

DECISION and ORDER

NSARB 2022- 001-002-003

NOVA SCOTIA AQUACULTURE REVIEW BOARD

IN THE MATTER OF: applications made by **TOWN POINT CONSULTING INC.** for **NEW MARINE SHELLFISH LICENCES/LEASES AQ#1442, AQ#1443 and AQ#1444** in **ANTIGONISH HARBOUR, ANTIGONISH COUNTY** for the **SUSPENDED CULTIVATION** of **AMERICAN OYSTERS.**

BEFORE: Jean McKenna, Chair
Coleen Morrison, Vice Chair
Roger Percy, Board Member

HEARING DATES: **Session 1** June 7 to June 10, 2023
Session 2 September 26 to 28, 2023

DECISION DATE: January 5, 2024

[1] In 2013, the Province of Nova Scotia created a commission to review and make recommendations as to the development of aquaculture in Nova Scotia. In 2014, the commission released its report. (**The Final Report of the Independent Aquaculture Regulatory Review for Nova Scotia** [The Doelle-Lahey Panel])

[2] The Commission had consulted with numerous interested parties, including the Atlantic Salmon Federation, the Nova Scotia Aquaculture Association, the Ecology Action Centre, the Nova Scotia Fisheries Sector Council, the Union of Nova Scotia Municipalities, the Nova Scotia Salmon Association, and the Coastal Coalition of Nova Scotia. Members of the public were encouraged to participate,

[3] Although some participants, including the Ecology Action Centre had called for a moratorium on marine open pen sites, a moratorium was not recommended. The authors concluded:

“In this report, we conclude that a fundamental overhaul of the regulation of aquaculture in Nova Scotia is called for. We conclude that this overhaul should be guided by the idea that aquaculture that integrates economic prosperity, social well-being and environmental sustainability is one that is low impact and high value. By this, we mean aquaculture that combines two fundamental attributes: it has a low level of adverse environmental and social impact, which decreases over time; and from the use of coastal resources, it produces a positive economic and social value, which is high

and increases over time. A number of participants in our process urged us to conclude that marine-based fin-fish facilities – and more particularly, salmon farms – cannot be sustainably operated, and to recommend that a permanent moratorium be imposed on this kind of aquaculture. Our conclusion, after careful consideration of the state of the science and opportunities to reduce impacts through effective regulations, is that the regulatory framework should not be prohibitory at a provincial scale. Instead, we recommend fundamental changes to the regulation of aquaculture, which we conclude can address the serious and legitimate concerns raised without foreclosing the opportunity associated with this sector of the industry.”

[4] In response, the Province generated a new legislative and regulatory framework governing aquaculture in Nova Scotia (**Fisheries and Coastal Resources Act 1996 c.25 as amended**).

[5] The purpose of the legislation is as set out in the Act:

Part 43A The purpose of this Part is to

- (a) recognize that aquaculture is a legitimate and valuable use of the Province’s coastal resources;
- (b) ensure aquaculture is conducted under conditions and in accordance with controls that protect the environment;
- (c) provide a predictable and efficient regulatory environment for business and public confidence;
- (c) ensure equity, fairness and compatibility in access to, and utilization of, public water resources for aquaculture;
- (d) ensure that members of the public have access to information with respect to the regulatory process and an opportunity to participate in the process;
- (e) ensure that regulations governing aquaculture are achievable, contain incentives for compliance and are enforceable;
- (f) ensure that coastal communities derive positive social and economic benefits from aquaculture;
- (g) ensure that aquaculture is conducted with due regard to the health, well-being and recovery of species at risk; and
- (h) ensure that the regulation of aquaculture contributes to the productive development of the Province’s coastal resources. 2015, c. 19, s. 5

[6] That framework included the creation of this Board (Aquaculture Review Board), which is independent of government. The Board conducts hearings into, *inter alia*, applications for new aquaculture development, such as this one. The Board's mandate is set out in the Act and Regulations:

Public Hearing

[7] **51** Where the Minister refers an application to the Review Board, the Review Board shall hold a public hearing as prescribed. 2015, c. 19, s. 9.

52 (1) Upon receiving a decision of the Review Board made pursuant to Section 49, the Minister shall, in accordance with the decision,

- (a) issue the aquaculture licence or aquaculture lease;
- (b) issue the aquaculture licence or aquaculture lease, subject to any conditions the Review Board considered appropriate;
- (c) reject the application for the aquaculture licence or aquaculture lease; or
- (d) amend the aquaculture licence or aquaculture lease.

[8] The Board is independent of the Minister, and the Minister is bound by the conclusions and direction of the Board.

[9] In reaching a conclusion, the Board is required to consider the factors set out in s. 3 of the Regulations:

3 In making decisions related to marine aquaculture sites, the Review Board or Administrator must take all of the following factors into consideration:

- (a) the optimum use of marine resources;
- (b) the contribution of the proposed operation to community and Provincial economic development;
- (c) fishery activities in the public waters surrounding the proposed aquacultural operation;
- (d) the oceanographic and biophysical characteristics of the public waters surrounding the proposed aquacultural operation;
- (e) the other users of the public waters surrounding the proposed aquacultural operation;

- (f) the public right of navigation;
- (g) the sustainability of wild salmon;
- (h) the number and productivity of other aquaculture sites in the public waters surrounding the proposed aquacultural operation.

[10] Town Point Consulting (TPC) is a corporation created by Ernie Porter, for the purpose of pursuing the development of oyster aquaculture in Antigonish Harbour. Mr. Porter is a resident of "Town Point", a peninsula near the mouth of the Harbour. He is an engineer by profession and was former Chairmen and President of Lindsay Construction until his retirement.

[11] In accordance with the regulations, TPC applied for an option to lease in Antigonish Harbour. The application was granted on March 28th, 2019, for a period of six months. As per section 8 of the Aquaculture Licence and Lease Regulations, the option to lease was extended for an additional six months, expiring on March 28, 2020.

[12] In accordance with section 11 of the Aquaculture Licence and Lease Regulations, the application was received by the Department of Fisheries and Aquaculture (DFA) on January 27, 2020, prior to the expiry of the option to lease.

[13] The application was for three marine aquaculture licences and leases for the suspended cultivation of American oyster (*Crassostrea virginica*) in Antigonish Harbour, Antigonish County:

- AQ#1442 Antigonish Harbour, Antigonish County (3.2 ha)
- AQ#1443 Antigonish Harbour, Antigonish County (20.21 ha)
- AQ#1444 Antigonish Harbour, Antigonish County (13.38 ha)

[14] Pursuant to the regulatory requirements, TPC conducted the required scoping process. In this case, Mr. Porter initially contacted his immediate neighbours, and later expanded the contact to more remote residents, as well as to wild oyster harvesters. He recorded notes of these meetings. He invited anyone interested to come to his property and view his proposal and the progress to date.

[15] Dr. David Garbery is head of the Department of Aquatic Resources at St. Francis Xavier University. Dr. Garbery was initially concerned about the potential impact of the farm on the ecology of the harbour. He also was concerned about information and misinformation circulating in the community at large and proposed a community information meeting which included presentations by Mr. Porter, scientists, and a group organized in opposition to the project, "Friends of Antigonish Harbour" (FOAH). The meeting was well publicized and well attended.

[16] The application was reviewed, in accordance with the regulations, by “stakeholders”, Fisheries and Oceans Canada, Canadian Food Inspection Agency, Transport Canada, Environment and Climate Change Canada – Canadian Shellfish Water Classification Program, Environment and Climate Change Canada – Canadian Wildlife Service, Nova Scotia Department of Environment (now Department of Environment and Climate Change), Nova Scotia Communities, Culture and Heritage (now Department of Communities, Culture, Tourism and Heritage), Nova Scotia Department of Agriculture, Nova Scotia Department of Lands and Forestry (now Department of Natural Resources and Renewables), Office of Aboriginal Affairs (now Office of L’nu Affairs) and Nova Scotia Municipal Affairs (now Department of Municipal Affairs and Housing).

[17] On December 22, 2022, the application was accepted by the Minister as complete and was forwarded to the Board. The hearing was conducted in Antigonish, NS, on June 7-10, 2023, and Sept. 26-28, 2023.

[18] Seventeen applications for Intervenor Status were received by the Board, and status was granted to all of them. Some of the individual applicants for intervenor status who are opposed to the application are also members of FOAH. As FOAH was granted intervenor status, they clearly could not be represented individually and also as a member of the organization, and so chose to 'withdraw' from FOAH and seek status on their own. Moreover, given the considerable overlap in the positions, the Board then determined that a number of individual applicants, as well as the five commercial fishermen, would be consolidated into three groups, as follows:

- **Group 1:** Mary Jo MacDonald, Patrick MacDonald, Lucy MacDonald, Richard Wilgenhof, Alena Wilgenhof, Sian Newman-Smith, Rick Turner, Rowan McLean, Peter Bowler, Colleen Bowler, Friends of Antigonish Harbour, Sheila MacKinnon Hudon, William Hudon, May Goring, Manfred Goring, Antigonish Harbour Watershed Association, Rod Brady, and Mike MacDonald
- **Group 2:** Bill Brophy, Tim Brophy, Duncan Brophy, Daryl Beaton, and Brendon Doyle
- **Group 3:** Mark Genuist, Stephen Feist, and the Community Liaison Committee

[19] Three citizen groups were included in the decision for Intervenor status.

[20] The Antigonish Harbour Watershed Association describes itself as

“...an informal community group to advocate for the environmental health of Antigonish Harbour”.

