

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: ProNova Marine Products Limited	Type of Application: Amendment to Land-based licence
Application File Number: AQ#1233	Species: Atlantic halibut, Atlantic cod, Haddock, Cunner, Lumpfish, American oyster, Striped bass
Location: Clarks Harbour, Shelburne County	Method of Cultivation: Hatchery, Nursery, Grow-Out
Amendment: Add Additional Species - Atlantic salmon and American lobster	
Application Received On: October 24, 2023 (Atlantic salmon) and April 29, 2024 (American lobster)	

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>

Table of Contents (Page 1 starts after this table)	
Document	Page(s)
Aquaculture Application	1 - 3
Schedule “A” (as drafted by the Department)	4 - 5
Development Plan	6 – 27



Office Use Only
Received October 24, 2023
[Redacted]

Aquaculture Amendment Application

Licence/Lease No: 1233

Applicant Information:

Applicant: PRONOVA MARINE PRODUCTS LIMITED Contact Person: CARA ATKINSON

Nova Scotia Registry of Joint Stocks Number: 3311055

Revenue Canada Business Number: [Redacted]

Telephone No. (Work): _____ (Home): _____ (Cell): [Redacted]

Fax No.: _____ E-mail: INFO@PRONOVAMARINE.CA

Mailing Address: 6435 HIGHWAY 3, LOWER WOODS HARBOUR, NS
Postal Code: B0W2E0

Civic Address: 25 KENNEY STREET, CLARKS HARBOUR, NS
Postal Code: B0W1P0

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.

ProNova Marine Products Limited is requesting the addition of Atlantic Salmon to Licence 1233 (25 Kenney Street, Clarks Harbour). This addition request is further detailed in our attached Development Plan.

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

to: Ver. 170723-1

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

Pg. 2 of 3



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

Date

[Redacted Signature]

Oct 24/23

Date

Aquaculture Designate

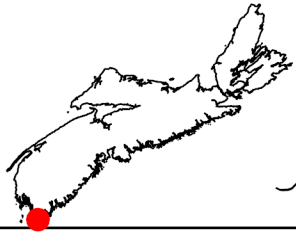
[Redacted Name]

