	Tell us about why you think the application will impact the water environment. - Q5 - open text box one	Tell us about why you think the application will impact the water environment. - Q5 - open text box two	Tell us about why you think the application will impact the water environment. - Q5 - open text box three	Tell us about why you think the application will impact on people who use the water environment. - Q6 - open text box one	Tell us about why you think the application will impact on people who use the water environment. - Q6 open comment box two	Tell us about why you think the application will impact on people who use the water environment. - Q6 - open text box three
1	Even without reading your detailed information contained herein, the public notice on page 25 of the Isle of Bute News describes the controlled activities as , and here I quote verbatim, ...The discharge to the water environment of fish excreta, uneaten food and other substances resulting from the operation of a new marine pen fish farm....this is sufficient in itself to cause great alarm to residents , tourists, fishers and nature lovers. To quote from your own website " Our aim, when it comes to the water environment, is to help preserve and improve the quality of our lochs, rivers, estuaries, wetlands, groundwater's and coastal waters so that they are sustainable for the future" This mission statement that you have is diametrically opposed to the planning of any open cage fish farm in any Scottish waters.	We have a healthy supply of shellfish in our waters together with a large population of seals, porpoise, dolphins and even Minke whales on occasion. All these marvellous marine creatures add to the diversity and draw to users of our waters.	Considering substances that a fish farm introduces into a natural marine environment, these are the uneaten food pellets, the fish faeces , the sea lice, both dead and alive, that are removed from the salmon and the toxic chemicals that are in constant use in order to keep as many salmon alive as possible. There are then the pieces of cage, netting, general fish farm detritus that line our lochs all over Scotland.	A fish farm will hinder line, net and creel fishing, it will be off putting to wild water swimmers (we have many of them on Bute) , kayakers and yacht and boating users	The tiny tranquil settlement of Kilchatten Bay will be affected by noise and light pollution as the fish farm boats take off and return	As I stated previously, all and every excretion from a fish farm is poisonous to the environment. Nothing can live under the assault of chemicals, lice, uneaten fish pellets and faeces .
2	It is well known the waters around fish farm pens suffer from the effects of tonnage of faecal matter through which the fish have to swim as it drops to the sea bed, and the affect on the seabed of uneaten fish food. The presence of huge amounts of sealice either dead or alive and of course the chemicals used to clean the cages, all impacting on the hitherto fresh clean environment in which our pretty wonderful sea life here survive and rely on . Of course as SEPA you do realise this and I was sorry to see the water area you have chosen is an immense one..The Firth Of Clyde ....in fact it is the area around Southern Bute that will feel the impact of the filthy discharge of the fish farm to the detriment of the people who live and work here and rely on tourism from the natural beauty of the waters around this island , especially the WestIsland Way ... the noise and light pollution is well documented coming from fish farm maintenance. The tidal flow brings plenty of " normal" debris into Kilchattan Bay and now we are under threat of fish farm discharge. Unacceptable. It has been noticed the shorelines around fish farms are littered with bits of debris from the pens... also rats are perhaps attracted to these shorelines with the food debris landing on the rocks.	We have a large area of shellfish such as lobsters and langoustines in this immediate area. Local lobster boats use it ... the shellfish we have is in abundance and people rely on the freshness and safety of this for their business. Fresh water necessary for safety . We have otters thriving all along this coastline although I've yet to find an elusive set! Orcas, dolphins, porpoises, seals enjoy this particular area as their natural habitat . Tourists flock to see them and bring money and work to the island . Surely it's in your job description to protect this environment, not to encourage what can be a noisy dirty industry. ADDs if they are used will also affect the above marine life .. no idea what kind of seal deterrent is suggested here ... also it is still legal to shoot a seal that is attacking a net apparently. Through the USA insisting no harm should come to marine animals way of life through ADDs and seal shooting , this industry is having to have a deeper look at itself...it has to, to earn money for the shareholders. The waters here can be fierce as seen by what happened to the two huge ships anchored at Hunterston a few weeks ago....winds and tides strong enough to create an near environmental disaster, allowing these huge ships to break their moorings .... who on earth can stop nets full of trout breaking free in one of these not uncommon storms ? Allowing these fish to help destroy the wild fish that swim in these waters.	I am going to have to check on the names of the chemicals now used to clean the nets.....they are of course supposed to be within legal limits, but it's well known very few checks by authorities have been made in the past , relying on the honesty of each fish farm (!) Indefensible. Poor working practice . I believe the fish are being blasted these days by high pressure water to get rid of sealice.....sealice ending up where? All experimental I expect at the moment.	Sailors, open water swimmers, fishermen, lobster fishermen will no longer have use of this part of the island water. The nets will force them all further out into the Firth which is not at all safe being a major sea traffic lane ....the anchors to hold these nets will stretch from almost the shore far out towards the channel	Open water swimmers use this stretch of water on way to the lighthouse Lobster fishermen rely on the catch here Small pleasure boats will need to take a wide sweep out into the river , dangerous as many of us have found out to our costs..the tides can be fierce here.. The Hawks Neb is a well known beauty spot not just for we locals but also tourists .. especially with the Covid crisis more and more people have elected to settle on Bute because of its unspoilt beauty. . On a very personal note it is used by many on Bute to scatter beloved ones ashes into the waters here. The area is that special .	I would have to have another more up to date read about the chemicals being legally used. I'm not at all impressed by the fact that fish farms do not have regular spot checks to ensure the correct use of chemical amounts are being used .... stringent regular tests needed and spot checks too. It's been documented in the past how many fish farms were checked in last few years and it's a disgrace . I am hoping SEPA will bring in stringent tests to ensure legal safety measures are being applied .
3	Could you please investigate the prevailing current. The fish farm is directly south of Kilchatten Bay. An area popular in the	Otters have now made there home in the area and are becoming a visitor attraction.	Particularly concerned about the Seabedand the pollutants. The marine inhabitants are on a knife edge as a result of over fishing	Bathers in Kilchattan Bay will be effected if prevailing current causes polution.		

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	summer with visitors and children swimming in the water.		and need every chance they can get to recover.			
4	All the forms of discharge from the proposed fish farm are environmental pollutants especially as they will be so concentrated. Bute is an island that relies heavily on tourism and blighted waters and their impact on the environment and local marine life are therefore detrimental to the island.	Bute is an island that relies heavily on tourism and blighted waters and their impact on the environment and local marine life are therefore detrimental to the island.	PCBs dioxins DDT dieldrin canthaxanthin emanectin benzoate	Chemicals detailed above cause cancer making the water unsafe for leisure pursuits that currently take place.	Wild swimming, paddle boarding, fishing, general use of Kilchattan Bay	
5	I have responded to the Great and Little Cumbrae proposals as well. With some slight amendments relating to the different locations, much of this submission will repeat my earlier ones. I am well aware of the environmental impact of effluent from fish farms whether faecal, food waste or chemical. The area of the proposed cages is an important fishing area for both local fishing boats, mainly deploying creel lines and pots, and amateurs fishing from the shore or from small craft. The waters of this part of the Clyde have in recent years recovered remarkably well from the days when sewage waste was dumped in the area and before many of our communities were linked to sewage treatment systems, having been heavily reliant on direct discharge into the sea or via septic tanks. This recovery has resulted in the return of many fish species which had become scarce and the resultant return of larger marine animals such as harbour porpoise, dolphins, basking sharks and even whales and orca. This development will set back this recovery. I am a bit surprised that the applicant has not made more of the prevailing weather conditions which are mainly from the south west. Arran and Bute itself may provide some protection but the seas can be extremely rough at times in the winter. Cage damage or breakdowns in the anchoring/moorings have been may times a huge concern for environmentalists, in particular escapees diluting native wild stocks of sea trout and even salmon. Recent incidents nearby have highlighted these concerns. The west coast of Great Cumbrae, particularly the popular Fintry Bay area is going to be very vulnerable to any breakways or damage.	The proposed area is close to habitats of lobster, prawns, crab etc and particularly in the direct line of many of the migratory fish such as mackerel which feed along this coastline during the summer months. Algal blooms are not uncommon and these will become more common with the deposits from the cages encouraging them. More importantly perhaps, the seal population in the area is relatively large and healthy and there does not appear to be any mention in the applications about how Dawnfresh are likely to deal with seal attacks on the nets, which will result in escapees as well as losses of stock. As mentioned the porpoises and dolphins as well as large cetaceans are more frequently seen in the area and are likely to be disturbed by effluent or to disturb the caged stock as well as possible countermeasures deployed by Dawnfresh such as seal scarers or other sonic devices.	I am concerned, about all of the chemicals mentioned as being used. I am unconvinced by the survey results as to dispersion or by claims that chemicals have little or no significant residual impact on the treated fish themselves and its possible transmission into human and other food chains, either directly or indirectly. Additionally the effect on the marine life of the immediate area is by no means clear. I am especially concerned about the concentrations of chemical dispersion and residues in Fintry Bay on Great Cumbrae as the models seem to indicate high levels.	Effluent from cages is a pollutant. The waters of the Clyde are significantly cleaner than they were 20 years ago. Particularly in these post-covid 19 pandemic times, many more users of these water environments are going to be making use of the facilities provided locally which will enable them to enjoy sports and activities that use these waters.	The area is popular with yacht racing, regattas, coastal rowing, kayaking and other water sports. Diving is also popular in this area both for scallops. Fishing is a regular past time for many. It is also a popular route for trolling for mackerel which become abundant in the area in the summer. Commercial fishing is also likely to be impacted. The channel between Bute and Great Cumbrae is a busy shipping channel with large cruise liners as well as container and other commercial ships frequenting the route to and from the south and Greenock/Glasgow and Hunterston. The water environment may not have a measurable or significant impact on shipping but shipping, may have some impact on the cages causing damage or stress to the caged fish.	As in my previous reply
6	Over the past 5 years I've continually towed up dead salmon in the Rothesay Bay Area I have sent numerous pictures to the local association who I'm part of Clyde fisherman's association nothing has been done hundreds of boxes worth of fish all dead and been dumped to save money.	Anything that lives on the seabed will be impacted by this so the prawns I catch to make a living	They use clorophornic acid to clean the tanks would you jump in the sea when it's full chloroform?? Because up in Mallaig locals can't walk there dogs on certain beaches. Paws all burnt. I have sent all relevant photos etc to clyde fisherman's association	Serious adverse side effects from all the chemicals they pump into water	Fishing sailing swimming. Commercial fishing.	Anything with chloroform in it is no use for the habitat on the seabed

