

From: Klaver, March
Sent: Friday, October 23, 2009 11:38 AM
To: Hargreaves, Brent <Brent.Hargreaves@dfo-mpo.gc.ca>
Cc: Saunders, Mark <Mark.Saunders@dfo-mpo.gc.ca>; Thomson, Andrew <Andrew.Thomson@dfo-mpo.gc.ca>
Subject: RE: Sea lice data request for industry

Hi Brent,

I have spoken with Mary Ellen Walling of the BCSFA, she will be coordinating the site by site lice data and sending it to us. I would like to confirm that you want:

1. site information on sea lice and production for individual farm operations in 2007
2. the sea lice data should include Chalimus stage lice
3. As a priority, for sites in the Discovery Islands area

Please confirm and I will advise Mary Ellen. She anticipates getting this to us by next week.

I have already forwarded production data from 2007 to Mark.

Regards,

March Klaver, MSc., RPBio.
Aquaculture Management Division | La Division de Direction de l'aquaculture
Fisheries and Oceans Canada | Pêches et Océans Canada
250-4877 Argyle Street | 250-4877 rue Argyle
Port Alberni, BC V9Y 1V9 | Port Alberni, C.-B., V9Y 1V9
march.klaver@dfo-mpo.gc.ca
Telephone | Téléphone 250-720-4445
Fax | Télécopieur: 250-724-2555
Cell | Cellulaire: 250-720-5488
Government of Canada | Gouvernement du Canada

Absence of evidence is not evidence of absence

-----Original Message-----

From: Thomson, Andrew
Sent: October 21, 2009 4:45 PM
To: Klaver, March; Hargreaves, Brent
Cc: Saunders, Mark
Subject: Fw: Favour Lice

March

I believe you may already be collecting some of the data below. If not I would propose a two step process. The first priority from my read of it detailed farm specific sea lice data (including chalimus) for the farms in the discovery area. Contact the companies to see if they will provide it. If not we will pursue a Sec 61 request if necessary.

You may also want to contact Sonya Saccida as I believe she is looking at the same data.

As for other areas of the coast, I agree that getting that data would be good but it should be a second step, as I don't want the first data set delayed. We already know that lice loads in the BA that year were fairly low from the wild fish sampling.

DFO-179154

\\svbcvanfp01\Cohen-Comm\Personal Drives\Mark Saunders Files\Email 01\Cohen - Mark Saunders\Archive
Inbox 2009 October\

CAN088645_0001

Andrew Thomson
Director - Aquaculture Management Division Sent from my Wireless Device

----- Original Message -----

From: Hargreaves, Brent
To: Thomson, Andrew
Cc: Saunders, Mark
Sent: Wed Oct 21 19:13:12 2009
Subject: RE: Favour Lice

Hi Andy.

Mark Saunders told me he has been informed that Paul Sprout anticipates that the effects of sea lice on juvenile sockeye, and possible role of salmon farms, will likely continue to be a major focus in any and all reviews of the poor returns of adult Fraser sockeye in 2009.

I re-worked some of the farm sea lice data you previously sent us (file attached).
Mark has also asked me to proceed to obtain additional data for sea lice on salmon farms, as suggested in my email below.

I assume any DFO request to either the BC Province, or directly to the salmon farm companies, should come from your office?

Could you please call me to discuss this and agree on an appropriate strategy, timeline, tasking, etc.?

Thanks,
Brent Hargreaves

-----Original Message-----

From: Saunders, Mark
Sent: October 16, 2009 12:50 PM
To: Hargreaves, Brent
Subject: RE: Favour Lice

Hi Brent,

This looks good. Can you please put together a request for further data as you have suggested below. Each of the suggestions you have made make sense.

Thanks,

Mark

-----Original Message-----

From: Hargreaves, Brent
Sent: October 16, 2009 10:10 AM
To: Saunders, Mark
Subject: RE: Favour Lice

Hi Mark.

As you requested, I have examined the data Andy provided, regarding sea lice levels on fish farms in the Discovery Island Area of BC. The original data were a bit difficult to interpret, because each figure included sea lice data for both first year and second year farm fish.

For your convenience, I re-plotted all these data, separating the results for first year farm fish and second year farm fish. The attached spreadsheet has 8 additional figures, named as tabs Chart 1 to Chart 8. Charts 1-4 plot the sea lice counts for first year fish in January-March, April-June, July-September, and October-December. Charts 5-8 provide sea lice counts for second-year ("grow out" size farm fish) during the same time periods.

The "Motile" and "Female" categories are lice counts for adult and sub-adult stages of Lep. Salmonis only. The "Caligus" category is sea lice counts for adult and sub-adult stages of Caligus only.

Overall, I agree with Andy's conclusion.

These data do not provide any evidence that the sea lice counts on farm fish in the Discovery Islands were unusually high during any time period during 2007, when Fraser sockeye that returned in 2009 would have migrated out of the St. of Georgia.

