

### APPLICATIONS POSTED NOTICE

The documents associated with the applications from Longshore Fisheries Ltd. for a new marine aquaculture site. The information in these documents is provided as part of the routine disclosure of information by the Department of Fisheries and Aquaculture. Some information may be redacted as business confidential information or personal information.

This application is currently under review by the Department and other relevant provincial and federal departments and agencies. Please note, the review process may require the applicant to submit additional information to the Department which will be posted to the Department's website.

These documents were provided to the Department by the applicant. The Department is not responsible for the content of these documents, including, but not limited to, the accuracy, reliability, or currency of the information contained within.

New Application	
<b>Applicant:</b> Longshore Fisheries Ltd.	<b>Species:</b> Soft shell clam
<b>Option Location:</b> St. Marys River, Sonora, Guysborough County	<b>Method of Cultivation:</b> Bottom cultivation with gear
<b>Aquaculture Site:</b> AQ#1435	<b>Application Received:</b> April 26, 2019

To learn more about the marine aquaculture lease and license application process, please visit <https://novascotia.ca/fish/aquaculture/licensing-leasing/Aqua-Licensing-and-Leasing-Overview.pdf>

For information on the Nova Scotia Aquaculture Review Board, please visit <https://arb.novascotia.ca/>

**Aquaculture Licence/Lease Application****Applicant Information**Applicant: Longshore Fisheries Ltd.Phone: 902 522-2592 Cell Phone: [REDACTED]Fax Number: 902 522-2720 Email Address: [REDACTED]@gmail.comMailing Address: 2025 Sonora Rd. Sonora NS B0J 3C0Civic Address: 2025 Sonora Rd. Sonora N.S B0J 3C0*Civic address in Nova Scotia where your daily records will be kept with respect to the Aquaculture operation.*Authorized Contact(s): Kim Tibbo / EVAN MosherContact Phone: 902-522-2592 Email: [REDACTED]@gmail.com  
[REDACTED]@gmail.com**Company Information (if different from above)**

Company Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Civic Address: \_\_\_\_\_

*Civic address in Nova Scotia where your daily records will be kept with respect to the Aquaculture operation.*

Business Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_

Fax Number: \_\_\_\_\_ Email Address: \_\_\_\_\_

Registry of Joint Stocks Number: 3280819Revenue Canada Business Number: [REDACTED]

Shareholder's Registration (please attach)

**Received****26 APR. 2017****Fisheries and Aquaculture  
Shelburne, NS**

## Location Information

Location of Proposed Site

Civic (land-based): 2025 Sonora Rd Sonora NS B0J3C0

Municipality/Town: St. Mary's Municipality

County: Guyborough

Waterbody (if applicable): St. Mary's River

## Operation Details

Species Cultured:

☐ Finfish: \_\_\_\_\_

☒ Shellfish: MYA - ARENARIA (Soft shell clams)

☐ Marine Plants \_\_\_\_\_

☐ Other: \_\_\_\_\_

Term:

☐ Experimental (1 year)      ☐ Commercial land-based (Licence - 10 years)

☒ Commercial marine (Licence - 10 years; Lease 20 years)

Landbased:

☐ Fresh Water

☐ Salt Water

☐ Hatchery

☐ U-Fish

☐ Nursery

☐ Grow-Out

Marine:

☐ Finfish Operation

☐ Marine Plants

☐ Shellfish - Suspended

☐ Shellfish - Bottom culture, without gear

☒ Shellfish - Bottom culture, with gear

For the purpose of assessing aquaculture applications, it is necessary to provide information to other government departments and interested public. Confidential business information is not released to the public. By signing this application, the applicant agrees to the Department releasing application information about the proposed development.

\_\_\_\_\_

Signature of Applicant

April 16/2019

Date

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date

For additional information please visit:

<http://novascotia.ca/fish/programs-and-services/industry-support-services/aquaculture/>

Submit completed application and all required documentation to:

**Nova Scotia Department of Fisheries and Aquaculture**

**Attention: Aquaculture Division**

**1575 Lake Road**

**Shelburne, Nova Scotia**

**B0T1W0**

**Telephone Number: 902 875-7439**

**Fax Number: 902 875-7429**



# **Clam Aquaculture Development Plan 2019**





## **Section 1**

# **Optimum use of Marine Resources**

## **Section 1. Optimum use of Marine Resources**

Longshore Fisheries, a family owned business is proposing to revitalize the clam industry in Sonora Nova Scotia while providing jobs for many people. We plan to do that by cultivating the nearly barren clam flats, seed millions of clam seeds into the freshly cultivated mud flats, protect the clam seeds while they grow and flourish into a healthy population of adult clams, harvest them, and process them right here at longshore fisheries. After harvesting of the clams is complete, new seeds will be sown for the following years to come. With our proposed project we have high expectations that the proposed area will be rejuvenated and the surrounding areas will be naturally enhanced through the natural spawning and spreading of clam seed.

We will be cultivating the flats with a small boat equipped with a hydraulic dredge at high tide, and or a ATV/small tractor and harrow at low tide. The flats will be cultivated once before we plant our seeds and the harvesting methods will periodically cultivate automatically. Cultivating allows air into the flats which helps to loosen the ground making it a more suitable place for clams to flourish.

Longshore plans to seed the 6ha of flats in early June/July of 2019. We have intentions of planting with a modified seeder for most even distribution of seed. This will ensure spacing and lessen the mortality of the seed. This will also ensure that there are no wasted dollars in over seeding.

We are proposing to develop 15 acres + (6.07ha)(653,400ft<sup>2</sup>) on the St Marys River, growing up to 13 million clams. We plan to seed at a rate of 20 per square foot, which gives us 13,068,000 clams totalling 872,000 lbs( 395,000kgs). Those numbers are based on 100% survival rate. Knowing that nature will have a toll on some of the seeds, we have allowed for a 25% mortality rate, that being said, we expect to yield approximately 10,000,000 clams (655,000 lbs/300,000kgs). In year two we will expand to 20 acres (8.09ha) and year three we have hopes to expand to 40 acres (16.18ha).

We will be installing protective netting over the fresh seeds to reduce the risk of predators(green crabs), ducks and geese. Netting will be ¼" x ¼" squares, and will be in 20' x 50' sections. The small holes(¼"x ¼") ensure no predator can reach the clams and it also ensure other wildlife will not get stuck in it, therefore not be harmed. The netting will be installed by digging small trenches around the site, burying the edges of the net in the flats. Nets will be equipped with small floats near the center to prevent it from being completely buried in the sand.

Harvesting the clams will be done with a hydraulic dredge(primary) manual diggers(secondary) and mechanical harvesting will be viewed as an option. Hydraulic harvesting was chosen as a primary method because it is economical and consistent.

Manual diggers ( local residents) will be given ample opportunity to harvest clams as well. People can harvest clams when the tide is at its lowest. This occurs two weeks out of a month. Once clams are harvested they will be tagged and brought directly to our depuration site here at Longshore Fisheries to be sterilized and made ready for sale and consumption. We will be constructing a depuration facility in our existing building within the next year.

We believe with the methods used, we are providing optimum use of the water area and the resource. Cultivating, harvesting and succession planting along with ample protection from Green crabs and other wildlife shall provide the most abundant returns from the space given. With the methods used for clam protection we also believe that other wildlife will be untouched and allowed to freely interact with the project.





## **Section 2**

# **The Contribution of the Proposed Operation to Community and Provincial Economic Development**

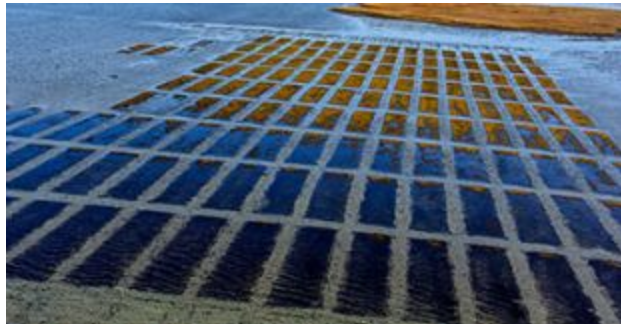
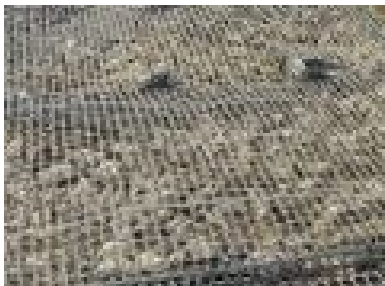
## 2.1 Production Plan

### Bottom culture with gear.

1) The species being cultivated in the project is *Mya Arenaria*. ( soft shell clams)



2) Gear for this project will include , spat collectors and protective netting. The spat collectors are 5 feet by 8 feet and a maximum of 12 inches high. The protective netting is 20 feet wide by 50 feet long.



3) There will be 120 spat collection bags. There will be 1800 pieces of protective netting.

4) No frames are used

5) No frames are used

6) Maximum shellfish to be introduced will be 38,000,000 seeds. And Approximately 36,000,000 are expected to mature. The site may also contain some wild clams.

7) The Seed source will be The St Marys River in Sonora Nova Scotia.

8) The expected time to reach maximum production on the site is 4-5 years.

## **2.1 Production Plan**

This project will be using the depuration process. The depuration design is complete and the proposal has been submitted to CFIA. A PCP has been submitted as well.

## **2.2 Infrastructure**

For this project there are many pieces of infrastructure required. We currently have a 6000 square foot raw and cooked facility that will be used for processing clams. We also have a 12,000 square foot building that will be used for clams and clam processing as the business grows. Currently we have a slip way the the clams will be brought to from the dredge harvester.

As part of the project we will also be using our current Cube truck and forklift.

As a major part of the project we will be building a depuration facility within our current 6000 square foot facility. The depuration facility will be able to handle 3000 lbs daily. In the future the depuration facility will expand into the 12,000 square foot area as needed.

The clam process will also need several smaller pieces of equipment such as washers and conveyances. In the proposed future cooking will become part of the process. The washer will be built on site by Evan Mosher . The cooker has been acquired.

## 2.3 Services and Suppliers

For the clam aquaculture project many services and service providers will be needed. A list of Services and service Providers

- 1) Quality Concrete - Concrete ( Antigonish & New Glasgow)  
Start up and expansion
- 2) [REDACTED] - Concrete finishing(Antigonish)  
Start up and expansion
- 3) [REDACTED] Carpentry and Painting- Carpenters(Liscomb)  
Start up and Expansion
- 4) Lindenmac Enterprises - Carpentry and Concrete (Antigonish)  
Start up and expansion
- 5) AH Roy- Mechanical/ Electrical Engineering- Plumbing and electrical plans(Antigonish)  
Start up and expansion
- 6) Water Villa - UV lights and filtration(Antigonish)  
Start up/ expansion and ongoing maintenance
- 7) EMCO- Water pumps(Antigonish & New Glasgow)  
Start up/expansion and ongoing maintenance
- 8) Bionnovation - Tanks (Antigonish)  
Start up
- 9) Plastic Mart- Water Tanks( Online- Ontario)  
Start up and expansion
- 10)Eds plumbing and heating - Plumbing supplies(Antigonish)  
Start up/ expansion and ongoing maintenance
- 11)Kent Building supply - Plumbing supply(Antigonish)  
Startup/expansion and ongoing maintenance
- 12)Gammon Bros - Building supplies(Sheet Harbour)  
Start up/ expansion and ongoing maintenance
- 13)Sherbrooke Garage- Gas/ Diesel( Sherbrooke)  
Start up/ expansion and ongoing maintenance
- 14)Clover Farm Store- Groceries/ Supplies(Sherbrooke)  
Start up/ expansion and ongoing maintenance
- 15)Purity Stainless - Stainless steel Fabricator(Halifax)  
Start up/ expansion and ongoing maintenance
- 16)Wilson Cove Excavation and Trucking - Groundwork / Gravel(Wilsons Cove,Guysborough)

## 2.3 Services and Suppliers

Start up/ expansion and ongoing maintenance

17)MacGillivray Fuels- Boiler fuel and services(Antigonish)

Start up/ expansion and ongoing maintenance

18)GT Electrical- electrical(Antigonish)

Start up/ expansion and ongoing maintenance

19)Go Deep International - Clam netting(Moncton)

Start up/ expansion and ongoing maintenance

20)Saeplast -Wharf Tubs( New Brunswick)

Start up/ expansion and ongoing maintenance

21)Prime Material Handling - Forklift maintenance( Dartmouth)

Start up/ expansion and ongoing maintenance

22)Midnight Auto- Truck Maintenance(Antigonish)

Start up/ expansion and ongoing maintenance

23)Valox/ Pentair - Aeration (New Brunswick)

Start up/ expansion and ongoing maintenance

24) Nova Scotia Power - Electricity( Nova Scotia)

Start up/ expansion and ongoing

25)Highland Building Supply- Building materials (Sherbrooke)

Start up/ expansion and ongoing maintenance

26)RPC laboratory - Fecal Coliform testing ( Fredericton)

Start up/ expansion and ongoing maintenance

27)Environmental Services -Water testing ( Halifax)

Start up/ expansion and ongoing maintenance

28)Robertsons Electrical - Electrical supplies(Antigonish)

Start up/ expansion and ongoing maintenance

29)Lynds Industrial- Epoxy Floor and wall coatings( Truro)

Start up/ expansion and ongoing maintenance

30)Kerr controls - Refrigeration supply(Truro/Dartmouth)

Start up/ expansion and ongoing maintenance

31)T-Mac- Signage (Antigonish)

Start up/ expansion and ongoing maintenance

32)WHS enterprises- Plant Supplies( Dartmouth)

Start up/ expansion and ongoing maintenance

33)Uline- Bags and Boxes( Ontario)

Start up/ expansion and ongoing maintenance

## 2.3 Services and Suppliers

34) Conwed- Clam netting( Ontario)

Start up/ expansion and ongoing maintenance

35) K&D Pratt- First aid and Fire Extinguishers (Antigonish)

Start up/ expansion and ongoing maintenance

36) Midland Transport- Logistics( Dartmouth)

Start up and ongoing

37) Holna Farm Services- Fine Salt(Antigonish)

Start up/ expansion and ongoing

38) CFIA- Inspection Services( Port Hawkesbury)

Start up/ expansion and ongoing maintenance

39) Dalhousie University- Biological Services (Truro)

Start up/ expansion and ongoing maintenance

40) ACC composting - Clam Shells(Afton)

Start up/ expansion and ongoing maintenance

41) Eastern Shore Cartage - Garbage and Recycling( Sheet Harbour)

Start up/ expansion and ongoing maintenance

42) Campbell & Comeau Engineering ( Halifax)

Startup/ expansion

## **2.4 Employment**

In the proposed project there will be approximately Fifty full time positions at maximum production, five to ten diggers, as well as fifteen part time positions. Positions include Management, supervisory, diggers, dredge operators, boat operators, labourers, hatchery technicians, and production workers. With these positions available many of the residents that currently rely on unemployment or social assistance to live, will have the ability to work close to home and make a modest income.



