

Show Transcript

Deconstructing Dinner

Kootenay Co-op Radio CJLY

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Title: Norway, British Columbia II (Farming Atlantic Salmon in the Pacific)

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Jon Steinman: And welcome to Deconstructing Dinner, a syndicated weekly one-hour radio show and podcast produced at Kootenay Co-op Radio, CJLY in Nelson, British Columbia. I'm Jon Steinman.

We have a rather riveting line-up of shows to bring to you over the next few weeks and I say riveting as the topic we'll be covering is that of the controversial salmon farms operating along the coast of British Columbia.

Salmon farming is a valuable industry around the world, but it seems nowhere are the presence of farms as controversial as they are in British Columbia. We'll be exploring why this is and uncovering some startling tactics that the industry uses to circumvent the very *vocal* public opposition to these open-net salmon farms.

It's been almost three years since we *last* covered this topic and that broadcast (one of our first) was titled Norway, British Columbia - and the reason for the title remains today, because the three largest companies operating in B.C, which combined represent 96% of total production, are all Norwegian. And so in the spirit of that show which aired in February 2006, *today's* show will mark part II of this multi-part series about this controversial world of salmon farms.

soundbite

Before diving into the topic for today's show I was passed an interesting notice about an art installation set up in Vancouver, between January 13th and February 10th. The installation is at Langara College and is titled *Thought for Food: A Gastronomic Reading Room*. According to Artist, Geoffrey Swartz the installation addresses the absence of classic gastronomic texts from local public and university libraries. *Thought for Food* presents a citation reading room featuring key examples of gastronomic thought and writing. The Installation is arranged like a tapas bar. *Thought for Food* is part of a larger installation called *Vehicle*, which will be around 'til April 21st and this food-focused reading room, on exhibit until February 10th. *Thought for Food* will offer a series of programs that connects rituals of food to current economic, political, and cultural conditions. For more information on the

exhibit and scheduled performances you can visit the website at langarapublicart.ca or you can drop in at the main entrance of Langara College at 100 West 49th Avenue, Vancouver.

soundbite

So we do have quite a lot to cover as part of this Norway, British Columbia series which first aired in February 2006. While in some respects not much has transpired *since* then, there are a number of important changes *and* outlooks to report. On today's part II of the Norway, British Columbia series we'll be taking you on a tour of an Atlantic Salmon hatchery north of Campbell River to learn about where farmed salmon begin their life. We'll meet once again with Catherine Stewart of the Living Oceans Society and the Coastal Alliance for Aquaculture Reform. Catherine will share with us some of the current concerns that *she* believes the public should be aware of. We'll hear from Clare Backman of Marine Harvest Canada - the largest salmon farming company operating in B.C. And we'll touch on the *incredible* impact that Infectious Salmon Anemia (ISA) has been having among the salmon farms of Chile (one of the world's largest producers of farmed salmon), and we'll be asking if this virus is a sign that salmon farming is unsustainable. Also on the episode and throughout the series we'll be asking whether the Province of British Columbia is adequately protecting the interests *of* British Columbians and given the *importance* of Pacific Salmon to global ecosystems, by extension, protecting the interests of the global population too. Next week, we'll hear from one of the most *vocal* opponents of open-net salmon farming - Alexandra Morton of the Raincoast Research Society, who, in October 2008, led a group of petitioners into B.C. Supreme Court to challenge the Province's authority over the salmon farming industry. As Alexandra believes, the regulating of open-net salmon farms should be in the hands of the Federal Government as it's the Federal Department of Fisheries and Oceans that is responsible for protecting the marine environment.

As the series progresses, you'll also get a chance to visit an actual salmon farm on East Thurlow Island located in the Strait of Georgia. It was there I posed some tough questions to BC Ministry of Agriculture and Lands Bill Harrower and the B.C. Salmon Farming Association's Paula Galloway. We'll also tackle the controversial topic of "organic" salmon (which, when one begins to think about it, sounds a little absurd), but sure enough there is organic salmon on the market today and many more companies vying for what appears to be a rather sneaky marketing ploy. The topic of sea lice will permeate the dialogue over the series, as this is likely the most contested concern facing the health of wild salmon populations along the coast. And we'll also look more into the future of salmon genetics - and more specifically - genetically-engineered salmon - which, if approved, it can be almost certain, that at the current rate of escape events happening from B.C.'s salmon farms, B.C. may soon have genetically-engineered salmon swimming among the wild salmon that have existed there long before humans ever did. So stay tuned for that, and more, as part of this Norway, British Columbia series.

soundbite

If you do miss any of the series, it will be archived as usual on our web site at deconstructingdinner.ca

When the first of this Norway, British Columbia series aired, we launched the episode with an introduction into some of the key issues that have made the salmon farming industry as controversial as it is today. On this part II of the series, we'll be moving beyond some of those issues, but to first *re*-introduce what many groups opposed to salmon farms believe the public should be aware of, here again is a clip from that episode featuring Jay Ritchlin, the Director of Marine and Freshwater Conservation for the Vancouver-based David Suzuki Foundation.