It anticipates significant environmental impact by the TPC project, which it describes as a “large commercial operation”. As a volunteer citizens group, AHWA does data collection in conjunction with the “Community Aquatic Monitoring Program” (CAMP) near the proposed lease sites. Its application was filed by Susan Ross. Ms. Ross did not testify at the hearing.

[21] The Friends of Antigonish Harbour (FOAH) is a group of citizens opposed to the project, for a variety of reasons. FOAH's application was filed by Peter Bowler, (who individually was granted status along with his wife, Colleen Bowler). Colleen and Peter Bowler are from Texas, USA, and are seasonal residents of Town Point. Their property borders that of Ernie Porter. FOAH's application states that it was

“...formed to protect the environmental health of the sensitive ecology of Antigonish Harbour, ensure the safe access to Antigonish Harbour by First Nations, local commercial and recreational fishermen, boaters, birdwatchers and other recreational users.”

They allege “dramatic” reduction in use of the area by recreational and commercial users, and loss of property value as well as potential rental income from some of their waterfront properties. They are adamantly opposed to the proposal.

[22] The Community Liaison Committee (CLC) is an organization created when the proposal first became public (see reference above to Dr. David Garbery). It describes itself as follows:

“The Community Liaison Committee (CLC) is made up of a number of people who are directly and indirectly affected by this proposal. The committee includes people who live on the Antigonish Harbour; fish either commercially or recreationally in the Harbour; use the Antigonish Harbour for recreation, sailing and kayaking and conduct academic research in the Harbour. The Committee members are interested in the impact that this project will have on the Antigonish Harbour, the immediate community, the Antigonish area, and the province of Nova Scotia. This committee includes Councilors from the Municipality of the County of Antigonish, a local fisher, two residents who live on Antigonish Harbour, two members from the Antigonish Boat Club, a St. Francis of Xavier professor, the former CAO for the Town of Antigonish and concerned citizens”.

The members of the CLC include:

- Stephen Feist - CLC Chair: Past CAO for the Town of Antigonish and active member of a number of community groups; he is current president of the Antigonish Boat Club
- Sean Day - Co-Chair: Former Planner at the Town of Antigonish, past president of the Antigonish Boat Club which operates from Seabright on Antigonish Harbour
- Dr. David Garbury: Biology Professor at St. FX and head of the Aquatic Resources Program,
- Hughie Stewart: Deputy Warden of the Municipality of the Country of Antigonish
- Owen McCarren: Warden of the Municipality of the County of Antigonish and recently retired as Area Manager of the Dept. of Natural Resources.
- Archie Mackenzie: fisherman, quarry operator, and an active member of several fishing-related organizations.
- Marc Genuist: a retired CBC journalist who has lived in Antigonish part-time for 15 years and permanently for 5 years. Marc and his partner live in Town Point. Their

waterfront property has a direct view over two of the proposed lease sites of the harbour. They use the harbour regularly to swim and kayak.

- Jim Lerikos, past president of The Antigonish River Association, Director, and past president of the Antigonish Eastern Shore Tourist Association.
- Dr. Roger Porter, a member of the Antigonish River Association and The Ecology Action Center.
- Paul MacIsaac, Senior Aquatic Operations Technician at Dalhousie University, Faculty of Agriculture.
- Ryan Smith: Local resident and former executive assistant for Randy Delory, a previous MLA for Antigonish region.

The CLC application was filed by Stephen Feist and was represented at the hearing by Marc Genuist and Stephen Feist, who both testified at the hearing.

[23] Subsequently, several intervenors from Group 1 withdrew and renounced their intervenor status, as follows:

- Mary Jo MacDonald, Patrick MacDonald, Alena Wilgenhof, Sian Newman-Smith, Rick Turner, Rowan McLean, Colleen Bowler, Shiela MacKinnon Hudon, William Hudon, May Goring, Antigonish Harbour Watershed Association and Rod Brady.

[24] It was argued during the hearing that Mr. Porter had attempted to block a certain Mr. Ed Pencer from becoming a member of the CLC. Mr. Porter did say in an e-mail that he was not comfortable with Mr. Pencer, however he testified that this related to a negative piece that Mr. Pencer had written in a local newspaper. Mr. Porter, in any event, would have no control over who would or wouldn't form part of CLC, and Mr. Pencer was pressed to join (he did not).

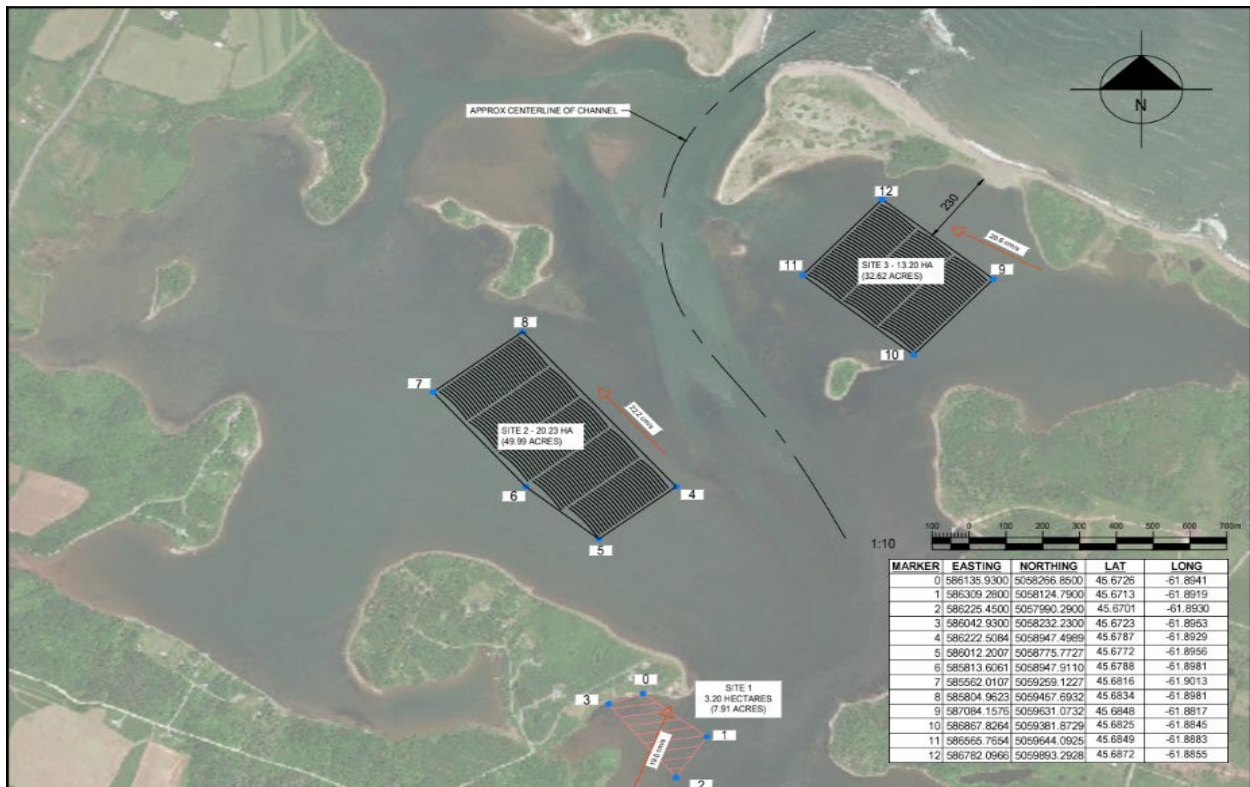
[25] The individual applicants for status expressed a variety of concerns, for and against the application. The interests included recreational uses of the harbour (canoeing, kayaking, sailing, fishing etc.), impact on view from properties, impact on property value, impact on local tourism, impact on commercial fishing, impact on the ecology of the harbour, and contribution (or lack thereof) to the local economy.