## 2.5 Other economic contributions to the local community and province

This project will ensure the employment of many local residents and residents from surrounding areas as previous projects with Longshore Fisheries has proven. When building our current Seafood processing facility we employed many trades and labourers. More than twenty five carpenters, five stainless steel workers, five boiler fitters, two oil technicians, two burner mechanics, six to ten concrete technicians, multiple excavation workers, truckers, and over twenty general labourers. A combination of materials, craftsman and labourers totalling two and a half million dollars! Local businesses reported an increase in traffic and sales, personally thanking [REDACTED] (owner) for everything he was putting into the community.

There are many local suppliers and businesses that will benefit from this project. Local garages will have the full benefit of supplying workers with fuel and service. Local car dealers may benefit from this as well. Good reliable transportation is an asset for every employee. Local restaurants will benefit, with fifty plus employees, people will be looking for a great place to dine. The local Grocer will have added business. If the project works to its full potential more people will be hired, therefore more people will be needing a place to eat, more lunch food to take to work and groceries to take home when passing by. Local accommodations will benefit from time to time when contract workers, customers, and inspectors are here to stay. The Local building store can supply us with necessary hardware items and building materials for the project as well as many spin of sales from people spending money they didn't have previously.

Furthermore,

Quality Concrete - Concrete ( Antigonish & New Glasgow)

Start up and expansion

[REDACTED] - Concrete finishing(Antigonish)

Start up and expansion

[REDACTED] Carpentry and Painting- Carpenters(Liscomb)

Start up and Expansion

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Start up and expansion

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Start up and expansion

## **2.5 Other economic contributions to the local community and province**

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Start up/ expansion and ongoing maintenance  
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Start up/ expansion and ongoing maintenance

## **2.5 Other economic contributions to the local community and province**

Nova Scotia Power - Electricity( Nova Scotia)

Start up/ expansion and ongoing

Highland Building Supply- Building materials (Sherbrooke)

Start up/ expansion and ongoing maintenance

RPC laboratory - Fecal Coliform testing ( Fredericton)

Start up/ expansion and ongoing maintenance

Environmental Services -Water testing ( Halifax)

Start up/ expansion and ongoing maintenance

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Lynds Industrial- Epoxy Floor and wall coatings( Truro)

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Start up/ expansion and ongoing maintenance

Midland Transport- Logistics( Dartmouth)

Start up and ongoing

Holna Farm Services- Fine Salt(Antigonish)

Start up/ expansion and ongoing

CFIA- Inspection Services( Port Hawkesbury)

Start up/ expansion and ongoing maintenance

Dalhousie University- Biological Services (Truro)

Start up/ expansion and ongoing maintenance

ACC composting - Clam Shells(Afton)

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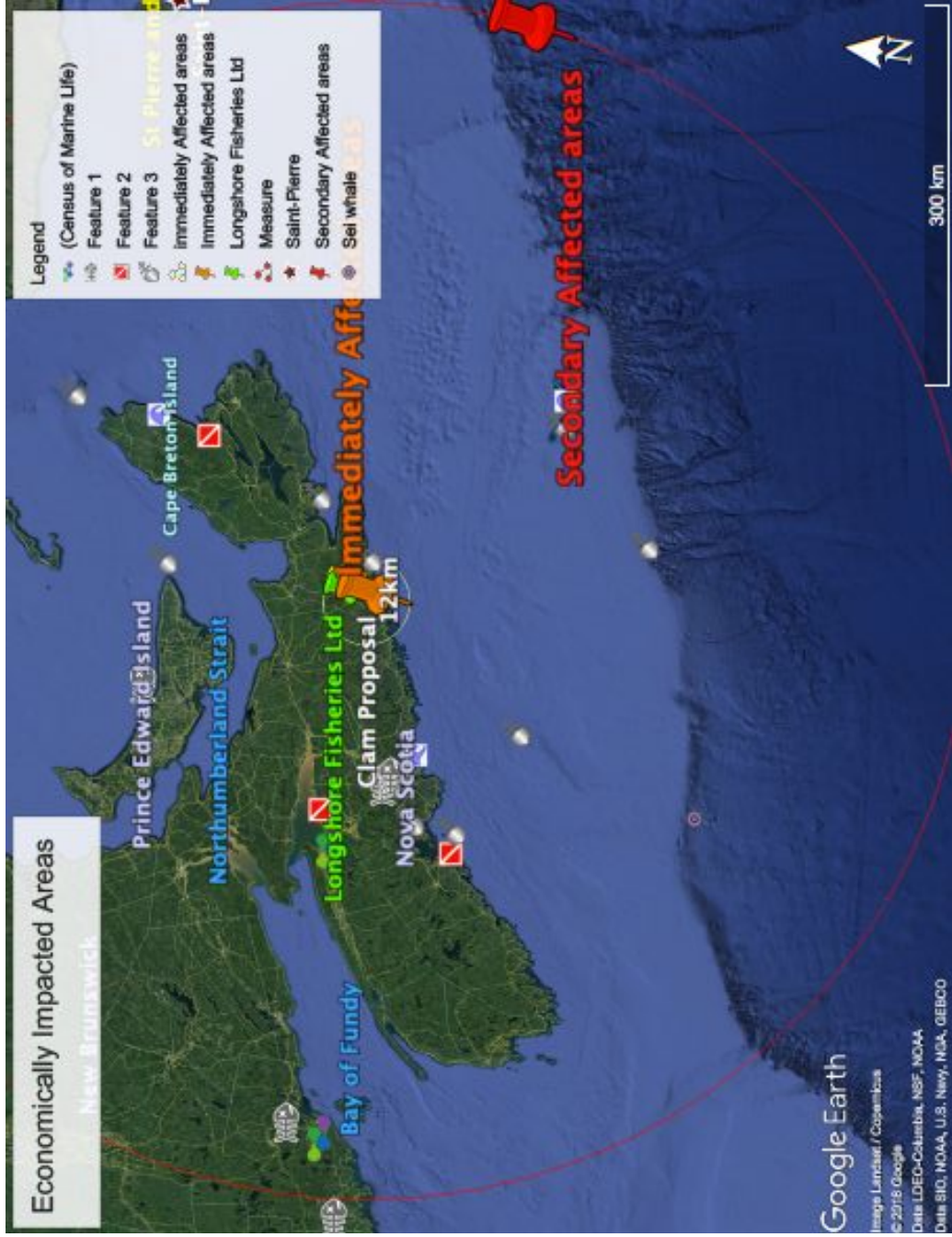
Eastern Shore Cartage - Garbage and Recycling( Sheet Harbour)

Start up/ expansion and ongoing maintenance

## **2.5 Other economic contributions to the local community and province**

...companies outside of the immediate area, All of these companies have potential to benefit from a long term project at Longshore Fisheries Ltd.

With all of these businesses booming more money is being spent and re invested into the community and into the province! With the added traffic volume more fuel will be purchased generating added fuel tax revenue.



## **2.6 Financial Viability**

Same as submitted during Option to lease.

## **2.7 Adverse economic impacts**

At the present time we do not see any adverse economic impacts.



## **Section 3**

# **Fisheries Activities in the Public Waters Surrounding the Proposed Aquaculture Operation**



### **3.1 Status of Fisheries Activities**

In the proposed area there are no commercial fishing activities.

Recreational fishers catch trout from time to time. The number of fishers varies. The most accounted for at one time was 5.

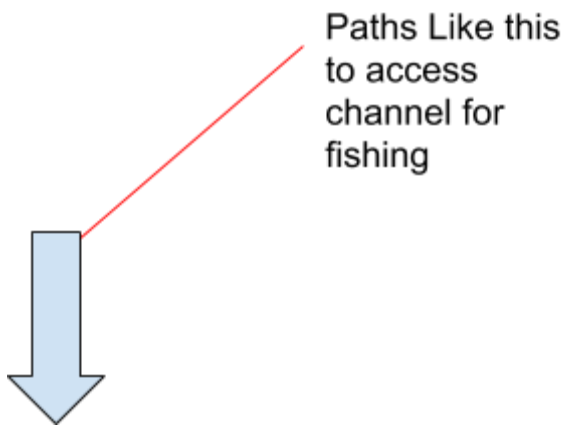
Social and ceremonial fishing is not believed to be done in the proposed area.

During our Sedimentary Sampling ( 30 stations) we did not find a population of clams. We believe after sampling the area green crabs are eating all of the clams. We plan to mitigate this with netting.

### 3.2 Impacts on Fisheries Activities.

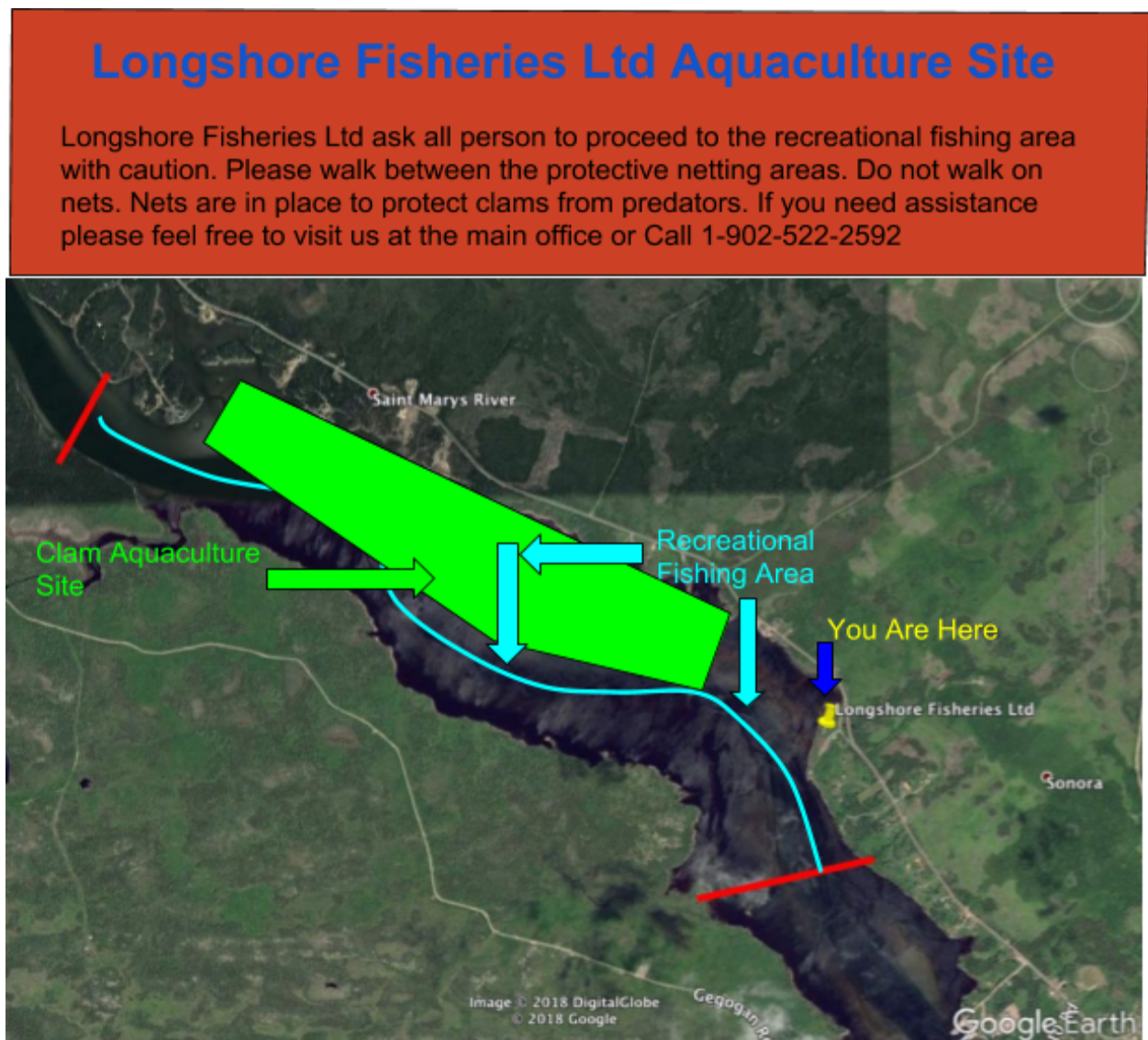
For this project it has been brought to our attention that there has been some concern about access to the channel for fishing trout. To address this issue we will be leaving paths between the netting so people can walk through and access the channel. There will be signage indicating how to proceed across the flats and a map attached to show the paths. Anyone needing or wanting assistance is welcomed to visit Longshore Fisheries for guidance. Longshore fisheries staff is more than willing to guide public to the channel or converse about the project.

Clams will not be harvested by the public in the aquaculture area. It is a closed area due to high fecal coliform counts.