October 24, 2023

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

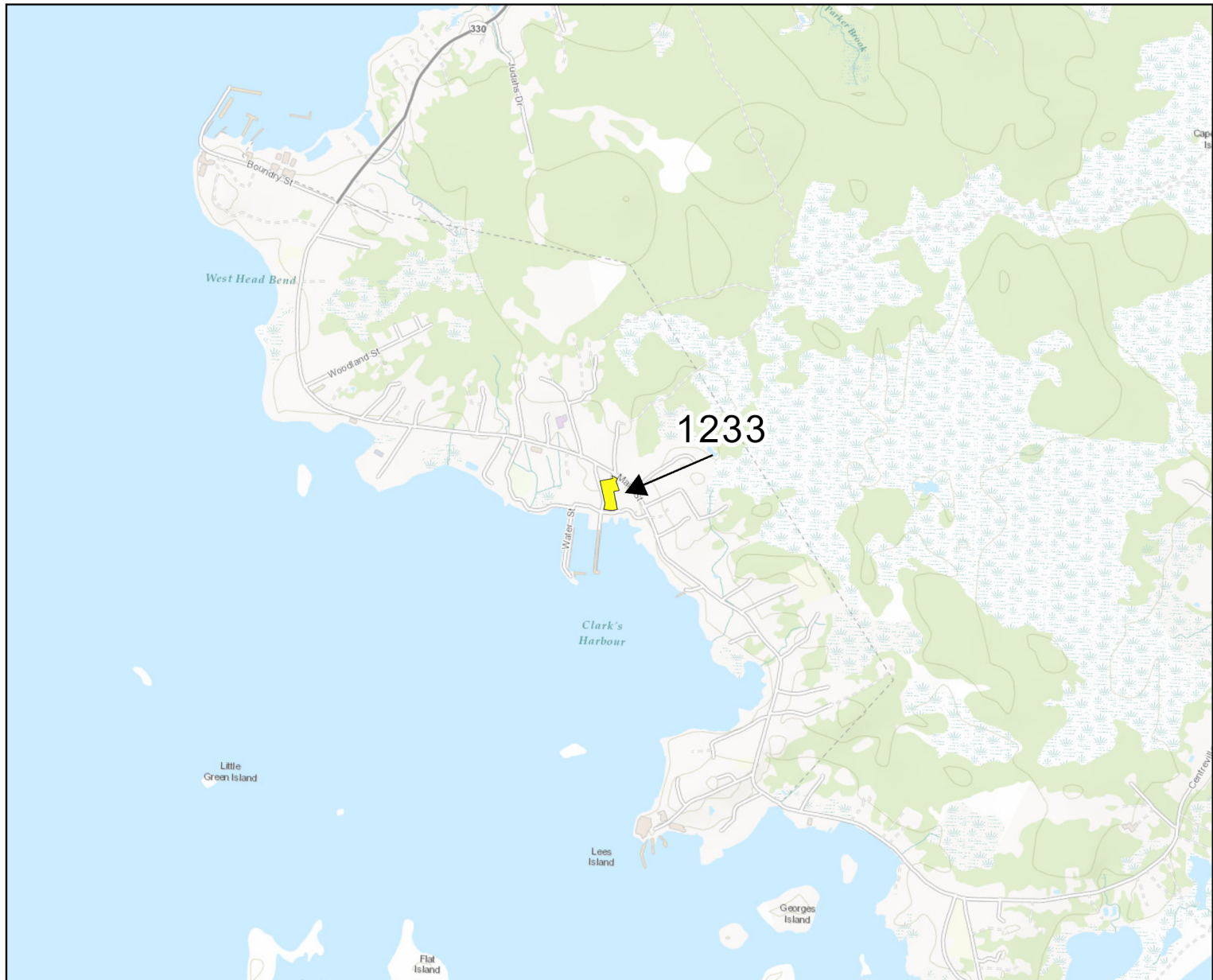
1233

Latitude Longitude

43° 26' 44.401" -65° 38' 3.599"

DATUM NAD 83 CSRS UTM Zone 20

The above coordinates are not from a legal survey



Licence Holder


Pronova Marine Products Ltd.

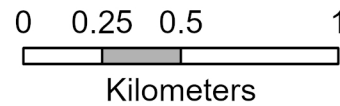
County

Shelburne

Species Type

Finfish; Shellfish

 Amendment Application



NSDFA Page 4 of 27

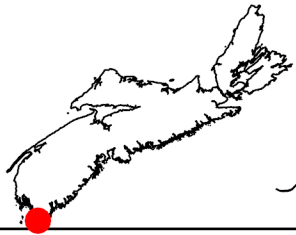
Disclaimer

This map should not be used for navigation or other purposes of 10s intended for general reference use only.

Date: 2024-10-03

Created By: MK

SCHEDULE A



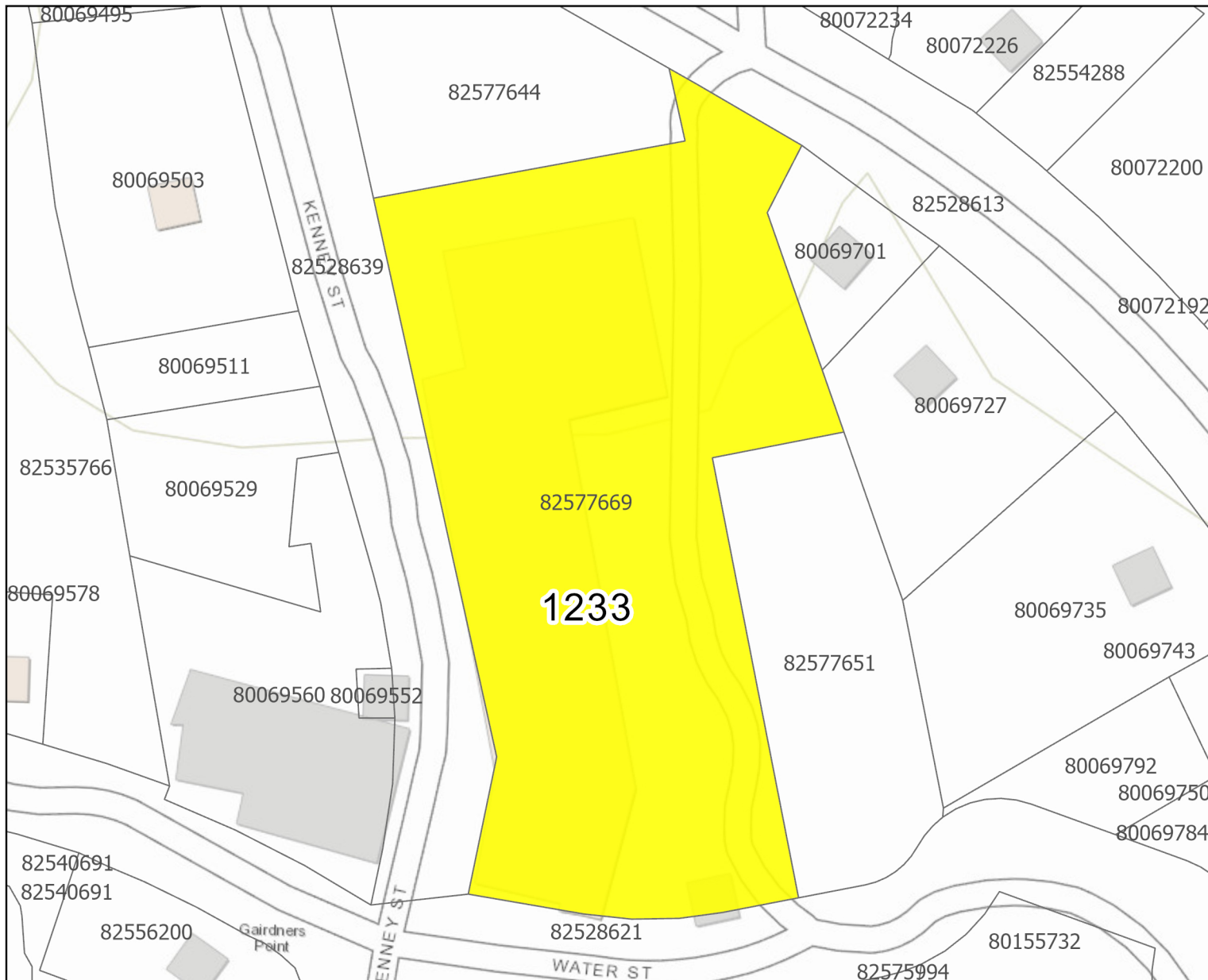
Aquaculture Site

1233

Latitude Longitude

43° 26' 44.401" -65° 38' 3.599"

