Bertocci, Cynthia S

From: [redacted]
Sent: Tuesday, June 11, 2019 4:15 PM
To: Bertocci, Cynthia S
Subject: Re: FOAA request...
Attachments: Emails with Gregg Wood.pdf

Good afternoon,
The purpose of this email is to respond to the FOAA request received by the DEP on June 6th that was forwarded to me on Tuesday, June 11, 2019.
After review of both my town and personal email accounts and in consultation with the Attorney General's Office, the following are my responses to the request - I have copied the request language and the responses are in italics:

1) any and all public records pertaining to the appointment,confirmation and/or participation of Susan Lessard to DEP boards, commissions, task forces and/or other DEP advisory groups from January 1 2018 to June 5, 2019 within the Maine Department of Environmental Protection including, but not limited to, the Board of the Maine Department of Environmental Protection. *I was interviewed by the Environment & Natural Resources Committee on January 24, 2018 and subsequently confirmed by the Senate. Other than documents related to the process (resume, background form, and tax statement) that were submitted to the Governor's Office, I have no records related to appointment, confirmation and/or participation. In addition, I have not served on any task forces, DEP boards (other than the BEP), or DEP Advisory boards from 1/1/18 - 6/5/19.*

2) any and all public records sent and received by Susan Lessard between January 1, 2018 to June 5th 2019 pertaining to Whole Oceans. - *The only discussion with DEP related to Whole Oceans was in regard to the wastewater discharge application and its process and appeal. Emails with Gregg Wood are attached to this email*

3) any and all public records pertaining to her duties and participation in rule making, review of license applications, decisions of appeals of the Commissioner's licensing and enforcement actions, and recommended changes in the law to the Legislature pertaining to Whole Oceans. *There has been no activity before the full Board in regard to the Whole Oceans project.*

Respectfully,
Susan Lessard

On Tuesday, June 11, 2019, 10:17:16 AM EDT, Bertocci, Cynthia S <Cynthia.S.Bertocci@maine.gov> wrote:

From: Martin, Kevin
Sent: Thursday, June 06, 2019 12:42 PM
To: Bertocci, Cynthia S <Cynthia.S.Bertocci@maine.gov>
Cc: Loyzim, Melanie <Melanie.Loyzim@maine.gov>; Reid, Jerry <Jerry.Reid@maine.gov>; Madore, David <David.Madore@maine.gov>
Subject: FW: FOAA request...

Hi Cindy,

Please see below FOAA request into records relating to Sue Lessard's appointment/role. As in the past, I've sent requests for Board member records directly to you. Do we have an list/idea of DEP staff who would have been involve with this process and might have records.

Kevin Martin

Compliance & Procedures Specialist

Maine Department of Environmental Protection

(207) 287-4305

kevin.martin@maine.gov

From: Adrienne Caldwell <dogtrainer@adriennecaldwell.com>
Sent: Thursday, June 06, 2019 9:34 AM
To: Martin, Kevin <Kevin.Martin@maine.gov>
Subject: FOAA request...

Kevin Martin

Maine Department of Environmental Protection
17 State House Station
28 Tyson Drive
Augusta ME 04333

Re: Freedom of Access Act Request

Dear Mr. Martin:

Please be advised that this is a request under the Freedom of Access Act.

I hereby request a copy of -

1) any and all public records pertaining to the appointment,confirmation and/or participation of Susan Lessard to DEP boards, commissions, task forces and/or other DEP advisory groups from January 1 2018 to June 5, 2019 within the Maine Department of Environmental Protection including, but not limited to, the Board of the Maine Department of Environmental Protection.

2) any and all public records sent and received by Susan Lessard between January 1, 2018 to June 5th 2019 pertaining to Whole Oceans.

3) any and all public records pertaining to her duties and participation in rule making, review of license applications, decisions of appeals of the Commissioner's licensing and enforcement actions, and recommended changes in the law to the Legislature pertaining to Whole Oceans.

I request a waiver of all fees for this request. Disclosure of the requested information to me is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the government and is not primarily in my commercial interest.

Thank you for your consideration of this request.

Sincerely,

Adrienne Caldwell
6 Spring St
Bucksport, ME 04416
(917) 753-0563
info@adriennecaldwell.com

Wood, Gregg

From: Susan Lessard <slessard@bucksportmaine.gov>
Sent: Friday, December 21, 2018 3:51 PM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] Appeals

Hi Greg,
Any additional appeals? Other than the one from Tuesday?
Thank you,
Sue Lessard
Sent from my iPhone

692 CALDWELL
Bertocci Records
(6)

Wood, Gregg

From: Susan Lessard <slessard@bucksportmaine.gov>
Sent: Tuesday, December 18, 2018 11:10 AM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] Appeal

Does the person who filed the whole Oceans appeal have standing?
Thanks
Sue

Sent from my iPhone

Wood, Gregg

From: Wood, Gregg
Sent: Tuesday, December 18, 2018 12:49 PM
To: Lessard, Susan
Subject: RE: [EXTERNAL SENDER] Process

Sue:

Yes you are correct. See the tail end of the first paragraph Section 24(A) *Appeal Period*. " In response to a motion by the licensee, the Chair may dismiss an appeal if the Chair decides an appellant is not an aggrieved person."

From: Lessard, Susan [mailto:slessard@bucksportmaine.gov]
Sent: Tuesday, December 18, 2018 12:36 PM
To: Wood, Gregg <Gregg.Wood@maine.gov>
Subject: [EXTERNAL SENDER] Process

If memory serves me correctly, the Chair of the Board has the ability to decide if someone has standing to appeal. On a couple of occasions, when it was iffy, the Board was asked to ratify the decision of the Chair in this regard.
Is that still the case?
Thank you -
Sue

Susan Lessard | Town Manager
Town of Bucksport, Maine | Incorporated June 25, 1792
50 Main Street | P.O. Drawer X | Bucksport, Maine 04416
207.469.7368, ext. 226 (office) | 207.469.7369 (fax)
slessard@bucksportmaine.gov | www.bucksportmaine.gov

Wood, Gregg

From: Susan Lessard <slessard@bucksportmaine.gov>
Sent: Tuesday, November 20, 2018 3:25 PM
To: Wood, Gregg
Subject: Re: [EXTERNAL SENDER] Update

Thank you for the update.
Sue

Sent from my iPhone

On Nov 20, 2018, at 3:20 PM, Wood, Gregg <Gregg.Wood@maine.gov> wrote:

> Good afternoon Sue;
>
> The permit has been finalized yesterday and is in the hands of our attorney over in the Office of the Commissioner. He is taking one last look at it. The permit is scheduled to be signed no later than noon tomorrow. Once signed, the 30-day clock for someone to appeal will begin.
>
> **From:** Lessard, Susan [mailto:slessard@bucksportmaine.gov]
> **Sent:** Tuesday, November 20, 2018 1:33 PM
> **To:** Wood, Gregg <Gregg.Wood@maine.gov>
> **Subject:** [EXTERNAL SENDER] Update
>
> Any news on the WO permit or any appeals filed yet?
> Sue

Susan Lessard | Town Manager
Town of Bucksport, Maine | Incorporated June 25, 1792
50 Main Street | P.O. Drawer X | Bucksport, Maine 04416
207.469.7368, ext. 226 (office) | 207.469.7369 (fax)
slessard@bucksportmaine.gov | www.bucksportmaine.gov

Wood, Gregg

From: Wood, Gregg
Sent: Tuesday, November 20, 2018 3:21 PM
To: Lessard, Susan
Subject: RE: [EXTERNAL SENDER] Update

Good afternoon Sue;

The permit has been finalized yesterday and is in the hands of our attorney over in the Office of the Commissioner. He is taking one last look at it. The permit is scheduled to be signed no later than noon tomorrow. Once signed, the 30-day clock for someone to appeal will begin.

From: Lessard, Susan [mailto:slessard@bucksportmaine.gov]
Sent: Tuesday, November 20, 2018 1:33 PM
To: Wood, Gregg <Gregg.Wood@maine.gov>
Subject: [EXTERNAL SENDER] Update

Any news on the WO permit or any appeals filed yet?
Sue

Susan Lessard | Town Manager
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50 Main Street | P.O. Drawer X | Bucksport, Maine 04416
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slessard@bucksportmaine.gov | www.bucksportmaine.gov

Wood, Gregg

From: Lessard, Susan <slessard@bucksportmaine.gov>
Sent: Wednesday, October 31, 2018 9:43 AM
To: Wood, Gregg
Subject: Re: [EXTERNAL SENDER] Process

Thank you very much for the information and the comments. I have read them all and there are some good questions in some of them. I know that information exists to answer those questions. If there is anything that you need from the Town, or from Whole Oceans, in order to address the questions - I know that they would be happy to provide it, as would the Town.
Take care - and again - thank you for your patience with all the questions.
Sue Lessard

Susan Lessard | Town Manager
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50 Main Street | P.O. Drawer X | Bucksport, Maine 04416
207.469.7368, ext. 226 (office) | 207.469.7369 (fax)
slessard@bucksportmaine.gov | www.bucksportmaine.gov

On Tue, Oct 30, 2018 at 12:25 PM Wood, Gregg <Gregg.Wood@maine.gov> wrote:

> Sue:
>
> Here are the remainder of the comments I received
>
> **From:** Lessard, Susan [mailto:slessard@bucksportmaine.gov]
> **Sent:** Tuesday, October 30, 2018 12:02 PM
> **To:** Wood, Gregg <Gregg.Wood@maine.gov>
> **Subject:** Re: [EXTERNAL SENDER] Process
>
> One more question. Were there a lot more comments received after you sent me the list mid-afternoon?
>
> Thanks
>
> sue

Susan Lessard | Town Manager

Town of Bucksport, Maine | Incorporated June 25, 1792

50 Main Street | P.O. Drawer X | Bucksport, Maine 04416

207.469.7368, ext. 226 (office) | 207.469.7369 (fax)

slessard@bucksportmaine.gov | www.bucksportmaine.gov

On Tue, Oct 30, 2018 at 11:44 AM Wood, Gregg <Gregg.Wood@maine.gov> wrote:

Good morning Sue:

Now that I have all the comments I will organize them into groups of similar comments/subject matter and I need to prepare written responses to the comments. I will incorporate them in the Fact Sheet attached to the permit and issue the permit as final. Aggrieved parties have 30 days to appeal the permit.

From: Lessard, Susan [mailto:slessard@bucksportmaine.gov]
Sent: Tuesday, October 30, 2018 11:31 AM
To: Wood, Gregg <Gregg.Wood@maine.gov>
Subject: [EXTERNAL SENDER] Process

Hi Gregg,

Now that the public comment period for Whole Ocean's permit has closed. What happens next? Sorry to be a pain. It has created a good deal of angst and anxiety here in Bucksport that Belfast project opponents have interjected themselves into the project in Bucksport. I want to be able to give appropriate and accurate responses when asked 'what next'?

Thank you -

Sue

Susan Lessard | Town Manager

Town of Bucksport, Maine | Incorporated June 25, 1792

50 Main Street | P.O. Drawer X | Bucksport, Maine 04416

207.469.7368, ext. 226 (office) | 207.469.7369 (fax)

slessard@bucksportmaine.gov | www.bucksportmaine.gov

Wood, Gregg

From: Wood, Gregg
Sent: Wednesday, October 31, 2018 10:30 AM
To: Lessard, Susan
Subject: RE: [EXTERNAL SENDER] Process

Good morning Sue.

I think I'm fine for now. I will take a shot at formally responding to the comments by myself and will reach out to Whole Oceans and other State and federal agencies if I need help. We'll all get through this. I don't see any show stoppers. Have a good day.

From: Lessard, Susan [mailto:slessard@bucksportmaine.gov]
Sent: Wednesday, October 31, 2018 9:43 AM
To: Wood, Gregg <Gregg.Wood@maine.gov>
Subject: Re: [EXTERNAL SENDER] Process

Thank you very much for the information and the comments. I have read them all and there are some good questions in some of them. I know that information exists to answer those questions. If there is anything that you need from the Town, or from Whole Oceans, in order to address the questions - I know that they would be happy to provide it, as would the Town.
Take care - and again - thank you for your patience with all the questions.
Sue Lessard

Susan Lessard | Town Manager
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> Here are the remainder of the comments I received

From: Lessard, Susan [mailto:slessard@bucksportmaine.gov]
Sent: Tuesday, October 30, 2018 12:02 PM
To: Wood, Gregg <Gregg.Wood@maine.gov>
Subject: Re: [EXTERNAL SENDER] Process

One more question. Were there a lot more comments received after you sent me the list mid-afternoon?