Analysis

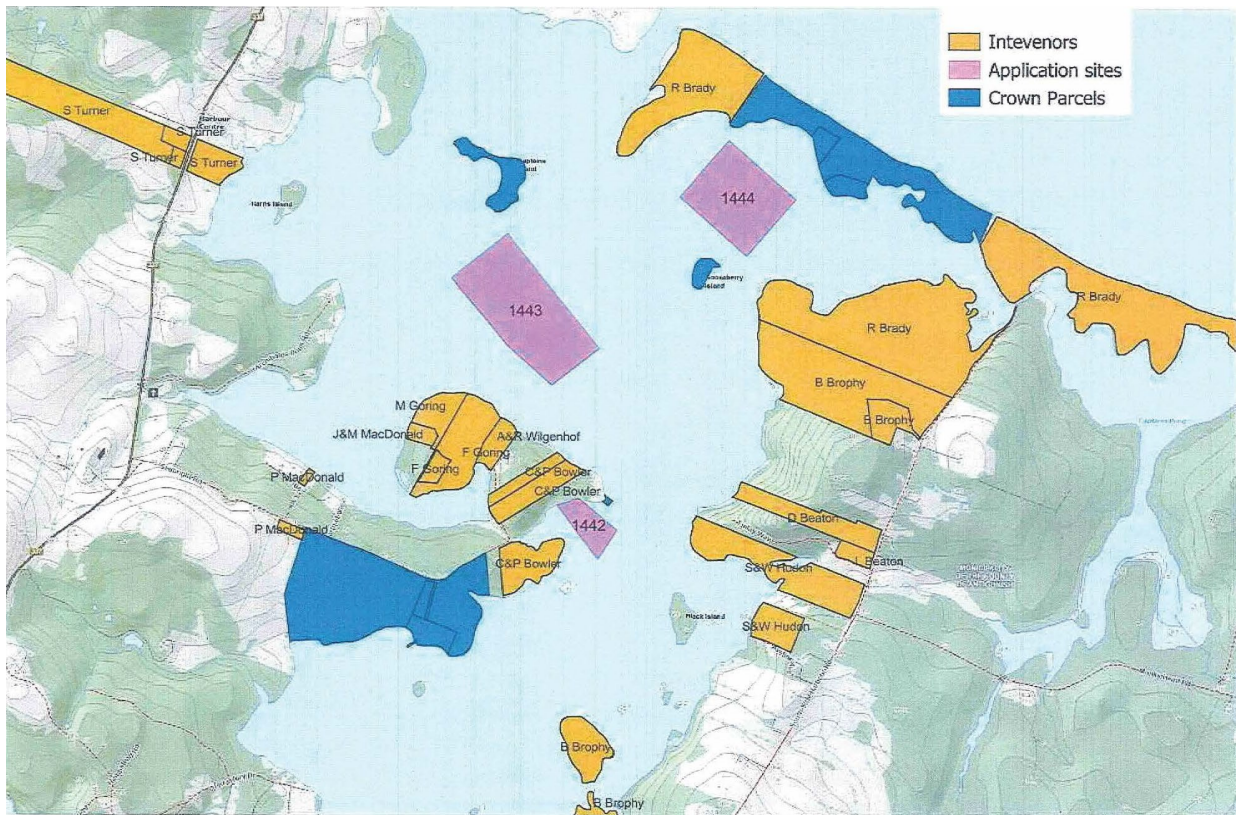
[26] The harbour maps below depict the proposed site locations, as well as the locations of property owned by the various individual intervenors. The lease area boundaries together constitute approximately 2% of the entire area of Antigonish Harbour. The BOBR cages are arranged in rows, with 10m spacing between each row. There is a 20m gap between the parallel cages and the edge of the lease. Less than 1% of the harbour could be potentially "shaded", and visible if the proposed lease sites and corresponding licences are approved. The anchoring system would be contained underwater, within the lease boundaries. The lease boundaries, anchors, etc. would all be marked in accordance with the requirements of Transport Canada.



Map A – Adjacent Property Owners



Map B – Application Sites



Map C – Overlay of Adjacent Property Owners and Application Sites

Consideration of the eight factors:

[27] As noted above, the Board is required to consider the eight factors set out in s. 3 of the Regulations. Specifically:

- (a) the optimum use of marine resources;
- (b) the contribution of the proposed operation to community and Provincial economic development;
- (c) fishery activities in the public waters surrounding the proposed aquacultural operation;
- (d) the oceanographic and biophysical characteristics of the public waters surrounding the proposed aquacultural operation;
- (e) the other users of the public waters surrounding the proposed aquacultural operation;
- (f) the public right of navigation;

- (g) the sustainability of wild salmon;
- (h) the number and productivity of other aquaculture sites in the public waters surrounding the proposed aquacultural operation.

Factor a) the optimum use of marine resources.

[28] This issue will be addressed following review of the remaining factors.

b) the contribution of the proposed operation to community and Provincial economic development.

[29] Mr. Porter, in his evidence, testified that it anticipated employment of 10 individuals with a fully built out farm. It also plans to use the newly developed “BOBR” equipment for growing, TPC in its submissions argues that the operations will provide employment to local harvesters, residents, and countless indirect benefits to local businesses from the sale of oysters; maintenance and repair of equipment; provision of necessary farm services and supplies, the local design and fabrication of the Oyster-Matic work platform (developed by Ernie Porter for use with BOBR aquaculture facilities); tourism and recreational potential, etc. If granted, TPC says that the oyster farm will make a genuine contribution to community and provincial economic development.

[30] In its application, TPC says that:

“... construction of the proposed depuration facility is the largest construction component of the project and would be a welcome addition to the project list for Bio-Novations, Kells Enterprises, Quality Concrete, Highland Building Supplies, and many other local companies. In total, this building project would represent an injection of about \$1.5 million into the local economy. Construction of the marine portion of the farm would represent a further expenditure of about \$780k for materials and equipment excluding labour and HST. This investment would be distributed over the first three years of farm operation. One of the most significant and beneficial aspects of the development of this farm is employment. We estimate during the development of the farm in the first three years there will be direct wages paid of about \$370,000.00 in addition to our own sweat equity. This does not include wages to employees of contractors who may be hired to work on the land-based nursery and depuration facility. Then, after the farm settles into the routine of managing the fully developed operation, wages will be about \$350k annually. The productivity of the proposed farm is planned to be between two and three million oysters per year.

[31]

The farm gate value of the product after the farm reaches full production is expected to be \$1.0-1.5 million at wholesale prices annually. We plan to work with our marketing partner, Afashionado Fish Mongers, to develop markets in larger centres outside of Nova Scotia and in the process realize a portion of the marketing value of our product. At this point, the unit price should increase from about \$0.50 to about \$0.75 which would increase the farm gate value of farm production to be between \$1.5 and \$2.25 million annually. This represents a significant increase in economic output from this marine resource than is presently realized from collection of natural production alone.

[32]

Each sale of BOBR and Oyster-Matic for an operation capable of producing one million oysters per year would generate about \$350,000.00 in sales of Canadian made products. We plan to market this technology first in Atlantic Canada, then North America and ultimately internationally. Our farm will be a key player in establishing the viability and performance comparison of our technology relative to competing systems. We cannot accurately predict the economic activity resulting from this cooperation but expect it to be greater than the farm itself”.

[33] The opposing Intervenor Groups (Groups 1 and 2), argue that the contribution, if any, to economic development is overstated, that few will be employed, directly or indirectly, and that there will be a negative impact on tourism.

[34] In their brief, they challenge TPC as follows:

- There is no “close analysis” by TPC on how many positions would be seasonal versus “off-season”, and that seasonal workers are a limited resource in Nova Scotia
- While Mr. Porter has asserted the operation will add \$1-2 Million annually to the GDP, he has offered no evidence for this representation.
- The evidence adduced in the Cranford Report that the low current speeds measured at the lease sites restricts the supply of food particles to the oyster and limits oyster stocking densities and growth seriously undermines the asserted economic contribution that the operation will make to the community or Province.
- Although Mr. Porter testified that the lease sites, if approved, would act as the principal demonstration site for the BOBR technology, a new form of suspended culture technology created by Mr. Porter in partnership with Mr. Philip Docker. He also testified that the BOBR system would generate economic value from an “oyster tourism” perspective. TPCI included various opinion articles that spoke generally to oyster farm tourism in other regions of Canada and the United States. However, the opponent group argues that the BOBR units had been in use at the lease sites in Merigomish

Harbour owned by Mr. Docker for approximately four years, since 2019, but that TPC “opted” not to call Mr. Docker as a witness (but neither did Intervenor Groups 1 and 2).

- The opponents argue that Mr. Porter did not provide evidence of any significant volume of BOBR sales resulting from the BOBR use in Mr. Docker’s Aquaculture Leases despite what they describe as an online marketing page.
- They maintain that TPC has not provided the Board with sufficient evidence on which to make a finding of what this contribution would be.
- The opponents say that any contribution to the local economy would be offset by the negative impact on the anticipated losses to the five commercial fishermen, (part of the opponent group), as well as the wild oyster harvesters. such as Jamie Davidson who wrote to the Board, the opponents argue diminution of tourism revenue based on converting the existing natural harbour into an “industrial site”.
- The opponents argue that there is a negative impact on tourism. They maintain that tourism is drawn to the area by the natural environment and beautiful views. They see the presence of “industrial” oyster aquaculture as being very much a negative. This is contrasted with the evidence (and common knowledge) of the impact of oyster farming on PEI tourism where it is part of the “branding” of the island.

[35] The Board is satisfied that the evidence of Town Point does provide a reasonable 'forecast' of the economic benefit to the surrounding community. The initial proposed investment, while of short duration, is reasonably projected, and is as detailed as possible in its application documents. While the future success and direct benefit is less precise, only the proposed number of oysters started on the site can be seen as an absolute. The growth rate projected by TPC's expert could prove to be wrong (as suggested by Dr. P. Cranford), however that is a risk to be faced by TPC, who relies on the evidence of Dr. Garbery and Dr. Grant.

[36] There is undisputed evidence that the growth using the BOBR system is much better than the more traditional system used in shellfish aquaculture.

[37] A negative impact on tourism has not been clearly established by the opponents to the project.

[38] While waterfront property owners do have views of the harbour, public views from the roads alongside the harbour are limited, and the best viewing sites and tourist attractions are from Mahoney's Beach and Dunn's Beach. As well, the low profile of the BOBR units minimizes their visibility. Furthermore, mere visibility does not equate to the subjective description of 'unsightly'.

Factor c) Fishery activities in the public waters surrounding the proposed aquacultural operation.

Factor e) The other users of the public waters surrounding the proposed aquacultural operation.

Factor f) The public right of navigation.

[39] These three factors will all be addressed together in this section.

[40] In the application package, TPC reported the following as “other users of the public waters surrounding the proposed aquaculture operation”:

- Commercial oyster harvesters
- Commercial lobster fishermen
- Recreational fishers
- Recreational power boaters
- Recreational sail boaters
- Kayakers, canoers, and paddle boarders
- One existing oyster leaseholder
- Float plane operator

[41] The intervenors in Group 2 include five commercial fishermen who are based in Antigonish Harbour: Bill Brophy, Tim Brophy, Duncan Brophy, Daryl Beaton and Brendan Doyle. Mr. Bill Brophy testified on behalf of the group.

