

novascotia.ca

# Public Notice – Adjudicative Application Posted

These documents have been submitted with respect to two (2) New Marine Aquaculture Licence/Lease applications. The applications follow a Scoping period, during which the applicant collected information to support their applications. The information in these documents are provided as part of the routine disclosure of information by the Department of Fisheries and Aquaculture. Some information may be redacted as business confidential information or personal information.

These documents were provided to the Department by the applicant (with the exception of the attached Schedule "A" which was generated by the Department). The Department is not responsible for the content of these documents, including, but not limited to, the accuracy, reliability, or currency of the information contained within.

Adjudicative Application for a New Aquaculture Licence and Lease					
Applicant: Mitchell MacInnis	Species: American oyster				
Location: Livingstone's Pond, Inverness County	Method of Cultivation: Suspended Cultivation, Bottom Cultivation With Gear				
<b>Application File Numbers:</b> AQ#1461, 1462	<b>Applications Received On:</b> September 22, 2022				

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

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



novascotia.ca

#### **NOTICE**

Posting Date of this Notice: August 24, 2023

Please note that this application is being reviewed pursuant to the *Canadian Navigable Waters Act* by Transport Canada. Written comments regarding the effect of this work on marine navigation may be submitted to Transport Canada as follows, for a period of 30 days following the posting date of this notice.

1. On line at : <a href="http://cps.canada.ca/">http://cps.canada.ca/</a> under the following:

File AQ#1461: NPP#2022-207754 File AQ#1462: NPP#2023-209927

2. By Mail at: Manager

Transport Canada - Navigation Protection Program 6<sup>th</sup> floor-95 Foundry Street, Moncton, NB E1C 5H7

Table of Contents (Page 1 starts after this table)				
Document	Page(s)			
Aquaculture Application	1-3			
AQ#1461 Schedule "A"	4-5			
AQ#1462 Schedule "A"	6-7			
Development Plan	8-55			
Scoping Report	56-87			





# **Aquaculture Licence/Lease Application**

Applicant Information:
Applicant: MITCHELL MACINALS Contact Person: MITCHELL MACINALS
Nova Scotia Registry of Joint Stocks Number:
Revenue Canada Business Number:
Telephone No. (Work): 9076232925 (Home): (Cell):
Fax No.: E-mail: mitchellmac-innisobetmail.com
Mailing Address: PO-Box 240 PORT HOOD NOVA SCOTIA
Postal Code: BOE ZNO
Civic Address: 348 MAIN ST PORT HOOD NOVA SCOTIA
Postal Code: BOEZING
Proposed Site Information:
Location of Site: LITTLE JUDIOUE County: LAVERNESS Site Size (Ha): LEAST 1 = 10.01 H
Site Dimensions:
Hydrographic Chart No.:
Approximate Center Coordinates: Latitude: LEASE 1-45, 9584 LEASE 2-45-9596
Longitude: LEASE 1 61.515   LEASE261.5223
Type of Licence Application (Check appropriate boxes):
☑ Commercial licence/lease □ Experimental licence/lease
☐ Marine Plants ☐ Finflsh ☐ Shellfish ☐ Other
Submit completed applications to: Nova Scotla Department of Fisheries and Aquaculture, Aquaculture Division
1575 Lake Road, Shelburne, NS 807 1W0  Ver.170723  E-mail: aquaculture@novescorile.ca  Pg. 1 of 3



Off	lice	17	SC	Only	,
	1100	v	20	~ III	,

☐ 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 Scotla Department of Fisheries and Aquaculture, Aquaculture Division

1575 Lake Road, Shelburne, NS BOT 1WO

Ver. 170723 E-mail: aquaculture@nonscotia.ca

2 | Page

Pg 2 of 3



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** 

SEPTEMBER 19TH 2022

Signature of Nova Scotia Department of Fisheries and

Date

Date

Submit completed applications to:

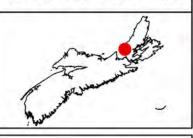
Ver 110711-1

Nova Scotla Department of Fisheries and Aquaculture, Aquaculture Division 1575 Lake Road, Shelburne, NS 80T 1W0

E-mail: aquaculture@novescotia.ca

Pg. 3 of 3

acid on: 22/22 Coset: 22/22

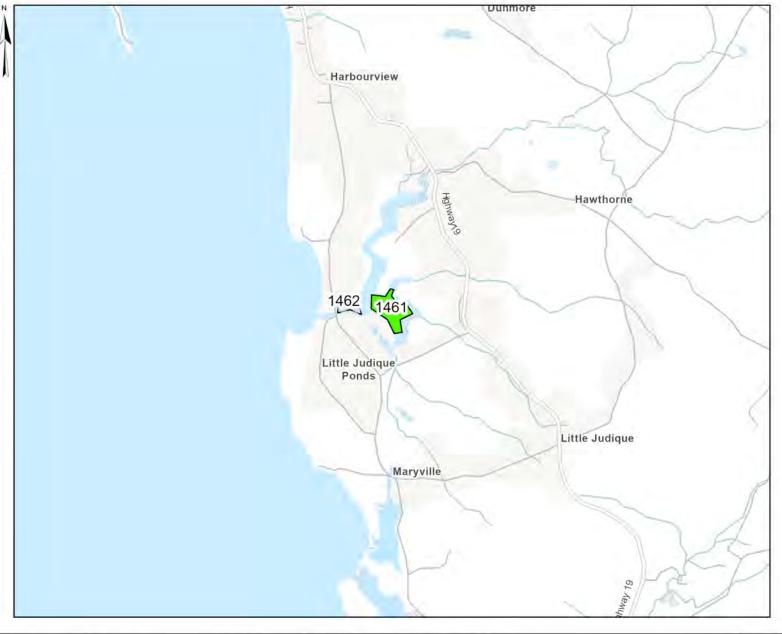


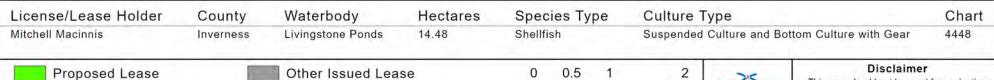
#### Aquaculture Site

1461

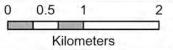
Corner	Latitude	Longitude
1	45° 57' 33.026"	-61° 31' 6.010"
10	45" 57" 27.983"	-61° 30' 48.406"
11	45° 57' 22,622"	-61° 30' 47.333"
12	45° 57' 22.212"	-61° 30' 52.204"
13	45° 57' 28.192"	-61° 30' 56.142"
2	45° 57' 38.923"	-61° 31' 5.650"
3	45° 57' 38.131"	-61° 30' 57.193"
4	45° 57' 41.357"	-61° 30′ 53,993"
5	45° 57' 40.954"	-61° 30' 51.984"
6	45° 57' 38.308"	-61° 30' 53.420"
7	45° 57' 33.149"	-61° 30' 47.902"
8	45° 57' 33.844"	-61° 30' 43.578"
9	45° 57' 30.568"	-61° 30' 40.572"
Centre	45" 57" 32.559"	-61° 30' 54.276"

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





[ ] Other Proposed Application



NOVA SCOTIA

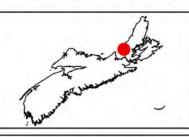
This map should not be used for navigation Fisheries and Aquaculture

NSDFA Pager 40 of 87 July

Created By: N

Created By: N

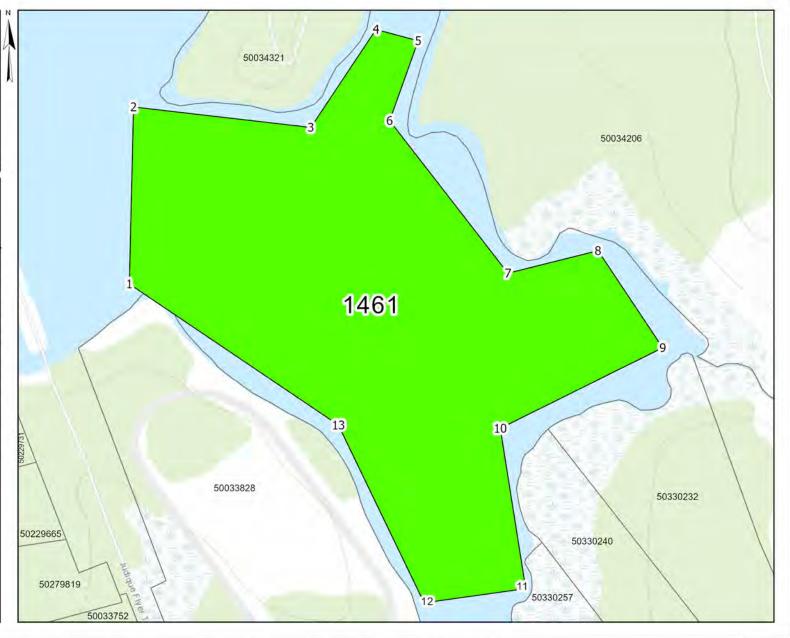
Created By: N



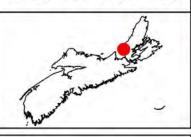
# Aquaculture Site 1461

Corner	Lati	tude	Long	gitude
1	45° 57'	33.026"	-61° 3	1' 6.010"
10	45° 57'	27.983"	-61° 30	48.406"
11	45° 57'	22.622"	-61° 30	47.333"
12	45° 57'	22.212"	-61° 30	52.204"
13	45° 57'	28.192"	-61° 30	56.142"
2	45° 57'	38.923"	-61° 3	1' 5.650"
3	45° 57'	38.131"	-61° 30	57.193"
4	45° 57'	41.357"	-61° 30	53.993"
5	45° 57'	40.954"	-61° 30	51.984"
6	45° 57'	38.308"	-61° 30	53,420"
7	45° 57'	33.149"	-61° 30	47.902"
8	45° 57'	33.844"	-61° 30	43.578"
9	45° 57'	30.568"	-61° 30	40.572"
Centre	45° 57'	32.559"	-61° 30	54.276"

