

Municipality of the District of Argyle

Aquaculture Development Area Local Stakeholder Engagement Report

March 29, 2023

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1 INTRODUCTION

Since 2020, the Municipality of the District of Argyle (MoDA) has worked with the Nova Scotia Department of Fisheries and Aquaculture (NSDFA) on exploring for what is known as an Aquaculture Development Area (ADA). The efforts related to the establishment of an ADA form a pilot project that will inform any future explorations for an ADA in other locations since an ADA within the Municipality of the District of Argyle would be the first in Canada.

In the interest of economic growth for the municipality, MoDA Council had identified further development of the aquaculture industry as a priority in 2015. The geography of the municipality may offer many suitable locations to expand the industry, which could in turn aid in the expansion of the local economy. One of the barriers to entry for potential investors is the lengthy and complex provincial License and Lease application process. The primary goal of the ADA is to remove some of the burden placed on investors by shortening and simplifying the application process with the creation of areas that have already been identified as suitable for aquaculture development. The prospective ADA only applies to shellfish and marine plants and does not include finfish.

In February 2020, MoDA and the Province of Nova Scotia signed a Memorandum of Understanding (MOU) stating that they would collaboratively explore for an ADA within the Municipality in Lobster Bay and Pubnico Harbour and that MoDA shall lead local stakeholder engagements. These local stakeholders include but are not limited to fishers, American oyster farmers, the tourism industry, people and groups with recreational interests, environmental and conservation groups, rockweed harvesting and processing companies, and the wider public. NSDFA is responsible for engaging with the various provincial and federal departments that require consultations regarding the pilot project including the Department of Fisheries and Oceans, Transport Canada, Canadian Wildlife Service, Nova Scotia Department of Environment and Climate Change, and Nova Scotia Department of Natural Resources and Renewables, among others. Additionally, NSDFA is responsible for Consultation with the Mi'kmaq of Nova Scotia. Through Indigenous Consultation and federal, provincial, and local engagements, areas within Lobster Bay and Pubnico Harbour have been reviewed to determine suitability for development of shellfish and marine plant aquaculture.

MoDA staff contributed an estimated 1,400 hours to the ADA pilot project and engaged directly with approximately 120 individuals. It was determined that having Municipal staff handle local engagement would be effective since these staff members share the same community connection, cultural history, and language preferences as the majority of the residents of the Municipality. For example, bilingual Acadian staff native to communities within the Municipality were able to connect well with stakeholders with similar backgrounds. This report summarizes the local engagement efforts that have been undertaken by MoDA since the signing of the MOU and provides a summary of the feedback received.

The following map titled "Area of Analysis" (Figure 1) shows the starting point of our work on identifying suitable locations in the waters of the Municipality for the expansion of the shellfish and marine plant aquaculture sector. The Area of Analysis (AoA) was defined by MoDA and NSDFA as a generalization of the marine areas in Lobster Bay and Pubnico Harbour that have a depth of 5 m or less at mean low water. The next map titled "Shellfish and Marine Plants Potential Locations" (Figure 2) shows the areas that were identified through early stakeholder engagements and with the use of a spatial decision support tool. NSDFA documentation will provide more details on this decision support tool.

Figure 1: Area of Analysis Map

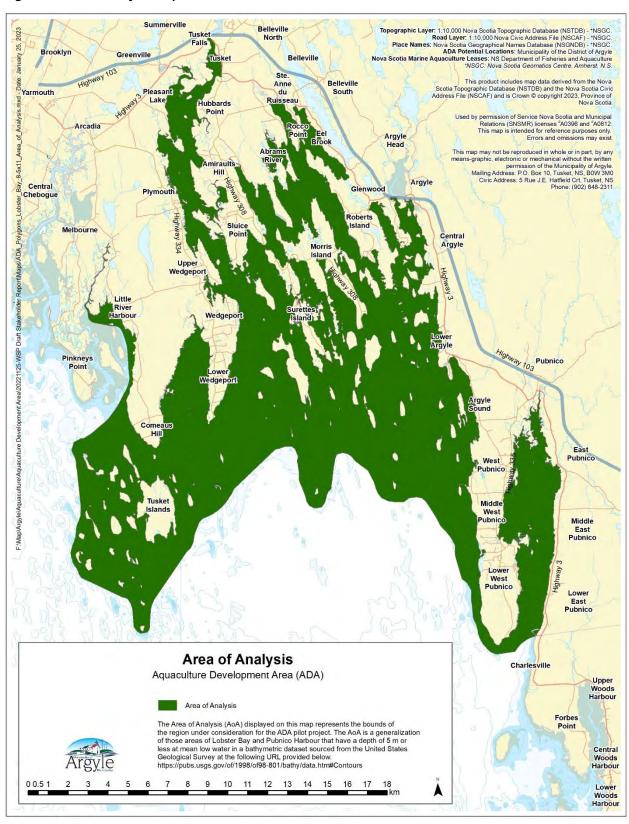
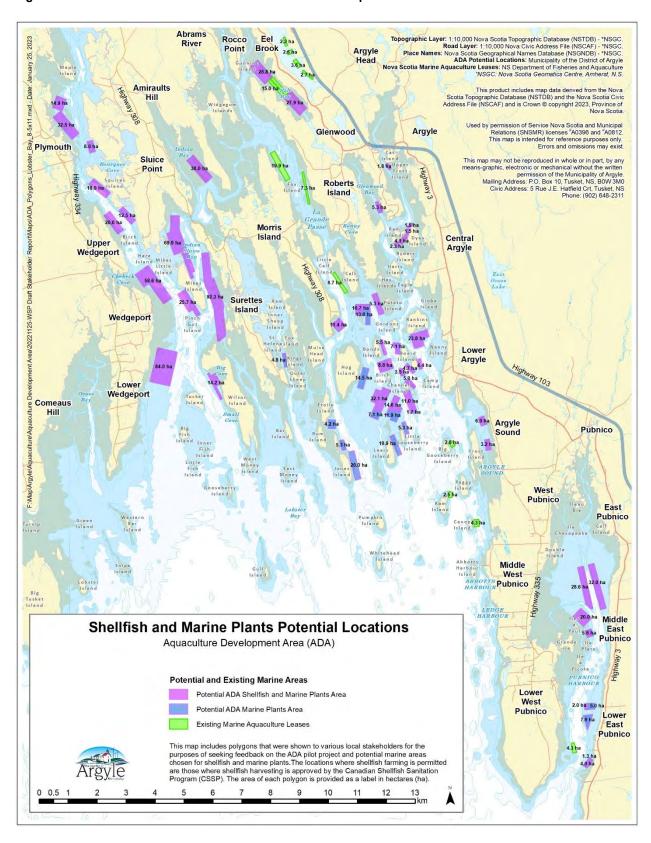


Figure 2: Shellfish and Marine Plants Potential Locations Map



2 LOCAL ENGAGEMENTS

The Municipality of the District of Argyle completed a multitude of local engagements of various formats to provide information on the ADA and its potential locations, as well to seek feedback from local stakeholders. Efforts to engage with the community on this project began in early 2020. Given the constraints of the public health protocols related to the COVID-19 pandemic, MoDA was required to adjust how communication and engagement was conducted throughout most of the period. The number of people that could be engaged with face-to-face at one time had to be limited depending on public health protocols, and some engagements were held outside to facilitate social distancing and limit potential exposure. However, many engagements with smaller groups or single individuals led to in-depth conversations and more meaningful results compared to much of MoDA's past experiences with engagements of large groups for other projects. While the beginning of the engagement period had to be modified, the efforts undertaken in 2022, with fewer pandemic restrictions, have involved more in-person conversation through more traditional methods of engagement involving larger groups open to all and thoroughly advertised.

The Municipality's engagement methods included:

- Chance Conversations
- Fisher and Farmer One-on-ones
- Publications
- Media
- Pop-up sessions
- Formal Presentations
- Stakeholder Committee
- ❖ Direct Emails
- Website
- Public Open Houses

2.1 SUMMARY OF ENGAGEMENT METHODS

The following provides an overview of the engagement efforts made by MoDA staff over a nearly three-year period from January 2020 to January 2023.

2.1.1 CHANCE CONVERSATIONS

The Municipality spent time at wharves, which are meeting places for many residents, and on the water analysing various water parameters and inspecting potential ADA locations. This allowed for chance conversations to take place regarding the ADA project where locals where able to discuss the project in a more relaxed manner in locations where they felt comfortable.

2.1.2 FISHER AND FARMER ONE-ON-ONES

The sustainability of current marine industries in the Municipality is of utmost importance since these are the drivers of the local and regional economy.

The importance of the lobster fishing industry to the Municipality cannot be overstated. It directly creates jobs on the water and on land and is the catalyst for countless other sales and service industries. Because of this, MoDA had to ensure that lobster fishers and their interests were fully explored. Maintaining access by fishers to critical fishing grounds is crucial. Initial attempts made by MODA in reaching fishers through the two major associations, Coldwater Lobster Association and Brazil Rock Lobster Association, did not result in adequate engagement. Therefore, MoDA staff committed to reaching out directly to all lobster fishers that are known to set traps in the areas under consideration in the pilot project's Area of Analysis, namely, upper Lobster Bay and Pubnico Harbour. Fortunately, of the roughly 1,000 lobster fishing licenses within Lobster Fishing Area 34, a relative few fishers set

their traps near to the shore in upper Lobster Bay and Pubnico Harbour. MoDA staff working on the engagement were residents of the Municipality themselves and therefore came with knowledge and acquaintances of many of the fishers themselves which made for an easy starting point for conversations. Through these preliminary conversations, MoDA staff were able to get contact information for other lobster fishers that set traps in the area of interest during these initial one-on-one sessions and subsequent engagements.

Of the 20 fishers that were engaged with one-on-one discussion, most were met with on two occasions, and all had the opportunity to comment on large maps of potential ADA polygons (Appendix A: 2022 – Lobster Bay CHS Chart with Polygons, and 2022 – Pubnico Harbour CHS Chart with Polygons). The detailed notes on each engagement as well as the marked-up maps are available upon request to the Municipality of Argyle, but only after permission has been granted by the involved fisher(s).

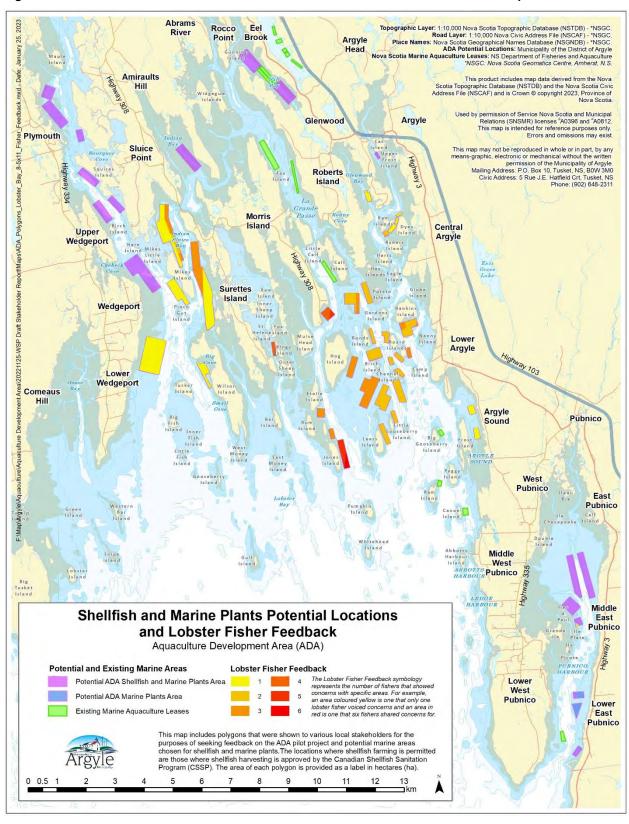
Operators of existing shellfish leases were met with one-on-one on multiple occasions. Given their experience in the industry, these conversations provided invaluable information on the practical work of running farms in the region. Also, co-chair of the Yarmouth-Shelburne Gaspereau Advisory Committee and a local Gaspereau fisher were directly contacted to ensure that they were aware of the ADA pilot project and so that they could provide feedback.

Section 2.2 of this report provides a summary of the feedback received from these conversations.

The map at the following page titled "Shellfish and Marine Plants Potential Locations and Lobster Fisher Feedback" (Figure 3) incorporates the feedback received from all lobster fishers that were engaged on the potential ADA locations. The number of fishers that had concerns about specific potential ADA areas are represented by an array of colours from yellow, through orange to red. For example, yellow polygons represent those ADA areas where only one fisher had concerns and red polygons are those where six fishers shared concerns.

Another one-on-one meeting was had in February 2023 with a representative of the waterfowl hunting association Delta Waterfowl to explore any potential impacts of the ADA to their activities. It was shared that the group is most concerned with access to hunting location and that the proposed ADA polygons appeared to not pose a threat to access.

Figure 3: Shellfish and Marine Plants Potential Locations and Lobster Fisher Feedback Map



2.1.3 PUBLICATIONS

Information Document - "One Pager"

In June 2022, a brief single-page project information document describing the ADA project was developed and distributed to various community and stakeholder groups and included in the project website at www.aquacultureargyle.com. This project information sheet is a high-level summary of the pilot project of the ADA, and details on the agreed upon MOU between MoDA and NSDFA. The document also provided examples of stakeholders that MoDA had engaged to date, a municipal staff contact for further information on the project, and how to get involved and to provide feedback. The information document is attached to this report in Appendix A: 2022 – One-Pager Stakeholder ADA Update.

The following groups were emailed this ADA information document in June 2022:

- * Roseate Tern Working Group
- Brazil Rock Lobster Association
- Coldwater Lobster Association
- ❖ Southwest Nova Scotia Biosphere Reserve
- ❖ Aquaculture Association of Nova Scotia
- Sea Kayaking Symposium
- Nova Scotia Community College
- Nova Scotia Bird Society

- Delta Waterfowl
- Yarmouth and Acadian Shore Tourism Association
- Yarmouth-Shelburne Gaspereau Advisory Group
- ❖ Atlantic Coastal Plains Flora Provincial Recovery Team
- ❖ Tusket River Environmental Protection Association (TREPA)
- Southwest Paddlers Association

Brochures (Print)

- ❖ A brochure was created by the municipality that was made available at several local businesses and post offices in 2021 (Appendix A: 2021 ADA Brochure).
- An information card was created in 2020 and distributed to the Municipalities of Yarmouth and Barrington and the Town of Yarmouth (Appendix A: 2020 ADA Information Card).

