Clutches of 3-4 greenish-blue eggs, lightly spotted with brown, are laid around mid-June and are incubated solely by the females. The Bicknell's Thrush winters in the Greater Antilles, where the bulk of its population appears to be in the Dominican Republic (Environment Canada, 2017b). Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already migrated south to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.
- The **Canada Warbler** (*Cardellina canadensis*) is listed as Threatened by both Schedule 1 of SARA and COSEWIC. This bird breeds primarily across much of southeastern Canada, the northeastern United States, and the Great Lakes region. The Canada Warbler is found in a variety of forest types, but mostly in wet, mixed deciduous-coniferous forest with a well-developed shrub layer. In winter, this migratory bird returns to South-America and uses primarily mature cloud rainforests located at an elevation of 1000 to 2500 m, as well as old-growth forests, forest edges, coffee plantations, agricultural field edges and semi-open areas (Environment Canada, 2017b). Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already migrated south to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.
- The **Chimney Swift** (*Chaetura pelagica*) is listed on Schedule 1 of SARA and COSEWIC as Threatened. The Maritimes Canadian Chimney Swift population is estimated at 900. The Chimney Swift breeds mainly in eastern North America, from southern Canada down to Texas and Florida. It occasionally breeds in southern California and possibly in Arizona. Chimney Swifts winter in the upper Amazon basin in South America (mainly in Peru), southern and northeastern Ecuador, northwestern Brazil, and northern Chile. Approximately one quarter of this species' breeding range is in Canada. The Chimney Swift spends the major part of the day in flight feeding on insects. Flocks can often be seen near bodies of water due to the abundance of insects. Prior to the arrival of European settlers in North America, chimney swifts nested mainly in the trunks of large, hollow trees, and occasionally on cave walls or in rocky crevices. However, due to the land clearing associated with colonization, hollow trees became increasingly rare, which led chimney swifts to move into house chimneys. However, it is likely that a small portion of the population continues to use hollow trees (Environment Canada, 2017b). Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already migrated south to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.

- The **Common Nighthawk** (*Chordeiles minor*) is listed on Schedule 1 of SARA and COSEWIC as Threatened. This medium sized bird is commonly found throughout the Maritimes with the exception of Prince Edward Island. It nests in a wide range of open vegetation-free habitats including dunes and beaches. The Common Nighthawk winters throughout South America, primarily in eastern Peru and Ecuador, and southern Brazil. Causes of their population decline are unknown but may include a decline of their insect population food source, pesticide use, habitat loss and increased predator populations (Environment Canada, 2017b). Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already migrated south to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.
- The **Little Brown Myotis** (*Myotis lucifugus*) is listed on Schedule 1 of SARA and COSEWIC as Endangered. Little brown myotis is the most widely distributed Canadian bat species. They roost in buildings, tree cavities, or any other dark, warm area they can find. They forage at night on flying insects and roost during the day. The population of Little Brown Myotis in Canada has been reduced by over 75% in the last number of years as a result of White Nose Syndrome, caused by a fungus likely from Europe. Between October and May, Little Brown Myotis overwinter in hibernacula, mainly caves or abandoned mines (Environment Canada, 2017b). Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already moved to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.
- The **Monarch** (*Danaus plexippus*) is listed on Schedule 1 of SARA as Special Concern and COSEWIC as Endangered. Monarchs in Canada exist primarily wherever milkweed (*Asclepius*) and wildflowers (such as Goldenrod, asters, and Purple Loosestrife) exist. This includes abandoned farmland, along roadsides, and other open spaces where these plants grow. The eastern and western populations of the Monarch annually migrate south, beginning in August and continuing until mid-October. Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already migrated south to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.
- The **Northern Long-Eared Myotis** (*Myotis septentrionalis*) is listed on Schedule 1 of SARA and COSEWIC as Endangered. They are found primarily in forested habitats, especially boreal forests, since they typically roost in hardwood trees during the summer. During the spring and summer, Northern Long-Eared Myotis spend the day roosting in trees or artificial structures, switching to a new roost every other day on average. In the fall, northern long-eared bats migrate to caves to hibernate. Depending on the latitude, this may occur at any time between September and November, and the bats emerge between March and May (Environment Canada, 2017b). Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already moved to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.
- The **Olive-sided Flycatcher** (*Contopus cooperi*) is listed on Schedule 1 of SARA and COSEWIC as Threatened. It breeds in scattered locations through most of forested Canada. It is most often associated with open areas containing tall live trees or snags for perching. In winter, it is found mainly in Panama and the Andes Mountains, from Venezuela to Peru and Bolivia. Threats to the Olive-sided Flycatcher are unclear but they are most likely related to habitat loss and alteration (Environment Canada, 2017b). Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already migrated south to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.
- The anatum subspecies of the **Peregrine Falcon** (*Falco peregrinus*) is listed on Schedule 1 of SARA and COSEWIC as Special Concern. The Peregrine Falcon breeds on all continents except Antarctica and uses a variety of habitats. It usually nests alone on cliff ledges or crevices preferably 50 to 200 m in height. It winters from northern Mexico and as far south as Chile and Argentina. Peregrine falcon populations were historically adversely affected by exposure to organochlorine pesticides (Environment Canada, 2017b). Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already migrated south to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.
- The **Red Knot Rufa spp.** (*Calidris canutus rufa*) is listed on Schedule 1 of SARA and COSEWIC as Endangered. Red Knots of the subspecies rufa breed in the central Canadian Arctic and winter in Tierra del Fuego at the southern tip of South America. Red Knots use different habitats during the breeding, wintering, and migration seasons. Nesting sites are usually located in dry, south-facing locations, near wetlands or lakes, where the young are led after hatching. Red Knots generally feed in damp or barren areas that can be as far as 10 km from the nest. Migratory stopovers and wintering grounds are vast coastal zones swept by tides twice a day, usually sandflats but sometimes mudflats. In these areas, the birds feed on molluscs, crustaceans, and other