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



License/Lease Holder	County	Waterbody	Hectares	Species Type	Culture 7	Туре		Chart
Mitchell Macinnis	Inverness	Livingstone Ponds	14.48	Shellfish	Suspended	Culture and Bott	tom Culture with Gear	4448
Proposed Lease	5		0 3	7.5 75 150	225	NOVASCOTIA	Disclaimer This map should not be used or legal purposes. It is intend	for navigation
[ ] Current Issued Lease			Meters		Fisheries and Aquaculture	SDFA Page 5 of 87		

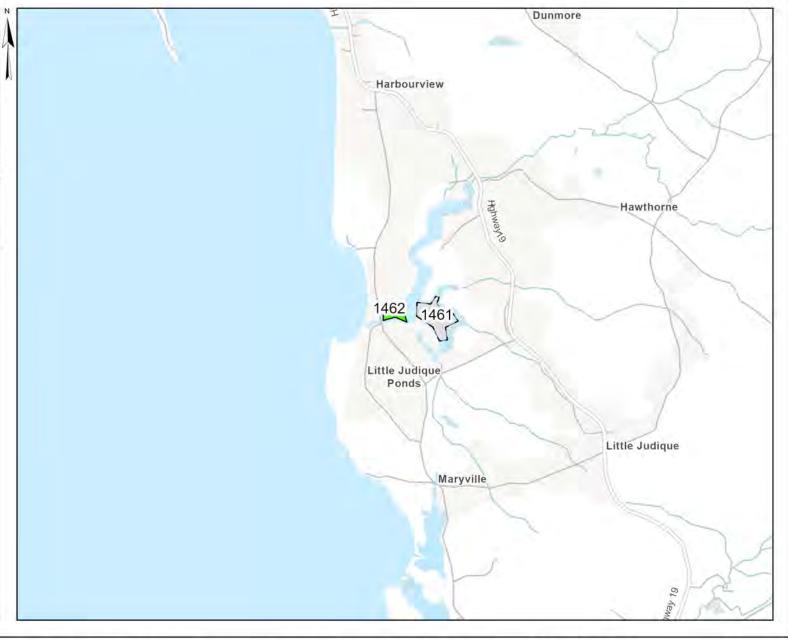


#### Aquaculture Site

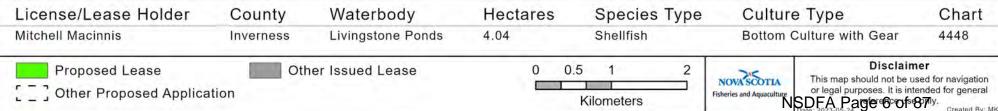
1462

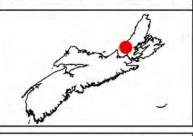
Corner	Latitude	Longitude
1	45° 57' 31.446"	-61° 31' 26.652"
2	45" 57' 33.804"	-61° 31' 26.422"
3	45° 57' 37.102"	-61° 31' 23.891"
4	45° 57' 37.444"	-61° 31' 17.238"
5	45° 57' 34.387"	-61° 31' 13,544"
6	45° 57' 30.550"	-61° 31' 12.036"
7	45° 57' 32.764"	-61° 31' 19.164"
Centre	45° 57' 34.814"	-61° 31′ 20,079″

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



Kilometers

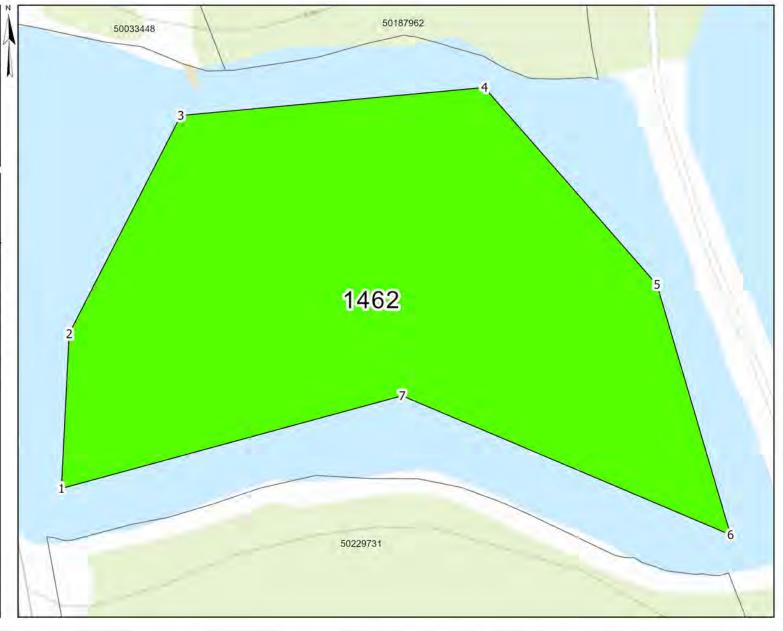




# Aquaculture Site 1462

Corner	Latitude	Longitude
1	45° 57' 31.446"	-61° 31' 26.652"
2	45° 57' 33.804"	-61° 31' 26.422"
3	45° 57' 37.102"	-61° 31' 23.891"
4	45° 57' 37.444"	-61° 31' 17.238"
5	45° 57' 34.387"	-61° 31′ 13.544″
6	45° 57' 30.550"	-61° 31' 12.036"
7	45° 57' 32.764"	-61° 31' 19.164"
Centre	45° 57' 34.814"	-61° 31' 20.079"

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



License/Lease Holder	County	Waterbody	Hectares	Species Ty	pe Cul	ture Type	Chart
Mitchell Macinnis	Inverness	Livingstone Ponds	4.04	Shellfish	Bott	om Culture with Gear	4448
Proposed Lease			0 15 30	60	90 NOVA SCOT	ne local numeros lt is int	sed for navigation
[ _ ] Current Issued Lease			Meters		Fisheries and Aqua	NSDFA Page 700fs	

Section 1

The Optimum Use of Marine Resources



This development plan is presented for the potential cultivation of American oysters in Livingstone Ponds, in Little Judique, Nova Scotia in the county of Inverness. The proposed areas of cultivation are ideal with the constant strong tide current that runs from St. Georges Bay of the Gulf of St Lawernce, specifically the warm waters of Port Hood Harbour, through the Livingstone Ponds, up to the freshwater river known as Captains River.

I will be proposing two lease areas east of Little Judique Harbour. Lease 1 area, also known as the 'back pond' has ideal depths and flow for off bottom cultivation using floating cages, or possibly floating bag culture. The centre coordinates for the lease 1 area are 45.95884°N, 61.51482°W. The lease 2 area has higher ground and is exposed at low tide and at high tide the area is submerged; about a 3-foot difference, which would make it ideal for bottom cage culture. As accessibility may be a challenge, yet attainable, for the back pond, this lease 2 area will be beneficial to house and harvest the final stage of oysters as the accessibility is greater at large and it will also allow for more production when applicable. The centre coordinates for the lease 2 area are 45.95970°N, 61.52249°W.

The back pond was originally stocked by the local DFO officer and mayor of Port Hood, of Joe Effie Road and men of the Little Judique area carried on a fish business out of Livingstone Pond. During the winter months they fished smelt which they would load into wooden crates lined with eel grass and ship them to Port Hastings via train. In Port Hastings they were loaded into a refrigerated rail car and shipped to Brooklyn, New York where they were sold in the fish market. They would arrive in New York in about 24 to 48 hours. This was done from 1900 to the 1930's. The ponds were used for eel fishing, which has declined since multiple dredging of the harbour, according to locals, trout fishing, and recently stripped bass fishing. The lease 2 area has not been home to the many native oysters until recently, according to a local fisherman. As you will see in the baseline video for the lease 2 area, oysters and oysters' growth is very abundant and the native stock is very healthy. I feel as though this will benefit the farm, as will the farm benefit the native oysters.