Newsletters (Online and Print)

❖ Details on the ADA project and the overall development on aquaculture in the community were published twice in the MoDA Newsletter, during fall and winter 2021 (Appendix A: 2021 - MoDA Newsletter Fall 2021, 2021 - MoDA Newsletter Winter 2021). The Newsletter was made available to residents both online and in print.

Publications

- ❖ The ADA project and the work completed by MoDA was published at the following locations.
 - Aquaculture North America magazine in March/April 2020 (Appendix A: 2020 Aquaculture North America Article)
 - The Sea Farmer Magazine (by the Aquaculture Association of NS) on Jan 16, 2020 (Appendix A: 2021 The Sea Farmer Article)
 - CBC on Jan 21, 2020 (Appendix A: 2020 CBC News Business Park on the Sea)
 - Saltwire News on Jan 16, 2020 and April 5, 2021 (Appendix A: 2020 SaltWire Aquaculture Development Area, 2021 - SaltWire - Sugar Kelp)
 - Le Courrier de la NÉ (in French) Dec 17, 2020 (Appendix A: 2020 Courrier de la Nouvelle Écosse Promotion de l'aquaculture).

2.1.4 MEDIA

Social Media

❖ Information about the ADA pilot project like monitoring work, publications, informational videos, and advertisements for the open houses as well as general details on the aquaculture industry were shared to the

Municipality of Argyle / Municipalité d'Argyle Facebook page with 3,949 followers (as of Jan 6, 2023) and a more focused Facebook page called Aquaculture in Argyle with 288 followers (as of Jan 6, 2023).

Radio

MoDA staff were interviewed for a radio story by Y95 (CJLS) on January 16, 2020 and were featured in two CBC Radio interviews in January 2020. Interviews were focused on informing the listeners on the ADA pilot project and the MOU with the province.

Online Videos

A series of informational videos were produced and published online including on our website at https://www.aquacultureargyle.com and are still available for viewing. Brief descriptions of the videos and corresponding YouTube links are provided below.

- ❖ Aquaculture & Economic Development: The Province of Nova Scotia produced a video highlighting the opportunities in the aquaculture sector in NS and the work completed by the Municipality on the ADA. Interviewees include Colton D'Eon of D'Eon Oyster Company, Charlene LeBlanc of the Municipality of Argyle and Ginny Smith of the Tusket River Environmental Protection Association (TREPA) to represent a range of interests related to aquaculture. The video can be found at the Aquaculture Argyle website or on YouTube at https://youtu.be/BsKLsMD6CRI.
- ❖ ADA Informational Videos: Two informational videos created by MoDA were uploaded to YouTube and shared on the Aquaculture Argyle website and the Municipal Facebook Pages. These videos feature the Warden of the Municipality, Danny Muise and the current primary staff involved in the project, Alix d'Entremont. They provide viewers with basic information on aquaculture, the reasons why the Municipality of Argyle is working on an ADA as well as details on the process of the creation of an ADA. The following are YouTube links to the two videos.
 - https://youtu.be/h2PKjNDm H8 (Danny Muise, MoDA Warden, What is an "ADA") https://youtu.be/AF6Zo8 LE60 (Alix d'Entremont, MoDA staff, "ADA": The Process so Far)
- * ADA Interviews: Videos of interviews with representatives from organized groups including the Tusket River Environmental Protection Association (TREPA), the Aquaculture Association of NS (AANS), and Nova Scotia Community College (NSCC) are available on the Aquaculture Argyle website and on YouTube and were shared on the Municipal Facebook Pages. These videos had representatives speak about aquaculture in general and specifically in Nova Scotia, the opportunities that the ADA pilot project will provide, and some insights on the future of aquaculture sector. These can be found at the Aquaculture Argyle website.

https://voutu.be/DLpg-uRWzec (Ginny Smith, TREPA)

https://youtu.be/13k4ryMWPEM (Tom Smith, AANS)

https://youtu.be/HYePTsK8 yw (Giulia Pereira, NSCC, "Is there potential for growth?")

https://youtu.be/tv5lyGVt Pk (Giulia Pereira, NSCC, "NSCC Sea Farm Operations")

https://youtu.be/pHFLQHxXSJQ (Giulia Pereira, NSCC, "Nova Scotia Aquaculture")

https://youtu.be/E3T4f7m9f3Q (Giulia Pereira, NSCC, "Support for the ADA?")

2.1.5 POP-UP SESSIONS

Three pop-up engagement sessions were hosted by MoDA at the major grocery stores within the Municipality to advertise for the Open Houses that were held on October 19, 2022 and to share details of the ADA. Grocery stores were chosen to target all residents since previous direct contact was focused on specific groups. These three locations are evenly distributed throughout the communities. All Pop-Ups were completed on October 12, 2022, and were located at:

- La Shoppe à Carl, Upper Wedgeport 2:00pm – 2:45pm,
- 2 Carl's Store, Tusket 3:10pm 3:45pm,
- 3 de la Tour Co-op, Lower West Pubnico

4:20pm - 4:45pm

While feedback was collected at each of the Pop-Ups, these sessions were primarily used as an engagement tool to generate discussion and "community buzz" on the ADA pilot project and to generate more awareness and participation in the upcoming Open Houses. Information presented at each of the pop-ups were the polygons of ADA potential locations (Appendix A: 2022 - ADA CHS Chart with Polygons), as well as two-sided cards with information on the Open Houses and a brief summary of the pilot project (Appendix A: 2022 - ADA Card).



Figure 4: The pop-up session setup at La Shoppe à Carl, Upper Wedgeport.

A summary of the feedback collected from these pop-up sessions is provided below:

- * 27 people were engaged with.
- Several people showed interested in the project and agreed that the economic opportunities are welcomed.
- Concerns on the potential displacement of lobster fishers that would happen as a result of the ADA pilot project.
- Concerns about ADA locations being located near Wedgeport. Strongly opposed to the sites and threatened to cut equipment.
- Concern from a fisher about ghost gear in places like Pubnico Harbour where former shellfish farms used to be. Felt that this should get cleaned up prior to any additional farms are located in the area.
- Local fisher informed staff that Coldwater Lobster Association were communicating to members to share concerns to MoDA that the ADA pilot project could result in a loss of lobster fishing grounds.

2.1.6 FORMAL PRESENTATIONS

MoDA staff gave six online presentations to local groups and companies including the Southwest Paddlers Association, Roseate Tern Working Group, Tusket River Environmental Protection Association (TREPA), Nova Scotia Bird Society, Yarmouth and Acadian Shores Tourism Association (YASTA), Acadian Seaplants, and Tidal Organics (Scotia Garden Seafood). Representatives of the Southwest Paddlers Association and TREPA were included in the Stakeholder Committee and thus were further engaged. Members of the Roseate Tern Working Group and the Nova Scotia Bird Society were mostly concerned about the breeding island of the endangered Roseate Tern, however, no potential ADA polygons were identified in this area. The NSDFA was involved in the presentations to Acadian Seaplants and Tidal Organics (Scotia Garden Seafood) and their concerns are summarised in Section 2.2 of this report. YASTA members showed interest in the project and saw the initiative as a positive for the potential beneficial effects on the local economy.

2.1.7 STAKEHOLDER COMMITTEE

A Stakeholder Committee was established to continue to provide feedback on the ADA pilot project on behalf of organized groups within the community. A boat tour was run on **August 18, 2021**, where members of the committee were shown some of the areas under consideration for the ADA project. Following this, two (2) Stakeholder Committee Meetings had been held prior to the public Open Houses.

The first meeting was held on **April 28, 2022** when NSDFA and MoDA provided a thorough summary of what an ADA is and presented the proposed ADA locations (shown as polygons on a map). Questions were brought forward to NSDFA and MoDA related to access to wharf infrastructure, environmental sustainability, and project timelines. Following the meeting the members were provided with digital maps showing the proposed ADA locations to allow for them to analyze and provide feedback. Several members sent questions/concerns by email following the meeting. All questions and comments received were addressed by the NSDFA, Centre for Marine Applied Research (CMAR), and MoDA via an emailed response on June 10, 2022 (Appendix C).

The second committee meeting was held on **June 23, 2022**. At this meeting, NSDFA and MoDA provided an update on the project, including the public engagement efforts to date and the project's next steps. Additionally, the document sent to members on June 10, 2022, addressing the comments and questions from the previous meeting was discussed such that the committee members were satisfied that their concerns are being well addressed.

2.1.8 DIRECT EMAILS

Throughout the duration of the engagement period, staff had advertised direct contacts to provide individual feedback on the project, however, emailed feedback was only received in the several weeks following the Open Houses on October 19, 2022. The following is a summary of the feedback received (including the dates of the incoming emails) and the corresponding actions and responses by MoDA:

Email Feedback 1 – Oct 19, 2022:

Licenses and leases should be available only to lobster fishing captains and crew of Lobster Fishing Area 34. **Action / Response:**

The feedback was forwarded to the NSDFA. An email was sent thanking the author for their feedback.

Email Feedback 2 - Oct 2022 to Jan 2023:

Supportive of scaling of the aquaculture industry so long as it is balanced with commercial fishing, tourism, recreational boating, swimming, water access, and archaeological sites (including a local dike and shellfish middens). New farms should be established in areas not populated with residential houses along the water. Concerned about a reduction of property values and a rise in taxes.

Action / Response:

The feedback was forwarded to the NSDFA. A detailed email was sent touching on all matters raised explaining the work that has been done by MoDA and the NSDFA on engaging with representatives and accounting for the topics. It was shared that a potential ADA polygon in lower Salt Bay, where concerns over nearby archaeological sites were identified, will likely be removed from the pilot project due to inadequate water depth. Information on how to appeal property taxes through the Property Valuation Services Corporation was also shared by email. During a phone conversation, the extensive work done by MoDA to properly engage with local lobster fishers was discussed.

Email Feedback 3 - Nov and Dec 2022:

Concerned about a specific potential ADA polygon north of the Surettes Island wharf, however, showed interest in applying for a marine plants lease in the polygon. Concerns were related to the navigation through the area by commercial fishers, rockweed harvesters, recreational motor boaters and kayakers. The author also identified that his personal pleasure craft mooring may be within the proposed ADA polygon. Wants to see ADA leases and licenses held by local people.

Action / Response:

The feedback was forwarded to the NSDFA. A comprehensive email was sent regarding all points raised. It was shared that the potential navigational issues related to the potential ADA polygon north of the Surettes Island wharf have been raised by other local stakeholders including several lobster fishers. The author of the original feedback was added to MoDA's list of potential applicants for leases and licenses for the ADA.

2.1.9 WEBSITE

MoDA has had a presence online at www.aquacultureargyle.com since 2020 and this website has been evolving during the course of the project. This website contains much information including the One-Pager (also found in Appendix A: 2022 - One-Pager Stakeholder ADA Update), all of the videos mentioned in Section 2.1.4 and a questionnaire for the wider public to submit their thoughts from their own homes through the web. While the website and the questionnaire were shared through many social media posts and advertised in print (Appendix A: 2022 - ADA Card) at various locations and at the Open Houses, no feedback was received through this method.

2.2 SUMMARY OF FEEDBACK

In addition to the feedback presented in the above sections, the following is a summary of feedback collected by MoDA staff through the efforts identified in Section 2.1.

Table 1: Summary of Feedback

Group Engaged	Comments Heard
Lobster Fishers	Fishers provided additional names and contact details for other people that should be engaged with (mostly other lobster fishers).
	Interested in learning more about the marine plant aquaculture opportunities.
	Shared details on which ADA polygons may cause issues related to navigation, fishing, and hauling up lobster cars (which are in-water lobster holding facilities).
	❖ A lobster fisher shared that a local sheep keeper uses the space covered by some ADA polygon areas to access islands where he has sheep.
	Most lobster fishers only fish heavily in the area under consideration for the ADA during the spring.
	Fishers commented that they know of wild growing sugar kelp in many places, from offshore around Seal Island and the Mud Islands and closer to shore in Pubnico Harbour around Dennis Point Wharf and the Tittle Wharf.
	Shared concerns of the locations of ghost gear from previous aquaculture operations.
	 Concerns of the appearance of aquaculture equipment.
	Concerns with navigation and lobster fishing issues related to an existing shellfish lease # 1429. Note that this site is not related to the ADA.
	Two fishers shared that they did not want any current fishing or possible future fishing grounds to be taken up by aquaculture farms.
	Desire to see locals running future aquaculture farms and that local applicants are given first opportunity to apply for lease sites.
	More concerns about a large number of farms than a smaller number of farms.
Coldwater Lobster	Discussed a two-tier system in NS where shellfish and marine plants would be considered separately from finfish.
Association	Concerns that the NSDFA is being perceived as a promoter and regulator of aquaculture.
Pleasure Boaters	Concerns for the preservation of navigation routes.
Residents	 Less concerned after learning the ADA was not for finfish
	Concerns of the appearance of aquaculture equipment and the effect on property values.
	Want aquaculture development to be balanced with navigational routes, fishing, tourism, swimming, water access, private property and archaeological sites.

	*see more comments by residents in Section 2.1.8 above.
Oyster Farmers	Felt that it could be beneficial to future growers if experimental leases were implemented at various locations to determine the real-world viability.
	❖ Concerns on overall length of time for issuing experimental leases for oysters
	Concerns with ADA polygons on mud flats and oysters being exposed at low tide and freezing risk during winter
	Shared that American Oysters should be able to be farmed in the Tusket River and Indian Bay because they are naturally growing at these locations.
	Concerns about the amount of water current likely to occur at Indian Sluice Bay sites which may cause damage to aquaculture equipment if a site were to be placed there.
	 Concerns about historical failed attempts at growing oysters in the Tusket and Argyle Rivers
	Some oyster farmers had plans of applying for expanding their operations stopped by the freeze on applications due to the ADA Area of Analysis.
	 Shared locations of ghost gear from previous aquaculture operations
Tusket River Environmental Protection	Concerns about water quality (incl. microalgae populations), the health of our rivers, and parasites and contamination (for more details and a response, see Appendix C)
Association	Concerns regarding riparian buffers and impacts of river and lake health to Lobster Bay.
Gaspereau Fishers	Potential ADA polygons were not within the area that they fish gaspereau in the Tusket River
Rockweed Harvesters	 Shared concerns of maintaining organic certification of their product
and Processors	❖ Access to coastline for harvesters is important
(Acadian Seaplants and Tidal Organics)	 Access to wharf infrastructure is important for docking boats and for unloading rockweed
Potential Marine Plant Growers	Concerns for some is the small number of ADA polygons that are deep enough to be suitable for marine plants
2000 214020	 Potential ADA polygons in Pubnico Harbour excluding the two northernmost polygons have eelgrass

3 OPEN HOUSES

As part of the public engagement process, MoDA hosted two (2) public engagement sessions in a drop-in open house format. These open houses were held on October 19, 2022, at Glenwood Hall from 1:00-3:00 pm and at the Argyle Municipal Office Building in Tusket from 6:00-8:00 pm. These two locations were chosen to limit the travel distance for residents of the Municipality. Representatives from WSP, MoDA, NSDFA, and CMAR were in attendance at both engagement sessions and were available to interact and answer any questions that arose from members of the public.