### 3.2 Impacts on Fisheries Activities.

Signage Like this:





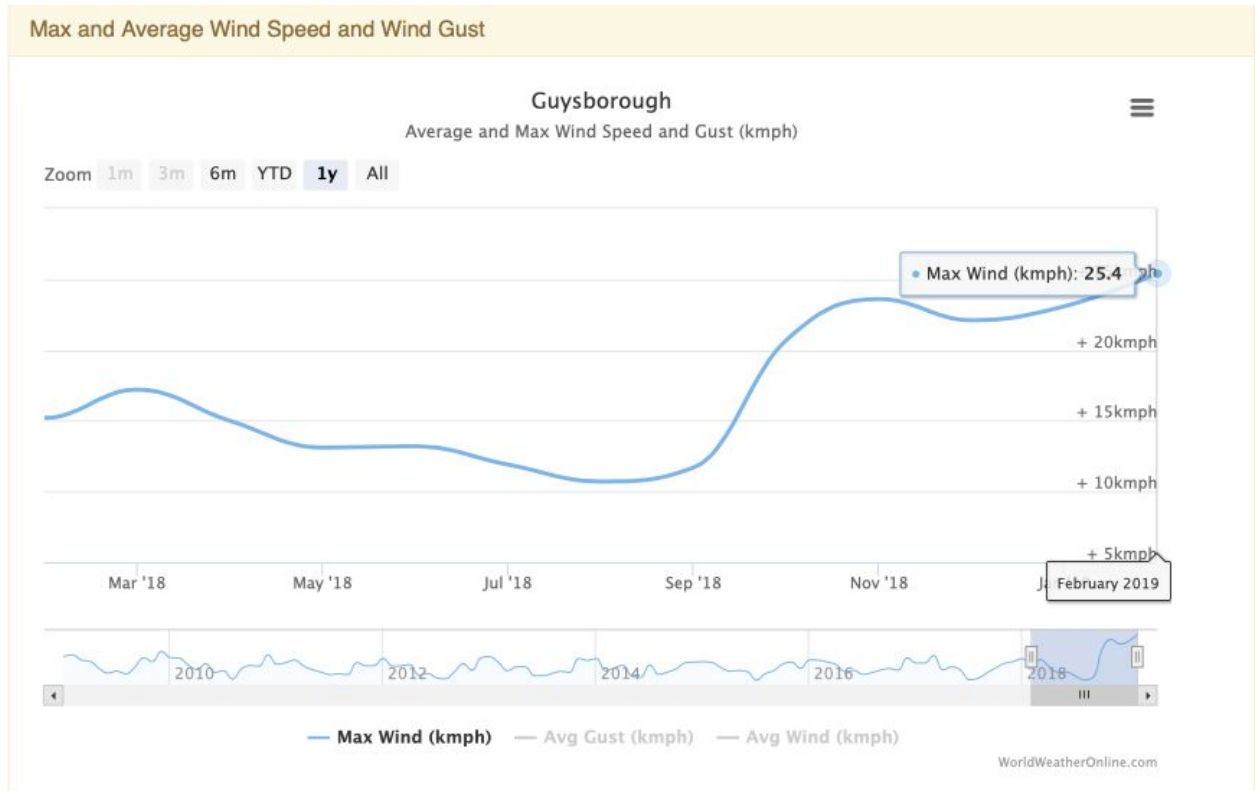
# **Section 4**

# **Oceanographic**

# **Environment**

## 4.1 Oceanographic Environment

### a) Annual maximum wind speed =



**Table 9.3-2 Halifax Shearwater Climate Normals (1971-2000) and Extremes (1944-2001)**

Wind Speed	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Speed (km/h)	18.1	17.7	17.8	16.9	14	12.8	11.3	11.1	12.8	14.8	16.5	17.7	15.1
Most Frequent Direction	W	NW	NW	N	S	S	S	SW	SW	W	NW	W	W
Maximum Hourly Speed	83	97	78	85	72	77	87	60	97	80	89	89	
Date (yyyy/dd)	1990/30	1963/20	1986/07	1962/13	1961/20	1964/12	1975/28	1956/08	1954/11+	1962/07	1958/29	1956/30+	
Extreme Minimum (°C)	127	146	148	122	106	111	114	93	126	132	121	150	
Date (yyyy/dd)	1960/03	1976/02	1976/17	1962/13	1961/03	1964/12	1975/28	1986/09	1958/29	1963/29	1963/08	1956/30	
Direction of Maximum Gust	S	S	SW	NE	W	NW	S	SW	N	S	NE	SW	SW

Source: EC, 2007a

Notes:

W = west

NW = northwest

N = north

SW = southwest

NE = northeast

km/h = kilometres per hour

## 4.1 Oceanographic Environment

- b) Maximum wave height = **1m** ( [Ocean Weather inc](#))
- c) Direction of maximum wave = **South East** (Observed by LSF )
- d) Annual minimum tide = **0.1m** ( [Canadian Hydrographic Service](#))
- e) Annual maximum tide = **2.1m** ( [Canadian Hydrographic Service](#))
- f) Current speed range and averages = ( [Info Available, Wikipedia](#))

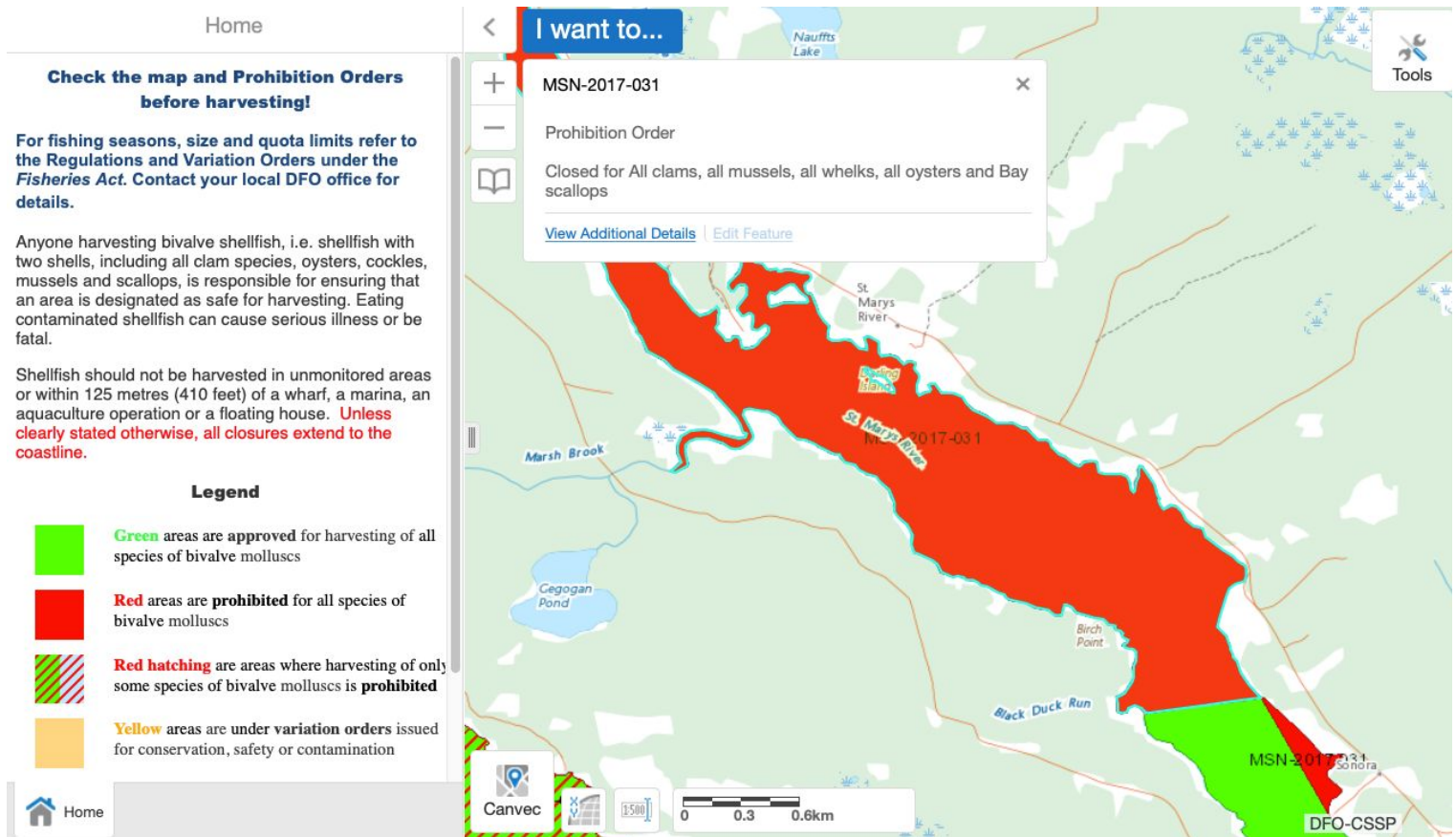
St. Mary's River	
Location	
Country	<a href="#">Canada</a>
Physical characteristics	
<b>Mouth</b>	
- location	Atlantic Ocean
- elevation	<a href="#">sea level</a>
<b>Length</b>	250 km (160 mi)
<b>Basin size</b>	1,350 km <sup>2</sup> (520 sq mi)
<b>Discharge</b>	
- average	45.6 m <sup>3</sup> /s (1,610 cu ft/s)

- g) Annual minimum salinity = **7 ppt** ( [Observed by LSF](#))
- h) Annual maximum salinity= **31 ppt**([Observed by LSF](#))
- i) Annual minimum temperature = **1°C** ([Observed By LSF](#))
- j) Annual maximum temperature =**15°C** ([Observed By LSF](#))
- k) Depth of water at each corner of the site = ([flats all exposed at low tide](#))
- l) Primary production information = [Not available](#)
- m) Biotoxin information = [Not Available](#)



## 4.1 Oceanographic Environment

n) Current location classification = **Prohibited for all bivalve molluscs (DFO)**





# **4.2**

## **Baseline Environmental Monitoring**



## 4.2 Baseline Environmental Monitoring

Station Id	Date Sampled	Latitude	Longitude	Mud Sample Collected	
Clams Noted					
1	3/Dec/18	45.07545	-61.9298	Yes	None
2	18/Jan/19	45.07263	-61.9177	Yes	None
3	18/Jan/19	45.07194	-61.922	Yes	None
4	18/Jan/19	45.0746	-61.9239	No	None
5	3/Dec/18	45.07503	-61.9284	Yes	Clam shells noted
6	4/Dec/18	45.07303	-61.9241	Yes	None
7	6/Dec/18	45.07169	-61.9239	Yes	Clam shells noted
8	18/Jan/19	45.07294	-61.9204	Yes	Bits of shells noted
9	6/Dec/18	45.07318	-61.9279	No	none
10	4/Dec/18	45.07212	-61.9267	Yes	None
11	5/Dec/18	45.07418	-61.9259	Yes	Bits of shells noted
12	18/Jan/19	45.07147	-61.9188	Yes	Pieces of shells noted
13	5/Dec/18	45.07465	-61.9259	Yes	Bits of shells noted
14	5/Dec/18	45.07366	-61.9254	Yes	None
15	3/Dec/18	45.07635	-61.9295	Yes	None
16	18/Jan/19	45.07372	-61.9216	Yes	Bits of shells noted
17	6/Dec/18	45.072	-61.9197	Yes	None
18	6/Dec/18	45.0713	-61.9265	No	None
19	18/Jan/19	45.07286	-61.9221	Yes	None
20	6/Dec/18	45.07191	-61.9203	Yes	Bits of shells noted
21	6/Dec/18	45.07244	-61.2953	Yes	None
22	5/Dec/18	45.0756	-61.9273	Yes	None
23	6/Dec/18	45.07412	-61.9284	Yes	None
24	5/Dec/18	45.07533	-61.9262	Yes	None
25	6/Dec/18	45.074 3	-61.9274	Yes	None
26	5/Dec/18	45.07681	-61.931	Yes	Clams Noted
27	18/Jan/19	45.07372	-61.923	Yes	Bits of shells noted
28	18/Jan/19	45.07288	-61.9189	Yes	Bits of shells noted
29	5/Dec/18	45.07339	-61.9267	Yes	Bits of shells noted
30	6/Dec/18	45.07257	-61.9231	Yes	No

## 4.2 Baseline Environmental Monitoring

See attached *Raw Data*

See attached *Pivot Table*

See attached *Organics*

See Attached *Porosity*

[https://docs.google.com/spreadsheets/d/14MkGSMnq3w6Xew\\_6VgIL\\_M9U2ViJhNjmV4H4DMhPZjU/edit?usp=sharing](https://docs.google.com/spreadsheets/d/14MkGSMnq3w6Xew_6VgIL_M9U2ViJhNjmV4H4DMhPZjU/edit?usp=sharing)

## 4.3 Site Design

### Site location.

The site location was chosen because of its proximity to our current processing plant as well as historical clamming. In the past this was a site that produced many clams. The area has been tested for growing conditions. PH, water temperature, currents, sediment, sediment deposition and natural clams. The area has showed positive results in all of these categories.

### Site Design.

The site layout and design has been chosen based on finding from the scoping process. The site has good conditions as mentioned above. The design of the protective netting was chosen for the best defence against predatory animals such as the green crab, ducks and geese.

### Production plan.

The production of Soft shell clams in this area are complemented by the oceanographic and biological characteristics. The St Marys River is diverse in many types of small organisms and algae. The clams are filter feeders and thrive on algae. The site is located in a moderately sheltered area that doesn't get affected by large waves or surges, therefore clam spat and juveniles have a better chance of surviving and seeding. Once seeded the clams have a very good chance of maturing due to the factors listed above.

### Harvest Method.

For harvesting we have decided to use hand diggers and a hydraulic dredge. The hand digging will occur simultaneously with the dredging. Hand digging can only happen when the tides are favourable. Tides can fluctuate depending on weather and lunar cycles. Dredge harvesting can occur when the tide is moderate to high. Dredge harvesting may become the primary method of harvesting for this reason. Also with dredge harvesting the clams have a better chance of staying intact and coming into the production plant cleaner. With less broken cleaner clams it optimizes the production and resource.