Lease 1 area pictured above



Lease area 2 pictured above

Throughout the scoping phase there has been some very beneficial factors recorded for oyster farming. As we all know the waters are warming, but as early as July 2<sup>nd</sup> the temperature gauge deployed in the pond read 19°C. The average throughout the summer of 2022 was about 22°C. The salinity of the ponds range from 22-24ppt. This makes for a beautiful salty oyster.

The proposed plan is to occupy about 13.41 Ha (33.14 acres) between the two lease areas, Lease 1-10.26Ha and Lease 2-3.15Ha. Planned productivity of the farm starting of is to be between 150 000 and 200 000 oysters per year. It is essential to find the optimal growing areas of the ponds, once that is achieved, planned productivity will be 1.5 million oysters per year.

The cultivation of oysters will be beneficial for the surrounding fisheries and the ecology of these two areas.

### Section 2

The Contribution of the Proposed Operation to

Community and Provincial Economic Development

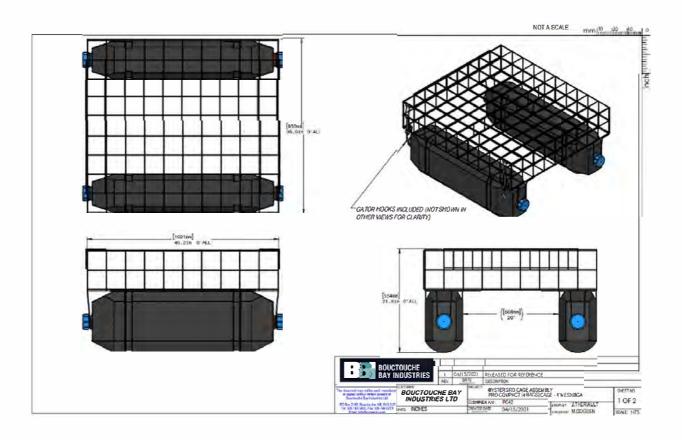
#### **Production Plan**

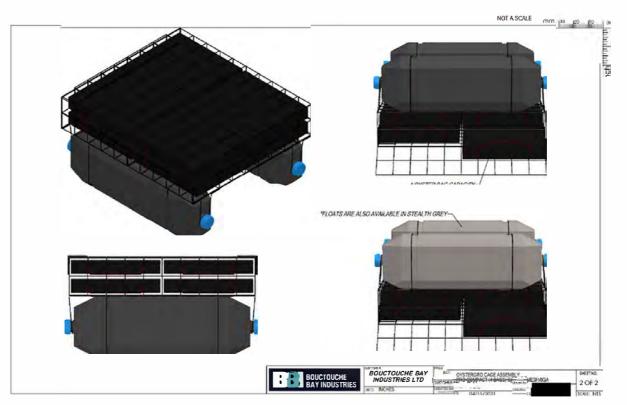
In the Lease 1 area I will be using suspended cage culture to grow Eastern/American Oyster-Crassostrea Virginica. I will be using OysterGro cages and vexar bags. OysterGro has proven themselves to be efficient and effective in the industry over time. After meeting with two of their representatives at Little Judique harbour, it was agreed that the four bag cages would work best for this operation as it will be myself or, myself and family doing the husbandry work for the first year or two.

In the lease 2 area I will be utilizing bottom culture. I plan to put my market oysters on this lease due to its tidal nature, at low tide it provides easy access to product. I will be using OysterGro cages or similar with vexar bags. 6 bag OysterGro outfitted for bottom cage culture will be used in this area.



4 bag OysterGro cage. 36.6in x 40.2in x 21.8in







Example of a 6 bag bottom culture cage that will be used

Maximum number of gear units in the Lease 1 area is 2 226, maximum number of lines would be approximately 50. Maximum number of units in Lease 2 area is 1 785. Maximum number of shellfish introduced would be 250 000. Maximum number of shellfish in Lease 1 area would be 3,784,880. Maximum number of shellfish in lease 2 area is 2,142,288. No planned introduction of oysters in the lease 2 area, this area will hold already growing or market oysters. I plan to hit maximum production 10 years after the first harvest of market sized oysters.

I plan to collect spat in both lease areas. I was granted a section 52 experimental license July 26<sup>th</sup>. The collectors were set July 28<sup>th</sup> but it was too late for collection. Other planned spat source would be from New Brunswick.

#### Infrastructure

Both lease areas share waterways with Little Judique Harbour, which has a wharf, floating docks, and cold storage. I own land less than one kilometre away which will potentially have our own processing facility. I own a boat for access in and out of the areas, a 8x24 dock to be used and two pontoons on which a deck will be built on for husbandry work. The 8x24 dock will be located in the north east corner of the lease 1 pond, this would have a tumbler and sorter table on it.

Required equipment would be tumblers, sorter table, and shaker which will have to be purchased.



Red dot is where 8x24 dock will be located.

#### Services and Suppliers

- -Ceildh Co-op- Local fishing supplies store
- -Port Hood Co-op- Local supplies store
- -North End Building Supplies (Home Hardware)- Local supplies store
- -DF Beaton Service Centre- Local gas station, mechanical work
- -Colindale Marine- Local boat building and repair shop
- -Ed's Hydraulics- Local boat building and repair shop located in Mabou
- -Cape Breton Partnership- Business planning
- -Canadian Tire Port Hawkesbury- Supplies
- -B&N Hydraulics- Hydraulic supplier located in Port Hawkesbury
- -Red Beard Welding- Local welder
- -Albert J MacDonald Construction- Local construction company/dock builders
- -BBI Group- Oyster Farming equipment supplier
- -Mallet oysters- Seed supplier, Shippagan New Brunswick

Immediate and on going local suppliers that will benefit from the farm will be the Ceildh Co-Op, a fisherman supply store in Port Hood. The Port Hood Coop, which supplies drainage pipe for spat collectors and other building materials. Home Hardware Port Hood, for building materials. Local gas stations. Red Beard Welding and Fabracating, specializes in welding aluminum. I would say anywhere from \$2000 to \$10000 would be spent locally, annually.

Businesses such as BBI group who supply the OysterGro gear would be getting my business yearly for the first three years.

# **Employment**

As the lease 1 area will be the primary growing place for the first two years, one part time employee will be needed along with myself. As the lease 2 area is introduced and production numbers ramp up I plan to have 2 full time employees and 2 seasonal employees. Full time would be a manager and a labourer. Part-time would-be labourers.

	Full Time	Seasonal
Year 1	1	1
Year 2	1	1
Year 3	2	2
Year 4	2	2
Year 5	2	2

#### Other Economic contributions to the local community and Province

The most direct economic contribution to the local community would to be the supplier for the many surrounding restaurants and of course our tourism boom from late spring to mid fall. In recent years supporting local, fresh, organic foods has been growing exponentially, and a local product such as the salty oysters in Livingstone Pond would be appreciated by all. Tourists become return tourists in this area with the knowledge they gain of our culture and the beauty of this area; a farm tour, or potentially an oyster bar with the back story of the local oysters would certainly be a story that they would return home with.

The ultimate goal is to not only contribute to the already world-famous Nova Scotia oyster industry, but to put Cape Breton oysters on the map after its tarnished name in media after the MSX dilemma in the Bras D'or lakes.

### Section 2.6

# Financial Viability

There has been no changes financially since the Request for Option to Lease.

# **Adverse Economic Impact**

There does not seem to be any adverse economic impacts in this area with the proponent's aquaculture venture.

The addition of an oyster farm does not seem to be a threat to any surrounding economy. The addition of an oyster farm has been supported by many surrounding industries and individuals. In my opinion, it does not have any adverse economic impact in this area.

# Section 3

Fisheries Activities in the Public Waters Surrounding the Proposed Aquacultural Operation

#### Section 3.1

#### Status of Fisheries Activities

The local fisheries consist of lobster, crab, tuna, herring, mackerel, and halibut. The neighboring wharf to the proponents proposed lease area generally hail in one fishery which is lobster, from the start of May to the end of June. The source of this information is myself, Mitchell MacInnis. I have been involved with local fishing industry since a young age. Halibut may not be fished in the waters near, but they are landed in local harbours when fished of East Point of PEI or north of Bay St. Lawernce when those seasons are open.

