

Public Notice – Administrative Application Posted

These documents have been submitted with respect to an administrative aquaculture licence / lease application. The information in these documents is provided as part of the routine disclosure of information by the Department of Fisheries and Aquaculture (the “Department”). 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.

Applicant: Bear River First Nation	Type of Application: Amendment – Gear Configuration
Application File Number: AQ#5006	Species: American oyster
Location: Annapolis Basin, Annapolis County	Method of Cultivation: Suspended
Application Received On: June 14, 2024	

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

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Aquaculture Amendment Application

Licence/Lease No: 5006

Applicant Information:

Applicant: Bear River First Nation Contact Person: Carol Ann Potter

Nova Scotia Registry of Joint Stocks Number: _____

Revenue Canada Business Number: Redacted by NSDFA

Telephone No. (Work): 902-467-3802 (Home): _____ (Cell): Redacted by NSDFA

Fax No.: _____ E-mail: carolannpotter@bearriverfirstnation.ca

Mailing Address: PO Box 210, Bear River N.S

Postal Code: B0S1B0

Civic Address: 48 Reservation Rd

Bear River First Nation Postal Code: B0S 1B0

Amendment Request:

The amendment is requested for: (Check all appropriate boxes)

- Land-based Marine
- Marine Plants Finfish Shellfish Other species
- Change or addition of species
- Change of culture method
- Change of site boundaries (for marine applications)
- Other change

Submit completed applications to:

Nova Scotia Department of Fisheries and Aquaculture, Aquaculture Division
1575 Lake Road, Shelburne, NS B0T 1W0
E-mail: aquaculture@novascotia.ca



Provide explanation of change requested. Add additional pages, as required.

Application Materials

A complete application includes the following:

- Amendment 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 adjudicative amendment 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)

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.

Submit completed applications

Nova Scotia Department of Fisheries and Aquaculture, Aquaculture Division
1575 Lake Road, Shelburne, NS B0T 1W0
E-mail: aquaculture@novascotia.ca



Office Use Only

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.

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

Redacted by NSDFA

Date

June 14th 2024

Signature of Nova Scotia Department of Fisheries and Aquaculture Designate

Date

Submit completed applications to:

Nova Scotia Department of Fisheries and Aquaculture, Aquaculture Division
1575 Lake Road, Shelburne, NS B0T 1W0
E-mail: aquaculture@novascotia.ca