### 4.3 Site Design

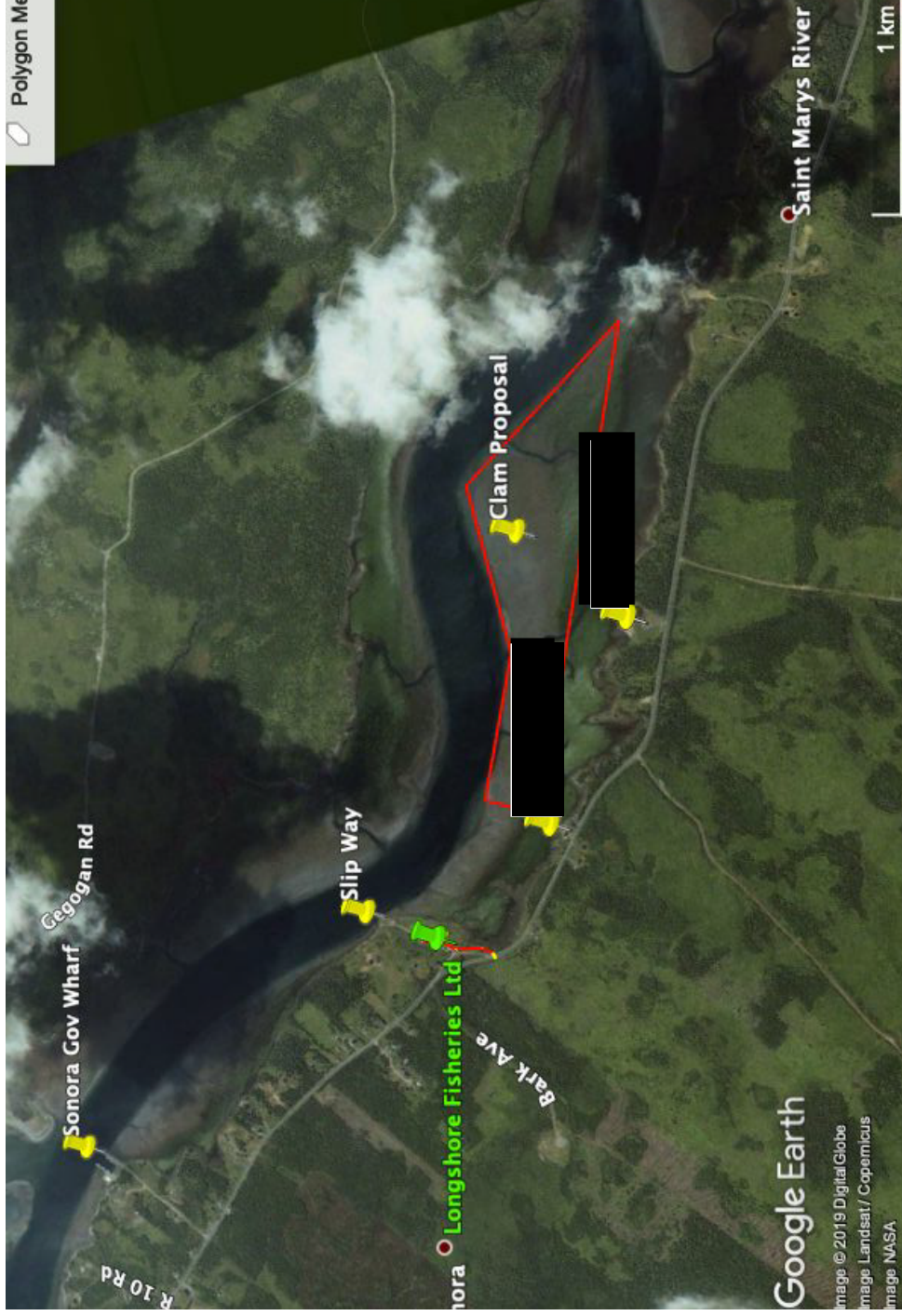




**Section 5**

**The other users of  
the Public Waters  
Surrounding the  
Proposed  
Aquacultural  
Operation**





## 5.1 Description of other users

The waterways are used by occasional boaters and recreational fisherman. The waters are closed for bivalve harvesting due to high fecal coliform counts therefore no local harvesting on the proposed site will be interrupted.

**Adjacent property owners:** [REDACTED] (0.6km from LSF) and [REDACTED] (1.3km From LSF)

**Pleasure craft and commercial boat traffic:** Sailboats occasionally, some lobster boats use the channel to navigate to the Sherbrooke wharf.

**Anchorage and moorings:** Longshore fisheries Slipway( on site) and Sonora Government wharf. ( 2km from LSF)

**Processing Plants:** Longshore Fisheries LTD

**Campgrounds:** none

**Communities:** Sonora

**Municipal, industrial and agricultural users which may be sources of effluent:** Sherbrooke water treatment plant (11km from LSF)

**Tourism or recreational operations:** no business based operations

**Private and Government Wharves:** Sonora Government wharf

**First Nations territories and reserves:** None

**Any known or suspected pre-contact or historic archaeological resources:** none known

**Important habitats and conservation areas:** Some eel grass noted during scoping. Mostly along the shore.

**Other known potential projects( confirmed or proposed) and activities:** None known

## **5.1 Description of other users**

**Other users who are relevant to the proposed development area, if applicable:**

none known



## 5.2 Significance of proposed area to wildlife

In the past Five years we have identified the following wildlife as periodic users of the waterway.

**Canadian Geese.** Geese often migrate through the area, they come here for a period of time and leave again.



**Ducks.** Ducks often come and go along the river area.



## 5.2 Significance of proposed area to wildlife

**Sea Trout.** Sea trout often pass through the channel and are a popular species that are a target of recreational fisherman.



**Atlantic Salmon.** Atlantic Salmon pass through this river as well. St Marys River has been a historical Salmon river.



## **5.2 Significance of proposed area to wildlife**

**European Green Crab.** The european green crab is an invasive species of crab that plagues the waters of the St Marys River.



### **5.3 Impacts to Other Users Including wildlife.**

For this project it has been brought to our attention that there has been some concern about access to the channel for fishing trout. To address this issue we will be leaving paths between the netting so people can walk through and access the channel. There will be signage indicating how to proceed across the flats and a map attached to show the paths. Anyone needing or wanting assistance is welcomed to visit Longshore Fisheries for guidance. Longshore fisheries staff is more than willing to guide public to the channel or converse about the project.

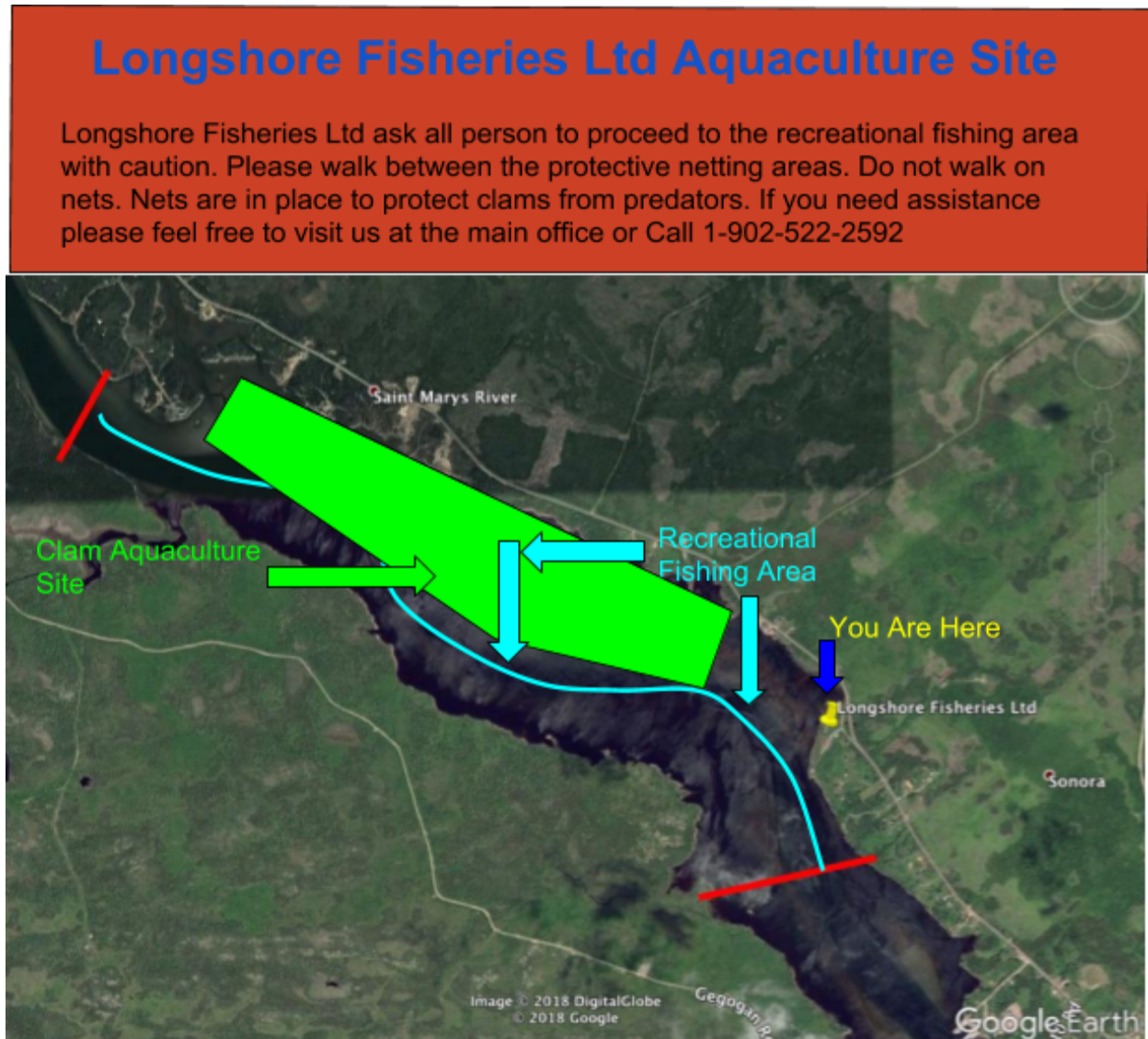
The clam project may compliment the users of the waterways by creating natural spawn. Natural spawn can float to many different areas of the river. When the natural clam spawn floats down the river it will seed into the open flats. When the clams grow in the open areas, locals can harvest them.



## 5.4 Impacts by Other Users Including Wildlife.

For this project we believe that other users may not be a big factor in our aquaculture site. Walking on nets is a potential concern. We plan to mitigate that by using signage. The signs will instruct and guide people through the aquaculture site. The signage will also state that if assistance is required person shall contact LSF for guidance.

Example:





## **Section 6**

# **The Public Right Of Navigation**

## **6.1 Navigation Protection Act ( NPA) approval**

On January 23/2019 Transport Canada was emailed regarding this concern. Since then no one has replied.

The aquaculture project at this time will not be interfering with the navigable portion of the St Marys River. The mud flats are the only area the project will occupy.



## **Section 7**

# **The Sustainability of Wild Salmon**



## **7.1 Identification of Local Salmon Populations**

St Marys River is Designated under the designatable unit # 14, Southern upland Region.

( See attached Information)

# COSEWIC Assessment and Status Report

on the

## Atlantic Salmon *Salmo salar*

Nunavik population, Labrador population, Northeast Newfoundland population, South Newfoundland population, Southwest Newfoundland population, Northwest Newfoundland population, Quebec Eastern North Shore population, Quebec Western North Shore population, Anticosti Island population, Inner St. Lawrence population, Lake Ontario population, Gaspé-Southern Gulf of St. Lawrence population, Eastern Cape Breton population, Nova Scotia Southern Upland population, Inner Bay of Fundy population, Outer Bay of Fundy population

in Canada



Nunavik Population – DATA DEFICIENT  
Labrador Population – NOT AT RISK  
Northeast Newfoundland Population – NOT AT RISK  
South Newfoundland Population – THREATENED  
Southwest Newfoundland Population – NOT AT RISK  
Northwest Newfoundland Population – NOT AT RISK  
Quebec Eastern North Shore Population – SPECIAL CONCERN  
Quebec Western North Shore Population – SPECIAL CONCERN  
Anticosti Island Population – ENDANGERED  
Inner St. Lawrence Population – SPECIAL CONCERN  
Lake Ontario Population – EXTINCT  
Gaspé-Southern Gulf of St. Lawrence Population – SPECIAL CONCERN  
Eastern Cape Breton Population – ENDANGERED  
Nova Scotia Southern Upland Population – ENDANGERED  
Inner Bay of Fundy Population – ENDANGERED  
Outer Bay of Fundy Population – ENDANGERED  
2010

**COSEWIC**  
Committee on the Status  
of Endangered Wildlife  
in Canada



**COSEPAC**  
Comité sur la situation  
des espèces en péril  
au Canada

## On the water

Lighthouses

Navigation and marine conditions

Search and rescue

Small craft harbours

On the water - More

## Fisheries

## Science and research

## Ecosystems

## Species

## Aquaculture

## Regions

[Aquatic species at risk](#) → [Search Aquatic Species at Risk](#)
[Designatable Unit](#)

## Southern Uplands Designatable Unit)

## SARA Status

No Status

NS

Special Concern

SC

Threatened

TH

Endangered

EN

Extirpated

EX

## COSEWIC Status

Not at Risk

NR

Special Concern

SC

Threatened

TH

Endangered

EN

Extirpated

EX

## Description

The Atlantic Salmon (*Salmo salar*) is an anadromous fish that is part of the family Salmonidae. Its characteristics include:

- Fusiform shaped body (tapers at both ends);
- Juveniles typically grow up to 18cm in length; adults from 50 to 100 cm in length;
- Juveniles are slender and develop 8-11 narrow pigmented parr marks on each side with a red spot between each parr mark along the lateral line. Fish become silvery and parr marks are lost when they become smolts and migrate to sea;
- When at sea, salmon are silvery on sides and their back colour varies through shades of brown, green and blue with numerous black spots scattered along the body and;
- As they approach spawning, they become darker in colour and take on a bronze and dark brown colouration and sometimes have reddish spots on their head and body.

## Habitat

Atlantic Salmon adults spawn in freshwater, generally in the same river in which they were born (natal river). Southern Upland Atlantic Salmon typically spend two to four years in freshwater as juveniles before migrating to the north Atlantic Ocean. After staying at sea for one to three years, adults return to freshwater to spawn. Rivers that support Atlantic Salmon are generally clear, cool and well-oxygenated, with gravel, cobble and boulder substrates.

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has identified 16 different designatable units (DU) of Atlantic Salmon based on their specific adaptations to their natal rivers (e.g., difference in genetics, morphology, life cycle and behaviour). COSEWIC has assessed the biological status of all of the Atlantic Salmon DUs and determined that 11 DUs are considered to be at risk.

The Southern Upland DU of Atlantic Salmon consists of a grouping of salmon populations that occupy rivers in a region of Nova Scotia extending from the northeastern mainland near Canso, along the Atlantic coast of the province and into the Bay of Fundy as far as Cape Split.

## Atlantic Salmon (Southern Uplands Designatable Unit)

Scientific name: *Salmo salar*

SARA Status: No Status

COSEWIC Status: Endangered (2010)

Taxonomy: Fish (marine) Region: Atlantic Ocean



Range of the Southern Upland Atlantic Salmon population relative to three other Atlantic Salmon populations in the Fisheries and Oceans Canada Maritimes Region.