There will be no implications with the fisheries listed above. All the fisheries listed above would be fished in the Northumberland Strait. Where the proposed farm will be, is inland, east of Little Judique Harbour, not interfering with any local major fishery. There are recreational stripped bass fisherman who fish within the inlet current waters into the pond but not in the pond as the stripped bass do not seem to go into the pond, only up and down river. The stripped bass stay within the current surrounding the lease 2 area. There are three people in the surrounding areas who harvest wild oysters in the ponds, they have had a licence for several years, I'm not sure of any other name of the licence other than a recreational licence for oysters. Before my public engagement meeting, I met with a local historian, was the source of the information about smelt fishing in lease area 1, which is also in the book, Safe Harbour: A Brief History of Port Hood, Nova Scotia. (owner of the old horse track neighboring Livingstone Pond) of Joe Effie Road and other locals fished for smelt in the winter months in Livingstone Pond. They would load the fish into wooden boxes lined with eel grass and ship them to Port Hastings via train which used to run on the Coastal Ceilidh Trails, right through the proposed lease 1 and lease 2 areas. From Port Hastings the fish were transferred to a refrigerated rail car and shipped to Brooklyn, New York. In the past number of years smelt have not run through this area. Another great piece of information provided was a local man with the name of , who was mayor or Port Hood and local fisheries officer, arranged the seeding of oysters in Livingstone Pond. It is unknown when the seeding of oysters in Livingstone Pond took place, but he lived in the Port Hood area from sometime in the 1880's until his passing in 1921.

#### Section 3.2

#### Impacts on Fisheries Activities

There will be no obvious impact on fishery activities as these areas are greatly under used. There is little to no fishing in the two proposed lease sites. There are a few anglers who fish off the old train trussell in the waterway into the back pond, whom I've asked if they thought there would be an issue and they didn't think there would be. Trout and stripped bass do reside in this area but generally bypass both lease areas and go in land up captain's river.

# Section 4

# Oceanographic and Biophysical Characteristics of the Public Waters

#### Section 4.1

#### Oceanographic Environment

The area where both proposed leases are is called Livingstone Ponds. It is directly east of Little Judique Harbour.

The proposed area is quite sheltered from the South, West, and North, which are generally our most common and strong winds. The rare east wind is what reaches the ponds most directly. Annual Maximum wind speed in Livingstone pond would be 55km/h.

Maximum wave height- .5m

Direction of maximum wave- East

Annual Minimum tide- .20m

Annual Maximum Tide- 1.52m

Current speed range- Unavailable, estimated 2 m/s

Annual minimum salinity- 22ppt

Annual Maximum salinity- 24ppt

Annual Minimum Temperature- - 5 Celsius

Annual Maximum Temperature- 26 Celsius

Depth of water at each corner- Lease 1 .75m to 1.3m

Lease 2 0m to 1.3m

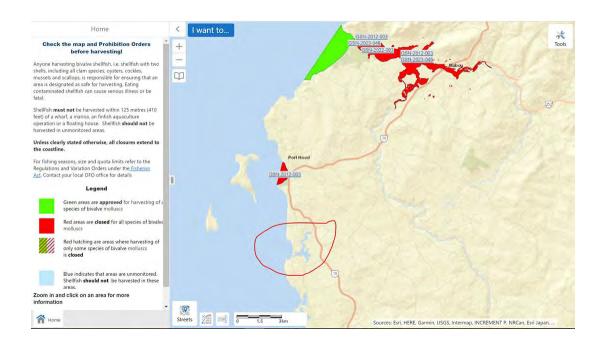
Biotoxin Information- Fecal Coliform- 7mpn/100ml

#### Current Location Classification- Not Approved

This is information gathered from myself, Mitchell MacInnis, throughout my scoping activities. I contacted CFIA and they notified me that there is no biotoxin information for the area. Email shown below.

#### Hi Mitchell,

CFIA does not have any biotoxin historical data for this body of water in Little Judique Harbour. This body of water is currently unclassified.



Let me know if you have any questions,

Joe Boutilier

Inspection Advisor - Shellfish, Nova Scotia
Canadian Food Inspection Agency / Government of Canada
Joe.Boutilier@inspection.gc.ca / Tel: (902) 403-4386

Conseiller en inspection- Mollusques et crustacés, Nouvelle-Écosse Agence canadienne d'inspection des aliments / Gouvernement du Canada Joe.Boutilier@inspection.gc.ca / Tél. : (902) 403-4386

From: mitchell macinnis <mitchellmac\_innis@hotmail.com>

**Sent:** 2023-03-16 12:06 PM

To: Boutilier, Joe (CFIA/ACIA) < Joe.Boutilier@inspection.gc.ca>

Subject: RE: Biotoxin

#### EXTERNAL EMAIL - USE CAUTION / COURRIEL EXTERNE - FAITES PREUVE DE PRUDENCE

Hi Joe,

The area where the NSDFA issued my option to lease (AQ 4033) is shown below in the highlighted east of Little Judique Harbour.

ì



Site Location: OYSTER WATER TESTING
Your C.O.C. #: D58802

Attention: Mitch Macinnis

Mitch MacInnis 348 Main St Port Hood, NS Canada B0E2W0

> Report Date: 2021/07/30 Report #: R6744045 Version: 1 - Final

#### **CERTIFICATE OF ANALYSIS**

BV LABS JOB #: C1K9607 Received: 2021/07/27, 11:20 Sample Matrix: Water

	Date	Date	
Analyses	Quantity Extracted	Analyzed Laboratory Method	Analytical Method
Fecal Coliforms - A-1 Method in water	1 N/A	2021/07/28 SYD SOP 00189	SM 22 9221E
Salinity by Refractive Index	1 N/A	2021/07/29 ATL WI-00038	Fisher HHSR Manual

#### Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* PDDs calculated using raw data. The rounding of final results may result in the apparent difference

Encryption Key

Please direct all questions regarding this certificate or Analysis to your Project Manager.

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total Cover Pages : 1 Page 1 of 6

Bureau Veritas Laboratories 465 George St., Unit G, Sydney, NS. B1P 145 Tel:902 567 1255 Toll Free: 888 535 7770 Fax: 902 539 6504 www.bvlabs.com



Site Location: OYSTER WATER TESTING

#### **RESULTS OF ANALYSES OF WATER**

BV Labs ID		QFA925		
Sampling Date		2021/07/27 08:00		
COC Number		D58802		
	UNITS	OYSTER WATER TESTING	RDL	QC Batch
Microbiological				
Salinity (as NaCl)	ppt	26	1.0	7491011
RDL = Reportable Detec QC Batch = Quality Con				



Site Location: OYSTER WATER TESTING

#### MICROBIOLOGY (WATER)

BV Labs ID		QFA925		
Sampling Date		2021/07/27 08:00		
COC Number		D58802		
	UNITS	OYSTER WATER TESTING	RDL	QC Batch
Microbiological				
Fecal coliform	MPN/100mL	7.0	2.0	7491002
RDL = Reportable Dete QC Batch = Quality Co				



Site Location: OYSTER WATER TESTING

#### **GENERAL COMMENTS**

ckage 1	15.0°C	
ge 1	15.0 C	



Site Location: OYSTER WATER TESTING

#### **QUALITY ASSURANCE REPORT**

Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
SDY	Method Blank	Fecal coliform	2021/07/28	ND, RDL=2.0		MPN/100m	L
		A. C.	, II	, H	SDY Method Blank Fecal coliform 2021/07/28 ND,	SDY Method Blank Fecal coliform 2021/07/28 ND,	SDY Method Blank Fecal coliform 2021/07/28 ND, MPN/100m



Mitch MacInnis

Site Location: OYSTER WATER TESTING

#### **VALIDATION SIGNATURE PAGE**

The analytical data and all QC contained in this report were reviewed and validated by:



BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 465 George St., Unit: G, Sydney, NS, B1P 1K5 Tel:902 567 1255 Toll Free: 888 535 7770 Fax: 902 539 6504 www.bvlabs.com

