

Re: Renewal Application for Lease #0835 Port Mouton , Queens County

Dear Aquaculture Administrator

I am writing in response to the request from Nova Scotia Department of Fisheries and Aquaculture for public comment on the renewal application for the finfish aquaculture lease (#0835) in Port Mouton Bay. I am a Research Associate in the Department of Biology at Dalhousie University and the lead and co-author of several published studies on the impacts of the fish farm operated at this lease site. I have direct experience and interest in the ecological health of Port Mouton Bay.

Our studies report that the fish farm operating in lease #0835 was the largest source of nitrogen to the Bay compared to all land-based sources (McIver et al. 2018). Nitrogen loading is of particular concern in coastal waters because it can lead to algal blooms, oxygen depletion and loss of biodiversity. Our 11-year lobster study (2007-2017) found that during periods when the Port Mouton Bay fish farm was actively raising fish (a feed period), market lobster catches in Port Mouton Bay on average dropped by 42% and female berried lobster counts dropped on average 56% compared to when the fish farm was not in production (a fallow period) (Milewski et al. 2018). Moreover, both market and berried lobster tended to be lower nearest the fish farm, and higher furthest away from the farm. We examined the health of eelgrass near the fish farm and found it was negatively impacted by waste from the farm (Cullain et al. 2018). Eelgrass has been designated by the Department of Fisheries and Oceans in 2009 as an ecologically significant species. To date, we are not aware of any other published studies done in Port Mouton Bay that contradict these findings.

Prior to our research, a decision support system (DSS) developed by federal government scientists (Doucette and Hargrave 2002) to assist DFO habitat managers in making decisions on farm site locations was applied to the Port Mouton Bay lease site in 2009. The results indicated that the shallow water depths and low current velocities combined with the presence of sills that create depositional basins that retain settled organic waste from sea cages made Port Mouton Bay unsuitable for salmon aquaculture (Hargrave 2009).

One of the purposes of the DSS developed by scientists was to provide an early warning of potential environmental problems (Doucette and Hargrave 2002). The outcome of the DSS applied to lease #0835 was indeed accurate as Nova Scotia Environmental Monitoring program data for the site revealed that that numerous individual sampling stations at the fish farm during production periods (2007–2009; 2013–2014) had sediment sulfide levels above levels the federal and provincial government considers harmful to fish habitat ($>3000 \mu\text{M}$) (DFO 2006, 2017; NSDFA 2014, 2017). Depending on the production year, sediment sulfides ranged from 5000 to 10000 μM ; in 2007 and 2014, mean sediment sulphides were $>4000 \mu\text{M}$ (NSDFA 2007, 2014).

Lastly, it has come to my attention that the results of a 2019 lobster study in Grand Manan (New Brunswick) are being used to invalidate the results of our 2018 lobster catch study in Port Mouton Bay. The Grand Manan study examined different questions than our lobster catch study, in a different oceanographic and biophysical setting, under different fish farm production conditions and, therefore, the Grand Manan study result cannot be applied to Port Mouton Bay. I have attached a comparison of these two studies for your review.

The combined direct scientific and environmental monitoring evidence clearly points to the unsuitability of finfish aquaculture at lease #0835 and in Port Mouton Bay in general. I have attached copies of the various studies mentioned in this correspondence and I trust these studies will inform your decision-making regarding lease #0835.

Sincerely,

Inka Milewski, Research Associate
[REDACTED], Dalhousie University
[REDACTED]
Halifax, NS

e-mail: Aqua.Admin@novascotia.ca

Name: Ruth E. Smith

Contact Information: [REDACTED]

Connection with Ocean Trout Farms Inc.'s renewal application for Aquaculture Licence and Lease #0835 (AQ#0835) in Port Mouton, Queens County:

I was born and grew up in Port Mouton where I presently own and occupy my family home on property along the inner Port Mouton Bay shoreline. I have been a member of Friends of Port Mouton Bay (FPMB) for 14 years. With an oceanographic background, I have been involved in the numerous scientific studies and co-author of several scientific publications on aquaculture interactions in Port Mouton Bay.

Comments

The optimum use of marine resources;

The optimum use of marine resources involves restoration of ocean health and protection of wild fisheries .

The contribution of the proposed operation to community and Provincial economic development;

For over 20 years, the aquaculture operation in Port Mouton Bay has been a negative economic influence with only a few workers present on a part-time basis, and negatively impacting lobster habitat and catches and the surrounding ecosystem in Port Mouton Bay, while owned by an out-of-province company.

The Region of Queens Municipality consistently and unanimously voted against any renewal of the lease in Port Mouton Bay in 2006, 2014 and 2019.

Friends of Port Mouton Bay have repeatedly requested successive Ministers of Fisheries and Aquaculture to decommission this lease site.