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7	The water environment would be polluted by high concentrations of fish excrement, food waste, and medications used to treat the fish. It would impact the visual natural beauty of the water, the ability for wild swimmers and kayakers from using the water environment in that area. The wild fish and other sea life in the water environment would be deleteriously affected by the waste, chemicals and medications, sea lice, escapees, and noise disturbance.		The types of food that are fed to the farmed fish, the quantity of excrement, the many pharmaceuticals.	It will impact on people who enjoy the natural and beautiful isolated environment when they walk on the coastal path which is part of the designated nature trail of the West Island Way, a very important and popular walking area for both residents and tourists who come to Bute to enjoy the natural environment. It will impact on people who swim in this area, the people who participate in boating and kayaking in this area, and on the people who come to the area to enjoy the beauty of this unique coastline in peace and quiet, photograph the seascape and wild animals, or paint the beautiful views.	Walking the West Island Way, exploring and studying the coastline, sitting for rest or picnics in a unique beauty spot, swimming, boating, kayaking, photography, painting.	Excrement, fish food waste, pharmaceuticals.
8	It will destroy a beautiful part of the island. Please don't do it. There are families of otters and seals. The landscape is beautiful. Its hard to get to but once you are there it iOS the most beautiful part of the island. If you put a fish farm there you will kill of woldflife. You will add pesticides to the water. Y6ou will have too many fish in one place and that brings with all sort if different pollution.	Stop being smart. It will destroy the local village as a habitat for humans. ,. It will destroy the coast line for tourists - so that habitat is a touriust one we couldnt swin there or any where near there \you will completely destroy the village. it will destroy marine life in the area either by introduicing too many of the one species or by getting rid of potential predators such as otters, seals to nme a few.	Again this is a smart arsed question. There is a worry about pesticides also fish poo washed up detritus from the farm. Such as dead fish and equipment. Pesticides used in farming. Even if you say they arent used. They are!!!!!!! The questions are leading and this isnt a fair questionnaire.	Oh for goodness sake. It will destroy the area. We cant swim. People cant go in to the bay on boats. There will be washed up detritus. Too much traffic on the road and in the water.....i can go on	Again leading. Kilchattan bay will be destroyed as will the bay and the landscape where the farm will be silted. Its not wanted. You will have a real problem on your hands if you start top put one there	The chemical and substance is greed and ignorance Please listen to local people and dont put the farm there. I for one will go out of my way to stop it.
9	It's already proven that pollutants from similar farms effect the water quality and as a regular swimmer I'm very concerned with this also the effect on the environment regarding the sonar protection measures our local marine Mammals will be adversely effected by these.. The delicate ecological balance will be upset by this proposed farm.It has already happen that farmed fish have escaped other local farms having a devistating effect on the natural fish . The exposed position does not lend itself well to this being a safe proposed caged area . It will happen again. Why are they not building on land brown site farms where the out put waste can be disposed of safely. Do not bump it in our seas!	What about the the-migrating sea mammals that use this route the local dolphins , porpoise seals and otters that will be impacted by the pollutants of chemicals waste and noise. These are all sited in this area. The re is no way sonic pollution would note detrimentally effect the Manila in this area	The waste food and fesses falling on to the sea bellow will kill off the Ecco system under them. The chemicals used against lice and antibiotics used will effect all water courses in the area this will effect the fishermen in the area catching natural fish in the area. The water quality for swimming will be effected.	I swim and boat regularly in this are and round this coast the thought of all the pollutants and the effect it may have on me and other swimmer would impact the clean water safety standard expected of this pristine area. The tourists to this island are exciting the safeguarding of this beautiful are it is our duty to insure it is preserved to protect people the environment and local economy from adverse effects	Open water swimming to the light house and back would become hazardous	
10	There will be chemicals, sea lice and faeces floating in the water, washed on to the shore with the high tide of a holiday village where many people swim, fisk and kayak in Kilchattan Bay. We watch the wildlife abounding here around the water: seals, otters, porpoises and sometimes basking sharks.	The wildlife I mentioned above are often seen in the bay itself, and along the shore line to the more open sea before you come to GlenCallum Bay. Human beings would be the most impacted because the Bay is used to wild water swim, to sail small motor boats or rowing boats and to kayak. Many visitors come to paddle and swim in the shallower waters, and have picnics on the shore. The effluent from a fish farm would be atrocious.	All the chemicals that would be used for a variety of reasons on the fish would be horrific in the water where people swim or paddle. The fish excretions for a start would be absolutely horrible to swim in.	I have already mentioned above that very many people swim, sail and kayak in the water in Kilchattan Bay, and to swim in chemicals and excretions washing up with the tide would be appalling.	Many people swim, sail and kayak in the water in the whole Bay. Sailing yachts anchor in the Bay frequently for the peace and beauty.	How do I know what chemicals are used to kill the sea lice on the fish, but it stands to reason that it would not be good to swim around your chemicals and fish excrement.
11	It will impact the water environment by adding fish/detritis/by products to the clean water, polluting it and possible killing off natural inhabitants with lice from the fish.					

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12	It is a proven fact, from the findings from other surveys that he detritus from the rotting food waste and various other chemical waste contributes to a dead seabed, beneath these cages. I often fish, from the rocks around that area.	The local fish, endemic to that area , Cod, Pollack, Saith, Whiting, Salmon, Sea trout , all Shellfish, Prawns, Squt Lobster, Mackeral, scallops, clams, mussels, cockles, lobster, whelks, dog whelks, Clappy Dhus Squid, Eels, Basking Sharks, protected species, that are frequent visitors in the summer around this Island, all types of sea dwelling creatures will be decimated. There are also 2 large seal communities, between, Kerrycroy and Scalpsie bay, that will be affected. This will be both by killing the local indigenous fish stock on which they feed, and the new attraction of pens full of free food. This will undoubtedly lead the these seals being targeted by this business as pests. They currently exist undisturbed.	No. There a huge number of fish farms around Scotland. I am sure there must have been some research done by now about this, so I have no comment. It is the damage to the seabed that causes the problem, and I have never seen any form of report or video online to back up a project of this kind, or even the support of some type for this. There is plenty video evidence online to show dead seabeds, both before and after shots, and the decimation a fish farm can cause to the local environment.	It will lead to a reduced fishing stock, all sorts of problems for the small fishermen and women regarding lobster and shellfish catching. It is a threat to the large seal population we have around this Island, and will be a threat to the Protected Basking Shark population we see around our shores every summer. 2 years ago, a group of 18 Basking sharks were spotted at Dunagiol, just around the corner from this proposed location.	Coastal sea rod fishing. Small business, prawn and lobster fishing. Visual impact on sea view across Clyde. Local fish, and shellfish stock. Also, where do they propose to access this site, if approved from??	As stated above. There are many fish farms around our coasts. This is simply not the location to place one. I am sure there must have been some sort of investigation into the decimation of the seabeds, shown online, created by fish farms. They can move their cages, but the seabed is dead, and what do they do about it? Please do your own research on Youtube, surely this must be part of your job, to assess the impact an application like this will have??
13	No Idea.	N/A	N/A	restriction to bays and coves, due to cages.	N/A	Not a marine biologist, so no concerns
14		Specifically, it is an offence to deliberately or recklessly: capture, injure or kill an otter harass an otter or group of otters disturb an otter in a holt or any other structure or place it uses for shelter or protection disturb an otter while it is rearing or otherwise caring for its young obstruct access to a holt or other structure or place otters use for shelter or protection, or otherwise deny the animal use of that place disturb an otter in a manner or in circumstances likely to significantly affect the local distribution or abundance of the species disturb an otter in a manner or in circumstances likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young It is also an offence to: damage or destroy a breeding site or resting place of such an animal (whether or not deliberately or recklessly) Research also indicates that cypermethrin (a Class C possible human cancinogen) is devastating to marine plankton communities. One such research publication can be found at https://doi.org/10.1016/j.ecoenv.2003.07.001 Specifically, the authors state "...[cypermethrin] immediately reduced zooplankton density and biodiversity not only directly, by killing copepods, but also indirectly, by increasing the numbers of rotifers. Zooplankton density recovered after treatment, but zooplankton biodiversity remained altered." According to (https://en.wikipedia.org/wiki/Basking_shark#Life_history) "...Basking sharks do not hibernate, and are active year-round. In winter, basking sharks often move to deeper	Specifically, Cypermethrin (https://pubchem.ncbi.nlm.nih.gov/compound/Cypermethrin#section=GHS-Classification) is classified as H302: Harmful if swallowed [Warning Acute toxicity, oral] H332: Harmful if inhaled [Warning Acute toxicity, inhalation] H335: May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation] H400: Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard] H410: Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard] Cancer Classification: Group C Possible Human Carcinogen USEPA Office of Pesticide Programs, Health Effects Division, Science Information Management Branch: "Chemicals Evaluated for Carcinogenic Potential" (April 2006) Azamethiphos (https://pubchem.ncbi.nlm.nih.gov/compound/Azamethiphos#section=Safety-and-Hazards) H302 (100%): Harmful if swallowed [Warning Acute toxicity, oral] H317 (79.13%): May cause an allergic skin reaction [Warning Sensitization, Skin] H319 (20.87%): Causes serious eye irritation [Warning Serious eye damage/eye irritation] H332 (75.73%): Harmful if inhaled [Warning Acute toxicity, inhalation] H400 (76.21%): Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard] H410 (78.64%): Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term	I will repeat my previous responses. I have serious concerns about the use of Cypermethrin (https://pubchem.ncbi.nlm.nih.gov/compound/Cypermethrin#section=Evidence-for-Carcinogenicity). According to PubChem, Cypermethrin has a Cancer Classification: Group C Possible Human Carcinogen. It is absolutely unquestionable that the fish will be ingesting this chemical compound and it will persist within their bodies. These fish will then be eaten by human beings... this is highly dangerous and may lead to the unnecessary presence of cancer in human beings. H302: Harmful if swallowed [Warning Acute toxicity, oral] H332: Harmful if inhaled [Warning Acute toxicity, inhalation] H335: May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation] H400: Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard] H410: Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard] Cancer Classification: Group C Possible Human Carcinogen USEPA Office of Pesticide Programs, Health Effects Division, Science Information Management Branch: "Chemicals Evaluated for Carcinogenic Potential" (April 2006) Azamethiphos (https://pubchem.ncbi.nlm.nih.gov/compound/Azamethiphos#section=Safety-and-Hazards) H302 (100%): Harmful if swallowed [Warning Acute toxicity, oral] H317 (79.13%): May cause an allergic skin reaction [Warning Sensitization, Skin] H319 (20.87%): Causes serious eye irritation	Recreation in and around the South of the Island of Bute will be impacted by the proposed fish farm. Having undertaken research on the main pollutants and the disgusting extremely serious health issues associated with their toxicity, I can guarantee that I will NEVER recreationally swim or fish in the local coastal waters ever again if this application is to be approved. I simply care too much about my wellbeing to foolishly gamble catching, handling and eating wild fish or touching rocks or any other parts of the coastal environment if there is a possibility that I could initiate or accelerate cancer within my body. Knowing what I know about the toxic pollutants, if this application is approved, I would certainly design and establish an environmental monitoring solution which would report the results to the local community on both sides of the Firth.	Specifically, I have serious concerns about the use of Cypermethrin (https://pubchem.ncbi.nlm.nih.gov/compound/Cypermethrin#section=Evidence-for-Carcinogenicity). According to PubChem, Cypermethrin has a Cancer Classification: Group C Possible Human Carcinogen. It is absolutely unquestionable that the fish will be ingesting this chemical compound and it will persist within their bodies. These fish will then be eaten by human beings... this is highly dangerous and may lead to the unnecessary presence of cancer in human beings. H302: Harmful if swallowed [Warning Acute toxicity, oral] H332: Harmful if inhaled [Warning Acute toxicity, inhalation] H335: May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation] H400: Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard] H410: Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard] Cancer Classification: Group C Possible Human Carcinogen USEPA Office of Pesticide Programs, Health Effects Division, Science Information Management Branch: "Chemicals Evaluated for Carcinogenic Potential" (April 2006) My previous answers I have provided detail exactly why I am so concerned about the use of the chemical compounds.