[42] In preparing his application, Mr. Ernie Porter contacted Bill Brophy, who spoke to him on behalf of the Brophy family. Mr. Porter had asked him to review “the enclosed plan, to ensure it does not impede your normal transit route. If you feel this layout may be a concern, please let us know.... we would be available to meet with you....”

[43] Mr. Brophy did attend the public meeting organized by CLC and did not express particular concerns at that time. Darrell Beaton had a short telephone discussion with Mr. Porter, and according to a notation by Mr. Porter in the application package, he had no concerns, as long as their route for lobster fishing was not obstructed. He was very busy at the time and did not have time to meet. None of the other fishermen, responded.

[44] Darrell Beaton later filed a written submission. As an intervenor, he is not entitled to separately make a written submission, however, part of his comment was that contrary to Mr. Porter's notation in the application package, he did not agree with the application. On that basis, the Board decided to allow his written submission.

[45] Although initially supportive, Mr. Beaton had apparently come to believe that AQ#1444 would in fact block his route from his lobster berth (next to Dunn's Beach) to the bay. He felt that a portion of AQ#1444 would block his transit route to lobster fishing.

[46] This was inconsistent with the testimony of Bill Brophy.

[47] Mr. Brophy testified "on behalf of" the five fishermen. He has lived all his life on the harbour, his home is on the south side of the harbour, just southeast of Gooseberry Island. He said that the five commercial fishermen variously fish lobster, crab, tuna, herring, mackerel, and groundfish. He fishes for lobster, tuna, and crab. Lobster is usually fished in St George's Bay (outside of Antigonish Harbour), from May 1-June 30, although there is a minimal amount of lobster fishing in the harbour at the end of the season. Snow crab is fished off Chetticamp, and the boats remain there through the season, which begins "when the ice is gone". Tuna is fished "everywhere, from August 1 until September or October.

[48] We conclude that the only actual commercial fishing in the harbour is the minimal amount of lobster fishing late in the season.

[49] Mr. Brophy's lobster boat has a 660-horsepower engine and draws three-to-four feet. He said if the aquaculture gear was sunk, for instance to allow passage through the northern route in an unusual ice condition, he was not sure if it would interfere with passage, it would depend on depth.

[50] All five fishermen in Group 2 have employees for crew, from one to four, depending on the fishery.

[51] One of his routes to the bay runs parallel to Dunn's Beach, and the other runs southerly, between Gooseberry Island and the shore, then northerly through the channel to the west of Captains' Island. However, although both routes are shown on a map created by Mark MacDonald for FOAH, Mr. Brophy confirmed that he has actually only used the much shallower northern route on one occasion. That was in 2017, when the crab season opened early as a result of some right-whale presence, while Antigonish Harbour was still blocked by ice. To get to the crab fishery off Chetticamp, he had to use the northern route.

[52] The regular route is not normally blocked by lease AQ#1444, however, he testified the fishermen set out in the early morning, when there is little light, and there may be fog present, making electronic navigation difficult. In addition to using electronic navigation, they depend on navigating off the visibility of the trees on Gooseberry Island.

[53] Mr. Brophy did testify that if the lease boundary was moved back beyond the sand spit which extends northeasterly from Gooseberry Island, he would have no problem. In fact, Mr. Porter, in his submissions post hearing, has indicated that he would be willing to shift his proposed southeast boundary to accommodate concerns about interference with the Gooseberry Island route.

[54] Mr. Brophy also said they had concerns about possible loose gear or floating lines, which could be caught in a propeller. He acknowledged that lobster gear sometime broke free, at least in St. George's Bay, although not in the Harbour. However very little lobster fishing was done in the Harbour.

[55] There was no evidence as to the existence of any such loose gear, or how it would be dealt with by TPC. No doubt that is an issue that could be dealt with at such time as it might occur. Unlike loose gear from lobster fishing, etc., it would be immediately identifiable as TPC gear.

[56] Mr. Brophy also confirmed that the usual lobster fishing took place in St. George's Bay, and that there was only sporadic fishing inside the harbour, in the late season.

[57] In May of 2022, Darrell Beaton observed a marker buoy in the channel which runs to the northeast of lease AQ#1443. He retrieved it and the attached technical instrument anchored in place (on the bottom) with a heavy chain. He mentioned it to Mr. Brophy, but neither took any steps to identify the owner, or the purpose. He apparently saw the chain as a potential hazard to navigation (despite the fact that it was on the bottom). Mr. Brophy testified that he himself had sailed through and over it several times without incident. Mr. Beaton simply tossed the device and gear behind his shed. Although Mr. Brophy testified that there were no markings or contact information on the instrument, a photograph presented to him at the hearing shows that there were in fact two telephone numbers.

[58] Mr. Brophy testified that they had at some point in July of 2022, reported it to a federal fisheries officer, and he claims that they contacted Transport Canada after the Town Point application was filed.

[59] In fact, the instrument had been placed by DFA, along with three others. It was an Acoustic Doppler Current Profiler, ("ADCP"); a form of current meter, one of four that had been placed. It is a very costly piece of technical equipment, The records of three of those current meters were included in the affidavit of Nathan Feindel of DFA. Those records demonstrate results for three locations (Ferry Point, Antigonish Harbour, and Reef Island.), for a 48-day period, in June 2022. Information about the missing device did not become known until shortly before the hearing was underway. In July of 2023, Dr. Jeffrey Barrell of the federal

Department of Fisheries and Oceans (DFO), confirmed that it was the missing instrument, and at that point, he was able to download data collected up until the time of its removal.

[60] Dr Barrell, for privacy reasons, was unwilling to disclose the name of the individual who had removed this very valuable instrument but did say that the person was a member of one of the intervenors in the current application.

[61] We were subsequently informed by Mr. Rogers, counsel for the intervenor group that includes the five commercial fishermen, that the individual was Mr. Beaton. Data from the instrument was allowed in evidence and was included in the affidavit of Nathan Feindel.

[62] A review of the evidence and documents satisfies the Board that as long as the usual navigation routes are not obstructed, there will be minimal, if any, impact on the commercial fisherman, and that it is the intention of TPC to accommodate their locations, in particular AQ#1444, to the extent that there is any impact.

Wild oyster harvesters

[63] Other commercial users of the Harbour include several wild oyster harvesters. They were consulted by TPC, and on August 7, 2019. They (Ken Fraser, Mike MacIntosh, Jamie Davison, and Steven Taylor) had reached a written agreement with TPC on the lease locations. The agreement required TPC to ensure that TPC "...stay a minimum of 50 feet offshore and avoid all areas identified as past harvest areas, generally any area of greater low tide depth of 3 feet will be acceptable". However, in correspondence to the Board, on April 30, 2023, Mr. Davison said that TPC leases would include areas that have low tide depth of less than three feet, and that TPC had therefore broken the agreement.

[64] Mr. Davison was not called to testify. It is not clear to the Board why it was that why he concluded that TPC had broken the agreement, as there was then and is now, no gear in the water, although a review of the navigation chart does seem to show the Northeastern edge of AQ#1443 impinging in one portion on noted depths of less than 3 feet. However, the actual BOBR units would be some 20m from the parallel edge of the lease.

[65] The sketch signed by Mr. Davison and the others was not drawn with precision. However, although we are not clear on where his harvest area is located, the Board is satisfied that it would not be a difficult matter to slightly adjust whatever portion of the oyster farm might impact the wild oyster harvest locations.

[66] Ernie Porter in his testimony acknowledged that the agreement existed, and does agree to avoid the harvest areas, with depth as a guideline.

Recreational fishermen

[67] Several members of the public, in either intervenor applications or written submissions, state that they were recreational fishermen in the harbour. Some had concerns, some did not. Most did not describe what species they fished, or where. Mr. Bowler in his evidence said that he was a recreational fisherman and included a photo of him fishing in his presentation materials. There was no specific filed evidence regarding what species were fished, or where the fishing took place, although Mr. Bowler did say that it was “where the fish were”, which is at the mouth of the harbour. The Board is satisfied that the leases will not interfere with recreational fishers, and if indeed they fish in the leased areas, given the distance between lines of BOBR units, and the ability to navigate through the sites the impact will be minimal.

Piping Plover habitat

[68] Piping Plover are small shorebirds. There are two subspecies of Plover in North America. The *melodus* subspecies breeds along the Atlantic coast of Canada and the United States while the *circumcinctus* subspecies breeds near the Great Lakes and in the Prairie Provinces (exhibit 69 – Piping Plover *melodus* subspecies (*Charodrius melodus melodus*): recovery strategy (amended) and action plan, 2022).

[69] Both subspecies nest in similar beach conditions from the low water mark to the upper beach and dune crest and are not considered to react differently to potential disturbances.

[70] Piping Plover currently receive protection under **the Migratory Bird Convention Act (MCBA - SS:58 (5.1 & 5.2) SNS 1998 c. 11 as amended.**

-habitat protection on non-federal lands) and the **Nova Scotia Endangered Species Act.**

[71] Plovers are designated endangered species under both the **Nova Scotia Species at Risk Act (S.N.S. 1998, c.11)** and federally under the **Species at Risk Act (SARA -S.C. 2002, c2).**

[72] Dunn’s Beach is listed as critical habitat for Plover.

[73] In the process of preparing its application, TPC contacted Birds Canada for information regarding potential impact on piping plover habitat. Birds Canada responded, pointing out some potential issues, and in December 2019, TPC retained the services of Dillon Consulting to further evaluate the issues.