Fishery activities in the public waters surrounding the proposed aquacultural operation:

Fishery activities in public waters at this location include lobster fishery, herring, mackerel and crab bait- fishery; Irish moss harvest and recreational fishery of mackerel, scallop, mussels and clams. These activities have all been impacted by the aquaculture operation over the past 20 years (1995-2015). Recovery of these resources in this area is finally evident approximately 4 years after the aquaculture activity ceased.

The impact on the lobster fishery has been documented in an 11-year study (Milewski et al. 2018) which found that market lobster catches dropped an average of 42% and female berried lobster counts dropped on average of 56% during fish farm production when compared to periods when the fish farm was not in production. Moreover, both market and berried lobster tended to be lower nearest the fish farm, and higher furthest away from the farm.

The oceanographic and biophysical characteristics of the public waters surrounding the proposed aquacultural operation;

The lease site in Port Mouton Bay has shallow depth (10-12 m) and low flushing capacity. The low current speeds (2-4 cm/s) with a tendency to re-circulation were demonstrated by FPMB using analysis of current meter data and dredge studies which led to validation of fishermen's local knowledge..

A decision support system (DSS) developed by federal government scientists (Doucette and Hargrave 2002) to assist DFO habitat managers in making decisions on farm site locations was applied to the Port Mouton Bay lease site in 2009. The results indicated that the shallow water depths and low current velocities combined with the presence of sills that create depositional basins that retain settled organic waste from sea cages made Port Mouton Bay unsuitable for salmon aquaculture (Hargrave 2009).

Eelgrass, designated by the Department of Fisheries and Oceans in 2009 as an ecologically significant species, was found to be negatively impacted by waste from the farm (Cullain et al. 2018).

Our studies also reported that the fish farm operating in lease #0835 was the largest source of nitrogen to the Bay compared to all land-based sources (McIver et al. 2018). Nitrogen loading is of particular concern in coastal waters because it can lead to algal blooms, oxygen depletion and loss of biodiversity.

In a further study, the oily sea -surface slick which originated from the fish farm during fish production was found to contain levels of copper toxic to marine life over distances greater than 1 km (Loucks et al. 2012).

Environmental monitoring data for Site #835 during fish farm production periods show sediment sulfide levels above the threshold of 3000 μM which the federal and provincial government considers harmful to fish habitat (DFO 2006, 2017; NSDFA 2014, 2017). Depending on the production year, sediment sulfides reached 5000 to 10000 μM (anoxic- also termed grossly polluted in the scientific literature). In 2007 and 2014, mean sediment sulphides reached levels greater than 4000 μM (hypoxic - also termed polluted), (NSDFA 2007, 2014).

The other users of the public waters surrounding the proposed aquaculture operation;

There are three lobster pounds in Inner Port Mouton Bay. Two popular public beaches - Summerville Beach Provincial Park and Carters Beach (a Protected Beach with pending Nature Reserve designation)- experienced very foul odors, slime algae and waste residue on shorelines during aquaculture operations. These impacts interfere with the public right of enjoyment and tourism. Spectacle Island also has pending Nature Reserve designation and the community's Spectacle Light Society has invested in its lighthouse heritage status.

The public right of navigation;

A designated anchorage site is in close proximity to the lease area and is frequently visited by ocean-going traffic. There have been complaints that foul odors from the fish farm in operation made overnight stays untenable at the anchorage. The irresponsible neglect of abandoned dilapidated cage structures (2015-19) in the form of large and small- scale floating debris, and loose floating cables created serious navigational hazards which became litter on shorelines and beaches with accompanying styrofoam beads, a serious form of plastic pollution consumed by fish and birds.

Respectfully submitted,

Ruth E. Smith

----- Forwarded Message -----

From: Jan Pottie [REDACTED]

To: Aquaculture Administrator <aqua.admin@novascotia.ca>

Cc:

Sent: Thursday, February 6, 2020, 3:57:08 p.m. AST

Subject: Regarding application for renewal of Ocean Trout license site #0835, Port Mouton Bay

Respectfully submitted February 6, 2020 under reference categories:
(d) "biophysical characteristics of the public waters surrounding the proposed aquacultural operation"
(e) "the other users of the public waters surrounding the proposed aquacultural operation"

To Whom it May Concern

As 14 year members of the Friends of Port Mouton Bay with a home in Summerville Center (since 1954), and as long time observers of the ecological and environmental change since the fish farm was introduced, we strongly oppose the renewal of the license for site #0835. There are many reasons to oppose this license--threats to the lobster, herring and mackerel fisheries, privatization of public water, occupation of space needed for safe anchorage and recreational boating, threats to tourism from pollution, including visual pollution.

However we wish to base our opposition on the threats to two highly sensitive protected ecosystems and dependent wildlife. Site #0835 is located close to the Carters Beach Spectacle Island Nature Reserve and Summerville Beach Provincial Park.