Jay Ritchlin: Some of the key impacts that we are concerned about include: the transfer of diseases and parasites like sea lice between farm and wild fish, the escape of salmon—whether they are Atlantic Salmon who can colonize our rivers and our habitats and compete for food or whether they're Pacific Salmon that can actually interbreed with our wild salmon and reduce their fitness. The waste from the salmon farming operations; excess feed; feces from the fish; the remaining antibiotics and other chemicals that are used on the farms are direct impact to the immediate environment; the impact of the antibiotics and other chemicals themselves on the health

of the fish and potential resistance of bacteria to antibiotics—those are issues that are still being researched. One of the issues that sort of goes beyond the local environment is the use of food fish from around the world to create feed for salmon growth in the North, and in the wealthier countries. The depletion of that fish feed takes between two and four kilograms of wild fish to grow a kilogram of farmed salmon. And then, of course, you have the interactions with local wildlife: seals, whales, eagles all try to get into the pens and have variously been shot or deterred with undesirable methods by the farms. And finally, the potential (although it has not happened yet to any great degree) for genetically modified organisms to be grown in the open net pens.

So I think those are the overarching issues. Of course, we also have the economic impact of a glut of farmed salmon on the global market has negatively impacted wild salmon prices for many years.

JS: Jay Ritchlin of the David Suzuki Foundation. Yet another voice we heard on the 2006 broadcast of this Norway, British Columbia series, was Catherine Stewart. Catherine is the Salmon Farming Campaign Manager with the Living Oceans Society - a Sointula, British Columbia-based organization focusing exclusively on marine conservation issues. Catherine spoke to me once again from Vancouver, and provided a snapshot of what the industry looks like *today*, in 2009.

Catherine Stewart: Well actually over the last three years it hasn't changed an awful lot. There are still 92% of all salmon farms in British Columbia are owned by four main companies. Three of them are Norwegian-based (Norwegian-owned). Marine Harvest owns over 55% of the tenures in BC; Mainstream or Surmac owns about 24%; Greek Seafood—another Norwegian company owns 13%, and there is one small Canadian company, Creative Salmon, that owns 4%.

There's been a lot of concentration over the last 5-6 years, for example Marine Harvest acquired Pen Fish, which was a Dutch-owned company farming in B.C. and Mainstream gobbled-up Heritage, which was owned by the Westin family (the Canadian company that runs Loblaws and Superstore, etc.). There are a few independents left: Yellow Island, Agro-Marine (who are doing the floating, closed containment tank system just near Campbell River). But by and large, the fish farming industry in B.C. is owned and run by the Norwegians.

JS: As Catherine indicates, the industry has not changed much, and as we'll explore in just a moment, nor have production levels. According to Catherine, the fierce public opposition to open-net salmon farms has kept the industry at bay, and as she suggests, the industry would look a lot different if the public remained quiet.

Catherine Stewart: It would absolutely look different. I mean when the Liberal government was first elected in B.C. they made no bones about the fact that they were hoping to increase production on fish farms in B.C. ten-fold. It's the public and the opposition mounted by coastal First Nations and groups like Living Oceans and other member groups of the Alliance—the CAAR alliance—that have held that at bay. Certainly the public has been very vocal in their opposition to the industry and their concerns about it.

JS: As for production, total tonnage in B.C. has remained relatively constant at about 70-80 000 tons per year, and while public opposition is said to have contributed to this low growth rate, there are other issues the industry faces.

Catherine Stewart: Well total production hasn't changed a lot—I would say in the past three years there have been maybe four new fish farms approved. There was one in the Broughton that is owned by Greig Seafood at Bennett Point. There were a couple in Esperanza Inlet or Nootka Sound, on the west coast of Vancouver Island, new farm approvals. But by in large the industry has held steady largely because of public opposition to expansion of aquaculture. Of course as a result of the legislature committee on sustainable aquaculture there was a moratorium placed on expansion into northern B.C. so anything other than the farms around Klemtu on the central coast—no new farms north of Cape Caution on the coast which is good news but only half the battle. Now we have to do

something about the mess being created by the farms in the south.

Generally production is anywhere from 70-80 000 tons in B.C. and that can be dependent on what happens on the farms. Marine Harvest lost about 400 tons of fish at a farm in Klemtu last year because of an algae bloom. 30 000 fish escaped from their farm in Northern Georgia Strait at Frederick Arm; over Christmas another 2 500 fish escaped from a Mainstream farm in Clayoquot and Marine Harvest/Kitasoo joint venture Farm on the Central Coast lost maybe 20-25 000 fish nobody's really sure. There were 40 000 fish in the pen, a sea lion got in and the pen was ripped open and they still haven't issued the number on the total escape but it could potentially be as high as 40 000 fish (the company is estimating about half of that). So that can affect the overall total production of things. And of course there have been a couple of huge escape events in Chile, Mainstream had a farm in Los Juegos region of Chile near Patagonia where twelve pens overturned in a storm and an estimated 200 000 Atlantic Salmon escaped into Chile's Pacific coastal waters.