[74] On January 16, 2020, TPC obtained a report from Dillon Consulting “**Assessment of Potential Impacts to Nesting Piping Plovers as a Result of a Proposed Marine Shellfish Aquaculture Lease Site in Antigonish Harbour, Nova Scotia**”. In that report, it was

concluded that the proposed 230 m distance from AQ#1444 to the Dunn's Beach dune crest was sufficient to prevent any potential disturbance of piping plovers.

[75] On October 7, 2020, as part of the network consultation process, DFA forwarded a copy of the TPC application package to Rachel Gautreau, Environment and Climate Change Canada, Canadian Wildlife Service (CWS). A reply was requested by December 7. A follow up reminder was sent on November 24. Ms. Gautreau responded on the same day, indicating they would respond shortly. She also mentioned that FOAH had been in contact with her.

[76] On December 7, 2020, Ms. Gautreau responded: "The proposed lease is also less than 300 m from Gooseberry Island, a nesting island for 2 species of gulls. We recommend that proposed lease AQ#1444 be relocated to an alternate location at least 300 m from all areas of Dunn's Beach Sandspit and Gooseberry Island". She also recommended no access to Dunn's Beach or Gooseberry Island by project staff, and / or equipment.

[77] On March 3, 2021, TPC responded to DFA: "We understand the sensitivity of plover habitat on Dunn's Beach. The scientists we have consulted on this matter stated that plovers use the ocean facing beach and are unlikely to use the harbour side of the beach. They also stated that a 200m buffer is reasonable and has been demonstrated to work in other situations involving more disruptive operations adjacent to plover habitat. Is it possible to revise the requirement for a 300m setback and agree on a 250m buffer instead, given that this buffer would be from the harbour side of the beach and plovers use the ocean side which is further away. Some portions of Dunn's Beach are wooded with a boulder harbour shore – not plover habitat. Is it necessary to apply the setback requirements to these portions of the Dunn's Beach peninsula? "

[78] TPC also asked for data regarding the presence of nesting gulls on Gooseberry Island, as Mr. Porter stated that his expert, Dr. Tony Miller, had only ever noted black backed gulls nesting there, and that species were not usually disturbed unless they were approached on foot.

[79] On March 9, 2021, DFA contacted Ms. Gautreau, provided the TPC response, and suggested a meeting within a week, with DFA to discuss options. Ms. Gautreau did not respond and DFA sent follow-up correspondence to Ms. Gautreau on May 17, May 27, June 21, and July 16th. On October 28, 2021, Ms. Gautreau responded. She did not offer any further information justifying the recommended 300m buffer zones. She provided data showing the last recorded observation of nesting gulls on Gooseberry, in 2013. She expressed annoyance that Mr. Porter and an expert from St Francis Xavier had walked on Gooseberry Island (Mr. Porter testified that they had walked below the low water mark, while doing a video to demonstrate their point).

[80] Chris Kennedy, the author of the 2020 Dillon report, was qualified as an expert on piping plovers. He testified that both plover subspecies nest in similar beach conditions from

the low water mark to the upper beach and dune crest. He explained that this is because the seaward side creates the more sandy, grassy conditions favored for nesting. The species are not considered to react differently to potential different disturbances.

[81] Mr. Kennedy walked Dunn's Beach a week prior to the hearing. He testified that he observed an abandoned plover's nest at the western tip of Dunn's Beach (a sandy, grassy area). He also noted commercial fishing vessels at "Captain's Pond", adjacent to the eastern end of the beach. He said that research shows the level of disturbance of nesting plovers as highest for pedestrian traffic, then for pets, and then predation by other species (such as gulls).

[82] He considered the CWS-recommended 300m buffer zone for the plovers to be excessive. He did not see the need for any buffer zone to protect the gulls on Gooseberry Island and noted that it was not an active colony.

[83] It should be noted however that existing marine aquaculture leases for American oyster co-exist in proximity to protected and ecologically sensitive areas in other parts of the Maritimes where plover habitat exists (e.g., Melmerby Beach Park, N.S., Waterside Beach Provincial Park, N.S., and Darnley Basin, Malpeque, PEI.).

[84] As noted above, in their network response to the oyster lease application for AQ#1444, CWS (exhibit 10, appendix E) suggested that "boats and equipment should stay at least 300m from Dunn's Beach sandspit and Gooseberry Island during spring and summer...". No basis for this recommendation was ever provided. However, Dunn's Beach now has a provincial park designation. It is a popular site for recreation and is frequented by pedestrians and kayakers. The Board viewed the site, it showed a well-used ATV-sized track along the rocky dune crest, with a primarily sandy and grassy section on the outer side.

[85] Mr. Kennedy noted that there is currently other infrastructure in the protected beach area (an active commercial wharf) and users that regularly transit close to these sites by boat (fishermen, recreational boaters including sea-do users, and kayakers). This was confirmed by a number of witnesses, including fisherman Bill Brophy.

[86] The lease is located within the harbour while critical plover habitat is situated on the spit and ocean side of the beach.

[87] The closest point to AQ#1444 is a forested area which would eliminate any potential chances of plover disturbance in that location from activity on the water. Also, according to the proponent's application, all project development work and ongoing operations will occur from the water and there will be no onshore activities at Dunn's Beach.

[88] Ironically, gulls on Gooseberry, which CWS would like to protect, are a known predator of piping plovers. Gulls are already habituated to boat traffic and are unlikely to be disturbed should nesting occur in the future (exhibit 36).

[89] The 2020 Dillon Consulting Limited study (exhibit 23) included a literature review and assessment of Antigonish Harbour. As noted, biologist Chris Kennedy concluded “the current lease sites are unlikely to cause disturbance to plovers”.

[90] It appears that plovers flush from their nests most frequently by off leash pets, humans and much less by vehicular traffic. Set-back distances are normally established on a case-by-case basis. Literature is scarce about appropriate distances to protect plover. In Alberta, for example, they range from 50-200m for oil industry activities (AMEP 2011). Environment Canada recommends an upper limit of 250m for the oil industry (EC 2009). This 250m setback is for the most obtrusive industry activities. Nowhere is there reference to buffers of 300m. The US Fish and Wildlife Service recommends 50m buffers around nests on their Atlantic coastline (USFWS 1994).

[91] In light of the conflicting opinions in the CWS and Dillon reports, the DFA requested a report from the Centre for Marine Applied Research (CMAR). On May 5, 2023, CMAR provided a report which considered the CWS recommendations for 300m buffer zones around Gooseberry Island and Dunn's Beach. They commented:

“The Canadian Wildlife Service (CWS) has recommended 300m buffers around piping plover (*Charadris melodus*) habitat and historical nesting areas of two gull species, the herring gull (*Larus argentatus*) and great black-backed gull (*Larus marinus*), relative to a proposed oyster lease in Antigonish Harbour, Nova Scotia. Piping plovers are known to nest on Dunns Beach, within 300 m of the northern boundary of one of the proposed lease areas (#1444). The two gull species have historically nested on Gooseberry Island within 300 m of the southern boundary of the proposed lease area, but do not appear to have nested there the previous few years.

There are three possible options for the potential implementation of these buffers. The first option would be to implement both buffers out of an abundance of caution. This option would make culture on proposed lease AQ#1444 untenable as only 16% of the proposed lease could be used for culture. The second option would be to implement only the buffer around the piping plover habitat. This would enable culture on a smaller portion of the lease area (7.72 hectares) and provide an opportunity to study possible interactions with the piping plovers to inform future buffer status. Finally, the third option would be to negate both CWS proposed buffers, ensure aquaculture best practices and mitigation steps are followed, while studying potential interactions with the piping plovers to inform any future management decisions including buffers. “

[92] It is questionable whether any buffer zone is reasonable, considering all the other activities that take place. The evidence was that the beach is regularly used for recreation by kayakers, walkers, and picnickers, while jet skis and commercial fishers travel through the waters. This activity will no doubt increase now that the beach has been designated as a provincial park. We also note that plovers are land based, and that the TPC operation would be water based. However, to possibly minimize the risk, the Board finds that the compromise position of TPC is preferable, that is, a 250m buffer from the bay side, beginning at the dune crest, but with monitoring taking place to ensure there is no active nesting in the harbour side. There should be no presence of work or equipment anywhere on Dunn's Beach.

[93] Should plover activity be observed in that area (between the dune crest and the harbour), active operation of AQ#1444 should cease until such time as the plover activity has ended. This can be incorporated into the farm management plan. This reflects the fact that the noted observation of any plover nesting (an abandoned nest) took place at the extreme tip of Dunn's Beach.

[94] We also consider the proximity of oyster aquaculture to other locales, as noted in the first Dillon report. It provides the opportunity for further research on the impact, if any, of adjacent aquaculture on plovers. Ultimately, the farm management plan can provide the best outcome.

[95] There will be no buffer around Gooseberry Island, but as with Dunn's Beach, there should be no presence of work or equipment on Gooseberry Island.

Recreational boaters / power boats, canoes, kayaks, and sail boats

[96] Mark MacDonald testified as to overlay maps that he had created for FOAH. He also testified as to his personal recreational use. He no longer sails although he once did. He is a kayaker and testified that a favorite summer activity is to paddle across to Dunn's beach and spend time there. He also was involved with the individuals, who in 2019 placed buoys, demarking what is described on one of his maps as "NAV", covering most of Graham's Cove, and then out into the deeper portion of the harbour adjacent to Town Point (Map C, Mark MacDonald affidavit). He admitted that the "navigation area was one which he, as well some other individuals including Richard Wilgenhof, had marked and forwarded to Transport Canada, asking that it be designated a "navigation area". This was done in 2019 in response to Ernie Porter's proposed oyster farm. The requested navigation area cuts off the southwestern corner of site AQ#1443.