In fact site #0835 lies between these two beaches and pollution from this farm washes into both, depending on the wind.

This pollution includes large pieces of physical debris such as the entire metal platform on styrofoam pontoons that washed up on Summerville in 2017 and the large marker buoy that washed into Carters in 2018 (see attached photos).

Both have shed millions of small styrofoam beads that are known to be so harmful to wildlife, especially fish, seabirds and shorebirds. These

beads persist in the waters of Port Mouton Bay and along Summerville Beach and in the dunes at Carters Beach.

It is alarming to see so much broken styrofoam from fish farms along our coast in southwestern Nova Scotia. And many people are confused by DFA's indifference.

But these plastic beads are not the only pollution from site#0835 that negatively impact these special protected areas and dependent wildlife.

Both Summerville and Carters are catch areas for Port Mouton Bay (Carolyn Bird, NRC). And the pollution such as anti-foulants, antibiotics, pesticides, rotting feed, medicated feed, rotting feces, rotting salmon/trout, follow the same paths as the larger pieces of debris that we can easily see.

This is a problem. Chemical pollution in these sensitive coastal areas not only has the potential to harm people, children and pets but also shorebirds which are completely dependent on marine worms, fly larvae, beetles, insects, crustaceans, mollusks and other small invertebrates that are depleted by the kinds of chemicals used in open pen fish farms.

Both Carters and Summerville Beaches are well known for their natural beauty, biodiversity and as habitat for rare or uncommon species such as the rare clam Conrad's Thracia and the seaside dragon fly (DLFNS) and two species of rare beach or sand hoppers at (St Andrews Biological Station), all at Summerville.

Both beaches provide critical nesting habitat for endangered shorebirds such as the Piping Plover, as well as Willet. In addition both beaches provide critical feeding stopover for migratory shore birds, sandpipers, plovers, red knot. Many of these birds are increasingly endangered.

Shorebird populations have shrunk, on average, by an estimated 70% across North America since 1973 (Cornell Lab of Ornithology). Alarms bells are sounding worldwide.

Shorebirds and seabirds face direct threats from ingesting styrofoam beads shed by fish farms and that now litter our coastline in

southwestern Nova Scotia. In addition these birds face depletion of their vital food sources by the chemicals used in aquaculture, as well as from rotting fecal sludge causing eutrophication, depletion of oxygen and creation of anoxic conditions.

For the above reasons any open pen finfish farm in Port Mouton Bay must be considered unacceptable and we ask that you do not renew the license for site#0835.

Respectfully,
Jan Pottie and Tom Sherman
[REDACTED],
Nova Scotia

Figure 1:Site #0835 Ocean Trout metal platform on large styrofoam pontoons washed up on Summerville Beach June 2017

Figure 2:Site #0835 Ocean Trout metal debris on Summerville Beach

Figure 3:Site #0835 Ocean Trout fish farm broken buoy in dunes at Carters Beach

Figure 4:Site #0835 Ocean Trout styrofoam buoy shedding beads at Carters Beach

Figure 5:Site #0835 Ocean Trout styrofoam buoys off Carters Beach

Figure 6:Site #0835 Ocean Trout styrofoam beads on Carters Beach

Figure 7:Carters Beach former clam flats now smothered by multi-layered microbial mats of purple sulfur bacteria, green cyanobacteria, a result of hydrogen sulfide accumulation.

Figure 8:Piping Plover nest Summerville beach with Ocean trout platform from site #0835 in background, denoted by yellow arrow









2/7/2020

Ron Campbell
Seascope Restaurant

Port Mouton, N.S.

Nova Scotia Department of
Fisheries and Aquaculture

Fax: 902-875-7429

RE: Connection with Ocean trout farms Inc.'s renewal application for Aquaculture License and lease #0835 (AQ#0835) in Port Mouton, Queens County:

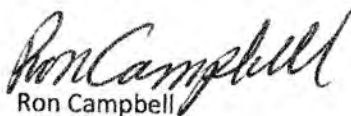
As residents of Nova Scotia who understand the dependence of this province on the Tourism industry, we have the right to voice our concerns on this topic. We live in the Port Mouton Bay area. We own oceanfront property on Port Mouton Bay.

We are deeply concerned how this aquaculture lease will affect Tourism and the lobster fishery in the Port Mouton Bay area.. The aquaculture site is within visual distance of Carters Beach. This beach is known as one of the top beaches to visit in Canada. We would like to keep this beach as pristine as possible. We do not want the slime and pollution that this site produces. It will also affect the lobster fishery, scallop diving and our marine diving site.

Tourism and lobster fishing is the backbone of our province. Without this our area will be economically impacted in a negative way.