The open houses were designed to provide residents with information about the project including process, engagement completed, and the location of the potential ADA polygons. A total of 5 information boards (in English only) were displayed at the open houses. These boards are included in Appendix B. A looping video was setup on a large TV that included videos which were created by MoDA and are described in Section 2.1.4 above. While the materials and videos were entirely in English, MoDA staff present were able to interact with visitors in English or French.

Advertising of the open houses was conducted by the MoDA and included posts on the MoDA aquaculture webpage and social media accounts, handouts (see Appendix A: 2022 - ADA Card) given out at Pop-Up sessions, paper advertisements at local grocery stores, gas stations and post offices, and on radio.

The open houses received 39 participants representing MoDA Council, the media, commercial fishing, commercial aquaculture, organized community groups and members of the community. These visitors examined the materials available and Open House organizers from WSP, MoDA, NSDFA, and CMAR engaged with attendees to answer questions and record feedback. The figures on the following page show the setup at the two open houses. Comment cards were also supplied for participants to share feedback on the project. The next section provides a summary of what was heard at the two Open Houses.

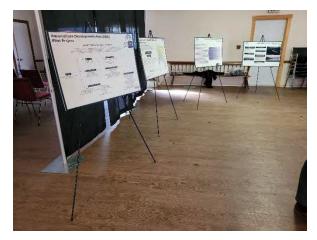


Figure 5 The information panels at the Open House in Glenwood.



Figure 6 The looping video section at the Open House in Glenwood.



Figure 7 MoDA's booth at the Open House in Glenwood.



Figure 8 The CMAR and NSDFA booth at the Open House in Tusket.

3.1 WHAT WE HEARD

Overall, most of the feedback received during the open houses was positive and in support of the project, however, there were some concerns raised by residents and by those interested in investing in the aquaculture industry. A summary of key critical themes from the feedback is presented below:

Key Themes

- 1. Concerns on Call for Proposals and Applications for Leases and Licenses: Some participants were concerned about the process by which a single applicant is chosen if multiple investors apply for the same area. Multiple participants thought that preference should be given to locals when issuing leases and licenses. There was discussion amongst some of the interested investors on how to work collaboratively when submitting proposals to limit the number of proposals per area.
- 2. **Impacts to the Fishing Industry**: Some participants had concerns related to future aquaculture sites displacing lobster fishing traps, causing issues with the storage of lobster cars (floating lobster storage facilities), and interfering with the boat traffic around wharf infrastructure.
- 3. **Impacts to Residents and Environment**: Some participants felt that some proposed ADA polygons may have impacts on wildlife, property value, residential views, noise levels, increased traffic, and enjoyment of the waters and shoreline.
- 4. **Potential Risks for Future Aquaculture Sites**: Some participants shared that there are environmental factors like sea ice and currents that could jeopardize sites in some potential ADA locations.

Transcribed comment cards that were received have been presented in Appendix D.

4 CONCLUDING REMARKS

The Municipality of Argyle strongly believes that their work on informing and engaging with local stakeholders on the ADA project was thorough and very successful. A project of this size has potential to impact many groups of people with varying levels of stake that require appropriate degrees of consideration. We are confident that proper amounts of attention have been devoted to these groups. For example, the engagement work focused on the lobster industry has been appropriately extensive given the importance of the fishery to the economy.

MoDA has facilitated the transfer of information between the NSDFA and the local community and vice versa. MoDA is thrilled to see so much interest in investing in the aquaculture sector by locals. However, the creation of new economic opportunities for the region must be balanced with concerns of those that could be affected. All pertinent feedback received from locals on the ADA pilot project from engagements have been forwarded to the NSDFA and have impacted the choices made related to potential marine areas and have steered policy discussions.

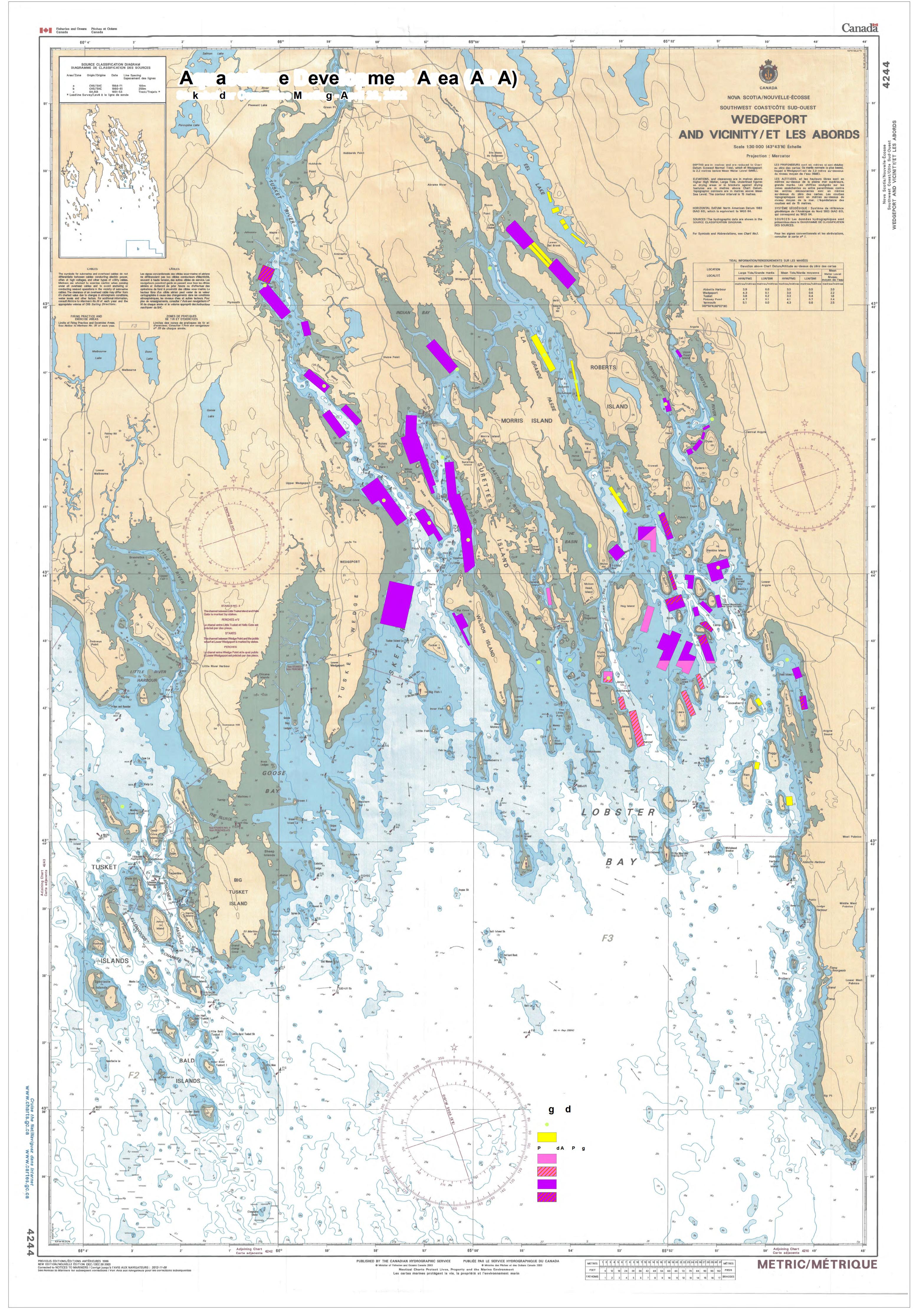
It is the recommendation of the Municipality of Argyle that the NSDFA accept this comprehensive report as a critical component in the establishment of an ADA in the Municipality of the District of Argyle waters.

There have been preliminary discussions between MoDA and NSDFA about the MoDA's future role related to the ADA if one is put in place. If it is determined that a Community Liaison Committee is required to continue to engage locals once an ADA is created, MoDA will certainly be participating or perhaps even leading this committee.

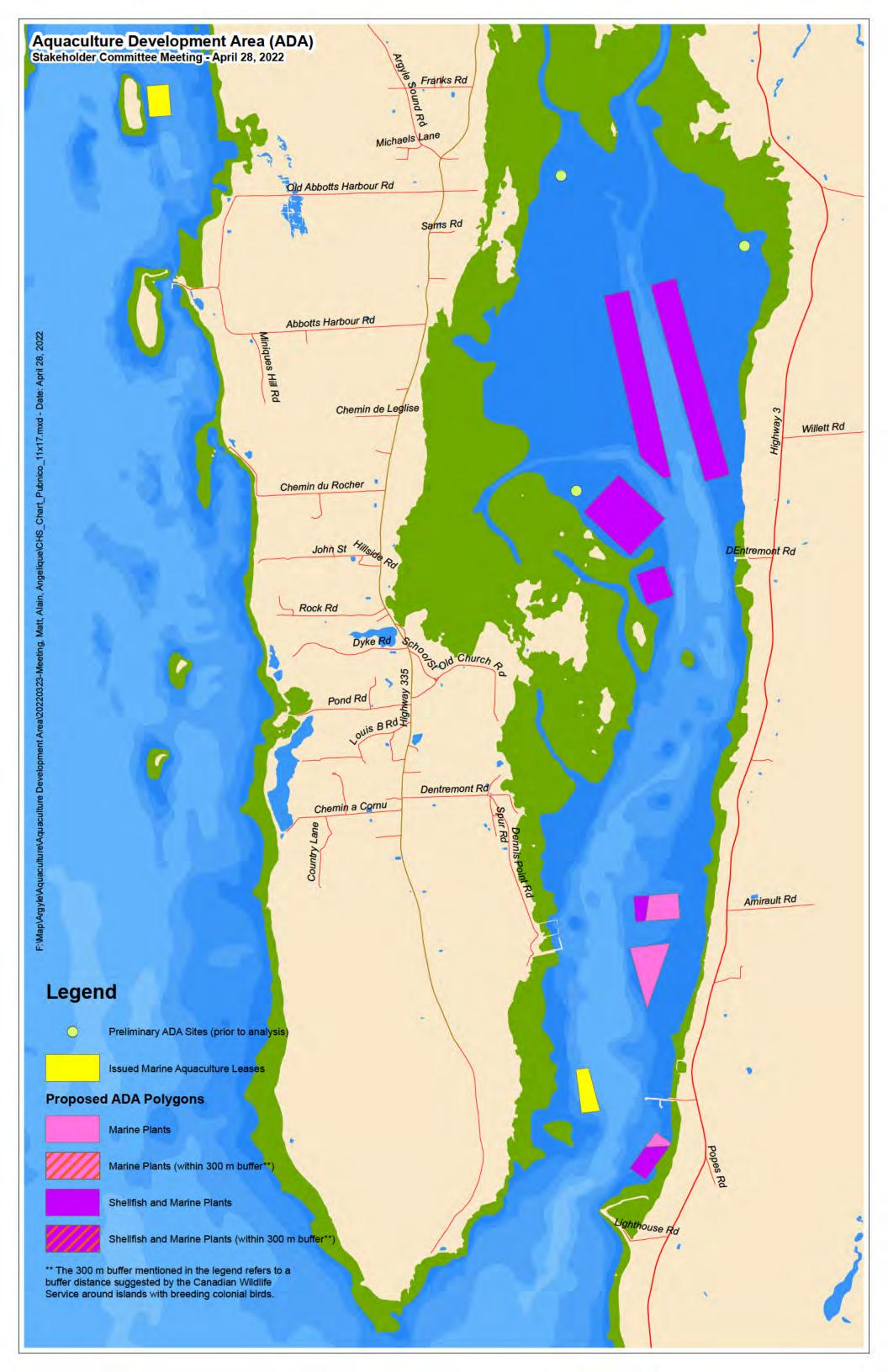
APPENDIX

A PUBLICATIONS AND MEDIA ITEMS

2022 – Lobster Bay CHS Chart with Polygons



2022 – Pubnico Harbour CHS Chart with Polygons



2022 – One-Pager Stakeholder ADA Update

MUNICIPALITY OF ARGYLE



MUNICIPALITÉ D'ARGYLE

June 3, 2022

"A place we are proud to call home"

Aquaculture Development Area - Shellfish and Marine Plants

The Municipality of the District of Argyle is working with the NS Dept. of Fisheries and Aquaculture on exploring for what is known as an Aquaculture Development Area (ADA). This document provides a high-level summary of the pilot project.

In the interest of economic growth for the municipality, Argyle Council had identified further development of the aquaculture industry as a priority in 2015. The geography of the municipality may offer many suitable locations to expand the industry, which could in turn aid in the expansion of our local economy. One of the barriers to entry for potential investors is the lengthy and complex provincial License and Lease application process. The primary goal of the ADA is to remove some of the burden placed on investors by shortening and simplifying the application process with the creation of areas that have already been identified as suitable for aquaculture development. The prospective ADA only applies to shellfish (e.g., American oyster, blue mussel) and marine plants (e.g., sugar kelp, dulse) and does not include Atlantic salmon or any other finfish.

In 2020, the Municipality of the District of Argyle and the Province of NS signed a memorandum of understanding that they would collaboratively explore for an ADA in Lobster Bay and Pubnico Harbour and that the Municipality shall lead local stakeholder engagements. These local stakeholders include but are not limited to fishers, American oyster farmers, the tourism industry, people and groups with recreational interests, environmental and conservation groups, rockweed harvesting and processing companies, and the wider public. The NS Dept. of Fisheries and Aquaculture is responsible for engaging with the various provincial and federal departments that require consultations regarding the pilot project like the Dept. of Fisheries and Oceans, Transport Canada, Canadian Wildlife Service, NS Dept. of Environment and Climate Change, and NS Dept. of Natural Resources and Renewables, among others. Additionally, the Dept. of Fisheries and Aquaculture is responsible for Consultation with the Mi'kmag of NS. Through Consultation and federal, provincial, and local engagements, areas within Lobster Bay and Pubnico Harbour are being reviewed to determine suitability for development of shellfish and marine plant aquaculture. The Municipality is currently in the process of re-engaging with local stakeholders to seek feedback on the potential areas. If your organization is interested in learning more about this pilot project and providing feedback, please contact the Municipality of Argyle by June 24, 2022, at the details below.