DATUM NAD 83 CSRS UTM Zone 20
The above coordinates are not from a legal survey



Licence Holder

Pronova Marine Products Ltd.


County

Shelburne

Species Type

Finfish; Shellfish

 Amendment Application

 Property Boundary

0 10 20 40



Meters



NSDFA Page 5 of 27

Disclaimer

This map should not be used for navigation or for purposes of law intended for general reference use only.

Date: 2024-10-03

Created By: MK



Development Plan – ProNova Marine Products

Section 1: Project Overview

ProNova Marine Products (PMP) holds licences AQ#1233 and AQ#1234. Both had been held by Scotian Halibut Ltd since March 1, 2001, and on Feb 23, 2017 these licences were assigned to ProNova Marine Products.

AQ#1233 is a land based marine facility whose species include Atlantic halibut, Atlantic cod, haddock, cunner, lumpfish and American Oyster.

ProNova has been approached by two different salmon farming companies looking for a source of post-smolt salmon. ProNova has a partnership with a Nova Scotia freshwater hatchery to provide salmon fry. ProNova has the tank space, the freshwater supply and the seawater supply to grow these fry to large, post-smolt size, to supply these two salmon companies. All parties are looking at this as a long term, sustainable opportunity to grow the aquaculture industry within Nova Scotia.

ProNova Marine Products is seeking an amendment to AQ#1233 to add **Atlantic Salmon** and **American Lobster** as species for development.

PMP has 20 years of technical expertise in caring for broodstock, producing live feed (artemia and rotifers), fertilizing egg and rearing juveniles with Lumpfish, Cunner, Trout, Atlantic halibut and Atlantic cod.



Development Plan – ProNova Marine Products

Section 2: Technical Viability

2.1: Production Plan

The first stage of this project is to bring in salmon fry in the fall of 2024. The number of fry is to be determined by the two interested companies once ProNova’s licences have been amended for salmon.

Species	Atlantic Salmon
Stock Source	Old Mill Stream Aqua Farm Sunnybrook, Nova Scotia
Maximum Site Biomass (kg)	33,000
Maximum Fish Number	130,000
Annual Maximum Feed (kgs)	33,000
Maximum Tank Density (kg/m ³)	60
Maximum Total Tank Volume (m ³)	192 (in 'Brood Area')
Intended Initial Stocking Date	Fall, 2024
Expected FCR	1.2 to 1.5
Expected Production Period	9 months
Expected Time to achieve maximum production	3 years (2026)



Development Plan – ProNova Marine Products

The first stage of this project is to bring or buy the smallest legal size of lobsters (typically called "small chix" or "canners") as seedstock in the fall of 2024. We will not be sourcing anything smaller or producing anything smaller at this time. The number of lobster is to be determined by the interested company once ProNova's licence has been amended for lobster. It is expected to start small and increase upon demonstration of on-growing success.

Species	American Lobster
Stock Source	TBD either a Licenced lobster buyer or form a collaboration with a fisherman or licenced lobster buyer where ProNova is contracted to provide husbandry services and facilities to grow the other party's lobster.
Maximum Site Biomass (kg)	9,080
Maximum Fish Number	15,000
Annual Maximum Feed (kgs)	13,620
Maximum Tank Density (kg/m3)	41
Maximum Total Tank Volume (m3)	131.5 (in 'First Feed' and 'Weening Area')
Intended Initial Stocking Date	December, 2024
Expected FCR	1.2 to 1.5
Expected Production Period	4-6 months
Expected Time to achieve maximum production	3 years (2026)

Literature indicates that a feed with a protein content above 40%, and possibly as high as 50% is desired. We are still attempting to secure a source of a suitable feed. We do not intend to use medicated feed.

FCR estimates were taken from published literature such as those below, however, they are only estimates until we decide on which feed we will be using.

- I. Growth and Conversion Efficiency of Juvenile American Lobsters (*Homarus americanus*) in Relation to Temperature and Feeding Level
Author(s): Devin M. Bartley, James M. Carlburg, Jon C. Van Olst and Richard F. Ford
Source: Journal of the World Aquaculture Society, Vol. 11 (1-4) (March, 1980), 355-368
- II. Enhancement of Lobster Growth
Author(s): John T. Hughes, John J. Sullivan and Robert Shleser
Source: Science, New Series, Vol. 177, No. 4054 (Sep. 22, 1972), pp. 1110-1111
Published by: American Association for the Advancement of Science



Development Plan – ProNova Marine Products

Data from the previously referenced literature include growth rates at various temperatures that indicate that at 20°C and at the fish sizes we are indicating, a 2x size can be achieved in 4-6 months.