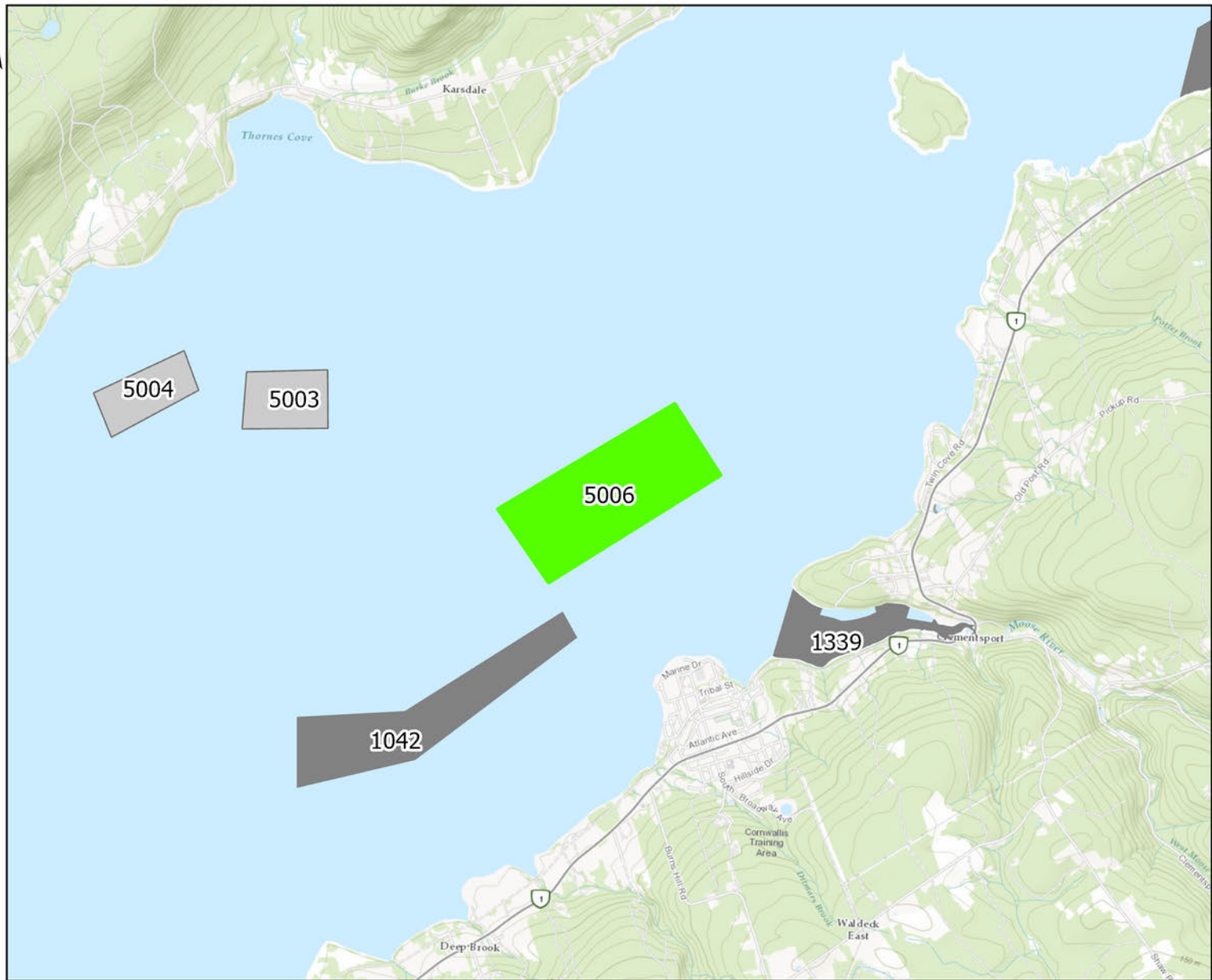
SCHEDULE A



Aquaculture Site 5006

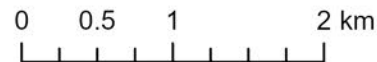
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2	44° 40' 37.656"	-65° 38' 9.923"
3	44° 40' 18.956"	-65° 37' 51.850"
4	44° 39' 48.673"	-65° 38' 55.217"
Centre	44° 40' 12.617"	-65° 38' 32.046"

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



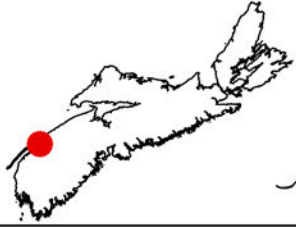
License/Lease Holder	County	Waterbody	Hectares	Species Type	Culture Type	Chart
Bear River First Nation	Annapolis	Annapolis Basin	121.7	Shellfish	Suspended Culture	4396

Proposed Amendment
 Issued Experimental
 Other Issued Lease



Disclaimer
This map should not be used for navigation. It is provided for general reference use only.
NSDFA Page 4 of 9
Date: 2024-06-27 Created By: MK