Alix d'Entremont gistech@munargyle.com

Telephone: (902) 648-3293 Fax: (902) 648-0367

Email: admin@munargyle.com Website: www.munargyle.com

2021 - ADA Brochure

Ideal conditions exist
within the
Municipality of Argyle
for the growth of
shellfish and marine
plants.





We would love to hear from you! Charlene LeBlanc

@munargyle.com or visit

www.aquacultureargyle.com

Argyle's
Aquaculture
Development
Area

Aquaculture Development Area (ADA)

WHAT IS IT?

The ADA is a thoroughly assessed area of water, that has been identified as suitable for aquaculture and will be preapproved for shellfish and marine plants.

WHY DO WE WANT ONE?

We have ideal conditions for growing shellfish and marine plants, and we want to make it easier for investors to get into the aquaculture business.

Done properly, aquaculture will further improve the quality of our waters by creating an environment that supports a healthy eco-system below the surface.

We want to open the door for those who wish to diversify their careers.

What about the other users of the sea?

Our focus has always been to select potential sites in areas that have the least impact.

We seek to avoid navigation routes, lobster fishing grounds and protected areas.

Consideration has been given to the many who work and play on the sea and on our shores.

How many sites will be designated?

The number of sites has not yet been determined.

We know that the
total number of sites in a body of
water is dependant on factors such as
the water body size,
flushing rate, proposed site size and
proximity to other sites.



2020 - ADA Information Card

AQUACULTURE DEVELOPMENT AREA

Who? The Municipality of Argyle

What? An Aquaculture Development Area (ADA) is an area of water that has been identified following a thorough assessment, and has been preapproved for specific types of aquaculture. In this case, it is for shellfish and marine plants.

When? We expect submission to cabinet as early as December 2020. If approved, it will be the first of it's kind in Canada.

Where? The area of analysis includes Lobster Bay & Pubnico Harbour.

Why? We are reducing the "red tape" and making it easier for investors to get into aquaculture.

It's our "Business Park on the Sea!"

MUNICIPALITY OF ARGYLE www.aquacultureargyle.com

2021 - MoDA Newsletter Fall 2021



IN THE LOOP



Open House - November 16, 2021

We are looking forward to welcoming you to our open house of our new net-zero municipal building!

We will be hosting public tours on Tuesday, November 16th from 9 am – 12 pm & 5:30 pm – 7:30 pm. Registration is required by calling Kim Rowley at _______ or email _______ @munargyle.com.





Have you signed up for Alertable yet?

Effective September 7th, 2021, Yarmouth County REMO has launched a new notifications system (Alertable) to send alerts for emergencies happening within the Town of Yarmouth and the municipalities of Argyle and Yarmouth.

Alertable is free for the public and provides many alerting options including email, phone, website, mobile apps, social media, home smart devices and more. Choose what's right for you.

Notifications are fast, reliable, and easy to see and hear, and can be personalized by type and severity.

Also, you can choose notifications for more than one location, whether you are at home, office, cottage, family, friends and more.



There are many different ways to receive the notifications!

- Download the FREE Alertable App for IOS & Android Smartphones.
- Install FREE Alertable Skill and Action for Amazon Alexa & Google home devices.
- Sign up for FREE email and SMS notifications or phone calls
- Follow Alertable on Facebook & Twitter or connect Alertable directly on Facebook Messenger.

For more information and to sign up today, please visit the REMO website at

www.remoyarmouthcounty.com

Automated External Defribrillator (AED) located at new municipal building

Our new municipal building has an Automated External Defibrillator located in the front entryway of the building.

An AED machine is a portable, life-saving device designed to treat people experiencing sudden cardiac arrest, a medical condition in which the heart stops beating, suddenly and unexpectedly. Visit the link below to locate an AED all over Nova Scotia.

https://nsgi.novascotia.ca/EHS-NS-Volunteer-AED-Map/









In 1980, a group of citizens, some of whom lived with what was then considered a handicap, came together to advocate for and assist Yarmouth area residents who faced similar circumstances. Handicapped Organization Promoting Equality (HOPE) was created as a drop-in center to equip people living with such challenges to better handle dayto-day life issues. Over the years HOPE provided services such as a drop-in centre, tax preparation services, employment counselling, advocacy, and social events.

In time, it became very apparent that one area of major concern was the lack of affordable and dependable transportation, particularly for those who were confined to wheelchairs. In the late 1990s, HOPE created Dial-A-Ride, with a single used passenger van, to meet that need. HOPE continues to service that need today.

gohope.ruralrides.ca

HOPE now has a fleet of 8 modern passenger vans, four of which are wheelchair accessible. In October 2020. HOPE added another vehicle to the fleet. A mid-sized SUV was purchased to better accommodate last-minute requests for local and distance transportation needs, enabling the organization to more efficiently transport clients to areas beyond our county boundaries.



HOPE Dial-A-Ride offers accessible door-todoor transportation services for residents of the Town of Yarmouth, Municipality of the District of Yarmouth and the Municipality of for medical Argyle. Whether it's appointments, personal errands, business meetings, social/recreational functions, or educational opportunities. Office hours are from Monday to Friday 8:30 am-4:30 pm. Transportation arrangements can be made by phone, email or by dropping into the office with at least 24 hours notice.



CONTACT INFORMATION

Phone

Email
@eastlink.ca

Office Hours

18 Bond Street Yarmouth, NS B5A 1P5 Monday – Friday, 8:30am to 4:30pm

A SUGAR CUBE SAVES LIVES (WITH A BIT OF HELP FROM WEDGEPORT)

By Phil Cassidy - Municipal Research Assistant



Twelve of the 15 children in this Nova Scotia family await vaccination. This family was 1 of 20 index families who agreed to more extensive testing. Talking to the children is public health nurse Cécile Amirault while Dr. Rideout measures the dose.

Bob Brooks. Courtesy of the Yarmouth County Museum Archives.

Thanks to COVID... an unusual few words to string together, but, because of COVID-19 we have, unfortunately, a much better understanding of many aspects of a pandemic; things like community spread, herd immunity, immunization, and the science of vaccine creation.

We also fully understand the necessity of "locking down" and "stay[ing] the blazes home"! The last of the Baby Boomers, and only by a whisker, my peers and I had measles, mumps, polio, tetanus, and smallpox vaccines. On "needle day" at school, we would sweat and suffer with our classmates through an excruciatingly slow-moving line-up. Advancing by half steps, we grimly knew full well that one of the rights of passage in grades 4, 6 and/or 9 was the inevitable booster shot. The only pleasure after receiving it, was sharing the impossibly large size of the needle that awaited our friends suffering in their own delayed purgatory

Vaccine research and development is a centuries old science dating back to the late 1500's in China and, in the west, Edward Jenner's first smallpox vaccine which dates back to 1794.

Typically, it can take up to a decade or longer to develop a vaccine before it is approved for public use and prior to the COVID-19 pandemic the fastest vaccine development to date was four years for the mumps. Because of ever improving technology and science, as well as a truly global effort to tackle and defeat the current pandemic, the COVID-19 vaccines first were developed and approved for distribution in less than a year. (Ball, 2020)

Unfamiliar to many in today's medically advanced world. mv mother's generation was well acquainted with guarantines and lock downs. She tells of contracting measles, of missing an entire year of school due to rheumatic fever and of people struggling for weeks to breathe

in an iron lung or permanently disabled with polio. Poliomyelitis [polio] is a crippler and a killer. The fight against it was pursued as urgently, as our own contemporary fight against COVID-19. However, approval of a polio vaccine in Canada would take 68 years from the date of the first polio epidemic in the United States in 1894, to the approval of an oral vaccine in 1962.

The trials and research to defeat polio would ultimately stretch far enough to include a small Acadian fishing community. The February 23,1961 edition of The Yarmouth Light announces on its front page, the "Entire Population of Wedgeport Volunteers for First Oral Polio Vaccine on a Community Basis".

In the April 19, 2011 edition of the Canadian Medical Association Journal, local historian, Susan Young, PhD, and her daughter, Rosalind Ashton, MD, reveal in their co-authored, "Immunization from a Photographic Perspective: the 1961 Polio Trial in Nova Scotia" that,

"By 1934, almost half of Canada's disabled population could be linked to polio and in 1953, the year of the worst outbreak in Canadian history, almost 9,000 cases were reported."

The vaccine trial, conducted in communities in Manitoba and Saskatchewan as well as Wedgeport, was to determine the efficacy of the new trivalent, Sabin vaccine. Jonas Salk, the first to create a viable vaccine against polio, injected inactivated polio virus into subjects whereupon they would develop antibodies to the virus. The inactivated or dead virus would train the body's immune system to recognize and kill the polio virus.



Fishermen returning from the lobster grounds found Dr. Rideout and public health nurse Cécile Amirault at the Tuna Wharf waiting for them.

Bob Brooks. Courtesy of the Yarmouth County Museum Archives.

"The trials and research to defeat polio would ultimately stretch far enough to include a small Acadian fishing community."

Like today's Astra Zeneca COVID 19 vaccine, Sabin's vaccine used an attenuated or weakened version of the virus with the goal being to prepare "...a vaccine that would build immunity in the digestive tract where the polio virus naturally replicates." (Rutty, From Salk to Sabin) Sabin had determined that the polio virus first grew in the digestive tract before attacking the nervous system, so training our immune system to attack it there meant that the virus never made it to the victim's nervous system.

Sabin's oral polio vaccine represented а substantial improvement over the Salk vaccine for many reasons including, "...ease of administration [a sugar cube], lower cost, longer immunity and, remarkably, the ability of vaccine strains to spread in a community and immunize beyond those directly given the vaccine, thus potentially stopping outbreaks."

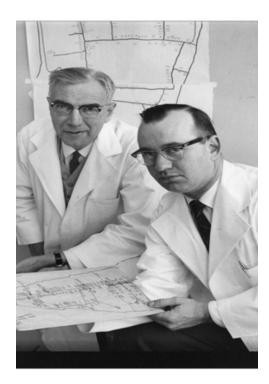
According to Ashton and Young's research, "Wedgeport (with the neighbouring

community of Comeau's Hill) was chosen for several reasons: it is a static and relatively isolated community perfect for epidemiological study, the previous health of the district had been good and polio-free for 20 years and the public health immunization records were readily available."

Local doctors Milton O'Brien and W.C. O'Brien and public health nurse Cécile Amirault, assisted Dalhousie University professor, Dr. C.E. van Rooyen, professor of bacteriology and associate provincial bacteriologist at **Dalhousie** University and Western Nova Scotia Health Unit director, Dr. Vernon Rideout, with the Wedgeport trial. Rideout and van Rooyen would lead the team in Wedgeport.

The Wedgeport trial was an unmitigated success. No cases of polio were reported in the summer months that followed it and in March 1962 the Sabin vaccine was licensed for use in Canada. While neither myself nor any of my friends ever suffered from polio, as a child,

perhaps the most welcome benefit of the Sabin vaccine was that it came in a sugar cube, not a needle. For that we happily stood in line!



Dr. C.E. van Rooyen, professor of bacteriology at Dalhousie University [left] and Dr. Vernon Rideout, director of Public Health for Western Nova Scotia with a map of Wedgeport at the start of the trial.

Bob Brooks. Courtesy of the Yarmouth County Museum Archives

LIGHT IT RIGHT CAMPAIGN - DID YOU KNOW? Protecting the night sky starts with you!

- Light only what you need
- Use energy efficient bulbs & only as bright as you need
- Shield lights and direct them down







- Only use light when you need it
- Choose warm white light bulbs (Max 2700 Kelvin)
- 6 Bylaw to ensure compliance







What does our Land-Use Bylaw Say?

Residential

- ☑ Fixtures cannot reflect on roads or other adjacent properties
- ☑ Fixtures should be cut-off fixtures, shining towards the ground
- ☑ Fixtures should use a maximum color temperature of 2700 Kelvin



Commercial

- ☑ Same regulations as residential (listed above)
- Fixtures must use an automated timer and/or motion sensor
- ☑ Total install of all outdoor lighting cannot exceed 250,000 lumens



THE MUNICIPALITY OF ARGYLE
IS A DESIGNATED
STARLIGHT RESERVE











Wedgeport's Parc des Jeunes Improvements

In 2017, Nova Scotia passed accessibility legislation, committing to a more equitable and accessible province, with a goal to make Nova Scotia an accessible province by the year 2030. The municipality is assessing all its recreation sites to ensure they are more accessible.

The "Parc des Jeunes" in Wedgeport was the first to receive funding support for accessibility improvements. The work has started! We have removed the pea gravel and installed engineer wood chips with the purpose of allowing wheelchairs to access the location.

Two new accessible swings have now been added to the playground to accommodate children ages 2-5 and 5-12. In the next few months, we will also install ramps, an accessible bench, and an accessible picnic table.

All of these changes were recommended by a consultant who specializes in designing barrier-free playground facilities. We hope that the community of Wedgeport embraces the positive change to the Parc and the enabling of a barrier free enjoyment of the facility.



Le Congrès mondial acadien 2024 is an international celebration of Acadian and French culture that will be held in Southwest Nova Scotia from the 10th to the 18th of August 2024.

The CMA is not only an event that will attract visitors on an international scale, it promotes sustainable development in the host region. The Municipalities of Argyle and Clare, being key partners in the CMA, are part of the planning process and will be host to various dynamic and unique experiences.

Save the dates in your calendars and follow the development of the CMA on www.cma2024.ca, or on Facebook at CMA2024

Have you met Bob?

Bob has been living in the waters of Lobster Bay since June 2020.

He collects air temperature, wave data (height, period, and direction) and wind data (speed and direction).



Remember, Hurricane Ida? Bob told us that the maximum wave height on September 2 was 2.26 m!!

Why is Bob important to us?

He is important to all users of the water as the data collected can show us patterns in waves and temperatures as well. Data could be used to predict where an oil spill would travel, or how the temperature trend is affecting the lobster fishery. Some creatures such as green crabs and oysters like warm temperatures, lobsters however, do not

Like Aquaculture in Argyle on Facebook to stay up-to-date with our developments in this growing industry!



