EXHIBIT 004

NSARB-2024-001-APP-004

#### **RECEIVED**

By Nova Scotia Aquaculture Review Board at 6:39 pm, Jul 10, 2024

### **APPLICATION PACKAGE**

AQ#1448

Submission to the Nova Scotia Aquaculture Review Board

Nova Scotia Department of Fisheries and Aquaculture

#### **Executive Summary**

The enclosed represents a submission to the Nova Scotia Aquaculture Review Board (NSARB) by the Nova Scotia Department of Fisheries and Aquaculture (DFA) pursuant to section 47 of the Fisheries and Coastal Resources Act.

An option to lease (AQ#4015) was granted to Alex Bouchie of C&G Aquaculture on September 23, 2020, for a period of six months. Per section 8 of the *Aquaculture Licence and Lease Regulations*, the option to lease was extended for an additional six months, expiring on September 23, 2021. In accordance with section 11 of the *Aquaculture Licence and Lease Regulations*, the application was received by DFA on September 21, 2021 (Reference File AQ#1448, Addendum A1.1). During the internal review of the Development Plan, additional information was requested by DFA (Addendum A1.2), which was incorporated into an updated Development Plan, received February 6, 2022. On April 4, 2024, DFA requested additional information be clarified by the applicant (Addendum A2.1), which was received on April 16, 2024, and is attached as Addendum A2.2. In early 2024, it was identified that the proposed lease area overlapped with two parcels of land on the adjacent Pig Islands (Addendum A3.1). The applicant chose to revise the proposed lease boundary and remove the approximate 0.48-hectare overlap.

C&G Aquaculture is applying for a new marine aquaculture licence and lease for suspended, bottom culture with gear, and bottom culture without gear of American oyster (*Crassostrea virginica*), Bay scallop (*Argopecten irradians*), Quahog (*Mercenaria mercenaria*), and Razor clam (*Ensis directus*). The proposed 24.06-hectare site is in Merigomish Harbour, Pictou County.

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#### 1.0 APPLICATION FORM



**Applicant Information:** 

Ver. 170723

21 SEP. 2021

Pg. 1 of 3

# Aquaculture Licence/Lease Application

• •	
Applicant: C&G Aquacultu	re Contact Person: Alex Bouchie
Nova Scotia Registry of Joint Stocks	777C0C00ENC0004
Revenue Canada Business Number:	:
Telephone No. (Work):	(Home): (Cell):
Fax No.: E-r	mail:
Mailing Address:	
	Postal Code:
Civic Address:	
	Postal Code:
Proposed Site Information:	
Location of Site: Merigomish Harb	County: Pictou County Site Size (Ha): 24
Site Dimensions:	
Hydrographic Chart No.: CA44	
Approximate Center Coordinates:	
	Longitude: 62°23'48.8"W
Type of Licence Application (Check appropriate boxes):	
■ Commercial licence/lease	
☐ Experimental licence/lease	
☐ Marine Plants ☐ Finfish	■ Shellfish □ Other
Submit completed applications to:	Nova Scotia Department of Fisheries and Aquaculture, Aquaculture Division 1575 Lake Road, Shelburne, NS BOT 1WO

E-mail: aquaculture@novascotia.ca



Office Use Only

☐ Land-based	■ Marine
☐ Freshwater	Cage culture
☐ Saltwater	Suspended shellfish or marine plants
	Bottom shellfish with gear
☐ U-Fish	Bottom shellfish without gear
☐ Hatchery	
□ Nursery Facility	
☐ Growout	

#### **Application Materials**

A complete application includes the following:

- Application fee (payable to Minister of Finance) according to Section 77 of the Aquaculture Licence and Lease Regulations for Nova Scotia made under Section 64, Chapter 25 of the Acts of 1996, the Fisheries and Coastal Resources Act
- Application Form
- · Development Plan according to application
- Report on Public Engagement during Scoping (for all Marine applications and for other applications, as applicable)
- Copy of up-to-date Shareholder's Register which sets out the shareholdings of the company (if applicable, and if not already provided during the Option to Lease application process.

#### **Public Notice and Disclosure**

As part of the process for deciding on an aquaculture application, the Nova Scotia Department of Fisheries and Aquaculture ("Fisheries and Aquaculture") will disclose application information to other government bodies, including, if applicable, the Nova Scotia Aquaculture Review Board for use at an adjudicative hearing relating to the application.

In accordance with departmental policy, which seeks to promote public involvement in the process for deciding on aquaculture applications, Fisheries and Aquaculture may disclose application information — not including, however, personal or business confidential information — on the departmental website.

#### **Privacy Statement**

The personal and business confidential information collected as part of an aquaculture application will only be used or disclosed by Fisheries and Aquaculture for the purpose of deciding on the application.

Submit completed applications to:

Nova Scotia Department of Fisheries and Aquaculture, Aquaculture Division 1575 Lake Road, Shelburne, NS BOT 1W0

Ver. 170723

E-mail: aquaculture@novascotia.ca



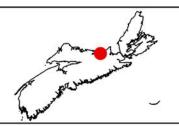
Office Use Only

All application information collected is subject to the Freedom of Information and Protection of Privacy Act ("FOIPOP") and will only be used or disclosed in accordance with FOIPOP.

By signing and submitting this form, I acknowledge that I have read, understand, and accept the above statements regarding the collection, use, and disclosure of the information provided on this form.

Signature of Applicant Date 09/19/2021 Signature of Nova Scotia Department of Fisheries and Date Aquaculture Designate



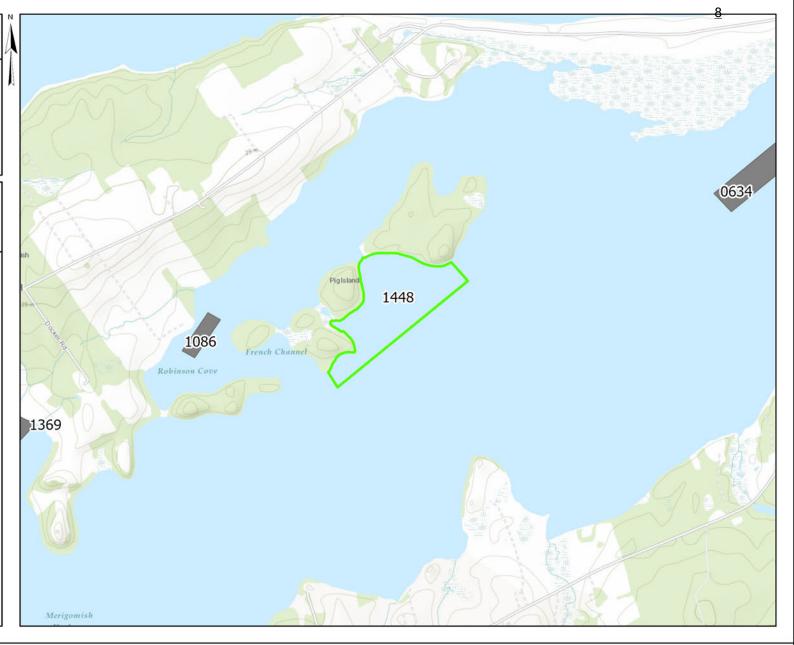


#### Aquaculture Site

#### 1448

Corner	Latitude	Longitude
1	45° 39' 29.497"	-62° 24' 7.738"
2	45° 39' 26.820"	-62° 24' 5.400"
3	45° 39' 45.320"	-62° 23' 32.560"
4	45° 39' 48.668"	-62° 23' 36.677"
Centre	45° 39' 39.350"	-62° 23' 50.742"

DATUM NAD 83 CSRS UTM Zone 19 The above coordinates are not from a legal survey







0 0.25 0.5 1 km

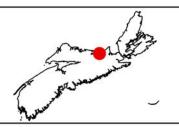
NOVA SCOTIA
Fisheries and Aquaculture

Disclaimer

This map should not be used for navigation or legal purposes. It is intended for general reference use only.

24-04-16 Created By: Mk





#### Aquaculture Site

1448

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1	45° 39' 29.497"	-62° 24' 7.738"
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Centre	45° 39' 39 350"	-62° 23' 50 742"

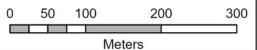


License/Lease Holder County Waterbody Hectares Species Type Culture Type Chart Suspended, Bottom with Gear & Bottom Culture C&G Aquaculture Pictou Merigomish Harbour 24.06 Shellfish 4445 Disclaimer

**Proposed Commercial Application** 

**Property Boundary** 

DATUM NAD 83 CSRS UTM Zone 19 The above coordinates are not from a legal survey



NOVASCOTIA

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#### 2.0 DEVELOPMENT PLAN

# AQUACULTURE DEVELOPMENT PLAN AQ#4015

Alex Bouchie



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#### **SECTION 1: THE OPTIMUM USE OF MARINE RESOURCES**

This development plan is for the cultivation of American Oysters in Pictou County, more specifically in Merigomish Harbour.

The Pig Islands site will be approximately 24 hectares in size with a maximum production of approximately 1.6 million oysters. The primary farming method will be made up of traditional suspended growth units as well as new growth units including BOBRs. The bottom will also be utilized for making oyster beds as well as storage and tidal tumblers.

The location of the proposed site is near Pig Islands (45°39'40.77"N, 62°23'52.40"W).

This area provides multiple benefits that support the success of a new aquaculture operation. The proximity to necessary processing infrastructure and wharfs as well as being as far away from homes and sight lines as possible in the harbour. This location also provides enough shelter while also giving appropriate water depth for winter storage. This specific area is under utilized in that there is minimal recreational boater activity due to location and depths as well as very little commercial harvesting. A new aquaculture farm will be an asset to the area, the province and the provincial oyster industry.

The success of Shandaph Oysters, the studies that have been performed there (680 m away), as well as everyday observations suggest that this would be a viable location with optimal conditions to support oyster growth.

This operation will provide direct employment opportunities while also utilizing other local businesses in the region. This is an environmentally responsible development that can help improve the economical conditions in rural Nova Scotia, while also improving the marine environment in which it is located.

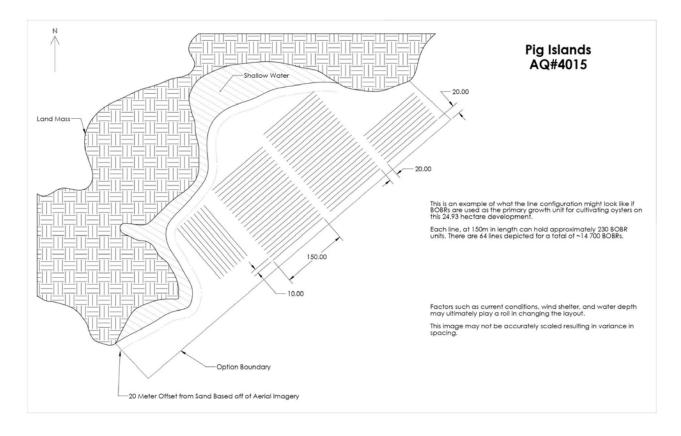
## SECTION 2: THE CONTRIBUTION OF THE PROPOSED OPERATION TO COMMUNITY AND PROVINCIAL ECONOMIC DEVELOPMENT

#### 2.1 Production Plan

The primary species for cultivation is the Crassostrea Virginica (American oyster). Quahogs grow naturally in the area though there is not currently a seed source available. The same applies for bay scallops and razor clams. These species of shellfish will give customers additional options when an appropriate seed source becomes available.

Species	Gear Type	Max Number of Gear Units	Max Number of Lines	Length of Lines (m)	Max Number Introduced	Time to Achieve Max Production
	BOBRs	7360	32	150		7 - 10 years
	OysterGros	1120	32	150		
	Finishing Cage	720	9	120		
Oysters	ABS Floats	10	2	10	10 000 000 - 12 000 000	
	,	400 (inlcuding what goes on racks)	N/a	N/a		
	Racks/Tumblers	20	N/a	N/a		
	Bottom	N/a	N/a	N/a		
	Bottom	N/a	N/a	N/a	250 000 - 500 000	7- 10 years
	Finishing Cages	Shared with above	N/a	N/a		(dependant
	Bags/Trays	Shared with above	N/a	N/a		on seed)
Bay Scallops	Lantern Nets	80	1	120	~50 000 - 100 000	7-10 years (dependant on seed)
Razor Clams	Bottom	N/a	N/a	N/a	10 000	

For a development explicitly consisting of BOBR units, the configuration of the proposed area could be as follows:



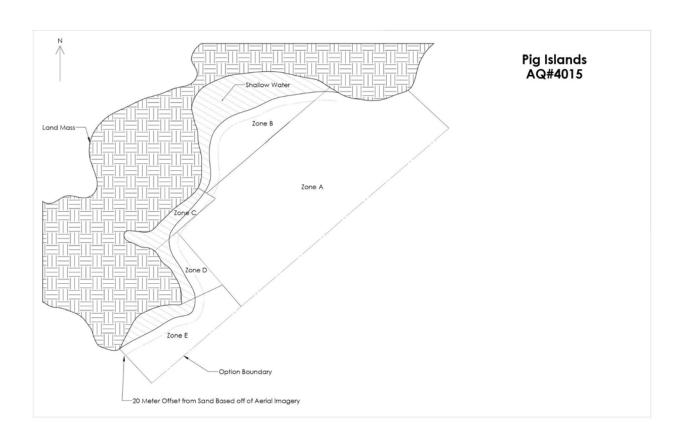
The configuration in the previous image shows 64 lines each at 150m in length. As this is not an exact model, one must allow for  $\pm$  4 lines. Each line is capable of holding 230 BOBR units for a total of 14 720 units  $\pm$  920 units. OysterGro cages could be also fitted interchangeably within this configuration as indicated in the table above that has the two gear types on an equal number of the available lines.

With the yearly growth and space requirements, the maximum number of oysters that could be introduced annually to suspension on the lease would be approximately 1.6 million. These values are based on a 4 year cycle and on the 4<sup>th</sup> year having a total of 12 000 BOBRs (which leaves a margin for extra thinning/husbandry). There is no limit to how many could be introduced to the bottom but mortality rates increase drastically. 1 to 2 million may be seeded out to the bottom annually with the potential to create self generating oyster beds.

The maximum number of oysters on site would then be approximately 10 to 12 million.

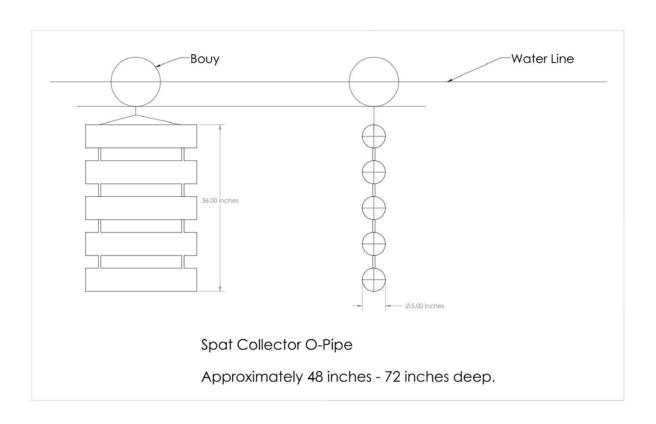
The oyster seed needed to sustain operations will be obtained through natural collection as well as from Shandaph Oysters which is the closest lease to this proposed development. Temporary lines would be added to suspend the spat collectors. A reliable quahog, bay scallop and razor clam seed source is still to be determined. Razor clams have a relatively niche market and would make a very small addition to the operation as a supplementary product.

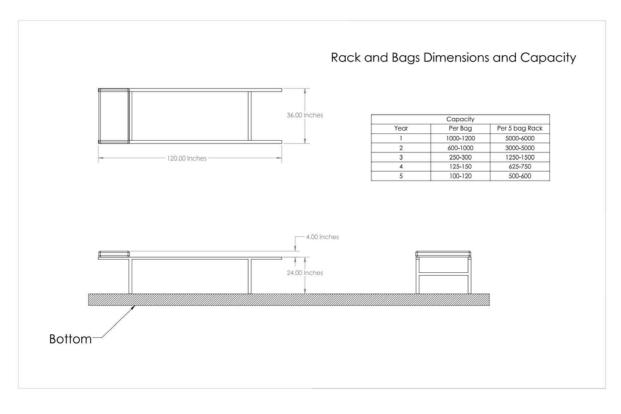
Bags and trays on bottom allow for temporary or long term storage which can be useful during operational expansion such as adding gear or while during the husbandry processes that will allow for organization. The ABS floats add a temporary suspended storage that can be used for all of the species.