Thanks

sue

Susan Lessard | Town Manager

Town of Bucksport, Maine | Incorporated June 25, 1792

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> **From:** Lessard, Susan [mailto:slessard@bucksportmaine.gov]
> **Sent:** Tuesday, October 30, 2018 11:31 AM

To: Wood, Gregg <Gregg.Wood@maine.gov>
Subject: [EXTERNAL SENDER] Process

Hi Gregg,

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Thank you -

Sue

Susan Lessard | Town Manager

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slessard@bucksportmaine.gov | www.bucksportmaine.gov

Wood, Gregg

From: Wood, Gregg
Sent: Tuesday, October 30, 2018 12:25 PM
To: Lessard, Susan
Subject: RE: [EXTERNAL SENDER] Process
Attachments: Comments on Draft Permit as of 1500.pdf

Sue:

Here are the remainder of the comments I received

From: Lessard, Susan [mailto:slessard@bucksportmaine.gov]
Sent: Tuesday, October 30, 2018 12:02 PM
To: Wood, Gregg <Gregg.Wood@maine.gov>
Subject: Re: [EXTERNAL SENDER] Process

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> **To:** Wood, Gregg <Gregg.Wood@maine.gov>
> **Subject:** [EXTERNAL SENDER] Process

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slessard@bucksportmaine.gov | www.bucksportmaine.gov

Natural Resources Council of Maine
3 Wade Street • Augusta, Maine 04330 • (207) 622-3101 • Fax: (207) 622-4343 • www.nrcm.org

Mr. Gregg Wood
Department of Environmental Protection (DEP)
Via Electronic Mail

October 29, 2018

RE: Whole Oceans Bucksport
Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0037478
Maine Waste Discharge License (WDL) #W009190-6F-A-N
Proposed Draft Permit

Dear Mr. Wood:

I am writing on behalf of the Natural Resources Council of Maine (NRCM) in opposition to the draft permit for the proposed Whole Oceans facility in Bucksport. NRCM recognizes the potential of land-based aquaculture to reduce the environmental damage associated with net pen aquaculture by reducing escapees, pollutant discharge, and the use of chemicals to control parasites such as sea lice. However, we cannot support this permit as it currently stands for the following reasons:

1) **The proposed levels of BOD, TSS, and nutrient discharges are too high (Special Condition A (1-3)).** This became clear after we reviewed the application[1] for the proposed Nordic Aquaculture salmon facility in Belfast. That facility, although much larger, has proposed to meet far lower license limits than the Whole Oceans facility. For example, Whole Oceans has proposed TSS and BOD limits of 4654 pounds per day for its phase three permit for production of 10,000 to 20,000 metric tons of salmon annually. In contrast, Nordic Aquaculture has stated it would discharge only 407 pounds per day of TSS and 356 pounds per day of BOD at an annual production rate of 33,000 metric tons of salmon. For nitrogen, Whole Oceans has proposed a discharge level of 1865 pounds per day for its phase 1 operations, which would produce less than 5,000 tons of salmon annually. In contrast, Nordic Aquaculture has stated it would discharge only 1480 pounds per day of nitrogen at its full production level of 33,000 tons per year annually.

If DEP accepts Nordic Aquaculture's numbers as true, it should not approve the Whole Oceans permit as written. Instead, DEP should at least require Whole Oceans to meet comparable numbers to those Nordic Aquaculture has proposed. DEP may also need to do further research on what it is reasonable to expect land-based aquaculture facilities to discharge.

[1] Proposed discharge limits for Nordic Aquaculture come from the transcript of their October 4, 2018 public meeting in Belfast, which Nordic Aquaculture attached to its recent application for a Maine Pollutant Discharge Elimination System permit. Application and supporting materials accessed at https://www.maine.gov/dep/ftp/projects/nordic/MEPDES%20Permit%20Application_Final_Oct%2019,%202018.pdf, P. 148.

2) The proposed level of fish escapees is unacceptable (Special Condition L). DEP should require Whole Oceans to prevent the escape of any fish and report the escape of even a single fish.

3) DEP should require year-round monitoring and limits for nutrients (Special Condition A (1-3). Nutrients may accumulate in sediments in winter months, and this accumulation may affect water quality in warmer months.

4) DEP should require monitoring at at least one site very close to the Whole Oceans outfall (Special Condition G). The site should be at least as close to the Whole Oceans facility as Monitoring Station P3 in Attachment D is to the Bucksport sewage treatment plant. Monitoring near the proposed outfall should include searching for *beggiatoa* mats in its vicinity. NRCM understands that significant *beggiatoa* growth has occurred under salmon pens when they are poorly run.

5) DEP should require Whole Oceans should monitor all parameters it can with sondes rather than just turbidity (Special Condition G). With the right probes, sondes can monitor at least temperature, pH, and dissolved oxygen, and DEP would benefit from having continuous monitoring of these parameters.

In closing, NRCM sees potential benefit form land-based aquaculture when compared to net pen aquaculture. This draft permit, however, raises more questions than it answers, and we cannot support it in its current form.

Sincerely,

Nick Bennett
Staff Scientist

PENOBSCOT NATION

DEPARTMENT OF
NATURAL RESOURCES

JOHN S. BANKS, DIRECTOR

12 WABANAKI WAY
INDIAN ISLAND, ME 04468
TEL: 207/827/7776
FAX: 207/817/7466

October 29, 2018

Gregg Wood
Maine DEP Bureau of Water Quality
Division of Water Quality Management
17 State House Station
Augusta, ME 04333-0017

RE: Penobscot Nation comments on Whole Oceans, LLC proposed draft permit MEPDES #ME0037478

Dear Mr. Wood:
The Penobscot Indian Nation is submitting these comments on the above referenced proposed draft MEPDES permit for the Whole Oceans, LLC application for a land based recirculating aquaculture system (RAS) in Bucksport, Maine. The proposed permit is to discharge wastewater from the new facility to the Penobscot River.

As a riverine tribe with upstream sustenance fishing rights and active involvement in water quality we have interest in this facility and its potential impacts to fisheries and aquatic resources of the Penobscot River. In general terms, given the nature of this facility and the limited knowledge about RAS effluent here in Maine we support Maine Department of Environmental Protection's (MEDEP) proposed approach of using 3 phases and requiring monitoring and dye studies to collect the data and information needed for determining water quality impacts and establishing appropriate permit limits for the proposed facility. Because of some historic issues regarding algal blooms in the Penobscot River, it is important to better understand the effect of phosphorous and nitrogen loadings to the river while preventing blooms from recurring.

We have a few specific issues that we would like to see addressed in the final permit:

1) Given PIN's sustenance fishing rights and our active involvement with restoration and management of Atlantic salmon and other anadromous fish species in the Penobscot watershed we would like to be added to the Escape Reporting Contact List in Special Condition L. We request the following people be added to the list (Dan Kusnierz, Water Resources Manager dan.kusnierz@penobscotnation.org; and Dan McCaw, Fish Passage Specialist dan.mccaw@penobscotnation.org).
2) We would like to know why escapes of ≤ 50 fish are not reportable to the Escape Reporting Contact List.
3) We request that total phosphorous limits be established for the facility, similar to the approach used in the proposed permit for total nitrogen. While collecting information through a permit monitoring requirement is useful, we believe that a permit limit is needed to ensure adequate water quality protections. It is well documented through ME DEP's Penobscot River studies and

Phosphorous Waste Load Allocation, that phosphorous has been a significant problem in the Penobscot River, resulting in episodic algal blooms and non-attainment of dissolved oxygen criteria. To prevent these problems from occurring ME DEP has established phosphorous limits in other discharges to the Penobscot. We believe that Phase I should have an initial phosphorous limit, which can then be adjusted for Phase II and Phase III after more information is available through the monitoring studies in the proposed permit.

4) It is unclear why the facility will not be subject to toxics testing requirements of ME DEP's Surface Water Toxics Control Program. It would seem prudent, given that this is the first permit for the facility, to at least initially require toxics testing to better understand the potential toxics that might be found in this effluent. It is unknown whether the food that is being fed to the various life stages of the salmon may contain toxics depending upon its source. There are reported instances of aquaculture fish containing high levels of toxics because of the source of the fish food. Likewise, the drugs that may be used for disease control and antibiotics may either contain or break down to contain toxics.
5) We would recommend that when drugs are used for disease control, or when antibiotics, fungicides, bactericides, parasiticides, or other compounds are used, that the facility should monitor the effluent to determine whether these compounds are being removed by the RAS treatment system and the extent to which they may enter the receiving water. It is unclear why environmental monitoring and evaluation is required for Investigational New Animal Drugs (INAD) but is not required for other compounds. This data is important to help understand the nature of the effluent and whether these compounds or metabolites are entering the Penobscot River.
6) We would like to call your attention to what appears to be missing information on page 14 of the 9/28/18 Proposed Draft Fact Sheet. The second to last paragraph contains the following statement "The Department has also assessed the impact of the discharge of BOD, TSS, and total and nitrogen from the Whole Ocean's facility..." The underlined section appears to be missing some words that are needed to better understand this statement.

Thank you for the opportunity to provide comments on this proposed draft permit. Please contact me if you have any questions regarding these comments.

Sincerely,

Daniel H. Kusnierz
Water Resources Program Manager,
Penobscot Indian Nation Department of Natural Resources

Cc: Ellen Weitzler, EPA
Michael Stover, EPA

Wood, Gregg

From: Don Perkins <don@gmri.org>
Sent: Monday, October 29, 2018 5:01 PM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] Whole Oceans MPDES and WDL comments

Dear Mr. Wood:

I'm writing to share our view of the marine ecosystem impact and economic development considerations of the Whole Oceans' proposed RAS salmon facility in Bucksport in light of your draft Maine Pollutant Discharge Elimination System (MEPDES) permit and Maine Waste Discharge License (WDL).

Five years ago, we looked closely at the challenge of how Maine might diversify away from its risky dependence on lobstering as the economic mainstay of our fishing communities. We concluded that responsible aquaculture is the logical complement to our traditional fishing economy. As a result, we're supporting the growth of responsible algae, shellfish, and finfish production.

Maine is blessed with numerous competitive advantages on which to build a successful aquaculture industry. Our fresh and saltwater is clean and cold. We have a deep heritage of fishery skill and experience. We have an extraordinary network of marine research institutions to support the evolution of aquaculture here. The Maine brand is highly respected. We're located close to major metropolitan markets. We're known nationwide as the nation's best-practice state due to the Maine Department of Marine Resources' comprehensive management of aquaculture and the Maine Aquaculture Association's leadership in developing best practices.

Given our interest in aquaculture as a 21st century seafood opportunity and the carrying capacity of coastal waters, we've been supporting strategies of responsible diversification from owner/operator lobstering into owner/operator algae and shellfish farming, modest expansion in sea pen salmon-farming Downeast, and breakthrough attraction and development of on-land finfish RAS (Recirculating Aquaculture System) production between Harpswell and Cutler.

Given the Whole Oceans draft MEPDES Permit and Waste Discharge License open for public comment, I'm writing to share the following observations:

- Whole Oceans has developed a highly-engineered RAS production facility. They've drawn on European know-how and technology and Maine-based marine construction expertise to do so.
- They have chosen a community and prior industrial site to build a safe, contained facility with limited environmental impact.
- The have engineered their facility such that individual salmon escape risk is minimized with redundant barriers and overboard discharge does not diminish water quality against current state water quality classifications.
- They have committed to a competent strategy to monitor impact from operations as they grow and evolve, including a dye study to assess local water quality impact after their first phase is operational.
- They have hired competent operational management and committed to best-practice operational management approaches and training.

- Given the approach that Whole Oceans has taken to each step of their business development over the past three years, including their proposed approach to managing environmental risks, we believe they offer Maine a breakthrough opportunity of a significant capital investment and a leadership role in the evolution of a responsible 21st century seafood economy.

If we can assist you in any way as you consider the Whole Oceans proposal, please contact me.

Sincerely,

Donald W. Perkins
President/CEO

****

Donald W. Perkins
President
Gulf of Maine Research Institute
350 Commercial Street
Portland, Maine 04101
(207) 831-3627 (cell)
(207) 228-1634 (office)
don@gmri.org

WHOLE OCEANS™
MAINE SUSTAINABLE SALMON

October 29, 2018

Mr. Gregg Wood
Maine Department of Environmental Protection
Bureau of Water Quality
Division of Water Quality Management
17 State House Station
Augusta, ME 04333-0017

Re: Whole Oceans, LLC
Maine Pollutant Discharge Elimination System (MEPDES) Permit # ME0037478
Maine Waste Discharge License (WDL) # W009190-6F-A-N
Proposed Draft Permit

Dear Mr. Wood:

Thank you for the opportunity to comment on the above-referenced draft permit. Whole Oceans appreciates the time taken and effort made by DEP staff to develop this permit. As a general comment, Whole Ocean agrees with the key permit findings that the proposed discharge will meet existing water quality standards, including the antidegradation law, and that the proposed discharge will be subject to best practicable treatment.

Whole Oceans offers the following specific comments:

- As you know, the loading rates that were provided to DEP in the waste discharge license application are maximum loading rates. Once the facility's treatment system is detail designed and operational, Whole Oceans expects a reduction in those maximum projected loading rates. Further, as noted in the application, the use of antibiotics and other therapeutic/disinfection compounds will be used only as necessary and it is not expected that they will frequently be necessary due to the careful management of intake water and egg supplies. Again, it is Whole Oceans' goal to avoid the use of these compounds but, in the unlikely event that they do need to be used, Whole Oceans has been conservative in its estimate of frequency and volume of use.