FOLLOW US ON









 Public Works
 902-648-2623

 Taxation
 902-648-2311

 Recreation
 902-648-3379

 Building Inspection
 902-648-2623

 Tusket Archives
 902-648-2493

 Senior Safety Officer
 902-881-4099

SIGN UP FOR OUR E-NEWSLETTER



www.munargyle.com/connect

APPENDIX A

2021 - MoDA Newsletter Winter 2021



IN THE LOOP



Christmas Trees in Argyle

With the Christmas season looking a little different this year, Municipal Council funded \$4100 towards twelve Community Christmas trees to bring some Christmas cheer to our communities.

We would like to thank our community groups for all their hard work in constructing and organizing these beautiful additions to our area.





WE NEED YOUR INPUT!

We need your input to make Argyle more accessible.

By completing this 10 minute survey you can help inform us about improvements that need to happen in our communities.

The Nova Scotia Accessibility
Plan aims to create inclusive and
accessible services for all and
your input will help us put that
plan into action.

munargyle.com/access/

MEET OUR COUNCIL



Warden Danny Muise - District 1

Councillor Danny Muise lives in Abram's River with his wife Janice. Together they have an extended family of four children and seven grand children.

Danny is a retired government employee having worked with NS Department of Transportation and Infrastructure Renewal for 30 years. Since retirement he has taken positions with Elections Nova Scotia as Returning Officer and with Statistics Canada during Census as Field Operations Supervisor.

He has volunteered with many local organizations such as Ste Anne's Credit Union (now Coastal Financial), Ste Anne's Church, Abrams River Schoolhouse as well as many other organization.

Deputy Warden Nicole Albright - District 5

Nicole Albright lives in Belleville with her husband Harold and their son Isaac while their daughters Kaylie and Mackenzie attend St. FX University where they are studying to be a Teacher and a Nurse. Nicole is currently a Literacy Coach for the Tri-County Regional Centre for Education.

Municipal politics have been a family affair for Councillor Albright as her father Arthur Muise served as the Municipal Councillor for District 5 for over 20 years. Recreation has always been her passion and she believes that economic opportunities will entice people to move to the Municipality of Argyle, but diverse recreational experiences are what will encourage them to stay.



This is Councillor Albright's 3rd term serving as the voice for District 5.



Councillor Ted Saulnier - District 2

Newly elected Councillor Ted Saulnier, lives in Plymouth with his wife of 43 years, Alice.

Ted is a retired lobster fisherman of 45 years, as well as a carpenter in his spare time over the years.

He has been involved in various sports throughout his lifetime, but mainly baseball. Multiple times he headed the hospitality sector of the Old Timers National Baseball Tournament, which brought more than 400-500 participants and their family members to Yarmouth. He as well was involved in the fundraising and preparation for these events.

Ted strongly believes that all residents of communities should have their concerns heard. No issue is too small. He has always had an interest in local politics and opinions. Ted is looking forward to serving the community and Argyle as a whole.

MEET OUR COUNCIL



Councillor Gordon Boudreau - District 3

Councillor Gordon Boudreau lives in Lower Wedgeport with his wife Lillie. They are very proud parents of their daughter Joline.

He is serving his first term as a councillor and he's really looking forward to help his community grow in the next 4 years.

Most of his volunteering is with the Wedgeport Tuna Museum, he organizes the museum's annual hockey game, a fundraiser for the museum. He also drives the shuttle during Tuna Tournament week.

He worked 25 plus years in the fishing industry. He spent time in Alberta working as a servicing manager for a solar lighting company based out of Calgary. He also worked as a sales consultant for Tusket Ford and now works as a self employed carpenter doing house renovations.

Councillor Guy Surette - Distrct 4

Councillor Guy Surette lives in Surette's Island with his wife Patsy. He has two children, Giles and Joline and three grandchildren Lily, Jude and Minya.

Guy recently retired after operating Tusket Ultramart for the past 46 years. He volunteers on many committees such as Islands and District Volunteer Fire Department, serving as chief for the first 6 years it was established. He is also president of St Joseph Church Council, leadership team for Notre Dame de l'Assomption Parish and on its finance committee.

Guy is committed to good governance, transparency and sound fiscal management for our municipality.





Councillor Richard Donaldson - District 6

Councillor Donaldson is a retired lobster fisherman living in beautiful Lower Argyle with his wife Debbie, and enjoys reading, travelling and photography.

Richard believes that the communities in Argyle are and should remain to be an excellent place to raise families. Our quality of life in Argyle is what diversifies us and makes this region a great place to live.

"My past record of commitment, honesty, integrity, and communication will continue." - Councillor Richard Donaldson

MEET OUR COUNCIL



Councillor Kathy Bourque - District 7

Councillor Kathy Bourque lives in Middle East Pubnico with her husband Gilles Bourque. She worked for Desjardins Credit Unions for 12 years while her husband was serving in the military. Kathy and her family moved back to Pubnico in 2001. She has been employed by RBC for 13 years and now currently employed by Paroisse Notre-Dame de l'Assomption as a bookkeeper.

She volunteers her time with the East Side Community Centre, Pubnico Light Monument Society, Immaculate Conception Church, Conseil Acadien de Paren -Bas, West Pubnico Funeral Home, and any other organizations that she can help out.

Kathy is serving her fourth term as councillor and enjoys every bit of it. Kathy's goals as councillor are to work for the community to make it a better place to live. She is ready to hear, meet and present all suggestions from her constituents to Council and personally contact them with the results.

Councillor Glenn Diggdon - District 8

Councillor Glenn Diggdon lives in Middle West Pubnico with his wife Jeanette.

Glenn retired after 33 years as a paramedic in the province of Nova Scotia and currently manages the West Pubnico Funeral Home and Cremation Services in Middle West Pubnico. He is into his second term as Councillor and loves helping people.

Volunteering is another thing that Glenn enjoys and he can often be found helping out as he is a very active member of his community. Some of the organizations that he volunteers with are: St. Peter's Catholic Church and cemetery, the Royal Canadian Legion, Branch 66, West Pubnico, the West Side Improvement Committee and he is into his 30th year as a member of the West Pubnico Volunteer Fire Department.





Councillor Calvin d'Entremont - District 9

Councillor Calvin d'Entremont lives in Lower West Pubnico with his wife Deanna, they have two adult children. Calvin has worked in the fishing industry all his adult life and currently is a commercial lobster fisher.

He has also been involved in the tourism industry and owns A Day by the Sea Tour Ltd. This is his 6th term on council and has served as Deputy Warden for one of those terms (2012-2016).

He has always volunteered in his community and presently is a committee member for the Pubnico Point trail, the Bay of Fundy Seakayaking Symposium and the Chairman of Southwest Nova Delta Waterfowl.

Do you have a civic sign?

Here in the municipality, we want to encourage all residents to have a reflective blue civic sign posted on their property. The sign should be properly posted by the roadway for emergency services to find the house in a timely manner.

"There are a number of reasons why you should make sure that your property is well defined with a civic number sign." says Warden Danny Muise.

"But the most important one is to assure that emergency responders can find you without delay if you are in a serious emergency situation."

Former paramedic and Municipality of Argyle District 8 councillor Glenn Diggdon mentions "I cannot stress enough the importance of displaying a civic sign. It is a gut wrenching feeling when you are responding to a serious call and you cannot find the location because there is no

visible signage."





If you are a resident of the municipality and do not have a reflective blue civic sign, or if are in need of a new sign, call our Public Works Department at 902-648-2623 for your free sign.

"It's a gut wrenching feeling when responding to a serious call and you cannot find the location"





Recreation Serving our Seniors

The Argyle Recreation
Department wanted to reach
out to the seniors that were
affected during the Covid-19
pandemic and decided to
create 3 themed activity kits
for seniors to do at home. The
kits were free of charge and
included a knitting kit, a
puzzle kit and a brain teaser
kit. In total, 118 kits were
given out to seniors within the
Municipality.

The recreation department normally hosts a Senior Christmas luncheon, but as it was not possible to do so safely this year, a take-out rappie pie luncheon was organized instead.

In total, 120 take-out meals were given free of charge to seniors within the Municipality.

Senior Safety Program

The Yarmouth County Senior Safety Program's goal is to educate seniors on crime prevention, health and wellness. And to also promote safe and independent living within their homes for as long as possible.

During COVID-19, Senior Safety Coordinators are still serving clients while abiding to public health protocols.

If you are a senior or know of a senior that would benefit from this program, please contact Ashley Rhyno or Peggy Boudreau at 902-881-4099.



Rural Internet Improvements

We were delighted with the recent approval of Bell Canada's application for funding under the province of Nova Scotia's Internet for Nova Scotia Initiative.



The initiative, which Argyle supported with a financial commitment of \$669,375, is anticipated to provide approximately 2,500 civic addresses with a much needed upgrade.

If you are interested in knowing if your home is included in this project, we encourage you to visit Develop Nova Scotia's website for more information:

https://internet.developns.ca/zones/western-ns/

Aquaculture in Argyle

We are currently in the process of creating an Aquaculture Development Area (ADA) within the municipality.



This will be for the development of sites for shellfish and marine plants.

If approved, it will be the first of its kind in Canada. For more information, visit www.aguacultureargyle.com

FOLLOW US ON









Public Works	902-648-2623
Taxation	902-648-2311
Recreation	902-648-3379
Building Inspection	902-648-2623
Tusket Archives	902-648-2493

Senior Safety Officer 902-881-4099

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APPENDIX A

2020 - Aquaculture North America Article

ACCUACION VOLUME 11 ISSUE 2 MARCH/APRIL 2020 COLUME 11 ISSUE 2 MARCH/APRIL 2020 COLUMN TO THE COLUMN TO THE

4 >> MARCH/APRIL 2020

NEWS AND NOTES



he town of Argyle in Nova Scotia, Canada is planning to build a "business park on the sea," as part of a broader effort to promote oyster aquaculture in its waters. Acquiring numerous approvals from more than one permitting agency is typical for potential aquaculture lessees anywhere, but under the proposed Aquaculture Development Area (ADA), the sites identified will have already undergone environmental impact assessment, a review by multiple provincial and federal departments, and consultation with stakeholders.

"As Council, we focus on the assets we have in the region, which is ideal conditions for oyster and other aquaculture growth. Our interest in establishing an ADA is to remove some of the barriers of entry in this complex market, supporting new and existing companies in this industry and providing more opportunities for our residents to work, live and play here," Argyle Warden Danny Muise said.

Charlene LeBlanc, Argyle's community development officer, said the potential operator wishing to use the space will still have to apply for an aquaculture license and lease from the province.

She noted however that the permitting process would be "much faster and less onerous because the area has already gone through a rigorous assessment for that activity."

"Biophysical and oceanographic data is available, meaning you will know the average phytoplankton, pH, temperature and salinity, etc of your site. You are aware of what the bottom looks like, the current, proximity to wharves, and three-phase power, where the navigation routes are, and the proximity to lobster fishing gear. The concept is much like shopping for a lot in a business park on land, except it is on water."

The ADA has yet to be approved but the interest is high, added LeBlanc. "We have been getting calls everyday since we announced it."

Argyle currently has five sites with oyster farming activity by two companies, and another company soon to receive three leases. Under the proposed ADA, 19 sites have so far been identified. The leases will vary in size, ranging from 4 to 20 hectares.

"Oyster aquaculture is environmentally friendly, and has always been very well received. The lobster fishery has an important presence in our municipality and we value their input and want to avoid their lucrative fishing grounds. Recreational boater routes have also been considered with every site chosen," LeBlanc said.

—Liza Mayer

APPENDIX A

2021 - The Sea Farmer Article

#SEA FARMER

2021 ISSUE

PAST, PRESENT

• POISED FOR CONTINUED GROWTH, PG. 16 • PLANNING FOR THE FUTURE OF THE INDUSTRY, PG. 20

Argyle Aquaculture

Submitted by Charlene LeBlanc

The Municipality of Argyle and the province of Nova Scotia are working in partnership to create an Aquaculture Development Area (ADA) for shellfish and marine plants. These two levels of government have been conducting research and identifying areas that are environmentally suitable for aquaculture in the Municipality of Argyle, making this ADA the first of its kind in Canada.

The Municipality recognizes the need to diversify economic opportunities in the sea; it's our greatest asset of all!

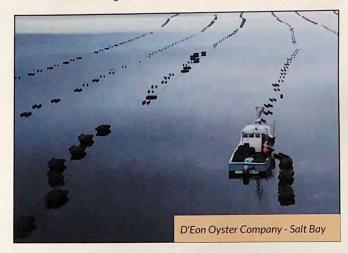
We know firsthand the potential our Municipality has in resources, both natural and human. The waters around Lobster Bay, for example, are excellent for the growth of shellfish, and our sea farmers are extremely driven, innovative, environmentally conscious, and knowledgeable people.

The ADA will set the stage for further aquaculture development and industry spinoffs such as trucking, tourism, and the manufacturing of associated goods and services such as packaging. The ADA will also reduce the amount of time needed to successfully obtain a lease and will take the burden off potential and current farmers who may not have the resources to carry out some steps required to grow their business. This includes adding or expanding leases, adding a species, or developing their farm management plan.

We regularly test potential sites for temperature, pH and oxygen level and salinity, as well as the microscopic contents of the water such as ammonia, phytoplankton, chlorophyll, and nitrate. We have additionally



Poised for Continued Growth



undertaken a variety of measures to study the state of the bottom of the lease sites such as measured depths, checked turbidity, monitored eelgrass growth, identified species of kelp and kelp beds, identified biofouling in different bodies of water. We will also ensure that native sea plants will not be disturbed and that any ghost gear is found and reported.

Most importantly, we have taken advantage of many opportunities for public engagement, identified stakeholders, and have sought the input of the local fishers whose livelihoods are made in the waters that we have been studying so intently. We have taken their advice and concerns into consideration, and together we have been able to select sites that should not impact their fishing, navigation, or gear.

The Municipality is working to calm the waves and map a clear course for continued growth and success in aquaculture to turn the tide in this industry. We firmly believe that municipalities can and should play a role in supporting business investment, whether it be by sea or on land.

"As a council, we focus on the assets we have in the region, which include ideal conditions for oyster and other aquaculture growth," said Argyle Warden Danny Muise. "Our interest in establishing an aquaculture development area is to remove some of the barriers of entry into this complex regulatory environment, to support new and existing companies in this industry, and to provide more opportunities for our residents to work, live and play here."