invertebrates. The species also frequents peat-rich banks, salt marshes, brackish lagoons, mangrove areas, and mussel beds (Environment Canada, 2017b). Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already migrated south to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.

- The **Rusty Blackbird** (*Euphagus carolinus*) is listed on Schedule 1 of SARA and COSEWIC as Special Concern. The breeding range of the Rusty Blackbird includes a vast portion of Canada and Alaska, as well as parts of Minnesota, Michigan, Vermont, New Hampshire, Maine, New York, and Massachusetts. Its winter range includes most of the central and eastern United States, although a very small number of Rusty Blackbirds winter, albeit sporadically, in the southern part of most Canadian provinces. It nests in the boreal forest and favours the shores of wetlands such as slow-moving streams, peat bogs, marshes, swamps, beaver ponds and pasture edges. In wooded areas, the Rusty Blackbird only rarely enters the forest interior. During the winter, the Rusty Blackbird mainly frequents damp forests and, to a lesser extent, cultivated fields. Migration begins in late August and lasts until early October (Environment Canada, 2017b). Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already migrated south to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.

Species identified as sensitive by the Committee on the Status of Endangered Wildlife in Canada but not appearing on Schedule 1 of SARA noted in the ACCDC search include the bank swallow (*Riparia riparia*), the barn swallow (*Hirundo rustica*), the bobolink (*Dolichonyx oryzivorus*), the eastern wood-pewee (*Contopus virens*), the red-necked phalarope (*Phalaropus lobatus*) and the wood thrush (*Hylocichla mustelina*).

Although not listed in the ACCDC search, the following species are highly mobile and may occur near the project site:

- The **Piping Plover** (*melodus* subspecies - *Charadrius melodus melodus*): The last COSEWIC assessment in May 2001 designated both sub-species (*C.m. melodus* and *C.m. circumcinctus*) of the piping plover as endangered. The piping plover is a North American bird that breeds along the Atlantic Coast from Newfoundland to South Carolina and from Saskatchewan, Manitoba, and Ontario south into the central United States. It winters along the Atlantic Coast, from South Carolina to Florida, and in the Caribbean (Cuba, Bahamas). In Canada, the *melodus* subspecies breeds on the Iles-de-la-Madeleine of Quebec, and in New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland. Piping plovers nest above the normal high-water mark on exposed sandy or gravelly beaches. On the Atlantic Coast they often nest in association with small cobble and other small beach debris on ocean beaches, sand spits, or barrier beaches. They also forage for food on these beaches. The most important limiting factor for piping plovers of the *melodus* subspecies is the loss of habitat, mostly caused by human use of beaches, and the consequent human disturbance around nesting sites (Environment Canada, 2017b). The shoreline around the Alma DFO-SCH has not been identified by Environment Canada as critical habitat in the *Recovery Strategy for the Piping Plover (Charadrius melodus melodus)* in Canada, however the Waterside Beach located 10 km north of Alma has supported a single nesting pair of Piping Plover in the past (Environment Canada, 2012). It is highly unlikely that a Piping Plover would visit the work site considering that the work will be conducted in winter when this species is not present. Taking into consideration the spatial and temporal extent of project activities and nature of the work, interaction by the species with the project is therefore not anticipated.
- Populations of **Atlantic Salmon** (*Salmo salar*) inhabit rivers as well as smaller brooks in New Brunswick. Individuals would be found seasonally in the lower Upper Salmon River sections and coastal zone both as smolts migrating from the river to feed in the sea during the month of May, and as adult migrating back to the river from mid-August to the end of October where they will winter in the upper reaches of the river. As previously discussed, the salmon of this area are part of the inner Bay of Fundy (iBoF) population which is listed on Schedule 1 of SARA and COSEWIC as Endangered (DFO, 2010). Taking into consideration the nature of the work and, the spatial and temporal extent of project activities which will occur when this species has already migrated to its wintering ground, interaction of the project with this species or its preferred habitat is not anticipated.
- The **American Eel** (*Anguilla rostrata*) is classed as a catadromous fish, which means that on attaining sexual maturity, adult eels migrate downstream to the sea where ultimately they spawn. Spawning migration occurs between August and December, with downstream movement is most active at night, during the first several hours after sunset. Peak migration activity usually occurs during September and October. Yellow eels (sexually immature adult stage) may also be found migrating seaward in the autumn but they are believed to be moving to overwintering sites within the river or estuary. Yellow eels are generally active at night, retiring to burrows in muddy bottoms or to other cover during daylight. Temperature influences the degree of seasonal activity and eels become noticeably less active when the water temperature drops below 11°C in autumn. During winter, eels hibernate in the bottom mud. Eels are voracious carnivores and consume a variety of fishes and invertebrates such as insects, crayfish, snails and worms (DFO, 2014).