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		depths, even down to 900 m (3,000 ft) and have been tracked making vertical movements consistent with feeding on overwintering zooplankton". Zooplankton virtually comprises the entirety of the Basking Shark feeding behaviour. According to The US National Oceanographic and Atmospheric Adminsitration (NOAA) "...Zooplankton are a diverse group of animals found in oceans, bays, and estuaries. By eating phytoplankton, and each other, zooplankton play a significant role in the transfer of materials and energy up the oceanic food web (e.g., fish, birds, marine mammals, humans.)" Further, Zooplankton (https://en.wikipedia.org/wiki/Zooplankton#Overview) "... are primarily found in surface waters where food resources (phytoplankton or other zooplankton) are abundant." The proposed dumping of highly toxic chemical compounds into into the fish pens would have a catastrophic affect on Zooplankton. The physical factor that influences zooplankton distribution the most is mixing of the water column (upwelling and downwelling along the coast and in the open ocean) that affects nutrient availability and, in turn, phytoplankton production. Ultimately the uncontrolled, random dispersal of chemical compound particulates would directly impact zooplankton healthy and hence the wider health and well-being of the wider aquatic ecosystem within the Firth of Forth. Finally, I have serious concerns about the use of Cypermethrin (https://pubchem.ncbi.nlm.nih.gov/compound/Cypermethrin#section=Evidence-for-Carcinogenicity). According to PubChem, Cypermethrin has a Cancer Classification: Group C Possible Human Carcinogen. It is absolutely unquestionable that the fish will be ingesting this chemical compound and it will persist within their bodies. These fish will then be eaten by human beings... this is highly dangerous and may lead to the unnecessary presence of cancer in human beings.	hazard] Deltamethrin (https://pubchem.ncbi.nlm.nih.gov/compound/Deltamethrin#section=GHS-Classification) H301: Toxic if swallowed [Danger Acute toxicity, oral] H331: Toxic if inhaled [Danger Acute toxicity, inhalation H400: Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard] H410: Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard] If dumped into the Firth of Forth (or ANY other aquatic environment), all of the above chemical compounds will results in severe long term detrimental and potentially devastating impacts to the local coastal and wider aquatic ecosystem.	[Warning Serious eye damage/eye irritation] H332 (75.73%): Harmful if inhaled [Warning Acute toxicity, inhalation] H400 (76.21%): Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard] H410 (78.64%): Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard] Deltamethrin (https://pubchem.ncbi.nlm.nih.gov/compound/Deltamethrin#section=GHS-Classification) H301: Toxic if swallowed [Danger Acute toxicity, oral] H331: Toxic if inhaled [Danger Acute toxicity, inhalation H400: Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard] H410: Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard]		

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15	It is well evidenced that the pollution from fish farms enters the marine environment and causes damage to aquatic life and aquaculture. There have been many investigations re this, as SEPA will be well aware of. I am sure that it is not necessary to list them. The Scottish Government's, recent committee of inquiry recommended, a complete moratorium on further fin fish farm development for these very reasons. A direct quote from the SG Inquiry is that further expansion " will place huge pressures on the marine environment and if the current issues are not addressed this expansion will be unsustainable and may cause irreversible damage. " Why is this being allowed to continue. Where are the Green politicians in this desecration of our marine environment ? Why is the general public not being made more aware of the harmful effects ? Why is the Scottish Government not heeding its own report ? I also have concerns re how the industry is monitored and regulated. As I understand it SEPA has not revoked any licences in terms of compliance. The numbers of unannounced visits by SEPA are low and dropping from SEPA's own published statistics. This is despite a quadrupling of fish mortality from 3% in 2002 to 13.5% in 2019. Much of this is due to sea lice infestation and huge volumes of this waste is dumped in the sea. The untreated fish farm waste in Scotland amounts to half the amount of TREATED human waste volume. Why is this being allowed ?	In the Firth of Clyde there are porpoises, a dolphin, seals, and protected otters. Shell fish including scallops and lobsters. Everything on the sea bed beneath a fish farm...and the proposed 10 cage one is huge, dies off. Predating seals can be shot and acoustic deterrents scare off all the bigger fish and other creatures. Very little information is currently available on the effects on benthos, although likely to be adverse. Chemicals used by fish farms is causing concern among Scottish Creel Fishermen due to declines on scallop stocks in fish farm areas. There is also concern re the long term effects of neurotoxin pesticides on scallops and mussels. According to their application this farm would run for 22/23 months and then have only a six week fallow or recovery period. Clearly the marine environment cannot recover in that extremely short time scale. It is understood that this is not the only application for the Clyde Estuary and so there would be a cumulative adverse effect given the proposed volume of untreated waste and toxic chemicals. This would not be acceptable in any other sector. I am deeply concerned re the impact that this proposal would have without a full understanding of the environmental impacts. This report does not provide that. It mentions for example monitoring food and faeces under the cages by camera but gives No answer to what would be done to sort this out. Open cage fish farming is evidenced as being highly polluting in terms of feed wastage, fish excretion, faeces production and the use of chemicals. My understanding is that these high pollution levels have a major adverse impact on the seabed and within a radius of 1 to 1/5 km.	All three proposed chemicals are toxic to the marine environment and the life within it. Pubchem which is a well respected site describes Cypermethrin as " very toxic to aquatic life and has long lasting effects. " It also states that there is evidence of this chemical being carcinogenic and shockingly that as the fish would ingest it and inhale it, that this carcinogen would quite possibly be passed to humans. Deltamethrin is described as being toxic to aquatic life, particularly fish. Azamthiphos is described as being very toxic with long lasting effects to aquatic life. It's really beyond understanding why we are allowing this to continue.	The waters in the area of Kilchattan Bay are well used by children, swimmers and people doing a range of water sports. It is also used by wild swimmers along the very stretch proposed for the South Bute site. Carcinogens should not be entering the marine environment where people are using the water or fishing in it. The carcinogens proposed are listed within the CAR regulations of 2011. It is clear from their own modelling that these carcinogens will be entering the waters at the S end of Bute. The application takes no account of the weather variables in this area, as for some reason Inverkip weather station has been used for information and this is approximately 13miles away from the South end of Bute. Bute has a micro climate, which the hydrographic report does not take into account. The particulate waste from the site is very likely to end up at Kilchattan Bay and indeed is so close into the coast line at Hawk's Neb that there will be a huge plume there as shown in their own models. The report is really not fit for purpose, as in their dispersion modelling, Glasgow Airport is used which is a significant distance away from Bute and therefore cannot be accurate in relation to Bute. The models being used have real shortcomings as they are not accurately predicting where all of the waste will be dispersed to due to current, wind and tide. It takes NO account of the variables at the S end of Bute which would influence dispersal of toxic chemicals and waste. The summary for this application report, the South Bute application, is only around three lines !	As above.	Cypermethrin, Deltamethrin, and Azamthiphos. The fish faeces waste which will be of huge volume. The feed waste. The mortality waste. P42 shows the toxic plume polluting the N end of Greater Cumbrae and the particulates dispersing to the mainland as far as Gourock. So not only the South end of Bute affected but far beyond that and this is their own modelling. This survey is of no use for the Bute application as in fact as it was undertaken within the Greater Cumbrae location.
16	Bute has a wealth of marine life surrounding its shores. The detrimental impact of fish farms on marine life is well documented and proven. This is an area of natural beauty and a fish farm and its associated pollution would be very harmful. The area is used for open water swimming, kayaking and sailing.	We have dolphins, porpoises, otters and seals and occasionally basking shark s and orca. Fish farm ultra sonic deterrents to protect their stocks. Such measures interfere with many marine mammals Communication and navigation and has other harmful effects.	The quality of the water would be impacted by the pesticides used to prevent sealice. There is also a lot of evidence about the amount of faeces these fish farms produce. This, along with pesticides damages the natural ecobalance of the seabed	Bute relies on tourism. We have of visiting sailors who enjoy the unspoiled waters around Bute. We have open water swimming, kayaking, paddle boarding. All these would be affected if this fish farm application were successful. We also have fishermen who rely on these waters for their income.	Bute relies on tourism. We have of visiting sailors who enjoy the unspoiled waters around Bute. We have open water swimming, kayaking, paddle boarding. All these would be affected if this fish farm application were successful. We also have fishermen who rely on these waters for their income. They fish the water around South Bute where the fish farm would be sited.	The pesticides, food and faeces associated with fish farms have been proven to impact on the quality of the water and also on the seabed extending beyond the area of the fish farm itself.
17	The environmental effects on marine life and our shores will be horrendous I don't really want tons of fish faeces, uneaten fish food, chemicals, sea-lice etc washed into the waters from fish farming.	Seals, and occasionally dolphins have been seen in the bay around Rothesay and at Kerrycroy		We occasionally go swimming in the sea ourselves, plus many tourists to the island do as well. I also occasionally buy local wild fish and crabs to eat from the fishing guys The fish will absorb any pollution, and then	We occasionally go swimming in the sea ourselves, plus many tourists to the island do as well. I also occasionally buy local wild fish and crabs to eat from the fishing guys The fish will absorb any pollution, and then	