- Special Condition A.1. – Measurement Frequency. The draft permit requires that BOD and TSS be monitored three times a week and that Total Nitrogen be monitored once a week. Whole Oceans understands that initially, additional BOD, TSS and Total Nitrogen data is needed. However, given the facility's steady-state operations, unlike a municipal facility for example, these monitoring frequencies will not be necessary in the long term. As soon as a sufficient number of samples have been obtained to establish a baseline for BOD, TSS and Total Nitrogen, Whole Oceans will request a reduction in monitoring frequency. In addition, Whole Oceans may seek to develop a surrogate measure for BOD.

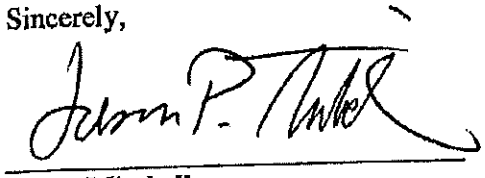
Whole Oceans notes that the BOD limit for the University of Maine Center for Cooperative Aquaculture Research was recently removed entirely based on such new information. Similarly, Whole Oceans will likely ask DEP to consider elimination of other parameters such as Total Phosphorus and Total Ammonia after initial monitoring provides information necessary for the modification.

- Whole Oceans supports the phased licensing framework of the permit. Whole Oceans has no objections to the additional monitoring requirements (the dye study and the ambient water quality monitoring) contained in Special Conditions F and G. However, based on extensive water quality modeling of the projected loadings (which are maximum projected loadings), DEP has determined that there is no measurable water quality impact associated with Whole Oceans' proposed discharge. Based on water quality data obtained beginning on May 1st of 2019, Whole Oceans may request a reduction in the instream monitoring frequency of twice per month in subsequent years.

- As the Department knows, there are no numeric effluent limitation guidelines for recirculating aquaculture systems (RAS). The Department has appropriately incorporated into the permit the narrative guidelines set out in 40 C.F.R. 451.11. The Department has determined that 30 milligram per liter as a monthly average and 50 milligram per liter as a daily maximum represent its best professional judgment of numeric best practical treatment for RAS facilities. This determination has been consistently applied to RAS facilities in Maine (e.g., Palom Aquaculture LLC and the Center for Cooperative Aquaculture Research). These BPJ/BPT numeric limitations are based on EPA draft guidelines and represent a secondary level of treatment. (See Fact Sheet at page 9 of 15.) It should also be noted that compliance with these BOD and TSS limitations will ensure removal efficiencies equivalent to or greater than those applicable to publicly-owned treatment works with secondary treatment.

Thank you for your consideration of these comments.

Sincerely,



Jason Mitchell
Whole Oceans
President & Chief Operating Officer
www.wholeoceans.com
jmitchell@wholeoceans.com
207-751-3530

Date: October 29, 2018
Maine Department of Environmental Protection
Bureau of Water Quality□Division of Water Quality Management□
17 State House Station□Augusta, ME 04333-0017
gregg.wood@maine.gov

By Jim Merkel
97 Patterson Hill Rd
Belfast, Maine 04915
(207)323-1474
jimimerkel@gmail.com

Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0037478 Maine Waste Discharge License (WDL) #W009190-6F-A-N□**Proposed Draft Permit**

Dear Gregg,

I'm writing to request a hearing and to submit questions and comments regarding the Whole Oceans Waste Discharge Elimination System.

1. The historical and recent status of the Penobscot Bay lists it as Maine's largest and most productive fishery and estuary system. It is also noted as one of the most significant estuaries on the eastern seaboard. It can produce high quantities of wild fish, but has been severely mismanaged -- a tragedy to the regional ecosystem, the economy and culture. The waters and rivers have been cleaned considerably since the days of industrial pollution and organic runoff. Many industrial polluters have gone out of business, left the area or reduced their outflow. At this critical time, as migrating fish are just beginning to recover, locating an outflow pipe in the mouth of the Penobscot River is troublesome.
2. The outflow out flow pipe is located deep within the estuary, not even close to deep ocean currents. Can Whole Oceans please provide scientific evidence that the chemistry, nitrogen, and salmon related kairomones and pheromones will have no negative impacts on the River, Bay and its recovery?
3. The aquaculture industry's profits will likely increase as the wild fishery decline. Author Naomi Klein calls this, "Disaster Capitalism," or profiting from disaster, in this case, Maine's fishery collapse is a disaster to the working waterfront, the ecology, and future generations, yet WO business will profit as wild stocks are further damaged. What investments in the wild fish recovery is WO willing to make? And if your facility is found to be hurting recovery efforts, what is WO prepared to do?
4. WO is proposing to dump effluent that is high in nitrogen and pheromones to these fragile, collapsed, yet clean and ready to be restored waters. Should this be a major obstacle to recovery of a wild fishery, what would WO do? A proposal of the scale of WO will change the chemistry of the river and bay. What studies can

you provide that show large scale RAS systems will not effect wild fish recovery, or chemistry of the waters into which the outflow dumps?

5. 2018, CBC news reported "Virus at 2 Nova Scotia land-based fish facilities results in 600,000 salmon being killed… Aquaculture Minister Keith Colwell said Thursday the two facilities are located close to each other, but wouldn't name them." If WO has a disease outbreak, will it be required by law to disclose the location to the public?
6. If WO has a disease or virus outbreak, will the tanks continue to circulate the disease into Penobscot Bay?
7. Will the outflow halt circulation into the river should a virus or disease outbreak in the tanks. Please explain in detail the steps that they would take.
8. How many tanker trucks would be required to empty your tanks?
9. Where would the diseased water go?
10. How would this water be disposed of?
11. Where would the contaminated filters be disposed of?
12. Where would the diseased fish go? Would they be burned? Where?
13. Under any condition, would WO sell diseased fish into the market.
14. Disease Vectors

    According to Dr. Stephen Ellis, about 10% of caged salmon are sent to market early because they are diseased with infectious salmon anemia (ISA) virus infections. Aquaculture industry has developed markets for the smaller, yet diseased fish, unbeknownst to the consumer. Can the sold fish, the cartons, or the destroyed fish all spread viruses and diseases?

15. Can you provide scientific studies that prove that your outflow pipe into the bay can unequivocally not spread diseases, viruses or sea lice to other sea life, who then become carriers.

16. Please provide scientific studies that prove UV light is effective in killing viruses and diseases.

17. The food for the fish is a vector for the spread of disease, especially as WO is stating that their feed mix will likely include smaller fish from abroad. Please provide the current protocols for testing for viruses and disease in the fish food.

18. Provide the data on how dissolved phosphorous levels in the outflow pipe change depending upon the diet fed to fish in containment.
19. If you are permitted to discharge certain levels of phosphorus, and later change the diet, will you commit to maintaining target levels?
20. Can the dissolved phosphorous be removed? Will you remove it?
21. A quote from the study in Aquaculture Engineering: "Total phosphorous (most of which was dissolved) was 4 times greater in the culture water of RAS that received the FMF (Fishmeal-free) diet, e.g., 4.3 ± 0.1 mg/L v. 0.9 ± 0.0 mg/L for the FM (Fishmeal) Diet. This was the first research attempt to formulate a fishmeal-free diet for Atlantic salmon with this ingredient profile and one of few studies to demonstrate uncompromised Atlantic salmon performance when

feeding a diet without fishmeal.[i]" Dissolved Phosphorous levels can increase by four times simply by feeding fish a fishmeal-free diet that contains mixed nut meal, poultry meal, wheat flour, and corn protein concentrate. Could a diet change at a future date cause 4 times the phosphorous to enter the bay?

22. Will feed come from wild fish stock from South America? If so, these species are at the base of the food chain in the areas where they would be harvested at industrial scale. This take would both compete with local small fisher folk and subsistence fishing, as well in other fish up the food chain. What protocols would you have to ensure you will not effect distant communities? Also, people eat the fish that you are using for food. Is this ethical, sustainable?

23. Will you feed fish slaughterhouse waste that includes any of the following: Pig blood or byproducts, chicken slaughterhouse waste, GMO corn, GMO soy?

24. Journalist Mark Hume reported in the Globe and Mail, updated May 11, 2018 "The action, filed with the Federal Court by Ecojustice on behalf of Alexandra Morton, alleges the Minister of Fisheries and Oceans (DFO) acted "unlawfully" by issuing a licence to Marine Harvest Canada Inc. to allow the farm to transfer fish carrying piscine reovirus (PRV)." The virus is deadly and causes heart and skeletal muscle inflammation in fish. "She said she first detected PRV last year when she tested samples of farmed salmon bought at Vancouver supermarkets. The Cohen Commission of Inquiry, which examined the collapse of sockeye stocks in the Fraser, warned that fish farms could be passing diseases to wild salmon. Ms. Morton said PRV could be to blame for the collapse of Fraser stocks." The Piscine reovirus began in Norway, home to massive aquaculture facilities.

    Question: The Aquaculture industry has caused enormous unintended consequences. Can you provide scientific peer reviewed studies not conducted by the industry itself, that can prove that your RAS system's outflow pipe will not negatively effect wild stocks of fish?

25. Please explain in detail which diseases you will regularly monitor for?
26. What antibiotics and chemicals will be used in the tanks. Can you firmly commit to not using these even in the case of disease outbreaks? What penalties and enforcement can citizens rely on? Will you agree to not using chemicals?
27. Please provide a detailed list of all components, compounds, chemicals, that will be in the effluent and what performance levels you promise to the community.
28. Explain exact levels of disease that would trigger a shut down of flow into the bay?
29. In the event of a mass die off of fish, please provide detailed information that explains your all flows of water, filters, fish, food stocks, equipment, and employees leaving the plant.
30. Can you prove that you will not send diseases into the bay? Please provide documentation on these claims.

31. Can you prove that you will not send viruses into the bay? Please provide documentation on these claims.
32. Sea Lice, kairomones, pheromones -- Studies conducted by the aquaculture industry and researchers have come to understand that salmon pheromones, kairomones and "fish smell" attract sea lice. Although the land-based salmon might be safe from sea lice, the outflow pipe will attract sea lice. How will this effect other species in the bay and wild salmon that are listed as endangered species? Might this make salmon recovery more difficult?
33. Please detail the systems that you will have in place to prevent any tanks or water from being syphoned or inadvertently injected into any wells or surface water.
34. Can you prove that a malfunction of a check valve, a system or an operational mistake, can not lead to contaminated black water from entering the ground.
35. What steps will you take to ensure a tank will not rupture?
36. Will the entire site be bermed incase the tanks ruptured?
37. Detail the physical systems that will contain any spills from a ruptured pipe.
38. Explain what systems are in place should there be an ice storm or other event causing you lose power for several weeks?
39. Will your generator be able to run the entire plant?
40. How many days of fuel will be stored on site?
41. How will you protect this quantity of fuel from an accident?
42. Will there be multiple outflow pipes?
43. What happens if a pipe is plugged or fails?
44. Have you surveyed the habitat in all directions of the plume of wastewater?
45. Please supply records of baseline data of water quality and the species that are within several miles in all directions of your proposed outflow pipe.
46. Much of Maine including Penobscot Bay has many closures due to biotoxins, red tide and toxic algae blooms. Can you prove that your outflow will not add to closures and make the existing problems worse?
47. Is any amount of additional nitrogen into Penobscot Bay acceptable to the marine ecosystem?

48. An 11-year study in Port Mouton Bay, Atlantic Canada was released June 28, 2018. "Our results indicate that average market lobster catch per unit effort (CPUE) was significantly reduced by 42% and berried lobster counts by 56% in feed compared to fallow periods. Moreover, both market and berried lobster CPUE tended to be lower in fishing region 2, which included the fish farm, and higher in region 5, furthest away from the farm." The study reported:

    - Lobster "sniff" the odor seascape with their antennules and chemoreceptors found on their legs
    - Odors are used to locate food, find mates, detect predators and avoid environmental stresses
    - Sulphides and ammonium have toxic and behavioural effects on adults and other lobster life stages

– In laboratory studies, 50% of lobsters die within 3.3 days in low oxygen, low sulphides (5.5 μM) and ammonium (17 μM) conditions (Draxler et al. 2005)
• Berried lobster are very sensitive to odors and temperature
• Berried lobster show retreat behaviour at 50 μM sulphide (Butterworth et al. 2004); at 500 μM and regular oxygen conditions, 50% of lobster died in 22.5 hr.

Further, the study sited the effects of nitrogen pollution include:
•Decrease in water quality
•Increase in epiphyte growth on eelgrass
•Increase in benthic algae •Increase in nuisance or "slime" algae

Please take the study's finding one by one and provide scientific data to show that your outflow pipe will not have similar negative impact.

49. Please detail the quantities of sulphides and ammonium per day in the wastewater.
50. Please provide scientific data to prove that the outflow odor plume will not have any effect on berried lobsters.
51. Please provide details and maps of any eelgrass and/or kelp growth, within the outflow plume.
52. Please provide recent studies regarding the water currents at low depth, mid depth and surface depth on both incoming and outgoing tides as well as under various wind directions and various density profiles of seawater as related to seasonal variations.
53. How does WO plan to dispose of the sludge?
54. How many tons of sludge is expected per year?
55. Will there be a settling pond?
56. If there is a settling pond for sludge, will it be outdoors?
57. What happens if there are hard rains or a hurricane? How will a sludge pond be contained?
58. Can this sludge be a vector for spreading disease to wild fish.
59. If sludge is dehydrated, it takes considerable energy and concentrates the salts. Will it still be useful as an agricultural input?
60. Will sacrifice lands be needed for spreading?
61. In wintertime, with snow on the ground and the ground is frozen, will you spread sludge on the land? Or will you truck the sludge south? What are the impacts to these sacrifice zones? Will the neighbors object to the smell?
62. How will your salmon get their color? Will these chemicals be in the outflow pipe?