Sensitive Environmental Areas

A search of the ACCDC database yielded the following sensitive environmental areas in the vicinity of the Alma DFO-SCH.

- **Fundy National Park** showcases a rugged coastline which rises up to the Canadian Highlands, the highest tides in the world and more than 25 waterfalls. With an area of 206 km² of Acadian forest, leading to thundering waterfalls, freshwater lakes and scenic river valleys, the park encompasses 20 kilometres of dramatic shoreline along the Bay of Fundy, more than 100 kilometres of hiking and biking trails ribbon.
- **Shepody Bay West Important Bird Area (IBA)** is located less than 10 km southwest of Alma DFO-SCH. This IBA forms a large tidal embayment at the western head of the Bay of Fundy and encompasses an area of 290.63 km² (Birds Studies Canada, 2017). This site has importance due to its mudflats and tidal marshes at the head of the Bay of Fundy which are considered one of the most important stopover sites for shorebirds in eastern North America, especially the semipalmated sandpipers (*Calidris pusilla*) and the endangered piping plover (*melodus* subspecies – *Charadrius melodus melodus*). Numerous species of shorebirds migrate through the Bay of Fundy including short-billed dowitcher (*Limnodromus griseus*), red knot (*Calidris canutus*), sanderling (*Calidris alba*), and least sandpiper (*Calidris minutilla*). On Grindstone Island, located within the IBA there are colonies of breeding great blue heron (*Ardea herodias*), double-crested cormorant (*Plalacrocorax auritus*), herring gull (*Larus argentatus*), great black-backed gull (*Larus marinus*) and common eider (*Somateria mollissima*) (IBA Canada 2017).

The following Environmentally Significant Areas (ESAs) designated by the Nature Trust of New Brunswick (NTNB) (2005) is noted:

- **Cape Enrage Marsh Nature Preserve** is located just north of Cape Enrage, on the Bay of Fundy in Albert County. The Cape Enrage Nature Preserve boasts breathtaking views from a publicly accessible cobblestone beach showcasing the marshland, woodland and coastal areas.

Alma DFO-SCH is also located near four provincially significant wetlands, with the closest one on the upper land where the southbreakwater is connected. Only a portion (~50 %) of this upper land is covered with coastal vegetation (mainly *Ammophila* sp. and trace of *Cakile* sp.), the remaining being mostly made of a sandy area facing the bay and a rocky shoreline along the Upper Salmon River where semi-buried wood piles from an old cribwork are visible

There are no listed wildlife species or critical habitats (including wetlands) that will likely be affected by the project activities as there is no critical or limiting habitat at the proposed work site other than those already discussed above.

Human Environment

The Alma DFO-SCH is located inside the village of Alma, Albert County, New Brunswick. The harbour is directly accessible from the NB road 114.

First documentation indicating the development of a breakwater at Alma dates back to 1912 when the east breakwater structure was constructed. Presently, this Class C facility (under 400 vessel metres) is comprised of a concrete-deck wharf, a steel sheet pile (SSP) wharf, breakwaters, boat ramp, and a parking/service area. There are two lobster holding facilities at the harbour. There are 1-2 water intakes at the harbour located approximately 800 m east of the harbour along the adjacent beach.

Adjacent land-owners includes a hotel, restaurants and others stores oriented mainly toward tourism, which peaks during summer season. Late autumn and winter months are therefore more suitable for conducting such work in order to limit the impacts on nearby community.

The Harbour Authority, through a lease agreement with DFO-SCH, manages the property and its facilities. The Alma SCH currently accommodates a home fleet of approximately 20 full-time commercial fishing vessels, who fish in the Bay of Fundy. There are no recreational or aquaculture vessels at the facility. According to the Harbour Authority, the following fisheries operated out of the harbour:

- Lobster – harvested in two districts from March 1st to July 31st, April 1st to June 29th, October 14th to December 31st, and the 2nd Tuesday in November to January 15th.
- Scallop – Quota based and harvested between the 2nd Monday in January and April, and the 1st Monday in August and September.

Based on the Harbour Authority and mapping produced by the New Brunswick Department of Agriculture, Aquaculture and Fisheries (NBDAAF), there are no aquaculture sites located near the harbour (NBDAAF, 2017).

According to the harbour authority, there are currently no Aboriginal vessels that participate in the commercial fishery at the Harbour. According to the DFO Aboriginal Program Area Coordinator, however, the Fort Folly First Nation is the only First Nation in the area that may use the harbour for commercial purposes. This harbour is also not known to be used for

Aboriginal food, social, and ceremonial purposes (T. Rossiter, pers. comm., 2015; S. Winstanley, pers. comm., 2017).

Lands adjacent to the coastlines in the Maritimes tend to have high archaeological potential given their historic importance and proximity to transportation routes and fishing resources. The shoreline around Alma SCH is considered high potential for heritage and archaeological resources. There are no registered archaeological sites in the vicinity of the project (New Brunswick Department of Tourism, Heritage and Culture, 2013).