JS: According to Marine Harvest, the algae bloom that Catherine spoke of occurred in September 2008 and contributed to a loss of 786 tons of fish. As for escapes, the most recent to report occurred on November 20th at Marine Harvest's Lime Point site off of Pooley Island in the territory of the Kitasoo/Heiltsuk First Nation. According to Marine Harvest, a sea lion gained access to a net during a winter storm and allowed a portion of the 45 000 Atlantic Salmon weighing an average of 1.3kg, to swim away. Marine Harvest suffered *another* escape in July of 2008, when, according to the company, as many as 30 000 Atlantic Salmon escaped from its Frederick Arm site. At the time of the escape, the company was unsure what caused it.

soundbite

This is Deconstructing Dinner and part II of our series titled Norway, British Columbia - a multi-part series on the salmon farming industry off the coast of British Columbia.

Now we'll come back to further examining some of the key issues facing the industry later on the show, but first, and as mentioned earlier, as part of this series on salmon farming you'll also be taken on a tour of an Atlantic Salmon hatchery *and* a salmon farm located in the Strait of Georgia not far from the community of Campbell River.

The tours will provide a rare *auditory* glimpse into the world of salmon farming and give you, the listener, a better idea of how salmon farms operate *and*, what they sound like. You can also visit our web site and take a peek at some of the images that we've compiled *of* the hatchery. Next week, we'll also post images to the site from the farm visit. Again, that site is deconstructingdinner.ca

Now, while the farm tour will have to wait until our *next* episode of the series, let's quickly take a trip to Big Tree Creek Hatchery located north of Campbell River. The hatchery is one of five production facilities currently operated by Marine Harvest where their fish are raised before heading out to their sea sites.

The tour was part of the 2008 Conference of the Canadian Farm Writers Federation and was sponsored by the Province of British Columbia and the B.C. Salmon Farmers Association, which is the trade association representing salmon aquaculture companies.

As was learned *on* the tour, Marine Harvest operates its own brood-stock program where the eggs are first produced. Those eggs then make their way to a hatchery- Big Tree Creek being one of them.

Taking us on the tour was site manager Barb Addison, and when the bus arrived, we were greeted by a watchful dog. The tour began with a request that the soles of our boots be disinfected.

Barb Addison: (barking dog, people talking) Normally our gate over there is closed cause this is all bio-security

inside but we have construction going on so part of the fence is ripped down... Up until only a few of years ago we had no fences and people could go through the site that had been fishing in the creeks so we had disease concerns so everything is pretty... well we have people working in the industry now that have worked on the East Coast and we know what's going on in Chile and we don't have any diseases here, we don't want any diseases in Victory...

Well for our thirty million eggs that we're going to produce (thirty-two million for the whole year) there will be about 2 000 brood-stock. We'll have about 22 million here and then we have another facility that also takes eggs. Our goal is about 32 million all together between the two of us.

So this is what we call pre-incubation. This is where all the eggs come in from the brood facility and they get fertilized here, they get Ovidine disinfected and then they get enumerated before they go into one of the two incubation rooms that we have here. Every female is screened for bacterial kidney disease and also for viruses. We have our own lab in Campbell River we can get the results—if we're going to combine them in an incubator—we can have the results by the next morning. So if there is anything positive we can throw it out right away.

We will be producing 3.6 million smolts out of here, plus we'll be providing fry for the Ripple Hatchery next door.

JS: Moving on from the area of the facility where the eggs are contained, we moved into *another* building where the fish, when at their fry stage, are kept. What came as a shock was to see the sheer number of fry that are kept together in one tank. This truly was industrial food production. If you do have access *to* the internet, you can check out a photograph that I took of the fish in the tank while on the tour.

Barb Addison: So this is what they fall through onto after they hatch and they burrow into the sub straight and stay in here until they are ready to feed. So that's also a new material that comes from Norway. And the fry are much better, much bigger, much healthier actually having a place to sit down in.

JS: And in the wild would they be grouped together like this too, like would they stick together?

Barb Addison: They wouldn't be that concentrated, but some species stick together—some not depending on what stage they are at. The feed here is all spreading pellet; it's all 1.5mm pellet now that they are on.

JS: What's the composition of that feed?

Barb Addison: The composition is fish meal, fish oils, vitamins, minerals.

JS: As the tour continued, we headed outdoors and towards the *next* stage where the fish were housed in mesh-covered tanks. Again, images of these are available on the Deconstructing Dinner web site.

As we were toured around *this* section of the Big Tree Creek Hatchery, we were informed that the production levels *of* the facility were set to increase.

Barb Addison: We have our own transport department with about half a dozen trucks and so maybe on a day we're shipping 200 000 fish we'll have about four trucks just doing the loop. We'll pump them into the trucks, load them up, truck goes, fill up another one.

Unknown man: So basically, from the 32 000 000 eggs that you start with you end up with about 12 000 000 fish?

Barb Addison: Yes, that's right. We're slowly increasing our production from about 10.2 to... we will be up to... We seem to be ever expanding. We're just putting on two extra tanks, plus a building where all the equipment

needed for grading and vaccinating will all be inside a building

Unknown voice: You vaccinate your fish?