APPENDIX A

2020 - CBC News - Business Park on the Sea



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Nova Scotia

N.S. municipality looks to create 'business park on the sea' for oyster farming

Municipality of the District of Argyle identifies 19 spots to set up oyster farms

Emma Smith CBC News Posted Jan 21, 2020 7 31 PM AT | Last Updated January 21, 2020



The Municipality of the District of Argyle says its unique geography makes it ideal for oyster farms because many of the communities are located on slivers of land that jut out into the sea (Raymond d'Entremont)



A municipality in southwestern Nova Scotia that boasts ideal conditions for farming oysters wants producers to know it's open for business.

The Municipality of the District of Argyle, which includes communities such as Pubnico, Tusket and Wedgeport, has identified 19 ocean sites it hopes to lease to companies interested in farming oysters.

This "business park on the sea" is one of the first aquaculture developments of its kind in Canada, according to the municipality.

"There's a large body of water that is quite warm and oysters grow there naturally," Charlene LeBlanc, the municipality's community development officer, told CBC's *Information Morning*.

A handful of farms have operated in the waters off the Municipality of the District of Argyle for about 20 years, but LeBlanc said it's not easy to get the necessary permits.



There are five oyster farms currently operating in the Municipality of the District of Argyle. (Raymond d'Entremont)

"There's a lot of red tape into getting a lease, so we thought that we'd make it easier for investors to get into business for the shellfish," LeBlanc said.

As part of that, the municipality has gathered oceanographic data on currents and tides, as well as biophysical data.

"We've been doing the legwork making it to able to get to lease a lot faster," she said.

In 2017, the Municipality of the District of Argyle received provincial funding and started working with the province to test water quality at several sites.

"What we need to grow oysters is good pH, nice warm temperature, which we have, salinity and phytoplankton. And it's the perfect recipe in our waters," LeBlanc said.



According to Sarah Stewart Clark, Nova Scotia's oyster production grew from an \$800,000 industry in 2010 to roughly \$3 million today (Shellfish Growers Climate Coalition)

She said municipal staff also needed to make sure the currents were ideal and the sites didn't impede the view of homeowners or get in the way of lobster fishermen.

Because oysters are suspended in the water in black mesh bags, they can cast a shadow on species below, including eelgrass.

"We certainly are not going to pick any sites that are going to be on top of eelgrass," LeBlanc said.

Sarah Stewart-Clark, an associate professor of shellfish biology at Dalhousie University, said determining where to set up a farm has a lot to do with how much phytoplankton is there for the oysters to eat.

"You would never take the entire surface of a bay and float oyster cages in it," she said.
"It"s always in mind, how do we farm these filter feeders in a way that's not going to harm the environment?"



There's been a big decline in eelgrass off the municipality, but LeBlanc says it's starting to make a comeback. (Submitted by Arnault Lebris)

Stewart-Clark said oyster farming doesn't share the same reputation as open-pen salmon farms, which have been criticized for their use of pesticides, antibiotics and the waste that's produced.

She said when the oysters eat tiny phytoplankton, they also filter the water.

"The farmers are simply adding oysters to the estuary," Stewart-Clark said. "All of the food, all of the oxygen, everything that's required for the oysters to grow, comes from the natural ecosystem."

Strong demand for oysters

Nova Scotia can't keep up with the demand for oysters, she said.

"Sometimes on an oyster farm, oysters that are two years away from maturity are already sold, so the market is there," she said.

The province produces about \$3 million worth of farmed oysters a year, according to Stewart-Clark, while Prince Edward Island and New Brunswick produce \$13 million and \$12 million, respectively.

"We really play up our seafood production and when it comes to shellfish, we're not keeping up with the other Maritime provinces," she said.

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APPENDIX A

2020 - SaltWire - Aquaculture Development Area

Atlantic Canada CHANGE LOCATION

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Atlantic Canada > Federal Election

Province, Municipality of Argyle teaming up to identify aquaculture development areas

Contributed | Posted: Jan. 16, 2020, 3:25 p.m. | Updated: Jan. 16, 2020, 3:27 p.m. | 2 Min Read



Keith Colwell, Nova Scotia's minister of fisheries and aquaculture, and Danny Muise, warden of the Municipality of Argyle. - Contributed

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The province and the Municipality of Argyle are partnering to establish aquaculture development areas.

The two levels of government have entered into a three-year agreement to identify areas with potential for environmentally sustainable aquaculture.

The agreement is said to be the first of its kind in Nova Scotia and the first example in Canada of this approach to aquaculture development

"I want to commend municipal leaders in Argyle for approaching us to work with them to reduce barriers to growth for aquaculture operators in their area," said Nova Scotia Fisheries and Aquaculture Minister Keith Colwell. "Aquaculture, carried out environmentally, is important to food security, economic development, job growth and the growing success of Nova Scotia's leading seafood exports."

Under the agreement, the province will work with the municipality to research and identify potential development areas while considering the environment, other marine users and opportunities for shellfish and marine plant aquaculture sites. This work will take the burden off potential operators as well as current operators who may not have the resources to carry out these important steps

"As a council, we focus on the assets we have in the region, which include ideal conditions for oyster and other aquaculture growth," said Argyle Warden Danny Muise. "Our interest in establishing an aquaculture development area is to remove some of the barriers of entry into this complex regulatory environment, to support new and existing companies in this industry, and to provide more opportunities for our residents to work, live and play here."

A few facts:

- · Aquaculture development areas, once identified through professional research, analysis and public consultation, will be subject to the approval process outlined in the Fisheries and Coastal Resources Act.
- · A lease and licence are required to operate a marine aquaculture site, including within aquaculture development areas.
- Investors are not limited to aquaculture development areas and may explore other areas within the province for marine aquaculture development.
- · Nova Scotia has been Canada's top seafood exporter for four years in a row, valued at more than \$2 billion, accounting for nearly 30 per cent of Canada's total seafood exports.
- In 2018, aquaculture in the province was valued at more than \$88 million and directly employed 520 Nova Scotians with 149 companies farming fish, according to information from the province.

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Election 2021 replay and results

UPDATED OCT. 14, 2021 1 MIN READ

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APPENDIX A

2021 - SaltWire - Sugar Kelp

Atlantic Canada > Communities > Southwest Nova Scotia

Municipality of Argyle to test sugar kelp for aquaculture development potential

Carla Allen · Reporter/Photographer | Posted April 5, 2021, 10 50 a m | Updated April 5, 2021, 2 p m | 4 Min Read





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ABANA, Que Tusket, Yarmouth County

The Municipality of Argyle is applying for leases to explore the potential of sugar



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sugar kelp in the municipality's aquaculture development area for shellfish and marine plants.

But first three experimental leases and locations must be approved and the sites must not interfere with the lobster fishery.

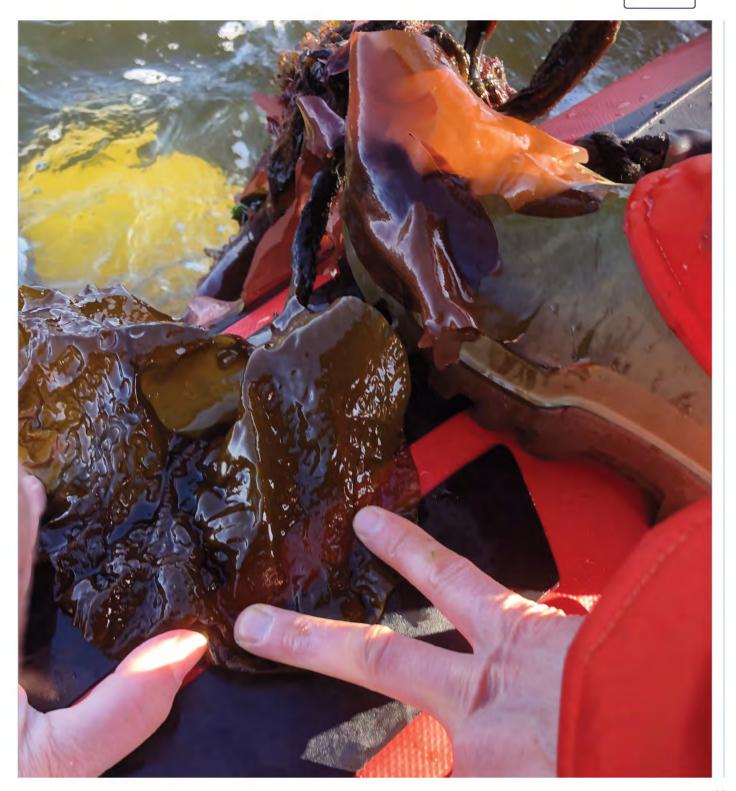
"I decided that we should figure out where it grows best and what we need to develop this type of farming," she says.

Making seeded lines is the challenge. The seed must be sourced locally to ensure no diseases are brought in from other areas.

With the knowledge from the course LeBlanc took, and the help of Merinov, a company in Quebec, the seed will be collected just prior to the reproduction cycle. If the opportunity is missed, it won't happen again for 12 months.

The lines are grown in a hatchery and then deployed at the (ocean) farm.

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due to its shape, it can grow longer than 15 feet.

The crop is harvested in June, just before reproduction happens. After reproduction, the sugar kelp deteriorates.

After harvesting, sugar kelp is dried in large warehouses and hothouses in Maine, with fans going. It takes two to three days to dry. All of the plant is used, with pickles made from parts near the edge of the frond (leaflike part of the kelp); along with animal food, and also powder for encapsulation (a supplement in Asian countries).

The municipality has directed \$2,500 towards the two-year project and has secured employment for several fishermen to help harvest the sugar kelp.

In January 2020 the province entered into a three-year agreement with the municipality to identify areas with potential for environmentally sustainable aquaculture.

The province is working with the municipality to research and identify potential development areas, while considering the environment, other marine users and opportunities for shellfish and marine plant aquaculture sites.

Read more about Argyle municipality's "Business park on the Sea:

Solar-powered oyster sorter makes a difference at DEon Oyster Company

<u>Province, Municipality of Argyle teaming up to identify aquaculture development areas</u>

Also Related story: <u>Feds provide \$250,000 for market research and development in establishing sugar kelp industry in Cape Breton</u>

USES FOR SUGAR KELP



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APPENDIX A

2020 - Courrier de la Nouvelle Écosse - Promotion de l'aquaculture

font la promotion de l'aquaculture

Norbert LeBlanc

TUSKET : Lors de la dernière rencontre du conseil municipal d'Argyle du 8 décembre, les membres du conseil ont eu le plaisir d'écouter à une présentation de la part de Charlene LeBlanc et Alix d'Entremont. Le thème de leur présentation était sur le développement de l'aquaculture en région. Charlene LeBlanc est l'agente de développement de la municipalité d'Argyle et Alix d'Entremont est le technicien en information géographique pour la municipalité.

Le Courrier de la Nouvelle-

Écosse s'est rendu au bureau municipal à Tusket pour rencontrer Charlene LeBlanc et Alix d'Entremont pour en découvrir davantage sur ce projet innovateur de développement de l'aquaculture en région. Charlene LeBlanc nous a informés que le domaine de l'aquaculture l'intéresse depuis plusieurs années et depuis son arrivée avec son emploi avec la municipalité. Elle a constaté que la municipalité d'Argyle avait identifié le développement de l'aquaculture comme une de ses priorités en 2011. Elle a également noté que la société Bouctouche Bay Industries lui avait approché pour savoir si elle pouvait identifier des endroits dans la municipalité qui seraient des endroits propices pour



De gauche à droite : Alix d'Entremont et Charlene LeBlanc responsables pour le développement d'aquaculture en région d'Argyle. (Crédit : Norbert LeBlanc)

le secteur d'aquaculture. Avec cette demande, elle a invité Alix d'Entremont un de ses collègues de lancer une recherche pour identifier des endroits qui seraient idéaux pour le développement de l'aquaculture. Dès le début elle a envisagé la création d'un parc d'activités marines en région. Elle et Alix ont commencé avec une étude des cartes géographiques de la région. Ils ont par la suite voulu faire une recherche sur les suivants : les eaux protégées; la profondeur des eaux; la salinité de l'eau. Ils ont surtout identifié des endroits qui seraient éloignés

des résidences et qui ne créeront pas d'obstacles avec les pêches existantes.

Afin de se lancer dans ce projet, Charlene LeBlanc nous a informés qu'elle a fait une demande de financement de la province. En effet, elle a obtenu un octroi de recherche et développement de la province, d'une valeur de 23 000 \$. Cet argent les a permis d'embaucher quatre personnes ressources du laboratoire d'innovation en Science et en Industrie de l'Université Sainte-Anne. Ces

personnes sont venues en région et ont coordonné une série de tests dans les eaux de la municipalité entre Argyle et Wedgeport, y inclus Île des Surette et Île Morris. Le but de ces tests était pour déterminer si la région était propice pour la culture d'huitres, de pétoncles et de la zostère (herbe marine vivace). Cet octroi les a également permis de se procurer un Aquaread, un outil qui les permettait de tester la qualité d'eau avec une plus grande vitesse que les tests envoyés au laboratoire.