[97] There was no response other than acknowledgement of receipt by Transport Canada, nor was there any evidence as to what if any impact that designation would have had on the farm, or any other use of the harbour.

[98] Access to Graham's Cove is not blocked by AQ#1443, nor is the apparent main navigation channel out of the harbour.

[99] Mark MacDonald's daughter, Lucy MacDonald, was unavailable to testify, but was permitted to file her affidavit, which described her use of the harbour with her small dinghy-style sailboat. She says that her access to the harbour is impeded, although an examination of the Transport Canada navigation charts does not support that position. She does not mention how often she sails, nor does she explain how sailing a small dinghy with a centreboard retractable keel could be impacted. Although certainly the BOBR coverage would slightly restrict sailing in at most 1% of the harbour, mostly in shallow areas, the main channel is undisturbed.

[100] As well, the leases themselves only occupy 2% of the harbour, and the BOBR units, only a small portion of that area.

[101] Mr. Bowler also testified as to some kayaking. He admits that he is not an experienced kayaker and at present, would not have the skill to paddle through the TPC BOBR arrays.

[102] Richard Wilgenhoff also testified. His property crosses Town Point with access to the harbour and to Graham's Cove. He purchased his property in 2003 and moved there permanently in 2018. He has a guest house on the property and has thoughts of someday possibly using it as a vacation rental property. He has a "speed boat" and a "rubber boat", and his wife has a sailboat. His speed boat draws two feet, the sailboat has a retractable keel, He has a boat launch on the harbour side of the property, and a dock and a mooring in Graham's Cove. The launch is only used in the spring and fall. AQ#1443 does not overlap his launch area, although he suggests it could impact if launching in poor conditions. He agreed that he would not normally launch in difficult conditions, although the conditions could change quickly. As with the Lucy MacDonald evidence, the navigation charts do not support his argument. It in fact demonstrates some 600 feet of water from the edge of AQ#1443.

[103] As noted, he was one of the individuals that participated in marking the proposed "navigation area", and he agreed that Mr. Porter had changed the original lease location in response to their initial concerns.

[104] Marc Genuist, (CLC) is an avid kayaker, not just locally, but also in PEI and New Brunswick. He testified that he often kayaks in and around various oyster farms, without difficulty. He also volunteers and teaches kayaking at the local boat club.

[105] Stephen Feist (CLC Chair) is an avid kayaker and sailor. In his affidavit, he states that the proposed lease areas would not impact on his uses. He also says that there is very little recreational boating in the harbour.

[106] Many of the written submissions came from recreational kayakers and boaters, who do not see the sites as having any impact on them. As noted above, there is a 10m gap between each row of BOBR's, and 20m from the edge of the lease.

[107] The Board is satisfied that the leases will not significantly (if at all) impact commercial fishing, recreational fishing, or navigation.

Factor g) the sustainability of wild salmon

[108] There was no evidence presented that the sites would have any impact on wild salmon.

[109] Several submissions were received regarding the potential impact on Mi'kmaq rights and concerns. As well, Mr. Bowler in his application for intervenor status, expressed concerns for First Nations access to the harbour. One written submission expressed such concerns, however, Paqtnekek Mi'kmaw Nation, which farms oysters in Pomquet Harbour, submitted strong support for the project.

Factor d) the oceanographic and biophysical characteristics of the public waters surrounding the proposed aquacultural operation.

[110] The Applicant relies on three expert witnesses to demonstrate the suitability of the proposed sites for oyster aquaculture:

- Dr. Jon Grant is a biological oceanographer and longstanding professor in the Department of Oceanography at Dalhousie University who is responsible for a body of literature on aquaculture that is as substantial as any in the world (exhibits 25 and 45).
- Professor David Garbary is a biologist and professor at St. Francis Xavier University, having expertise in marine plants including eel grass (exhibits 24 and 42)
- Mr. Robin Stuart is an aquaculture manager and consultant with many years of local aquaculture experience (exhibit 26).

[111] Intervenor Groups 1 & 2 rely on the expert report(s) and testimony of

- Dr. Peter Cranford, currently the proprietor of Emeritus Marine, who, for the majority of his career was a research scientist with the Habitat Ecology Section, Ecosystem Research Division with Fisheries and Oceans Canada at the Bedford Institute of Oceanography, as well as an adjunct professor at Dalhousie University (Ex 19)

Carrying capacity

[112] Dr. Grant's opinion considered carrying capacity of Antigonish Harbour for oyster culture. He explained that carrying capacity of suspension feeding bivalve aquaculture site is a key consideration in assessing whether adequate resources exist to permit growth of the organisms. As suspension feeders, oysters derive their primary nutrition from phytoplankton. Phytoplankton supply is self-limiting in that a stocking density of oysters that exceeds the available phytoplankton results in smaller yields. He explains that as an estuary, Antigonish Harbour is flushed by tides daily that carry phytoplankton in with the coastal water. As such, the balance between tidal renewal of plankton and ingestion by oysters forms the basis of ecological carrying capacity, one of the major concepts in aquaculture management.

[113] Dr. Grant explained that carrying capacity can be measured directly by increasing oyster stock until their growth is compromised, but the more practical approach is to estimate carrying capacity using a simulation model. Dr. Grant, in collaboration with researchers elsewhere, developed these types of models in the late 1980's. Such models are now in widespread use, often with detailed computer simulation requiring data relating to oyster bioenergetics and tidal calculations called spatial models. These models have been applied to multiple sites in the Maritimes including bays and estuaries. Such investigations require extensive resources.

[114] Dr. Grant used a similar spatial model, albeit based on more accessible calculations. He considers it to be a valid screening model to indicate whether there is any concern that the site would be close to carrying capacity. The model is calculated as an index comparing the volume of water filtered by oysters compared to water renewal in the bay owing to tidal flow. The so called "Dame index" has already been used numerous times in coastal waters, including in his research on Prince Edward Island. He explained that oyster bioenergetics are well known having been studied extensively. In these studies, oysters have been placed in tanks with known concentrations of particles and allowed to feed. The reduction of particles is associated with water volume in which the particles are suspended and used to calculate a clearance rate expressed in litres per hour. The tidal height and depth of an estuary can be used to estimate the tidal prism or volume of water exchange per day.

[115] Dr. Grant's calculations suggest that the proposed three million oysters included in the proposed lease could filter 18 million litres of water per day. The time required to filter the entire harbour would be 83 days. In comparison, the tidal prism renewal time for the harbour is 0.76 days. As such, the tide renews harbour water 109 times faster than 3,000,000 oysters could deplete it. Essentially, the proposed volume of oysters can only filter 1.2% of the harbour water per day. He concluded that this degree of variation is "noise" and could never be detected in a sampling program, and as such 3,000,000 will not result in a significant drawdown of phytoplankton.

[116] Dr. Peter Cranford holds a different view. He was asked by Intervenor Groups 1 and 2 to prepare a report detailing his analysis and conclusion regarding the impacts of the

proposed lease sites. His conclusion was that the environmental conditions associated with the proposed sites are not optimal for oyster aquaculture in general. He concluded that the proposed aquaculture sites present a threat to fish habitat, species, populations, communities, fisheries, and ecosystem function and that there is a high likelihood that these ecological impacts will result if the development plan is approved.

[117] Dr. Cranford stated that most experts agree that oyster aquaculture impacts are unlikely if tidal currents are sufficient to supply the oysters with sufficient food and disperse waste over a large area. He says that, for example current velocities of 20-25 cm/s are required to disperse oyster deposits and limit the potential for adverse impacts from seabed organic enrichment. He accepts that the flow rates in Antigonish harbour are high (0.8 day flushing rate) but notes the sites are in shallow water thus would not experience the same flow rate as the channel. He is critical of the measurements taken by TPC which he describes as a “homemade drifter consisting of a surface buoy attached to a brick”.

[118] Dr. Cranford moored his own current sensor at 1.5 metres above the seabed in what he considered to be the centre of the three leases. The measurements were taken for approximately one day and attempted to capture spring and neap tide effects. The range of measurements at leases AQ#1442 and AQ#1443 was from 0 cm/s, which is expected as the tide turns, to approximately 14 cm/s and generally rose and fell reflecting the normal tidal pattern. The values associated with site AQ#1444 ranged from 0 to approximately 10 cm/s during the spring tide, and 0 to approximately 14 at the neap tide.

[119] Dr. Cranford could offer no explanation for the counterintuitive sampling results showing lower flow during the stronger spring tides, compared to neap tides. He calculated average speeds across the sites ranging from 3.8 to 5 cm/s, concluding that this was too slow for oyster aquaculture. However, we note that he relied upon prior studies showing that oysters are capable of growth with flow rates as low as 1 cm/s, and indeed confirmed this when questioned.

[120] In his report, Dr. Cranford relies on studies that suggest current speeds less than 10cm/s are not suitable for oyster aquaculture, to reach his conclusions regarding the viability of the lease sites for oyster aquaculture. This seems to ignore that there is evidence that slower speeds are still capable of supporting oyster aquaculture.