Barb Addison: We vaccinate our fish. Each fish gets two injections, so...

Unknown voice: Each fish?

Barb Addison: Each fish. Well we have a machine that we've had—this is the second season with the machine for one of the injections. The other injection is done by hand...

Unknown Voice: Twelve million fish?

Barb Addison: Well, this site here we only have... it gets split up quite a bit. This site here we are doing 1.6 million this year and then 3.6 next year.

Unknown voice: So what are you vaccinating against?

Barb Addison: We're vaccinating against bronculosis and vibrio as well as IHN.

JS: So again this is for all Marine Harvest Farms. This is where it all begins...

Barb Addison: Yes.

JS: So there is no need for any other facilities to supply them.

Barb Addison: No. We are eventually going to end up with about three facilities which will produce three million smolts each.

JS: And right now this is again, how many?

Barb Addison: Right now, this year, we're doing 1.6 million, next year with the new expansion we're going to do 3.6 million out of here, by batching fish through...

JS: Is that hoping that there will actually be more farms? Or is that just for the current farms?

Barb Addison: For the current farms right now.

JS: Now this planned expansion raises a number of important questions. For one, and as Catherine Stewart indicated earlier, the industry's total production levels have remained relatively stagnant over the past seven or so years. Catherine also indicated that only a handful of *new* farm sites have been approved over the past few years and so one is left to ask - where will all of this increased production of fish at Marine Harvest's hatcheries end up.

Well one possibility is that the company hopes to increase production on *individual* farm sites, a prospect that would certainly concern many of the groups opposed to salmon farms. Well sure enough, there are many proposed amendments currently before the Province that are requesting permits to increase production on fish farm sites.

Catherine Stewart of the Living Oceans Society explains.

Catherine Stewart: We actually directly asked the previous minister of Agriculture and Lands, Pat Bell, in a face-to-face meeting to give us all the information about amendment applications on the B.C. farms. It's very difficult to obtain this and we were really running up against a brick wall. It's hard to access information in British Columbia about what's going on on the farms whether its disease outbreaks, sea lice counts, or expansion agendas. The minister promised us he would get us the information within seven days and about seven months later we finally got it. We had an overview of the amendment applications and they are substantial. It's a mix. Some of the companies are just applying for amendments to the actual physical layout of the farms, like they want to move from square cages to round cages or visa-versa, or they want to realign the pens, but some are asking for substantial changes to production. Marine Harvest, for example, has applied to double its overall productions on several farms in the Discovery Islands region in northern Georgia Strait and Mainstream has applied to pretty much triple its overall production capacity in the Broughton Archipelago.

JS: When asked *why* the expansion proposals should pose a concern, Catherine suggested for all the reasons why open-net salmon farms should be opposed in the first place.

Catherine Stewart: Any and all of the concerns associated with net-cage production. I mean we are already confronted with such significant problems with fecal matter, waste feed, contamination around the farms, the use of chemicals, antifoulant chemicals on the nets, the use of pesticides in the feed to treat sea-lice, the use of antibiotics and residual antibiotics in the feed getting into the marine ecosystem. So you double or triple the capacity and the production on the farm, you just double or triple the problems.

JS: Now on the surface it would appear as though the industry is indeed looking to circumvent the difficulty in getting new sites approved by instead increasing production on existing farms. To give you even more specific numbers, Marine Harvest has proposed a 4-fold increase at their Bickley site, a 4.5 fold increase at their Egerton site, an almost 3.5-fold increase at their Farside site, an almost 3.5-fold increase at their Freddy Arm site, and an over 1.5-fold increase at their Read Island site. Again, the Freddy Arm site is the one, which in July 2008, was responsible for an escape of as many as 30 000 Atlantic Salmon.

Now the Coastal Alliance for Aquaculture Reform (otherwise known as CAAR), which is made up of organizations like the David Suzuki Foundation and Living Oceans Society among others, has posted these amendment applications on their web site at farmedanddangerous.org and are encouraging the public to voice their opposition to the proposals.

However, according to Catherine Stewart, two of those proposals have *already* been quietly approved.

Catherine Stewart: Well, to our shock and horror we discovered that two of the applications had already been approved very quietly, no notice given (those were for the two of the Marine Harvest Farms in the Discovery Islands area).

It's hard to say with an election in the offing how eager the Province would be to approve expansion in production right now. I would suspect that if the Liberals got re-elected we could see those approvals come through in short order—unless they change their policy or the voters speak up the policy is not likely to change.

The one set of amendments that CAAR may be willing to tolerate are associated with an alternating migratory route corridor proposal in the Broughton Archipelago. Marine Harvest and to some extent Mainstream have tabled a proposal where they're suggesting that if production amendments were permitted for a six year period they would be able to empty the farms on the primary out migration route for the wild salmon through Tribune and Five Channel in the Broughton one year and then on the Night Inlet out-migration route on the alternate year. So they have committed as part of that offer that they would not increase overall production, but they would only use

those amendments to maintain current levels of production and would shut down farms on the route on alternating years. So it's not an increase in overall production but just amendments to allow that safe—safer—migratory route to take place.