The goal of 2x growth was chosen following research into reported growth rates of lobster and extensive discussions with people in the lobster industry. [REDACTED], P.Eng., one of ProNova's owners, is heavily involved in the lobster industry and has 15 years of experience building profitable lobster tank systems. His experience and connections have indicated that Fish Buyers often lose money on the small chix and especially the canners selling them to processing companies. Our goal is to buy these lobster during mid May and early December (historically the time that lobster wharf pricing is lowest), and grow them into select and market select sizes by late September and early April (historically when lobster wharf pricing peaks). These sizes typically yield the highest margins to Fish Buyers and have an insatiable market demand.



Development Plan – ProNova Marine Products

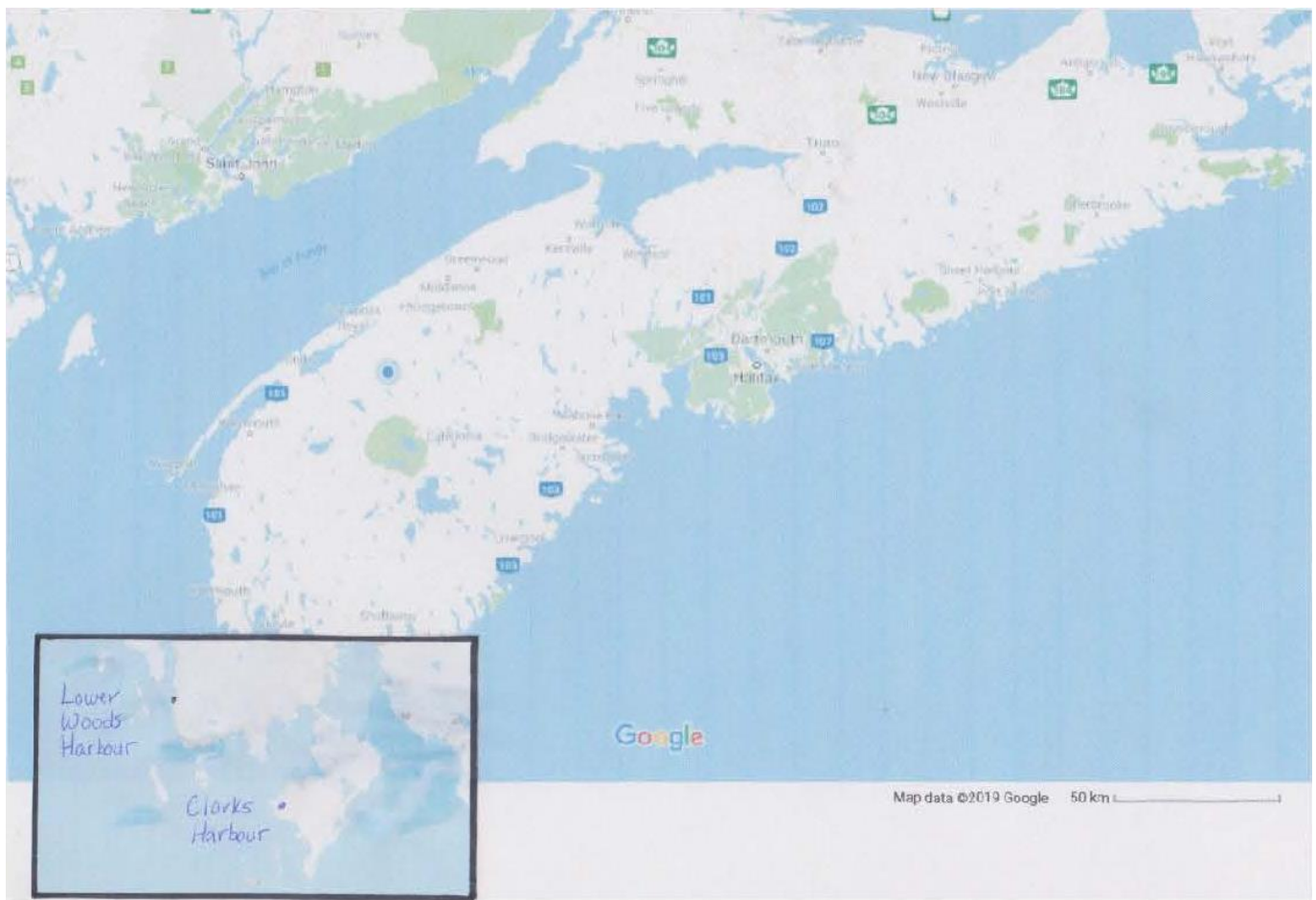
SYSTEM	# TANKS	VOLUME (L)	STYLE	HEIGHT (in)	WATER DEPTH (in)	WIDTH (in)	MAX. BIOMASS PER TANK AT
'BROOD AREA'	4	48,000	Round	60	46	288	2,880
'FIRST FEED'	12	7,000	Round	41	37	120	420
'WENNING'	10	4,750	Square	30	20	120	285

Development Plan – ProNova Marine Products

2.2: Location

There will be no change in the location of the site. All proposed activities will occur within existing facilities.