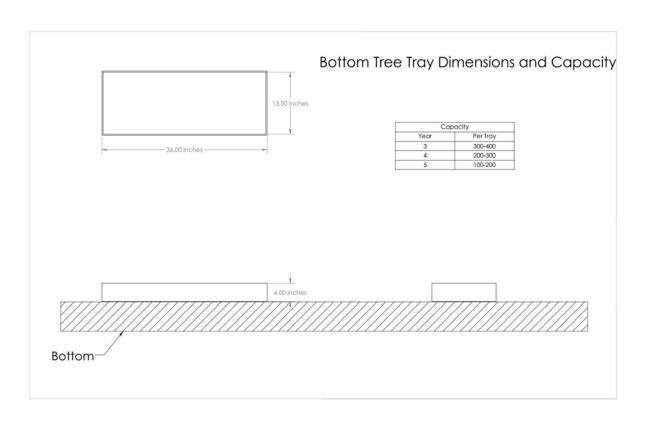


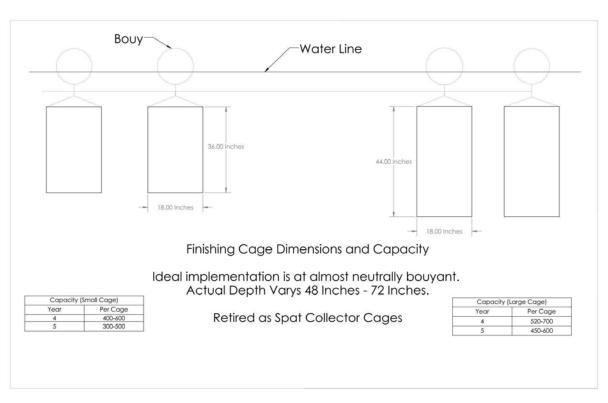
Area	Gear Types (and/or seed to bottom)	Species
Zone A (Year Round)	BOBRs and OysterGros	Oysters
Zone B (Seasonal)	Bags/Trays, Bottom	Quahogs, Razor Clams
Zone C (Seasonal)	Racks/Tumblers, Bags/Trays, Bottom	Quahogs, Oysters
Zone D (Seasonal)	Racks/Tumblers, Bags/Trays, ABS Floats, Bottom	Quahogs, Oysters
Zone E (Year Round)	Finishing Cages, Lantern Nets, Bottom	Quahogs, Oysters, Bay Scallops

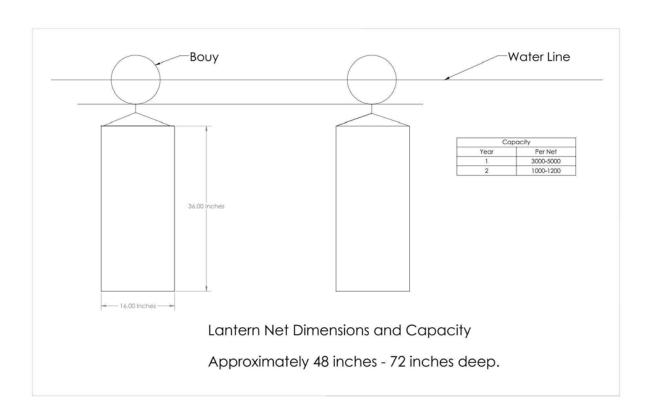
The approximate size and capacity of each unit can be found in the following figures:

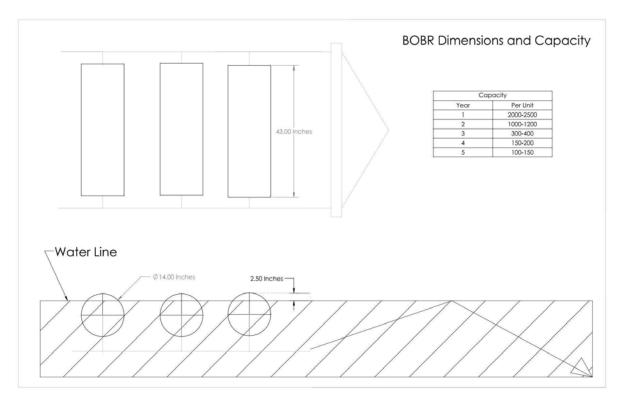


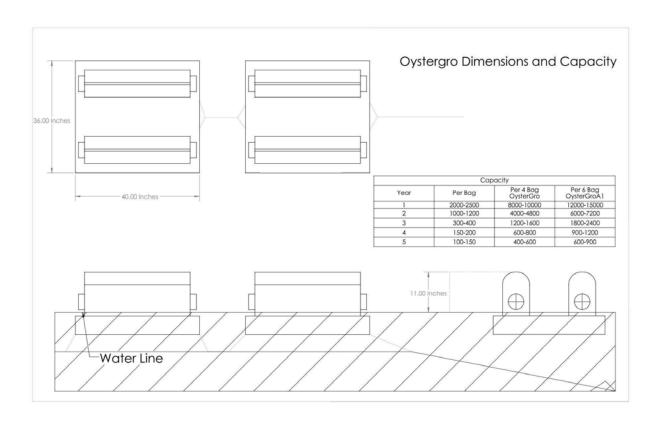


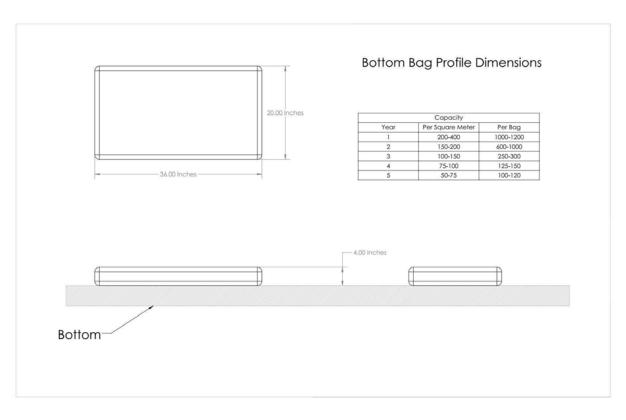


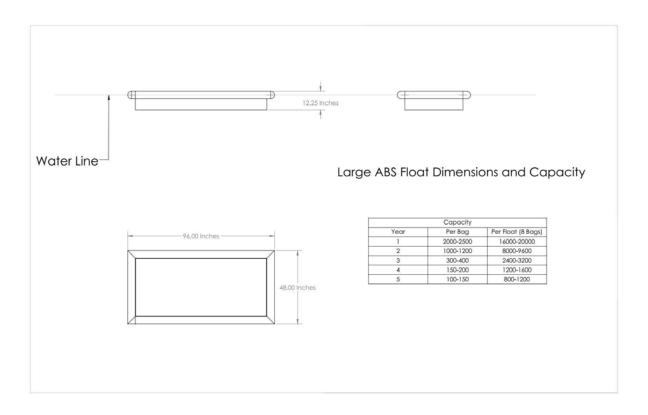












#### 2.2 Infrastructure

Shandaph Oysters is within 800 meters from this site and has a slipway, as well as a federally licensed processing plant. There are also two additional wharfs within 4 km, with one being on the island side of the harbor and the other on the mainland (should the causeway wash-out again).

The mooring system will consist of both screw anchors (for the lines that will remain in place year round) as well as concrete moorings (poured on land in various sizes) for the seasonal lines. Screw anchors have proven to be reliable onsite at Shandaph as well as many other farms.

Screw anchors can be accurately placed during winter months using gps and measuring tapes on the ice. This allows the lines to be evenly spaced in an orderly fashion with relative ease.

Gear Type	Mooring Type	Total Number
BOBRs/OysterGros	Screw Anchors	128
Finishing Cages/Lanterns	Screw Anchors	20
Racks/Tumblers	Concrete Moorings	40
ABS floats	Concrete Moorings	12

#### 2.3 Services and Suppliers

Suppliers	Services	Basis	Region
Shandaph	Seed and Support	On Going	Local
Dockport	Gear	On Going	Local
<b>Bouctouche Bay Industries</b>	Gear	Annual	New Brunswick
Vernon d'Eon Fishing Supplies	General Operational Supplies	On Going	Local
Department of Aquaculture and Fisheries	Licensing		
Macgregor's Industrial	Welding and Machining	On Going	Local
Adventure Motors	Mercury/Boat Dealer		Local
Redline Sport Cycle	Yamaha/Boat Dealer		Local
Afishionado Fish Mongers	Marketing	On Going	Local
Stright-Mckay	Marine/Boat Supplies	On Going	Local
Kent	Building Supplies	On Going	Local
Home Hardware	Building Supplies	On Going	Local
Martin's Machine Shop	Specialized Equipment		PEI
Grandview Welding	Specialized Equipment		PEI

#### 2.4 Employment

The aquaculture site will have 2 seasonal and 1-2 full time positions until it is fully operational. Wages will be competitive for this line of work. More employees may be brought on as needed.

#### 2.5 Other Economic Contributions to the Local Community and Province

Aquaculture facilities require the support of multiple suppliers. This results in increased revenue for supporting businesses as any aquaculture facility grows. Improving the public knowledge of the oyster aquaculture industry through education and use of suppliers, shipping companies, and eventually, local welding shops will improve how people look at oyster aquaculture sites in this province and change public opinion.

As seen at Shandaph Oysters, aquaculture tourism has the ability to bring people from cities and even other provinces to visit the location that their favorite seafood is coming from as well as the methods used to grow it. Tours have consisted of partnerships with other local businesses which benefits all parties involved while also diversifying the experience.

There will always be unforeseen economic contributions, but by improving the recognition and volume of the high quality oysters that are produced in this province will benefit the industry as a whole. Oysters coming from Nova Scotia waters and being taken to PEI and being sold under a PEI brand is disheartening but does happen. One goal would be to figure out how to grow the industry here in this province to prevent this from happening and improve the local economy in doing so.

#### 2.6 Financial Viability

There are no changes to the financial information submitted for the Request for an Aquaculture Option to Lease.

#### 2.7 Adverse Economic Impacts

This location was selected based on multiple factors. There is no infrastructure on the islands and zero foot traffic. The mosquitos make the islands essentially inhabitable during the summer months. The site is just barely visible to people on Big Island through the gaps between the islands. Property values should be unaffected by the development. The location experiences minimal commercial and recreational activity that is primarily picking quahogs. There should be no adverse economic impacts.

## SECTION 3: FISHERIES ACTIVITIES IN THE PUBLIC WATERS SURROUNDING THE PROPOSED AQUACULTURE OPERATION

#### 3.1 Status of Fisheries Activities

There are many boats involved in commercial fishing activities. They fish lobster, herring, ground fish, etc. The bulk majority of this commercial activity takes place outside of the harbour with four lobster trawls being placed in the harbour channel this year.

There are also commercial fisheries for oysters and quahogs that take place within the harbour. While there are few oysters on the proposed site, there are a small number of quahogs there much like any cove in the harbour.

#### 3.2 Impacts on Fisheries Activities

A new aquaculture site near Pig Islands will not greatly impact the commercial fisheries in the harbour as it wont impede on the channel, the oyster fishery, and only includes a minimal number of quahogs. As the harbour has many shallow coves, quahogs are present in all of them with the majority of the quahogs being fished from a specific area with ideal conditions which will not be affected.

## SECTION 4: OCEANOGRAPHIC AND BIOPHYSICAL CHARACTERISTICS OF THE PUBLIC WATERS

#### 4.1 Oceanographic Environment

The site is located in the east end of Merigomish Harbour. There are two leases further east than this location and there are two leases towards the mouth of the harbour. The growth on the oysters seen on Lease #1369 in the gear that will be used on this new site indicates the suitability of a harbour side lease that is exposed to more wave action, slower current speeds, and slightly lower water temperatures than seen on Lease #1089.

The width of the harbour varies with the natural topography but it ranges between 0.85 km and 1.9 km across in the area that the site would be located.

The approximate tidal range is between 0.1 m and 1.8 m (according to tide-forecast.com) which helps to produce current speeds measured onsite to be in the range of approximately 0.15 m/s to 0.35 m/s.

The wave height in this area has been observed in the area to reach a maximum of approximately 1 m to 1.2 m (3 ft to 4 ft).

The maximum annual wind gusts observed at Caribou Point (25km away) was 99 kph for 2020 and 101 kph for 2021.

The water depths were measured during the environmental baseline videos that were recorded on January 6th, 2021 with corner two having a depth of 2.39 m and corner three having a depth of 2.59 m.

#### 4.2 Baseline Environmental Monitoring

Shandaph, which has been extensively farming on lease #1086 for over 20 years, has started a long term environmental study in partnership with St. Francis Xavier University to monitor the eelgrass. The professor leading this study (David Garbary) admitted to being pleasantly surprised to find eelgrass amongst the suspended gear located in the shallow water of the farm. This gear occasionally touches bottom on low tides which results in direct contact with the eelgrass beds but evidently did not destroy that ecosystem.

The Applied Geomatics Research Group commissioned two reports in 2017; Mapping of Aquaculture Bays in the Gulf Region for Marine Spatial Planning and Topo-bathymetric Lidar Research for Aquaculture and Coastal Development in Nova Scotia: Final Report. Both of these reports use lidar data that was recorded in 2016. At Merigomish, the derived SAV (submerged aquatic vegetation) map agreed 83% of the time with the BioSonics vegetation detection map<sup>1</sup>. This report shows the presence of eelgrass in the majority of the proposed site which aligned with what was seen in the environmental baseline footage that was collected as per the *Standard Operating Procedures for Baseline Monitoring of Marine Shellfish Aquaculture in Nova Scotia (2020)*. Merigomish Harbor had a total bay area of 24,647,666 square meters with 12,224,432 square meters being covered in eelgrass<sup>2</sup>. The size of this operation covers approximately 1% of the total harbour and approximately 2% of the harbour's eelgrass.

The site near pig islands has a firm mud bottom, as seen in the environmental baseline videos, with eelgrass present. The proposed development will have a negligible effect on the eelgrass in the area as this site is deeper than #1086 which allows the suspended gear to remain off bottom and over wintering will take place in a submerged state of suspension allowing for minimal seafloor contact.

<sup>&</sup>lt;sup>1</sup> AGRG. 2017. Topo-bathymetric Lidar Research for Aquaculture and Coastal Development in Nova Scotia: Final Report. Technical report, Applied Geomatics Research Group, NSCC Middleton, NS

<sup>&</sup>lt;sup>2</sup> Webster, T., Gemmel, M., Vallis, A. 2017. Mapping of Aquaculture Bays in the Gulf Region for Marine Spatial Planning. Technical report, Applied Geomatics Research Group, NSCC Middleton, NS.

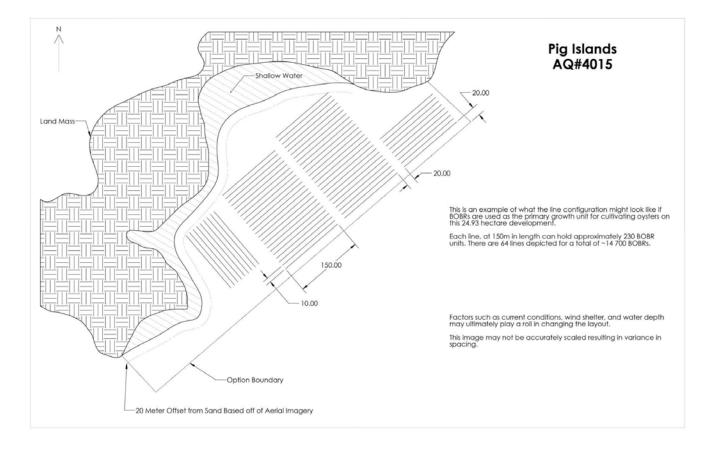
Lease #1086 is approximately 680 m away from the proposed site. Shandaph has been in studies in the past with Dalhousie University and Cape Breton University where data loggers have been deployed. The results of this data:

Salinity Range: 17 ppt to 28 ppt

Temperature Range: -2 Degrees C to 29 Degrees C

In addition to this data, the location of the proposed development is between multiple other oyster aquaculture leases and experiences a healthy tidal range that can produce a difference of approximately 5.5 ft between the high and low. All of this, combined with the success of adding suspended gear to Cameron's Cove (Lease #1369) provides enough information on the conditions in the area to conclude that it would be highly suitable for an oyster farm.

#### 4.3 Site Design



Approximate Coordinates for the Corners

Corner 1: 45°39'29.73"N, 62°24'7.82"W

Corner 2: 45°39'26.82"N, 62°24'5.40"W

Corner 3: 45°39'45.32"N, 62°23'32.56"W

Corner 4: 45°39'49.08"N, 62°23'37.17"W





## SECTION 5: THE OTHER USERS OF THE PUBLIC WATERS SURROUNDING THE PROPOSED AQUACULTURE OPERATION

#### 5.1 Description of Other Users

As mentioned previously, the Pig Islands location was chosen due to its low traffic. There is no infrastructure on the islands, nor does anyone travel to the islands. There is a processing facility at Shandaph Oysters.