21. Scope of Effects Considered (Section 5(1) and 5(2)):

Table 1: Potential Project / Environment Interactions Matrix

Project Phase / Physical Work/Activity	As per Section 5(1)			Section 5(1c)				Section 5(2)			Due Diligence						
	Fish (Fisheries Act)	Aquatic Species (SARA)	Birds (MBCA)	Health and Socio Economic	Aboriginal Interest			Health and Socio Economic	Physical and Cultural Heritage	HAPA* Significance	Water (ground, surface, drainage, etc.)	Wetlands	Terrestrial / Aquatic Species	Fish	Birds	Soil	Air Quality
					Physical and Cultural Heritage	Land use	HAPA* Significance										
Construction of breakwater extensions and jetty																	
Transportation of material and equipment	P	-	P	P	-	-	-	P	-	-	P	-	P	-	P	P	P
Construction of temporary access roads, installation of a snow fence	P	P	P	P	-	-	P	P	-	P	P	P	P	P	P	P	P
Construction of breakwater extensions	P	P	P	P	-	-	P	P	-	P	P	-	P	P	P	P	P
Construction of jetty	P	P	P	P	-	-	P	P	-	P	P	P	P	P	P	P	P
Removal of temporary access roads and reinstatement of the vegetation once construction is completed	P	P	P	P	-	-	P	P	-	P	P	P	P	P	P	P	P
Disposal of construction, demolition, and excavation waste	P	-	P	-	-	-	-	-	-	-	P	-	P	-	P	P	P
Operation/Maintenance	P	P	P	P	-	-	-	P	-	-	P	-	P	P	P	-	P
Decommissioning / Abandonment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
*structure, site or thing that is of historical, archaeological, paleontological or architectural significance																	
P = possible interaction																	
“-“ = no interaction																	

Evaluation of Environmental Effects

The Valued Ecological Components (VECs) selected in Table 1 are addressed in Sections 22 and 23 of the PED. The physical works/activities and required mitigation measures are detailed. The assessment is based on:

- Information provided by the proponent;
- a review of project related activities;
- an appraisal of the environmental setting, and identification of resources at risk;
- the identification of potential impacts within the temporal and spatial bounds; and
- personal knowledge and professional judgment of the assessor.

The significance of project related impacts was determined in consideration of their frequency, the duration and geographical extent of the effects, magnitude relative to natural or background levels, and whether the effects are reversible or are positive or negative in nature. These criteria are described in Table 2 and used in Section 23.

Table 2: Assessment Criteria for Determination of Significance

Magnitude	Magnitude, in general terms, may vary among issues, but is a factor that accounts for size, intensity, concentration, importance, volume and social or monetary value. It is rated as compared with background conditions, protective standards or normal variability.	
	Small	Relative to natural or background levels
	Moderate	Relative to natural or background levels
	Large	Relative to natural or background levels
Reversibility	Reversible	Effects can be reversed
	Irreversible	Effects are permanent
Geographic Extent	Immediate	Confined to project site
	Local	Effects beyond immediate project site but not regional in scale
	Regional	Effects on a wide scale
Duration	Short-term	Between 0 and 6 months in duration
	Medium-term	Between 6 months and 2 years
	Long-term	Beyond 2 years
Frequency	Once	Occurs only once
	Intermittent	Occurs occasionally at irregular intervals
	Continuous	Occurs on a regular basis and regular intervals

Methodology

The environmental effects evaluation methodology used in this report focuses the evaluation on those environmental components of greatest concern. The VECs most likely to be affected by the project as described are indicated in Table 1. VECs were selected based on ecological importance to the existing environment (above), the relative sensitivity of environmental components to project influences and their relative social, cultural or economic importance. The potential impacts resulting from these interactions are described below.

This environmental effects evaluation considers the full range of project/environment interactions and the environmental factors that could be affected by the project as defined above and the significance of related impacts with mitigation.

22. Environmental Effects of Project:

Potential Project/Environment Interactions and their effects are outlined below. The effects are described for each project phase.

Breakwater Extensions and Jetty Construction

- Project activities may result in debris/material entering the marine environment.
- Activities may result in construction related debris or toxic materials affecting soil and/or marine water quality.
- Potential for suspended solids/sediments and turbidity immediately adjacent to the project site affecting fish/fish habitat.
- Potential adverse effects to migratory birds during site access.
- Potential to enhance populations of predators in the harbour area.
- Potential for introduction of invasive species into the marine environment.
- Potential discovery and disturbance or loss of heritage/archaeological resources.
- Noise and dust generated as a result of the construction activities and transport of equipment/materials.
- Use of heavy machinery may cause short-term elevated noise levels and emissions at the site.
- Safety hazards to workers during dredging and disposal activities.

Operation/Maintenance:

- Potential safety hazards to workers during operation/maintenance.

Decommissioning / Abandonment:

- Safety hazards to workers during decommissioning/abandonment.

Navigation Consideration:

- Environmental effects of the project on navigation are taken into consideration as part of the Project Effects Determination (PED) only when the effects are indirect, i.e. resulting from a change in the environment affecting navigation. Direct effects on navigation are not considered in the PED, but any measures necessary to mitigate direct effects will be included as terms and conditions associated with work approved or permitted pursuant to the *Navigation Protection Act*.