[121] Current speeds aside, Dr. Grant’s more general view regarding Dr. Cranford’s scientific approach is:

“The use of a single current speed to address whether oyster waste particles will be deposited is an incredibly simplistic approach. Even the paper that Cranford cites (Gadeken et al. 2021) recognizes that depositional dynamics are understood by shear stress estimates, not single point current measurements.”

[122] He also notes that while Dr. Cranford disputes the current speeds taken by the Applicant, these are substantiated by the DFO using their Acoustic Doppler Current Profiler. He adds that DFA has decades of experience using this device to assess aquaculture sites.

[123] Aside from the issues with current speed measurements specifically, Dr. Grant is highly critical of Dr. Cranford's expert report which purports to assess risk using data from what was essentially a "one day study". In fact, Dr. Grant goes so far as to say, "As a long-term colleague, I am concerned that such an inadequate effort has emerged from an experienced scientist".

[124] Dr. Cranford candidly admitted that cost precluded using a more long-term evaluation.

[125] We find that Dr. Grant's sentiment rings true. We agree that drawing such conclusions, and in particular Dr. Cranford's conclusion of that:

"Data reported herein supports a high level of confidence in the conclusion that the proposed project activities will interact with the local environment in ways that are expected to adversely impact fish habitat, ecological processes, species, populations, communities and fisheries."

[126] Based on his very abbreviated sampling data, this conclusion is the very antithesis of scientific endeavour. When questioned, Dr. Cranford accepted that the sites would be affected by localized eddies and that strong winds (we note maximums may be as high as 96 kms/hr) combined with tidal current could contribute to eddies with much higher current speeds. He also accepted that re-suspension of organic matter does not have to be continuous, but rather adequate flushing may occur more occasionally, such as daily or weekly. Yet these timeframes on the order of a week were not accounted for in Dr. Cranford's sampling plan which was limited to an extremely contracted sampling period of a matter of a few days. Even as non-scientists, this sampling frequency seems to us to be remarkably deficient.

[127] We therefore conclude Dr. Cranford's methodology was fundamentally flawed and cannot agree with the Intervenor Groups 1 and 2 position that he is the most important witness since he applied scientific principles to the actual site. In relying on so little data and drawing such extreme conclusions we consider basic scientific principles to have been ignored rather than relied upon. We therefore favour the analysis and opinion provided by Dr. Grant over Dr. Cranford in respect of the issue of current speeds and carrying capacity at the proposed lease sites.

[128] Dr. Cranford also bases the aforementioned prospective detrimental impacts outlined in his report on what he considers to be a reduced capacity to receive oyster bio deposits without adversely impacting fish habitat. While admitting that such data is not required in respect of bivalve aquaculture, Dr. Cranford nonetheless goes on to rely on what are again,

limited samples comprising cores taken on two days in November, to draw conclusions regarding suitability of the lease sites. As pointed out by Dr. Grant, the methodology used by Dr. Cranford for sulfide analysis is not recognized at this time by regulators in Nova Scotia. However, that concern aside, there are additional issues with Dr. Cranford's work.

[129] In spite of the fact that some of the sampling appears to have been less than rigorous, (for example with no controls or measurements of depth at which the cores were taken), Dr. Cranford appears confident in concluding that all three lease sites have poor to bad sediment quality "apparently resulting from the inability of the low tidal currents to disperse deposited particular organic matter entering the sites from natural sources, such as land run-off and eelgrass detritus." He concludes from these two days of sampling three locations, at each of the three sites, that the ability of the environment to incorporate organic matter deposition has already been exceeded. Yet, he accepts that seasonal variability exists. He also appears to accept that that eel grass is present, even under these less than desirable conditions.

[130] Dr. Cranford goes on to detail the detrimental effect on fish habitat created by the aerobic decomposition process concluding:

"The cumulative oxygen demand of the oysters and organically enriched sediments could reduce oxygen concentrations in these shallow, poorly flushed waters to the point where there is a high likelihood that hypoxic (low oxygen) conditions detrimental to fish health will occasionally develop in the water column in and around these shallow leased areas".

[131] Dr. Grant's opinion regarding this research was that Dr. Cranford used superficial sampling to characterize the entire outer harbour. He is of the view that speculation regarding the benthic health of the harbour would require detailed sampling at multiple locations. He notes that in addition, Dr. Cranford neglected consideration of sediment organic matter, grain size and porosity- all being factors that would be standard in respect of any benthic assessment. As Dr. Grant describes it "the recognized method for assessing the risk of organic enrichment does not come from a few sulfide samples" stating that it is depositional modelling that is instead used. He also notes that while surface sediments at fin fish aquaculture sites are a key regulatory variable, this is not a requirement for leasing of oyster sites. We note Dr. Cranford did admit that the presence of sulfides was not a parameter that is reviewable in terms of lease grants for oyster aquaculture.

[132] In addition, Dr. Grant is critical of Dr. Cranford's reliance on his data to conclude that there is risk of hypoxia to the entire water column, including oysters. He notes that he has never observed widespread water column hypoxia from oyster aquaculture in any Canadian site. Again, we find that Dr. Grant's interpretation of the alleged detriment associated with benthic deposits in Antigonish Harbour to be based on more sound scientific principles than Dr. Cranford's.

[133] We have considered the words of Mr. Stuart, that there is no better environmental barometer in an estuary than an oyster. We note that oysters were plentiful in Antigonish Harbour prior to development of the surrounding land. In addition, we note natural populations continue to exist, even if their numbers are reduced compared to what was present historically. Finally, in the unlikely event that Dr. Cranford's dire predictions, in whole or in part, are realized, it is the lease holder who may be expected to feel the effects of reduced capacity first. In light of the foregoing, and mindful of the fact that benthic monitoring is not a requirement of the regulatory framework, we do not consider benthic monitoring to be necessary going forward unless and until there is some evidence, such as substantially reduced oyster growth, that this is needed. We note in this regard that DFA has confirmed its ability to require and manage benthic monitoring under the farm management plan and that it will be possible to use DFO established procedures should this become necessary.

Eel Grass

[134] Dr. Jeffrey Barrell, a DFO scientist, completed a report on eel grass coverage in the lease sites. He reported a generally patchy and fragmented distribution of eel grass in the estuary. He noted patchy distribution that could not be considered to be continuous beds. In addition, he noted evidence of visible damage to the plants attributable to green crabs. Of the three sites AQ#1443 appeared to contain the highest concentration of eel grass. Dr. Barrell questions the extent to which his sampling, one week after hurricane Dorian, might have affected his results. He provides suggestions for enhanced collection of data in the future which we consider to be very helpful.

[135] Dr. Garbary conducted a study in the summer and fall of 2022 in which 20 random samples were collected in the general area of the lease sites. No living or dead eel grass was found in any of the cores. He relies on these findings to conclude that 20 years after the collapse of eel grass in Antigonish Harbour, this area has reached a new steady state in which the eel grass is unable to regenerate. Dr. Garbary's findings have been criticized by the opponents as being anecdotal. We agree in part. As is the case with respect to Dr. Cranford's, and to some extent Dr. Barrell's work, limited sampling frequency and area calls into question the value of the results and the commensurate opinions. However, the discrepancy between Dr. Barrell's findings and those of Dr. Garbary is at least supportive of the conclusion that monitoring of the lease sites with a view to determining impact on eel grass in the vicinity would be best.

[136] We note that Professor Garbary's research suggests that contrary to what is argued by the opponents, the proposed oyster leases are unlikely to have a detrimental impact on eel grass populations in the harbour. To the extent his research results are accurate, and there is now limited eel grass at or near the sites, this may be true. However, the data before the Board appears, on balance, inconclusive regarding the quantity and quality of eel grass in close proximity to the sites.

[137] We note the main concern in respect of eel grass may be shading from the oyster cages. Since the lease area represents 2% of the harbour, and the cages do not cover the entire lease area, we note it is only an exceptionally small part of the harbour which could potentially be affected by the proposed aquaculture operations.

[138] We also note that DFO recommends eelgrass monitoring be put in place if the leases are approved by the Board. We agree with the recommendation that monitoring at 1, 3 and 5 years of operation should be included in the farm management plan. However, we suggest that any monitoring plan should also take into account the size of any affected area relative to the size of the harbour. Additionally, noting that the experts suggest eel grass may, at the moment, be declining in Antigonish Harbour, we suggest any monitoring strategies consider the possibility for natural decline, unrelated to increased oyster populations.

Factor h) The number and productivity of other aquaculture sites in the public waters surrounding the proposed aquacultural operation.

[139] There is only one other aquaculture site in the harbour, a bottom harvest oyster lease at the west side of Graham's Cove. It is operated by Sam McKinley. A letter from Mr. McKinley was included in the TPC application and was not disputed by Intervenor Groups 1 and 2. Mr. McKinley was very supportive of the TPC proposal. He saw possible benefit to his own operation and believed that the TPC oysters would result in increased oyster larvae in the harbour. He also saw potential for making use of TPC's depuration facility as he currently sends his product to Pictou for depuration. He noted "Antigonish Harbour produces great oysters!"

Factor a) Optimum use of marine resources

[140] There are many harbours in Nova Scotia, and for centuries, these harbours have provided sources of food, routes for trade and commerce, and centres for human habitation. The less remote have always been "working harbours". The same is true of Antigonish Harbour, but its current use as a working harbour is minimal. Present activity in this harbour consists of recreational use, commercial fishing (with fishers resident in the harbour, but conducting fishing activity outside of the harbour), wild oyster harvesting, and a small oyster aquaculture lease.

[141] "Optimum" does not mean perfection. However, if this application is allowed, it would add to those existing uses, provided that it does not do so at the expense of the other uses.