There is very little boat traffic though there have been some commercial fishermen and recreational fisherman who have picked quahogs in the cove.

The area does not impede on any deeper channels which the recreational users and larger vessels would be concerned about. There is a lobster boat that ventures as far east as this area annually in the summer with some of the local islanders and he was concerned about keeping the channel clear of obstruction.

There is a recreational user on the other side of the harbour that has a jon boat (who is in support) and his neighbor has a Hobie Cat. There is also a pontoon boat that leaves from the campground east of the proposed area and Lease #0634. All three of these users may have been out on the water ten times each this year. This campground is approximately 3.3 km east to the site.

The shallow waters in the east end tend to keep the majority of recreational boaters west of the Merigomish wharf which is located approximately 2.7 km southwest of this location.

#### 5.2 Significance of Proposed Area to Wildlife

Present in the proposed area is at least one large Bald Eagle Nest. They seem to enjoy the shallow waters between Pig Islands and Big Island for fishing and are often found watching over Lease #1086 and surrounding areas. There are many birds that visit #1086 and that I would expect to see present in the proposed area.

There is an avid bird watching community on the island that has recorded 137 different species in many different locations. It would be safe to assume that some of those birds would be present in the area. The most common birds seen on Lease #1086 would be: Lesser Yellowlegs, Blue Herons, Bald Eagles, SandPipers, and occasionally Cormorants. The bird sightings for Big Island can be found at:

https://ebird.org/hotspot/L3078180?yr=all&m=&rank=hc

Approximately 1.2 km away is an area that is protected due to piping plover activity on the sand dunes. This area is approximately 250m from Lease #0634. Piping plovers prefer sandy areas to nest/breed and are migratory birds. They will not be affected by the new development.

#### 5.3 Impacts to Other Users Including Wildlife

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With the introduction of suspended gear, there will be a visible profile added to the location of the site.

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Oysters filtering the water allows for more sunlight to penetrate the water which is vital to the growth of the healthy eelgrass in the harbour.

The harvesting process taking place through a licensed plant also improves food safety and quality. Following strict harvesting protocols from the QMP at Shandaph mitigates a lot of the risks associated with eating raw oysters during the warmer months.

This area was a popular spot for some recreational quahog picking as the shore does not have a ton of oyster shells present so one could get out and pick barefoot. This was brought up in the public meeting, I was able to talk to this person specifically and suggest a few other locations with similar oyster free areas that would be ideal for what he was wanting. There were a few concerns about the hogs in this area from commercial fishermen as well. It is almost impossible to find a cove in the harbour that does not have quahogs present to some degree.

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Cormorants can be an issue when they descend upon a lease in large numbers. That being said, there haven't been a significant number of cormorants on either of the Shandaph Leases (#1086 and #1369).

#### **SECTION 6: THE PUBLIC RIGHT OF NAVIGATION**

An application was submitted through the online submission program.

#### **SECTION 7: THE SUSTAINABILITY OF WILD SALMON**

#### 7.1 Identification of Local Salmon Populations

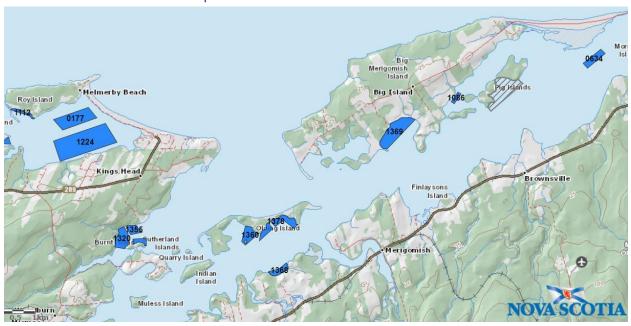
Approximately 3 km away from the proposed location, the mouth of Barney's River opens up. This river does experience salmon runs. French River is located approximately 4.5 km away from the proposed site and would also likely experience some salmon population.

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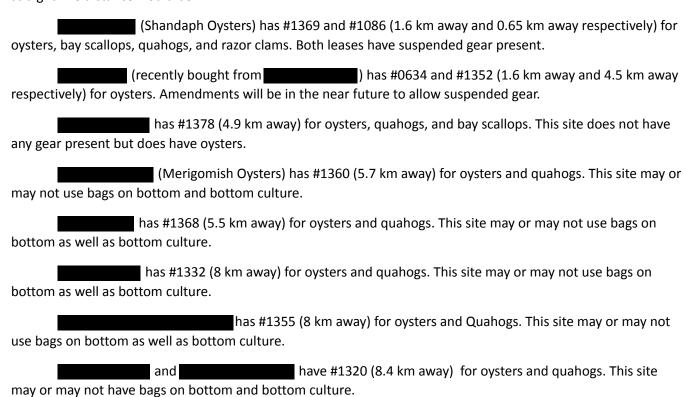
Due to the distance from the rivers that have salmon, as well as the nature of an oyster farm, the development is not expected to affect salmon populations. The proposed site is not located along any known salmon migration corridors.

# 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



There are 11 aquaculture leases in Merigomish Harbour. A basic description of these leases as well as there straight line distance would be:



has #1364 (9.9 km away) for oysters. This is a site primarily used for picking oysters so there is little to no gear present.

# 8.2 Interactions with Other Aquaculture Operations has always maintained a low profile within the community while producing some of the highest quality oysters in the province. has taught me a lot over the past five years with regards to the industry and business practices that take place at was the first to approach me for a split employment between him and this is what introduced me to oyster farming in Nova Scotia. I did end up working more with during this time as he had already had an established farm. I grew up boating in the harbour and this was a major requirement for working for these two as Merigomish Harbour can be unforgiving at times. I grew up with and we actually employed his little brother two years ago. When bought Leases in the east end, I was pretty excited for him. Everytime I ran into him I tried to give him more and more information on how we operated the farm and what setbacks had had. The Oyster farming bug also stuck with his younger brother because he is now involved and helping get Will's operation going! All three of these people were present for my public meeting. comes from a family that has been on the

few questions regarding leasing costs/duration as well as questions about the regulatory body and association.

These are the three closest lease holders to my proposed aquaculture site and all three of them are in full

support of my application.

island for a long time and is well respected. He helped me during my meeting by talking with some of the people from the island that didn't know me and to help clarify things a bit better to them.

#### ADDENDUM 1 – ADDITIONAL INFORMATION REQUEST

#### A1.1 ORIGINAL DEVELOPMENT PLAN

# AQUACULTURE DEVELOPMENT PLAN AQ#4015

Alex Bouchie



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#### **SECTION 1: THE OPTIMUM USE OF MARINE RESOURCES**

This development plan is for the cultivation of American Oysters in Pictou County, more specifically in Merigomish Harbour.

The Pig Islands site will be approximately 24 hectares in size with a maximum production of approximately 1.6 million oysters. The primary farming method will be made up of traditional suspended growth units as well as new growth units including BOBRs. The bottom will also be utilized for making oyster beds as well as storage and tidal tumblers.

The location of the proposed site is near Pig Islands (45°39'40.77"N, 62°23'52.40"W).

This area provides multiple benefits that support the success of a new aquaculture operation. The proximity to necessary processing infrastructure and wharfs as well as being as far away from homes and sight lines as possible in the harbour. This location also provides enough shelter while also giving appropriate water depth for winter storage. This specific area is under utilized in that there is minimal recreational boater activity due to location and depths as well as very little commercial harvesting. A new aquaculture farm will be an asset to the area, the province and the provincial oyster industry.

The success of the studies that have been performed there (680 m away), as well as everyday observations suggest that this would be a viable location with optimal conditions to support oyster growth.

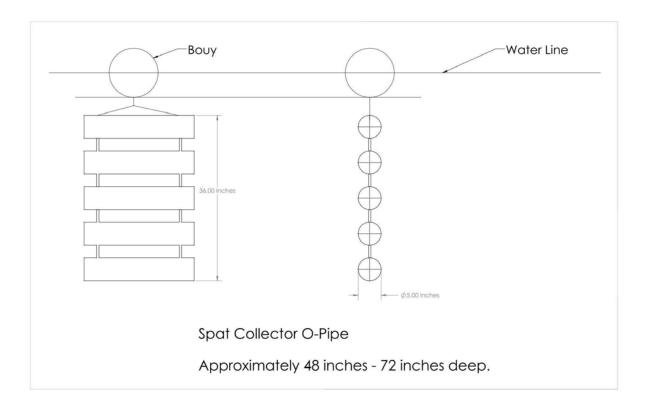
This operation will provide direct employment opportunities while also utilizing other local businesses in the region. This is an environmentally responsible development that can help improve the economical conditions in rural Nova Scotia, while also improving the marine environment in which it is located.

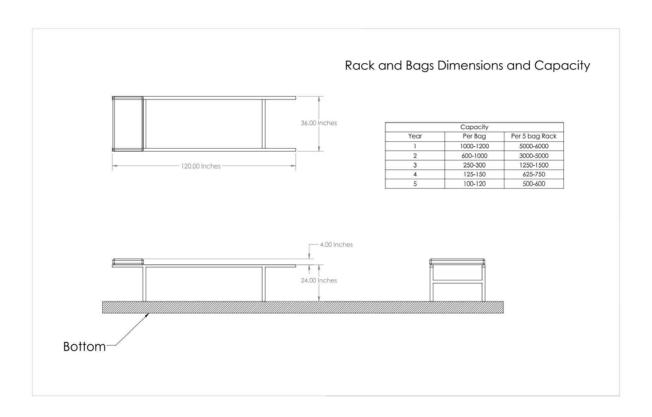
# SECTION 2: THE CONTRIBUTION OF THE PROPOSED OPERATION TO COMMUNITY AND PROVINCIAL ECONOMIC DEVELOPMENT

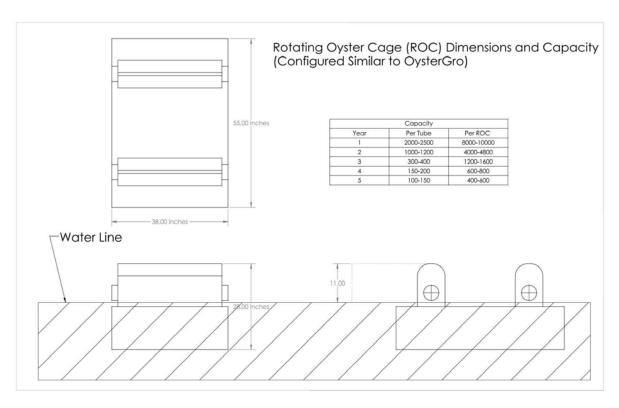
#### 2.1 Production Plan

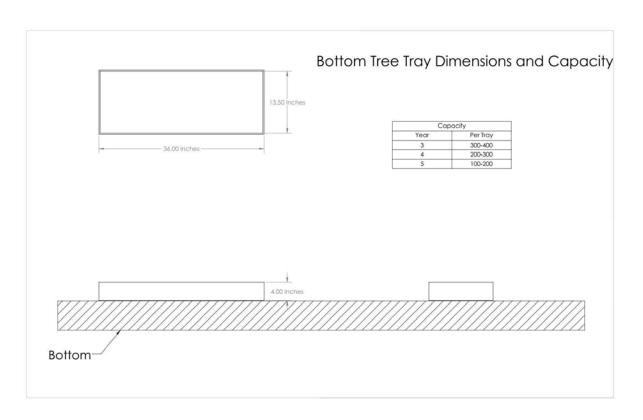
The primary species for cultivation is the Crassostrea Virginica (American oyster).

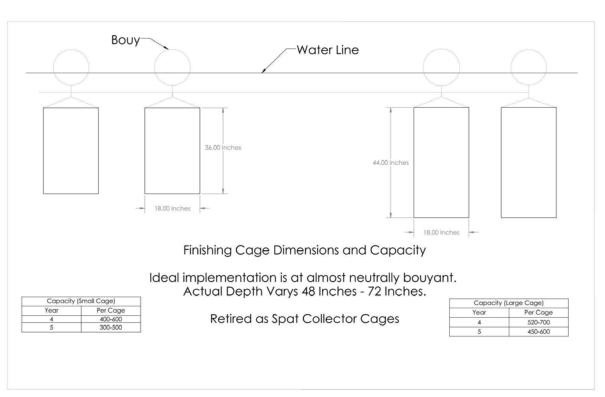
Some of the growth units that may used, as well as the approximate size and capacity of each unit can be found in the following figures:

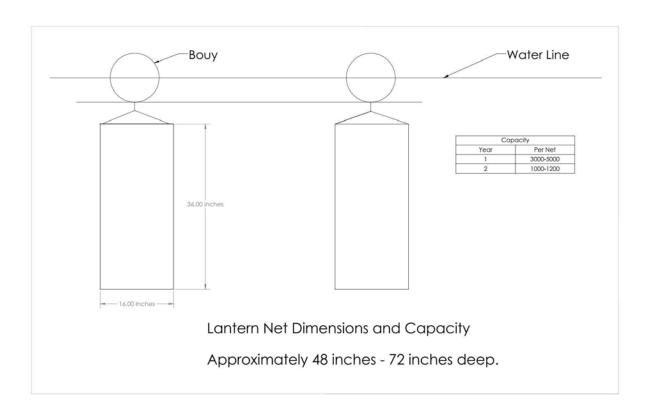


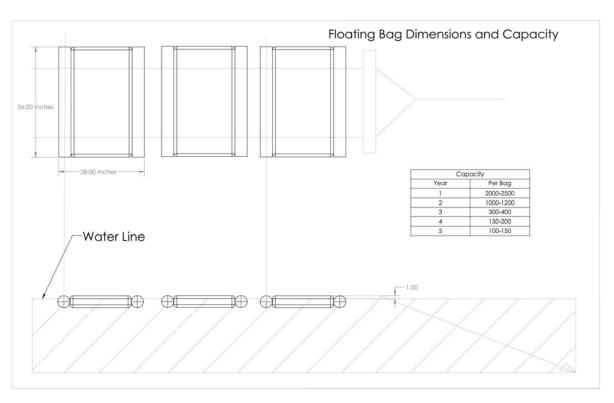


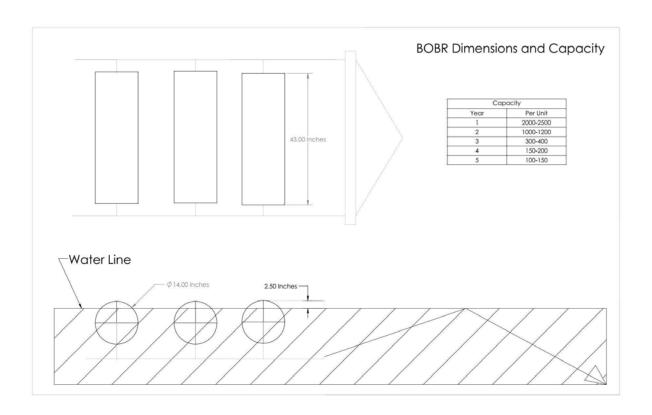


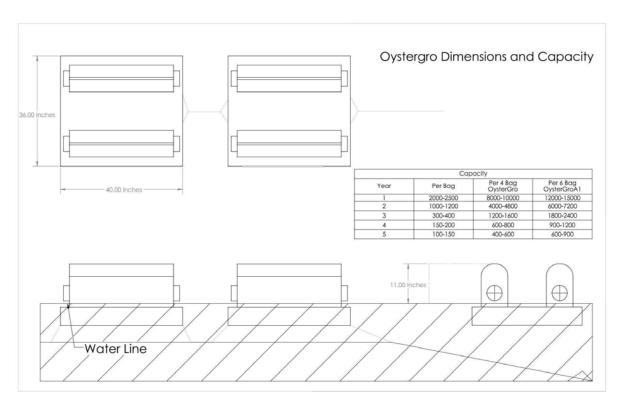


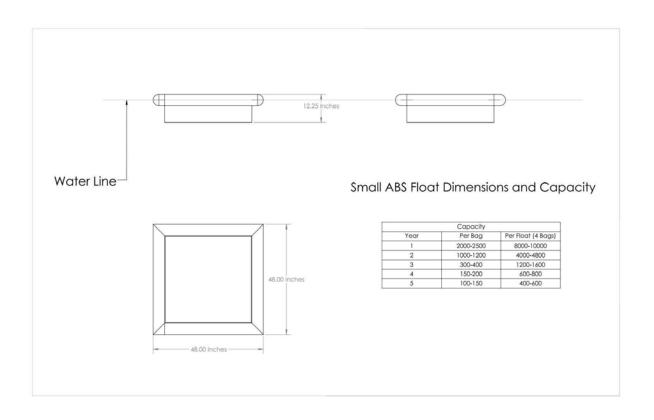


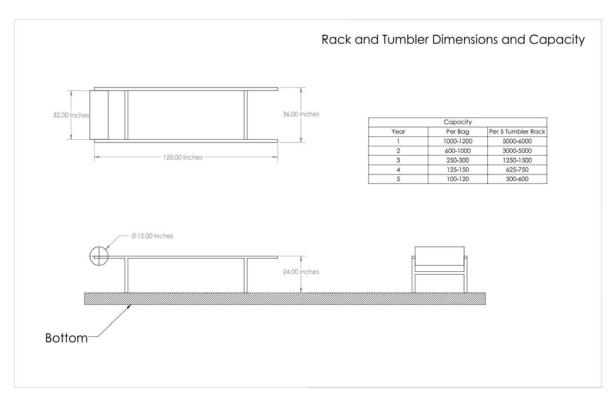


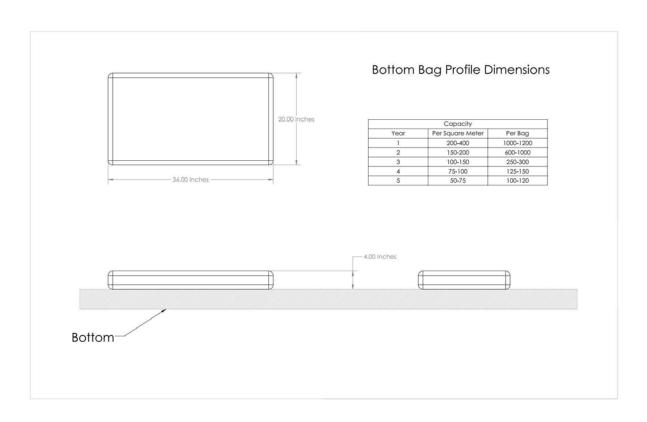


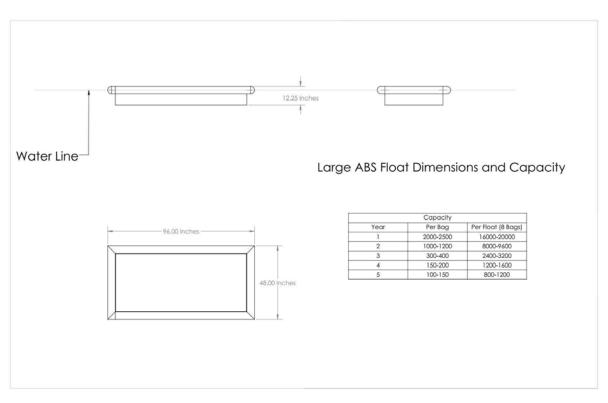


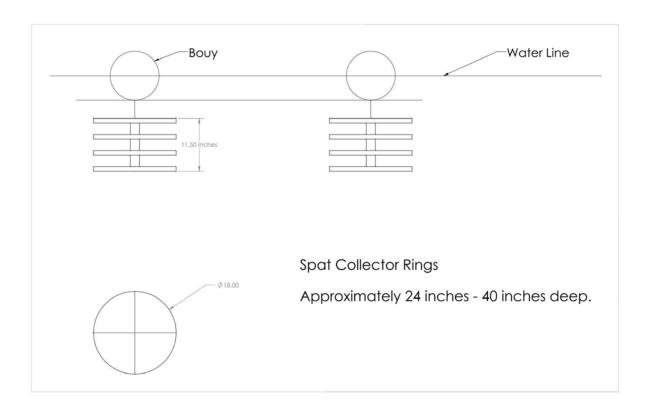




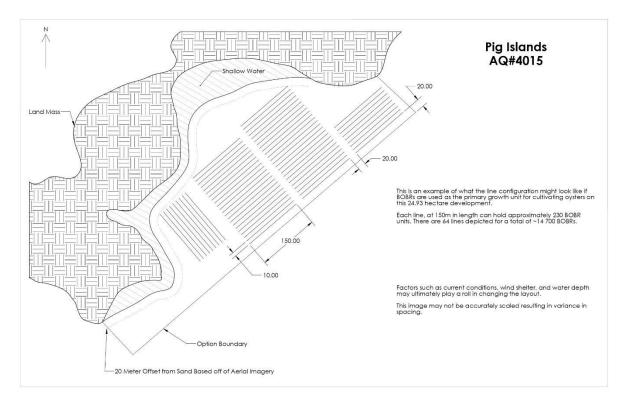








For a development explicitly consisting of BOBR units (with finishing cages required for harvesting), the configuration of the proposed area could be as follows:



The configuration in the previous image shows 64 lines each at 150m in length. As this is not an exact model, one must allow for  $\pm$  4 lines. Each line is capable of holding 230 BOBR units for a total of 14 720 units  $\pm$  920 units.

With the yearly growth and space requirements, the maximum number of oysters that could be introduced to suspension on the lease would be approximately 1.6 million. These values are based on a 4 year cycle and on the  $4^{th}$  year having a total of 12 000 BOBRs (which leaves a margin for extra thinning/husbandry).

The maximum number of oysters on site would then be approximately 6.4 million excluding bottom and off-bottom.

The seed needed to sustain operations will be obtained through natural collection as well as from Shandaph Oysters which is the closest lease to this proposed development.

A 4 year cycle would be optimal but a more realistic expectation of 5-7 years to achieve maximum production number.

Quahogs grow naturally in the area though there is not currently a seed source available. The same applies for bay scallops and razor clams. These species of shellfish will give customers additional options when an appropriate seed source becomes available.

#### 2.2 Infrastructure

is within 800 meters from this site and has a slipway, as well as a federally licensed processing plant. There are also two additional wharfs within 4 km, with one being on the island side of the harbor and the other on the mainland (should the causeway wash-out again).

#### 2.3 Services and Suppliers

Suppliers	Services	Basis	Region
Shandaph	Seed and Support	On Going	Local
Dockport	Gear	On Going	Local
Bouctouche Bay Industries	Gear	Annual	New Brunswick
Vernon d'Eon Fishing Supplies	General Operational Supplies	On Going	Local
Department of Aquaculture	Licensing		
and Fisheries			
Macgregor's Industrial	Welding and Machining	On Going	Local
Adventure Motors	Mercury/Boat Dealer		Local
Redline Sport Cycle	Yamaha/Boat Dealer		Local
Afishionado Fish Mongers	Marketing	On Going	Local
Stright-Mckay	Marine/Boat Supplies	On Going	Local
Kent	Building Supplies	On Going	Local
Home Hardware	Building Supplies	On Going	Local
Martin's Machine Shop	Specialized Equipment		PEI
Grandview Welding	Specialized Equipment		PEI

#### 2.4 Employment

The aquaculture site will have 2 seasonal and 1-2 full time positions until it is fully operational. Wages will be competitive for this line of work. More employees may be brought on as needed.

#### 2.5 Other Economic Contributions to the Local Community and Province

Aquaculture facilities require the support of multiple suppliers. This results in increased revenue for supporting businesses as any aquaculture facility grows. Improving the public knowledge of the oyster aquaculture industry through education and use of suppliers, shipping companies, and eventually, local welding shops will improve how people look at oyster aquaculture sites in this province and change public opinion.

As seen at a quaculture tourism has the ability to bring people from cities and even other provinces to visit the location that their favorite seafood is coming from as well as the methods used to grow it. Tours have consisted of partnerships with other local businesses which benefits all parties involved while also diversifying the experience.

There will always be unforeseen economic contributions, but by improving the recognition and volume of the high quality oysters that are produced in this province will benefit the industry as a whole. Oysters coming from Nova Scotia waters and being taken to PEI and being sold under a PEI brand is disheartening but does happen. One goal would be to figure out how to grow the industry here in this province to prevent this from happening and improve the local economy in doing so.

#### 2.6 Financial Viability

There are no changes to the financial information submitted for the Request for an Aquaculture Option to Lease.

#### 2.7 Adverse Economic Impacts

This location was selected based on multiple factors. There is no infrastructure on the islands and zero foot traffic. The mosquitos make the islands essentially inhabitable during the summer months. The site is just barely visible to people on Big Island through the gaps between the islands. Property values should be unaffected by the development. The location experiences minimal commercial and recreational activity that is primarily picking quahogs. There should be no adverse economic impacts.

# SECTION 3: FISHERIES ACTIVITIES IN THE PUBLIC WATERS SURROUNDING THE PROPOSED AQUACULTURE OPERATION

#### 3.1 Status of Fisheries Activities

There are many boats involved in commercial fishing activities. They fish lobster, herring, ground fish, etc. The bulk majority of this commercial activity takes place outside of the harbour with four lobster trawls being placed in the harbour channel this year.

There are also commercial fisheries for oysters and quahogs that take place within the harbour. While there are few oysters on the proposed site, there are a small number of quahogs there much like any cove in the harbour.

#### 3.2 Impacts on Fisheries Activities

A new aquaculture site near Pig Islands will not greatly impact the commercial fisheries in the harbour as it wont impede on the channel, the oyster fishery, and only includes a minimal number of quahogs. As the harbour has many shallow coves, quahogs are present in all of them with the majority of the quahogs being fished from a specific area with ideal conditions which will not be affected.

# SECTION 4: OCEANOGRAPHIC AND BIOPHYSICAL CHARACTERISTICS OF THE PUBLIC WATERS

#### 4.1 Oceanographic Environment

The site is located in the east end of Merigomish Harbour. There are two leases further east than this location and there are two leases towards the mouth of the harbour. The growth on the oysters seen on Lease #1369 in the gear that will be used on this new site indicates the suitability of a harbour side lease that is exposed to more wave action, slower current speeds, and slightly lower water temperatures than seen on Lease #1089.

The width of the harbour varies with the natural topography but it ranges between 0.85 km and 1.9 km across in the area that the site would be located.

The approximate tidal range is between 0.1 m and 1.8 m which helps to produce current speeds in the range of approximately 0.15 m/s to 0.35 m/s.

The wave height in this area has been observed to reach a maximum of approximately 1 m to 1.2 m (3 ft to 4 ft).

#### 4.2 Baseline Environmental Monitoring

Shandaph, which has been extensively farming on lease #1086 for over 20 years, has started a long term environmental study in partnership with St. Francis Xavier University to monitor the eelgrass. The professor leading this study was pleasantly surprised to find eelgrass amongst the suspended gear located in the shallow water of the farm. This gear occasionally touches bottom on low tides which results in direct contact with the eelgrass beds.

The site near pig islands has a firm mud bottom with eelgrass present. The proposed development will have a negligible effect on the eelgrass in the area.

Lease #1086 is approximately 680 m away from the proposed site. Shandaph has been in studies in the past with Dalhousie University and Cape Breton University where data loggers have been deployed. The results of this data:

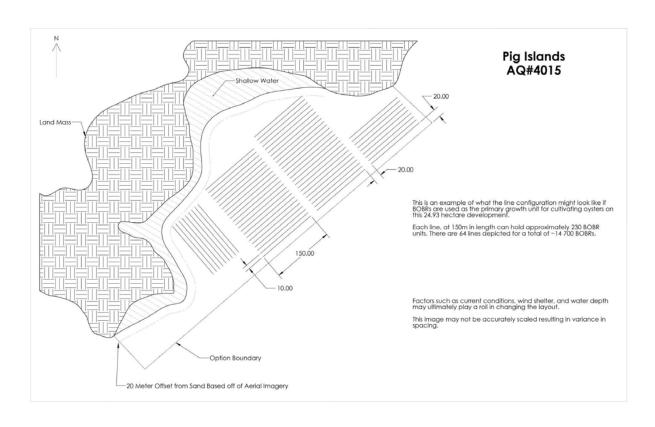
Salinity Range: 17 ppt to 28 ppt

Temperature Range: -2 Degrees C to 29 Degrees C

In addition to this data, the location of the proposed development is between multiple other oyster aquaculture leases and experiences a healthy tidal range that can produce a difference of approximately 5.5 ft between the high and low. All of this, combined with the success of adding suspended gear to Cameron's Cove (Lease #1369) provides enough information on the conditions in the area to conclude that it would be highly suitable for an oyster farm.

## 4.3 Site Design





Approximate Coordinates for the Corners

Corner 1: 45°39'29.73"N, 62°24'7.82"W

Corner 2: 45°39'26.82"N, 62°24'5.40"W

Corner 3: 45°39'45.32"N, 62°23'32.56"W

Corner 4: 45°39'49.08"N, 62°23'37.17"W



# SECTION 5: THE OTHER USERS OF THE PUBLIC WATERS SURROUNDING THE PROPOSED AQUACULTURE OPERATION

#### 5.1 Description of Other Users

As mentioned previously, the Pig Islands location was chosen due to its low traffic. There is no infrastructure on the islands, nor does anyone travel to the islands. There is a processing facility at Shandaph Oysters.

There is very little boat traffic though there have been some commercial fishermen and recreational fisherman who have picked quahogs in the cove.

The area does not impede on any deeper channels which the recreational users and larger vessels would be concerned about. There is a lobster boat that ventures as far east as this area annually in the summer with some of the local islanders and he was concerned about keeping the channel clear of obstruction.

There is a recreational user on the other side of the harbour that has a jon boat (who is in support) and his neighbor has a Hobie Cat. There is also a pontoon boat that leaves from the campground east of the proposed area and Lease #0634. All three of these users may have been out on the water ten times each this year. This campground is approximately 3.3 km east to the site.

The shallow waters in the east end tend to keep the majority of recreational boaters west of the Merigomish wharf which is located approximately 2.7 km southwest of this location.

#### 5.2 Significance of Proposed Area to Wildlife

Present in the proposed area is at least one large Bald Eagle Nest. They seem to enjoy the shallow waters between Pig Islands and Big Island for fishing and are often found watching over Lease #1086 and surrounding areas. There are many birds that visit #1086 and that I would expect to see present in the proposed area.

There is an avid bird watching community on the island that has recorded 137 different species in many different locations. It would be safe to assume that some of those birds would be present in the area. The most common birds seen on Lease #1086 would be: Lesser Yellowlegs, Blue Herons, Bald Eagles, SandPipers, and occasionally Cormorants. The bird sightings for Big Island can be found at:

https://ebird.org/hotspot/L3078180?yr=all&m=&rank=hc

Approximately 1.2 km away is an area that is protected due to piping plover activity on the sand dunes. This area is approximately 250m from Lease #0634. Piping plovers prefer sandy areas to nest/breed and are migratory birds. They will not be affected by the new development.

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Oysters filtering the water allows for more sunlight to penetrate the water which is vital to the growth of the healthy eelgrass in the harbour.

The harvesting process taking place through a licensed plant also improves food safety and quality. Following strict harvesting protocols from the QMP at Shandaph mitigates a lot of the risks associated with eating raw oysters during the warmer months.

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An application was submitted through the online submission program.

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#### 7.1 Identification of Local Salmon Populations

Approximately 3 km away from the proposed location, the mouth of Barney's River opens up. This river does experience salmon runs. French River is located approximately 4.5 km away from the proposed site and would also likely experience some salmon population.

#### 7.2 Support of the Sustainability of Wild Salmon

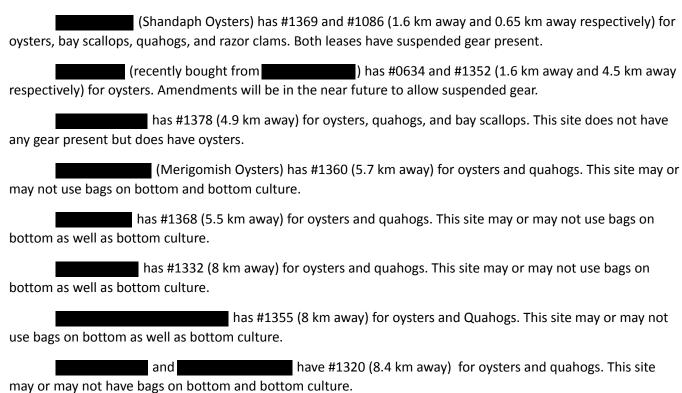
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#### 8.1 Identification of Other Aquaculture Sites

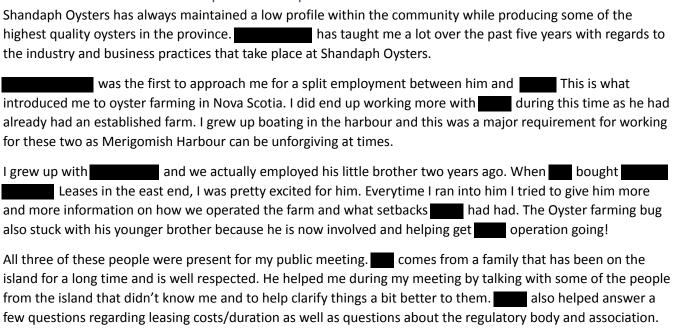


There are 11 aquaculture leases in Merigomish Harbour. A basic description of these leases as well as there straight line distance would be:



has #1364 (9.9 km away) for oysters. This is a site primarily used for picking oysters so there is little to no gear present.