	Invoice Information			Ripo	rt Irfo	emiate	in lit c	iffers	from In	volce)		- 1		Pi	oject	Inform	ratio	n (wh	nere a	ppli	cable				Tur	naround Time (TAT) Required
DEPART	ny Name:		Compan	Name									Quota	tion #:						Ξ	3	Ξ		Г		Regular TAT (5 business days) Mi
Each I	Name: MIFEH WAS INA	iis	Contact	Name									Purch	sse Ord	lerit.									PLEAS		INDEADVANCE NOTICE FOR BUSH FIR
inis	Name: MITCH MACINA 348 MAIN ST NS BOEZWO 902 623 2925	PORTI	C Distress										Projec							_				le su		ase specify date (Surcharges will be
	NS BOEZWO	N	- 1		_	_		_		PC:			Steto	cation									-			
ne:	mitchellmac_inn=x	of tour	Phone	_	_	_	_	_	_	_			Site Pro				_	_		_	_	_	- 1	DAI	ERE	QUIRED:
	MICChellmac Inn X	encoment	COMpan Report C	-		_		_	_		_		Stell:		-	_	_	_	_	_	_	_	-			
Dit/C	Laboratory Use C	redy	negons	MDR1	T		_		_	_	_	-	Sampli	ed 84:	_	Ans	vals 0	legue	ated	_	_	_	_	_	_	
0	MINDRY SKAL COOLER TEMPRESTURES	1 2		net.			T		1	Metals	T	Met						1	Т	7	Г		T		T	Degulatory Consideration (Co
T Winds		(0	OCER TEMPCIAN	MES				1000	-	(Water)	-	Min	an_		7					senc	ı	X				
	1 15,15,15					Ш			3	Ш	8	7	9		X, 5234			Ĭ	1	0/A3	1	17.				
	1 1					Ш	1	2 3			2500	9.54	10.00	H.	(1/m);			1 3		Seno	(Fig.	8				
-,					2	ġ.	. 3		9	100	200	to last	Nava.	23 '11	1910	9	2	8		(Pro	00	3	3			
	COOLING MEDIA PRESE	U 1-7 M	September 1	-	9	600	mici	3	Neg I	N Post	8	240	union (critical	1 1	(543	7/100	18	4		E.col	3	18	1	10	AMMYER	
SAN	MPLE) MUST BE KEPT COOL! < 10 TC ) FROM TIME O	SAMPLING UNTIL	DELIVERY TO B	/LABS	i	0.00	N III	188	Selfan 3	100	200	draws	Uple 2	1	ebda	9	W.	Dre: 0	13	E	Ser.	1	Š			
Т	No beautiful accounts	DATE SHAPPER	TIME SUMPLIES		16	CTER	nctration	Que s	Folsi Digest (Default Met	4610	8	10	d fur	*	Menca	Mas (Default for	AND ITWALL COM SAG	Select One: Beltsuit or COM		Cofform(E.coll (Presence/Absen	Total Colform/E Coli (Count)	3	10		104 00	<b>COMMENTS</b>
	SAMPLEIDENTIFICATION	(VYYY/MIA/DD)	(HHMMI)	MATTER	ea De	HID FILT	AN PR	5 3	D late	desid	Arrico	Sept.	Water Water	SECA	CHE HIG	3,848	A I	8	8	Total	ceal	1	IA	1	90.0	
		· anlen	8:00		-			1	1			20	1.5	- a	0	-	-	-	ř	-	+	V	V	_	1	
	CUSTER WINTER TESTIN	6 2/10/					-			-		_						1			1	F	F			
_	CUSTER WATER TESTIA	4 21101	8.00				2		1	1-1	- 1			$\overline{}$	-	-	1	-	1		i-	+	+	1	+	1
	CYSTER WATER TESTIN	2/10/	8.00				+	+	+	H	+				7											
	CYSTER WATER TESTIN	2/10/	8.00					+	+	H											t		-		+	
	CYSTER WATER TESTIN	4 21/01	8.00																							
	CYSTER WATER TESTIN	2//01	8.00																							
2 3 4 5 6 7	CYSTER WATER TESTIN	2//01	8.00																							
5	CYSTER WATER TESTIN	2//01	8.00																							
	CYSTER WATER TESTIN	2//01	8.00																							
		2//01	8.00																							
	CYSTER WATER TESTIN		S. CO	TIME:	(DOLM	IM)		REC	EME	DY (Sign	Mare	/Print)		b	ATE: 0		HIM/	1		TIN	asé ; (tr	I M	I I			BY LARS JOR II

While: Bureau Verilas

Pink: Client

Both lease areas are currently unclassified. I presented my proposal to the NSSWG in November of 2021. I have yet to hear anything back or have not received any information that I can add into this development plan since my original proposal to the NSSWG. With the sample I have taken and the results I have received I am confident the area is safe and should be approved whenever that time may come.

#### Section 4.2

#### **Baseline Environmental Monitoring**

The proponent carried out the baseline environmental monitoring early September. Underwater camera footage at the Lease 1 area, and video was taped at low tide at the Lease 2 area, both are attached with this file. After having difficulty keeping the underwater camera submerged the entire video going to each waypoint, it was suggested that a continues video be shot, stopping at each waypoint, recording for 2 minutes, lifting the camera up and proceeding to the next waypoint.

Footage from Lease 1 area showed all mud bottom, with sign of crab and sea plants. Three transect lines with 5 points per line were suggested along with the four corner markers for the lease.

Footage from the Lease 2 area also showed all mud bottom. A lot of native oysters in this area. 3 transect lines were provided with four waypoints per transect line and the four corner markers of the lease. 3 of the starting suggested waypoints had to be moved (1A start, 2A start, 3A start) as they were outside of the proposed lease area.

Lease 1 waypoint to record below.

Corner Station	Latitude	Longitude				
1	45.95702	-61.51498				
2	45.9603	-61.51734				
3	45.95722	-61.51359				
4	45.96067	-61.5147				

Transect Station	Latitude	Longitude
1A (Start)	45.96061	-61.515417
1B	45.95986	-61.515084
1C	45.95902	-61.514709
1D	45.95808	-61.514258
1E	45.95722	-61.513888
2A (Start)	45.96052	-61.516044
2B	45.95978	-61.515637
2C	45.95891	-61.515159
2D	45.95798	-61.514666
2E	45.95717	-61.514247
3A (Start)	45.96045	-61.516661
3B	45.95968	-61.516178
3C	45.95881	-61.515637
3D	45.95791	-61.515079
3E	45.95713	-61.514596

Lease 2 waypoint to record below, 1A (start) was changed from 45.9596/-61.5245 to 45.9598/-61.5234. 2A start was changed from 45.9593/-615244 to 45.9593/-61.5237. 3A start was changed from 45.9589/-61.5244 to 45.9589/61.5238.

1	45.96013	-61.52163
2	45.95861	-61.52053
3	45.96008	-61.52336
4	45.95879	-61.52375

Transect Station	Latitude	Longitude
1A (Start)	45.959606	-61.524543
1B	45.95987	-61.522853
1C	45.959896	-61.522102
1D	45.959914	-61.521453
2A (Start)	45.959314	-61.524476
2B	45.959549	-61.522902
2C	45.959564	-61.522054
2D	45.959586	-61.521217
3A (Start)	45.958996	-61.524404

3B	45.959187	-61.522902
3C	45.959228	-61.521963
3D	45.959269	-61.520981

I also had a friend take drone footage of the ponds which will also be attached within the jump drive. The link to this video is <a href="https://www.youtube.com/watch?v=GdsiiZc5OT8">https://www.youtube.com/watch?v=GdsiiZc5OT8</a>.

#### Section 4.3

#### Site Design

The site design for the Lease 1 area will be going NW to SE. There will be 25 four bag cages per line. Each line will be 40m long. Each line will be 12m apart to have ample room to tend to each line. Approximately 150 cages will be needed to grow out the first 2 years of the proposed starting number of oysters, which is 200 000.

The site design for the Lease two area will be going NE to SW. The cages will be on bottom cages that will work with the tide. There will be 5 feet between cages. Approximately 155 six bag cages will be needed to house 200 000 third year oysters.

Lease 1 area will have two 40-meter lines per string starting off, with 12 meters in between each string. Each line is capable 25, four bag cages. Starting off with a project 200 000 oyster per year plan, approximately 50 cages will be needed for the first year oysters, and approximately 100 will be needed for the second year oysters.

Lease 2 area which will be the bottom culture area that will house the final stages for the harvestable oysters. Approximately 7200m2 which will be more than enough area for the approximate 160 bottom cages that will be needed.

In the winter months site #1, AQ1461, cages will be sunk to the bottom to be protected from the ice cover. In site #2, bottom cages or similar equipment will be removed from the area and put on land for the winter months. Market oysters that are not sold will be sunk in the back pond (site 1) with the floating cages. I will be using screw anchors. 50 lines, 2 anchors person line, 100 anchors max.

# Section 5

The Other Users of the Public Waters Surrounding
The Proposed Aquacultural Operation

#### Description of other users

The two proposed lease area has very little traffic. Through the deep channel that is the access to the Lease 1 area, kayaks are seen rarely. In the winter months when the pond is frozen there are some recreational ice fishing. In the summer months there are a few residents who possess a recreational oysters license, and there is also some trout and stripped bass recreational fishing.

There are 9 houses surrounding the ponds. I visited and spoke to each household and provided an information package for them to read over. All very good feedback. Sunset Sands RV park is located in Port Hood, which is about 7km away from the proposed site area. A small cattle farm is located south east of the pond about .5km. Directly east of the lease 1 area the resident grows cabbage and other vegetables in his field. Little Judique Harbour is a private harbour which is the docking area for 12 lobster fishing boats which is west of the lease areas, the inlet for the ocean water into the ponds.

Other proposed projects in the area is a 18 hole golf course which is about 3 km south of the ponds along Shore Road.

#### Significance of Proposed Area to Wildlife

During the proponents scoping phase a number of birds were noticed surrounding the two proposed lease areas. The areas tend to herons, seagulls, duck, geese, sandpipers, and one mighty eagle who keeps his eye on the whole area. There has been deer spotted along the shores as well.