Map of Nova Scotia. Inset area highlights AQ#1233 Clarks Harbour, and AQ#1234 Woods Harbour





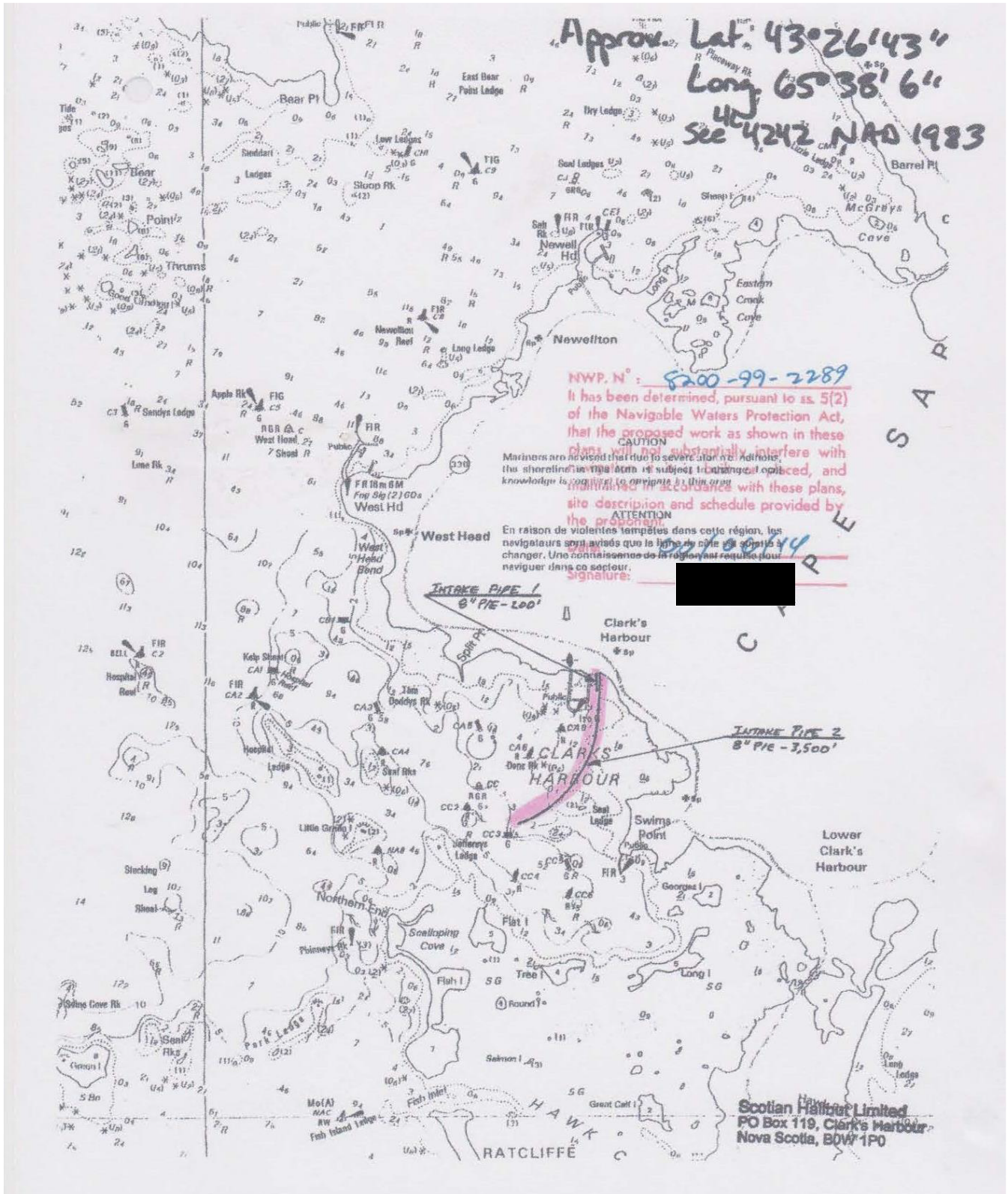
Development Plan – ProNova Marine Products

2.3: Water Source

The fresh water source at our Clarks Harbour site is a dug well. The water will be treated with a sediment filter, UV filter, and then ozonation.