There are two caveats I attach to this conclusion.

First, these sea lice data do not include any counts for Chalimus stage lice, so we do not know the total picture. The farms do collect this data, so it should be easily available. I don't know why these data were not provided, but to complete the picture (and ensure our interpretation is correct) I recommend we request the additional Chalimus lice counts from the BC Province or the farm companies.

Second, these data are averages for all the farms in this sub-zone. Overall the average sea levels generally appear to have been low in 2007, but we do not know what the sea lice levels were on each individual farm. If we could obtain the sea lice counts for each individual farm then we could likely also eliminate the possibility that the lice levels might have been unusually high on one or more individual farms.

I also think DFO should request the same detailed information for other sub-zones in BC. This would allow us to examine the next likely criticism that, even if sea lice levels were low on farms in the Discovery Islands, then juvenile Fraser sockeye in 2007 may still have been impacted by sea lice levels on farms further up the BC coast (e.g. upper Johnston Strait or Broughton).

For your convenience I have also attached a map I obtained from the BC MAL website that shows all the fish farm tenure locations in BC and the zone boundaries that BC MAL uses for fish health.

Brent

-----Original Message-----

From: Thomson, Andrew
Sent: October 7, 2009 9:36 AM
To: Hargreaves, Brent; Saunders, Mark; Klaver, March
Subject: FW: Favour Lice

Mark / Brent / March

Attached is a file of reported Sea lice numbers from Salmon farms in BC MAL area 3.2 (Discovery Islands).

It appears from the data that 2007 was not a particularly strong year for lice (Caligus or Lep) at the farms in the second quarter which is when I presume the migrating sockeye would be passing the area. The (1) and (2) denote first and second year class fish.

Andrew J. L. Thomson
Director - Aquaculture Management | Directeur - Gestion de l'aquaculture

-----Original Message-----

From: Sheppard, Mark AL:EX [<mailto:Mark.Sheppard@gov.bc.ca>]
Sent: October 6, 2009 1:23 PM
To: Thomson, Andrew
Cc: Keith, Ian AL:EX
Subject: RE: Favour Lice

\\svbcvanfp01\Cohen-Comm\Personal Drives\Mark Saunders Files\Email 01\Cohen - Mark Saunders\Archive
Inbox 2009 October\

Hi Andy,

A very resourceful staff member of ours generated these quarterly graphs for you. They reflect BCSFA aggregate data, for the Discovery Islands (sub-zone 3.2), by calendar quarter, for both year classes. You'll note we don't ask industry for chalimus numbers (although the farms do assess this), but Motile and Female Leps as well as Caligus are graphed.

Also, here's the link to the monthly reports MAL receives from industry:
http://www.al.gov.bc.ca/ahc/fish_health/sealice_monitoring_results.htm

Mark

-----Original Message-----

From: Thomson, Andrew [<mailto:Andrew.Thomson@dfo-mpo.gc.ca>]
Sent: Friday, October 2, 2009 1:38 PM
To: Sheppard, Mark AL:EX
Subject: RE: Favour

Mark

I've already mined the audit data.
Let me know if you think we can get the monthly aggregate reports.
Week or two would be fine.

Andrew J. L. Thomson
Director - Aquaculture Management | Directeur - Gestion de l'aquaculture

-----Original Message-----

From: Sheppard, Mark AL:EX [<mailto:Mark.Sheppard@gov.bc.ca>]
Sent: October 1, 2009 4:10 PM
To: Thomson, Andrew
Subject: RE: Favour

Hi Andy,

Two ways to do this: one is to mine our audit data; the other is more accurate by using the monthly aggregated reports to BCMAL from the BCSFA. I'm away from the office until Monday - when are you in need of it? Mark

From: Thomson, Andrew [<mailto:Andrew.Thomson@dfo-mpo.gc.ca>]
Sent: Wed 30/09/2009 9:13 AM
To: Sheppard, Mark AL:EX
Subject: Favour

Mark

Could a plot be made of the monitored sea lice data from the Discovery Islands sub-area of sea lice counts showing the avg counts for the last 4 - 5 years? Different plots by species of louse would be ideal.

Andrew J. L. Thomson
Director - Aquaculture Management | Directeur - Gestion de l'aquaculture Fisheries and Aquaculture Management Branch | Direction des pêches et de l'aquaculture Fisheries and Oceans Canada | Pêches et Océans Canada 200 - 401 Burrard St., Vancouver, BC Canada V6C 3S4 | 401, rue Burrard, Bureau 200 Vancouver (C.-B.) V6C 3S4 Telephone | Téléphone 604-666-3152 / Facsimile | Télécopieur 604-666-1076 Government of Canada | Gouvernement du Canada

\\svbcvanfp01\Cohen-Comm\Personal Drives\Mark Saunders Files\Email 01\Cohen - Mark Saunders\Archive
Inbox 2009 October\