## Did You Know?

The Atlantic salmon's scientific name is *Salmo salar*, meaning "the leaper". These fish can jump up 12-14 feet in the air, allowing them to leap waterfalls and

## Threats

The Southern Upland DU of Atlantic Salmon has been assessed by COSEWIC as Endangered. A Recovery Potential Assessment (RPA) in 2013 indicated the abundance of adult salmon from four assessed rivers in the DU has declined 88 % to 99 % since the 1980s. Data from more than 50 rivers in the DU also show significant declines in the abundance of juvenile Atlantic Salmon between 2000 and 2008/2009, with evidence that salmon no longer occur in some rivers that they historically occupied.

The RPA identified numerous threats to Southern Upland Atlantic Salmon. The threats identified as highest concern in freshwater include, in no particular order, acidification, altered hydrology, invasive fish species, habitat fragmentation due to dams and culverts, and illegal fishing and poaching. In the estuarine and marine environment, threats of high concern are, in no particular order, salmon aquaculture and marine ecosystem changes. Note that some activities identified may not represent a threat, or may be ranked at a lower severity, after the application of mitigation measures.

## Further Information

Atlantic Salmon are managed under the *Fisheries Act*, via the *Atlantic Fisheries Regulations 1985*, *Maritime Provinces Fishery Regulations*, *Fishery (General) Regulations*, as well as through licenses issued under the *Aboriginal Communal Fishing Licence Regulations*. Atlantic Salmon habitat is currently protected under the fisheries protection provisions of the *Fisheries Act*.

All commercial, recreational, and Food, Social and Ceremonial fisheries for Southern Upland DU Atlantic Salmon are currently closed for conservation reasons. Further conservation, monitoring and research efforts are ongoing, and are being undertaken through collaborative efforts between Fisheries and Oceans Canada, the Province of Nova Scotia, Aboriginal organizations and stewardship groups.

Visit the [Species at Risk \(SARA\) Public Registry](#).

air, allowing them to leap waterfalls and other obstacles when travelling upstream to spawn.

### Related information

[COSEWIC Assessment and Status Report on the Atlantic Salmon \*Salmo salar\* in Canada](#) (2015)

Date modified: 2016-12-19



## TECHNICAL SUMMARY - Nova Scotia Southern Upland population (DU14)

*Salmo salar*

Atlantic Salmon

Nova Scotia Southern Upland population

Saumon atlantique

Population des hautes terres du sud de la

Nouvelle-Écosse

Range of Occurrence in Canada: Nova Scotia / Atlantic Ocean

### Demographic Information

Generation time (average age of parents in the population)	4 yrs
Estimated percent decline in total number of mature individuals from 1993 to 2007 (3 generations)	61
[Projected or suspected] percent [reduction or increase] in total number of mature individuals over the next [10 or 5 years, or 3 or 2 generations].	Unknown
[Observed, estimated, inferred, or suspected] percent [reduction or increase] in total number of mature individuals over any [10 or 5 years, or 3 or 2 generations] period, over a time period including both the past and the future.	N/A
Are the causes of the decline clearly reversible?	No
Are the causes of the decline understood?	No
Have the causes of the decline ceased?	No
Observed trend in number of populations	Declining
Are there extreme fluctuations in number of mature individuals?	No
Are there extreme fluctuations in number of populations?	No

### Extent and Area Information

Estimated extent of occurrence	>20,000 km <sup>2</sup>
Observed trend in extent of occurrence	Declining
Are there extreme fluctuations in extent of occurrence?	No
Index of area of occupancy (IAO)	4280 km <sup>2</sup>
Observed trend in area of occupancy	Declining
Are there extreme fluctuations in area of occupancy?	No
Is the total population severely fragmented?	No
Number of current locations	31 known rivers
Trend in number of locations	Declining
Are there extreme fluctuations in number of locations?	No
Trend in [area and/or quality] of habitat	Declining

### Number of Mature Individuals (in each population)

Population	N Mature Individuals
Only 4 of the 31 rivers included in estimate.	1,427(2008)
Total	1,427(2008)

### Quantitative Analysis

--	--

### Threats (actual or imminent, to populations or habitats)

Acidification, habitat loss, recreational fishing, poorly understood changes in marine ecosystems resulting in reduced survival during the marine phase of the life history, ecological and genetic interactions with escaped domestic Atlantic Salmon.

**Rescue Effect (Immigration from an outside source)**

Status of outside population(s)? Nearby Nova Scotia and New Brunswick populations appear to be declining.	
Is immigration known?	No
Would immigrants be adapted to survive in Canada?	Unknown
Is there sufficient habitat for immigrants in Canada?	No
Is rescue from outside populations likely?	No

**Current Status**

COSEWIC: Endangered (Nov 2010)
--------------------------------

**Status and Reasons for Designation**

<b>Status:</b> Endangered	<b>Alpha-numeric code:</b> A2bce; C1
<b>Reasons for designation:</b> This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers from northeastern mainland Nova Scotia, along the Atlantic coast and into the Bay of Fundy as far as Cape Split. Small (one-sea-winter) and large (multi-sea-winter) fish have both declined over the last 3 generations by approximately 59% and 74%, respectively, for a net decline of all mature individuals of about 61%. Moreover, these declines represent continuations of greater declines extending far into the past. During the past century, spawning occurred in 63 rivers, but a recent (2008) survey detected juveniles in only 20 of 51 rivers examined. There is no likelihood of rescue, as neighbouring regions harbour severely depleted, genetically dissimilar populations. The population has historically suffered from dams that have impeded spawning migrations and flooded spawning and rearing habitats, and other human influences, such as pollution and logging, that have reduced or degraded freshwater habitats. Acidification of freshwater habitats brought about by acidic precipitation is a major, ongoing threat, as is poor marine survival related to substantial but incompletely understood changes in marine ecosystems. There are a few salmon farms in this area that could lead to negative effects of interbreeding or ecological interactions with escaped domestic salmon.	

**Applicability of Criteria**

<b>Criterion A (Decline in Total Number of Mature Individuals):</b> Meets Endangered A2b,c,e with a decline of 61% in the number of mature individuals over the last 3 generations (12 years), in part due to a decline in the quality of the habitat due to acid precipitation. Breeding has ceased in half of the rivers since the 1980s.
<b>Criterion B (Small Distribution Range and Decline or Fluctuation):</b> Not applicable.
<b>Criterion C (Small and Declining Number of Mature Individuals):</b> Meets Endangered C1. The number of mature individuals in 2008 was 1427 in 4 rivers thought to include the majority of the population, and therefore is thought to be well below 2500. The population is declining, with a 2-generation decline of ~40%.
<b>Criterion D (Very Small Population or Restricted Distribution):</b> Not applicable.
<b>Criterion E (Quantitative Analysis):</b> Not applicable.



there is no total estimate of abundance available for this DU. The abundance data presented here are a sum for rivers with estimates (based on data in Gibson et al. 2009). In recent years, the monitored rivers are biased towards systems with lower acidification impacts. Such rivers, however, are thought to currently contain the majority of salmon in this DU.

Within the previous century, 63 rivers with this DU are known to have contained salmon, although presently, salmon are extirpated from many. The most recent estimate (2008) of adult abundance for the two index rivers is 1,427 salmon, consisting of 1,264 small and 164 large salmon. The lowest abundance during the last 3 generations was 755 salmon in 2007, while the highest abundance was 3,557 salmon in 1996.

Abundance of salmon in this DU during the 1980s at times exceeded 10,000. There has been a significant decline in the abundance of small ( $P = 0.003$ ), large ( $P = 0.002$ ) and total salmon ( $P < 0.001$ ) in this DU based on the curve fit in Figure 38. Small salmon abundance declined by 58.6% since 1996 (Figure 38). The abundance of large salmon was down by 74.0%, and total salmon declined by 61.3% during that period. Since recent counts represent systems with relatively low levels of acidification, declines in acidified rivers of DU 14 are expected to be greater (Gibson et al. 2009). DU 14 has experienced a substantial decline in the number of individual populations. DFO (2000) predicted that 55% of rivers in this DU are extirpated with an additional 36% at risk of extirpation.

A comparison of juvenile abundance estimated from electrofishing surveys between 2000 and 2008 (Gibson et al. 2009) are indicative of ongoing declines and low juvenile abundance (Figure 39). These surveys were similar in terms of total effort and coverage, although marginally more sites were completed in 2008 (143 vs. 128), but one less river was visited (51 rather than 52). Total shocking time was slightly greater in 2008 (143,385 seconds vs. 104,331 seconds), but the total area surveyed was lower (98,019 m<sup>2</sup> vs. 128,841 m<sup>2</sup>). Approximately one-quarter as many juvenile salmon were captured in 2008 (977 salmon) than in 2000 (3,733 salmon). In 2000, juvenile Atlantic Salmon were found in 54% of the rivers (28 of 52), but were only found in 39% (20 of 51) of the rivers in 2008.

Under current conditions, maximum lifetime reproductive rates (indicative of the compensatory reserve) of salmon in this DU are very low and abundance will likely continue to decline because the populations have little intrinsic capacity to rebound following events that further lower abundance (Gibson et al. 2009). Only a few populations (e.g. the LaHave and St. Mary's rivers) may be viable under current conditions and then only at low population size (Gibson et al. 2009). Because of their low reproductive rates, these populations may also be at risk as a result of stochastic processes. Annual salmon counts at the Morgan Falls fishway on the LaHave River, the primary index of abundance in this DU, are provided in Figure 40. Supplementary abundance data (Liscomb, St. Marys, and East River (Sheet Hbr.)) are provided in Appendix 1.



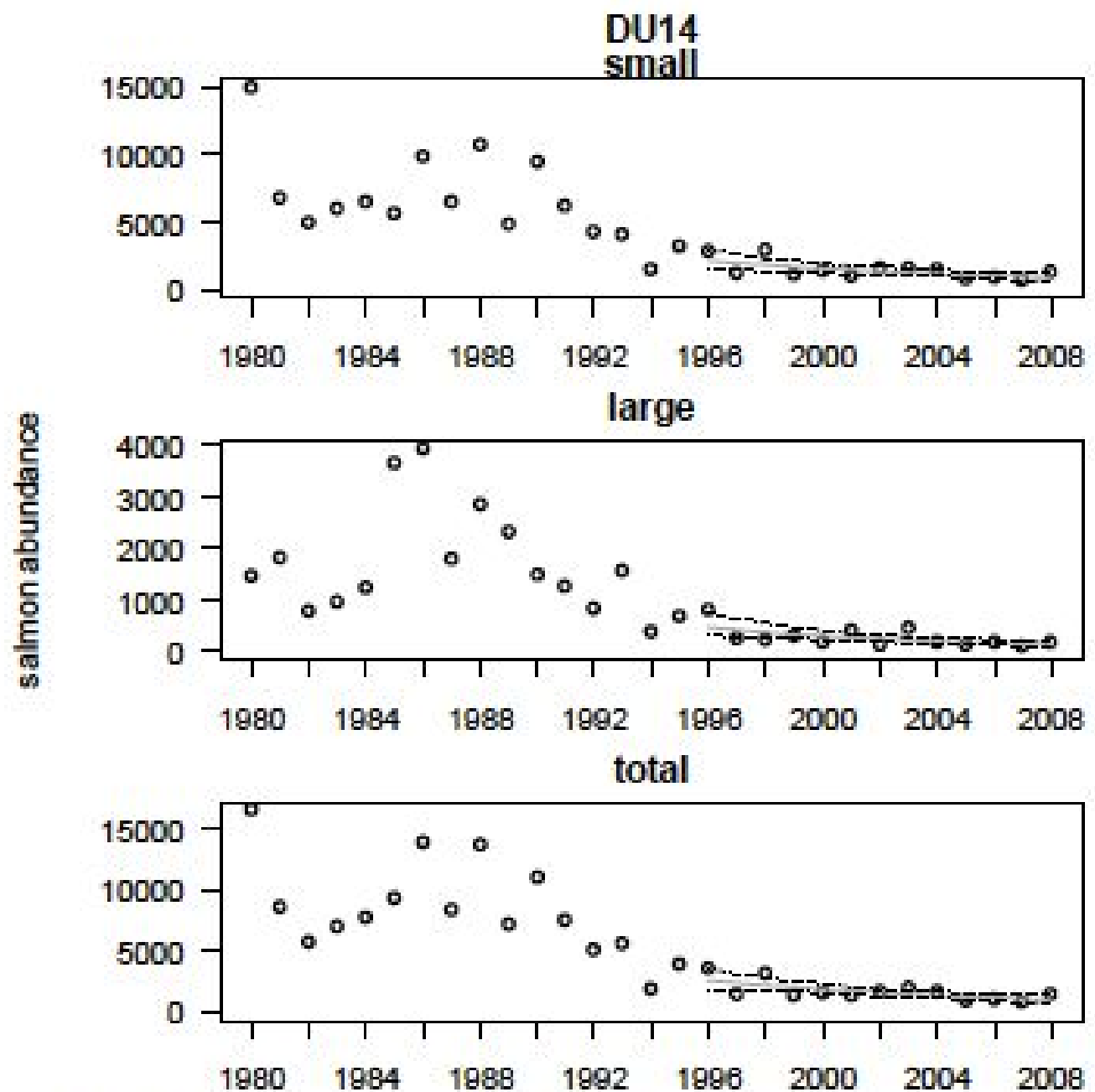


Figure 38. Atlantic Salmon escapement from 1980 to 2008 (small: top panel; large: middle panel; total: bottom panel) for DU 14. Superimposed is the general linear model ( $\pm$  2SE prediction intervals) used to determine trends in abundance over the past 3 generations.