23. Mitigation Measures for Project (including Habitat Offsetting, if applicable)

Table 3: Potential Project/Environment Interactions and Recommended Mitigation Measures

Construction of breakwaters' extensions	
Effect	Recommended Mitigation Measures
Potential degradation of soil. <i>(Moderate, Reversible, Immediate, Short-term, Intermittent)</i>	<ul style="list-style-type: none"> • Machinery must be checked for leakage of lubricants and fuel. Basic petroleum spill clean-up equipment must be kept on-site. All spills or leaks must be promptly contained, cleaned up, and reported to the 24-Hour Environmental Emergencies Report System (1-800-565-1633). • Hazardous materials (e.g., fuels, lubricants, hydraulic oil) and wastes (e.g., waste oil) should be managed so as to minimize the risk of chronic and/or accidental releases. • Waste materials are not to be buried on site. Construction debris and waste materials will be disposed of in accordance with Provincial Waste Management Regulations.
Potential degradation of groundwater/marine water quality affecting fish/fish habitat. <i>(Small, Reversible, Immediate, Short-term, Intermittent)</i> Potential loss of fish habitat. <i>(Moderate, Irreversible,</i>	<ul style="list-style-type: none"> • A request for review has been submitted to DFO-FPP. The project will incorporate the recommended mitigation once an approval/letter of advice is received. • Activities must be completed in such a way as to minimize the amount of fines and organic debris that may enter nearby aquatic environments. • Visual monitoring of the turbidity will be required on a daily basis in the vicinity of the project to ensure that the turbidity is limited. If excessive change occurs in the turbidity that differs from the existing conditions of the surrounding water body (i.e., distinct colour difference) as a result of the project activities, the work must stop immediately to determine if further mitigation measures are required.

<p><i>Immediate, Long-term, Once)</i></p>	<ul style="list-style-type: none"> Any equipment that has been in the marine environment will be cleaned of any sediments, plants or animals and washed with freshwater and/or sprayed with undiluted vinegar prior to being mobilized to the project site. If a marine mammal is identified within the vicinity of the project, work shall stop until the animal is gone. Marine equipment may be inspected by PSPC or DFO to ensure invasive species are not introduced to the marine environment. Heavy machinery will not be allowed in the water. Machinery shall be operated on land above the high water mark, in a manner that minimizes disturbance to the banks and bed of the waterbody. Any construction debris/material that enters the marine environment will be removed immediately. Waste materials are not to be buried on site. Construction debris and waste materials will be disposed of in a provincially-approved manner. No construction or infill material may be obtained from any coastal feature, namely a beach, dune, or coastal wetland. Onsite crews must have emergency spill clean-up equipment, adequate for the activity involved, on-site. Spill equipment will include, as a minimum, at least one 250L (i.e., 55 gallon) overpak spill kit containing items to prevent a spill from spreading; absorbent booms, pillows, and mats; rubber gloves; and plastic disposal bags. All spills or leaks must be promptly contained, cleaned up, and reported to the 24-Hour Environmental Emergencies Report System (1-800-565-1633).
<p>Potential disturbance of birds/bird habitat. <i>(Small, Reversible, Immediate, Short-term, Intermittent)</i></p>	<ul style="list-style-type: none"> All vessels and machinery must be well muffled at all times. Contractors should avoid any sharp or loud noises (e.g., not blow horns or whistles) and should maintain constant noise levels. If necessary, trucks may be required to avoid the use of “hammer” braking along specific sections of the route, while radio communication should replace whistle blasts and horns. Adherence to the regulations set out by the <i>Migratory Birds Convention Act</i>. Contractors must ensure that food scraps and garbage are not left at the work site. Project staff and/or contractors shall not access beaches, sand spits, dunes, mud flats, or sand flats during any stage of the project. Concentrations of seabirds, waterfowl, or shorebirds must not be approached when accessing the project site by water, or when ferrying supplies. All equipment must be maintained in proper running order to prevent leaking or spilling of potentially hazardous or toxic products. This includes hydraulic fluid, diesel, gasoline and other petroleum products. Refueling operations will take place at least 30 metres from any watercourse and harbour and the refueling will take place on a prepared impermeable surface with a collection system. All equipment to be used in or over the marine environment is to be free from leaks or coating of hydrocarbon-based fluids and/or lubricants harmful to the environment. Hoses and tanks are to be inspected on a regular basis to prevent fractures and breaks. Construction activities will be carried out during times acceptable to local authorities.
<p>Potential disturbance to terrestrial/aquatic species. <i>(Small, Reversible, Immediate, Short-term, Intermittent)</i></p>	<ul style="list-style-type: none"> Sensitive coastal habitats (i.e., any area in which plant or animal life or their habitats are either rare or especially valuable) must not be accessed nor used as staging areas. All vessels and machinery should be well muffled, and maintained in proper working order and must be regularly checked for leakage of lubricants or fuel. Construction waste or any miscellaneous unused materials must be recovered for either disposal in a designated facility or placed in storage. Under no circumstances will materials be deliberately thrown into the marine or terrestrial environment.
<p>Potential disruption or loss of heritage/archaeological. <i>(Moderate, Irreversible, Immediate, Short-term, Once)</i></p>	<ul style="list-style-type: none"> All construction personnel will be responsible for reporting any unusual materials unearthed during project activities to the Construction Supervisor. In those situations where the find is believed to be an archaeological resource, the Construction Supervisor will immediately stop work in the vicinity of the find and notify his/her immediate supervisor and the PSPC Project Manager. Work in the area will be stopped immediately and an archaeological curator at the New Brunswick Department of Tourism, Culture and Heritage – Provincial Archaeological Services will be contacted at 506-453-2738. Work can only resume in the vicinity of the find when authorized by the PSPC Project Manager and Construction Supervisor, after approval has been granted by the New Brunswick Department of Tourism, Culture and Heritage. In the event of the discovery of human remains or evidence of burials, the excavation work will immediately cease and nearest law enforcement agency will be contacted immediately by the PSPC Project Manager and/or the Construction Supervisor.