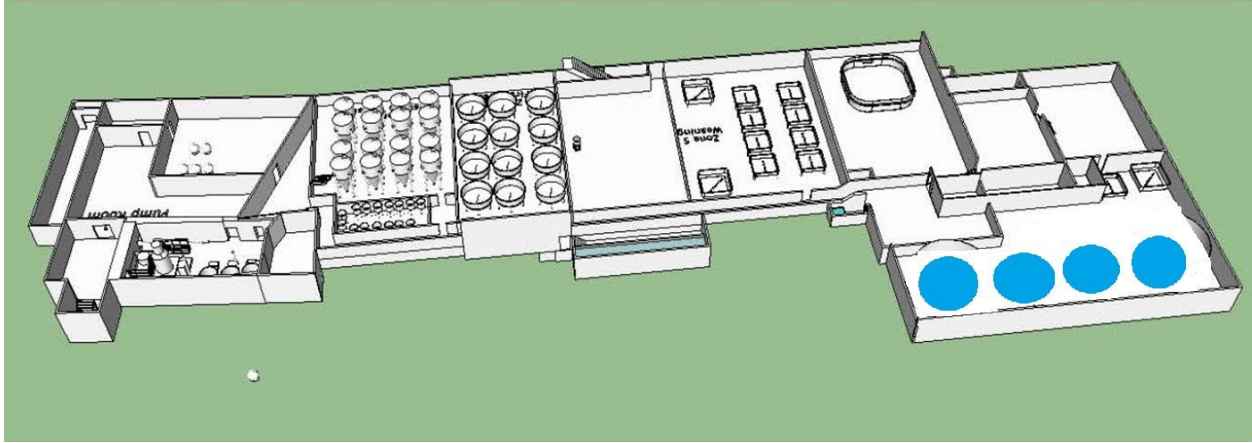
Development Plan – ProNova Marine Products

AQ#1233 Pipelines



Development Plan – ProNova Marine Products

AQ#1233 Floor Plan





Development Plan – ProNova Marine Products

2.4: Water Discharge

AQ#1233

Clarks Harbour, NS, There will be no change to the water discharge system.



Development Plan – ProNova Marine Products

2.5: Infrastructure

AQ#1233

ATLANTIC SALMON

Clarks Harbour, NS, There will be no additional infrastructure required.

AMERICAN LOBSTER

Clarks Harbour, NS, There will be additional tanks added to the 'Weening Room' in year 3 to meet expected demand.



Development Plan – ProNova Marine Products

2.6: System

AQ#1233

ATLANTIC SALMON

In Clarks Harbour juveniles can be held in the previous “Brood Area” of the site which holds 4 large tanks. As of right now they will be the only species on site. Water feeding this system will be supplied from the Hatchery Main Intake (flow chart included).