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				I'm at risk of eating it The cleaner the water is the better	I'm at risk of eating it The cleaner the water is the better	
18	It is hard to decipher the modelling in the documents supplied by SEPA. However, if the farming company are using antibiotics or any other modern drugs in the fish feed then I would assume this will have a negative effect on marine life in the area surrounding the fish farm as well as creating an unhealthy environment for the trout being farmed.	If antiobiotics and/or other modern drugs are contained in the fish feed then this will negatively impact ALL marine life in the vicinity of the farm.	Antiobiotics, growth inducing drugs, water cleaning chemicals. There are may articles in journals and newspapers describing the long term impacts on fish stock due to over use of antibiotics.	The fish farm will pollute the area visually. Current users include footpath walkers, sea kayakers and boat users.	The application states that shore side facilities will be built. Does this mean that road access will be required to these buildings? This is not made clear. Will all transport of fish and materials be by boat or road. Any increase in commercial road traffic through the village of Kilchattan would be detrimental to the quality of life enjoyed by thoose living or holidaying here.	Again, I am very concerned about introducing antibiotics and other drugs into the marine environment. Additionally, the amount of faeces produced by such a densely populated area of farmed fish may have a negative effect on marine life in the vicinity of the farm.
19	As the tide goes out hundreds, maybe thousands of sea birds at times gather to feed off the nutriment left by the ocean. The proposed fish pens are in the path of the incoming tide and I strongly object to the interference this would have on the natural cycle which feeds the birds and I presume other creatures in the sea.			The water environment is also a large part of the scenery observed by visitors to the island. It seems to me ludicrous that the site chosed for these pens is immediately adjacent to the West Island Way path promoted by the Tourist Board and enjoyed an increasing number of visitors.	People regularly swim in Kilchattan Bay and children play on the rocky shoreline. I hate to think of this water contaminated with excess fish excrement or antibiotics.	
20	Extra chemicals, pollution from fish waste will have a detrimental affect on the eco system. Fish farms are notorious for the pollution they causes. Why place on in an area of unspoiled natural beauty. We have seals, otters, dolphins, whales and occasional sharks in the area.	We have seals, otters, dolphins, whales and occasional sharks in the area. The habitat is unspoiled therefore placing a fish farm will have a huge impact on the natural habitat.	We should not be putting any unnatural chemicals into our natural environment- given we now fully understand the impact we're having on the earth and how precious eco systems are.	The proposed spot on Bute is part of the West Island way a hugely popular walking path for locals, visitors and tourists to. The waters round bute attract divers, boats, fishermen etc	Running, swimming, fishing, boating, hiking, bird watching, wildlife spotting	Nothing should go in the water that isn't natural. I'm concerned about the fish waste and excess food, along with the chemicals required for the fish farm.
21	I think the fish farm will damage the beautiful waters around the south of Bute. I don't like the idea of swimming in the water with an excessive amount of fish poo, lice or chemicals. They come to enjoy the views and the beautiful waters of the Bay. The fish farm could seriously damage my business.	I have seen otters when I have been walking along the path by the sea. I really worry that the extra activity in the waters will make them leave. I also worry for the well being of the local seal community who may interfere with the fish farm. Also the existing marine life will suffer from the extra poo, lice and chemicals.	I don't like the idea of any chemicals in this beautiful spot.	See previous comments	Please see previous comments	
22						I am a regular visitor to Bute and I feel that the impact on all wild life and the local residents will be dreadful. So I am just supporting the local residents and wildlife. I so look forward to my visits to BEAUTIFUL Bute,
23	The Isle of Bute is a tourist destination. Anecdotally and on social media we know that more and more people follow the West Island Way. The walk to the Lighthouse with its stunning views would be spoiled by 8 fish farm cages at the Hawks Neb, When the wind blows into the Wee Bay/Kilchattan Bay a fish farm would bring with it fish excreta etc onto the beach and rock pools which is dangerous for children playing on the beach and in the rock pools. Many fishermen go out in small boats and increasingly people are to be seen wild swimming and kayaking. The fixings to the rocks for the cages would severely impact on human activity.	We see many birds on the foreshore, such as oystercatchers and gulls. Seals have been seen in Kilchattan Bay and basking sharks at Kerrytonlia Point. What if the seals break into the cages and release the fish? This will have a devastating effect on the natural fish/wild life.	Fish farming includes noxious additives, ie antibiotics being added to the water. We rely on S.E.P.A. to know/understand what is happening to our wonderful Island.			

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24	Argyll District Salmon Fishery Board has a statutory responsibility to protect and improve salmon and sea trout fisheries in their district and are statutory consultees in the planning process for fish farms. Whilst Srgyll DSFB do not routinely respond to CAR licence applications for fish farms, we believe that the proposed location for this development is inappropriate from the perspective of migratory salmonids and the interests of other water users. There are a number of important rivers and fisheries that would be affected by the proposed farm site. Our primary concern are impacts on wild salmonid fish and this is covered in the section below.	This and other proposed Dawnfresh sites lie on an important migration pathway for Atlantic salmon which all fish arising from the Firth of Clyde rivers, will utilise. We would emphasise that both Atlantic salmon and sea trout are Priority Marine Features – the habitats and species of greatest conservation importance in inshore waters. The proposed development, taken together with the other two proposed CAR licences in this area by the same company, represent a significant additional biomass of farmed fish in an area of the inner Clyde with no history of open cage fish farming. This will represent a highly significant addition of host fish for sea lice on an important migratory pathway for wild fish. It is important to emphasise that the total lice load arising from a marine fish farm is a function of the number of lice per farmed fish, and the total number of fish maintained in the cages. Maximum biomass consented via the CAR licensing system therefore has a direct influence on the number of larval sea lice released into the environment. As set out above, we therefore consider that SEPA must take the potential impacts on wild fish, and the associated impact on interests of other users of the water environment fully into account when considering these applications. Fish arising from many important local rivers, inevitably must migrate directly past the proposed developments on their migration through the inner Clyde, placing those fish at risk from lethal or damaging infestation from sea lice. We would also highlight the potential risk of the effects of escaped farmed species on wild fish populations which is widely recognised within peer reviewed scientific literature (e.g. Glover et al. 2017). A recently recorded instance at the Mowi Scotland Ltd. Carradale North site saw 48,834 farmed salmon escape during a storm event in August 2020. A study of scale samples monitored the distribution of the escaped fish and found widespread dispersion of the farmed salmon. There were documented cases of farmed fish found within 17 rivers, the majority of which were captured within the Clyde and Loch Lomond systems and a number of rivers in Ayrshire and Argyll (Fisheries Management Scotland, 2021). Rainbow trout are a non-native species and have the potential to impact on native fish species through competition and predation. In addition, rainbow trout in the wild are not covered by wild fisheries legislation. Experience from previous escapes of rainbow trout from Dawnfresh farms, particularly in Loch Etive where at least		Scotland's wild salmon and sea trout are at crisis point with many populations below conservation limits, particularly on the West Coast within the 'Aquaculture zone'. Whilst wild salmon face a range of pressures, specific pressures from the aquaculture industry include impacts from escapes and sea lice. Salmon and sea trout fisheries are an important component of Scotland's rural economy. These fisheries and associated infrastructure rely on healthy populations of fish returning to Scotland's rivers. Scottish salmon rivers are categorised by Marine Scotland Science under the salmon conservation regulations according to the likelihood of them meeting their conservation limits. The gradings of rivers have been published for 2021. 104 rivers across Scotland are graded as Category 3, meaning there is a less than 60% probability of meeting their conservation limit. Where salmon populations are below their conservation limits, any additional pressure, including from sea lice, cannot be considered sustainable. Whilst Argyll DSFB do not routinely respond to CAR licence applications for fish farms, we believe that the proposed location for this development is inappropriate based on the aforementioned impacts on the water environment, which will have a knock-on effect on other water users, including fisheries managers and anglers. As mentioned previously, the impacts of sea lice and farmed fish escapes can be detrimental to the water environment. Experience from previous escapes of rainbow trout from Dawnfresh farms, particularly in Loch Etive where at least 35,000 fish have escaped since 2015, have shown that in addition to these potential ecological impacts, the escapes create a significant nuisance to fishery owners and angling businesses. We therefore consider that SEPA must take the potential impacts on wild fish, and the associated impact on interests of other users of the water environment fully into account when considering this application.	As above, this farm, alongside the other two proposed CAR licences in this area, has the potential to impact fisheries management and angling activities in a number of important rivers and fisheries, including those in North Ayrshire, the Clyde and Loch Lomond (which includes the Endrick Water SAC), which are not covered by a District Salmon Fishery Board.	