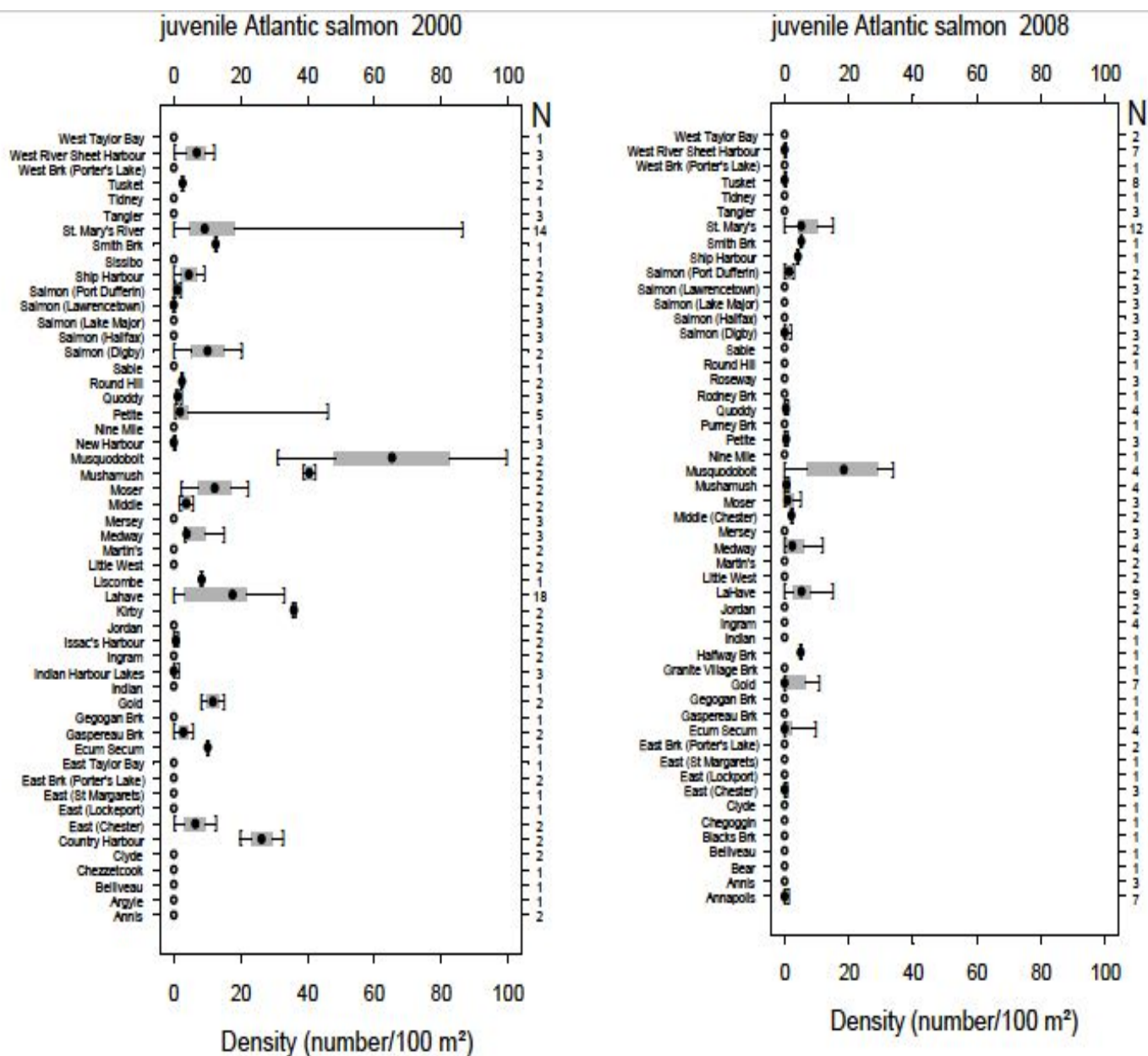


Figure 39. Box plots showing the density of Atlantic Salmon in Southern Upland rivers based on electrofishing during 2000 and 2008. The dot shows the median density and the box shows the inter-quartile spread. Open dots indicate that no salmon were captured in the river. The whiskers are drawn to the minimum and maximum. "N" is the number of sites that were electrofished in each river (adapted from Gibson *et al.* 2009).

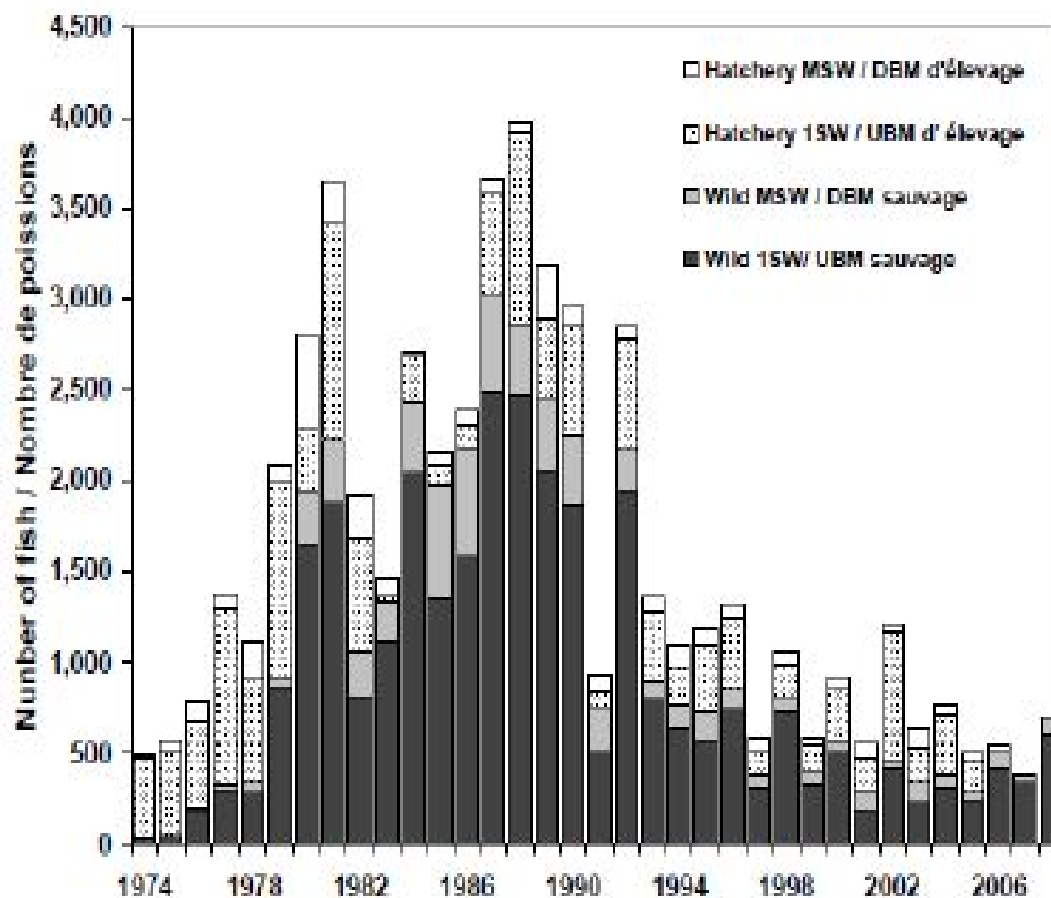


Figure 40. Counts of Atlantic Salmon at Morgans Falls fishway on the LaHave River, NS, from 1974 to 2008, divided into the proportions of wild-origin and hatchery-origin 1SW and MSW adults (taken from Gibson et al. 2009).

## **7.2 Support of Sustainability of Wild Salmon**

For this project we do not believe that it will have any negative impacts on the wild salmon population.

This project we believe may be helpful to the support of wild salmon. With this project we will be applying for a nuisance permit for the extraction of the european green crab. When the green crab are removed from the waters the eelgrass beds will have a greater chance of growing and flourishing. Green crabs, while foraging for food tear up eelgrass beds making it difficult for it to flourish.

“The importance of eelgrass to juvenile salmon is of particular concern since salmon in turn affect many other ecosystems, and are important to the economies and cultures of human communities. When young salmon first emerge from streams as smolts, eelgrass beds in estuaries provide them with a sheltered area where they can gently acclimate to the salt water. The abundant food allows them to grow large enough to survive in the ocean”. ( CRD)

All waste waters at longshore fisheries are treated properly before disposal. We have septic fields that take care of our waste water. This eliminates the concern for water pollution in the River.

All spat collection bags are made from very small mesh that will not affect the salmon. At each corner of the lease there will be a buoy to indicate the boundaries. The ropes, buoys and the anchors shall not pose an issue for wild salmon.

All boat fuel tanks will be in a sealed compartment and will be fueled carefully with fuel containers that are in good condition. Fuel will never be stored near the water.

Chemical management: Any cleaner that is used in the boat cleaning process and gear cleaning process will be food grade. The cleaner will be rinsed into a holding tank. The holding tank will then be pumped out and into our sewage disposal system.



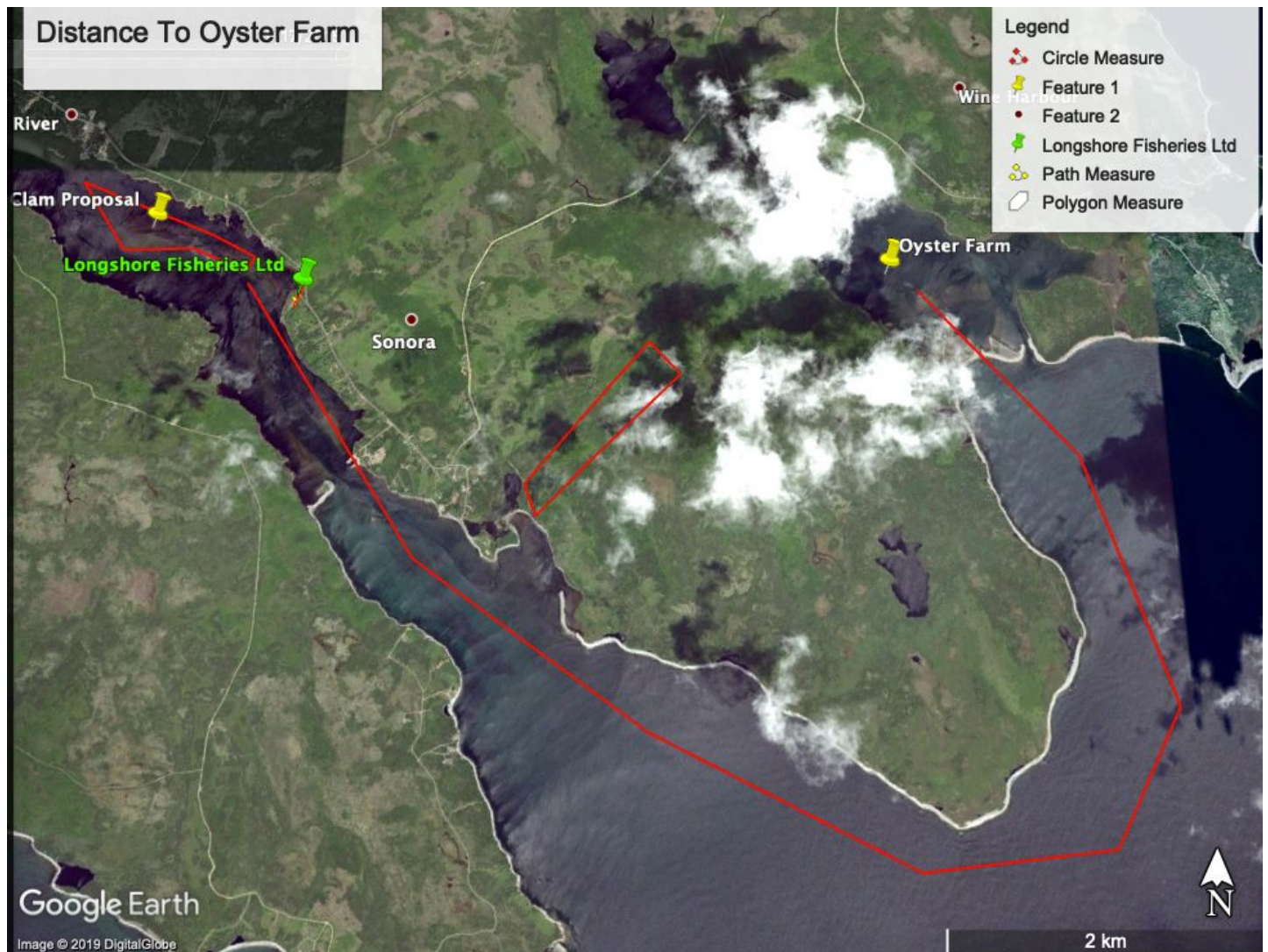
**Section 8**

**The Number and  
Productivity of Other  
Aquaculture Sites in the  
Public Waters Surrounding  
the Proposed Aquacultural  
Location.**

## 8.1 Identification of Other Aquaculture Sites

Approximately twelve kilometers by water from Longshore Fisheries Ltd, there is an oyster farm. The oyster farm has been in operation since 2016. The oysters are farmed by the suspension method.

Longshore Fisheries believes there will be no interaction between the sites.

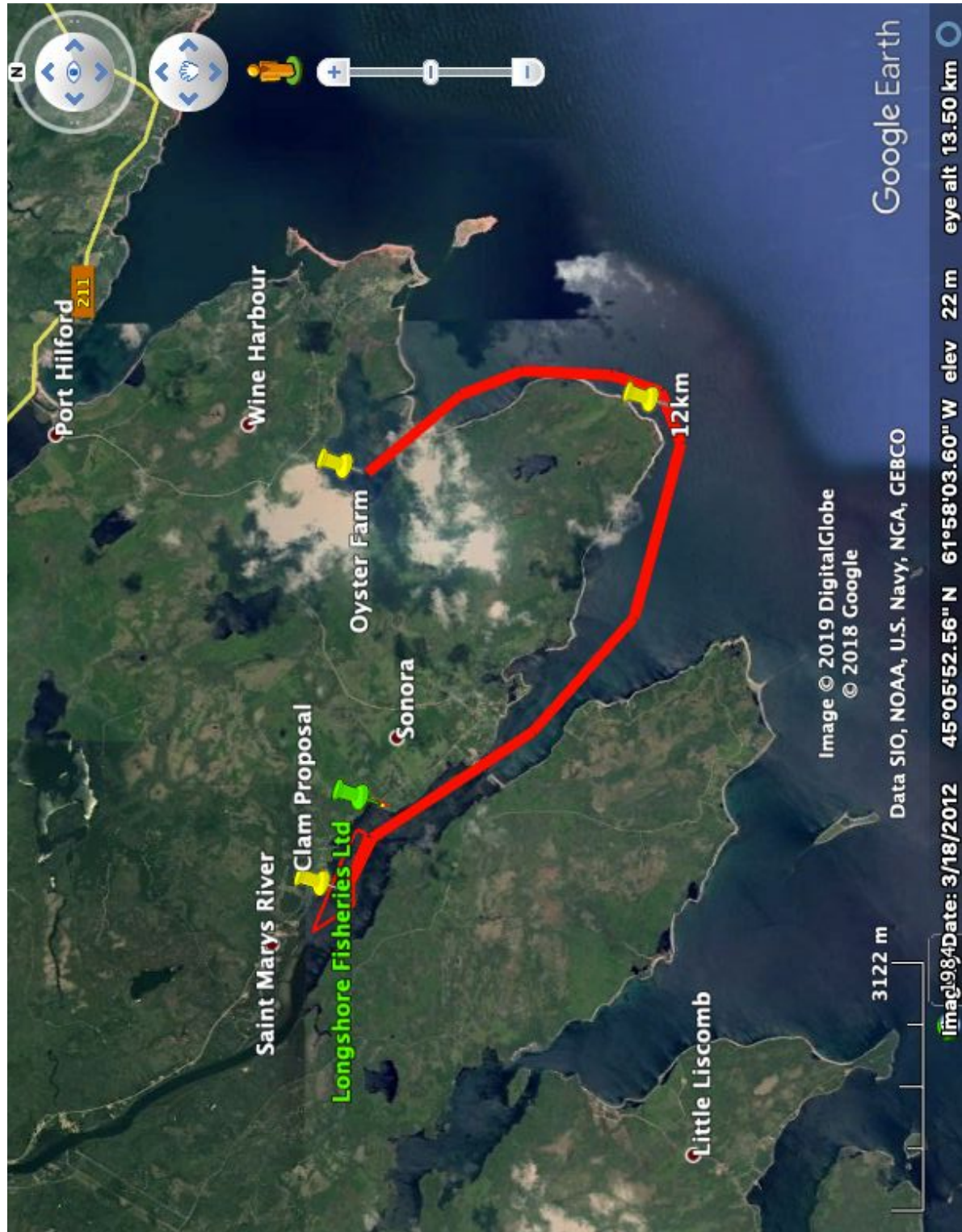


## **8.2 Interactions With Other Aquaculture Operations**

Longshore Fisheries Ltd believes there will be no negative or positive effects on the oyster farm. The sites will not interact with each other.