This area is not an important migratory area for any birds. Throughout my scoping phase I've asked this question to many surrounding locals and community member who may poses this knowledge. The consensus was that it did not seem to be a migratory area for birds. There was no information online protecting this area for migratory birds.

# Impacts to Other Users Including Wildlife

There are 6 houses surrounding the pond that would have direct view of the operation, 9 houses all together in the general area. In early June the proponent wrote up a letter a visited each house to explain oyster farming and his plan. The letter will be attached at the end of the development plan. All great feedback and endless support. Some concerns the arose was the look of the cages, which I assured wouldn't be as visible from a distance as expected. Another concern was a neighboring resident to the pond having access for kayaking, which I assured there will be a navigation route to get through the farming site.

Impacts on wildlife with be minimal or none. I believe the filtration of the oysters will only benefit the surrounding wildlife.

# Impacts by Other Users Including Wildlife

Impacts by others would be minimal to the proposed lease sites, but of course there is always the risk of oil spill from the neighboring harbour from the boats that dock there. Oil spill equipment will be present on site. Another impact to the operation is theft of the oysters in the cages, in which case security would have to be implemented.

Impacts by wildlife would be birds resting on cages and fouling on them, also green crab are present in the area and would have to be monitored.

# Section 6

The Public Right of Navigation

#### Section 6.1

#### Navigation Protection Act (NPA) Approval

Contact was made and proper forms were filled out. I was notified,

"I will reach out to the NSDAF, as I see they remain on the option to lease/Proponent Scoping Phase.

On our side we need the lease information and the Indigenous relations/consultation to be completed."

As the area has little to no traffic, I believe basic markers along with specific corner markers would be needed.

# Section 6.2

Site Marking

# Section 7

The Sustainability of Wild Salmon

#### Section 7.1

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

There are no salmon run river in the proposed area. The proponent contacted the local Inverness South Anglers Association that said they have never seen or heard of salmon in the proposed lease area, just trout and stripped bass. The closest salmon population is in the Southwest Mabou River and Mull River, but both drain from the Mabou Harbour Watershed, which is approximately 20km away.

## Section 7.2

# Support of the Sustainability of Wild Salmon

As there is no known salmon activity in the immediate area, the oyster farm would not have any impact on the sustainability of wild salmon. Although if there was salmon running through in the future, proper steps would be taken to help with the sustainability of the wild salmon.

## Section 8

The Number and Productivity of
Other Aquaculture in the
Public Waters Surrounding the Proposed
Aquaculture Location

## Section 8.1

## **Identification of Other Aquaculture Sites**

There are currently 10 issued commercial aquacultural sites on the west side of Cape Breton. There are 9 sites north of the proposed site the proponent is applying for in Mabou Harbour, about 20 kms, which all farm oysters. There is one site south of the proposed site in Long Pond which farms scallops, about 30km south.

# Section 8.2 Interactions with Other Aquaculture Operations

Oyster farming is a very small tight knit community. The proponent has had multiple interactions with neighboring farmers. Gypsum Mines oysters owner and the proponent has formed a close relationship, acting as somewhat of a mentor to the proponent. The proponent has been helping with his operation as much as possible, has learned a lot and is grateful to have an experienced farmer in his corner.

# **Public Engagement Meeting**

In late April, I visited the surrounding homes in Little Judique to explain what my plan was in the ponds and to give information on oysters farming. I was able to visit each home and speak to every resident within two days. All very good feedback, the locals were very supportive.

who lives along the pond offered for me to use his dock if needed. Some questions that arose from these visits were, the undesirable look of the cages and a pathway through the farm for a family and their kayaks. I assured the look of the cages do tend to blend in with the surrounding water, but I couldn't promise they wouldn't be noticeable. For the family who requested a way through the farm for their kayaks I suggested we work together to make sure we are both pleased, and they have access through the farm. Letter I gave the surrounding residents is below,

Dear resident of Little Judique,

April 10<sup>th</sup> 2022

My name is Mitchell MacInnis. I have been a resident of Port Hood my whole life with extended trips to Alberta for work. I moved home and worked on the boats for a number of years before getting a job at Port Hawkesbury Paper in 2015. My plan was always to build a life at home, which I am grateful I have done with my wife and children and I always wanted to be on the water in some sense, which brought me to where I am today.

My plan is to grow oysters in Livingstone Pond. My interest sparked when I was visiting family in PEI a few years ago and noticed all the oyster farms in the little bays and inlets. I thought, what a great idea it would to try to do this at home. I remembered my father telling me him and his father used to pick oysters in Livingstone Pond and thought I would check it out for myself. With an existing healthy number of oysters presently in the pond I decided I would go forward with an application for a lease and license for that area. The journey started last summer with some water testing that came back favourable for oyster farming. The first step is acquiring an option to lease, in order to do so, I had to create a proposal that included my plan for the area, information about the surrounding area, and how the ecology could benefit from it. I was approved an option to lease by the minister of fisheries which secures that area so I can do further testing and reach out to surrounding locals who may have questions or concerns, which is called the 'scoping phase'.

Oyster farming has been going on in Nova Scotia for a number of years, more famously in PEI of course. Oysters are apart of the bi-valve family and are known to be incredible filter feeders meaning they draw water in from their surroundings to feed on nutrients, plankton, and other microorganisms and they can filter up to 50 gallons of seawater a day. An oysters shell is about 12% carbon, as they grow they use dissolved carbon in the water and calcium to create calcium carbonate which they use to form their shell, which plays an important role of removing carbon dioxide from the environment through carbon sequestering. Oysters have been used as little armies to clean up harbours, such as New York harbour. The Billion Oyster Project is a New York City-based nonprofit organization with the goal of restoring one billion live oysters to New York Harbor by 2035 through education initiatives. Because oysters are filter feeders, they serve as a natural water filter, with a number of beneficial effects for the ecosystem. The reefs they form increase habitat and subsequent marine biodiversity levels, and help protect the city's shorelines from storm surges.

The technique I plan on using is called 'off bottom culture' farming or suspended cultivation. What this means is, the oysters would be grown over time in bags which would be inside a cage with floats attached to it and would be submerged under the surface of the water. Each cage holds 6 bags. The pictures below are examples of what I plan to use. Every so often the cages must be flipped for 'defouling', which allows the cage and bags to be exposed to the sun to get rid of the unwanted material that gathers on it over time, underwater, such as algae. The cages would have to attended to a few times a week for sorting of the oysters and checking on their health. Bigger oysters would be moved to separate bags and smaller ones would remain.



Vex Bags where the oysters would grow.



Oyster cage where the Vex bags would be inserted

So, from here the next steps would be to do a number of water tests over the next two years to see if it would be safe to grow oysters in Livingstone Pond. Also, a development plan for the department and a public meeting to get feedback from the community is required which I plan on holding In May. I want to be open with the community and any feedback would be greatly appreciated, you can contact me at any time and I will try my best to answer any questions. I've included a form, if you'd wish to fill that out rather than email; my address is also included below.

Thank you,
Mitchell MacInnis
(902)623-2925
Mitchellmac innis@hotmail.com

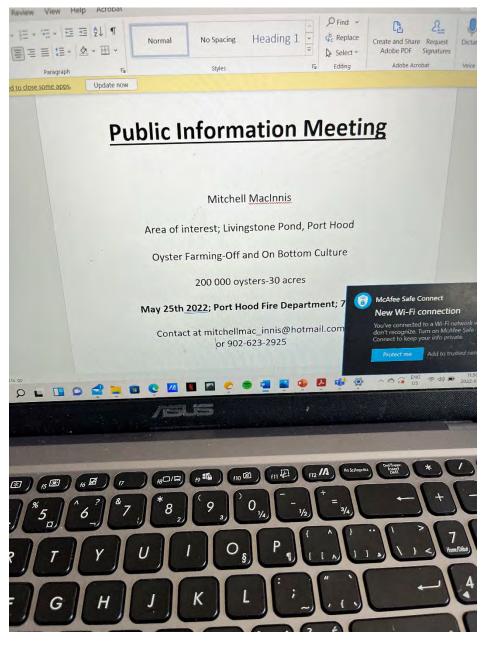
PO Box 240

Port Hood, Nova Scotia

B0E2W0

I posted an advertisement in the local newspaper which covers Inverness county called The Oran on Wednesday May 18<sup>th</sup> 2022, notifying the public of my community engagement meeting which took place at the Port Hood Firehall on Wednesday May 25th 2022 at 6pm. We had about 35 people in attendance, I presented a PowerPoint of the proposed plan and information on oyster farming. Very good feedback from this meeting. There were concerned recreational oyster pickers (licensed), concerns about the native oysters, questions about employment, questions on how the farm works, and one resident who refuted the idea of there being enough water in that area. I answered every question that night with the help of , or the following days when I had the correct answer. The only and negative feedback would be of the local who said there was no water in the area, which there is, as I have been accessing the two lease areas if not daily, weekly over the scoping phase. was great to help answer more regulation questions and stayed afterward to answer questions with myself. put on a great presentation about his new BOBR system and fielded some tough questions for me as well, very much appreciated them attending. A lot of support from local fisherman as well which was great to hear.