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		35,000 fish have escaped since 2015, have shown that in addition to these potential ecological impacts, the escapes create a significant nuisance to fishery owners and angling businesses. Dawnfresh have refused to recognise or compensate for these impacts. SEPA have direct responsibility for non-native species in rivers, so it is important that this potential impact is fully considered in determining this CAR licence. We have attached a short summary of the science which underpins our objection. Whilst the impacts of sea lice arising from farms may be mitigated by strategically planning farm locations, there is no current strategic plan within which this can happen. We are conscious that SEPA, Marine Scotland, NatureScot and local authorities are developing a strategic framework related to sea lice impacts on wild fish, but this is still in development. In the meantime, the precautionary principle should apply, and Argyll DSFB strongly object to a licence being granted for this and other proposed farms. References Fisheries Management Scotland (2021). Monitoring for the presence of farmed salmon in West Coast Scottish rivers following an escape from the Carradale North salmon farm. Glover, K. A., Solberg, M. F., McGinnity, P., Hindar, K., Verspoor, E., Coulson, M. W., Hansen, M. M., Araki, H., Skaala, Ø., & Svåsand, T. (2017). Half a century of genetic interaction between farmed and wild Atlantic salmon: Status of knowledge and unanswered questions. Fish and Fisheries, 18(5), 890–927. https://doi.org/10.1111/faf.12214				
25	Chemicals used on the fish will inevitably spread out into the sea water and affect other creatures and plants	Fish, sea mammals, smaller life forms,	All chemicals put into the sea can be harmful and we need to minimise what is added	Fish farms are unnatural and affect the appearance of the sites where they are located	Small boats, kayaking, swimming, walking	Antibiotics
26	I have seen the detritus produced by other fish farms and it's quite disgusting and will totally spoil the water around south Bute where there are otters, a protected species!	OTTERS and porpoises, eider ducks, and the area at south Bute is good for fishing.	General muck created by fish farms	The tide will wash detritus into Kilchattan Bay itself and this bay is used for leisure purposes, so a health hazard.	bathing, fishing from small craft and walking along contaminated beaches in Kilchattan.	
27	The fish farm will pollute the local waters with fish excrement, waste food and chemicals used to fight fish lice. The debris will be swept into the The Wee Bay polluting the beach. The beach has already been victim of chemical pollution on occasion leaving stinking seaweed that had to be removed (with permission). Unpleasant for residents and tourists.	The local fish stocks have deleted over the last decade - cod is no longer caught in the area. There are already fewer whelks, winkles, razorbills, crabs and sea urchins found in the rock pools. The area is visited by otters and seals, deer, hares, oyster, catchers, basking sharks. The sea creatures will be scared off the whole area by the sonic alarms - especially if farms are placed on both sides of the Clyde. Fish farm This area is popular with walkers and nature watchers and thus any loss of local wildlife will lead to a loss of visitors and economy to the island.	ANY additional chemicals are unwelcome. Growth agents, antibiotics and anti lice treatments especially.	The waters between Glen Callum Bay and the Wee Bay are used by swimmers (both long and short distance swimmers), canoeists, sailors. Any fish farm development would force canoeists further away from the shore and therefore less safe. Children play in the waters, paddling in the Wee Bay, and diving in off the stone pier. The life of Kilchattan has been dependent on the children of one generation playing in the hills and waters of the village, growing up and bringing their children to do the same and finally retiring to the village. Without clean waters and safe hillside walks the village will lose its visitors and life. The walk	Swimming in the Wee Bay and along the village. Canoeing and sailing to Glen Callum. Walking along the shore to the Hawks Neb and along the West Island Way. People walk to see nature not fish farms. Tourism in the village.	

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		We should be making this area a no catch zone similar to south Arran to repopulate the waters with natural fish species.		to the Hawks Neb. is a very popular one - especially for children.		
28	I have read many articles over many years that report that fish farms of this type are often associated with excessive chemicals etc being added to control sea lice etc. Simplistically, adding chemicals etc will, by its very nature, have an impact on the existing water etc.	I suspect that any and all currently existing marine life in the immediate vicinity will be impacted by the proposed farm. The large concentration of trout will, I am sure, either see large numbers of parasites or large quantities of anti-parasite chemicals being used. It is not clear to me if an access road will be built from the bus-turning point to the Hawk's Neb. if so, it any any building infrastructure on land will damage what is, in many ways, an un-defiled stretch of lovely coast.	I am not sufficiently informed to comment about specific chemicals.	While I am not aware of any significant exploitation of this stretch of shore/coast by people using the water environment, I expect it will preclude them from using lobster pots etc.	Though I have only seen them rarely, I have seen people fishing from the shore line as a recreation etc. This will not be possible in the immediate vicinity of the proposed fish farm.	I am not informed enough to make a comment.
29	the chemicals used are cansegenans with pollutant being washed into water and landing as the see weed form in Kilchattan Bay entrance every year a big amount of see weed lands on the corner at Norwood .. also Otter have been spotted at Glen Calum bay and the Hawks nib along with Basking Sharks , basking sharks eat plankton and Fish Farm pollutants kills plankton , so we would loose porpoises , basking sharks , otters , seals UK is only EU country who still use open water fish farms as cheep to install , where all other countries have enclosed fish farms or land based enclosed fish farms to control waste and light and noise pollution fish farm will only employ 6 staff and as Bute is trying to be a tourist attraction with walking along the west island way which will employ more people on the island	Basking Sharks , Porpoises , Otters ,Seals all spotted at Glen Calum Bay and Hawks Nib	3 cancer chemicals see Video by Dr Lewis McGibbney https://buteifulcoasts.com/video-south-bute-car-rebuttal/	swimmers round the island along with canoists and sailing , with wild life	swimmers round the island along with canoists and sailing , with wild life all at Kilchattan Bay round to Hawks nib and Glen Calum bay	see video by Dr Lewis McGibbney https://buteifulcoasts.com/video-south-bute-car-rebuttal/
30	The use of chemicals and medicine, the production of waste and the usage of repellents against seals etc, will endanger the current thriving water life around the isle of bute. The seabed and water quality will suffer for a wider area including Kilchattan bay, threatening the water quality to safely go swimming or other water sports with direct contact to the water. With the specific location of the proposed fish farm and the strong currents on that location will enlarge the area that may get affected.with	With the installation of the proposed fish farm at south Bute in combination with the proposed fish farms at the Cumbraes and Arran will close off the whole Firth of Clyde for sea mammals such as seals, purpoises, otters and will have a general damaging effect on a large sea bed area, damaging the food chain of both fish and sea mammals (plankton will be eradicated). There are a lot of sighting in the whole Firth of Clyde as well specifically at the south and southwest end of Bute of a growing and healthy population of sea mammals. Fishing of lobsters and langoustines will be diminished and cannot be compensated by the fish farm.	The open cages in combination with the string currents will spread the fouling of the fishfarm over a large area and over the years will have a large impact on health. It is known that chemicals are applied and it is extremely worrying with the uses of the following chemicals in particular. AZMETHIPHOS a permanent zooplankton killer and cypermethrin and deltamethrin, both of which are carcinogens . All endangering both sea life as well as for humans that swim or come into contact with this water in a professional way, like the current fishermen.	The effect for the current local fishermen will be devastating as they will lose the habitat where they do their fishing now. With the planned fish farms the while of the Firth of Clyde area will be effected, reducing alternatives for them to nill. The same area will not be suitable for bathing or swimming as the water quality will deteriorate, especially over the years.	it is with no doubt this plan will have a serious effect on tourism to the island. Bute is increasingly popular with tourists for the wildlife that is now in abundance. With the introduction of fish farms, that will be a sore eye in this area of outstanding beauty, will reduce sea wild life enormously. With an economy that is driven by tourism this would have a very damaging impact that is not at all compensated by additional jobs.	I am against the uses of the following chemicals in particular. AZMETHIPHOS a permanent zooplankton killer and cypermethrin and deltamethrin, both of which are carcinogens .