SCHEDULE A

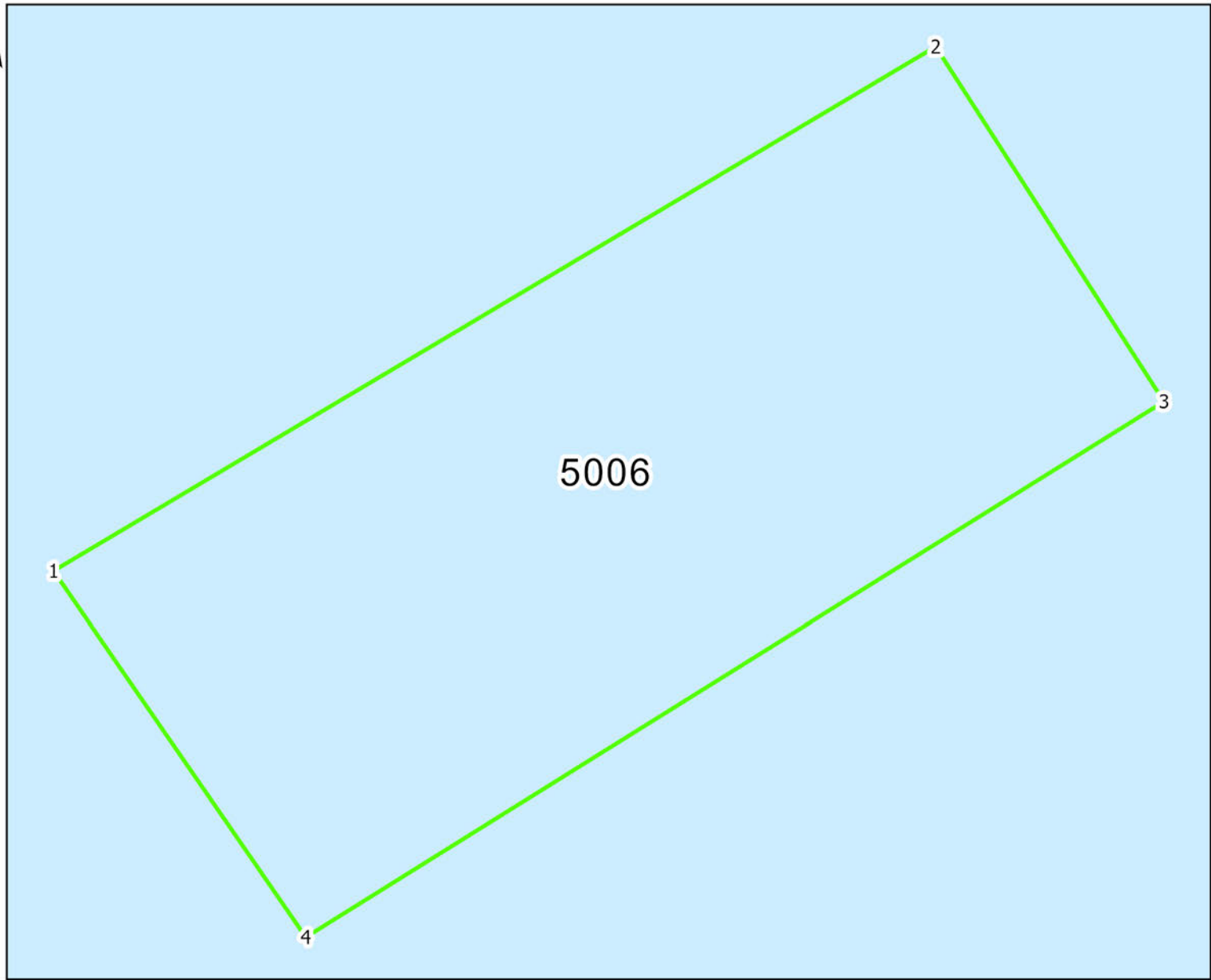


Aquaculture Site


5006

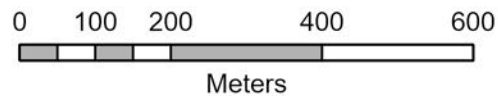
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 Proposed Amendment



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Date: 2024-06-27
Created By: MK

Experimental Plan – FLUPSY Trials – AQ5006

Bear River First Nation

Request

Bear River First Nation (BRFN) is requesting an amendment to AQ5006 to allow a FLUPSY and solar panel system to be placed on the lease for the purpose of gathering growth and survival information for hatchery seed and developing a renewable technology to operate the FLUPSY without need for diesel fuel.

Project Summary

BRFN will assess the application of a FLUPSY (Floating Upweller System) for rearing oyster seed in the high energy environment of the Annapolis Basin. This will determine how to integrate hatchery-reared seed into its suspended oyster aquaculture development plan.

Objectives

The objective is to determine whether or not hatchery-reared oyster seed can be integrated into BRFN's marine oyster aquaculture operation. Oyster seed, purchased from a hatchery, will be reared in a FLUPSY in order to determine survival and growth at BRFN's location.

The conditions in the Annapolis Basin are very different from the typical sheltered waters where oyster aquaculture occurs. The Basin experiences 7m tidal fluctuations, high currents (1.5 – 2knots) and significant exposure to winds and waves.

This leads to uncertainty regarding how well small hatchery seed (2 – 5mm) would handle such high energy conditions. Furthermore, the FLUPSY that will be used in this trial is designed to operate in similarly sheltered waters. As such, it is unknown how well this infrastructure will hold up to this high energy environment.

Furthermore, site 5006 and the proposed option to lease site are located far from any power supply. Typically, remote operations would use a diesel generator to provide power in these circumstances. However, for this application BRFN wants to develop and trial a solar panel system with battery storage to operate the system. This project will involve NSCC who will develop the design. The system will be built locally and tested at the site.

Description of activities

Task 1: Installation

- DSA completes a mooring design to securely hold a FLUPSY system in place at AQ 5006.
- Mike Huntley installs moorings, decking and FLUPSY.
- Solar power generation for FLUPSY is designed and installed.
- FLUPSY is commissioned.

Task 2: FLUPSY trial.

- Receive seed and assess viability and size.
- Stock FLUPSY (2 densities, 4 replicates/density).
- 3X per week, monitor temperature, oxygen, salinity, water flow in boxes. Perform other general husbandry (eg. grading and thinning).
- Assess viability and size after 1 week, 2 weeks, 4 weeks, 6 weeks, 10 weeks, 14 weeks, 18 weeks.
- Collate data and write report.