63. Will WO tie into the City Sewer system?

64. Are all the outflows included in this stage of the permitting process?

65. Please itemize each component of outflow: RAS system, Smolt operation, fish slaughterhouse waste and water slurry…

66. What are the cumulative impacts on the bay from the combined Belfast and Bucksport facilities?

67. Is WO willing to contractually agree to not use genetically modified salmon?

Wood, Gregg

From: Wood, Gregg
Sent: Tuesday, October 30, 2018 11:45 AM
To: Lessard, Susan
Subject: RE: [EXTERNAL SENDER] Process

Good morning Sue:

Now that I have all the comments I will organize them into groups of similar comments/subject matter and I need to prepare written responses to the comments. I will incorporate them in the Fact Sheet attached to the permit and issue the permit as final. Aggrieved parties have 30 days to appeal the permit.

From: Lessard, Susan [mailto:slessard@bucksportmaine.gov]
Sent: Tuesday, October 30, 2018 11:31 AM
To: Wood, Gregg <Gregg.Wood@maine.gov>
Subject: [EXTERNAL SENDER] Process

Hi Gregg,
Now that the public comment period for Whole Ocean's permit has closed. What happens next? Sorry to be a pain. It has created a good deal of angst and anxiety here in Bucksport that Belfast project opponents have interjected themselves into the project in Bucksport. I want to be able to give appropriate and accurate responses when asked 'what next'?
Thank you -
Sue

Susan Lessard | Town Manager
Town of Bucksport, Maine | Incorporated June 25, 1792
50 Main Street | P.O. Drawer X | Bucksport, Maine 04416
207.469.7368, ext. 226 (office) | 207.469.7369 (fax)
slessard@bucksportmaine.gov | www.bucksportmaine.gov

Wood, Gregg

From: Lessard, Susan <slessard@bucksportmaine.gov>
Sent: Monday, October 29, 2018 1:15 PM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] Whole Oceans

Have you received more letters/comments in regard to Whole Ocean's application?
Thank you -
Sue Lessard

Susan Lessard | Town Manager
Town of Bucksport, Maine | Incorporated June 25, 1792
50 Main Street | P.O. Drawer X | Bucksport, Maine 04416
207.469.7368, ext. 226 (office) | 207.469.7369 (fax)
slessard@bucksportmaine.gov | www.bucksportmaine.gov

Wood, Gregg

From: Wood, Gregg
Sent: Monday, October 29, 2018 1:22 PM
To: Lessard, Susan
Subject: RE: [EXTERNAL SENDER] Whole Oceans
Attachments: Comments on Draft Permit as of 1320.pdf

Good afternoon Sue:

Here is what I have received so far.

From: Lessard, Susan [mailto:slessard@bucksportmaine.gov]
Sent: Monday, October 29, 2018 1:15 PM
To: Wood, Gregg <Gregg.Wood@maine.gov>
Subject: [EXTERNAL SENDER] Whole Oceans

Have you received more letters/comments in regard to Whole Ocean's application?
Thank you -
Sue Lessard

Susan Lessard | Town Manager
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slessard@bucksportmaine.gov | www.bucksportmaine.gov

Wood, Gregg

From: David Bean - NOAA Federal <david.bean@noaa.gov>
Sent: Monday, October 29, 2018 1:02 PM
To: Wood, Gregg
Cc: Wende Mahaney (Wende_Mahaney@fws.gov); Julie Crocker
Subject: [EXTERNAL SENDER] Re: FW: Whole Oceans - Proposed Draft MEPDES Permit
Attachments: Comments on ME0037478 Proposed Whole Oceans discharge permit for land based commercial aquaculture facility 10-29-2018 (1).docx

Hi Gregg,

Thanks for the opportunity to review the draft MEPDES permit for the proposed Whole Oceans facility in Bucksport, Maine.
Please find comments from NOAA Fisheries attached.

Dave

On Mon, Oct 1, 2018 at 8:09 AM Wood, Gregg <Gregg.Wood@maine.gov> wrote:

From: Wood, Gregg
Sent: Friday, September 28, 2018 3:26 PM
To: 'rpiasio@wholeoceans.com' <rpiasio@wholeoceans.com>; 'William Taylor' <wtaylor@pierceatwood.com>; Trasko, Clarissa <Clarissa.Trasko@maine.gov>; Mitchell, Lori <Lori.Mitchell@maine.gov>; 'houlihan.damien@epa.gov' <houlihan.damien@epa.gov>; 'Weitzler, Ellen' <Weitzler.Ellen@epa.gov>; 'Puleo, Shelley' <puleo.shelly@epa.gov>; 'Vega, Marelyn' <Vega.Marelyn@epa.gov>; 'pastrana-del-valle.solanch@epa.gov' <pastrana-del-valle.solanch@epa.gov>; DMR, EnvironmentalReview <EnvironmentalReview.DMR@maine.gov>; IFWEnvironmentalreview <IFWEnvironmentalreview@maine.gov>; Walsh, Michele <Michele.Walsh@maine.gov>; Leyden, Kathleen <Kathleen.Leyden@maine.gov>; 'david.bean@noaa.com' <david.bean@noaa.com>; 'wende_mahaney@fws.gov' <wende_mahaney@fws.gov>; 'laury_zicari@fws.gov' <laury_zicari@fws.gov>; 'waybackhomestead@yahoo.com' <waybackhomestead@yahoo.com>; 'Andrew Stevenson' <andrewsteve@icloud.com>
Cc: Kavanah, Brian W <Brian.W.Kavanah@maine.gov>; Witherill, Donald T <Donald.T.Witherill@maine.gov>; Loyzim, Melanie <Melanie.Loyzim@maine.gov>; Madore, David <David.Madore@maine.gov>
Subject: Whole Oceans - Proposed Draft MEPDES Permit

Good afternoon all:

Attached is a proposed draft MEPDES permit for a new land based recirculating aquaculture facility that will be owned and operated by Whole Oceans LLC. The facility will be located at the former Verso Paper pulp & paper mill site in the town of Bucksport, Maine. Beginning today, Friday, September 28, 2018, the draft permit is being made available for a 30-day public comment period. Written comments should be submitted to my attention on or before **Monday, October 29, 2018.** Failure to submit comments in a timely fashion may result in the final permit being issued as drafted. Thank you for your attention to this matter.

--
….>`~(((*>.....>`~((*>….>`~((*>….>`~(((*>….>`~(((*>
David Bean
Fisheries Biologist
NOAA's National Marine Fisheries Service
Maine Field Station
17 Godfrey Drive
Orono, Maine 04473
Phone: 207-866-4172
Fax: 207-866-7342
Email: David.Bean@noaa.gov
….>`~(((*>.....>`~((*>….>`~((*>….>`~(((*>….>`~(((*>

Comments from NOAA Fisheries on draft discharge permit (ME0037478) for a proposed land based commercial Recirculating Aquaculture System (RAS) aquaculture facility (Whole Oceans).

Permit Special Conditions I. Use of Drugs for Disease Control

Compliance with this special condition should also include an applicable aquaculture monitoring program and biosecurity plan for the facility. Ultimately, best management practices for the facility should include measures to eliminate introducing or spreading any pathogens to the environment.

Specifically, the plan should include pathogen containment or control measures in the wastewater discharge. Disinfection of wastewater before discharging is necessary to avoid transferring any pathogens harbored in the facility into the environment. Introducing a listed pathogen of concern that may transfer a disease to an ESA listed wild Atlantic salmon population residing in the Penobscot river should not be authorized through this discharge permit. The permit should require the facility to operate in a manner to eliminate the discharge of any pathogens into the wild. There is currently sufficient technology to effectively disinfect any existing pathogens that could be found in the wastewater stream of this proposed salmon culture facility before discharging. I would recommend a requirement for a water treatment system that could provide effective treatment for eliminating all known fish pathogens (bacterial and viral). Furthermore, since these pathogens could also be found in the solids discharge, I would recommend including requirements for disinfection by thermal processing or other effective treatments for disinfection of solids before disposal into the environment.

Special conditions for the protection of Atlantic salmon

Compliance with this special condition includes the development of Containment Management Plans (CMS) to eliminate the escape of cultured fish into the receiving environment. This requirement describes a two and three barrier system with monitoring at Critical Control Points to ensure effective containment within the facility. Furthermore, reporting ***all known escapes*** is very important to protect the critically endangered population of Atlantic salmon in the Penobscot river. This condition should include submission of a CMS plan to the Services for review and approval prior to issuing a discharge permit for this facility.

The facility should have requirements to eliminate impingement and entrainment of fish on the facility intake because of the operation of this RAS facility. This condition should include requirements for operational travelling screens on the intake structure that are of appropriate size to eliminate impingement and entrainment of juvenile fish: properly maintained and monitored regularly to eliminate mortality. Regular monthly inspections of this system should be a requirement of this permit.

In the event the anticipated risks to the ESA listed Atlantic salmon GOM DPS population from this facility increases as a result of improperly designed, operated or inadequate protective measures in place; the Services reserve the right to require additional conditions such as marking of fish to identify the facility, AND/OR rearing only North American origin populations to reduce the impacts from escapes.

Atlantic Salmon Federation  Fédération du Saumon Atlantique

October 29, 2018

Gregg Wood
Maine Department of Environmental Protection
Division of Water Quality Management Bureau of Water Quality
17 State House Station
Augusta, ME 04333-0017

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0037478 Maine Waste Discharge License (WDL) #W009190-6F-A-N

Dear Mr. Wood:

I am writing on behalf of the Atlantic Salmon Federation (ASF) in support of Whole Oceans, LLC Maine Pollutant Discharge Elimination System Permit associated with their land-based recirculating aquaculture system (RAS) facility in Bucksport, Maine. We believe the proposed activities and effluent discharges will not have an adverse effect on the Penobscot River and are protective of wild salmon populations.

ASF has partnered with the Conservation Fund's Freshwater Institute on a series of grow out trials and subsequent workshops around the developing technology of land-based RAS. Our experience has demonstrated that this can be an environmentally sustainable industry and that the by-products of salmon production can be greatly reduced, including all solids along with the majority of phosphorous and nitrogen. This area of the lower river is also heavily influenced by both freshwater, saltwater and tides that will serve to readily dilute effluents to background ambient levels.

We are very supportive of the proposed monitoring requirements proposed in the permit. These include a dye study to further identify the mixing characteristics of the effluent, and an ambient water quality monitoring study in selected locations near the facility. We are also supportive of the required Operations and Maintenance Plan and the required Containment Management System (CMS) intended to prevent the possibility of any live fish escaping into the river. ASF was part of a small group that developed the current CMS for the coastal net pens in the early 2000s, which quickly eliminated the history of escapes from the net pens. Though the potential for escaped fish from the facility in the river is very remote, we recommend the mandatory reporting of any escape as opposed to the current threshold of 50 fish escaping to trigger a notification event.

Sincerely,

Andrew Goode
Vice President, US Programs
Atlantic Salmon Federation

Fort Andross, Suite 202 14 Maine Street Brunswick, ME 04011-2030
Tel 207 725 2833 | Fax 207 725 2967 | www.asf.ca

Wood, Gregg

From: Lew McGregor <email4lew@gmail.com>
Sent: Monday, October 29, 2018 7:15 AM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] Whole Oceans Bucksport. Questions

Dear Mr. Wood,

As a resident whose livelihood depends on a clean Penobscot Bay, I have questions that should help to stall Whole Oceans MEPDES permit application for a plant in Bucksport Me.
My scrutiny of Nordic Aquafarms application for a similar project, in Belfast, leads me to question:
First off, why are both of these firms quiet, regarding the feed they intend to use for these fish? How can we properly assess what's to come out of the plant, when we don't know what's going in?
Next, it's these numbers, that don't add up, for me:
Whole Oceans say they aim to produce 11 million, plus, pounds of salmon, per year. (Nordic aspires to 66 million lbs.)
Whole Oceans wants to discharge 4 million, plus, gallons per day of wastewater. (Nordic is asking for 7 million, plus, gpd.)
Whole Oceans, to produce 9,000, plus, gallons of effluent per day. (Nordic: 100,000 gpd, more or less.)
In addition to these discrepancies, there's no way of knowing the cumulative effects of these plants, on the health of Penobscot Bay, and the communities surrounding it.
Please wait on approving Whole Oceans' application, till more studies can be done.

Thank your for your consideration,
Lew McGregor,
Belfast

Wood, Gregg

From: Andrew Stevenson <andrewsteve@icloud.com>
Sent: Monday, October 29, 2018 6:00 AM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] Comments regarding Whole Oceans, LLC MEPDES permit application
Attachments: 2018-10-29_Stevenson-Whole Oceans MEPDES-comments.docx

Good morning, Gregg:

Attached are my comments on the MEPDES effluent discharge permit application submitted by Whole Oceans, LLC.