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31	Chemicals added to the water for lice prevention are carcinogenic and detrimental to the natural organisms in the sea. Seals will be discouraged from this area and surrounding areas. The concentrated excreta from all these fish will pollute the sea bed.	Seals will be discouraged, zooplankton will be killed by some of the chemicals, thus discouraging basking sharks and other plankton eaters.	CYPERMETHRIN AND DELTAMETHRIN both recognised carcinogens and AZMETHIPHOS is a killer of plankton.	Local fish stocks will be depleted, and sea bed will be polluted, thus affecting fishermen. Tourism will be affected due .to reduction of various sea mammals. Mankind will be affected due to yet more pollution as a result of man's detrimental influences	Tourism in general, natural history enthusiasts in particular. Fishermen.	CYPERMETHRIN AND DELTAMETHRIN both recognised carcinogens and AZMETHIPHOS is a killer of plankton.
32	I feel it hard to believe that after all the effort that has taken place over the past 25 years to clean up this area of the Clyde that consideration is being given to this proposal. We have observed the improvement of sea water quality over the past quarter of a century both so far as water clarity is concerned but more importantly the return of seals along the east shore of Bute indicating a significant improvement in fish stock. The concentration of fish in such an unaturally small area requires the use of pesticides which are known to adversely impact on crustations plankton and wild fish. The proposal if it were to proceed would be a significant set back to all the effort in recent years to clean up this water! The economy of Bute is significantly impacted by tourism and its unspoilt coast line plays a vital part in enhancing the attractivness of the island - fish farm cages are an imposition on this natural shore line.	Nothing to add.	Nothing further to add.	No comment	No comment	Keeping any livestock as intensly as this requires the use of chemicals to manage resulting parasites; such chemicals cannot be confined to just the area where it is needed and as a consequence will effect natural micro organisms in the vicinity and disturb the natural balance that exists.
33	As someone who loves swimming in clean water, I am very concerned about the impact of this fish farm upon the local environment in the waters around Bute. We are fortunate to attract many visitors who come to see natural beauty and the island does depend somewhat on tourism money. I understand that this proposed fish farm will not have a positive impact on the economy of the island and due to the negative effect it may have on tourism I actually am worried it may detract visitors.	I believe that fish farms can cause problems for local marine life, they are not compatible with a healthy sea. The Clyde is already dealing with many fish farms in other areas, we do not need to add one here.		I think swimmers don't want to share water with chemicals and salmon effluent.	Swimming, kayaking, visitors coming to see natural marine environments.	
34	The rise of fish farming on the west coast of Scotland has coincided with the collapse of salmon and sea trout runs in west coast rivers. The evidence that Fish Farms have played a significant part in this is compelling and growing. Any pollutants discharged into this fragile ecosystem will damage the water environment.	The migratory fish leaving from or returning to catchments on the west coast will be impacted. Primarily, this will mean Salmon and Sea trout.		The west coast is being increasingly used for recreational water activities such as wild swimming, kayaking and paddle boarding. Pollutants discharged from marine farming would seem to be potentially damaging to those using the water.		
35	At the moment the sea water is unpolluted apart from plastic products It is inevitable that the proposed fish farm will have a detrimental effect on the natural water	We are fortunate to see Basking Sharks, Porpoise, Dolphins, Otters and Seals in this area I imagine that the chemicals used in the proposed process must have some detrimental effect on the natural make up of the sea water	No comment	Kilchattan Bay is a holiday village. People come here from the mainland to enjoy the seaside. They swim, kayak, dive, mess about in boats and generally enjoy the water. I cannot believe that the waste product from thousands of fish in such close proximity will be healthy	There is a recognised walking trail, The West Island Way, which passes right by the proposed site. The current magnificent views across to Cumbrae will undoubtedly be diminished Yachting and motor boats using the coastline will have to move out into the main channel to avoid the fish tanks I suspect that Kilchattan Bay will be used by the Dawnfresh company to support this planned site. There its only one road into the village and it is very busy in the summer	No comment

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					months. Additional vehicle traffic will exacerbate this problem	
36	Proposed site is 10 huge pens adjacent to Hawks Nib, a strait with lots of tidal and wind activity which will move and dump much of the organic material and chemicals along the firth and the coast of the island. Increasing numbers of people, locals and tourists are using the waters around the island to wild swim, SUP, snorkel, dive and sea kayak. The water quality will be damaged long term	The wrack forests will be lost under the weight of organic matter - faeces and uneaten food. Seals will be caught in nets or scared away from their usual spots. The Acoustic deterrent devices will disturb (and potentially injure the hearing of) the schools of porpoise that swim in the firth and specifically around the coast of Bute.	The applicants / proposers have applied for permission for bathing treatments cypermethrin, Deltamethrin and azamethiphos. Cypermethrin is very toxic to aquatic life, has a cancer classification of Group C which is prohibited. Azamethiphos is also toxic to aquatic life and the application method essentially dumps these compounds in the water. This will affect the water column.	The increasing numbers of wild swimmers, SUPs, divers, snorkellers will be at best displaced - one key swim route is between Kilchattann Bay and the island from the part of the island coast many have grown up enjoying. Even moving down the coast will not allow them to escape the detrimental impact of the proposed farms - uneated food, fish faeces, chemicals in the water. For all the miniscule econimic benefits a fish farm might offer, this will be far outweighed by a loss of leisure revenues due to the industrialisation of the waters.	Wild swimming SUP Sea kayaking snorkelling shark and porpoise watching	cypermethrin azamethiphos
37	As you said in your advert the applicant will add pollution to the water. I am against any more pollution of the waterways in general, people are proud that the Clyde has been cleaned up a lot, why add pollution in the 21st Century? The river Clyde is used for wild swimming, kayaking, sailing as well as commercial shipping, people go walking along the banks, all are activities which will be affected by fish farming.	Pollution of the water to a lesser or greater extend will impact all life in the river, and the habitats on the river banks. Animals such as otters and seals live in the area, together with various kinds of fish like porpoises. Gannets fish up and down the Clyde, as well as terns, gulls, many other birds who feed on the banks.	I am worried that any medications, hormones etc given to the fish will enter the water and therefore eventually impact all life, including human life, in the river but also the river banks. Farmers get fined if they by accident pollute the waterways, so why is it ok to allow a fishfarm to do so?	Wild swimmers, even people paddling in the water, kayakers, any one who will be in close contact with the water in some form or another, really want the water to be as clean as possible.	I have seen people kayaking from Largs to the southern tip of Bute, they would be affected by the run offs of a fish farm	Again, if people are in direct contact with anything not supposed to be in the water, and that would be the detrious of a fish fam which may be potentially harmful such as medication or hormones or something to kill off anything the fish may have picked up, people may be seriously harmed.
38	On the wealth of information available to everyone it is clear the local habitat is in grave danger on being hijacked and damaged by such a fish farm moving in. The waters around the proposed site are at the very opening to the Clyde channel and have therefore a significant impact on the chemical balance of the entire estuary, let alone the local ecosystems needing protection at the site itself.	daily walks/kayaks and swims along this very stretch,(from kilchattan bay all the way around the south headland - fish farm site included) we can confidently say the wildlife is extraordinary! Mammals, crustaceans, fish, birds and all nature of forna and flora exist here. The seaweed and plant life is in abundance. The chemicals used in the practice of such a fish farm let alone the anchors and interference above and below the surface of the sea, will impact this balance. The territories of animals who is exist here will be entirely compromised and therefore degradation and ecosystem failure will be imminent.	Cypermethrin Deltametherin Azmethiphos As a woman who wishes to continue to use this water frequently with myself and baby, I would simply not let myself or child in these waters at all should a fish farm occupy the waters. This is why I am gravely apposed to the proposal. I believe the expose to such a place will impact our health in many ways.	There is no question the impact will be vast for visitors and residents of Bute. As a resident of Kilchattan bay, we see the likes of : kayaking (we also own kayaks and use them frequently to venture to the lighthouse and Glencallum bay) , wild swimming groups and individuals, recreational fishing, diving, paddle boarding who all use the water daily (at height in summer months of course). The tides and currents are well known in this area and it would simply be unsafe to do these activities further from shore to avoid the farm.	All the activities as mentioned above would be affected. Their locations and activity range from kilchattan bay (often a start or end point) to around the Southend encompassing the HawksNeb, lighthouse, Glencallum and around to the East side of the island). There are many swimmers who rightly would abandon the activity entirely based on the presence of chemicals in the waters.	As above
39	Chemicals added to the water for lice prevention are carcinogenic and detrimental to the natural organisms in the sea. Seals will be discouraged from this area and surrounding areas. The concentrated excreta from all these fish will pollute the sea bed.	Seals & Otters will be discouraged, zooplankton will be killed by some of the chemicals, thus discouraging basking sharks and other plankton eaters. I have personally had sightings of Otter and Porpoise in the immediate area of the proposal as well as dolphin sightings in Dunagoil Bay (see files). Plankton is a vital	CYPERMETHRIN AND DELTAMETHRIN both recognised carcinogens and AZMETHIPHOS is a killer of plankton.	Local fish stocks will be depleted, and sea bed will be damaged, thus affecting local fishermen. Tourism will be greatly affected due to reduction of various sea mammals, water activities such as kayaking, swimming, recreational fishing, camping etc.	I use the stretch of water between Kilchattan Bay and Glencallum bay on daily basis for numerous activities such as swimming and kayaking. If chemicals such as Cypermethrin and Deltamethrin which are know to be carcinogenic are being used then this will make recreational actives in the area between Kilchattan Bay and Glencallum Bay very dangerous.	Cypermethrin and Deltamethrin Both these chemicals are recognised as carcinogenic and to someone who uses the water around the exact area of the proposed site it would cause a drastic change to my daily life style, using the stretch of coast line for swimming and

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		species in the eco system which is removed from the chain will have a dramatic effect on the marine life not just in the immediate area around the site but the whole of the souther tip of the island.			it is very obvious that other people within the community and beyond use the stretch of Coast line between Kilchattan Bay and Glencallum bay for numerous recreational activities.	kayaking was the main reason for moving to the island in the first place.
40	I am concerned about the chemicals in the water			It will prevent people using the water due to the amount of chemicals		
41	Fish farms are unhealthy, it's as simple as that. Unhealthy for the fish, the consumers of the fish and the surrounding water.					
42	I respond throughout collectively for all three current Dawnfresh applications, in the same manner that Dawnfresh submit common material. At the broadest level, the use of three chemical treatments and the deposition of huge amounts of fish excrement from three closely sited farms will inevitably affect the water environment. I regard this as particularly important when considering the amount of improvement there has been to water quality in the Clyde estuary over a very long period. It seems perverse in the extreme to undo that good work. There are already simply too many fish farms in the Clyde and these are placed at a very damaging position. I agree with SNH that these farms should be assessed collectively and all rejected or all passed as a unit. Local planners have no facility to do this, but SEPA does. I also think that the farms will impact the water environment because Dawnfresh have a record of poor behaviour in Loch Etive with a similar group of farms. They are nt a trusted operator.	Shellfish, otters, other fish in the Clyde, oysters reintroduced on the Ayrshire coast. Especially wild salmon moving to and from Endrick Water - though I understand that these are currently the reponsibility of the local authority in planning application. These area critical problem about which I could say much more but will not comment further here.	Azamethiphos, deltamethrin and cypermethrin. All three are highly poisonous chemicals which have the potential to harm many forms of marine life. Additionally, the biochemical effects of such large deposits of waste, rich in ammonia, phosphates and nitrates are by no means agreed. It appears that no modelling for Azamethiphos at Little Cumbrae was done. I also question whether deltamethrin and cypermethrin should be permitted at all when MOWI are on record as claiming that they are no longer effective against sea lice. There are also concerns that the modelling for the three sites was done so long ago and with potentially irrelevant weather data from a remote and different location. It is admitted in the modelling report that the chemicals will reach shores including places which enjoy a special designation. This seems inappropriate and unnecessary. The local communities do not benefit from these farms, so why should they suffer from them?	Fishermen. I know that Clyde Fishermens Association have made strong objections to the expansion of the salmon farm at Ardyne. It is inconceivable that the same objections do not apply here. It is interesting and significant that, unlike with planning applications, one cannot see what other people are saying about a CAR licence application. Wild swimmers will clearly not wish to use water close to a fish farm. The Clyde estuary is a densely populated area where people use the water for a wide range of recreational purposes. Whether or not approved science regards their physical health as being at risk from these farms, there can be no doubt that they will be deterred from enjoying their usual activities and there will be a detrimental effect on their experience. People and fish farms don't mix comfortably. The effect will be on their psychological well-being.	As mentioned above.	Already answered in section 5.