We believe that that has some merit. It certainly is not any sort of permanent solution. CAAR and Living Oceans and other groups that are members of CAAR are still advocating strongly for a complete transition to closed containment but in the interim something has to be done to protect the wild salmon and at least this is a step in that direction and if we can get a rigorous and comprehensive monitoring and evaluation program in place, we should be able to tell within a couple of years whether it is actually having a beneficial effect on the wild fish.

JS: And this is Deconstructing Dinner and part II of a series on open-net salmon farming off the coast of British Columbia, Canada. The series is titled Norway, British Columbia.

Deconstructing Dinner is produced weekly at Kootenay Co-op Radio in Nelson, B.C. and I'm Jon Steinman. If you miss any of today's show, it will be archived on our web site at deconstructingdinner.ca

We've been listening to segments from a conversation I had with Catherine Stewart - the Salmon Farming Campaign Manager of the Living Oceans Society. We've also been listening to segments from a tour that I embarked upon of an Atlantic Salmon Hatchery run by Marine Harvest Canada and located just north of Campbell River.

As we were told on the tour, the hatchery is undergoing a 3 million dollar expansion and will be more than doubling their production of smolts (that is the stage before the fish are then transported to the company's sea site). Given the low level of new farm applications approved in the Province, it would appear that Marine Harvest is simply expecting their expansion applications will be rubber stamped. But according to Marine Harvest's Clare Backman, the company's Director of Environmental Compliance and Community Relations, the expansion at the hatcheries is not so much an expansion, but a *consolidation* of less efficient hatcheries, and total production numbers *after* the expansion will remain close to the company's current levels. Clare spoke to me from the company's head office in Campbell River, B.C.

Clare Backman: See, the new Marine Harvest represents a number of mergers of smaller companies in B.C. over the years and if you look at the number of fresh water facilities that those smaller groups operated they number eight. And we're not using eight any longer. We're only currently using five. So the reduction or our current plans are to use five so when you look at that you can see that the focus has been to go to the more sustainable locations and the two that you visited, the Big Tree Creek and the Dow Rimple are the places that we are focusing on the recirculation. There's one hatchery of the five, there is one more that does not use as much recirculation and there are two lake facilities that we operate on Vancouver Island. But the bottom line remains as I mentioned that the single pass hatcheries are being reduced in importance and are being replaced by the recirculation technology.

JS: Now while Clare Backman indicates that the expansion at the hatcheries will *not* significantly increase total production, the company's applications to the Province to *expand* production on their farm sites would seem to challenge such a suggestion. I posed this concern to Clare.

JS: I guess with respect to these amendments there has I guess been some concern posed by the Coastal Alliance for Aquaculture Reform regarding some of the amendments. What is Marine Harvest's take on whether these amendments will be permitted? Some of the numbers we have come across, they are rather significant production increases on some of the sites. Is this something Marine Harvest is expecting will be approved and what's the process there?

Clare Backman: Again it goes back to the process of efficiency. If we've got several sites that are, say, 2 000 ton production adding up to 10 000 ton if you take them down to two sites that are completely sustainable within the

environmental measures at 5 000 tons apiece and you go from 10 down to 2 it's a greater efficiency of operation and you are taking out of place sites that might not be as environmentally friendly because they were developed under different kinds of considerations years ago and you are replacing them with or you are focusing the production on two sites and are amending for those two sites. Everyone sees that as a good way to progress: taking sites that are less sustainable out of the mix and encouraging the growth and the amendments for increased production on sites that are clearly good sustainable sites and can be measured as such.

JS: Now putting aside the reassurance from Marine Harvest that concerns over the company's site expansion applications should not worry the public, Clare Backman even went so far as to suggest that the company is *satisfied* with their ability to meet current demand, and growth is not on their current agenda.

Clare Backman: It's true there hasn't been a lot of growth in terms of production tonnage over the last two years (I don't know if it's true that it's been stagnant for seven years. It's been a slow rate of growth) I think if you were to graph it out you would see a slow rate of growth and it's probably more in keeping with the growth in the market which is around 5%, 5 or 6% per year. So the capacity of the industry to respond to that growth is already in place, we don't actually need immediately a whole lot of new sites.

JS: While Marine Harvest's Clare Backman paints a picture that the company is *not* seeking significant growth and is simply restructuring for efficiency, there are a number of signs to suggest otherwise. Perhaps most specifically to Marine Harvest itself, was the company's strategy in 2001, when they began construction of a state-of-the-art hatchery in Prince Rupert, well up the northern coast of British Columbia. The facility was opened in 2003 and set to produce 3 million smolts per year. There was only one problem, no fish farms had been approved in the area - a result of the immense difficulty the industry is having in getting new farms approved. In 2003, before the 8 million dollar facility was complete, Marine Harvest scrapped the plans and closed the facility, but the company's strategy was clear - build the capacity at hatcheries *first* and do so *expecting* that the Province will approve increased capacity on the fish farms.