I will send a paper copy in this morning's mail.

Thank you for the opportunity to participate in the permit review and approval process.

Sincerely,
Andrew

Andrew E. Stevenson
5 Union Street
Belfast, Maine 04915

October 29, 2018

Mr. Gregg Wood, Sr. Environmental Engineer
Maine Department of Environmental Protection
Bureau of Water Quality
Division of Water Quality Management
17 State House Station
Augusta, Maine 04333-0017

Re: General Application for WDL/MEPDES Permit by Whole Oceans, LLC

Dear Mr. Wood:

I appreciate the opportunity to review the MEPDES permit application submitted to DEP by Whole Oceans, LLC requesting permission to discharge wastewater to the Penobscot River. Whole Oceans (hereafter referred to as "WO") is proposing to construct and operate a recirculating aquaculture system (RAS) that will of raise salmon from eggs to fully grown adults for commercial markets. Such an operation, if permitted, will be the first of its kind in Maine. I have paid careful attention to the overall plan as well as the details that are contained in the WO proposal and offer these comments to your department and to the applicant for consideration.

The "beneficial use" of sludge from the Production Area needs to be identified. In the production flow diagram (PFD), "Whole Oceans Production Area Effluent PFD," the applicant states in-plant process flows will be treated with polymers, filtered by belt filter and centrifuge, and the sludge produced will be "...hauled to beneficial reuse via truck." There is not enough information in the application to tell how long such solids can be held at the facility before they must be trucked away and no description of the holding facilities that might be constructed. I request that the beneficial use be identified before DEP makes a permitting decision.

The landfill to receive sterilized solids from treating the Quarantine Area needs to be identified. In the diagram, "Whole Oceans Quarantine Area Effluent PFD," the applicant states that "...sterilized solids slurry to landfill." From the diagram it is impossible to tell how such a solid waste stream will be delivered to the landfill, whether the landfill is part of the WO facility or a 3rd party somewhere else. The questions of storage time and holding tanks also apply to this waste stream. I request that the applicant identify landfills capable of receiving and safely burying such a slurry. I believe this is particularly important because the actual composition of such a slurry is unknown but likely to contain one or more of the 11 fungicides, topical bactericides, parasiticides, antibiotics, therapeutants listed in the application.

The details of incineration or ensiling need to be provided. Also depicted on the PFD, "Whole Oceans Quarantine Area Effluent PFD," is an operation for burning or ensiling "...all mortalities and screenings from fish exclusion barriers..." If either of these operations is part of the overall WO facility design, I request that the applicant include that information. If either operation is an off-site 3rd party, then the applicant needs to identify the companies or services that can provide safe handling and disposal of the mortalities.

There is ambiguity regarding the point of effluent discharge. The PFDs for the Production Area and the Quarantine Area show that effluents from these operations will be "...Penobscot river discharge." Likewise, in the applicant's EPA Form 2D, "New Sources and New Dischargers Application for Permit to Discharge Process Wastewater," the applicant lists the Penobscot River as the discharge point for all water flowing through the plant. However, in Attachment D to WDL – DEP Form: Fish Processing the applicant states in response to Question 8 under "Type of wastewater treatment" that "...The fish processing wastewater is collected in sealed tanks and is then pumped to the municipal sanitary sewer." I request that the applicant revise the documents to clearly state that the only wastewater to be discharged to the Bucksport municipal wastewater system will be sanitary waste flows from normal office activities such as bathrooms and cafeterias...if that is the case.

Many substances are unaccounted for in the waste flows described. The applicant lists six fungicides, topical bactericides, parasiticides; three antibiotics; and two therapeutants in Attachment B to Question 5 on the Food Processing Form. I think it is important for your department, the Department of Marine Resources (DMR), the Department of Agriculture, Conservation & Forestry (DACF), and the public to know how WO intends to control, track, destroy, or neutralize these substances. I request that the applicant provide DEP with credible information about how these substances bio-accumulate in the salmon (if they do) or how they persist in the effluent and the solid waste flows (if they do not).

Critical information on salmon feedstocks is missing. In Attachment F to WDL DEP Form: Fish Rearing, the applicant states in answer to Question 4 – Type(s) of feed used, that WO will use "...Commercial Fish Farm Food." The salmon are projected to consume the food at the rate of 22,000 lbs./day for eight months a year, and 66,000 lbs./day for four months a year. This blanket statement is insufficient for a DEP decision on the application. Without a clear statement of feedstock constituents, DEP cannot determine the complete nature of the plant effluent or the solid waste streams. Without complete knowledge of either effluent or solid waste, DEP and DMR cannot determine the short- or long-term effects of the effluent discharged and DACF cannot determine the short- or long-term effects of any solids disposed of offsite.

Skretting USA, one of the largest providers of commercial fish feed in the U.S. has at least three different categories of salmon feed – one for fry, one for smolts, and one for maturing adults. A representative of that firm stated at a public meeting on the salmon fish farm proposed by Nordic Aquafarms for Belfast that Skretting could custom-make its various feeds...essentially tailoring the feed to the requirements of the buyer. If the feedstocks used by WO can be so easily "engineered," DEP needs to know what goes into them and what is left out.

The lack of information on feedstock composition also prevents DEP from having the information needed to properly assess the feasibility of the sludge-handling operations proposed for the WO facility. Food composition is listed as a major determinant in the effectiveness of sludge production and sludge thickening on Page 4 in Attachment H to WDL – Description of treatment facilities. Billund Aqua, the provider of the sludge-handling filters, presses, and centrifuges, states that the quality of the fish feed has a direct bearing on sludge production. The important factors include: the physical quality of the feed (how much dust), its composition (how much oil, nitrogen, phosphor, and carbohydrate), its digestibility; the excrement produced, and the type of pellet.

I request that DEP require the applicant to provide additional information on the composition of the feedstocks that WO will feed its fish at all stages of their life cycle.

A list of drugs or therapeutics appears to be missing. Also in Attachment F to WDL DEP Form: Fish Rearing, Attachment B contains the answers to Question 10 and 11 on the form. I believe that the answer to Question 11 needs to include the six substances classified as fungicides, topical bactericides, or parasiticides that are listed in Attachment B to Question 5 for the same form.

The water intake point appears to be downstream from the discharge point. In Attachment C to WDL – DEP Form: Topographic Map, the applicant's map shows the saltwater intake point as being downstream for Outfall 003, the proposed discharge point. Is this an accurate depiction of the two points? If so, the applicant appears willing to risk contaminating his own source of saltwater. If not, a revised map showing the correct placement of the saltwater intake and the effluent discharge outfall needs to be provided.

Thank you very much for the opportunity to submit these comments as part of the public record on the MEPDES effluent discharge permit application filed with your department by Whole Oceans, LLC.

Sincerely,

Andrew E. Stevenson

Wood, Gregg

From: Holly Faubel <hollyfaubel@gmail.com>
Sent: Sunday, October 28, 2018 10:29 PM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] My comments on the Whole Oceans permit application

Here are my comments with the expectation that these and Whole Oceans responses will be included in Item 10 of the application for permit as per DEP guidelines.

TO: Gregg Wood
FROM: Holly Faubel 10/28/2018
RE: Whole Oceans, LLC Pollution Discharge Elimination and Maine Waste Discharge Permit

In accordance with *Application Processing Procedures for Waste Discharge Licenses*, 06-096 CMR, 522, I am submitting these comments on the revision of the draft permit amended on Sept. 10th 2018 before close of comment period, end of day Oct. 29, 2019, for inclusion in Item 10 of DEP's 9/28/18 Proposed Draft Fact Sheet, ME0037478, W00910-6F-A-N. (1)

I was in receipt of this Amended permit after two requests and it was delivered on 10/26/2018. Like many members of the public, I was under the impression, that Whole Oceans would be discharging their effluent into a greenhouse facility as per their publicly posted website materials, rather than into Penobscot Bay

As the comments, issues, and questions outlined below are to be addressed by Whole Oceans in Item 10, I am requesting either a 14 day extension to have written responses submitted by Whole Ocean, or a public hearing to allow Whole Oceans to respond verbally, on behalf of the public's interest and right to know.

Whole Oceans proposed facility would appear to be an untested, highly experimental facility as indicated by Whole Oceans own technology consultant, Billurd Aquaculture Services (2) http://www.tidescanada.org/wp-content/uploads/2015/03/Bjarne-Hald-Olsen-Developments-in-Recirculating-Aquaculture-Systems-for-Salmon-Grow-out-in-Europe-and-Asia.pdf.

While the systems that Billurd has designed and consulted on have been used either as hatchery only applications (eggs to smolds) or in limited production 1,000 tons of salmon. These are five times smaller than what Whole Oceans is proposing for their Phase 1 grow-out of 5,000 tons. In Billurd's review of their experience on the Langsand Salmon grow-out of 1,000 tons they identified numerous problems with this more limited grow out which began in July 2011.

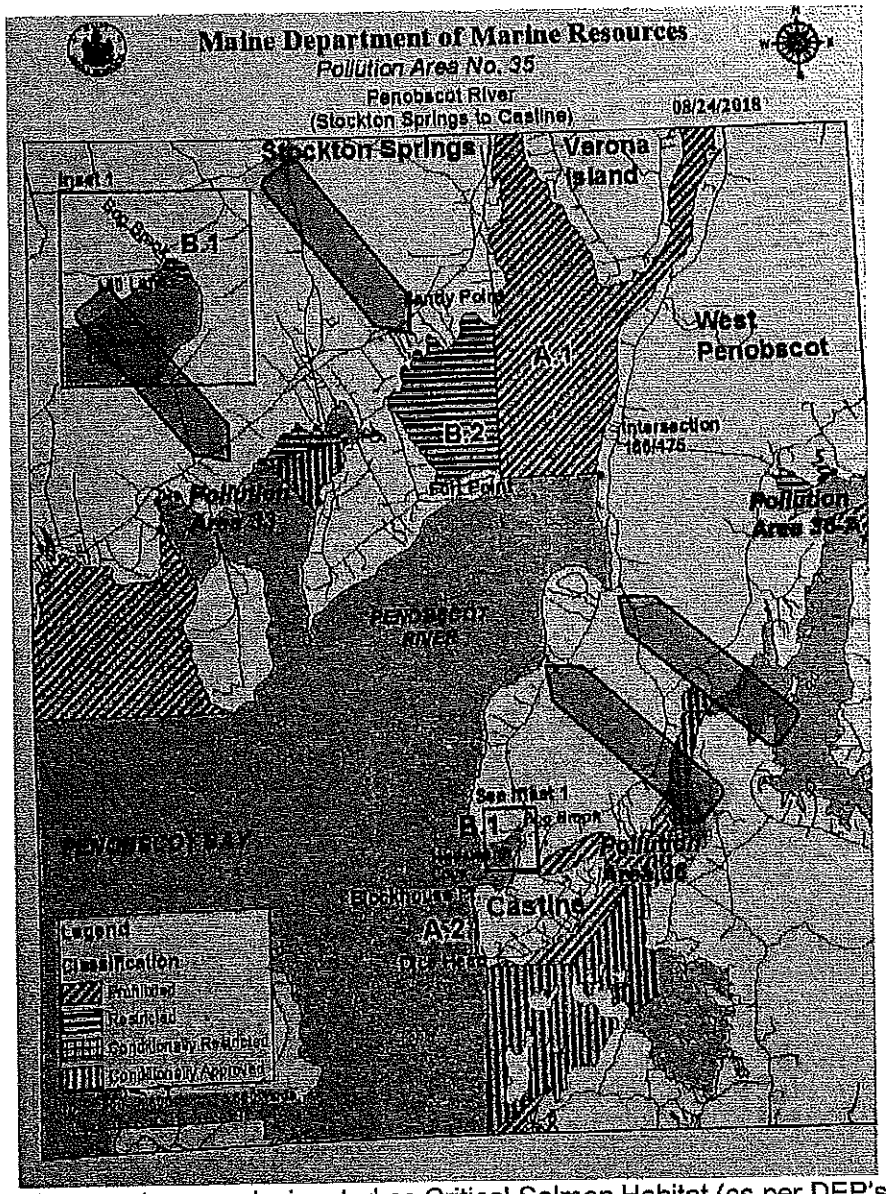
As per Billurd, "*In November 2012 the farm is hit by furunculosis, in Spring of 2013 Vaccination of fish started. In winter 2013 Disease starts to severely affect growth. In May of 2014 Mortality in the grow out system increases due to furunculosis. Antibiotic resistance detected on some individuals*".

The data read-out from Billurd, available to the public, stops at Sept. 2015. This data, notably is for a 1,000 ton grow-out facility. Whole Oceans has stated that they have data from their work with the Conservancy Funds Freshwaters group and the University of Maine's Center for Cooperative Research in Franklin that proves that Whole Oceans premise that what works in a 1,000 ton grow-out facility translates to a 5,000 ton (WO Phase 1) grow out facility.
PUBLIC COMMENTARY/RESPONSE REQUEST: That the data that proves, and provides assurance beyond linear extrapolation. be documented and provided by Whole Oceans as part of the public review process.