<p>Potential disruption of commercial and recreational harbour use.</p> <p><i>(Small, Reversible, Immediate, Short-term, Intermittent)</i></p>	<ul style="list-style-type: none"> • The Harbour Authority will coordinate all construction activities within the harbour for the duration of the project so as to avoid unnecessary interference with harbour users. Any and all stipulations of federal, provincial, or municipal authorities or their officers must be strictly followed.
<p>Potential reduction in air quality due to noise and dust.</p> <p><i>(Small, Reversible, Immediate, Short-term, Intermittent)</i></p>	<ul style="list-style-type: none"> • Construction activities must be carried out during times acceptable to local authorities and smaller, less disturbing equipment will be used where possible. • Dust suppression by the application of water must be employed when required. The project authority shall determine locations where water is to be applied, the amount of water to be applied, and the times at which it shall be applied. Waste oil must not to be used for dust control under any circumstances.
<p>Worker health and safety</p> <p><i>(Medium-term, other criteria not applicable)</i></p>	<ul style="list-style-type: none"> • Site access must be restricted to authorized workers only. • Workers in contact with hazardous materials must be provided with and use appropriate personal protective equipment. • Proper safety procedures must be followed for the duration of the project as per applicable municipal, provincial and federal regulations. • Employees will be trained in health and safety protocols (e.g., safe work practices, emergency response).
Operation/Maintenance	
<p>Worker health and safety</p> <p><i>(Long-term, other criteria not applicable)</i></p>	<ul style="list-style-type: none"> • Proper safety procedures must be followed for the duration of the project as per applicable municipal, provincial, and federal regulations. • Employees will be trained in health and safety protocols (e.g., safe work practices, emergency response). • Site access must be restricted to construction personnel and authorized visitors. • All personnel involved with activities must be adequately trained and utilize appropriate personal protective equipment.
<p>24. Description of any Significant Adverse Environmental Effects of the project (after applying mitigation):</p> <p>Although the potential exists for short-term environmental effects during harbour development as well as operation/maintenance, with the implementation of recommended mitigation measures, no significant adverse environmental effects are anticipated.</p>	
<p>25. Other Monitoring and Compliance Requirements (e.g. <i>Fisheries Act</i> or <i>Species at Risk Act</i> requirements):</p> <p>N/A</p>	

CONCLUSION*(for guidance see page 18 of "The Canadian Environmental Assessment Act, 2012 - Project Effects Determination Process for SCH Projects" document)***26. Conclusion on Significance of Adverse Environmental Effects:**

The Federal Authorities have evaluated the project in accordance with Section 67 of the *Canadian Environmental Assessment Act, 2012 (CEAA, 2012)* and have determined that the project is not likely to cause significant adverse environmental effects with the implementation of recommended mitigation measures. DFO-SCH may proceed with the project as proposed.

27. Prepared by: Nicolas Rolland

28. Title: Environmental Specialist, PSFC

29. Signature



30. Date:

September 26, 2017

31. Approved by: Raymond Losler

32. Title: Senior Project Engineer, DFO-SCH

33. Signature



34. Date:

2017/9/26

35. Approved by:

36. Title: Parks Canada

37. Signature

38. Date:

DECISION*(for guidance see page 19 of "The Canadian Environmental Assessment Act, 2012 - Project Effects Determination Process for SCH Projects" document)***39. Decision Taken**

- The project is not likely to cause significant adverse environmental effects, and DFO may exercise its power, duty or function.
- The project is likely to cause significant adverse environmental effects, and DFO has decided not to exercise its power, duty or function.
- The project is likely to cause significant adverse environmental effects, and DFO will ask the Governor in Council to determine if the significant adverse environmental effects are justified in the circumstances.

40. Approved by: Raymond Losler

41. Title: Senior Project Engineer, DFO-SCH

42. Signature

43. Date:

FISHERIES AND OCEANS CANADA – FISHERIES PROTECTION PROGRAM

Project Title:	DFO-SCH #2501 Alma, Albert County, New Brunswick – Breakwater Extensions and Jetty Reconstruction		
DFO File No.:	17-HGLF-00232		
Fisheries Act Review Decision:	The DFO has reviewed the Project Effects Determination Report (<i>Canadian Environmental Assessment Act (CEAA) 2012</i>) and, in considering the implementation of mitigation measures that are included as a requirement in the DFO Section 35(2) <i>Fisheries Act Authorization</i> , DFO concludes the project is not likely to cause significant adverse environmental effects and, as such, DFO may exercise any power or perform any duty or function that would permit the project to be carried out in whole or in part.		
Recommended by:	Georges Brown		
Title:	Senior Fishery Protection Biologist Fisheries Protection Program		
Signature:		Date:	
Mailing Address:	343 Avenue Université PO Box 5030 Moncton, NB, E1C 9B6		
Tel:	(506) 851-6501		
Email:	George.Brown@dfo-mpo.gc.ca		
Approved by:	Paulette Hall		
Title:	Regulatory Reviews Manager Fisheries Protection Program		
Signature:		Date:	