We would not be opposed to closed pen farming as it would have very little impact on the environment.

In closing I must reiterate the fact that we are opposed to open pen fish farming at this site.



Ron Campbell
Owner/Operator
Seascope Restaurant

RBN FISHERIES LIMITED

Nova Scotia CANADA

Phone:

Fax:

email:

Feb. 5th, 2020.

To whom it may concern,

We are writing with our concerns in regards to the Ocean Trout Farms Inc's renewal application.

We are a wholesale seafood buyer with many locations across Nova Scotia, and a lobster holding facility located in Port Mouton.

Renewal of this application would not be in the best interest of this area, or our company, due to the six month lobster fishery and lobster facilities in the area.

We have many customers that are MSC certified and require annually a "Certificate of Continuing Guarantee", with this form we are required to answer questions such as;
Is lobster fished from approved waters?

We cannot guarantee this when we are unsure of what is being put in the waters, by these Aquaculture companies.

It is very concerning for us, as we are a year round business that employs approx. 200 fishers and 120 employees. This would affect us dramatically if we cannot conduct business as usual and notify our customers that their product is from a sustainable source.

Brian & Jane Newell
Owners

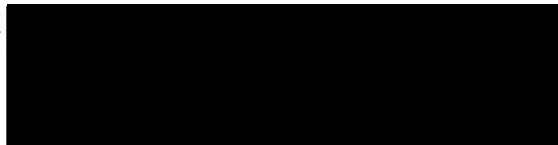
e-mail: Aqua.Admin@novascotia.ca

Fax: 902-875-7429

Deadline: February 7, 11:59 pm

Name: Wendy R. Coolen

Contact Information:



Connection with Ocean Trout Farms Inc.'s renewal application for Aquaculture Licence and Lease #0835 (AQ#0835) in Port Mouton, Queens County:

-I live in Port Mouton for the sheer beauty and cleanliness of the environment and for the wonderful sense of community that exists there. My husband and I moved from Halifax 10 years ago, first renting and then deciding to buy a house. We love it there.

-I believe that any proposed aquaculture facility to be built in Port Mouton Bay will have a negative impact on the sea and shore environment and on the livelihood of members of the community who work in and around the bay.

Comments

- (a) the optimum use of marine resources;
The beauty and cleanliness of the waters and shores of Port Mouton Bay play a large role in what activities take place there. Fisheries are hugely important to the community: lobster, Irish moss, shellfish, herring, etc. and clean waters heavily impact their sustainability and growth. Tourism is also a major player with people using the beautiful beaches, diving in the waters, sports fishing, kayaking and sailing. Clean water is necessary for all of these activities. We also have to take into account all of the marine and land creatures which use the Bay to live and reproduce in, it is their right to have a healthy environment to live in. There are many businesses and individuals which rely on various aspects of Port Mouton Bay to make a living to support a vibrant community, a community which has been in existence for hundreds of years.
- (b) the contribution of the proposed operation to community and Provincial economic development
From my observation and information gleaned from various sources, there appeared to be very little contribution directly to the community. A few people were hired to look after the operation, and possibly a few local supplies were purchased, ie. gas, building supplies, etc. All of the fish was taken elsewhere to be processed and sold, so very little monetary value remained in the community. There was also some tension between the people working for the aquaculture site and the people who did not support the farm. As far as the farm adding to the provincial economy, the benefits would be to the community where the fish were processed, and to the company that owned the farm, which could

possibly be outside of the province. There would also be monies available to universities to study marine aquaculture promoted by the aquaculture companies, which could possibly benefit the universities in the province, but not the local economy. In my opinion, the local economy benefitted very little from the fish farm.

- (c) fishery activities in the public waters surrounding the proposed aquacultural operation;

I live two properties away from the main harbour in Port Mouton Bay. I constantly see the activity that takes place from this harbour alone, not including the fish landing at Willow Cove and Hunts Point Wharf. At any given time, there are at least 35 boats in the harbour, supporting the lobster, herring, crab, Irish moss, sea cucumber and other fisheries. When it is taken into account that each boat supports two to three workers and all of the supplies that it takes to run these boats, that is a lot of money that is being spent and that stays in the local economy. Most of the fisheries workers live in the community, so much of their earning is spent in the community supporting other local businesses. It is a self-sustaining community. That is what the province wants to happen, more rural sustainability. At Willow Cove, a processing plant reopened, to process the landed fish, thereby providing more local jobs. These fisheries depend on clean water. The fishing industry, and particularly the lobster industry, is one of the large contributors to the provincial economy. Jeopardizing that is ludicrous.

- (d) the oceanographic and biophysical characteristics of the public waters surrounding the proposed aquacultural operation;
- (d) the other users of the public waters surrounding the proposed aquacultural operation;
- (e) the public right of navigation;