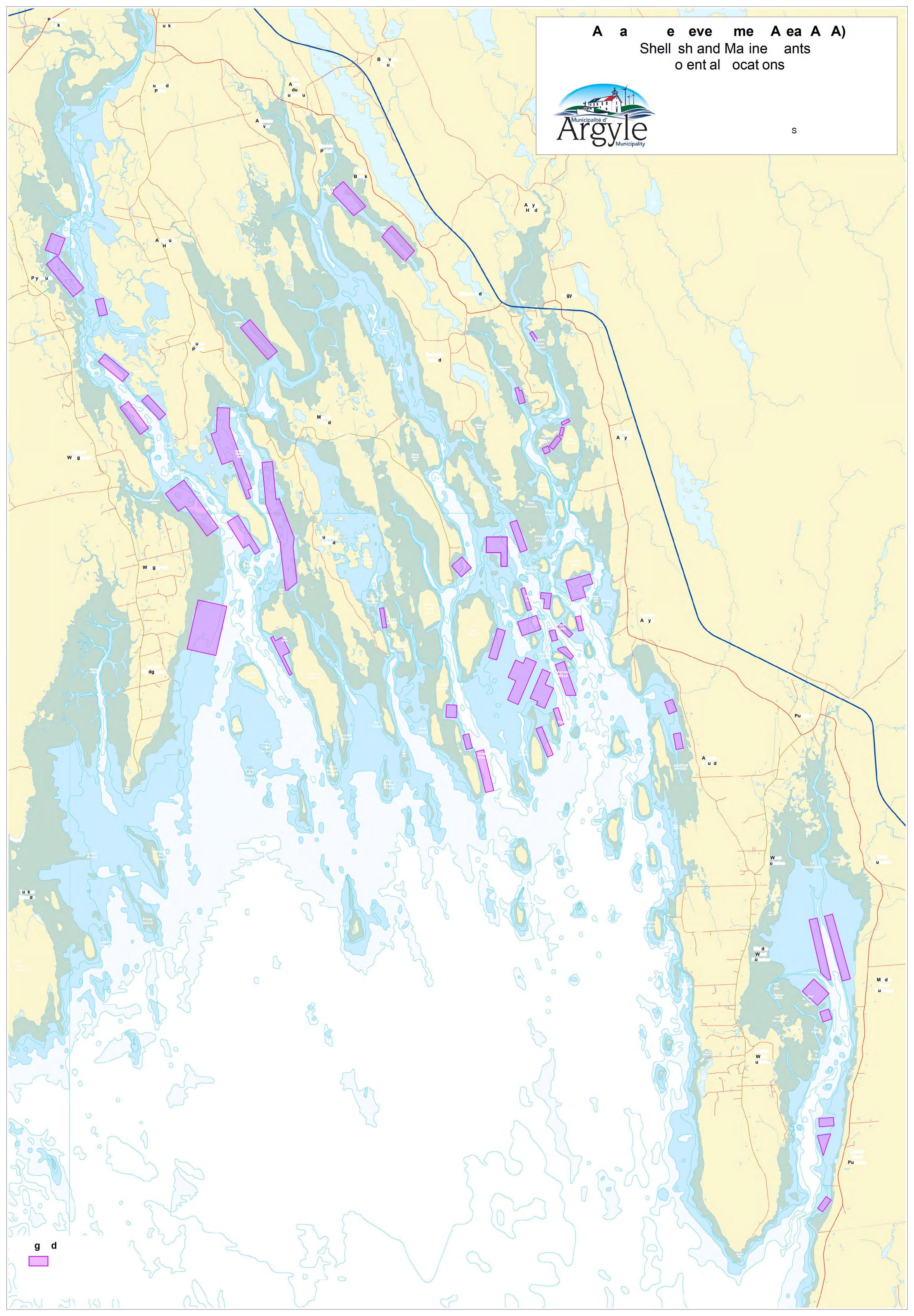
Dès le début Charlene LeBlanc a été la personne responsable du projet. Elle a agi comme liaison entre la province et la municipalité et elle s'est assurée que les partenaires reçoivent les informations les plus pertinentes et les plus récentes. Charlene LeBlanc a également agi comme personne contacte avec les médias locaux et provinciaux.

Alix d'Entremont a coordonné les visites sur les eaux en région. Il a utilisé son propre bateau Zodiac et pendant les deux dernières années, il a surtout travaillé en collaboration avec Charlene Leblanc, pour identifier des sites idéals qui seraient propices aux développements de l'aquaculture. Alix d'Entremont est surtout reconnaissant à la participation des trois personnes suivantes: Gregor Reid, James Cunningham et Matt King. Alix a également été responsable pour la coordination d'un drone dans leur recherche.

Charlene LeBlanc et Alix d'Entremont ont terminé leur entrevue en discutant les opportunités qui entourent leur recherche. Les deux sont d'accord que la municipalité d'Argyle est un endroit riche pour le développement futur du secteur d'aquaculture et ce secteur devrait être perçu comme un secteur d'appui à la pêche existante et que les possibilités économiques sont infinies.

APPENDIX A

2022 - ADA CHS Chart with Polygons



APPENDIX A

2022 - ADA Card

Aquaculture Development Area Shellfish and Marine Plants

Project Details

The Municipality of Argyle is working on a pilot project with the NS Dept. of Fisheries and Aquaculture to explore for what is known as an Aquaculture Development Area (ADA).

In the interest of economic growth for the Municipality, Argyle Council had identified further development of the aquaculture industry as a priority in 2015. One of the barriers to entry for potential investors is the lengthy and complex provincial License and Lease application process. The goal of the ADA is to shorten and simplify the application process by the creation of marine areas that have already been identified as suitable for aquaculture development. The prospective ADA only applies to shellfish (e.g., American oyster, blue mussel) and marine plants (e.g., sugar kelp, dulse) and does not include Atlantic salmon or any other finfish.

In 2020, the Municipality and the Province of NS signed a memorandum of understanding that they would collaboratively explore for an ADA in Lobster Bay and Pubnico Harbour. The Municipality is leading engagements with locals which include but are not limited to fishers, oyster farmers, seaweed harvesters and processors, the tourism industry, people and groups with recreational interests, environmental and conservation groups, and the wider public. The NS Dept. of Fisheries and Aquaculture is responsible for Consultation with the Mi'kmaq of NS and engagement with the various provincial and federal departments. Through Consultation and federal, provincial, and local engagements, areas are being reviewed to determine suitability for development of shellfish and marine plant aquaculture. If this pilot project is successful, applications for aquaculture sites would be handled by the NS Dept. of Fisheries and Aquaculture.

More Information and How to Provide Feedback

The Municipality is currently in the process of engaging with the public to seek feedback on potential marine areas. To learn more about this pilot project, visit www.aquacultureargyle.com, call us at 902-648-2623, email adentremont@munargyle.com or attend the Open Houses on October 19 (see details on the reverse). You can provide feedback by visiting www.munargyle.com/feedback or by attending an Open House.

WE WANT TO HEAR FROM YOU AS WE CONTINUE IN OUR PROCESS OF IDENTIFYING SUITABLE AREAS FOR THE EXPANSION OF SHELLFISH AND MARINE PLANT AQUACULTURE IN OUR AREA



AQUACULTURE DÉVELOPMENT AREA OPEN HOUSE

WEDNESDAY OCTOBER 19, 2022

 Glenwood Hall 5832 Highway 3 Glenwood

1:00 - 3:00 PM

Argyle Municipal Office

> 5 J. E. Hatfield Court Tusket 6:00 - 8:00 PM

For more information: 902-648-2623 or adentremont@munargyle.com

B OPEN HOUSE BOARDS



ABOUT THE PROJECT

PURPOSE

The Aquaculture Development Area (ADA) Pilot Project seeks to explore an avenue for development of the aquaculture sector described within the provinces Fisheries and Coastal Resources Act administered by the Nova Scotia Department of Fisheries and Aquaculture (NSDFA).

WHAT IS AN ADA?

A predetermined marine area designated for aquaculture development.

WHY?

In the interest of economic growth for the Municipality of Argyle (MoDA), Council had identified further development of the aquaculture industry as a priority in 2015. The Municipality is partnering with NSDFA to facilitate the development the aquaculture sector to diversify the local economy and to ensure thorough public engagement related to the project.

WHERE?

The project study area is Lobster Bay and Pubnico Harbour. The exact location of the potential ADA marine areas is still currently under review as engagement with the broader community continues.

HOW?

The Minister of NSDFA with approval from Governor-in-Council can establish an ADA, but shall consider the social, cultural, environmental, and economic factors within the study area.

WHO?

This project is led by NSDFA with support from the Municipality. NSDFA is responsible for consultation and engagements with the Mi'kmag of Nova Scotia, federal/provincial departments representing mandates related to natural resources, the environment, water quality, archeology, and fish & fish habitat. MoDA is responsible for local stakeholder engagement.

WHEN?

An agreement was signed between NSDFA and the Municipality to explore for an ADA in Winter of 2020 and work has been ongoing since then.

PROJECT GOAL

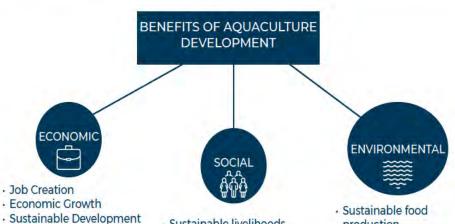
To facilitate sustainable social, cultural, environmental & economic development for the shellfish and marine plants aquaculture sector.

Objectives

- 1. Secure suitable marine locations for aquaculture development
- 2. Minimize conflict with other marine uses and marine-based industry.
- 3. Reduce barriers & streamline processes

Innovation Opportunities

4. Reduce costs and financial risk to facilitate industry growth as well as to reduce administration costs.



Food & Nutrition

Resilient Coastal

- · Sustainable livelihoods production
 - · Sustainable use of marine resources
- Community Adaptation to climate Sharing marine space change



For more information please visit: https://www.aquacultureargyle.com

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PROJECT ORGANIZATION & GUIDANCE

Exploring for an ADA is a proactive spatial planning effort led by the NSDFA with support from respective local authorities and assistance from federal & provincial governments & agencies, Consultation with the Mi'kmaq of Nova Scotia & respective engagement with local stakeholders, supported continuously by corresponding social, cultural, environmental & economic data & information. The figure below describes the organization and guidance of the ADA pilot project.

Consultation

Office of L'nu Affairs Mi'kmag of Nova Scotia

Data Committee

Centre for Marine Applied Research (Chair)
NSDFA
Municipality of Argyle
Fisheries & Oceans Canada
Academia

NSDFA

Nova Scotia Department of Fisheries and Aquaculture

Steering Committee

NSDFA (Chair)
Municipality of Argyle
Fisheries & Oceans Canada
Centre of Marine Applied Research

Stakeholder Committee Centre for Marine Applied Research

Municipality of Argyle
NSDFA
D'Eon Oyster Company Ltd.
Tusket River Environmental Protection Association
Seaweed Harvesting and Processing Industry

Southwest Paddlers Association Western Regional Enterprise Network

Government Agencies

Federal
Fisheries & Oceans Canada
Canadian Food Inspection Agency
Transport Canada
Environment & Climate Change Canada

Provincial
Environment & Climate Change
Natural Resources and Renewables
Communities, Culture, Tourism & Heritage
Agriculture
Municipal Affairs
Office of L'nu Affairs
Public Works
NSDFA Marine and Inland Divisions

Engaged Stakeholders Roseate Tern Working Group

Brazil Rock Lobster Association
Coldwater Lobster Association
Affected Lobster Fishers
Local oyster farmers
Pleasure Boaters
Southwest Nova Scotia Biosphere Reserve
Aquaculture Association of Nova Scotia
Sea Kayaking Symposium
Nova Scotia Community College
Nova Scotia Bird Society
Delta Waterfowl
Yarmouth and Acadian Shore Tourism Association
Yarmouth-Shelburne Gaspereau Advisory Group
Atlantic Coastal Plains Flora Provincial Recovery Tear



LOCAL ENGAGEMENT PERFORMED TO DATE

Since 2020, the Municipality of the District of Argyle have been engaging with locals through various means of public engagement, such as:



Engaged with Industry

Engaged directly with 100 local fishers, marine farmers & harvesters in both one-on-one & in small groups, including spending time on the water and at wharfs.



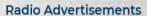
'One-pagers' & brochures were sent to various groups, organizations & surrounding Municipalities





Online Communication

Presentations and informational videos were completed to highlight the ADA project work and local aquaculture industry



Argyle Municipal Staff were interviewed for radio stories





Newsletters & Newspapers

Included details on the ADA project work and was available both online and in print, including Saltwire News and Le Courrier de la Nouvelle-Écosse (in French)

Stakeholder Committee

This committee, with representation from the Municipality, NSDFA, environmental groups, and the marine industry, took part in an at-sea tour of areas under consideration and had meetings where the ADA pilot project was discussed in detail



WHAT WE HEARD

- · Concerns regarding the appearance of aquaculture equipment
- Concerns regarding the location of ADA area and if it will impact future fishing activities, and navigation routes
- · Expressed that future aquaculture facilities/farms should be run by locals
- Less concerned that future farming will be shellfish and marine plants rather than
 finfish
- 'Experimental leases' should be implemented in order to confirm/deny the viability of the various ADA regions
- J. Individuals familiar with the area shared locations of ghost gear from previous aquaculture operations
- Individuals shared details on which ADA polygons may cause issues related to navigation, fishing, hauling up lobster cars, etc.
- Concerns regarding water quality (microalgae populations, parasites and contamination), overall health of rivers and lakes and riparian buffers
- Existing access to coastline and wharf infrastructure is important to maintain for seaweed harvesters and processors
- Expressed concerns with maintaining organic certification for harvested seaweed
- · Interest in learning more about the marine plan opportunities



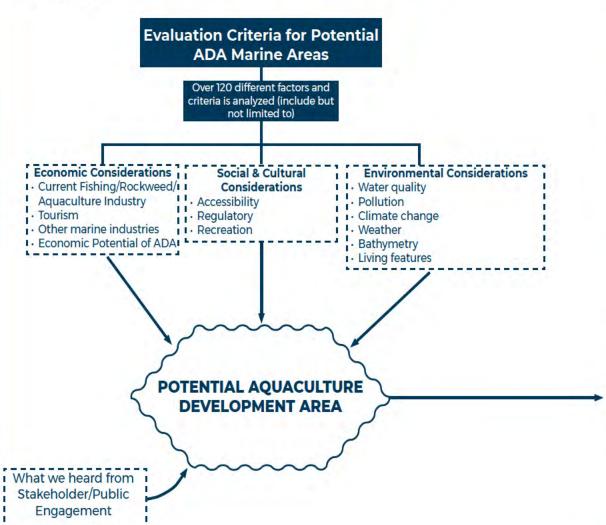


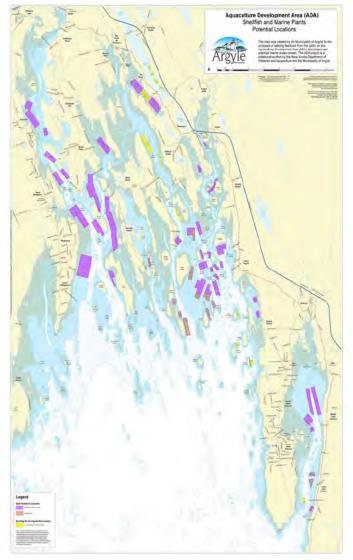




ADA EXPLORATION PROCESS

Identifying suitable locations for aquaculture development includes consideration of an array of factors related to social, cultural, environmental, and economic functions and characteristics. Analysis of these factors is supported by Consultation and engagements to help explore for marine space suitable for aquaculture development.









FAQs

Q: WHO IS GOVENOR-IN-COUNCIL & WHAT IS ITS ROLE IN THE ADA PROCESS?