The concern is that, to date, the US/Maine DEP has only had the experience and opportunity to observe, monitor and review land based egg to smolt grow-out. Hence, the summation that this is an experimental project, which is using the waters of the Penobscot River and Bay as a test bed by Whole Oceans.

As per DEP's statement on Page 3 (1) *"Where high quality waters of the State are an outstanding resource, that water quality will be maintained and protected".*

The receiving waters immediately at the outfalls indicated are listed as SC Waters, Maine Department of Marine Resources Pollution Area 35 as shown in the photo below:



These waters are designated as Critical Salmon Habitat (as per DEP's Penobscot Rivershed, with Licensed Dischargers and Critical Salmon habitat overlay) for the endangered Wild Atlantic Salmon whose numbers are just beginning to recover. It is also habitat and migratory path for Endangered Atlantic and Short Nosed Sturgeon.

The orange arrows in the diagram (left) indicate those areas just below the proposed measured outflow that could be further restricted due to the discharge of Whole Oceans operation. This discharge won't even be measured for the first two years of operation.

In Whole Oceans' permit submittal, the only reference to protecting "Atlantic Salmon" revolves primarily around limiting escape of smolt and grow-outs. Yet, according to DEP (1) *Fish waste products that are treated with RAS technologies include TSS, BODs and ammonia*", And during the flushing process used to clean tanks, bio-reactor and filters, "*..some of the waters containing these contaminants along with untreated micro-contaminants, will be flushed into the waters*". Yet the testing of effluent waters will only be done from May-October, even though Whole Oceans will be producing a steady state of effluent 12 months of the year.

While warm weather testing might suffice for nitrogen levels, ammonia by DEPs own statements, is one of the most toxic pollutants in terms of the fish and shellfish health in the receiving waters. There are scientific reports (University of Illinois, Urbana) that show ammonia, the most toxic pollutant, is more hazardous to fish at colder temperatures.

Micro-contaminants, which in Whole Oceans proposal go untreated, can contain chondroitin that can discourage the migration of other anadromous fin fish are not addressed.

While it may not be Whole Oceans intent to flush larger amounts of these contaminants during the 6 months that monitoring and testing is not being done, due to the experimental nature of this proposed operation, this would seem to present an unnecessary hazard to the health of native finfish and shellfish, as well as other native farmed sea products such as kelps and seaweeds.
PUBLIC COMMENTARY/RESPONSE REQUEST: That Whole Oceans provide a testing regime for the full 12 months it will be producing effluent to DEP for evaluation by DEP and review by third party independent labs. Or to provide scientific data, which can be peer reviewed, as to why this should not required.

The presence of mercury in all of Maine's waters is well documented. Yet the design of Whole Oceans proposed facility does not take mercury mitigation into consideration. Indeed, the location of the intake pipe sandwiched between the two outflow pipes of Whole Oceans proposed facility would seem to be problematic. The mercury that is present in Maine's surface waters combined with the remnants of the residual mercury in the bed of the previous industrial paper factory, would seem to serve as a concentration source point.. This mercury, constantly recirculated in the grow-out tanks over the several year life of the fish, becomes concentrated in the fish muscle, fat, and internal organs.

When the gutting of those fish occurs during processing, the waste from that activity is proposed by Whole Oceans to be sent to the existing Bucksport Sanitation facility for mitigation and return to the river/bay in it's effluent. Yet by DEPs own statement (1) this facility is the primary cause of pollution in the River/Bay in terms of nitrogen. To date there is no documented plan as to how the Bucksport Sanitation facility will mitigate the large volumes of mercury that will be delivered to it, in concentrated form, via the stream of mercury contaminated/concentrated waste stream.

According to the DEP "*To date the waters of Maine, due to mercury pollution are only approved for hatcheries".(1)*
PUBLIC COMMENTARY/RESPONSE REQUEST: That Whole Oceans develops a plan that includes and supplies the technology to mitigate the concentrated waste stream of mercury that it's proposed facility will generate to the Bucksport Sanitation facility.

According to Whole Oceans public presentations, "no antibiotics" will be used. Yet oxytetracycline usage is planned, and as per Billurd's documentation regarding their projects that grew out only a fifth of what Whole Oceans is projecting for Phase 1, antibiotics were indeed required for not only the hatchery operation from egg-smolt, but for full grow-out. The residual from this antibiotic usage will be sent through the screens of the effluent systems in fish waste and the backwashing of filters and tanks. .
PUBLIC COMMENT/RESPONSE REQUEST: For Whole Oceans to provide data that quantifies residual antibiotics in their waste streams in terms of effluent from grow-out tanks and effluent from Bucksport Sanitation facility.

Given the quarantine tank size are not sufficient to handle a full outbreak that infects all of the fish in the facility, and given that outbreaks of diseases that have affected entire populations of Billurd-designed RAS systems, what does Whole Oceans do in the event of a massive die-off.
PUBLIC COMMENT/RESPONSE REQUEST: For Whole Oceans to provide a plan for handling complete die-off of their total tonnage of fish grow-outs

As per the permit request by Whole Oceans, drugs not identified as being cleared by the FDA for treatment of diseases can be used, and discharged ,for up to 29 days with no monitoring. Thereafter DEP has stated it will only "restrict", not "cease" their continued usage. In the case that a full outbreak throughout the facility, which would exceed the capacity of the quarantine tank, it has to be assumed that the outflow from the use of these chemicals will be discharged into Penobscot River and Bay.
PUBLIC COMMENT/REQUEST FOR RESPONSE: That Whole Oceans document its plan for management of non-FDA approved drug containment as it relates to non-FDA post 29 day usage.

The Whole Oceans proposed permit specifies the use of highly experimental drugs under the INAD program. Where does the outflow of that go -- to the Bucksport Septic System or directly into the River? If it is to the Bucksport Septic System, how is the Bucksport Septic System supposed to handle volumes of experimental drugs.
PUBLIC COMMENT/REQUEST FOR RESPONSE: That Whole Oceans documents it containment strategy for participation in the INAD program.

In DEP's review of Whole Oceans preliminary draft they noted, "*If necessary additional treatment such as ozone treatment*" to counter pollutants is not in the current plan, Yet the necessity of ozone treatment will not be known until the biological testing of the operation to full grow-out, requiring two years, has been completed.
PUBLIC COMMENT/REQUEST FOR RESPONSE: Has Freshwater, or UMO at Franklin modeled the use of ozone for Whole Oceans operation and if so please provide the data.

DEP has stated (1) "*The permittee discharges into estuarine waters of the Penobscot River which is strongly influenced by fresh water during high spring flows, large rainfall events, and during ebb tides. These condition make it difficult to accurately define the mixing characteristics of the permittees facility at any given point in time*". "*Given the uncertainty of river flows to the east and west of Verona Island this permittee is to conduct a dye study once Phase 1 operations have commenced and steady state conditions with eggs, fry and smolts and adult fish in grow out tanks have been achieved.*" The process of going from eggs to adult is going to take two years at a minimum. In the meantime, what assurances and bond does Whole Oceans give to the public local residents, recreational users, shellfish gatherers and growers, and sea vegetable farmers that their waters are not going to be polluted due to a lack of testing.
PUBLIC COMMENT/REQUEST FOR RESPONSE: That Whole Oceans provide a bond of insurance which will cover any losses during this "experimental phase" of operation.

According to DEP "*The eastern side of Verona island consists of expansive tidal flats*". "*These tidal flats have experienced significant algae blooms in the past...not associated with the operation of the paper mill*" What modeling has been done by Whole Oceans, perhaps in conjunction with Fresh Water or UMO Franklin to show this will not occur in the operation of this facility at this site, either in the "pre-testing" stage or post DEP evaluation of effluent flow.
PUBLIC COMMENT/REQUEST FOR RESPONSE: That Whole Oceans provides either peer reviewable modeling or a security bond to address algae blooms taking into account historic and predictive modeling of river and bay temperatures.

In answer to the questions posed at the first public review, Whole Oceans summary of responses as identified in their application included:

Mercury - no answer

BODs & TSS - "just want to keep those numbers down"

Food Source and makeup - not answered

These are still open questions.

The purpose of Public Comments and Answers is to give the public at large input into the application process, and hopefully more than rudimentary responses. As such, the above Comments and Request for Response are being submitted in order to address public concerns in a manner that will elicit specific data that will address these important issues. The intent is that by doing so the public's concerns can be addressed, the public and DEP will have more substantive quantitative data to evaluate, and in the long run Whole Oceans operations will be the better for it.

Wood, Gregg

From: Deborah Capwell <deborahflora@gmail.com>
Sent: Sunday, October 28, 2018 9:27 PM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] Whole Oceans' numbers

Dear Mr. Wood,

I contacted you earlier re: most of my concerns, but have just read an article in "Undercurrents" which stated that Whole Oceans initial production phase is planned to be 5,000 tons, growing to a maximum production level of 20,000 tons. The permit application I accessed is for a little over 5,000 tons. Will they have to apply again when they are at capacity? If not, why aren't they applying now and giving the necessary information re: operation at full capacity?

Thanks so much once again for hearing my concerns.
Deborah Capwell.

Wood, Gregg

From: karin spitfire <kspit@gwi.net>
Sent: Sunday, October 28, 2018 4:52 PM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] Re Nordic Aqua Farms and Whole Oceans DEP permits

1) Both of them will be discharging into the Penobscot Bay... so the impact of these discharges should be considered together, rather than separately or sequentially. The bay is one ecosphere, not separated fences or walls or laws, the impact of both if approve will impact the bay.

2) Please set standards for pesticides, germicides etc that maybe given to the fish.

3) Please have standards set and evaluated by scientists who have nothing to gain from these aquaculture companies.

I think you should deny both permits on the basis that this kind of thinking is exactly the same kind of thinking that has gotten us to our current crisis of lack of fish in the ocean and polluted waters.

thanks
karin spitfire
p.o. box 53
belfast, me 04915

Friends of Penobscot Bay
POB 1871 Rockland ME 04941
"People who care about Maine's biggest bay"

October 28, 2018

Gregg Wood
Maine Department of Environmental Protection
Bureau of Water Quality
Division of Water Quality Management
17 State House Station
Augusta, ME 04333-0017

Re Whole Oceans LLC discharge permit application

Dear Gregg

Friends of Penobscot Bay appreciates the opportunity to review the application by Whole Oceans LLC for permission to discharge wastewater into Penobscot River from a Recirculating Aquaculture System (RAS) salmon tankfarm, and offer the following comments and observations for your consideration.

BPT GOAL ACHIEVEABLE? DEP's goal here is to identify the Best Practicable Treatment of Whole Oceans' various discharges that will allow the company to meet with all applicable water quality standards. Yet Maine DEP has a very limited number of RAS dischargers from which to determine what "Best" practices are, including, we understand, the Craig Brook federal salmon hatchery.

Hence the agency is faced with breaking new ground. In keeping with State rule and law ensuring that water quality is not reduced by multiple dischargers to a single waterbody, DEP needs to take the precautionary route of looking at the multiple proposed dischargers at the same time. Given the practically identical technology discharging wastes and therapeutant and other residues into different ends of the same estuarine reach, the Whole Oceans LLC and Nordic Aqua Farms (NAF) discharge permit applications need to be reviewed in tandem, not sequentially. Unless that is done, it is not clear to us that the standards of Maine's anti-degradation policy will be met.

We understand that this would necessitate extending the review period for WO, thought not necessarily for NAF. However, with investment in landbased RAS salmon industry on the increase, it is reasonably anticipatable that in addition to those two applicants, additional applications for siting additional RAS facilities in this lower Penobscot River /upper Penobscot Bay estuary will be forthcoming.

Moreover, both Nordic and Whole Oceans profess no competitive designs against each others' market shares. If so, then they should likewise be willing to ensure they do not collectively reduce water quality in the estuary they share.

Therefore, Instead of scattershot responses to individual applications, we urge the state of Maine to get off on a stronger footing by evaluating that geographic reach as a potential **RAS industrial livestock agriculture growth zone** and setting cumulative limits as a matter of course.

Cumulative impacts of multiple aquaculture discharges
We believe that pursuant to 38 §414-A(1)A, the review of this project needs to take in consideration the combined discharges of significant amounts of nitrogen, phosphorus, pheromones, kairomones, antibiotic and antifungal therapeutants, and sterilizing and cleaning chemicals both from Whole Ocean's proposed operation and from the proposed Nordic Aqua Farms' RAS salmon tankfarm, which is also seeking to discharge wastewater into the shared waters of the Penobscot estuary

It is not clear how WO's slaughterhouse effluent is being managed. Will it be sent to Bucksport's POTW or get discharged as part of WO's wastewater effluent? Bucksport's tidal Penobscot River waters are Class SC, while Belfast's tidal waters are cleaner at Class SB. Effluents from Whole Oceans could reduce water quality in certain parameters in the neighboring SB waters.

What about PRAMP?
From: Penobscot RiverPhosphorus Waste Load AllocationAmbient Monitoring Plan Report – 2014

The **Penobscot River Ambient Monitoring Plan (PRAMP)** "measures the effectiveness of the Phosphorus-Waste Load Allocation (P-WLA) in eliminating eutrophication driven dissolved oxygen (DO) non-attainment, and to identify potential/particular areas of concern along the river."