TRANSPORT CANADA			
Project Title:	DFO-SCH #2501 Alma, Albert County, New Brunswick – Breakwater Extensions and Jetty Reconstruction		
TC File No.:	NEATS #		
NPP File No.:	#		
EED Decision:	<input type="checkbox"/> Taking into account the implementation of any mitigation measures that Transport Canada considers appropriate, the project is not likely to cause significant adverse environmental effects and, as such, Transport Canada may exercise any power or perform any duty or function that would permit the project to be carried out in whole or in part. <input type="checkbox"/> Taking into account the implementation of any mitigation measures that Transport Canada considers appropriate, the project is likely to cause significant adverse environmental effects that cannot be justified. As such, Transport Canada shall not exercise any power or perform any duty or function conferred on it by or under any Act of Parliament that would permit the project to be carried out in whole or in part, at this point in time. The project shall be referred to the Governor in Council to decide if those adverse environmental effects are justified under the circumstances pursuant to subsection 69(3) CEAA, 2012.		
Recommended by:	Jason Flanagan		
Title:	Senior Environmental Assessment Officer Environmental Affairs and Aboriginal consultation Unit		
Signature:		Date:	
Mailing Address:	95 Foundry Street, Heritage Court PO Box 42 Moncton, NB, E1C 8K6		
Tel:	(506) 227-8257	Fax:	(506) 851-7542
Email:	jason.flanagan@tc.gc.ca		
Approved by:	Kevin LeBlanc		
Title:	Regional Manager Environmental Affairs and Aboriginal Consultation Unit		
Signature:		Date:	

44. References:

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APPENDIX A

Figures

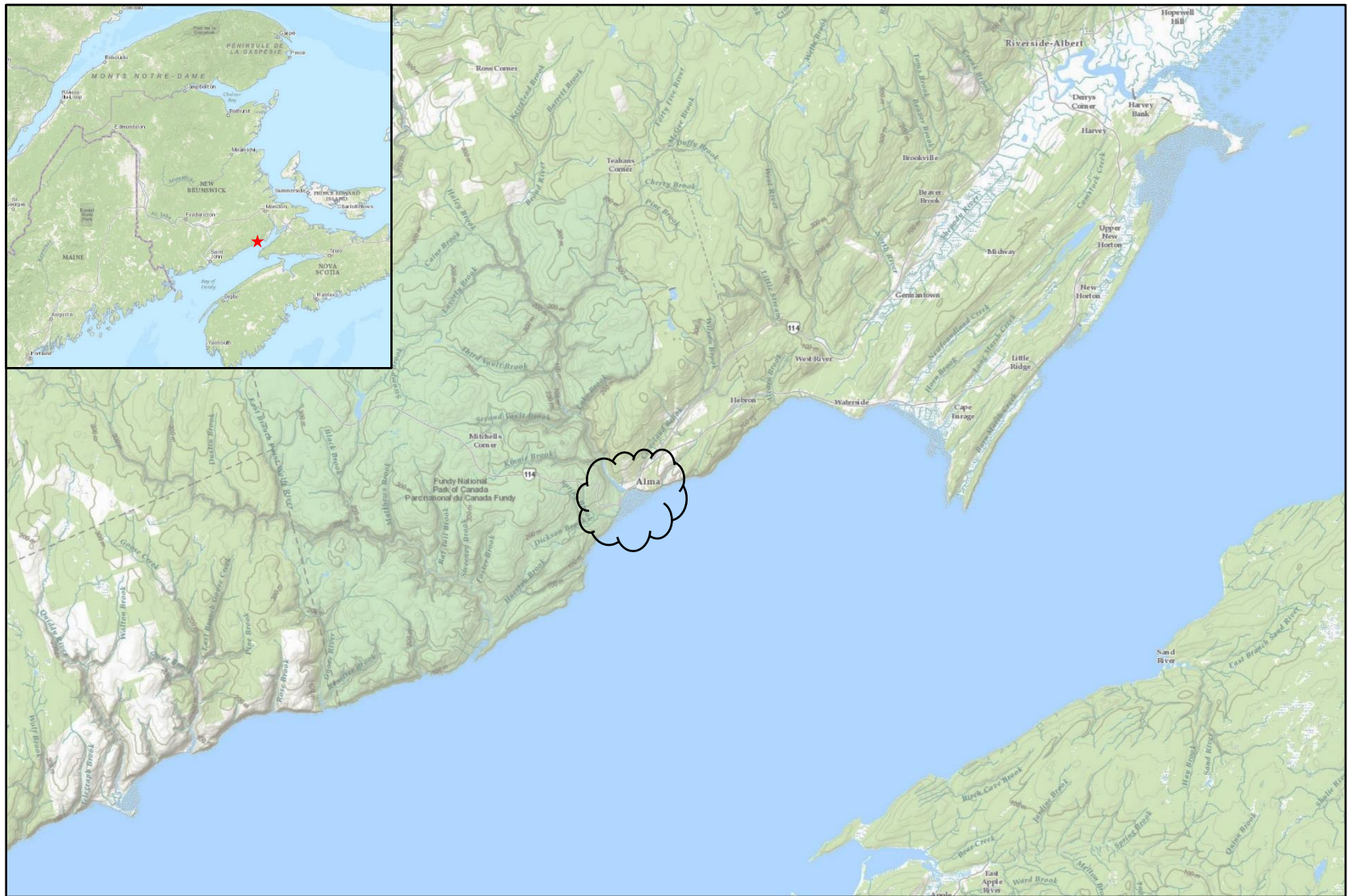


Figure 1: Topographic map indicating proposed project site, Alma DFO-SCH, Albert County, New Brunswick