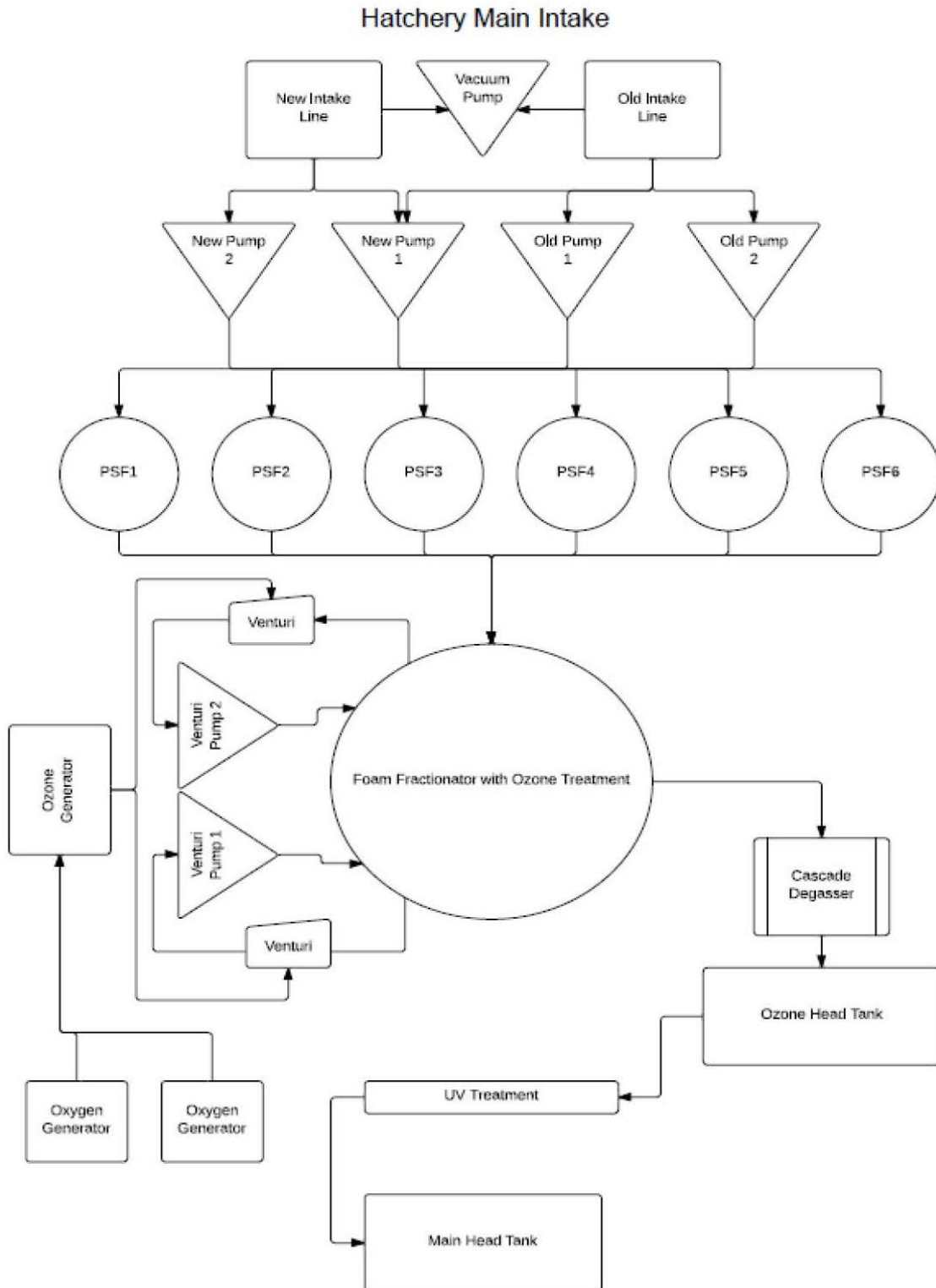
AMERICAN LOBSTER

In Clarks Harbour lobsters can be held in the previous “First Feed” and “Weening” of the site which currently hold a total of 22 smaller tanks. They may be the only species on site. Water feeding this system will be supplied from the Hatchery Main Intake (flow chart included).

ProNova has over 40 shallow tanks with flat bottoms (3m by 3m) that can be easily divided into compartments that will each hold a number of lobster. Our projected numbers reflect the use of these tanks. Our preliminary research shows that there is a proper feeding level where the lobster (although territorial and cannibalistic) will not harm each other. This is presumably because it is easier to eat the readily available food than to 'attack' another healthy lobster of equivalent size. We believe that there is an exception to this which is the requirement to segregate the lobster individually while they molt so they do not feel in danger. Once they harden up adequately (research shows this to be less than 1 week) they can be banded and returned to the common tanks.

Development Plan – ProNova Marine Products

AQ#1233 Main Intake





Development Plan – ProNova Marine Products

2.7: Containment

AQ#1233

The hatchery is a land based aquaculture site. All tanks holding fish will have appropriately sized jump skirts to prevent fish from jumping out, and screens on their outlets to enclose the animals. Screens that foul frequently (for smaller fish) are cleaned on a daily basis. Other larger screens are cleaned as required. Screens for juveniles are selected to ensure fish escape cannot occur. In addition, there are restrictions such as sand filters and heat exchangers on the outgoing water that would make fish escape highly improbable. Heat recovery sumps are monitored daily to check for fish escape.



Development Plan – ProNova Marine Products

2.8: Site History

AQ#1233

This site was used as a halibut hatchery from 1997 – 2017. From 2017 to 2021 the hatchery was home to halibut, lumpfish and cunner broodfish. In 2021 all Clarks Harbour fish were moved to ProNova’s Woods Harbour site to minimize expenses. There are currently no activities at our Clarks Harbour site.



Development Plan – ProNova Marine Products

2.10: Compliance History

AQ#1233

There have been no compliance issues in the past.



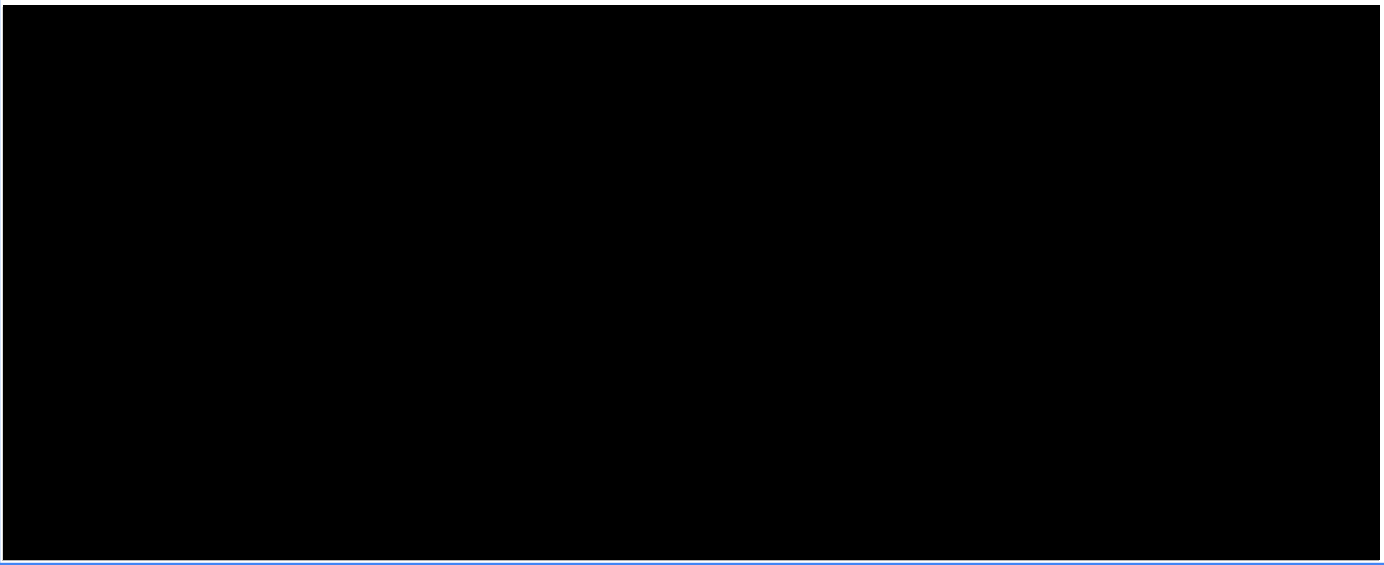
Development Plan – ProNova Marine Products