Below is the advertisement that was in the local newspaper The Oran and the advertisements I posted at local businesses. I posted them at the Mabou Freshmart, Port Hood Coop, Port Hood Ceildh Coop, Murphys Pond (Port Hood), Seaside Fuels and Convenience (Port Hood), Sandiannes Bakery (Shore Rd.), Little Judique Harbour, and Waynes Variety (Judique). I also notified the public via Social Media, through Facebook and Instagram. Very good feedback and wide spread notification through this technique. A teacher from the local high school Dalbrae Academy asked me to come in and do a presentation to the students, something I would like to do annually.



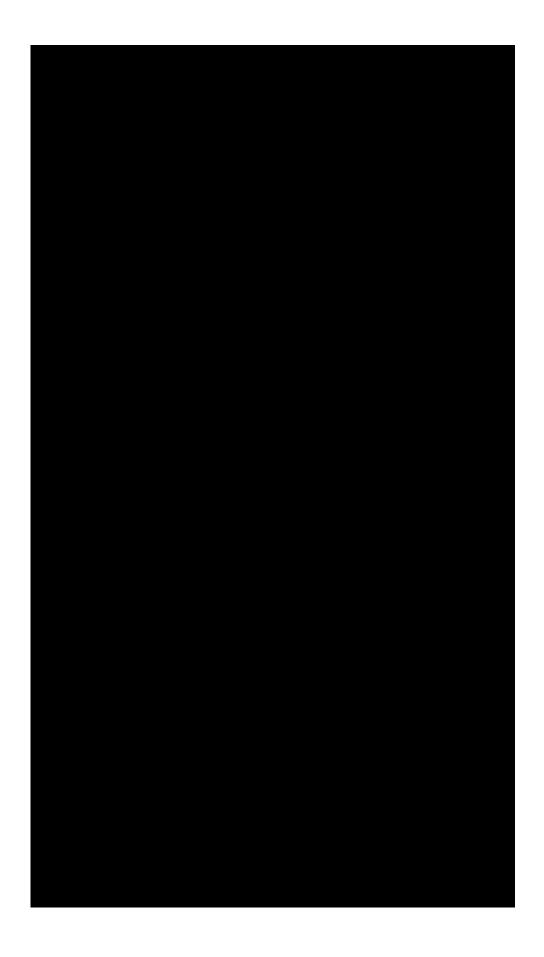
Information poster that were posted at local businesses (above)



Information poster at local business



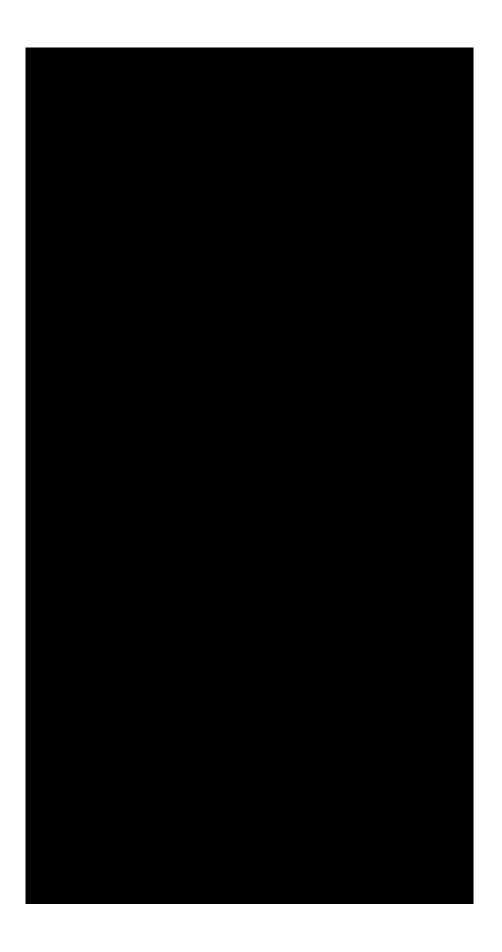
Advertisement in local newspaper The Oran, May 18th 2022