Figure 2: South Breakwater at Alma DFO-SCH, Albert County, New Brunswick



Figure 3: South Breakwater at Alma DFO-SCH, Albert County, New Brunswick



Figure 4: East Breakwater at Alma DFO-SCH, Albert County, New Brunswick



Figure 5: East Breakwater at Alma DFO-SCH, Albert County, New Brunswick

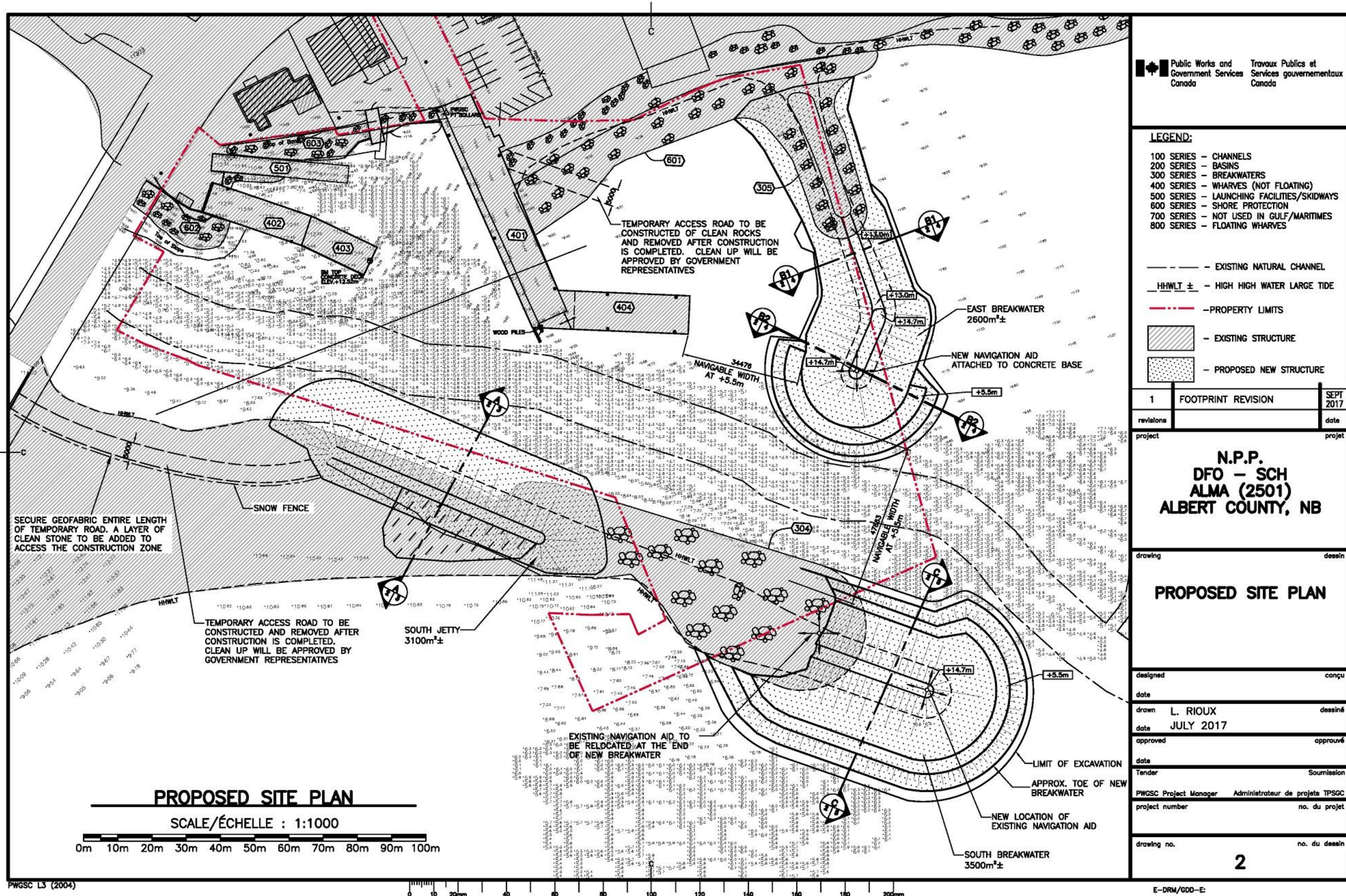


Figure 6: Site plan showing proposed breakwaters extensions at Alma DFO-SCH, Albert County, New Brunswick

APPENDIX B

Marine Sediment Sampling Program Report

APPENDIX C

Underwater Benthic Habitat Survey Report