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Dr Luxmore, who before retiring was senior nature conservation officer at the National Trust Scotland said that one fish farm of the size proposed produces the sewage equivalent of a town twice the size of Oban. With three farms proposed across the mouth of the Clyde we would be allowing waste equivalent to that of 105,000 enter the waters. That is not acceptable. No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment. The idea that faeces and/or chemicals will be dispersed is not an acceptable argument: dispersal does not equal disappearance – it simply means it will be moved somewhere else. Use of highly toxic chemicals will affect other species in the area: The applicant plans to use azamethiphos, cypermethrin, deltamethrin. These are all highly toxic chemicals to the aquatic environment according to the European Chemicals Agency. They're utility in fighting lice by causing the destruction of their shells will also affect other crustaceans in the area. The South Bute site is already fished by CFA and there is a young lobsterman who is not a CFA member who works that exact area. For the Cumbrae applications, it seems ridiculous that £1.8m is being spent to reintroduce oysters, including placing 1300 in the Largs Yacht Haven and Fairlie Quay Marina, and then fish farms will be introduced adjacent to these sites so that these toxic chemicals will impact those oysters. The oysters are touted as purifiers of water and a boon to the environment but if these neuro toxins affect them the money and project overall will be in vain. *There are otters that swim in the area of the proposed South Bute fish farm. Otters	The otters that live and feed all around Bute but particularly those near Hawks Neb, photos of which can be seen on the Isle of Bute Facebook Group page, which are enjoyed by many The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina The water quality of the general area due to faecal and food waste	The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin Faecal waste from such a large number of fish for such an extended period of time I would like to say that in reading the application I am concerned overall by the slip shod science that has been used in producing the applications – this casts doubt upon any assertions Dawnfresh makes. 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44	The wild life will suffer	All marine species in the clyde	All of them	Chemicals will move with the tide	All water sports and swimming	All of them

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The newly established paddle boarding company on Bute would lose a stretch of coast line for its customers. As someone who sails from Largs most weekends these farms are in the direct navigation route for anyone travelling from Largs and heading round Garoch head	I think it will cost some people part or all of their livelihood- and/or Clyde Fisherman Association members I think it will inhibit the success of the re-introduction of oysters to the area, a project that will improve the water quality rather than negatively impact it as the proposed fish farms would The proposed fish farms are directly in the highest use areas for kayaking, sailing and merchant navy activity so any of these users will be impacted. The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours. Wild swimmers would lose a stretch of the Bute coastline for their swimming activities. 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46	Accidental releases and attendant chemical and parasite or transmittable disease to wild fish stocks.the clyde needs protection.there are potentially negative effects on the tributary rivers and systems of The Clyde.	As above	All feed sources are unsustainable	Badly,exclusion zones, less public access	Fishing sailing windsurfing etc	What is going to be used....your the experts !

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47	This proposal from Dawnfresh for a fish farm at the south end of the Isle Of Bute will bring a negative environmental change to the waters and to extensive marine life in the area. The company plan to use highly toxic chemicals, Azamethiphos, Cypermethrin and Deltamethrin, which have an adverse effect on marine life and, with two of the chemicals having a carcinogenic compound, this will make its way into the marine life and humans alike. Dawn Fresh have not studied the tidal charts for this area, never mind the ways the waters will flow into Kilchattan Bay. The chemicals will thus get stuck in the weir at the entrance to Kilchattan Bay where the winds can suddenly change direction, causing the highly toxic waste matter to be on the shores where children play and swim. Those that know these shorelines know that in the past and to this day waste can be stuck for long periods before the winds are able to wash any waste back out to sea. Bute offers safe waters for a well established open water swimming group, paddle boarding and other water sports. These opportunities around Bute would be lost once the chemicals are in the surrounding waters. Kilchattan Bay is also a popular beach for children and dogs to swim in. The proposed fish farm so close by will cause contamination to the sands, making the waters unfit for purpose and, in time, will keep holiday makers and tourists away from the island.	We are fortunate here on Bute to have otters living on the island and at the proposed site at The Hawks Neb. Otters are strictly protected by the Wildlife and Countryside Act of 1981. The waters are also home to the Common Grey Seals, Porpoises, Whales, Basking Sharks and many other smaller marine life.	The company plan to use highly toxic chemicals, Azamethiphos, Cypermethrin and Deltamethrin, which have an adverse effect on marine life and, with two of the chemicals having a carcinogenic compound, this will make its way into the marine life and humans alike. It is totally unacceptable to have such a vast amount of faecal waste from the cage fish washing up on the shorelines. No other form of farming would legally be allowed to pollute the waters or land in such a way.	Bute offers safe waters for a well established open water swimming group, paddle boarding and other water sports. These opportunities around Bute would be lost once the chemicals are in the surrounding waters. Kilchattan Bay also offers safe waters for children and dogs to swim in. The proposed fish farm so close by will cause contamination to the sands, making the waters unfit for purpose and, in time, will keep holiday makers and tourists away from the island.	See above	Azamethiphos, Cypermethrin and Deltamethrin, which have an adverse effect on marine life and, with two of the chemicals having a carcinogenic compound, this will make its way into the marine life and humans alike. It is totally unacceptable to have such a vast amount of faecal waste from the cage fish washing up on the shorelines. No other form of farming would legally be allowed to pollute the waters or land in such a way.
48	It has taken several decades to get the waters round Bute and up the Firth of Clyde clean enough for swimming and the the return of wild salmon. To introduce a polluting entity (the amount of pollution is irrelevant it is not in dispute that it will pollute) is illogical and completely unnecessary. No matter what 'controls' are in place plankton in the area will be killed and pollution will be carried up the coast to Kilchattan and Rothesay. The loss of plankton will affect many species and we could see the end of visits by animals such as basking sharks. We have a small but thriving langustine fishing fleet and nothing will convince me that this proposal will not affect it.	Other species such as seals may be affected through the food chain but another concern if that I believe as a fish farm they will automatically have a licence to kill seals if they deem them to be a threat. This would not be acceptable to anyone here.		Pollution will inevitably be washed up the coast (however slowly) and the beaches at Kilchattan, Ascot, and Rothesay will be affected. Shellfish and other species will inevitably suffer.	Swimming at Kilchattan and other beaches will eventually be affected.	

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49	it is understood from looking at the screening / scoping response from Argyll and Bute Council that benthic surveys exist and have been submitted to SEPA but such information has not been made available within this consultation. How can the public comment on the quality and richness of this substrate and what damage might be done by both chemical treatments and solids discharge and deposition if there is no reference to this important baseline study It is also clear from the screening/scoping exercise that SEPA has asked for information on nitrogen and phosphorus containing substances that would emanate from the development proposed . There is no indication in the reports supporting the application that provides any perspective on either quantities or level of risk of enhancement of eutrophication taking into account existing levels of these plankton bloom promoting elements in waters with already elevated levels of these elements.	Clearly the recently announced intention to establish oyster beds at Fairlie Quay and Largs Marina would be a major source of concern that in future chemicals release in this confined area of the Clyde Estuary from all three Dawnfresh developments would put this oyster project at considerable risk of failure	As this pro forma offers no flexibility for introducing other comments outside the two questions asked I am raising additional points here 1. It is inappropriate that the CAR application is supported by outdated evaluation processes and supporting documentation dating back to the original submission in late 2018. I am referring specifically to the use of AUTODEPOMOD and guidelines including the acquisition of site conditions, water column hydrology etc which are now recognised as inadequate or flawed and now replaced in the application process by a new evaluation model coupled with more stringent data requirements including hydrographical survey work using recognised methodology. 2. There is no explanation for the time lapse, only a more recent hydrography report employing a DELFT3D model with little or no description of the model construction or the data inputs to back up the dispersion and deposition situation. Neither is there any more convincing discussion of the results related to SEPA's own specifically defined objectives regarding sea bed diversity condition or environmental quality standards making it impossible to verify the findings. 3. Specifically regarding the hydrographic reporting it would seem that this work is based on measurements of water movement, velocity, and tidal and current direction recorded by Dawnfresh consultants at a time when SEPA requirements were less stringent and comprehensive thus placing in question the outcomes presented for public comment and for proper SEPA evaluation 4. No proper account seems to have been taken of the steeply sloping seabed at Hawks Nib on Bute and how this will undoubtedly influence deposition of solids and subsequent re-entrainment downslope. The possibility is acknowledged in the later Xodus dispersion and deposition report but is not quantified or accommodated for in the monitoring schedule proposed 5. The three Dawnfresh developments are in close proximity and cumulative assessment of environmental impact is an important aspect that justifies evaluation. Apparently no study of this kind has either been conducted or even required at this stage by SEPA, a serious omission in the permitting process.	The toxic chemicals employed in intensive industrial salmon and sea trout fish farming to keep diseases and pests at bay and also the excreted wastes, mainly faeces, are released untreated into the marine environment and dispersed widely in confined areas of sea raising issues of public health for those who come into contact with this pollution	The Clyde islands concerned in the three development proposals from Dawnfresh have for many decades been popular with day trippers and holiday visitors who take to the beaches and shores for recreation including sea bathing, kayaking and boating. These locations more than most in the West of Scotland will bring large numbers of people in contact with toxic chemicals and contaminated organic wastes In the case of Bute Kilchattan Bay, a favourite recreational seaside location immediately north of this proposed development would be at risk	Azamethiphos, an organophosphate, a chemical group of pesticides well known throughout on-land agriculture as carcinogens Overall, and in particular taking into account what appears from the patchwork of technically compromised briefing material made available for public consultation, my view is that SEPA would be well advised to turn down the licence application on this occasion and ask the company to reapply with a new set of documents designed to meet permitting requirements as set out in the latest sectoral guidance.