## Distance To Oyster Farm







**Invitation to an open house for a  
proposed Aquaculture Site.**

***Location:*** Sonora Community Center  
1780 Sonora Rd, Sonora NS

***Time:*** 5-7pm

***Date:*** August 7th/2018

This is an open house drop in format designed to make the public and local community aware and have understanding of the proposed activities.

Representatives from [Longshore Fisheries Ltd](#) will be present to take and answer any questions the community have about the Sonora Aquaculture project.

**Feel free to drop in and see us between 5-7pm**

**We look forward to seeing you there!**

*All are Welcome*



## **Scoping Report**

### **Section 1) The optimum use of marine resources.**

During our scoping report we have determined that we can optimize the area and the resource by revitalizing the clams. We plan to do that by cultivating the nearly barren clam flats, seed millions of clam seeds into the freshly cultivated mud flats, protect the clam seeds while they grow and flourish into a healthy population of adult clams, harvest them, and process them right here at longshore fisheries. After harvesting of the clams is complete, new seeds will be sown for the following years to come. With our proposed project we have high expectations that the proposed area will be rejuvenated and the surrounding areas will be naturally enhanced through the natural spawning and spreading of clam seed.

Feedback received at public meeting:

██████████: "Longshore is taking the flats away from the community and preventing us from digging clams"

Longshores response to this:

Longshore is asking to lease an area of the mud flats in Sonora that are currently closed to diggers due to contamination of fecal coliform. Natural spawn will float and move to open locations. This should help the natural population for diggers to harvest in open areas outside of the proposed lease area.

### **Community Views**

The community members that we have spoken to seem to have a 50/50 opinion on the project. Some of the members believe that it is a great project that can benefit many people and naturally enhance the river. Some members also believe that Longshore is taking the flats from the residents. We have explained to the members the closed area situation. We want to lease the area to help the community grow and help the rest of the river naturally enhance.

## **Section 2) The Contribution of the Proposed Operation to Community and Provincial Economic Development**

In the proposed project there will be approximately Fifty full time positions at maximum production, five to ten diggers, as well as fifteen part time positions. Positions include Management, supervisory, diggers, dredge operators, boat operators, labourers, hatchery technicians, and production workers. With these positions available many of the residents that currently rely on unemployment or social assistance to live, will have the ability to work close to home and make a modest income.

This project will ensure the employment of many local residents and residents from surrounding areas as previous projects with Longshore Fisheries has proven. When building our current Seafood processing facility we employed many trades and labourers. More than twenty five carpenters, five stainless steel workers, five boiler fitters, two oil technicians, two burner mechanics, six to ten concrete technicians, multiple excavation workers, truckers, and over twenty general labourers. A combination of materials, craftsman and labourers totalling two and a half million dollars! Local businesses reported an increase in traffic and sales, personally thanking [REDACTED] (owner) for everything he was putting into the community.

There are many local suppliers and businesses that will benefit from this project. Local garages will have the full benefit of supplying workers with fuel and service. Local car dealers may benefit from this as well. Good reliable transportation is an asset for every employee. Local restaurants will benefit, with fifty plus employees, people will be looking for a great place to dine. The local Grocer will have added business. If the project works to its full potential more people will be hired, therefore more people will be needing a place to eat, more lunch food to take to work and groceries to take home when passing by. Local accommodations will benefit from time to time when contract workers, customers, and inspectors are here to stay.

### **Community Views**

On this topic there was no community feedback at the public meeting. Members of the community that we have spoken to outside of the meeting have said that the project would be a great economic boost.

[REDACTED] added that “my son has been employed at longshore every summer for 3 years now, and has completed his school work term there”. He has also applied for work term hours in 2019 with Longshore Fisheries.

### **Section 3) Fisheries Activities in the Public Waters Surrounding the Proposed Aquaculture Operation**

In the proposed area there are no commercial fishing activities.

Recreational fishers catch trout from time to time. The number of fishers varies. The most accounted for at one time was 5.

Social and ceremonial fishing is not believed to be done in the proposed area.

During our Sedimentary Sampling ( 30 stations x 3 sample sites= 90 sample sites) we did not find a population of clams. We believe after sampling the area green crabs are eating all of the clams. We plan to mitigate this with netting.

### **Community Views**

During our public meeting the community felt that all activities would be halted on the river.

██████████ said “ we won’t be allowed to access the river for trout fishing”

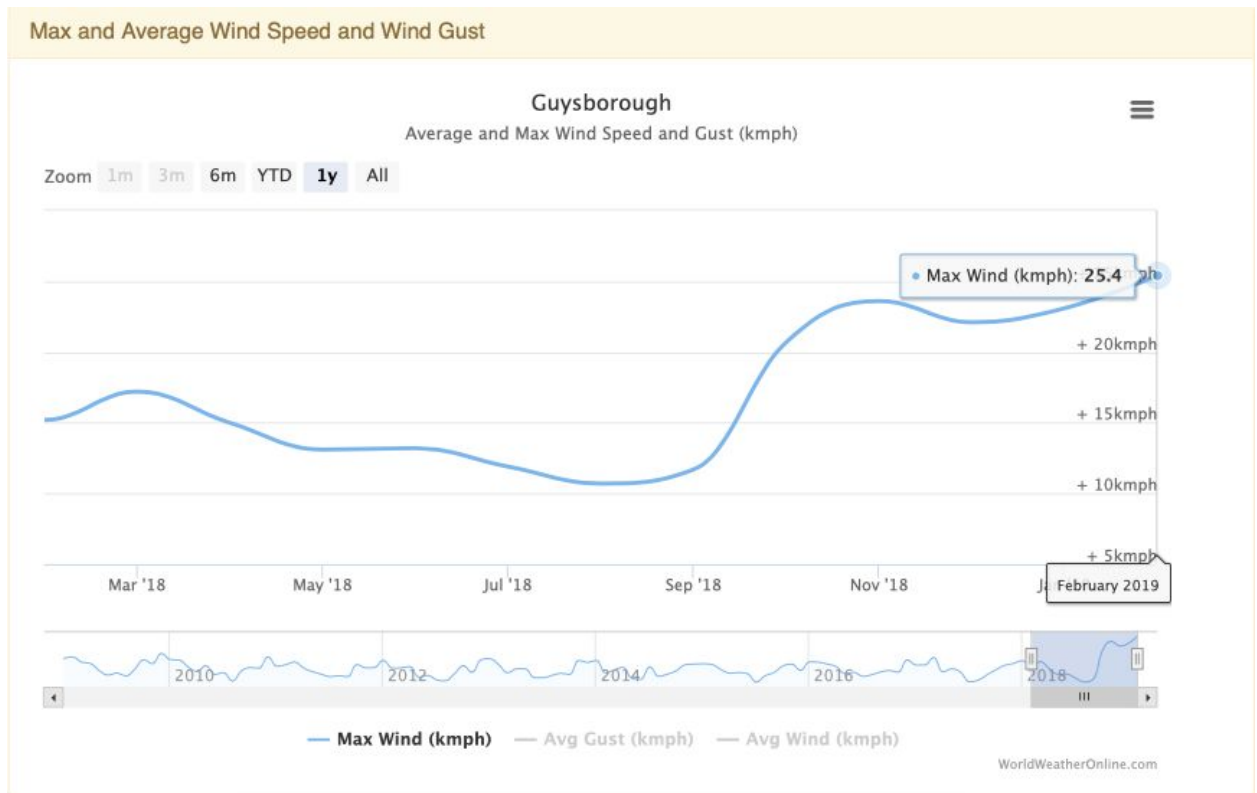
Longshore Fisheries ensured the public and ██████████ that access to the river for recreational fishing would be given. There will be many pathways and spaces between nets for the people to walk through.

( Spaces between nets shown below)



## Section 4) Oceanographic Environment

### Annual maximum wind speed =



**Table 9.3-2 Halifax Shearwater Climate Normals (1971-2000) and Extremes (1944-2001)**

Wind Speed	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Speed (km/h)	18.1	17.7	17.8	16.9	14	12.8	11.3	11.1	12.8	14.8	16.5	17.7	15.1
Most Frequent Direction	W	NW	NW	N	S	S	S	SW	SW	W	NW	W	W
Maximum Hourly Speed	83	97	78	85	72	77	87	60	97	80	89	89	
Date (yyyy/dd)	1990/30	1963/20	1986/07	1962/13	1961/20	1964/12	1975/28	1956/08	1954/11+	1962/07	1958/29	1956/30+	
Extreme Minimum (°C)	127	146	148	122	106	111	114	93	126	132	121	150	
Date (yyyy/dd)	1960/03	1976/02	1976/17	1962/13	1961/03	1964/12	1975/28	1986/09	1958/29	1963/29	1963/08	1956/30	
Direction of Maximum Gust	S	S	SW	NE	W	NW	S	SW	N	S	NE	SW	SW

Source: EC, 2007a

Notes:

W = west  
 NW = northwest  
 N = north  
 SW = southwest  
 NE = northeast  
 km/h = kilometres per hour

## Oceanographic Environment

Maximum wave height = **1m** ( [Ocean Weather inc](#))

Direction of maximum wave = **South East** (Observed by LSF )

Annual minimum tide = **0.1m** ( [Canadian Hydrographic Service](#))

Annual maximum tide = **2.1m** ( [Canadian Hydrographic Service](#))

Current speed range and averages = ( [Info Available, Wikipedia](#))

St. Mary's River	
Location	
Country	<a href="#">Canada</a>
Physical characteristics	
<b>Mouth</b>	
- location	Atlantic Ocean
- elevation	<a href="#">sea level</a>
<b>Length</b>	250 km (160 mi)
<b>Basin size</b>	1,350 km <sup>2</sup> (520 sq mi)
<b>Discharge</b>	
- average	45.6 m <sup>3</sup> /s (1,610 cu ft/s)

Annual minimum salinity = **7 ppt** ( [Observed by LSF](#))

Annual maximum salinity= **31 ppt**([Observed by LSF](#))

Annual minimum temperature = **1°C** ([Observed By LSF](#))

Annual maximum temperature =**15°C** ([Observed By LSF](#))

Depth of water at each corner of the site = ([flats all exposed at low tide](#))

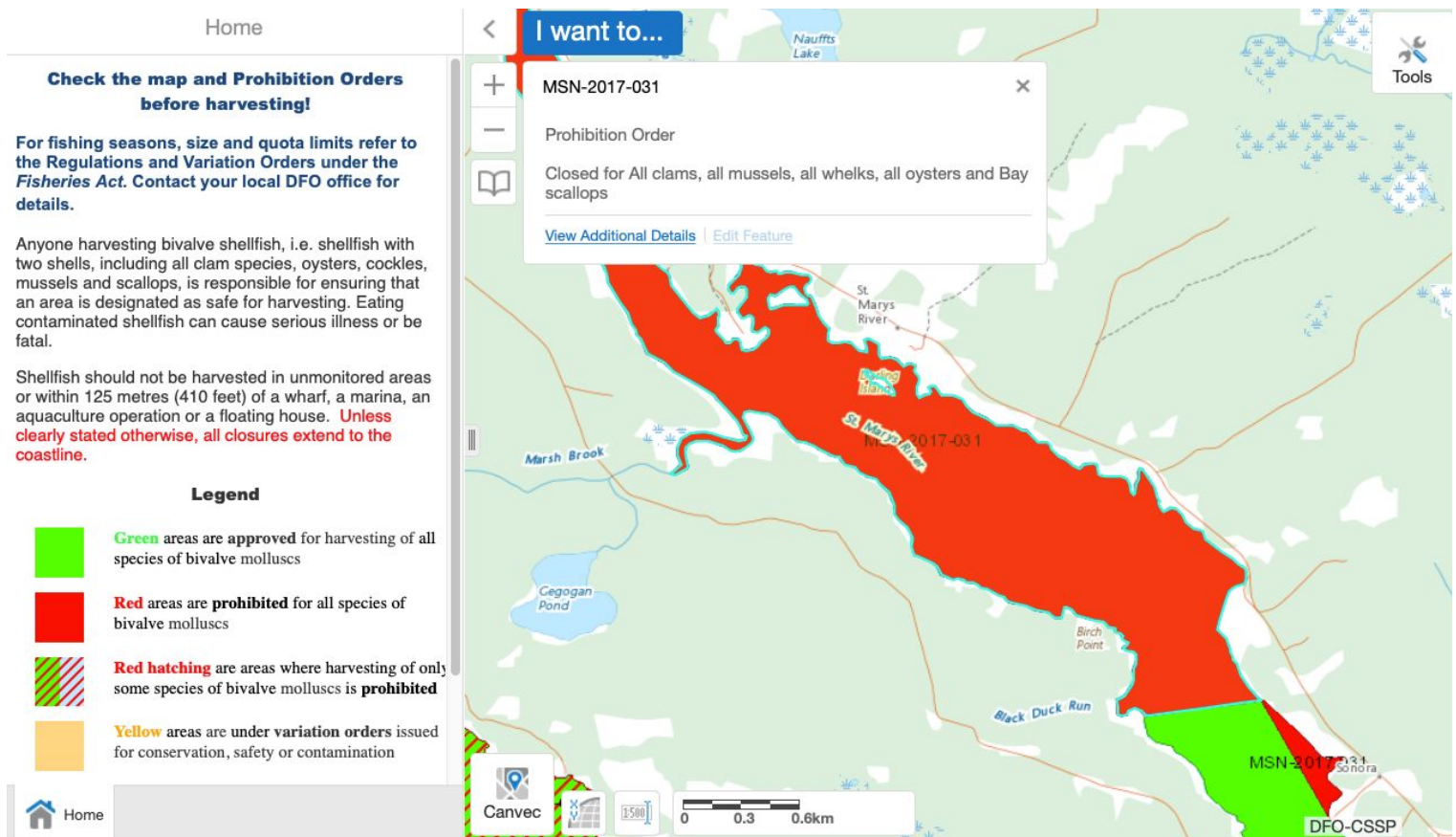
Primary production information = [Not available](#)