In fact that is exactly what the plan appeared to be. In a 2007 article published in Canada's Financial Post, author Nathan VanderKlippe interviewed the manager of the Prince Rupert facility - Andrew Forsythe. As VanderKlippe wrote, "Marine Harvest Canada spent millions to build it on the assumption that it would receive farming licenses in nearby waters. But when those licenses failed to materialize, the company was forced to shutter the plant."

The article continued with another quote from the then-manager of B.C. Operations Mark Asman. According to Asman, "Production expansion must be carefully thought out and planned for well in advance." The number he gave the Financial Post was *five* years in advance.

So coming back to the expansion efforts currently underway at the Big Tree Creek Hatchery, the public is left to wonder whether the company is now preparing for a similar strategy down the road. Such a forecast is presently unclear.

But clarity may be found in the comments by the B.C. Salmon Farmers Association - the trade association representing the industry of which Marine Harvest is a member and which, Clare Backman sits on the Board of Directors.

In fact this article published in the Financial Post is posted *on* the B.C. Salmon Farmers web site as it painted a clear picture of how the industry is frustrated and fed-up with the ongoing difficulties companies are facing with tight regulation led by public opposition.

Also interviewed for that 2007 article was the Executive Director of the Association, Mary Ellen Walling. According *to* Walling, the delay in the approval of farms has cost the industry about \$450 000 000. As she stated

"The world appetite for salmon is growing faster than our ability to supply it."

Her position does not sound as *unconcerned* as Marine Harvest's Clare Backman, who suggested that the company is satisfied with their current ability to meet demand.

But what may come as the greatest concern upon reading the comments in that article, and certainly raises an eyebrow as to *why* the B.C. Salmon Farmers would post such an article on their web site, were the comments made by Larry Greba - a fisheries advisor to the Kitasoo Nation which has been encouraging salmon farming in their waters near Klemtu, B.C. Greba suggested that the opposition and strict regulation of the industry has forced key people to *leave* Canada and seek employment in *other* countries where salmon farming development is more favourable. According to Greba, that creates greater risk, he's quoted as saying, "When you run into a critical situation - like disease outbreaks or a plankton issue - there's only a handful of people that know what to do. You start *losing* those people, then the *company* is going to start making *more mistakes* and *maybe*, cutting corners."

As mentioned earlier on the show, on December 20, 2008, Marine Harvest experienced a fish escape from a net pen housing 45 000 salmon. That farm happens to be located not far *from* Klemtu within the territory *of* the Kitasoo First Nation.

soundbite

And this is Deconstructing Dinner.

Now I did pose this question *to* Catherine Stewart *of* the Living Oceans Society as to whether or not *she* believes the expansion at some of Marine Harvest's hatcheries is a sign that the company is expecting their production increase applications to be approved. Catherine does not dismiss the idea.

Catherine Stewart: Well that's certainly one way to look at it. I mean it's extremely worrying. And the fact that we were barely made aware of the applications for amendments before discovering that two significant amendments had been granted to Marine Harvest in the Discovery Islands region; not aware of any public consultation that took place; not even aware that there was any consultation with the First Nations in the region which would be quite shocking if that were proven to be the case. It's very worrying and I think it again points to the fact that there's an election coming up and the voters need to be asking candidates from all parties about their position on the expansion of this industry, their position on the damage being caused by open net cages and what their party's prepared to do about it.

JS: Curious as to whether the expansion plans at Marine Harvest's hatcheries were known to groups like the Living Oceans Society and the Coastal Alliance for Aquaculture Reform, Catherine shed light on another concern that is also suggestive that Marine Harvest's headquarters in Norway, may very likely be looking to Canada to increase production and make up for some serious concerns the company has been encountering in Chile.

Catherine Stewart: I was certainly aware that there was an expansion going on at that hatchery, not aware of the details so I appreciate you sending me the investment amounts and the estimated smolt production amount, and it is a real concern. At this point we know that the Company's agenda is certainly to expand production. Part of that is in light of the fact that they can't even meet the existing demand because of the shortfall in production in Chile due to the massive ISA outbreaks. Infectious Salmon Anemia has spread like wildfire on the farms owned by Mainstream and Marine Harvest, and AquaChile and other companies on the Chilean coast. They've lost hundreds of thousands of fish, they've had to cull entire farms and kill off the whole stock, there are huge job losses in Chile—but at this point they have a shortfall in production because of those Chilean losses and I'm sure they'd like to make it up by increasing capacity in British Columbia. It's going to be up to all of us to keep that at bay.

JS: The crisis that hit the salmon farming industry in Chile is likely one of the greatest environmental impacts to

ever hit the global farmed salmon industry.

As indicated, Marine Harvest's operations in Chile were hit hard, with the company having announced that it had cut its overall 2008 production by 50 000 tons (which, to give you an idea of how much that is... the total for *all BC* production is often between 70-80 000 tons) - so we're talking a significant amount here. Hundreds of jobs were *lost* in Chile because of the ISA virus.