Project Benefits

Completion of this project is necessary to determine whether or not a FLUPSY is a suitable nursery system for hatchery-reared oyster seed in these waters and whether the FLUPSY system is robust enough to handle the high energy environment. BRFN has been investigating oyster aquaculture grow out at experimental leases in the Annapolis Basin using large seed purchased from other growers. However, BRFN would like to increase their options for seed supply by enabling the use of seed from a hatchery. This, however, requires an intermediate nursery step, not required when using larger seed captured from the wild or purchased from another grower. In other parts of the world, this nursery stage is accommodated in a FLUPSY (floating upweller system). A FLUPSY is simple, easy to operate and low cost - relative to a land-based nursery system. However, use of a FLUPSY is not standard practice in the Maritimes. And the Annapolis Basin is a unique environment, because of the high energy of the water. This trial is imperative to determine if a FLUPSY can support BRFN's plan for future aquaculture activities.

In addition, completion of the project will build internal capacity at BRFN, by allowing the mentoring of staff and the relaying of technical oyster production information to BRFN's aquaculture team. It is anticipated that two students will be funded by this project as well as the oyster site team of three persons.

Environmental considerations

The only potential environmental risk factors are shading, entanglement and impact on the seabed. The FLUPSY and adjoining solar panel are relatively small in size at approximately 6m x 3m each. This is a relatively small footprint and as such shading impact would be considered to be low. Furthermore, these platforms will shift somewhat from east to west (on their moorings) with changes in the current which will further mitigate any shading impacts.

Elastomer moorings and concrete block will be used to maintain the platforms in place. These mooring systems are still under development by DSA Ocean but the system will be set-up as shown in Figure 1

below. The only items that remain to be identified are the strength required for each elastomer mooring and size of the concrete blocks. This system is considered low impact as the only direct contact with the seafloor will be via the blocks.

The moorings themselves are not considered to have any impact on wildlife in the area. The area is regularly fished for lobster which involve having rope gear suspended in the Basin in a similar fashion to these elastomer lines. There have been no known cases of wildlife entanglements resulting from this roped gear fishery and as such, the elastomer moorings would be expected to be of similarly low impact and low risk of entanglement.

Figure 1 – FLUPSY and Solar General Drawing

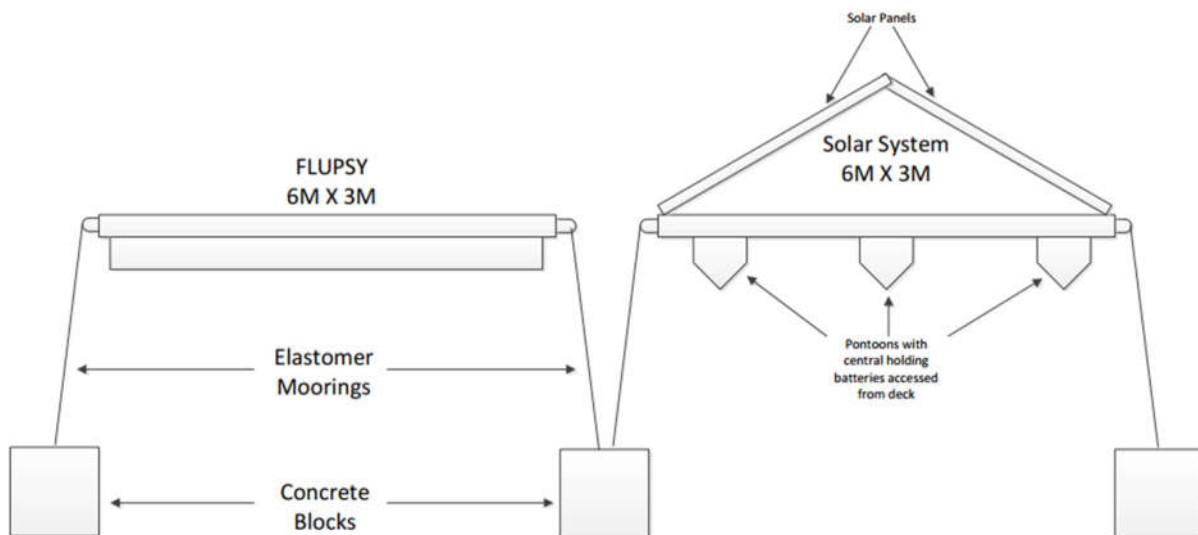


Figure 2 – General Location of System

