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June 17, 2011

Ministry of Forests, Lands and Natural Resources Operations
Via email to: WestCoast.LandReferrals@gov.bc.ca

**Re: Land File #1413555, Licence of Occupation Tenure application for Plover Point
- Fortune Channel by Ewos Canada Ltd. (dba Mainstream Canada)**

Georgia Strait Alliance (GSA) is made up of organizations, businesses and individual members from around the Georgia Basin and beyond, with a common goal, which is to protect and restore the marine environment and promote the sustainability of Georgia Strait, its adjoining waters and communities. Our interests extend beyond the Strait of Georgia as we work with our partners in the Coastal Alliance for Aquaculture Reform towards a BC coast-wide solution to transition away from harmful net-cage aquaculture and into more sustainable closed containment technology.

GSA has been studying open net-cage salmon farming and its impacts for over two decades. Thus, we have serious concerns about introducing another salmon farm proposed for Plover Point in the Clayoquot Sound UNESCO Biosphere Reserve. We therefore ask that the Provincial government deny the application for a Licence of Occupation to Ewos Canada for Plover Point.

Marine Wildlife and Economy Put at Risk

Sea lice, diseases and waste originating from net-cage salmon farms pose a serious threat to wild salmon, other species and marine ecosystems, and the economy which a healthy marine environment supports. Clayoquot Sound is home to declining runs of wild salmon which will be put at increased risk by adding another net-cage salmon farm to the Clayoquot Sound UNESCO Biosphere Reserve.

The company's application includes a stream survey which identified four fish-bearing streams within the immediate vicinity of the proposed farm location, finding coho salmon, cutthroat trout, rainbow trout and prickly sculpin. BC siting criteria dictate that sites must be located at least one kilometer from the mouth of a salmonid-bearing stream. The tenure boundary is located less than 1 km from the mouth of Rollingstone Creek, where the company's stream survey found coho salmon within the stream and coho salmon and cutthroat trout within 100 meters of the mouth of the stream. Suggestions have been made that the distance of 1 kilometer from the net-cages is all that is required, however, the siting criteria state the distance from the "site", which is not defined but is arguably the tenure boundary. This site location does not comply with BC siting criteria and therefore must be denied.

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Locating a salmon farm so close to the mouth of fish bearing streams presents an unacceptable level of risk to wild fish migrating past the proposed farm. Juvenile wild salmon migrate through

Fortune Channel from other streams outside the immediate area, and these fish would also be exposed to increased risk from sea lice and diseases from the proposed net-cage salmon farm.

The inadequate stream survey fails to identify the subspecies of trout found in the streams. Therefore, it is unclear whether blue-listed cutthroat trout found in the area are present in the surveyed streams. Provincial siting criteria require that sites must be located within an appropriate distance from areas of "sensitive fish habitat" as determined by DFO and the Province. The species of cutthroat trout found in these streams must be determined before this application can be considered further.

The Wild Fish Conservancy studied sea lice infection rates on wild juvenile salmon in Clayoquot Sound in 2009 and 2010 and analyzed the data to determine whether there is a direct correlation between infection rates and the open net-cage salmon farms in the region. Their findings of a very clear and direct correlation showing fjords with more salmon farms had higher infection rates of sea lice on juvenile salmon fit with the world-wide weight of evidence.

Not so for research conducted and reported on by the tenure applicant Mainstream Canada and their partners in the Clayoquot Sound Sea Lice Working Group. The Mainstream study concludes that sea lice infection rates increase with salinity, which has already been determined. The company's study also tries to persuade us that salinity plays a greater role on lice levels on wild juvenile salmon than sampling location. Curiously, however their study does not consider location of salmon farm sites. If farm sites are considered, the company-led sampling took place at twice as many locations upstream or distant from the farms than at locations downstream or near the farms, prompting serious concerns around Mainstream's study design and interpretation.

The Wild Fish Conservancy study is consistent with research in the Broughton Archipelago, Discovery Islands, and other areas around the world where the sampling methodology was balanced and credible, assessing sites both distant from and in close proximity to farms. Wherever net-cage salmon farms operate, sea lice levels on wild juvenile salmon migrating past the farms are found to be elevated above natural background levels. Adding another salmon farm in the Clayoquot Sound Biosphere Reserve will increase lice levels on wild salmon and potentially expose them to other disease outbreaks as well.

A recent scientific paper regarding salmon farms and impacts of sea lice on wild juvenile salmon has been published in the Proceedings of the Royal Society B. journal. This

paper focuses on siting of fish farms in relation to each other, which is the jurisdictional issue in this application. According to the paper *Sea lice and salmon population dynamics: effects of exposure time for migratory fish*, “these results indicate that the duration of exposure of juvenile salmon to sea lice is important to sea lice and salmon population dynamics. For policy, this means that coastal planning and management should consider minimizing the exposure time of juvenile salmon to

sea lice from multiple salmon farms sited sequentially on migration routes in addition to the abundance of lice on individual farms”. Fortune Channel is a wild salmon migration route already compromised by four salmon farm operations, and should not be compromised further by adding yet another salmon farm at Plover Point.