The threat of the virus gets even worse, when in early January of this year, 2009, that *same* virus was detected in Scotland among farmed salmon there. The government is currently taking action to prevent the spread of the virus. ISA has affected Scottish fish farms in the past and so too had it once affected farms in New Brunswick.

Now this ISA outbreak raises a number of important issues - for one, it is reminiscent of the concerns that *land-based* factory farming has been increasingly faced with in recent years - from avian flu to mad cow disease, the risks of disease among intensively confined animals is not so surprising. The recent spread of ISA appears to be yet *another* sign that Mother Nature is signaling that this method of raising food is *not* sustainable. As humans have proven through past experiences, we *rarely* heed nature's advice.

This ISA concern *also* points to *another* hot topic within the controversial salmon farming industry - jobs. The prospect of employment is likely the leading defense used *by* the industry in British Columbia to *encourage* the expansion of fish farms along the B.C. coast. The ISA incident in Chile is sending a clear warning, that the environmental sustainability of fish farming is indeed questionable, and as North Americans are *increasingly* discovering, the job security found in any industry, is greatly dependent on the environmental sustainability of the *resources* required *for* those jobs.

While ISA has *yet* to affect B.C. salmon farms, companies like Marine Harvest *continue* to push the job message as the primary reason to support the growth of the industry.

Global TV interviewer: Alright, special guest in with us: Ian Roberts from Marine Harvest Canada is with us. He is going to be with a booth at Eat Vancouver, which is this weekend and talk a little bit about salmon is what you are involved in. You're in the farmed end of salmon so tell us a little bit about the farming end of salmon.

Ian Roberts: Well this week we're at Eat Vancouver for the three-day food show representing B.C. salmon farmers I work for Marine Harvest Canada who is a member company of the salmon farmers. We employ 500 people on the northern part of Vancouver Island and produce farmed Atlantic Salmon for the market. We produce about 40 000 metric tons a year of farmed salmon...

Global TV interviewer: Now tell us obviously there is a great debate in our province about wild and farmed salmon and we always hear of the wild salmon part and we thought we'd have you on because you guys are going to be at this event this weekend. Obviously is this some way to try and help with your image, being at an event like Eat Vancouver?

Ian Roberts: Well certainly we've been at the show now for every year so this is the seventh year we've been at the show and certainly we are concentrating now on communicating out to the public about our product, certainly. There are a lot of good news stories around our product, the employment factor for one; the fact that it has the ability to supply that demand for salmon, because everybody now wants to eat salmon because of all of the wonderful health benefits that everyone realizes. So I believe in this province there is room for both wild and farmed and we are down in Vancouver to discuss our farmed product. You know there are stories like Klemtu where I used to work (a place dear to my heart) where 20 years ago they embraced salmon farming and now that has reduced the employment from 90% to 40% unemployment in the village. Sixty people out of 450 people in this village work: the Robinsons, the Nicelawsons, the Hopkins. It's a really good news story that I think people

need to know about.

JS: And this is Deconstructing Dinner and part II of our series on salmon farming off the coast of British Columbia. The title of the series - Norway, British Columbia - and the reason for the title is that the three largest companies operating in BC are Norwegian - representing 96% of total production.

We've been focusing on one company quite a bit here - Marine Harvest, who is the largest of the three, but the *second* largest is Mainstream, whose parent company is Cermaq. Now that company is best introduced by first introducing yet *another* concern that groups like the Coastal Alliance for Aquaculture reform would like the public to be aware of. It appears that applications for expansion of *current* farm sites is only one strategy the industry is using to circumvent public opposition and strict regulations. Another strategy according to the Living Oceans Society that has been used for years is to over-produce - that is produce *more* fish than their permits *legally* allow them to cultivate. In October 2008, Living Oceans released some of the numbers on just how much has been over-produced, and the Society's Catherine Stewart explains.

Catherine Stewart: In this instance we were talking about Mainstream on their farms in the Broughton Archipelago and actually it took an awful lot of digging. It originally came about because every year the government issues a compliance report around fish farm adherence to the regulations in B.C. and generally it's a fluff piece that claims that there's you know 99.9% compliance and industry's doing an absolutely brilliant job. Buried in that report, in the latest report, was a line that said that eight farms were out of compliance with licensed productions so we started asking questions: What farms? Where? What company? We couldn't get any answers out of the Government but then a report was done for the Pacific Salmon Forum that included a production chart and when we saw the graph illustrating Mainstream's production in the Broughton, that lead to more questions and then through some backdoors and some very quiet discussions with people in other Ministries we managed to get hold of some of the data and were able to put the pieces of the puzzle together to reveal that basically Mainstream—assuming, you know, the two-eighteen month production cycles over three years—the maximum amount that they could legally produce on all their Broughton farms combined would be around 14 600 metric tons during that three year period and in two-three year cycles for example from 2004 to 2006 they had produced 28 200 tons. So, you know, almost double. And the same applied when Mainstream was just acquiring some of those farms from Heritage from 2001 to 2003, so basically the total above license limit production from 2001 to 2006 was about 23 000 metric tons of illegally produced fish.