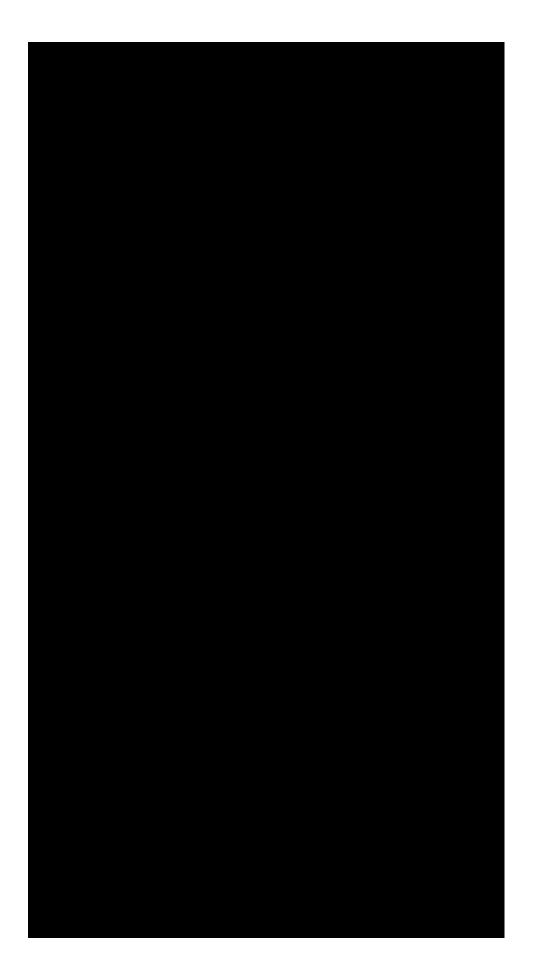








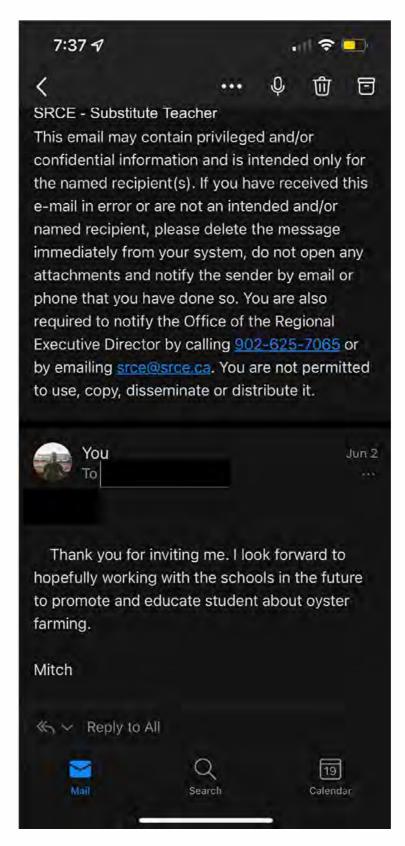




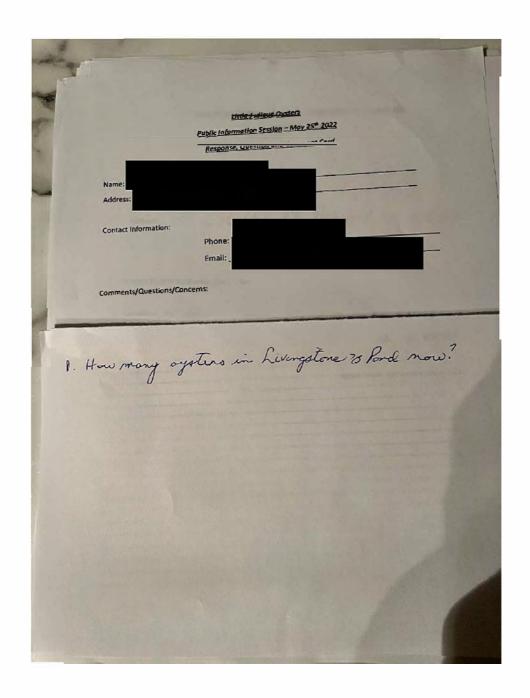


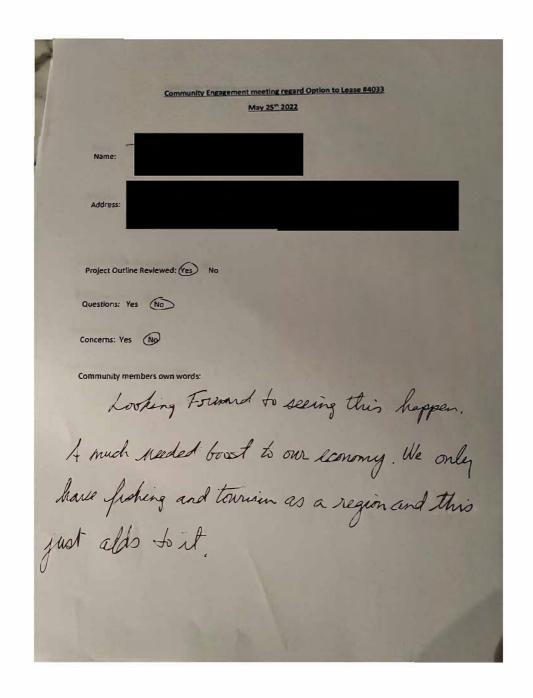


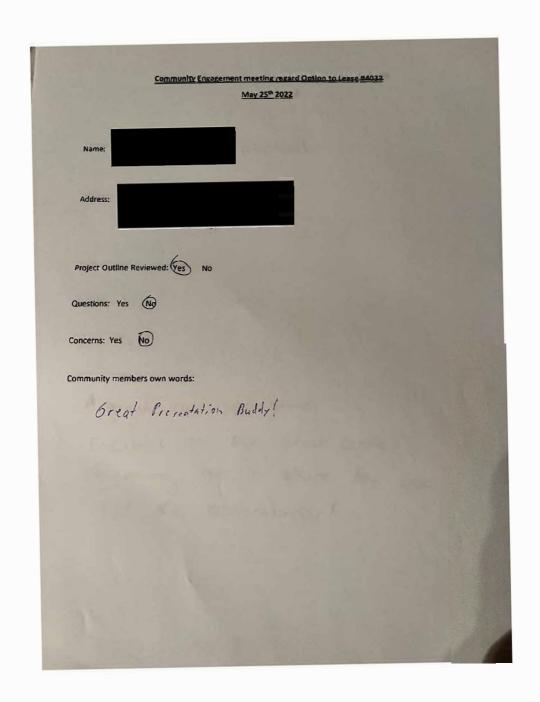


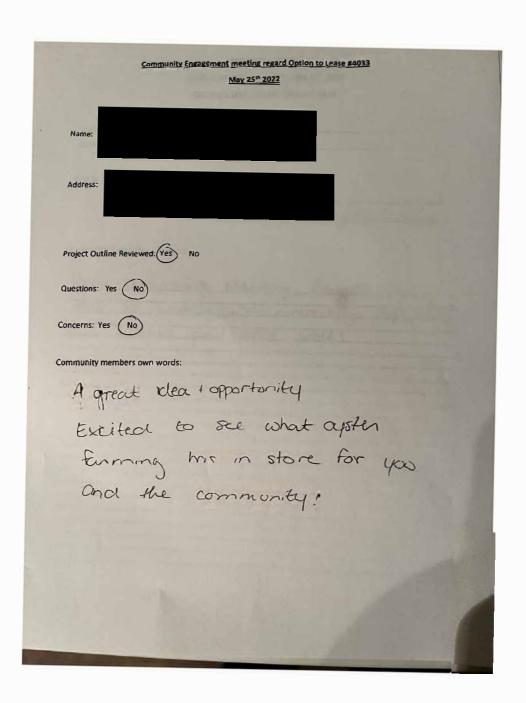


Email from teacher at the local high school



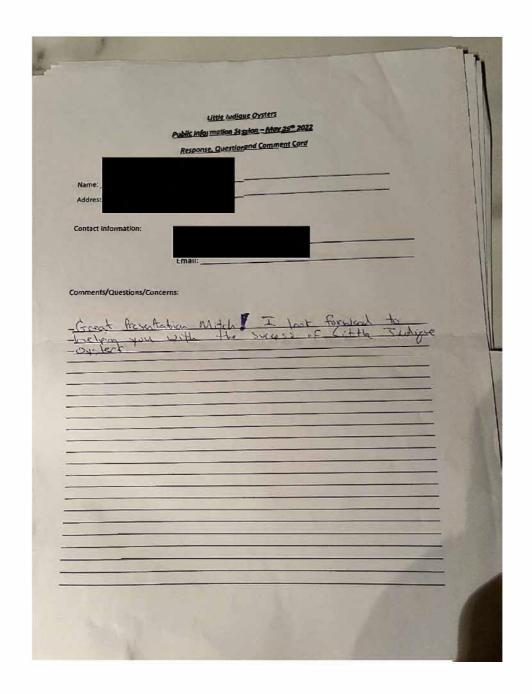


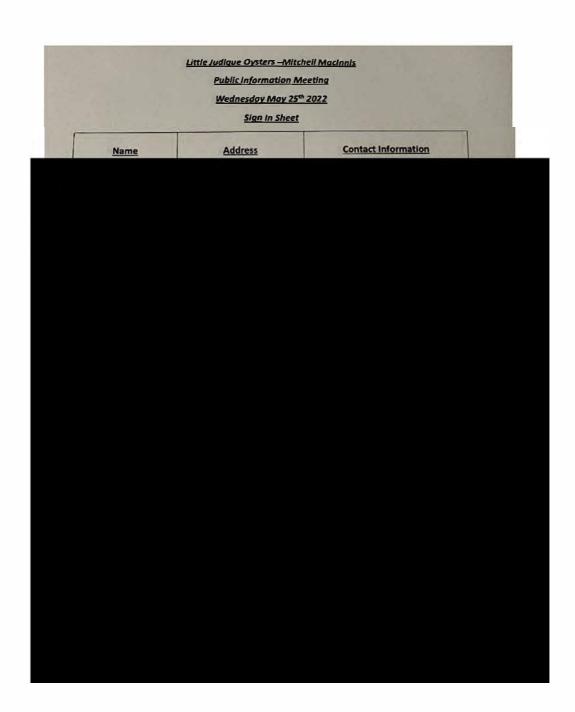


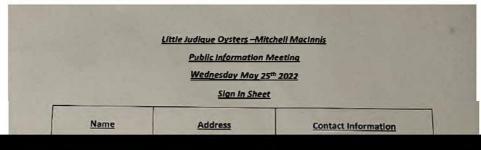


	Uttle Isidique Oysters
	Public Information Suspices - May 25th 2022
1	Response, Question and Comment Care
Name:	
Addre s	
0.00	
Contact Information:	The state of the s
	Phone:
	Email:
Comments/Questions/C	Concerns:
.1	
10/4 -11	-condito produce Sinds The
- Very Trock	orrance preening, sounds like
with be	working with community. Hope the
april be	working with community. Hope Phisah and works well
goes through	working with community. Hope the
goes through	working with community. Hope the
goes through	working with community. Hope thingh and works well I
goes through	working with community. Hope the
goes through	working with community. Hope Phigh and works well I
goes through	working with community. Hope the
goes through	working with community. Hope Phigh and works well !
goes through	working with community. Hope Phingh and works well I
goes through	working with community. Hope the
goes through	working with community. Hope Phingh and works well I
goes through	working with community. Hope the

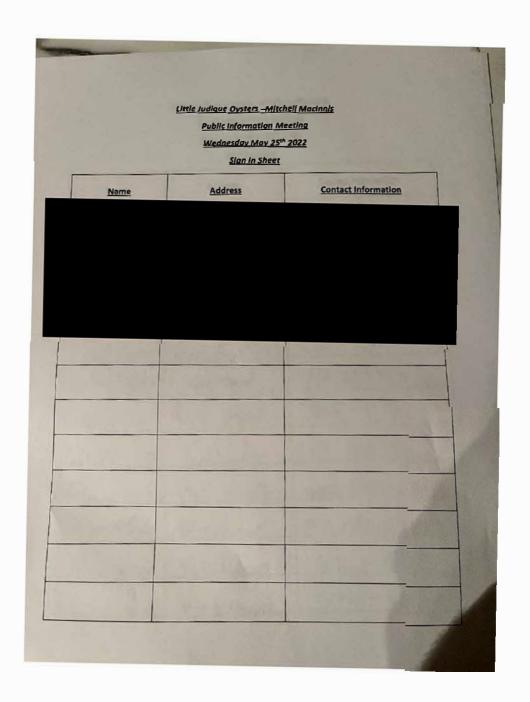
Community En gogerment meeting regard Option to Lease #4033  May 25th 2022
THEY SO LAND
Name:
Address:
The state of the s
Project Outline Reviewed: Ves No
Questions: Yes No
Questions, 169
Concerns: Yes No
Community members own words:
Great offertunity for our communities,
need to support the noxt generation
OF enter Prenures from moving away to
Start businesses.











I did not make contact with Mi'kmaq of Nova Scotia. I will gladly do so if needed.