In addition to the risk a new net-cage salmon farm at Plover Point would pose to salmonids, many other fish and marine life, and the industries they support, could be impacted. The exact location of the proposed farm and the surrounding area is used for commercial prawn fishing. Crab are also fished in the area. The drug used by salmon farms in BC to treat their stock for sea lice infections is emamectin benzoate or SLICE™. SLICE™ kills the crustacean sea lice, and poses a threat to crustaceans in the vicinity of the farm at the time of treatment, such as crabs, prawns and shrimp. Spot Prawn, Dungeness Crab and Red Rock Crab were all found within the proposed tenure boundaries by the company’s site surveys.

Herring spawning areas are very near the proposed site location, at Plover Point and around into Mosquito Harbour. A study on sea lice infection on wild juvenile pink and chum salmon conducted in the Discovery Island region incidentally found sea lice on herring as well¹. This study found the same pattern of increased sea lice infection rates near salmon farms than infection rates away from the farma. Locating a salmon farm so close to herring spawning grounds would put those fish at risk of increased parasite infection loads.

Plover Point is a nearby sea lion haul out, and seals, orca and porpoises also use the area. A farm at Plover Point would pose a serious threat of marine mammal entanglement and extermination by farmers as nuisances. BC siting criteria require that sites be located an appropriate distance from areas used extensively by marine mammals, as determined by DFO and the Province. Within a few kilometers of the proposed farm site, 51 sea lions were entangled in salmon farm nets in just one incident in 2007. Clearly this location does not comply with BC siting criteria in relation to extensive marine mammal use in the area.

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¹ *Sea lice infestation of wild juvenile salmon and herring associated with fish farms off the east central coast of Vancouver Island, BC.* Alexandra Morton, Rick Routledge and Martin Krkošek

Placing a salmon farm at Plover Point also puts extensive eelgrass beds within the tenure boundary, which provide critical habitat for many species, under unnecessary threat from pollution from waste and chemicals originating from net-cage salmon farming operations. Siting criteria require the location to be an appropriate distance from areas of sensitive fish habitat. Extensive eelgrass and kelp beds found within the tenure boundary are not located an appropriate distance from the proposed net-cages and put this application offside with Provincial siting criteria, therefore this application should be denied.

Provincial siting criteria also require shellfish beds to be located at least 300 meters from inter-tidal shellfish beds with regular or traditional use by First Nations, recreational or commercial fishers, and 125 meters from all other shellfish beds. There are regularly used clam beds within the tenure boundary, and therefore this site does not comply with Provincial siting criteria and must be denied.

Other human uses within the area were poorly identified or omitted within the company's application. A kayak route was identified but was placed outside the tenure boundary, when in actual fact kayakers must traverse the shoreline within the tenure boundary for safe passage to avoid strong winds and currents. Eco-tourism operators were also not identified as users of the area, and include bear and whale watching companies, as well as commercial kayak operations. Net-cage salmon farms interfere with the natural beauty and tranquility of the area, and are not compatible with eco-tourism uses.

The Clayoquot Sound UNESCO Biosphere Reserve was established in 2000 and fuels a local economy of eco-tourism, and recreational and commercial fishing. Adding another net-cage salmon farm in the Biosphere Reserve is not consistent with the Biosphere Trust's vision of sustainability within a healthy ecosystem, and puts the existing local economies at risk. Salmon farming is clearly not sustainable given the spread of disease and parasites to wild fish and pollution of the local environment, and the risk it poses to the existing economic activities in the region.

Deny Mainstream Canada's application for a Licence of Occupation at Plover Point

We trust you will find balance in support of the jobs and communities in your region that are dependent on a healthy marine environment and wild salmon. The evidence of the damage wrought by open net-cage salmon farms is constantly mounting. We therefore once again ask that the province deny this application for a Licence of Occupation in the sensitive ecosystem of Fortune Channel and the Clayoquot UNESCO Biosphere Reserve.

The body of scientific research implicating salmon farms in negative impacts on marine ecosystems and wild salmon is extensive. Furthermore, the Cohen Inquiry into the collapse of 2009 Fraser River Sockeye is examining the role that salmon aquaculture, among other things, may have played in the collapse, and could reveal ramifications to wild salmon populations generally. Therefore, we also ask that the Provincial government place a permanent moratorium on net-cage aquaculture in BC while fostering development of a sustainable closed containment industry here in our province.

Inadequate Public Consultation

Significant deficiencies occurred in access to the Province's Applications and Reasons for Decision webpage, including the page being down for a considerable length of time and broken links to documents regarding the tenure application which are critical to allowing the public to voice their concerns regarding this application. Additionally, we feel that Mainstream Canada's open houses in Tofino and Port Alberni, only a few days prior to the submission deadline, did not allow sufficient time for concerned citizens and stakeholders to verify information provided by the applicant at the open houses. The public consultation was not adequate and we request that the deadline for submission of comments on this application be extended.

Thank you for your consideration. Please see our website for more in depth information at www.georgiastrait.org.

Sincerely,

A handwritten signature in black ink, appearing to read 'myj', written in a cursive style.

Michelle Young
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