Biotoxin information = [Not Available](#)



# Oceanographic Environment

Current location classification = **Prohibited for all bivalve molluscs (DFO)**

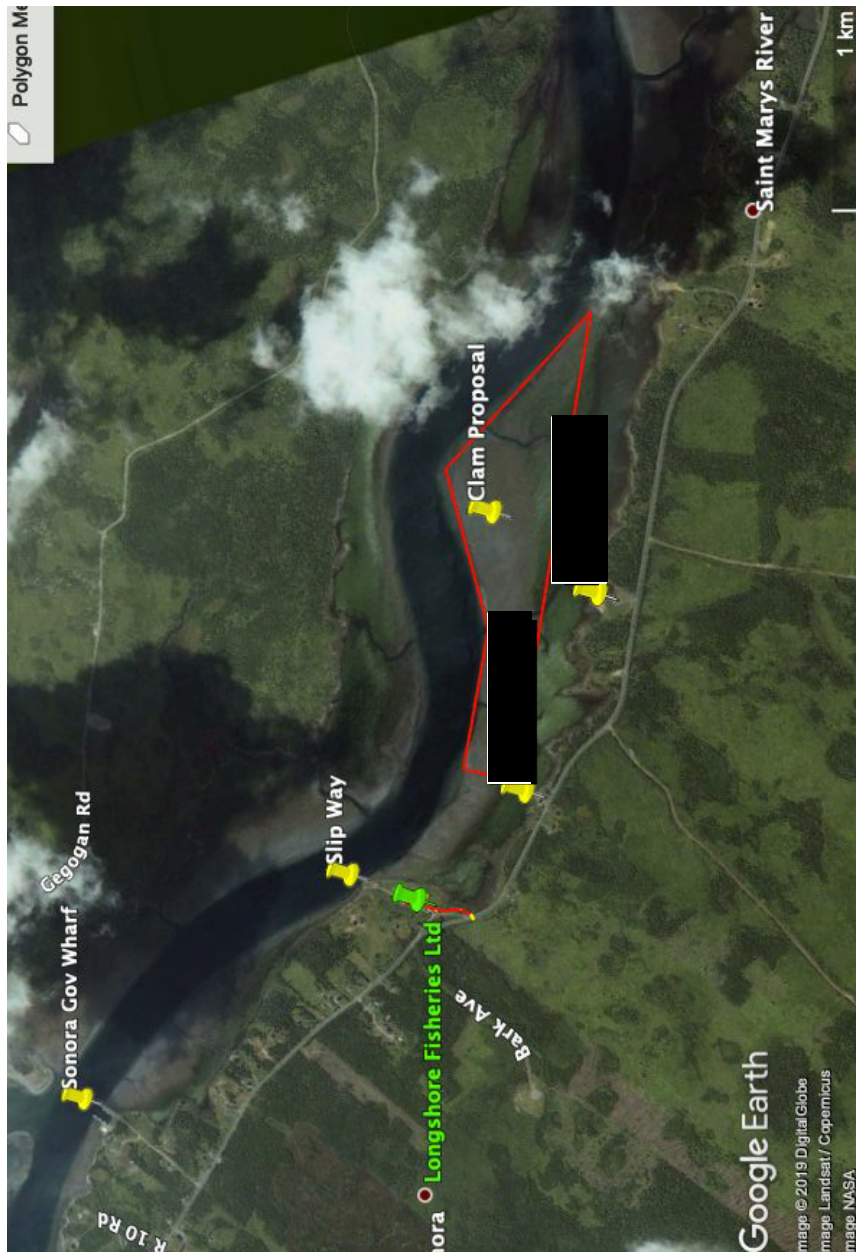


## Community Views

During the scoping process the community did not express any view or concerns in this area.



## Section 5) The other users of the Public Waters Surrounding the Proposed Aquacultural Operation



The waterways are used by occasional boaters and recreational fisherman. The waters are closed for bivalve harvesting due to high fecal coliform counts therefore no local harvesting on the proposed site will be interrupted.

**Adjacent property owners:** [REDACTED] (0.6km from LSF) and [REDACTED] (1.3km From LSF)

**Pleasure craft and commercial boat traffic:** Sailboats occasionally, some lobster boats use the channel to navigate to the Sherbrooke wharf.

**Anchorage and moorings:** Longshore fisheries Slipway( on site) and Sonora Government wharf. ( 2km from LSF)

**Processing Plants:** Longshore Fisheries LTD

**Campgrounds:** none

**Communities:** Sonora

**Municipal, industrial and agricultural users which may be sources of effluent:** Sherbrooke water treatment plant (11km from LSF)

**Tourism or recreational operations:** no business based operations

**Private and Government Wharves:** Sonora Government wharf

**First Nations territories and reserves:** None

**Any known or suspected pre-contact or historic archaeological resources:** none known

**Important habitats and conservation areas:** Some eel grass noted during scoping. Mostly along the shore.

**Other known potential projects( confirmed or proposed) and activities:** None known

During the public meeting the concern of being unable to boat in the area had been raised. Many of the community mentioned that they had this concern.

Longshores Response: Longshore fisheries has advised the public that boating activities in the area would not change. Boats and pleasure craft that move through the area will remain doing so, unaffected by the proposed project.

## **Section 6) Public Right of Navigation**

On January 23/2019 Transport Canada was emailed regarding this concern. Since then no one has replied.

( since the above, Transport Canada has contacted us. A NPA approval will be necessary due to the protective netting. The notice of works has been submitted to Transport Canada. [TC-NPP file number 2019-200077](#))

The aquaculture project at this time will not be interfering with the navigable portion of the St Marys River. The mud flats are the only area the project will occupy.

## **Community Views**

During the public meeting the concern of being unable to boat in the area had been raised. Many of the community mentioned that they had this concern.

Longshores Response: Longshore fisheries has advised the public that boating activities in the area would not change. Boats and pleasure craft that move through the area will remain doing so, unaffected by the proposed project.

## **Section 7) The Sustainability of Wild Salmon.**

For this project we do not believe that it will have any negative impacts on the wild salmon population.

This project we believe may be helpful to the support of wild salmon. With this project we will be applying for a nuisance permit for the extraction of the european green crab. When the green crab are removed from the waters the eelgrass beds will have a greater chance of growing and flourishing. Green crabs, while foraging for food tear up eelgrass beds making it difficult for it to flourish.

“The importance of eelgrass to juvenile salmon is of particular concern since salmon in turn affect many other ecosystems, and are important to the economies and cultures of human communities. When young salmon first emerge from streams as smolts, eelgrass beds in estuaries provide them with a sheltered area where they can gently acclimate to the salt water. The abundant food allows them to grow large enough to survive in the ocean”. ( CRD)

All waste waters at longshore fisheries are treated properly before disposal. We have septic fields that take care of our waste water. This eliminates the concern for water pollution in the River.

All spat collection bags are made from very small mesh that will not affect the salmon. At each corner of the lease there will be a buoy to indicate the boundaries. The ropes, buoys and the anchors shall not pose an issue for wild salmon.

All boat fuel tanks will be in a sealed compartment and will be fueled carefully with fuel containers that are in good condition. Fuel will never be stored near the water.

Chemical management: Any cleaner that is used in the boat cleaning process and gear cleaning process will be food grade. The cleaner will be rinsed into a holding tank. The holding tank will then be pumped out and into our sewage disposal system.

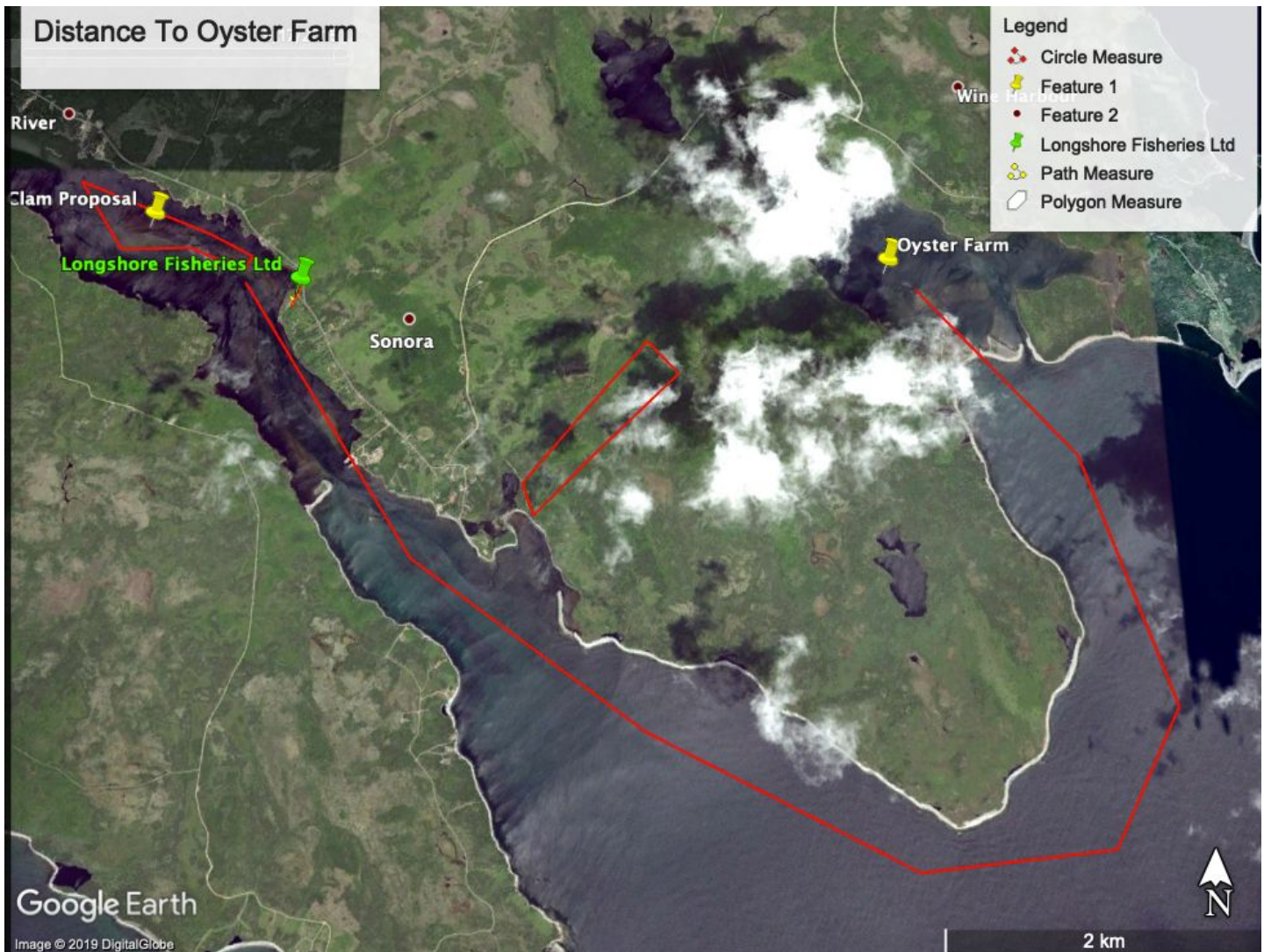
### **Community Views**

During the public meeting we spoke to [REDACTED] the president of the St Mary's River Association. He looked over our proposal. We told him if there was any concerns or issues to give us a call or drop by. [REDACTED] has not contacted us regarding any issues.

## **Section 8) The Number and Productivity of Other Aquaculture Sites in the Public Waters Surrounding the Proposed Aquacultural Location**

Approximately twelve kilometers by water from Longshore Fisheries Ltd, there is an oyster farm. The oyster farm has been in operation since 2016. The oysters are farmed by the suspension method.

Longshore Fisheries believes there will be no interaction between the sites.



**Community Views:** During the scoping process we did not receive any feedback regarding the oyster farm causing any issues for the proposed project.

## **Scoping Activities To Engage the Public.**

During the scoping period Longshore Fisheries conducted a public meeting to inform the community of the proposed project. All information in the proposal was on display at the meeting for community members to review and question. Many questions were asked and answered.

At the Public meeting all attending were advised to, **Call, Email, or Drop in** to the office if they had any further questions or comments. Business cards were left for community members to take. The Longshore facility is open from 8am-5pm.

Longshore fisheries did not receive any calls, emails or Drop ins relating to the proposed Aquaculture Project.





## Invitation to an open house for a proposed Aquaculture Site.

***Location:*** Sonora Community Center  
1780 Sonora Rd, Sonora NS

***Time:*** 5-7pm

***Date:*** August 7th/2018

This is an open house drop in format designed to make the public and local community aware and have understanding of the proposed activities.

Representatives from [Longshore Fisheries Ltd](#) will be present to take and answer any questions the community have about the Sonora Aquaculture project.

Feel free to drop in and see us between 5-7pm

We look forward to seeing you there!

*All are Welcome*