Again the combination of WO's and Nordic's discharges could result in a "potential/particular areas of concern along the river." This as the outgoing tide will bring WO's phosphorous,nitrogen and other wastes down to Belfast waters

We believe that pursuant to 38 §414-A(1)A, the review of this project needs to take in consideration the combined discharges of significant amounts of nitrogen, phosphorus, pheromones, kairomones, antibiotic and antifungal therapeutants, and sterilizing and cleaning chemicals both from Whole Ocean's proposed operation and from the proposed Nordic Aqua Farms' RAS salmon tankfarm, which is also seeking to discharge wastewater into the shared waters of the Penobscot estuary

It is not clear how WO's slaughterhouse effluent is being managed. Will it be sent to Bucksport's POTW or get discharged as part of WO's wastewater effluent? Bucksport's tidal Penobscot River waters are Class SC, while Belfast's tidal waters are cleaner at Class SB. Effluents from Whole Oceans could reduce water quality in certain parameters in the neighboring SB waters.

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MERCURY According to the Penobscot River Mercury Study's findings in Chapter 5: "Total mercury sedimentary inventories and sedimentary fluxes in the lower Penobscot River and estuary, Maine" some of the highest mercury concentrations in the river's near-surface sediments* occur adjacent to the proposed Whole Oceans RAS. * Near-surface = upper 3 cm of sediments

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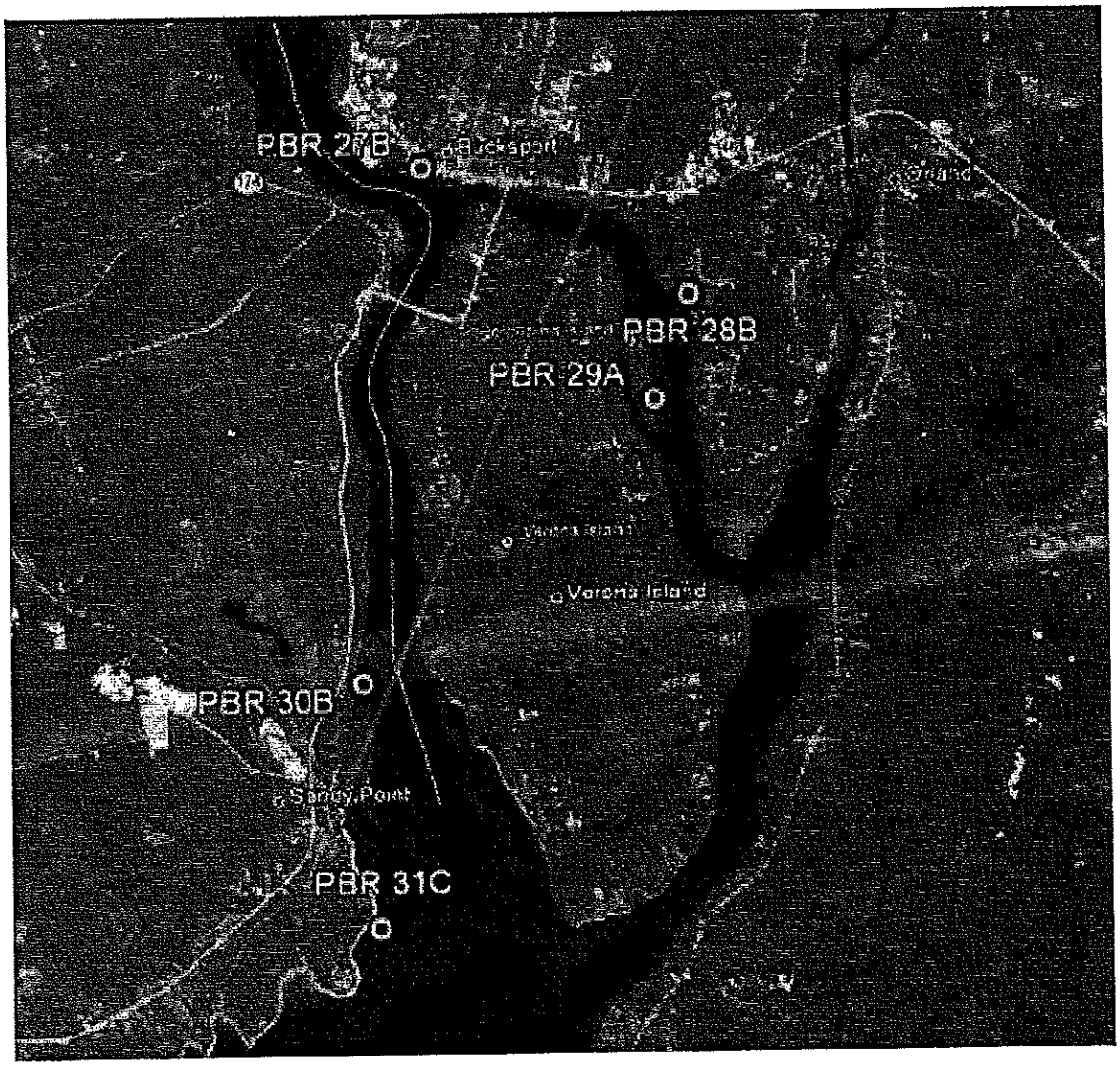

Total Hg concentrations in Penobscot River (PBR 27B is closest to proposed Whole Oceans RAS facility; see results below)

(Mercury continued next page)

MERCURY CONTINUED NEXT PAGE

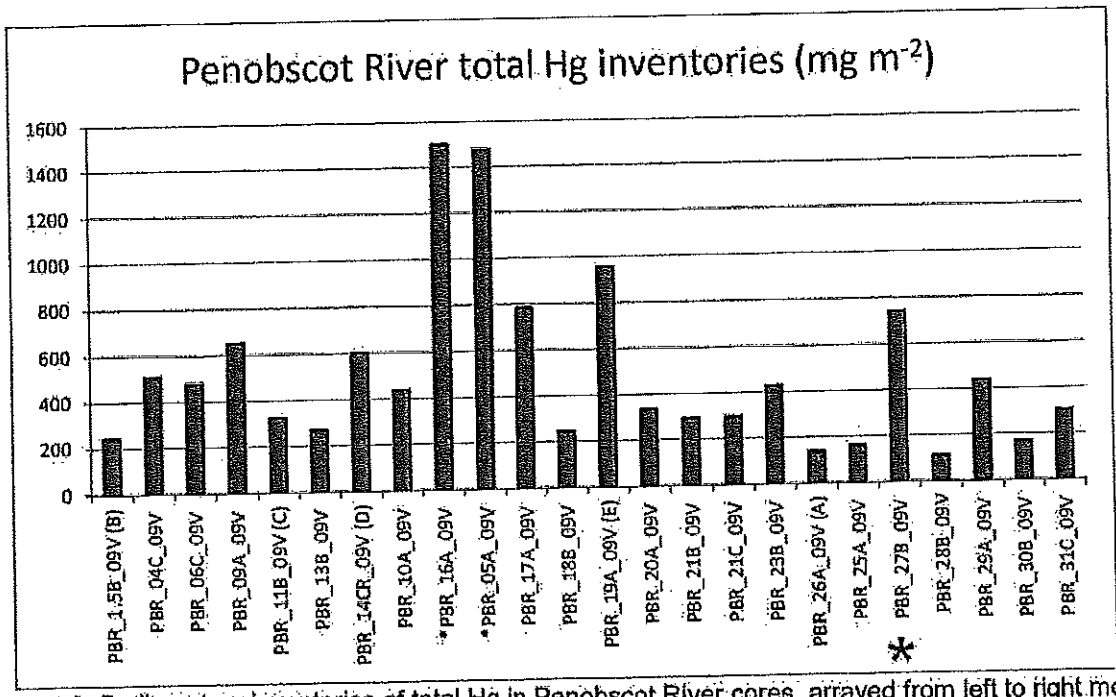

Figure 5-9. Sedimentary inventories of total Hg in Penobscot River cores, arrayed from left to right moving from north to south. *= mercury sample site closest to Whole Oceans

In closing we want to emphasize that an effective review of this project will require it to be considered in tandem with Nordic AquaFarm's proposal. Maine Natural Resources Protection Act notes in its Findings:

"The Legislature further finds and declares that the cumulative effect of frequent minor alterations and occasional major alterations of these resources poses a substantial threat to the environment and economy of the State and its quality of life."

Please be cognizant of this.

Sincerely

Ron Huber

Ron Huber executive director

Friends of Penobscot Bay

Wood, Gregg

From: Maeve Arthars <maevearthars@gmail.com>
Sent: Sunday, October 28, 2018 2:02 PM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] Nordic Aquaculture

Hi Greg,
I am a Belfast resident curious to know whether Nordic has applied for any federal permits yet and whether any determination has been made as to the need for a environmental impact statement. Can you inform me on that?

Thanks,

Maeve Arthars

Wood, Gregg

From: Deborah Capwell <deborahflora@gmail.com>
Sent: Saturday, October 27, 2018 3:08 PM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] Concerns re: the Whole Oceans discharge permit application

Dear Mr. Wood,

I am writing to you because I have concerns and questions regarding the Bucks[port Whole Ocean discharge permit. I am especially concerned about the effect on the wild salmon run in the river and the cumulative effect on the bay along with the proposed Nordic Aqua Farms facility

Many people depend on the Bay for their livelihood: people employed in the tourism and fishing industries as well as smaller businesses- shellfish farms, people employed restoring coastal areas to name a couple. With significant new effluent, as well as water with varying salinity and temperatures being flushed into the Bay, it will surely be affected. Is it really possible to ascertain how and to what degree? Will the reduction in water quality be enough to trigger lowering the water quality rating? Will the outflow go up the river with the tide?

I wondered if the increase in pollutants will really "result in important social and economic benefits to the state"? For whom? Have the Native American tribes living on the Penobscot River been asked about this? I know little about them, but if they fish in the river, they would surely be concerned about the Whole Ocean project. Has anyone looked into how the discharge from the project will affect wild fish runs?

Even though I am not trained to read these kind of applications, I attempted to do my best with the Whole Ocean Permit. I compared some of the numbers in this permit with the one that NAF submitted recently. For instance:

-Whole Oceans is planning to process **11,023,100 lbs.** of fish/year.

-Nordic is saying it wants to process **66 million**- about 6 times as much.

-Whole Oceans says it's discharge will be **4 million gallons/day**- 3 million salt and 1 million fresh.

-Nordic says its will **be 7.7 million gallons/day**

Nordic's estimate isn't even twice as much as Whole Oceans, let alone 6 times as much. Why aren't these numbers proportional to the amount of fish the two facilities are proposing to process?

-Whole Oceans estimates **9,200** gallons/day daily effluent flow.

-Nordic estimates **96,000- 115,000 gallons.**

Here, the imbalance is in the other direction. Nordic estimates more than 10 times the Whole Ocean projected effluent flow. Why is this?

And then of course, there's the issue of fish food. Whole Oceans hasn't said what they are planning to feed the fish. If we don't know that, how can we know what kind of impact the fish feces and uneaten food will have on the whole operation?

Also, what about "sanitary waste"? Can the Bucksport municipal system handle such a significant increase (around 10,000 gallons/day)? If not (even if temporarily), what is the backup plan?

These are just a few of the concerns I have. I really wonder if this plan is worth the risks involved. Might it not be better for us all to concentrate on supporting the natural recovery of the Bay?

Thank you so much for taking the time to consider my concerns.

Sincerely,

Deborah Capwell

Belfast

Wood, Gregg

From: Eileen Wolper <pebshep@gmail.com>
Sent: Friday, October 26, 2018 4:06 PM
To: Wood, Gregg
Cc: dmichaud@mainewater.com
Subject: [EXTERNAL SENDER] Bucksport Fish Factory

Hi Greg,
If the Bucksport Sanitary Water Treatment Facility cannot handle the amount of fish oil and nutrient load of fish processing, will that effluent end up being dumped into the Penobscot River? Will there be a way to monitor this? Is the Water Treatment Plant of Bucksport aware of this potential compromise in their sewage treatment from fish oil? Who pays for any necessary upgrades to the city facility? Will oil content of effluent be monitored and reported? I am very concerned about the health of the river, with this polluting Whole Ocean business being considered, especially since Belfast is downriver.
Sincerely,
Eileen Wolper Belfast Citizen

Wood, Gregg

From: Wood, Gregg
Sent: Friday, October 26, 2018 7:36 AM
To: 'Holly Faubel'
Subject: RE: [EXTERNAL SENDER] Whole Oceans, Bucksport permit
Attachments: ME0037478 PROPOSED 2018.pdf; Whole Oceans Application June 2018.pdf; WO Application Amendment 9-18.pdf

Good morning Ms. Faubel:

Per your request.

From: Holly Faubel [mailto:hollyfaubel@gmail.com]
Sent: Friday, October 26, 2018 5:31 AM
To: Wood, Gregg <Gregg.Wood@maine.gov>
Subject: Re: [EXTERNAL SENDER] Whole Oceans, Bucksport permit

Mr. Wood - you have sent me the filing information for Nordic Aquafarm LLC.