JS: Now to further illustrate the lack of accountability on the part of the Province, the one line that Catherine refers to that suggested something was awry, read this, "Eight sites were found to be in excess of their production limit." The report failed to identify the responsible company, the sites, *or* the extent of over-production.

And so given the Province was clearly aware of the violations, the question of course is, what were the penalties?

Catherine Stewart: The Province's response was that they have basically instructed Mainstream to stick to their license production levels. It doesn't sound as though there will be any fines, any recriminations at all for the overproduction.

JS: We'll be exploring the effectiveness of the Province's management of fish farms in much greater detail on next week's broadcast when we'll learn more about a B.C. Supreme Court case that is currently awaiting a decision that could come at any time regarding whether or not the Province *should* legally and constitutionally be responsible for the management of open-net fish farms.

Having seen the extent to which overproduction has taken place among B.C. salmon farms, Catherine Stewart is certainly *one* of those people who questions the Province's actions.

Catherine Stewart: To the best of our knowledge it appears to be isolated but we have no concrete proof of that because most of the figures around license levels of production and actual production and site by site production figures are regarded as proprietary by the industry and the Province doesn't release them and it's extremely difficult to obtain that information. So the citizens of British Columbia, apparently, according to our government, have absolutely no right to know what's being done in our coastal waters—legally or illegally.

JS: Now as for the message the Province is *telling* the public, we can revisit with the tour that I embarked upon back in October 2008 as part of the 2008 Conference of the Canadian Farm Writers Federation. While on the bus enroute to Marine Harvest's Big Tree Creek Hatchery, we were escorted by Bill Harrower - the Province of British Columbia's Manager of Regional Operations for Aquaculture Development based in Courtenay. Bill helped introduce the industry to delegates, and helped convey how *little* the industry has been growing within the past decade. However in light of the Living Oceans Society's discovery that *significant* overproduction has been taking place within the industry for quite some time, I asked Catherine whether Bill's comments should be put into question. Catherine also reintroduces the discovery highlighted earlier on the show that the companies operating in the industry seem to go along on the assumption that expansion of their operations will simply be rubber-stamped.

Bill Harrower: Really the industry started in the early eighties so you can see that's your 0 point. It is now about 80 000 metric tons but it's been running about—depending on production because it changes from year to year—70-80 000 tons for the last, I would say, eight years, ten years. So somewhere in that area it has been basically static.

Catherine Stewart: Well I would question that. I mean that, I think this overproduction resulted because the company assumed that their applications for amendments to their production levels would simply be rubber stamped and approved by the Province because—obviously—that has been the case in the past. That was their expectation and I don't think either the company or the government anticipated the growing level of public opposition to expansion of this industry that they would be met with and particularly the entrenched and rigorous opposition by coastal First Nations in the Broughton Archipelago region, they have to be consulted about license renewals, license approvals, new farms, amendments applications and they are adamantly opposed and extremely concerned about the impact that these farms are having on traditional food sources and their traditional territories. When the overproduction was first revealed the company claimed 'well what would we have them do they've been raising the smolts in the hatchery, good animal husbandry practices would just be the antithesis of good husbandry practices to kill all of those fish'. Well they had no right raising those fish in the first place. They didn't have the license approvals for the farms where the fish were destined to go.

So I think what's been happening is that the industry has been assuming that the applications will be rubber stamped because the government policy has been full support of the industry, bury your head in the sand, ignore the mounting weight of scientific evidence pointing to problems with these farms and full steam ahead, and I think the Ministry has turned a blind eye to the overproduction until they simply couldn't avoid it anymore.

JS: Again you can expect much more coverage of this controversial issue of open-net salmon farms as we continue with this Norway, British Columbia series on next week's episode. We'll hear from some new voices including well-known critic of open-net salmon farms Alexandra Morton, including an exclusive interview with Alexandra outside of a B.C. Supreme Court house and a short audio clip of video that Alexandra was a part of and that was played before the Annual General Meeting of Mainstream Canada's parent company Norway's Cermaq. The video was calling for an end to the presence of the company's salmon farms in British Columbia.

To close out today's broadcast, we'll leave you with some *final* words from Catherine Stewart - the Living Oceans Society's Salmon Farming Campaign Manager. She responds to my question regarding the role of the media in posing hard questions about salmon farms to candidates running in the upcoming provincial election.

Catherine Stewart: In the provincial election? Absolutely! In fact I'd go beyond the media and I'd encourage every

voter in British Columbia to ask all candidates from all parties, what is your party prepared to do to address the impacts of fish farms and when are you going to do it? And don't let them get away with "oh we're committed to sustainability" You know, that's bafflegab. What are they going to do, how soon are they going to do it? Are they prepared to commit money to trigger the development of closed containment? Are they prepared to embark on a transition strategy, by what date? Pin them down and ask them the solid questions that need to be asked.

Ending Theme:

JS: And that was this week's edition of Deconstructing Dinner, produced and recorded at Nelson, British Columbia's Kootenay Co-op Radio. I've been your host Jon Steinman. I thank my technical assistant John Ryan.

The theme music for Deconstructing Dinner is courtesy of Nelson-area resident Adham Shaikh.

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