#### 8.2 Interactions with Other Aquaculture Operations



These are the three closest lease holders to my proposed aquaculture site and all three of them are in full support of my application.

# A1.2 ADDITIONAL INFORMATION REQUESTED BY DFA

ADDITIONAL INFORMATION REQUIRED
AQ#1448
BN#777686205NS0001

January 06, 2022

Alex Bouchie C&G Aquaculture

Trenton, Nova Scotia

Dear Mr. Bouchie;

Re: Aquaculture Licence Application, AQ#1448 (Option AQ#4015)

New Marine Shellfish Lease in Merigomish Harbour, Pictou County

Your aquaculture application is currently in the internal review stages of the application process. Staff have identified missing, or incomplete information from the submitted Development Plan, as follows:

#### **Section 2.1: Production Plan**

- Quahogs, bay scallops and razor clams are identified as naturally occurring in the proposed lease area. If it is your intention to include these species on your licence/lease, a production plan should be provided for each species. This should include an estimate of the maximum number of each species to be cultivated (number or mass), expected time to achieve maximum production, and the type of gear to be used for each species.
- The maximum number of American oysters on the proposed lease area will be approximately 6.4 million. However, this excludes bottom and bottom culture with gear. Please provide an estimate of the maximum number of each species to be cultivated on bottom, and in bottom culture with gear.
- Fourteen bottom culture with gear and suspended gear unit types were identified for potential use. Capacity and dimensions of individual gear units were provided; however, the maximum number of gear units were only provided for BOBR gear units. Please indicate the maximum number of units for each gear type that may be used on the site and describe where <u>and</u> when they will be placed within the proposed lease area (can be indicated on the site diagram).
- It is recommended all production evaluations be organized per species in a table. The diagrams provided contain only partial information that is requested.

#### **Section 2.2: Infrastructure**

• Please describe the details of the mooring system (e.g., anchor type, number and placement of anchors) that will be used for the longlines and/or gear on bottom.

#### **Section 4.1: Oceanographic Environment**

- The source(s) of the oceanographic and biophysical information was not provided. Please confirm how and/or where this information was collected.
- Please provide the annual maximum wind speed (km/hr) in the vicinity of the site.
- Please provide the approximate water depth (m) at each corner of the site.
- Please confirm with CFIA if this proposed lease area has any known historical closures due to biotoxins.

#### **Section 4.2: Baseline Environmental Monitoring**

- As eelgrass has been identified in the proposed lease area, we recommend that you include any measures that you may put in place to mitigate against potential impacts; or further explain why you believe that the proposed development will have a negligible effect on eelgrass.
- It is recommended that you reference the baseline video footage that was collected on January 16, 2021 and submitted to NSDFA as part of your application in this section. The baseline video footage was collected as per the *Standard Operating Procedures for Baseline Monitoring of Marine Shellfish Aquaculture in Nova Scotia* (2020). The baseline video footage collected supports your statement that the proposed lease area has a firm mud bottom with eelgrass present.
- It is also recommended that you reference the study that was conducted by the Applied Geomatics Research Group in 2017:

  <a href="https://www.nscc.ca/appliedresearch/docs/geomatics-nsfa-final-report-mar31-2017.pdf">https://www.nscc.ca/appliedresearch/docs/geomatics-nsfa-final-report-mar31-2017.pdf</a>. This study highlights the presence of eelgrass in many coves located within Merigomish Harbour, included the proposed lease area.

Please provide the additional information on or before <u>February 6, 2022</u> to avoid any delays in processing your application. Prior to submission, if you wish to arrange a meeting to discuss the requested information, please contact me at 902-875-7440 or by email at Lynn.Winfield@novascotia.ca.

Yours truly,

Lynn

Lynn Winfield Licensing Coordinator

c. Melinda Watts, Aquaculture Advisor

## A1.3 ADDITIONAL INFORMATION RECEIVED FROM APPLICANT

Note: The requested information was incorporated into the updated Development Plan (version 2), received February 6, 2022. This Development Plan is incorporated into this application package.

# A1.4 ADDITIONAL INFORMATION - BASELINE ENVIRONMENTAL MONITORING VIDEO

Note: Baseline environmental monitoring videos were recorded to support the Development Plan. The initial submission of baseline videos has been provided to the Aquaculture Review Board on an external hard drive. The titles for the video files are listed below:

Corner2

Corner3

Middle

Transect



## ADDENDUM 2 – ADDITIONAL INFORMATION REQUEST

# A2.1 ADDITIONAL INFORMATION REQUESTED BY DFA

Note: The figures attached with the information request are included in Addendum A3.1.

From: Watts, Melinda
To: Alex Bouchie
Cc: Winfield, Lynn

**Subject:** Follow up for Additional Information

Date:April 4, 2024 3:16:08 PMAttachments:Lease Overlap1448 Part1.jpg

Lease Overlap1448 Part2.jpg

image001.jpg

Hi Alex.

Thank you so much for taking the time to chat today.

Based on the minor overlap of the proposed lease with two PIDs on the Pig Islands (see attached), you confirmed you are satisfied with reducing the lease area by the approximate 0.49-hecatre overlap. I have requested that a revised Schedule A map be created and will provide this to you for your records as soon as it is completed.

As a follow up to our conversation, here is the list of additional information we are looking to include in your application package to the ARB for your proposed lease AQ#1448:

#### Section 2.2: Infrastructure

1. The table on Page 10 of your Development Plan includes the type and number of the infrastructure proposed to be placed in or on the seafloor. Please include the dimensions for the screw anchors and concrete moorings for each gear type.

#### **Section 4.1: Oceanographic Environment**

- 1. Data sources were not provided for all biophysical characteristics of the proposed lease area. Please provide your sources, including the means of how and when the data was collected (if done by yourself) for the following:
  - a. Wind data recorded from Caribou Point.
  - b. Wave data observed.
  - c. Salinity and temperature data was collected at AQ#1086 for studies with Dalhousie University and Cape Breton University. Please provide copies of these studies and/or the raw data that was collected. If that is something that will take time to get, please let me know and we can submit that as supplementary information to the board following the submission of your application package.

Again, no need to provide an updated Development Plan with this information, we will just attach the information to the one you have submitted.

If you have any additional questions, please let us know.

Thanks again, Melinda



We are in Mi'kma'ki, the traditional territory of the Mi'kmaq 1800 Argyle St. 6<sup>th</sup> Floor (Suite 603) Halifax, NS B3J 3N8

C: (902) 483-7668

E: Melinda.Watts@novascotia.ca

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## A2.2 ADDITIONAL INFORMATION RECEIVED FROM APPLICANT

Note: The raw salinity and temperature data that was submitted by the applicant, as noted on page 70, has been provided to the Aquaculture Review Board on an external hard drive.

#### Additional Information

#### 2.2 Infrastructure

Screw anchors would be used for the main lines. They get drilled into the mud 8ft - 10ft deep. The shaft is approximately 24" long with a 10" diameter helix near one end as seen in the figure below.



Figure 1: Screw Anchor

Smaller lines as well as other small gear that may need to be moved/removed for winter will be held in place with concrete moorings. The sizes will vary depending on needs with the largest mooring being 18" tall and 24 inches in diameter ranging all the way down to 10" tall and 11" in diameter.

Moorings that would be used to protect oyster beds would be tires of various sizes, filled with cement. This provides a large diameter for weight distribution while also being low profile.

#### 4.1 Oceanographic Environment

The wind data at the caribou point weather station showed a maximum wind gust of 101 kph between 1995 and 2021 (<a href="https://caribou.weatherstats.ca/extremes.html">https://caribou.weatherstats.ca/extremes.html</a>). That said, higher winds were measured during hurricane Fiona, to the east of the proposed site location (upwards of 160 kph).

Working on the water 5-6 days a week for the past 7 years, I have observed the maximum wave heights to be approximately 3ft-4ft.

We measure the water temp on #1086 every week and sometimes twice a week (with every harvest). A maximum and minimum of 29°C and -2°C respectively have been observed.

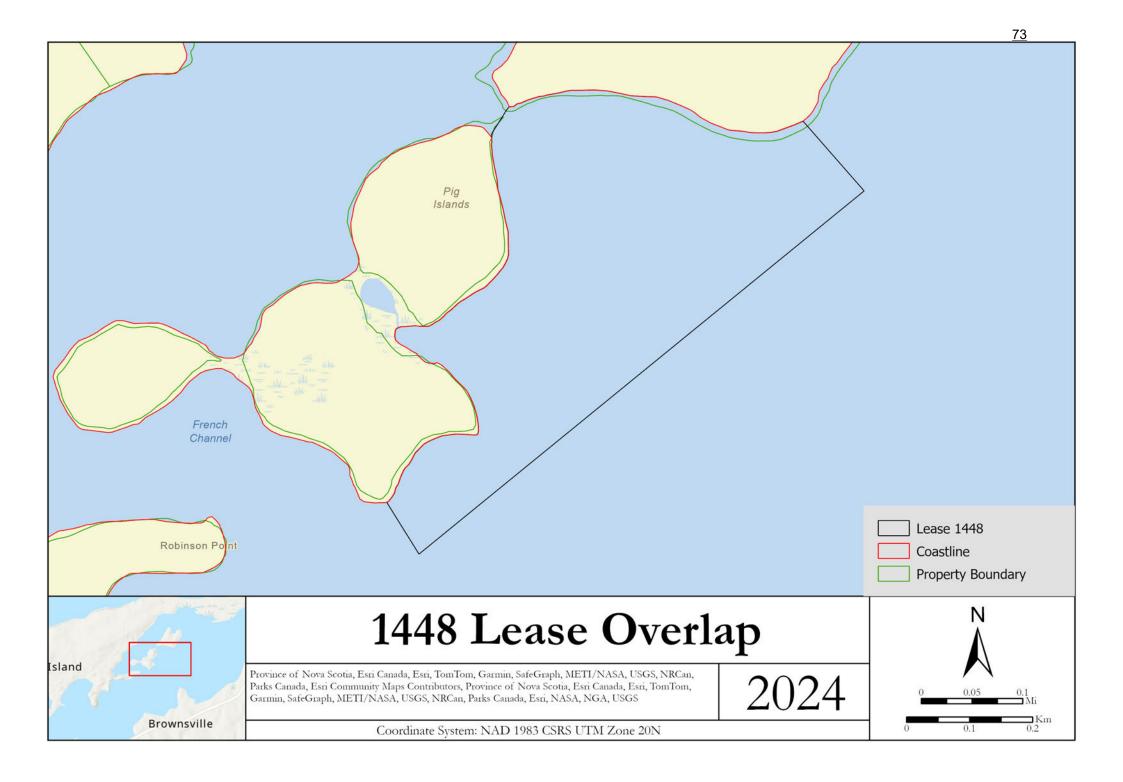
There was also a data logger deployed in part with a study done by CBU. The temperature and salinity were logged for a little over a year. The bio-fouling messed up the salinity sensor after a period of time. The salinity seems to have logged from 06/28/17 until 08/31/17. This logger showed a maximum salinity of 23.2 ppt and minimum salinity of 11.3 ppt with an average of 18.9 ppt. The maximum temperature

from the data showed 29.3°C and the minimum temperature was -7.9°C (the logger likely came out of the water during a harvest before being returned under the raft as the minimum without this is -1.24°C). The raw data that accompanied the following email has been submitted with this additional information.



## ADDENDUM 3 – ORIGINAL PROPOSED LEASE BOUNDARY

## A3.1 ORIGINAL LEASE BOUNDARY OVERLAP



# 1448 Lease Overlap

Province of Nova Scotia, Esri Canada, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, NRCan, Parks Canada, Esri Community Maps Contributors, Province of Nova Scotia, Esri Canada, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, NRCan, Parks Canada, Esri, NASA, NGA, USGS

Pig Islands

2024

0 0.05 0.1 Mi 0 0.1 0.2

Brownsville Coordinate System: NAD 1983 CSRS UTM Zone 20N

French Channel

Robinson Point

Island

## 3.0 SCOPING REPORT

# REPORT ON PUBLIC ENGAGEMENT DURING SCOPING

Alex Bouchie



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SECTION 2: PUBLIC ENGAGEMENT - PUBLIC MEETING	4
SECTION 4: PUBLIC ENGAGEMENT - ADDITIONAL STAKEHOLDERS	24
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#### **SECTION 1: PRE-SCOPING PHASE**

I grew up boating in the harbour, learning the shallow areas as well as where one can travel on which tides. The harbour can still be unforgiving when not traversed carefully. Gaining this knowledge opened up the opportunity to work at ShanDaph Oysters and become a valuable asset there.

had initially pitched the idea of applying for my own lease and starting my own business in an industry that I had become very interested in. I knew what it would take from a farming standpoint and with the guidance of I started the process. There were a few areas I started looking at that would provide deep enough water to sustain an operation while also providing some protection from winds. Some of the areas came with obstacles that I wasn't sure how to overcome so I stuck with the cove that had the most similar to the conditions the lease I had experience with.

with the area selected (Pig Islands), I started pitching the idea to friends, family, and stakeholders. I approached and at the 2019 Sea Farmers conference to give them the heads up that I was planning to apply for a lease in the east end of the harbour. At the time, they had questions about the depth, if there would be enough water to sink for winter. They didn't venture east very often if at all but both were in support of the idea back then though little information was given about the scope or size of the lease.

I had met with the Department of Fisheries and Aquaculture in February of 2019.

The department received my application for an Option to Lease on May 2nd, 2019.

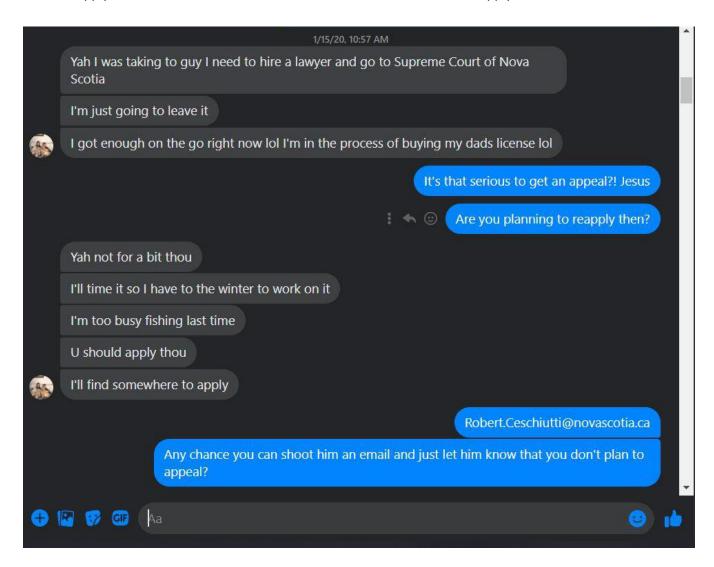
July 11th, 2019 I sent an email that I had received the letter dated June 17th, 2019 stating that this area was given to an earlier applicant ( ). I stated that I was still interested should this area become available again.

After meeting with that applicant and determining his intentions with the area, we figured out a way to divide the cove up so that he could have the half he wanted and I could have the remaining half. An email was sent to Brennan Goreham on September 14th, 2019 indicating our intent to divide the area.

The map that was decided on was similar to the one below:



Option expired on January 26th, 2020 (end of period of appeal). I sent an email to my coordinator during that appeal period on January 14th, 2020 to ask that if/when I got the option, that the boundaries could be amended if wanted to reapply or still had interest in the half he initially wanted. He gave me the go ahead to apply for the whole area and that he would find somewhere else to apply.



There were emails back and forth regarding the size of the option area (though it was similar in size to the previous option area granted) as well as how public engagement could take place given the global pandemic.

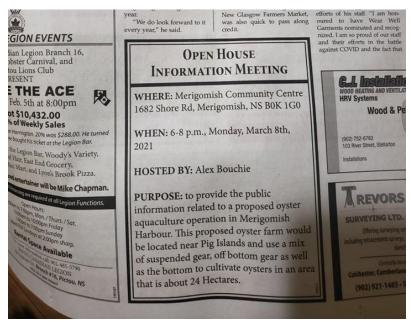
The map was amended to show other nearby leases while the option area remained the same size.

The Option to Lease was granted on September 30th, 2020.

#### **SECTION 2: PUBLIC ENGAGEMENT - PUBLIC MEETING**

The meeting was booked for March 8th, 2021 at the local community center in Merigomish.