Section 3: Financial Viability

Atlantic Salmon rearing and American Lobster on-growing are opportunities for ProNova to diversify its production and take advantage of the infrastructure and technical expertise already in place. For the activities regarding salmon and lobster at ProNova we anticipate being paid a down payment for our services, then on a monthly basis. We intend for expenses accrued to be reimbursed. Expected expenses are being assembled at this time. At this point no historical or projected information relative to Atlantic Salmon rearing or American Lobster on-growing can be provided.

BUSINESS MODEL FOR ATLANTIC SALMON

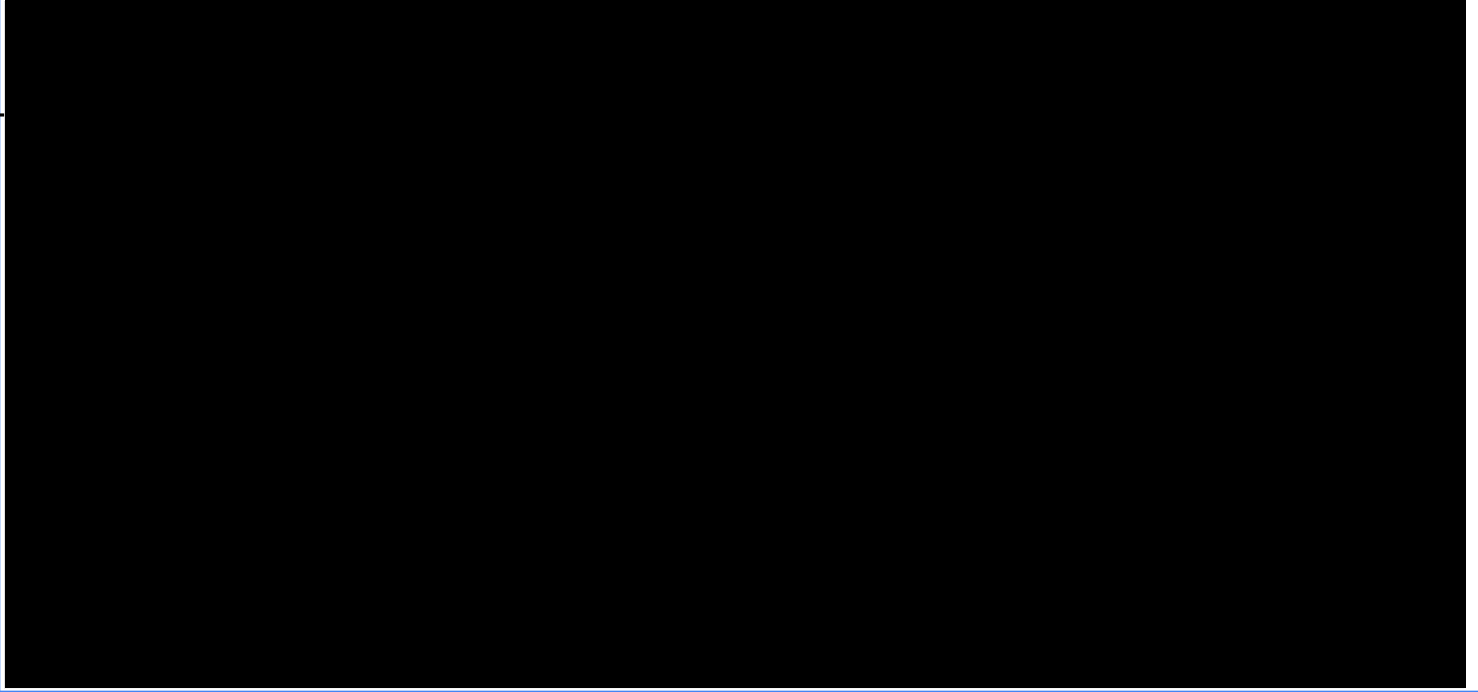
this business model is representative of our intention of ProNova being contracted to provide husbandry services and facilities for grow-out





Development Plan – ProNova Marine Products

BUSINESS MODEL FOR AMERICAN LOBSTER





Development Plan – ProNova Marine Products

Section 4: Other Users of Area Surrounding the Proposed Aquacultural Operation

4.1: Impacts on Other Users, Including Wildlife

AQ#1233

ProNova Marine will be utilizing areas of operation that are currently in use; there will be no change or impact to surrounding areas for sites.



Development Plan – ProNova Marine Products

4.2: Impacts by Other Users, Including Wildlife

AQ#1233

ProNova Marine will be utilizing areas of operation that are currently in use; there will be no change or impact to surrounding areas for sites.



Development Plan – ProNova Marine Products

4.3 Navigation Protection Act (NPA) Approval

AQ#1233

No changes required.