Governor-in-Council, also known as Executive Council or Cabinet, is the decision-making authority for the Government of Nova Scotia, made up of appointed Ministers responsible for respective departments and agencies and will ultimately make the decision on the outcome of a potential ADA. The Minister of the Nova Scotia Department of Fisheries and Aquaculture is a member of Governor-in-Council.

Q: WHY FARM SHELLFISH & MARINE PLANTS?

Farmed shellfish and marine plants:

- Enhance water clarity
- Marine plants gather nutrients from the water and produce energy through photosynthesis
- · Requires no feeding or antibiotics, etc.
- Can contribute to sustainable, environmental, and economic growth in Argyle

Q: IF THE ADA IS APPROVED, WHICH AUTHORITY WILL BE ACCEPTING APPLICATIONS FOR LEASES AND LICENSES?

NSDFA will be responsible for lease and license approvals.

Q: WHAT DOES THE STEERING COMMITTEE DO?

The purpose of the Steering Committee is to facilitate a forum of discussion and the effective exchange of information between parties related to the ADA pilot project.

Q: WHAT DOES THE DATA COMMITTEE DO?

The purpose of the Data Committee is to facilitate a forum for the discussion and the effective exchange of information related to data collection, data analysis and data management and report findings to the Steering Committee regarding the ADA location selection process and outcomes.

Q: WHAT COULD BE THE ECONOMIC SPINOFF OF AQUACULTURE DEVELOPMENT FOR THE REGION?

- · Expanding on an existing industry within Argyle
- Expand the supporting services and industries (e.g. equipment manufacturing and retail, servicing boats and equipment)
- Increase in production of locally produced shellfish and marine plants to market and sell in restaurants and international export partners
- Opportunities for an increase in tourism and working waterfronts/living wharves

Q: AFTER APPROVAL, HOW WILL THIS ADA BE DEVELOPED?

Not all of the ADA would be open to development at once. There would be a phased approach to the decisions and implementation of leases and licenses within this ADA.









C STAKEHOLDER COMMITTEE CONCERNS AND RESPONSES

Aquaculture Development Area Stakeholder Committee Meeting Questions, Concerns, and Responses

Municipality of the District of Argyle Created by Alix d'Entremont (unless otherwise stated) May-June 2022

This document lists questions and concerns raised by members during and after the April 28, 2022, Aquaculture Development Area (ADA) Stakeholder Committee Meeting that were not previously responded to as well as responses from the Municipality of the District of Argyle (MoDA) and the Nova Scotia Department of Fisheries and Aquaculture (NSDFA).

1. Question/Concern (Tital Organics) There is a potential for impacts to rockweed harvesting activities at the harvesting sites, however, details on the type and distribution of gear compared to the rockweed beds would be

Response

required to allow for an accurate assessment.

Is there a minimum distance from a refence like the high or low water mark that should separate the closest point of an aquaculture lease in the areas where rockweed harvesting occurs?

2. Question/Concern (week, Tidal Organics; Acadian Seaplants)

Both and were concerned about access to wharf infrastructure. Their harvest operators use the wharves to dock their boats and to unload the rockweed.

Response

NSDFA is currently engaging with Dept. of Fisheries and Oceans (DFO) on this subject.

3. Question/Concern (, retired Biochemist and Molecular Biologist)

There are two concerns that I want the committee to consider thoroughly in expanding aquaculture in the Lobster Bay and other areas adjacent to it. First, the integrity of these areas as an ecological environment, which to me is the basis of all sustainability measures including species diversity and economic sustainability. Second, the quality of the products (the species cultured). As Lobster Bay is the estuary of 2 river systems, Argyle and Tusket river, monitoring and controlling the water quality of the river upstream is also important.

I want to emphasize specifically on the crucial roles of microalgae for maintaining a healthy marine ecosystem. Microalgae known also as phytoplankton are primary producers of oxygen, and together with bacteria, they form the base of the food web. In addition, microalgae are also an important source of high quality of proteins such as Omega 3 and other nutraceutical/pharmaceutical potentials such as antioxidants and immune modulator. Hence, they do have a high economic and health value. In my opinion, before introducing any change of the marine environment that may result in losing valuable species, it is important to conduct a thorough inventory of the microalgae population.

In 2018, I did a preliminary microscopic identification of microalgae from Lobster Bay. I found numerous important species such as Arthrospira (spirulina), Chlorella spp, Dunaliella salina, etc.

On the other hand, there are certain microalgae species such as Cyanobacteria and Dinoflagellates that cause harm when they bloom (grow excessively). Not only will they deplete the oxygen but also could release toxins such as saxitoxin that causes PSP (Paralytic Shellfish Poisoning). Therefore, to prevent the loss of valuable microalgae species as well as harmful algae blooming, besides doing microalgae species identification, it is also important to do thorough environmental analysis such as biogeochemical content and the impact of the parasites (worms, bacteria, viruses, etc) that may come from the aquaculture.

Because of the time constraint, I can not possibly scrutinize all proposed aquaculture sites. However, I have a deep concern for placing aquaculture in the area such as in Pubnico harbour. This area has already had several fishery industries such as fish plants and lobster pounds which produce quite significant waste, and not to mention the (possible) pollution such as oil leak from at least 2 wharves (West and East Pubnico wharves). Therefore, to introduce more waste and possible new parasites that may come from the aquaculture could create possible harmful biological interactions of bacteria, viruses, and other microorganisms.

Thank you for giving me the opportunity to participate in the discussion of Aquaculture Development in this area

Response (from the Centre for Marine Applied Research on behalf of MoDA and NSDFA)

Water quality in Lobster Bay and the proposed ADA is indeed important. The Centre for Marine Applied Research (CMAR) is currently monitoring temperature and dissolved oxygen (and salinity to a lesser extent) in Lobster Bay and the wider Yarmouth area (see here for a summary of available data). CMAR have also collected several water current data sets from Lobster Bay that inform us on hydrodynamics and can support oceanographic models. Nonetheless, additional monitoring in Lobster Bay is planned and several shellfish candidate sites will be modelled to further determine ranges of production carrying capacity, phytoplankton demand, organic deposition, and disease risk. This information will be used to help refine management of the ADA as and when required.

With respect to the potential for parasites and contamination. Shellfish health falls under the purview of provincial aquaculture veterinarians, while the safety of shellfish as a food product is overseen by the Canadian Shellfish Sanitation Program (CSSP) and Canadian Food Inspection Agency (CFIA) as well as Nova Scotia Environment and Climate Changes, Food Safety Division with respect to shellfish retailers. Furthermore, Fisheries and Oceans Canada administers the National Code on Introductions and Transfers of Aquatic Organisms, which provides a consistent process for assessing potential impacts of moving aquatic organisms from one water body or facility to another, and aquaculture falls under this preview. One of the key elements assessed is the potential risk of introduction or transfer of aquatic invasive species and parasites. As for the potential for contamination from oil leaks in Pubnico Harbour, thanks for flagging this, it warrants further investigation.

As for phytoplankton, a consideration for the placement and development of shellfish leases and ADAs is to ensure they do not exceed environmental carrying capacity. The ecological and environmental interactions of shellfish aquaculture have been relatively well studied. Generally, the filtration activity of bivalves cultured at high densities can potentially reduce suspended organic matter loading. In some turbid areas, these influences have resulted in improved water clarity and quality (Newell and Koch, 2004; Ferreira and Bricker, 2019; Petersen et al., 2019),

which can improve the growth of benthic autotrophs such as eelgrass (Bulmer et al., 2012; Sandoval-Gil et al., 2016). However, operators and regulators also need to consider scenarios where shellfish farms could reduce phytoplankton levels to the extent that might be detrimental for other organisms that feed on phytoplankton. These occurrences are atypical but instances where localized phytoplankton depletion has occurred have been associated with very high densities of mussel culture in bays with low water exchange (e.g., Grant et al., 2008). The potential of oyster culture to impact phytoplankton at a bay-wide scale is limited (Comeau, 2013; Transport Canada, 2013) and oyster culture operations in Nova Scotia assessed to date appear to be operating within their ecological carrying capacity (e.g. Filgueira et al. 2020).

In addition to consideration of environmental interactions shellfish culture in licencing decisions, shellfish farms are managed not only to avoid environmental impacts but also to avoid negative effects on shellfish growth rates which would impact the business (Rosland et al., 2011). These are linked. As phytoplankton is the primary food source for bivalves, a reduction in phytoplankton density can impact the growth rate and condition of cultured bivalves. In fact, condition index (meat weight per unit size) is related to aquaculture intensity (Filgueira et al. 2013) and growth rates have been proposed as indicators for assessing carrying capacity and aquaculture environment interactions (Filgueira et al. 2014). Reduction in growth rates of individual shellfish will prompt operators to reduce culture densities to maintain timing of the production cycle (to reach target market size), which in turn reduces phytoplankton demand. Production capacities are required to be documented in by the operator in their respective Aquaculture Farm Management Plan, which is a legislative requirement and one mechanism carrying capacities can be monitored. Ultimately, there are modeling and monitoring options to ensure carrying capacity is not exceeded, which the Department of Fisheries and Aquaculture is well aware of. Through varying initiatives, the Nova Scotia Department of Fisheries and Aquaculture will continue collaborate with stakeholders and other government agencies to assess, monitor, and collect data that will enable the responsible development and regulation of this area, if the ADA is approved.

Bulmer, R. et al. (2012). Hanging basket oyster farming: assessing effects on seagrass using aerial photography. Aquaculture Environment Interactions, 2(3), 285-292. https://www.int-res.com/abstracts/aei/v2/n3/p285-292/

Comeau, L. A. (2013). Suspended versus bottom oyster culture in eastern Canada: Comparing stocking densities and clearance rates. Aquaculture, 410-411, 57-65. doi:https://doi.org/10.1016/j.aquaculture.2013.06.017

Ferreira, J. G., Bricker, S. B. (2019). Assessment of nutrient trading services from bivalve farming. In A. C. Smaal, J. G. Ferreira, J. Grant, J. K. Petersen, & Ø. Strand (Eds.), Goods and Services of Marine Bivalves (pp. 551-584). Cham: Springer International Publishing, New York, USA.

Grant, J. et al. (2008). A spatially explicit ecosystem model of seston depletion in dense mussel culture. Journal of Marine Systems, 73(1-2), 155-168. <Go to ISI>://000259130000012

Newell, R. I. E., Koch, E. W. (2004). Modeling seagrass density and distribution in response to changes in turbidity stemming from bivalve filtration and seagrass sediment stabilization. Estuaries, 27(5), 793-806. doi:10.1007/BF02912041

Petersen, J. K. et al. (2019). Evaluating chlorophyll depletion in mitigation mussel cultivation at multiple scales. Aquaculture Environment Interactions, 11, 263-278.

Rosland, R. et al. (2011). Modelling growth variability in longline mussel farms as a function of stocking density and farm design. Journal of Sea Research, 66(4), 318-330. doi:http://dx.doi.org/10.1016/j.seares.2011.04.009

Sandoval-Gil, J. et al. (2016). Nitrogen uptake and internal recycling in Zostera marina exposed to oyster farming: Eelgrass potential as a natural biofilter. Estuaries and Coasts, 39(6), 1694-1708. doi:10.1007/s12237-016-0102-4

Transport Canada. (2013). Comprehensive environmental effects determination report for oyster aquaculture activities in New Brunswick. Transport Canada (TC), Moncton, New Brunswick.

4. Question/Concern (TREPA)

emailed with concerns regarding riparian buffers and increasing runoff that could potentially cause an issue to Lobster Bay in the future. She is concerned about wetlands and their degradation. The water from these usually eventually flows into the ocean.

Response

For details related to concerns of water quality in Lobster Bay, please see the response for point # 3 above. In relation to riparian buffers, the Municipality of Argyle By-Laws current do not include a riparian buffer for inland water bodies and rivers. The CAO, Alain Muise, will be bringing up the topic of riparian buffers to Council. The Municipality of Yarmouth, which borders much of the Tusket River and includes a part of the Carleton River, does enforce a 40-foot riparian buffer from their By-Laws.

D TRANSCRIBED OPEN HOUSE COMMENTS

OPEN HOUSE COMMENT CARDS

The following is an overview of comments that were heard and/or written on the supplied comment cards at the open houses.

- Glad to see the engagement by the public. We have seen positive growth in aquaculture in our municipality and the ADA work will help that along, looking forward to moving aquaculture business.
- Potential issue of ice in Chemin Tittle Area may destroy aquaculture sites.
- Great session.
- Very interested in getting into this industry in the near future would love any feedback or questions
- "11.4 HA" site [n.e. of Morris Island wharf] is no good in the way lobster and boat haul up
- Give the ability to grow plants on current leases
- Interest in growing kelp, economic opportunity sounds too good to not try
- For existing leases, wondering when they can start growing plants in their areas
- Big market for sugar kelp, easy crop to grow, low maintenance want opportunity to grow and more licenses
- Wondering about the public bidding process if multiple sites at once, one is better than another, how will decisions be made?
- Extremely concerned about the south salt bay proposed area for aquaculture. I live there and am currently building a house. Over the past 2 summers I have enjoyed the various wildlife eagles, heron, sandpipers, gulls, ducks in the exact location of the proposed aquaculture spot. Concerned of the following:
 - The view of oyster traps impacting the current beauty now there
 - Property value
 - Noise level of any aquaculture activity
 - Extra traffic of Trunk 3
 - Enjoyment of the bay: kayaking, swimming, etc.
- Area around Hog Island and Rankin Island heavily used by fishers. Should be aware of sugar kelp conflicts with fishing season here. Concerns on where fishers would want to drop these traps – conflicts
- Concerned about how NSDFA will chose who gets a lease if there are multiple applicants in one place
- In support of marine plants as they are great for carbon sequestering. "TREEPA": looking into creating more symbiotic relationships of marine pants, ocean, habitat
- Concerns with the disruption of our tranquility, oyster spread who is responsible?
- Representing duck hunters' organization (non-profit group across North America): Speaking with colleagues from PEI where aquaculture is huge (mussels and oysters) there are a number of concerns that need to be looked at. Hunting is a big tradition in these parts. Duck hunting in Lobster Bay and Pubnico Harbour has been going on for years. It's part of our heritage and should be maintained. I would like for Delta Water to have a seat at the stakeholder committee. We need to make sure it's done right so that future waterfowlers have a chance to continue the tradition of water fowling in the area.
- When selecting polygons, should consider proximity to active wharves.
- Polygons in Argyle Sound likely will be contentious based on perceived territory.
- Tittle polygon is narrow and has ice build up.
- There is a strong current going through Surette's Island. Should consider this when selecting polygons.