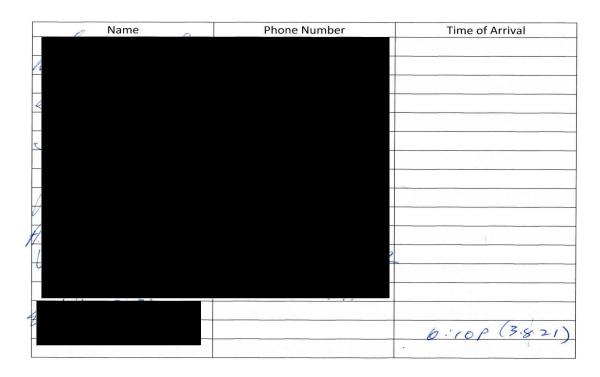
The following advertisement was run from February 3rd, 2021 up until the date of the meeting (33 days) in the Pictou Advocate.



There was also a poster advertising the date and location of the meeting that was posted in the local gas station/NSLC. The poster was put up on February 22nd, 2021.



The intended format of the meeting was to be more of an open house. The meeting quickly turned into a town hall style of meeting when large groups arrived at around the same time. Due to covid requirements, I had a sign in sheet which also helped with keeping track of attendance.



Name	Phone Number	Time of Arrival
		6:10
		6:10 6:11m
		6 30
		6:94.
		6:30
		6:30
		6:30
		6:05
	-	6:05
	7 Y	

I had put together a display to show people what to expect to see out on the water if this application was to be approved. Typical industry grow out gear was displayed as well as gear that is currently in use at ShanDaph Oysters.



I had lease maps, gear profiles as well as the lease layout submitted on display for people that were interested. I also had a brochure that I was giving out that had a little background information on me, a brief overview of my plans for the site, as well as my contact information.

Some of the attendees were simply there to support me while I hosted the meeting such as my grandparents, parents, fiance and of course

An in-person meeting record sheet was created which can be seen on the left hand side of the table. I asked everyone to take one and fill it out. If they had no concerns or questions then I told them it was ok to leave the sheets blank but that they should still sign them. While not everybody was willing to fill out these records, I had some filled out on the behalf of 2 individuals dictation to which they signed. Some people decided they wanted to fill them out at home but I have never been contacted by these individuals to pick up the sheets.

I picked the sheets up during one on one conversations though some people just left them with me as they left and I was going around the room. I felt it was important to talk to everybody independently to make sure people got the opportunity to ask questions even if they didn't want to in front of the room.

There were questions about the sustainability of Oyster Farming in that there would still be oysters in the harbour for people's grandchildren. My response was that putting oysters in suspension helps them achieve healthier spawning by giving them the most nutrients they can get and that the spawning oysters will drift with currents and tides and will spread outside of the lease.

Access to the area was another point of concern for boaters and kayakers. I said that there was nothing a kayak could do to damage any gear and that kayakers come through ShanDaph's leases regularly. My goal is not to stop others from accessing the area, but instead to have the ability to grow shellfish. As for boaters, the lease doesn't include any of the channels around it but even more so, boats need space to operate within the lease so there will need to be space through it that a boat can travel if needed. Another similar question I received from a few people was about ice fishing and bass fishing to which I also replied that I am only concerned about shellfish and that we have people bass fishing in the lease sometimes at Shandaph.

There was a lady that was also a land owner near the location that had some good questions regarding where the market was and if it was domestic to which I replied that Shandaph currently has a nationally certified plant and that we sell mainly to Halifax, Montreal and Toronto. She also had concerns about water quality and effluent to which I explained how oysters are filter feeders that take nutrients from the waters while also taking contaminants.

Another lady asked whether there would be an impact on eagles and I responded that there has been no noticeable impact on eagles in the 20+ years that Shandaph has been here. This question came from my description of the area and noting that there is an eagles nest on one of the Islands.

There were some recreational picking concerns but they accepted that this would be beneficial to the area but that it "sucked" that they were not going to be able to pick in that area. While this is a tough concern to address, I did dive a little deeper into this while talking to them one on one. The shore line between the islands provides a fairly firm, mud/sand bottom with very little oyster shell making it possible to pick barefoot. I told this person of an area just like this with identical conditions but with more quahogs to help mitigate this impact.

There was a question regarding leasing fees as well as the gear bond cost. fielded this question as I was not positive what the annual fees were for Cameron's Cove (Lease 1369 which is similar in size). There was a follow up question about who the regulatory body was.

There were a few interesting questions from a commercial fisherman, who also owns a lease in a different harbour. This person asked how I was able to apply for gear on the bottom when the department told him to apply for suspension. My response to this was that the department is trying to encourage aquaculture and not new aquaculture sites for the purpose of relay. Bottom and off bottom can supplement an aquaculture site when done properly such as with the use intertidal tumblers and/or the seeding out natural beds within your lease. This person also asked if I required permits to pour concrete in the water. While this person has just bought a bottom lease, he feels that my proposed area is too large to be protected and he doesn't know how gear would be anchored. He asked openly in the meeting about what I would use, to which I responded that concrete moorings and now the more popular screw anchors would be used. I gave an explanation of what screw anchors were and their benefits (no big concrete block on bottom to cause a hazard, etc). He then asked who I had to

apply to "to pour concrete moorings in the water." My response was that they would be made on land and then transported into place.

A lady asked about who owns the Islands that surround the lease. I explained how one of them was privately owned while the Department of Lands and Forests had purchased the other three over the last 5 years. Two of which were bought on behalf of Aboriginal Affairs but owned by the department.

There is a group of people that enjoy ice fishing between Pig Islands and Big Island. Three of these individuals showed up with concerns about the location but realised that it would not affect them by being on the opposite side of the islands.

Nobody that attended the meeting would have a clear line of sight of the proposed lease location from their properties. Some of the people that attended were on my contact list for local landowners even though their property exceeded the 500 m buffer zone. There was a group of people in the meeting that would rather not have a new lease in the harbour but didn't have a reason other than preference. This group was asking questions which were all answered and expressed above. Some of the people in this group talked to other locals on Big Island and were dismissed due to their relation to aquaculture as well as the fact that these people could not see the proposed site and that it would not affect them in any way.

The previous questions were all brought up within the public forum while some of the meeting record sheets didn't get addressed publicly or in some cases I didn't get a chance to address them at all and they were simply submitted while an individual was leaving.

Email Address:  Full time Resident:  Seasonal Resident:  Project Outline reviewed: Questions:  Concerns:   Concerns:  Care of response:  Residents own words:	Date of meeting: March	8th/2021 Time:	605 Location:	merigonis	n,NS
Address:  Full time Resident:  Seasonal Resident:  Project Outline reviewed: Questions:  Concerns:   Concerns:   Concerns:   Response:  Residents own words:	Persons in attendance:		Phone Number:		
Seasonal Resident:  Project Outline reviewed: Questions:  Concerns:   Concerns:   Response:  Date of response:  Residents own words:			Email Address:		
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owns the leases to the east of this location and we have been trying to help guide him to getting into oyster farming. He has put out spat collectors this year but needs to amend the leases to allow for gear before progressing. He supports this new venture and I openly support his new venture!

Date of meeting: March 8 2021 Time	e: 6:00 Location: Merigonish	
Persons in attendance:	Phone Number:	
	Email Address:	
	Full time Resident: `	
	Seasonal Resident:	
Project Outline reviewed:		
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Concerns:	3	
Response:		
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D. Harton		
Residents own words:		
	= 4	
Signature:		

This individual has property that is located 850 m away from the site on the other side of the island (no LOS). This individual has a past history with which lead to concerns that he doesn't want to see ShanDaph benefit from this new lease in any way. I assured him that this lease was for me and not for

In Person Meeting record regarding AQ#4015	
Date of meeting: March & Time:	0:00 Location: Maricanus
Persons in attendance:	Phone Number:
	Email Address:
Address:	Full time Resident:
	Seasonal Resident:
Project Outline reviewed:	
Questions: whosets resul-	to Treated
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who has the	zeocoss mig
Concerns:	ere Intended Nursel:
Response: Unal appect on	Lachor tides!
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Date of response:	Minhouse
	Hushous
Residents own words:	all went
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	· ·
Signature:	

In Person Meeting record regarding AQ#40	15	
Date of meeting: March 8 Time	e: Gico Location: Mengoms h School	hall
Persons in attendance:	Phone Number:	
	Email Address:	
Address:	Full time Resident:	
	Seasonal Resident:	
Project Outline reviewed:		
Do you plan on us The lease for the	and whole	
The lease for the	y suscenion	
Concerns:		
All The way to shire Lost of perbic waters	s from shore line.	
Response:		
Date of response:		
Residents own words:		
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Jigitatu		

This individual has to be the hardest working quahog fisherman in the harbour. He can be seen out picking quahogs regularly. He bought a lease recently with another individual. I explained intertidal tumblers in the meeting as well as seeding out oysters to the bottom which answered these questions and concerns. While loss of public shoreline is a concern, any new lease along the shore or even a short distance from shore will result in the loss of shoreline that is available to pick. The licences for oysters and clams extend over the entire gulf region giving lots of alternative locations for picking. As stated in the development plan, this specific location has a relatively low number of quahogs and almost no oysters which results in minimal commercial activity.

In Person Meeting record regarding Date of meeting: March	ng AQ#4015 Time: 7pm Location: Merigonish
Persons in attendance:	Phone Number:
	Email Address:
Address:	Full time Resident:
	Seasonal Resident:
Project Outline reviewed:	
Questions:	
Concerns: None	
10000.	
Wish him	the best of buck.
Response:	
Date of response:	
Residents own words:	
Signature:	

This individual was actually the first person to introduce me to the industry by reaching out to my mother to see if she knew anybody that had harbour knowledge to help out on his lease. He introduced me to and the rest is history.

Date of meeting: Mow 7/21	Time: _	6:30 Location	MERI 90	misty
Persons in attendance:		Phone Number:		
		Email Address:		
Address:	_	Full time Resider	nt: MERIS	onis#
		Seasonal Reside	nt:	
Project Outline reviewed:				
Questions:				
Concerns:				
Response:				
Date of response:				
Residents own words:				
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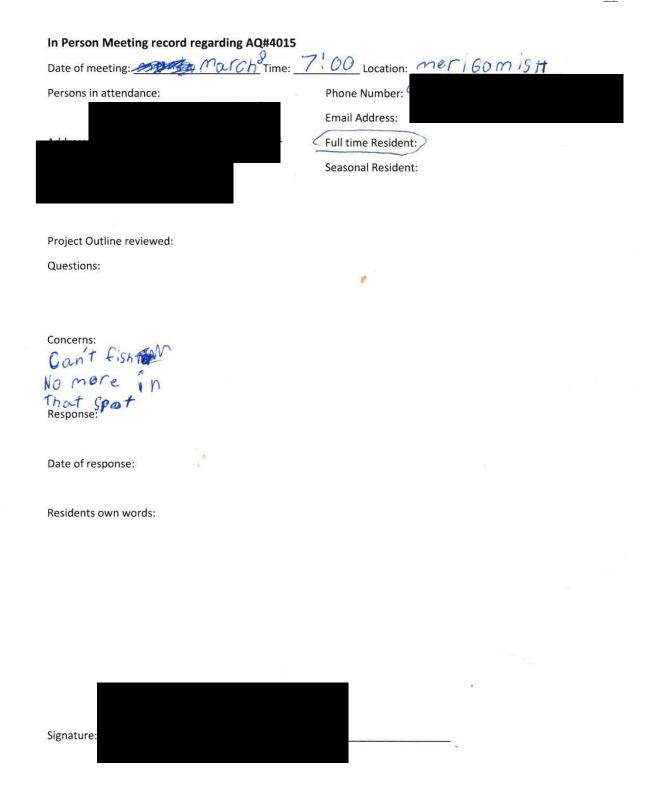
This is one of the individuals that was concerned about the possibility of the location being where they ice fish every year but had no concerns when they realised it would not affect them.

Persons in attendance:		Number: (		
Address:		Address: ne Resident:		
50000000000000000000000000000000000000		nal Resident:		
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This is one of the individuals that was concerned about the possibility of the location being where they ice fish every year but had no concerns when they realised it would not affect them.

In Person Meeting record regarding AC			
Date of meeting: March 8th 202)	Time: 7.00pm Location: Meri	gom 1sh	Schoolnouse
Persons in attendance:	Phone Number:		
	Email Address:		
Address:	Full time Resident:		
	Seasonal Resident:		
Project Outline reviewed:			
Questions:			
concerns: Can't fish there	nomore		
Response:			
Date of response:			
Residents own words:			
		a .	
Signatur		2	

This individual used to recreationally pick clams on the beach due to the shell free conditions which lead to it being able to be picked barefoot.



This individual used to recreationally pick clams on the beach due to the shell free conditions which lead to it being able to be picked barefoot.

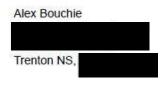
In Person Meeting record regarding AQ#4015
Date of meeting: March 8, 2021 Time: 6pm Location: Merigomish Commun
Persons in attendance: Phone Number:
Email Address:
Address: Full time Resident: YeS
Seasonal Resident:
Project Outline reviewed:
Questions: Why is the area being applied So large.
Questions: Why is the area being capplied so large? Does the propenent need an area this large? I feel as if to open of area to anchor equipment.  Concerns: Taking astronomy area from commercical have sters
to san of area to ancho- equipment.
Concerns: Taking artist area from commercial have sters
to fish systems and Quahogs. Taking money out of
wild fishermen theone. Navyration hazard also as
concerns: Taking attend area from commercial haversters to fish systems and Quahogs. Taking money but of wild fishermen theome. Navyration hazard also as small boaters using the island for protection in Northern Response: winds. Also boater could hit them.
Date of response:
Residents own words: ALSO have recreationed fisherman been
notifed? Concerning Duchous as I have uncles/garents
Residents own words: Also have recreationed fisherman been notified? Concerning Quahous as I have uncles/garents that fish there in Summer?
To 7- 10- and to sik and a war ? W/11
Is it deep enough to sinh cages in winder? Will ice affect the cages?
Ice attect the chiges!
Signature:

This individual had the option in this exact area before I did. He recently bought a list with another commercial fisherman and was the person that asked about why I was allowed to apply for bottom culture as well as gear on bottom. I believe this individual may have let some emotions get in the way when he filled out this sheet. A conversation was had with this individual prior to the meeting which can be found in the following sections. He is well aware that Cameron's Cove (Lease #1369) is the same size and provides relatively similar protection. This person hasn't picked a single quahog this year (following this meeting). I also explained out loud in the meeting how leases are required to have cautionary buoys marking the border which signifies to boaters that there are objects in the water.

#### **SECTION 3: PUBLIC ENGAGEMENT - LAND OWNERS**

While some of the local landowners in the area attended the meeting, there were others that didn't and there were others that simply couldn't. I sent a registered letter to those that were not able to attend the meeting or simply not in the area at the time, while also following the local Covid restrictions to speak with the others. The letters were sent out after the meeting which allowed me to help identify areas of concern for people that own property on Big Island and try to include more information.

The letter that was sent was as follows:



Hello,

My name is Alex Bouchie and I am writing to notify you that I am applying for a shellfish farm on the harbour side (south-east) of Pig Islands. I grew up down the road in Ardeness on the same road as my grandparents and great-grandparents. My fiance and I now live in Trenton with our two children. My fiance works in the intensive care unit in the Aberdeen Hospital and I am currently working at Shandaph Oysters. With the experience I have gained in the last five years and with the support of cowner of Shandaph Oysters), I would like to create a sustainable, family run aquaculture business of my own.

While my great grandfather was alive, he received an award for fishing lobster for over 60 years. The license has been passed down through my family and recently to my uncle. My family has a long heritage of being on the water and using its resources as a means to provide.

This specific area was chosen with the intent to minimize the change to the picturesque views of land owners on Big Island. It also has a relatively low impact on recreational and commercial harvesters as well as recreational and commercial boaters.

Oyster farming involves the suspension of growth units in the water column. The water temperature is the warmest near the surface which inturn provides the most nutrients to grow the oysters. The husbandry processes used throughout the growth periods also play a key role in the time it takes for an oyster to mature (3-5 years), as well as the quality and shape of the oyster. Keeping growth units at appropriate densities in order to promote growth requires a considerable amount of space. The option area that was granted is about 24 hectares which is approximately 1% of the harbour. It is about the same size as a nearby lease and around half the size of a lease tucked behind Melmerby Beach. Currently, 3.15% of the total harbor area is leased for aquaculture with only one operator currently farming (growing from seed). I would like to become another aquaculture operation that farms from seed. This would mean that ~4.15% of the harbour would be leased and licensed for shellfish aquaculture.