Respectfully, my request was, as noted in my previous email, was in regard to Whole Oceans whose filing is for a discharge permit for the location at Bucksport.

As time is short, due to the commentary period closing at the end of day October 29th, 2018 can you please send the correct materials regarding the Whole Oceans, Bucksport filing to me immediately this morning.

While I await the receipt of the materials previously requested, let me outline the areas of concern.

Primarily, the discharge of effluent from the facility into the Penobscot Bay, at the mouth of the Penobscot River and it's effects on the waters and tidal basin, both in the immediate vicinity of that discharge and the of the Bay environment at large.

Specifically, the areas of concern lie in the effects on the Wild Atlantic Salmon which migrate up the Penobscot as well as the alewife, sturgeon, lobster populations and eelgrass in that area. In addition to reviewing the basic chemistry effects of this discharge, and it's possible migration path due to the mechanics of the tidal bay, of concern are also the impact of the discharge column in terms of its impact on the heavy metals and other existing deposits that are located in this area. Therefore the modeling of the actions of the Bay waters in regard to anticipated rising water temperatures and weather patterns will need to be addressed.

As the materials requested have not been forwarded to date, I would ask that these concerns be noted and recorded as having been received by your office.

I await the materials previously, requested along with notice of the scheduled dates, times and locations for in-depth review of these matters. Please respond back to me of your receipt of this notice.

Respectfully,
Holly Faubel

On Thu, Oct 25, 2018 at 10:53 AM Wood, Gregg <Gregg.Wood@maine.gov> wrote:

Good morning Ms. Faubel:

I have added your name to the mailing list. Nordic Aquafarm LLC submitted their application for a waste water discharge license last Friday. Attached is a link to their application is you'd like to review it and comment on it.

https://www.maine.gov/dep/ftp/projects/nordic/

From: Holly Faubel [mailto:hollyfaubel@gmail.com]
Sent: Thursday, October 25, 2018 10:44 AM
To: Wood, Gregg <Gregg.Wood@maine.gov>
Subject: [EXTERNAL SENDER] Whole Oceans, Bucksport permit

Mr. Wood - I reside on the shore of Penobscot Bay. I am very concerned about the discharge of effluent into our waters.

I understand that you are coordinating some part of this activity. I would ask that, as a member of the public whose property would be impacted by this project, to please include me in the process so that I might be notified when public input is going to be scheduled.

In order for me to be able to be prepared for those public responses I would ask that you please include me on any information regarding this permit so that I may have an opportunity to review it.

Please forward any and all information to me at:

hollyfaubel@gmail.com

Please let me know that you have received this email and will be able to accommodate this request. Thank you for your attention to this matter.

Respectfully,

Holly Faubel

KENNEBEC RIVER BIOSCIENCES

23 October 2018

Mr. Gregg Wood
State of Maine Department of Environmental Protection
Bureau of Water Quality - Division of Water Quality Management
17 State House Station
Augusta, ME 04333-0017
gregg.wood@maine.gov

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0037478
Maine Waste Discharge License (WDL) #W009190-6F-A-N

To Whom It May Concern:

Kennebec River Biosciences (KRB) is an internationally recognized aquatic animal health company located in Richmond, Maine. In over 20 years in the aquatic animal health sector, KRB has developed a regional, national and international reputation as a leader in the field of aquatic diagnostics, regulatory certification, and biologics. KRB has worked with a wide range of commercially important aquatic species, and provides an equally wide range of aquatic health services. These include laboratory services for cultured finfish, mollusks, crustaceans; vaccine development for existing and emerging piscine diseases; pathogen surveillance; facilitation of investigational therapeutic compounds and field trial monitoring; regulatory requirement consultations; biosecurity consultations; and a variety of aquatic animal veterinary services.

KRB has reviewed the draft Maine Pollutant Discharge Elimination System Permit/Maine Waste Discharge License developed and submitted by Whole Oceans, LLC for its proposed land-based recirculating aquaculture system (RAS) for Atlantic salmon, located in Bucksport, ME along the Penobscot River. Based on the technical and other parameters provided in the draft Permit for the phased-in production of Atlantic salmon biomass, KRB concurs with the Maine Department of Environmental Protection's findings, conclusions, and recommendations for issuance of the draft Permit and License (with applicable conditions).

Whole Oceans has worked for years to assemble an outstanding design, management and operational team that understands and optimizes all relevant aspects of raising Atlantic salmon in an RAS. As part of the development of Whole Oceans' draft Permit/License application, KRB has also provided the company with preliminary analysis and/or review of a number of important fish health risk factors. Based on these and other inputs, Whole Oceans intends to utilize a comprehensive fish health program that will include the use of certified healthy salmon eggs; the establishment and maintenance of optimal environmental quality for fish rearing purposes; and an ongoing surveillance approach through periodic testing for potential fish pathogens in either the water or fish stocks.

As part of a detailed overall biosecurity plan, these three sectors provide the basis of an effective program to prevent or minimize any adverse effects on fish health. In addition, Whole Oceans recognizes that the use of vaccination against a number of pathogenic agents for Atlantic salmon can help eliminate or minimize the need for therapeutic treatments.

In KRB's opinion, Whole Oceans is committed to providing the highest quality Atlantic salmon for its market through building, operating, maintaining and monitoring an efficient and environmentally sound production facility. KRB supports the issuance of Maine Pollutant Discharge Elimination System Permit #ME0037478 and Maine Waste Discharge License #W009190-6F-A-N.

Sincerely,

William Keleher

William R. Keleher
President/CEO

Peter L. Merrill, DVM
Director, Professional Services and Regulatory Affairs

Wood, Gregg

From: Russell, David
Sent: Tuesday, October 23, 2018 5:21 PM
To: Lewis, Jon; Wood, Gregg
Cc: Nelson, Marcy; Walsh, Michele
Subject: RE: draft permit review- attached diagrams and process flow

Jon,
This afternoon I had a chance to fully review the DEP draft discharge permit found online (link below). Process flow diagrams and facility layout in attachment B indicates that they have plans for incorporating measures, that if incorporated, would address some of the concerns raised at the meeting yesterday. The diagrams indicate multiple barriers for escape prevention, use of UV disinfection units as part of the treatment flow of each RAS unit (possible amplification prevention depend on dose), and use of UV at 50 mJ on the facility effluent. Such a UV dose on the effluent, if incorporated in the design, would be sufficient for destruction of most bacterial pathogens of regulatory concern and some viruses including; ISAV, VHSV, IHNV, but not IPNV. Whether or not the diagrams serve to function as a requirement for effluent UV is a question for Gregg.

https://www.epa.gov/sites/production/files/2018-10/documents/draftme0037478permit.pdf

Best regards,
David Russell

From: Lewis, Jon
Sent: Tuesday, October 23, 2018 11:07 AM
To: Russell, David <David.Russell@maine.gov>; Wood, Gregg <Gregg.Wood@maine.gov>
Cc: Nelson, Marcy <Marcy.Nelson@maine.gov>; Walsh, Michele <Michele.Walsh@maine.gov>
Subject: RE: Meeting followup-Antibiotic calculation method

If they are proposing even a lesser amount but still significant antibiotic usage does it not make sense that we should require some sort of disinfection before discharge? Large amounts of antibiotics would seem to imply the potential for a large bacterial load, no?

Jon Lewis
Director, Division of Aquaculture
Maine Dept. of Marine Resources
P.O. Box 8
West Boothbay Harbor, ME 04575
Phone: 207-633-9594
FAX: 207-633-9579
Email: Jon.Lewis@Maine.Gov

From: Russell, David
Sent: Monday, October 22, 2018 2:58 PM
To: Wood, Gregg <Gregg.Wood@maine.gov>
Cc: Lewis, Jon <Jon.Lewis@maine.gov>; Nelson, Marcy <Marcy.Nelson@maine.gov>; Walsh, Michele

<Michele.Walsh@maine.gov>
Subject: Meeting followup-Antibiotic calculation method

Gregg,
Doing some quick calculations with Terramycin 200, the method they used for calculating annual us is apparent. Their calculation does have an error and it uses a method of estimation that grossly overstates need. The label for Terramycin 200 calls for a maximum of 3.75 grams of product to be delivered per 100 pounds of fish per day. Treatment requires 10 days of treatment. Amount in the feed is based off of percent feeding rate of the fish being treated to deliver the aforementioned dose. 5000 MT annual production= 11,000,000 lbs. 3.75g*11,000,000 fish/100 lbs of fish*10 days/1000 grams per Kg= 4,125 Kg of Terramycin. Terrymycin is only 44% oxytetracycline(OTC), thus only 1,815 kg of OTC would be used. This calculation for antibiotic use assumes that 100% of all fish are treated once annually at full market weight. Such a calculation is a gross over-estimation for what is needed at the 5000 MT production level, but maybe not too far off the mark in the event that every fish at the facility needs a one treatment when they are at the 20,000 MT production level. An estimate using maximum standing biomass would have be more appropriate. Standing biomass should be about ¼ of annual production. Thus a one time treatment as a plug figure would have an estimate that is 25% of what was provided. However if the facility is divided into multiple systems, it is unlikely that everything would need treatment. Thus, even use of standing biomass would result in an excessive figure. Furthermore, treatment is unlikely to be needed unless they are skipping vaccination. My hope is that they are planning on vaccination rather than taking the gamble that loss can be prevented with antibiotics in the event disease strikes.

For perspective, the Norwegian salmon farming industry (pens and land based hatcheries) have an annual production of about 1,250,000 MT. Their annual use of all antibiotics combined is about 212 Kg of antibiotic per year or about 0.17 grams antibiotic per MT of fish production. Norway used much more in the past, but with use of vaccines, they have cut their use by over 98%. On the other hand, Chile has a production of about 895,000 MT of production and uses about 563,200 Kg of antibiotics or 629 grams antibiotic per MT of production. The Whole Ocean estimate of 1,815,000 grams of OTC/5000= 363 grams of antibiotic per MT of fish production. Figure is a bit better if it is applied as a plug figure for full scale production (more realistic for a one time treatment of standing biomass) 1,815,000 grams OTC/20,000 MT= 90.75 grams per antibiotic per MT of fish production. This however is just for OTC and not for all 3 antibiotics listed. I assume the anticipated use of the 3 antibiotics were put in as place holders in the unlikely event treatment were ever needed. Treatment if needed, would likely only involve one antibiotic not all 3.

It would be great for Whole Oceans to re-evaluate their anticipated need and to provide better statements clarifying potential use. The current portrayal is that of Chilean net pen culture and such is counter-productive to marketing plans of being land-based. Given that most of the land-based projects have marketing claims of being environmentally friendly and of offering products raised without antibiotics, it is my assumption that they don't have any intention of using antibiotics unless it is absolutely necessary. I am sure that they have great biosecurity and production plans for avoiding disease and the use of antibiotics, and whether it be due to oversight during a rush to get the application out the door or another reason, those plans were not fully conveyed or properly portrayed in the discharge application. They should have put in a plug figure of near 0 and some statements of potentially needing to use the figure they provided in the unlikely event of disease introduction. I assume that the DACF land based aquaculture working group, during review of their license application, will ask questions about biosecurity, vaccination, and so on. What to collect via DACF in association with the LBA working group vs DEP for the discharge permit is something to ponder and discuss. Either way, all the relevant questions should get asked.

Best regards,
David R. Russell
Fish Pathologist
Maine Dept of Inland Fisheries & Wildlife
Fish Health Laboratory
81 Hatchery Road
Augusta ME 04330
(207) 287-2813 office

Wood, Gregg

From: Des FitzGerald <des@bluemarvel.com>
Sent: Tuesday, October 23, 2018 11:13 AM
To: Wood, Gregg
Subject: [EXTERNAL SENDER] Whole Ocean MEPDES permit

Dear Mr. Wood,

I'm writing in support of Whole Oceans and their present MEPDES permit application. I have gotten to know the founders of Whole Oceans through my role as Entrepreneur in Residence (EIR) at Maine Venture Fund. Although the fund did not choose to invest in this venture, as it's size is beyond the normal scope of our mission, I came to understand the breadth of Whole Ocean's commitment to this project and the community of Bucksport. As the founder and former CEO of Ducktrap River of Maine and Atlantic Salmon of Maine (ASM), I have had a long relationship with the salmon farming industry and am very familiar with it's ongoing challenges and innovations. In my mind the move to land based RAS systems is a natural evolution for this industry as it creates better accountability, containment and environmental controls. I have been impressed by both Mike Chorske and Rob Piasio's ability to understand the complexities of the process and the diligence with which they have approached all aspects of this start up in Bucksport.

I have also been serving on the Focus Maine Aquaculture Implementation Team which is working to help develop the aquaculture sector here in Maine. The Whole Oceans project is exactly the sort of investment that Focus Maine views favorably. Maine has the opportunity to lead the global aquaculture industry in RAS technology and offer a new class of food and farm related jobs for our coastal communities. I hope and trust that you will view favorably this MEPDES application from Whole Oceans.

Sincerely,

Des FitzGerald

Des FitzGerald
PO Box 177
Rockport, ME 04856
(cell) (207) 400-0981