[142] Speaking for the Aquaculture Association of Nova Scotia, Michelle Sampson pointed out that Nova Scotia lags far behind other maritime provinces in aquaculture development;

New Brunswick and Prince Edward Island production is, respectively, four and twelve times the value of that produced in Nova Scotia. She also pointed out the positive impact of tourism.

[143] The Board is satisfied that this relatively small operation will add to the existing uses. We are satisfied that it can be done without damage to the ecosystem, including eelgrass and piping plovers. It will be sited, with minor amendments, in such a way to respond to the concerns of those who navigate the harbor for commercial and recreational uses. We recognize that to some, the BOBR system is seen as unsightly, but we also note that the relatively low profile of the gear, as well as the distance from most shoreline properties will considerably reduce what some see negatively.

Will it be economically viable? That is a risk that TPC is prepared to take.

[144] Intervenor Groups 1 and 2 attacked the integrity of Mr. Porter. In its final submissions, it suggested the following:

- a. The incentivization for TPC to disrupt plovers is a live issue informed by Mr. Porter's demonstrated lack of care when it comes to the protection and preservation of the plover and gulls. In his evidence Mr. Porter:
 - Went onto Gooseberry Island in contravention of the directions set out by CWS.
- b. Initially argued that a 250-meter buffer was sufficient in the March Correspondence, which changed to a 230-meter buffer and as of the date of the hearing has become a 100-meter buffer.
- c. Preferred the hearsay conclusions of Dr. Tony Miller (which were to TPC's benefit and who was not called to testify) to those of Rachael Gautreau of the CWS, responsible for endangered species protection and conservation.
- d. Referred to Ms. Gautreau as an "advocate" for endangered and migratory birds, in his testimony.
- e. In his testimony referred derogatorily to black backed gulls as "seagulls" that could be seen in any parking lot.

[145] In the view of Intervenor Groups 1 and 2, that evidence lessens confidence that if the Application were approved, TPC would act cautiously when operating in close proximity to Dunn's Beach and Gooseberry Island, as TPC would be incentivized to avoid having them nest nearby.

[146] We disagree. Mr. Porter's evidence was that he and Dr. Miller went around the edge of Gooseberry, below the low tide line, to video the presence, or absence, of gull nesting. Furthermore, there was no 'direction' from Ms. Gautreau, and in fact she would have no authority to do any more than make a recommendation to DFA.

[147] Rachel Gautreau's opinions were no less hearsay than those of Dr. Miller. As with Dr. Miller, she did not testify. And as with Dr. Miller, neither party called her as a witness. Indeed, it is astonishing that even after repeated requests from DFA to explain her position, to consider further input from Mr. Porter, and to meet with DFA and / or Mr. Porter, her only response was to simply state that she had not changed her view. She refused to even discuss alternative options, such as were later suggested in the CMAR report.

[148] If Mr. Porter did refer to Ms. Gautreau as an "advocate" for piping plovers; he actually agreed with the suggestion put to him in cross examination that she should be an advocate for piping plovers.

[149] The reference by Mr. Porter to gulls on Gooseberry Island as "parking lot seagulls", simply highlights the fact that the black backed gulls are not an endangered or protected species. And ironically, Ms. Gautreau was keen to protect them, although they are a known predator of piping plovers on the adjacent Dunn's Beach.

[150] There were several other collateral efforts by the opponents to attack the credibility and integrity of Ernie Porter. They raised his placement of a boulder on a narrow strip of ungranted land which ran along the harbour edge and to the Porter property. Mr. Porter testified that in fact he had placed the boulder there some seven years earlier to prevent ATVs from transiting to his property. Aside from the ATV use, the route was rarely used. The community at large had never expressed concerns prior to the initiation of the oyster project. However, as the project developed, he received correspondence from Nova Scotia Department of Transportation, requesting the boulder be removed. In response, Mr. Porter did so. The Department also indicated that they would be prepared to consider a transfer of the land in question to Mr. Porter.

[151] Mr. Porter, in his evidence, characterized the boulder controversy as a "stage prop", used by the FOAH opponents. He said that they had even cleared the grass around the boulder to create the impression of frequent public use. We agree.

[152] The opponents of the project also characterized the pre-application work done by Mr. Porter in building his land-based depuration facility. They suggested that he proceeded to do this work without a permit, implying that Mr. Porter was a 'scofflaw' of sorts. In his evidence, Mr. Porter testified that he did in fact have permission from the Municipality for the work, however, he did not realize (nor did the Municipality) that only the land-based portion of the work was governed by the permit. However, the work included some piping to the water below the ordinary high-water mark. Mr. Porter's opponents seem to have brought the issue to the attention of the authorities. It was reviewed over a one-year period by the Department, and finally, a means was created to approve the piping without change.

[153] We are entirely satisfied with the integrity and transparency of Ernie Porter. He demonstrated his patience in moving forward through the lengthy process and he has

demonstrated willingness to modify various aspects of the project to respond to the concerns of others, from the outset, and to the very concluding submissions. He has been completely transparent. He has invited anyone interested to visit his property and learn about the gear he proposed to use. He took part in a well-attended public meeting organized by an independent individual. Much of what he did was faced with strong headwinds from a highly organized group, who sought to challenge his every step.

Oral submissions

[154] Roger Porter (no relation to Ernie Porter) said that he had been asked to oppose the application and was told by an unknown individual that Ernie Porter was not being candid. He met with Mr. Porter, read various background papers, and concluded that the leases were not obstructive, and would be a positive benefit to the community.

[155] Ronald Fraser taught school in Antigonish for 35 years. His family and ancestors have owned property at Seabright, and he has always spent summers at the family cottage. He has a view of all three leases from his property, which is 800 -1000 metres away. He is concerned about access to a beach on Town Point, which he says was blocked by Ernie Porter, and he is concerned about waste material from the leases impacting the health of the harbour. He is also concerned about the potential impact of drifting and damaged gear from the leases.

[156] Michelle Sampson is the director of the Aquaculture Association of Nova Scotia. She said the TPC project is optimal. She notes that New Brunswick and PEI respectively, produce four and twelve times the market value of farmed oysters, as Nova Scotia. She says that the production can contribute to tourism through branding, as demonstrated in Prince Edward Island. She noted that the Ivany Report recommended co-operation and collaboration among communities. She said that shellfish exports are small in Nova Scotia, and the opportunity for development is immense.

[157] Sean Day has lived in Antigonish for 30 years and was the Director of Planning and Development for Antigonish. He is currently a private consultant, and he is the current president of the Antigonish Boat Club. He says the unobstructed harbour channel is 250 metres wide, and a sailboat can tack even under storm conditions. He sees the BOBR system as being storm resistant and the low profile will have minimal impact on views. He says that for the last 20 years, boating in the harbour has been minimal, but he sees the oyster development as attracting tourism.

Written submissions highlights:

[158] Written submissions were received from 143 individuals and businesses. Some writers

were local, and some owned property in the harbour. There was some duplication in the written submissions. Some were also members of FOAH, and should not act through FOAH, and at the same time, submit a written comment. However, the Board did review and consider their comments.

[159] Some writers presented “expert” opinion evidence (their own, or papers and research reports by others). There is a strict evidentiary limit on the use of expert opinion, both in the higher courts, and in this tribunal, and so those submissions should not be considered. Some writers supported the project, others opposed it. The basis for the opposition and support of the project matches the concerns and support expressed throughout the hearing, by lay and expert witnesses. These include environmental concerns (eel grass, piping plovers, habitat for other species), interference and non-interference with recreation and harbour navigation, impact of views of the farm, property value impact, impact on tourism, contribution to economy.

[160] All of the submissions have been reviewed. They are for the most part sincere, although a few unfortunately engaged in personal attacks on the transparency and integrity of TPC and Ernie Porter.

[161] Their views are based on the information available to them until the cutoff date, two weeks before the hearing. Some of the writers had attended the CLC meeting, some had also met with Ernie Porter, some had done their own research.

[162] The writers expressed views for or against the project on essentially the same basis as those who testified. These included:

- impact on tourism related business
- sustainability
- transparency and integrity of TPC
- economic impact
- effect on the ecosystem
- impact on recreational use of the harbour
- views of the site from private property impacting property values
- “industrialization” of Town Point

[163] These concerns were helpful in highlighting concerns of the public in general, and as such, have all been addressed within the evidence and submissions of the parties.

Decision

[164] In conclusion, the applications of Town Point Consulting for AQ #1442, AQ#1433, and AQ#1444, are all approved, subject to the development of the Farm Management Plan, which must include the piping plover mitigation and monitoring plan using the 250m buffer as described above, as well as eel grass monitoring. TPC must make any necessary adjustments to its cages and equipment to ensure that there is no intrusion on the wild oyster existing harvesting areas.

[165] The Applicant should also make his proposed adjustment to AQ# 1444, to minimize any interference with the southern navigation route from the Harbour.

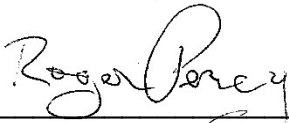
DATED at Halifax, Nova Scotia this 5 day of **January**, 2024.



Jean McKenna, Chair



Coleen Morrison, Vice Chair



Roger Percy, Board Member

DISTRIBUTION: Sarah Shiels, Solicitor on behalf of Town Point Consulting Inc.
 Alison Campbell, Solicitor on behalf of the Department of Fisheries and Aquaculture
 Peter Rogers, Solicitor on behalf of Groups 1 and 2.
 Marc Genuist, Representative on behalf of Group 3.