The map of the area can be found at this URL:

https://novascotia.ca/fish/aquaculture/public-information/public-notice/Public\_Notice\_of\_Option\_ Granted-AQ\_4015-2020.09.23.pdf

If you have any questions, concerns, or any words of support, don't hesitate to contact me.

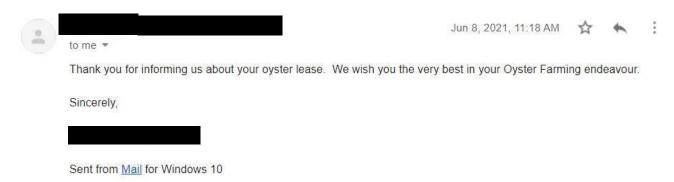
Alex Bouchie

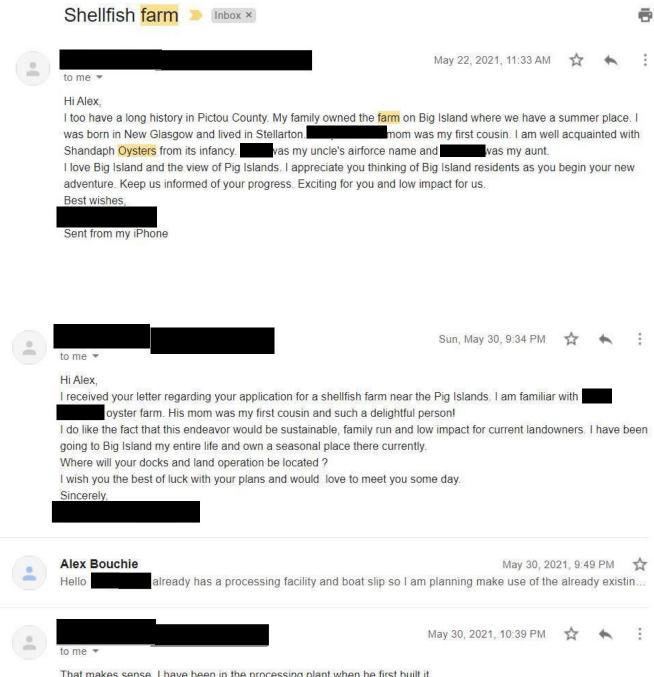
While I did get some positive responses from this letter, there were two individuals I was unable to contact. The letters were returned to me.



While I managed to contact most of the people, own the one Island that the Department of Lands and Forests doesn't, which is within the 500 m buffer. The other property owners within the 500 m buffer besides the two previously stated are and and who I met with in person. The list of names that I was required to contact actually extended out into the 1000m range.

The following are the emails that I received regarding the letter that was sent.





That makes sense I have been in the processing plant when he first built it. It is great that you can share facilities and not duplicate.

has helped out at ShanDaph with his tractor when we have needed larger lifts than our tractor is capable of. I have known him from working at ShanDaph but he has known my family for a long time. He operated an agricultural farm and used to have cows along with the crops he grew. This person knows what it takes to farm on land as well as has some understanding as to what it takes to succeed in farming on the water.

In Person Meeting record regarding AQ#4015	
Date of meeting: 04/19/21 Time: _	6:00 Location: 634 Big Island
Persons in attendance:	Phone Number: Email Address:
Address:	Full time Resident:
Merigonish	
Project Outline reviewed:	
Questions:	
Concerns:	
Response:	
8	
Date of response: 04/19/21	
Residents own words:	
I have no issue	with this proposal.
18 1 3 5	
Signatui	-

and have a field that has a line of sight of the area through the gap between two of the islands. They had concerns about the fact that eventually they would like all of their land to be passed down to their kids and they weren't sure if bouys would be very attractive to look at. From their house they can see a small portion of Shandaph so they do know what to expect to see. My response was that while I plan to keep it low profile and out of view for as long as I can, there would eventually be some sort of gear in that area which understood and said that bouys wouldn't be enough of a concern to not support this endeavor but that she had been thinking about what it would look like.

would include any of the main channels in the harbour but I assured them that it would not and that it was actually brought to my attention in the public meeting that it was important to not include it.

In Person Meeting record regarding AQ#4015		
Date of meeting: 05.03, N Time: 4	Location:	
Persons in attendance:	Phone Number:	
2	Email Address:	
Address:	Full time Resident: Yes	
Merigonist, NS	Seasonal Resident:	
Project Outline reviewed:		
Questions:		
Concerns: / i		
Channel Access		
View Plane - LOS		
Concerns: Channel Access View Plane - LOS  Response: Avoided the channel		
Avoided the Channel		
Date of response:		
05.03,21		
Residents own words:		
*		
Signature		
Signature:		
	10	

The tracking information for the letters that the remaining landowners received is included on the following page.





Canada Post / Postes Canada TRENTON PO 130 MAIN ST TRENTON, NS BOK1XO GST/TPS#: 119321495 2021/05/18 01:29:23 Eileen CC/CC43958 W/G1 TR535719 1@\$13.36 \$13.36 Tracked Pkt-USA Actual Weight 0.009kg To 10023 This is your Tracking # L M 1 5 9 9 9 7 2 8 3 C A Coverage declined 1@\$1.00 \$1.00 Fuel Surcharge NSH 15% 1@\$1.07 \$1.07 Ltr Std Actual Weight 0.009kg To K7L4N4

#### SECTION 4: PUBLIC ENGAGEMENT - ADDITIONAL STAKEHOLDERS

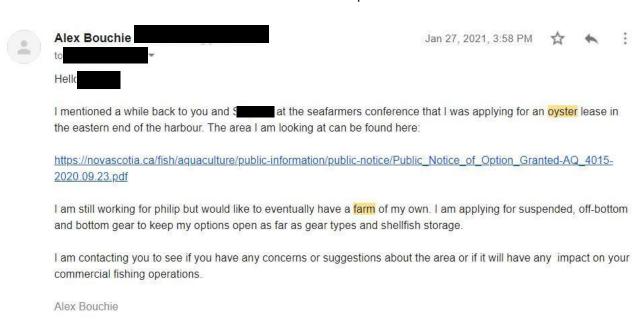
#### 4.1 Commercial Fisherman

This area was selected due to the minimal impact it would have on landowners, recreational users, and commercial fishers. The surrounding lease owners are also commercial fishers and do support the development of this new lease. Further west, there are a few other lease owners that I reached out to:

and

and

at the Sea Farmers conference but I sent an email to both of them to share the map of the location.



While I didn't get a response from I I have never seen these individuals in the east end of the harbour but I know that they are very active in the oyster industry and use it as a means to provide. I had talked to some of the commercial fishers that are regularly in this end of the harbour but I still had more to talk to. Thankfully, the public meeting had 4 commercial fishers present that frequent this area of the harbour. It is worth noting that these two emails were sent months before the public meeting though.



Jan 27, 2021, 3:55 PM

Hello

I mentioned a while back to you and Mike at the seafarmers conference that I was applying for an oyster lease in the eastern end of the harbour. The area I am looking at can be found here:

https://novascotia.ca/fish/aquaculture/public-information/public-notice/Public\_Notice\_of\_Option\_Granted-AQ\_4015-2020.09.23.pdf

I am still working for philip but would like to eventually have a farm of my own. I am applying for suspended, off-bottom and bottom gear to keep my options open as far as gear types and shellfish storage.

I am contacting you to see if you have any concerns or suggestions about the area or if it will have any impact on your commercial fishing operations.

Alex Bouchie



#### Pristine Bay PREMIUM Oysters

Jan 28, 2021, 8:33 AM





to me 🔻

Hi Alex,

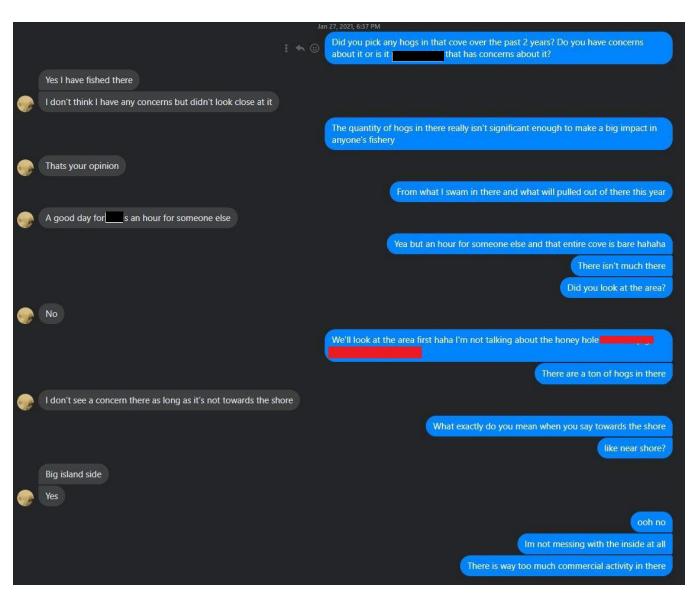
I have seen your application on the site mapping tool the other day, I haven't harvested any shellfish from this area in a few years now so it's not a great concern to me. I do realize there is about six or seven guys around that area are active in the quahog and oyster fishery, I really do not no how much commercial product has come from this area exactly, I guess your reaching out to all of them, And I would say that's the best way to have any positive results, being up front.

You may get some negative responses if there's a loss to anyone's income from the area and it is hard to give up traditional harvesting grounds, as it's a total loss to harvesters.

I also realize you would build on the area making it more productive, I will not go against your application but others may fight you on it. Good luck, Stephen.

On Jan 27, 2021, at 3:56 PM, Alex Bouchie 4 wrote:

I was upfront to everyone that I have contacted as transparency is the key to having a healthy business within the community. Especially true in a small community that has many as many people involved in making a living on the water as this one. I reached out to on facebook messenger as I did not get a response to my email to him at the time. mentioned that he had forwarded my email to other commercial fishers and that he was going to try and get ahold of anyone else he could think of that fished in the east end. He said he didn't have any concerns but had previously stated that there may be some from other commercial fishers.



While I wasn't able to get in contact with every single commercial fisherman, I did have and attend my public meeting to voice their concerns. reached out to me right before the conversation with took place to state that he felt that the area was too big and that he thought locals and fishermen would have concerns about it but he also mentioned that he would voice his concerns in the public meeting. He did write this all down on his meeting sheet that he handed in.

I know that reached out to the department and that he was given my email in order to contact me with any concerns he had. All I received was that it was believed he was a commercial fisher and that he may also have an aquaculture lease somewhere along the north shore.



Watts, Melinda < Melinda. Watts@novascotia.ca>

Wed, Mar 3, 3:39 PM





to me 🕶 Hi Alex,

Your email address, in addition to general information regarding the Department's application process was passed along on February 26<sup>th</sup>. Maybe the information that was presented gave him enough of a background so he had a better understanding of the scoping process. All I have is a first name, which is may reach out to you but regarding your scoping requirements, you are doing everything that is required. It is also possible that he's aware of your open house on Monday and he'll just attend and speak with you then (we did not provide this information to him).

Good luck with your open house on Monday! Remember to capture as much information from who attends, what their concerns/questions are, how you presenting the information, etc.

Cheers. Melinda

Melinda Watts **Aquaculture Advisor** 

Nova Scotia Department of Fisheries and Aquaculture

This person did not end up reaching out to me in the end. The information given by the department may have been enough to satisfy his questions.

#### 4.2 Homeowners on Opposite Shore

While the opposite shore is more than 700m away from the boundary at the closest point. I did get in contact with a person that was a recreational boater and recreational fisherman for both oysters and quahogs. The location of this person's property can be seen in the following image as land owner 2. I met this person while he was out fishing for trout and bass. I explained what I wanted to do and in what area and I got his email to get a record of our interaction as well as to give him some more information. He said that he was going to inform the neighbors in that area but I am not positive if that took place because I was not contacted by any of them..





Sun, Apr 18, 8:02 PM ☆ **←** 

Hello,

It was nice to meet you the other day! It is always good to find other people that have an interest in Oysters. Here is a little more information about me and the proposed oyster farming operation in the harbour.

I currently live in Trenton with my fiance and our 2 kids! She is a nurse in the Carleton in Ottawa for Aerospace Engineering. While I was in school I got into a fender bender and picked up a second job to get some extra money to get a vehicle before going back to school. That is where my oyster farming journey began back in 2016. I graduated in 2017 and have been working on an oyster farm ever since.

While my great grandfather was alive, he received an award for fishing lobster for over 60 years. The license has been passed down through my family and recently to my uncle. My family has a long heritage of being on the water and using its resources as a means to provide.

This specific area was chosen with the intent to minimize any change in the view for land owners on Big Island. It also has a relatively low impact on recreational and commercial harvesters as well as recreational and commercial boaters.

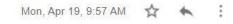
Oyster farming involves the suspension of growth units in the water column. The water temperature is the warmest near the surface which inturn provides the most nutrients to grow the oysters. The husbandry processes used throughout the growth periods also play a key role in the time it takes for an oyster to mature (3-5 years) as well as the quality and shape of the oyster. Keeping growth units at appropriate densities in order to promote growth requires a considerable amount of space. The option area that was granted is about 24 hectares which is approximately 1% of the harbour. It is about the same size as a nearby lease and around half the size of a lease tucked behind Melmerby Beach. Currently, 3.15% of the total harbor area is leased for aquaculture with only one operator currently farming (growing from seed). I would like to become another aquaculture operation that farms from seed. This would mean that ~4.15% of the harbour would be leased and licensed for shellfish aquaculture.

The map of the area can be found at this URL:

https://novascotia.ca/fish/aquaculture/public-information/public-notice/Public\_Notice\_of\_Option\_Granted-AQ\_4015-2020.09.23.pdf

If you have any questions, concerns, or any words of support, don't hesitate to contact me.





#### Hey Alex,

It was very nice to meet you and thank you so much for a great feed, the oysters and mussels were delicious. I enjoyed them with a nice bottle of wine. Ive been harvesting clams and mussels here for three years, (just off our property) and never seen mussels so fat and full and very clean. Thats quite interesting Aerospace Engineering to oyster farming. My background is Environmental Engineer, I was the Environmental officer for the Construction Engineering branch in and worked closely with DFO. Thanks for the education on Oyster farming as this is all new to me, hope to see you again as I'm always interested in learning more. I want to wish you the very best in your future devours and thanks again for the short education lesson and a great feed.



Over the course of the summer some people in the community had mentioned to my parents that someone was trying to apply for a large portion of Merigomish harbour. My parents told them the actual information about my lease application and its size. Knowing that there was improper information being shared in the community, I posted another poster in the local gas station with some information as well as my email to contact with any questions or concerns.

The poster that was put up had the option area highlighted in orange with red arrows pointing to it. The map I used included other leases in the county for reference. I also made the point to put my name clearly on the top of the poster and started it with information regarding my family in the area. It was clear by the comments made to my parents that the information going around did not have my name attached to it nor did it have the accurate information about the size of the lease. The poster that was put up can be seen on the following page. This poster led another land owner (land owner 1 in the map above) to reach out with her questions and then her husband reached out to me with his questions. Their property is a little over 1000m and they had questions about what would be visible if anything from their property.

# **Aquaculture Lease Application**

### Alex Bouchie



My name is Alex Bouchie, the son of Bouchie, and the Grandson of Bouchie, and the Grandson

I am applying for a lease to start an oyster farm in Merigomish Harbour near Pig Islands. The lease would be less than 24 Hectares (60 Acres) which is comparable to other leases in the area as seen on the map above.

I held a public meeting regarding the proposed lease on March 8<sup>th</sup>, that was advertised in The Advocate starting Feb. 3<sup>rd</sup> and running through to March 8<sup>th</sup> as well as a poster that was put up in the LBR on Feb. 22<sup>nd</sup>.

It has been brought to my attention that there is a petition going around against my application for an oyster farm, so I am posting my contact information for people to reach out to me, the applicant, so that I can answer any questions or concerns that you may have!



The emails received and sent were the following. I tried to provide pictures of the gear that would be present on the new lease, taken at ShanDaph. Though the pictures are taken from fairly close up when compared to where their property is located, it is the best representation of what to expect to see on the water.



to me 🕶

Fri, Aug 6, 12:32 PM





×:

Hi Alex.

We live on the shore road in Merigomish and just read about your proposal for an oyster farm. I was hoping you could send me a little more information about the precise location of the proposed farm?

Many thanks,



Sent from my iPhone



# Alex Bouchie







to Hello

The proposed farm would be in a shallow cove near Pig Islands (the 4 islands on the inside of Big Island) and would not impede any channels in the harbour.

https://novascotia.ca/fish/aquaculture/site-mapping-tool/

This location was chosen for multiple reasons such as, proximity to processing facility, no homeowners directly overlooking the site, minimal disruption to commercial fisherman and also to recreational boaters!

Regards,

Alex Bouchie

\*\*\*



Sun, Aug 8, 2:40 PM



Thanks for letting me know, Alex! Sent from my iPhone On Aug 6, 2021, at 9:00 PM, Alex Bouchie



### **Alex Bouchie**

No problem at all! If you have any more questions don't hesitate to ask!

Sun, Aug 8, 3:27 PM





Aug 8, 2021, 6:13 PM



Oh, and one more question! What would one see from water level (assuming one had a view of the site)?



Hello



**Aug** 9, 2021, 12:53 PM





I'm not sure what your knowledge is of oyster farming but I can break down what it would likely look like as best as possible. I will attach some photos of the farm I work at as well!

The outer boarder is required by transport Canada to have yellow bouys with reflective tape, lease number, name/phone number.

The grow our gear that is the most common in the industry would be a cage called an OysterGro. They are big and ugly and we try not to use them here but they do have some benefits in certain cases.

We actually developed a round growth unit that we now have in production that protrudes about 2 inches from the surface of the water (not 16 or so like OysterGro).

The harvest process can not take place from surface gear due to contamination from bird poop so we store market oysters in cages that have 6 or 8 shelves and are suspended under black bouys.

Sorry for taking so long to get back to you but I wanted to be able to provide some pictures as well!

Thanks,

Alex

\*\*\*

# 4 Attachments

















Mon, Aug 9, 2:02 PM 🕏





Thanks, Alex! I really appreciate you taking the time to answer my questions. I'm cc'ing my husband, super interested in all of this and might have some Qs of his own. All best,





Thanks Alex, The bugs are terrible. How are they on your side?

Aug 10, 2021, 8:08 AM





Alex Bouchie



**a** Aug 10, 2021, 11:49 AM





Hey .

They are pretty bad here. We always have to warn people and when they don't believe us, I show them this picture.

We have a research project going with Stfx and they were lucky this year that the mosquitoes held off for a while. It's actually the best year out of the last 5 for mosquitoes!

Alex

\*\*\*





Aug 10, 2021, 1:42 PM



That is unlike anything I've ever seen. What is the research project you have going? I work at



# Alex Bouchie

Tue, Aug 10, 2:38 PM





:

They are looking at a few things actually! They are comparing the difference between OysterGros and our new growth units (BOBRs) as well as the affect the farm has on eelgrass and the conditions eelgrass prefers to grow in.

We actually have a full time staff member from Stfx and Dal. We have done research projects with Dal and CBU in the past but this is the first with Stfx.

My boss has a degree in Marine Biology and I have a degree in Aerospace Engineering so we like to do some research stuff ourselves here as well. Our last study was the improved environmental impact of upgrading the solar power system that the farm, processing plant, and his house all run on!

Alex

\*\*\*



to me 🕶

Aug 10, 2021, 2:40 PM







Wow. I would like to see that!

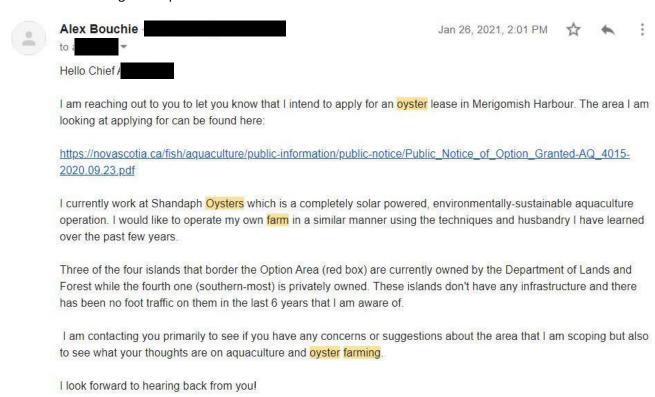


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## **SECTION 5: ADDITIONAL FEEDBACK**

Alex Bouchie

Community leaders and government bodies were also a target of mine to get in contact with as they hear the concerns and problems within the community. I did reach out to the Chief of Pictou Landing First Nations but I did not get a response.



I also reached out to the Department of Lands and Forests as well as the Office of Aboriginal Affairs because three of the four islands are owned by the DLF and two of the three were purchased on behalf of OAA. The contact information was provided by the NSDFA. I wanted to reach out to make sure I wasn't going to infringe on any future plans that may or may not have been made public yet and to give them a heads up about my application. The first email is the one I had sent to the Department of Lands and Forests.



Jan 21, 2021, 1:46 PM





Hello Louise,

I am contacting you to inform you that I am applying for an aquaculture lease in Merigomish Harbour that borders on Pig Islands. Three out of the four islands are currently owned by the Department of Lands and Forestry with two of them purchased on behalf of Aboriginal Affairs.

There is an oyster farm that I currently work at, tucked between Pig Islands and Big Island. I wish to run an operation that will work very closely with and with the support of Shandaph Oysters and also use very similar cultivation methods such as suspended gear, off bottom gear, and bottom cultivation.

The respective location I am looking at can be found here:

https://novascotia.ca/fish/aquaculture/public-information/public-notice/Public\_Notice\_of\_Option\_Granted-AQ\_4015-2020.09.23.pdf

If you have any questions or concerns please do not hesitate to contact me!

Alex Bouchie

### The following emails were between the Office of Aboriginal Affairs and I.



# Alex Bouchie < to kendra.marshman •

Jan 21, 2021, 1:46 PM





Hello Kendra,

I am contacting you to inform you that I am applying for an aquaculture lease in Merigomish Harbour that will border Ava Island and Spencer Island. It is my understanding that the Department of Lands and Forestry purchased this land on behalf of Aboriginal Affairs.

There is an oyster farm that I currently work at, tucked between Pig Islands and Big Island. I wish to run an operation that will work very closely with and with the support of Shandaph Oysters (said farm) and also use very similar cultivation methods such as suspended gear, off bottom gear, and bottom cultivation.

The respective location I am looking at can be found here:

https://novascotia.ca/fish/aquaculture/public-information/public-notice/Public\_Notice\_of\_Option\_Granted-AQ\_4015-2020.09.23.pdf

If you have any questions or concerns please do not hesitate to contact me!



# Marshman, Kendra Alair <Kendra.Marshman@novascotia.ca> to Claire, me ▼

Jan 26, 2021, 9:21 AM





:

Hello Alex,

Thank you for notifying me of your application for an Option to Lease. I work with Claire Rillie, copied, as a consultation advisor in the Consultation Division of OAA, providing advice to departments such as NSDFA on whether or not projects, including aquaculture lease applications, require Crown consultation with the Mi'kmaq of Nova Scotia. I am not necessarily looped into the lands purchasing process that occurs through Lands & Forestry, but I can connect you to someone who may be able to assist if you have specific questions about the land purchase.

At this time, are you looking for advice on engagement with the MI'kmaq of Nova Scotia? OAA encourages applicants to become familiar with the difference between Crown consultation and engagement. Engagement and relevant information-sharing with the Mi'kmaq of Nova scotia is encouraged early on in the application process and the applicant conducts and tracks engagement activities. This is different from Crown consultation which is led entirely by the province, although sometimes aspects of Crown consultation are delegated to applicants.

If you have any questions please do not hesitate to reach out. I will keep an eye out for the application, which NSDFA will send directly to Claire and I when it is time to conduct an Aboriginal Consultation Screening.

Thank you Kendra



Alex Bouchie

Jan 26, 2021, 9:54 AM





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to Kendra •
Hello Kendra,

Your email was given to me as the person I should get in contact with due to the fact that the land was purchase on behalf of Aboriginal Affairs.

I know of another applicant that was informed that it might not have been necessary to contact the Department Lands and Forest but my advisor at NSDFA specifically gave me the contact info for both you and Louise Boudreau so I figured I should reach out!

But besides that, I would definitely appreciate any advice on engagement with the MI'kmaq of Nova Scotial

Alex Bouchie

\*\*\*



Rillie, Claire Z <Claire.Rillie@novascotia.ca>

Jan 27, 2021, 3:44 PM





Hi Alex.

to Kendra, me \*

Further to Kendra's message, I would also recommend checking out our Proponents Guide which is accessible online at <a href="https://novascotia.ca/nse/ea/docs/ea-proponents-guide-to-mikmaq-consultation.pdf">https://novascotia.ca/nse/ea/docs/ea-proponents-guide-to-mikmaq-consultation.pdf</a>.

The guide should be a good source of additional info.

Thanks,

Claire

\*\*\*



### Marshman, Kendra Alair <Kendra.Marshman@novascotia.ca>

Feb 4, 2021, 9:51 AM





:

Hello Alex,

to me. Claire .

Engagement with the Mi'kmaq of Nova Scotia involves information sharing, including sharing information about the scope, location, and timelines. Engagement is more effective if initiated early, before final decisions are made. As Claire has provided, OAA's *Proponent's Guide: The Role of Proponents in Crown Consultation with the Mi'kmaq of Nova Scotia* can be found here: <a href="https://novascotia.ca/nse/ea/docs/ea-proponents-guide-to-mikmaq-consultation.pdf">https://novascotia.ca/nse/ea/docs/ea-proponents-guide-to-mikmaq-consultation.pdf</a>. This guide provides practical advice and guidance to proponents considering activities that may impact Mi'kmaq interests in Nova Scotia.

As stated in the Proponent's Guide, OAA recommends that you contact the Mi'kmaq well in advance of submitting applications for permits, licences, and/or leases. We recommend that you contact the Chief and Councils of the Mi'kmaq communities nearest your project with a letter/project information package. Based on the location of your proposed project, I recommend contacting Pictou Landing First Nation. We also recommend providing a copy of the correspondences to the Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO) as well as to myself and Claire. OAA also highly recommends that you document what steps you have taken to engage the Mi'kmaq and how your project has considered, and where appropriate, attempted to address potential impacts.

Pictou Landing First Nation

Chief

Pictou Landing First Nation

43 Maple Street RR# 2 Box55 Site 6

Trenton, Nova Scotia B0K 1X0

Phone: (902) 752-4912 Cell: (902) 295-8550 Fax: (902) 755-4715

Email:

I reached out to the District Councillor for the area while I was finishing up this report as well as MP Sean Fraser. Sean Fraser's father was present in my public meeting and did help facilitate some of the questions and concerns that were being expressed. Sean grew up in Merigomish which has left him with a deep connection to the area. I did get to have a conversation with at the local beach in Lismore where he reiterated what was written in his email.



Alex Bouchie

Sun, Aug 15, 7:26 PM







to don.butler 🕶

Hello

I can't believe I didn't email you sooner than this! I am applying for a lease to farm oysters in Merigomish Harbour. I have been working at Shandaph Oysters for the last 5 years and am applying so that I can start my own business.

I am reaching out to see if you have any questions or concerns regarding Oyster Farming or if I can garner the support of the municipality.

The Municipality of Argyle has done a lot of environmental work to help welcome new aquaculture farm applications like mine. Even larger than this, the Nature Conservancy in the US has been working on multiple projects with oyster farmers to help repopulate bays and help clean the waters.

The location of the site can be found here:

https://novascotia.ca/fish/aquaculture/site-mapping-tool/

Alex Bouchie





Aug 16, 2021, 1:05 PM





:

to me ▼

Hello Alex: Good to hear from you. From time to time I converse with people in the area who are concerned about the environment. Gold mining and wind mills, for example, are usually their concern. A few even mentioned oyster farming in a favourable light.

The county has not expressed any concerns about oyster farming and that may be a good thing.

Good luck with your application. Should you run into any snags, feel free to contact me and we will see if the county can give support.

Donnie

Sent from my iPad

While I did not get a response directly from Sean (during election time), a person in his office did respond on his behalf. In his last email he offered to have Sean give me a phone call if I provided a phone number but I did not take him up on this offer simply because I can only assume how busy he is at this time.



Sun, Aug 15, 7:37 PM ☆ ←

Hello Sean,

I am applying for an oyster farm in Merigomish Harbour. I have worked for Shandaph Oysters for the last 5 years. During that time we have expanded that business as well as created an entirely new way to farm oysters.

We have complete production of a new growth unit with a lower profile in the water to not stand out like a sore thumb in higher populated areas. I am looking to use this gear on a farm of my own.

The Municipality of Argyle has done a ton of leg work on the environmental assessment end to help welcome aquaculture applications. The same hospitality can't be found here sadly. Even larger than this, the Nature Conservancy in the US has been working on multiple projects with oyster farmers to help repopulate bays and help clean the waters.

One of the major things that I would personally like to see is the commercial oyster fishermen stop selling their oysters to PEI (to be branded as PEI oysters) and start expanding the oyster industry here in Nova Scotia.

The location of the site can be found here: https://novascotia.ca/fish/aquaculture/site-mapping-tool/

If you have any questions or concerns, please don't hesitate to let me know!

Alex Bouchie



Fraser, Sean - M.P.

Mon, Aug 16, 2:22 PM







to me -Hi Alex,

Thanks for connecting. I hope you had a good weekend and are doing well. I have shared your message about your proposed oyster farm with MP Fraser. Where are you with the Provincial process on this? Are you running in to issues with provincial fisheries or federal?

If there is anything more I can help with please let me know.

Take care & talk soon,

Kyle

Kyle Findlay

Parliamentary Assistant / Adjointe Parlementaire Office of/ Bureau de Sean Fraser, Member of Parliament / Député fédéral Central Nova/ Nova Centre

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Alex Bouchie

Thu, Aug 19, 11:24 AM







to Sean 🕶

Hello Kyle,

I am just putting together the final application. From what I can tell, the roadblocks and issues start after it is submitted!

Sean's dad was at my public meeting and helped as best he could to facilitate and be a neutral party. I did not ask him to do this but he stepped up on his own!

I was just going through paper work and realized I never reached out to Sean or the municipality. This is the area where Sean grew up so I thought it would definitely help to have his support or atleast his thoughts on the ideal

Thanks,

Alex Bouchie

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Fraser, Sean - M.P.

Aug 23, 2021, 8:54 AM





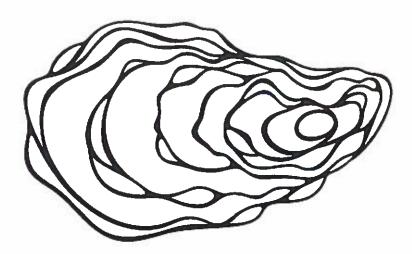


to me 🕶 Hi Alex.

Thanks for the update on this. I've passed it on to Sean and will mention it again during our meeting later on today. I can have him give you a call if you'd like, just let me know the best number he can reach you at.

Take care & talk soon,

Kyle



# Proposed Oyster Lease

# CONTACT

Alex Bouchie

An oyster can filter approximately 1.3 gallons of water per hour.

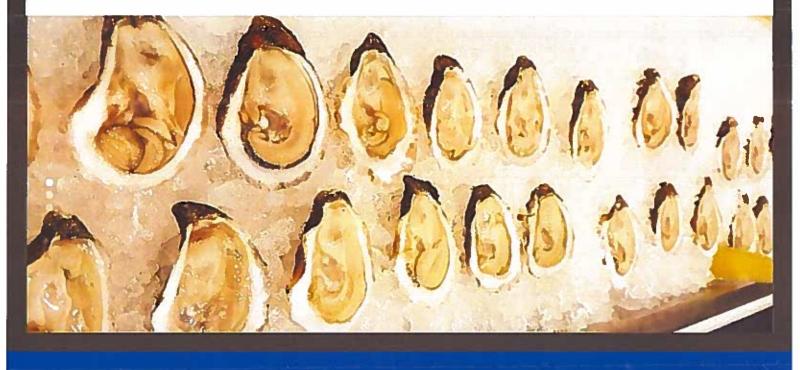
# **ABOUT ALEX**

I grew up in Ardness, observing and helping my grandparents on and off the water with their commercial lobster fisheries.

While my great grandfather was alive, he received an award for fishing lobster for over 60 years. He passed the reins to my grandfather who recently passed down the license to my uncle. My family has a long heritage of being on the water and using its resources as a means to provide.

I am currently living in Trenton with my fiance Courtney and two boys Caiden & Cabe.

I have spent the past five years working along side Phillip Docker at Shandaph Oysters gaining the experience to create a sustainable, familiy run aquaculture business of my own



# THE PLAN

The proposed lease would be located in the large cove on the south-east side of Pig Islands - located closely to Shandaph Oysters with minimal visibility from surrounding property owners

Main species to be cultivated would be Oysters, with the location providing the ability to cultivate Quahogs, Razor Clams and Bay Scallops when seed becomes available

Oysters will be grown primarily in suspension with the use of floating growth units but other storage and growth units may be used such as intertidal tumblers or oysters pods.

Oysters will also be seeded out on bottom to create healthy, natural oyster beds