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			6. The proximity of all three development proposals introduces a heightened risk of spreading of disease vectors and infestation throughout the linked operations by natural transmission pathways and by human contact with service vessels and personnel. The low stocking density will help but there is no evidence provided that suggests SEPA has thought to engage with the company in examining how the hydrodynamic characteristics around these clustered Clyde islands could promote such adverse interactions. Specifically this same proximity could result in a continuous barrier of potential infection stretching across the very important wild salmon migration route to Loch Lomond and the Endrick catchment, sea lice population growth within the sea-trout cages being a crucial risk. SEPA as the guardian of water quality needs to play its part in removing or preventing this risk becoming a reality in its evaluation of any relevant strategy yet to be published by the company			
50	Chemicals. The chemicals used in fishfarming are detrimental to the natural marine biology. They also contaminate the water for those using the water for recreation - wild swimming etc	All the marine life within the area will be impacted. Putting any chemicals into the water cannot be a good thing.		Wild swimming and water sports are key recreations in this area. We can pride ourselves in having a high standard of bathing water in the region.	Open Water swimming in fairlie and largs areas	
51	Pollution within the vicinity of the cages Visual impact negating natural seascape Loss of wildlife	Shooting seals! Seals are a big part of the sea wildlife of the whole of this island's coastline Driving them away, by whatever means (eg sonic) will alter the environmental balance.	Any device which will affect the balance/hearing of birds. Guns.	This islands economy is heavily dependent on tourism. The majority of tourists come for the wildlife. Others come so their children can go into the sea safe from contamination. We have a number of free swimming groups around the island. This farm will massively impact on those people needing to experience nature; whether living here or visiting. The damage economically will not be reversible.	See above	

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52	This development will significantly affect the local amenity of the area. It will also adversely impact the sea bed and all local native species and inhabitants	All additional chemicals for this artificial development are unacceptable and the seabed will be destroyed by fish faeces.	All additional chemicals for this artificial development are unacceptable and the seabed will be destroyed by fish faeces.	This development will create hazards for local yachting activity. The areas covered in this submission are in immediate proximity to a very popular local beauty spot (Callum's Hole) frequented regularly by all sorts of boating and sailing activity	Sailing Kayak Motor sailing Swimming Paddle boarding Etc Walking - visual amenity will also be degraded.	All additional chemicals in support of this development are totally unacceptable
53	Argyll and Bute Council Opinion response to the Dawnfresh 19/00233/SCRSCO screening/scoping application on the 17 May 2019 This opinion from the ABCouncil stated the proposed fish farm is likely to give rise "to significant environmental effects" Fish faecal matter will affect water quality: For 94 years, from 1904 until 31 December 1998, the sewage sludge from Glasgow was shipped down the Clyde and dumped at Garroch Head of the south of Bute. On the SEPA website the water quality of the whole area around Arran, Bute and the Cumbraes was only moderate and the website cited sewage as the reason. Only in the last several years has the water quality in this area been upgraded to good. How can it be sensible to now allow three fish farms to allow untreated faeces from tens of thousands of caged fish enter this fragile area? Dr Luxmore, who before retiring was senior nature conservation officer at the National Trust Scotland said that one fish farm of the size proposed produces the sewage equivalent of a town twice the size of Oban. With three farms proposed across the mouth of the Clyde we would be allowing waste equivalent to that of 105,000 enter the waters. That is not acceptable. No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment. The idea that faeces and/or chemicals will be dispersed is not an acceptable argument: dispersal does not equal disappearance – it simply means it will be moved somewhere else. Use of highly toxic chemicals will affect other species in the area: The applicant plans to use azamethiphos, cypermethrin, deltamethrin. These are all highly toxic chemicals to the aquatic environment according to the European Chemicals Agency. They're utility in fighting lice by causing the destruction of their shells will also affect other crustaceans in the area. The South Bute site is already fished by CFA and there is a young lobsterman who is not a CFA member who works that exact area. For the Cumbrae applications, it seems ridiculous that £1.8m is being spent to reintroduce oysters, including placing 1300 in the Largs Yacht Haven and Fairlie Quay	The otters that live and feed all around Bute but particularly those near Hawks Neb, photos of which can be seen on the Isle of Bute Facebook Group page, which are enjoyed by many The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina The water quality of the general area due to faecal and food waste	The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin Faecal waste from such a large number of fish for such an extended period of time I would like to say that in reading the application I am concerned overall by the slip shod science that has been used in producing the applications – this casts doubt upon any assertions Dawnfresh makes. In particular, I do not understand why we are consulting on information/data that was gathered almost three years ago. I do not understand why the required amount of current data gathering days is not met for South Bute – if there were difficulties due to weather or accidental dislodging due to another water user, surely it is up to Dawnfresh to spend the time and money to gather the appropriate amount of data. I do not understand why Glasgow airport wind data and Inverkip meteorological data is used in the modelling. Any of us who live in this area know that the winds and weather we face here are completely different to Inverkip and even more so to Glasgow airport. And after the ECCLR report in 2018 chastised SEPA for lack of oversight and SEPA reformed its application standards, why are these applications being allowed to use old data input to outdated modelling systems to submit this application?	I think it will cost some people part or all of their livelihood- and/or Clyde Fisherman Association members I think it will inhibit the success of the re-introduction of oysters to the area, a project that will improve the water quality rather than negatively impact it as the proposed fish farms would The proposed fish farms are directly in the highest use areas for kayaking, sailing and merchant navy activity so any of these users will be impacted. The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours. Wild swimmers would lose a stretch of the Bute coastline for their swimming activities. Please refer to the Bute Outdoor Swimming Society FB group page (approx. 500 members) and see the swims that have taken place from Kilchattan Bay to Glencallum Bay. Also, there is currently no knowledge of the possible effects of the toxic bath treatments on humans, so again the precautionary principle should be applied. The newly established paddle boarding company on Bute would lose a stretch of coast line for its customers.	As above in 6A	The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin Faecal waste from such a large number of fish for such an extended period of time As above, I again would like to say that in reading the application I am concerned overall by the slip shod science that has been used in producing the applications – this casts doubt upon any assertions Dawnfresh makes. In particular, I do not understand why we are consulting on information/data that was gathered almost three years ago. I do not understand why the required amount of current data gathering days is not met for South Bute – if there were difficulties due to weather or accidental dislodging due to another water user, surely it is up to Dawnfresh to spend the time and money to gather the appropriate amount of data. I do not understand why Glasgow airport wind data and Inverkip meteorological data is used in the modelling. Any of us who live in this area know that the winds and weather we face here are completely different to Inverkip and even more so to Glasgow airport. And after the ECCLR report in 2018 chastised SEPA for lack of oversight and SEPA reformed its application standards, why are these applications being allowed to use old data in put to outdated modelling systems to submit this application?

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	Marina, and then fish farms will be introduced adjacent to these sites so that these toxic chemicals will impact those oysters. The oysters are touted as purifiers of water and a boon to the environment but if these neuro toxins affect them the money and project overall will be in vain. *There are otters that swim in the area of the proposed South Bute fish farm. Otters are a European protected species and SEPA has an obligation to apply the precautionary principle here to protect them. These will be affected directly by absorbing the chemicals if they are in the water at the time of treatments and indirectly through eating shellfish that have been affected by the chemicals. SEPAs own study in 2018 in Shetland showed that chemical dispersion could be wider than modelled as well as chemicals lasting longer than expected. Why should we believe this will not happen in the Clyde? https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report. Lice soup will be created in the Clyde, impacting wild salmonid. Holding 2500t of fish in an open cage will build up a concentration of lice which will be exacerbated by the relatively close proximity of the three proposed farms across the entrance of the Clyde. This will impact on the wild salmonids exiting and re-entering the Clyde as they leave and return to their spawning grounds at the Endrick Waters, a European designated Special Area of Conservation. *The Scottish Government, and thus SEPA as its agent, is obliged to protect these wild salmonid as they travel through Scottish waters. It has recently been established that lice from fish farms can impact wild salmonids and any doubt about the magnitude of such impact should be subjected to the precautionary principle and this application rejected. Please refer to this model for impact of lice from fish farms and thus the impact on the water environment https://vimeo.com/496948354					
54	Impossible to prevent lice proliferating and affecting wild salmon Accoustic deterrents etc will deter seal mammals from entering the Clyde Waste from the farm will pollute the sea bed			The farm would prevent open water swimming on one of the most attractive stretches of the Bute coast. It would also urbanise one of the wildest sections of the West Island Way.		

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55	I am very concerned for the chemicals that will be discharged into the water and also for the waste that thousands of trout will create. The firth of Clyde has not yet recovered from years of constant pollution, and here we go again, with someone who is trying to exploit the sea for mere profit. Dolphins, seals, migratory fish like sea trout and salmon will be affected. if we really want a pristine environment, then this projects should be stopped. If they want to build trout farms, thoese should be built on inland only.	All the chemicals are bad; they have nothing to do with the sea enviroment, they are alien substances thatwill damage the sea flora and fauna in long terms.	Antlantic salmon population is decreasing year by year, due to the pollution of our rivers and sea.	Kayaking or paddle boarding near a sewage is simply not acceptable. With covind we also have an increase of water sport, I see more surfers, swimmers, kayakers, so we need the sea to be as clean as possible.	All the chemicals are bad; they should not be in the water at all.	
56	The impact on the water environment under these applications could easily be a disaster Highly toxic chemicals, which are used to treat the fish in open pens, will be dumped into the water. These chemicals do not 'disperse' as is suggested. Proposals are based on weather information irrelevant to Kilchattan Bay. On Thursday 21st May I had great difficulty standing upright on the shore due to the gale force southerly winds howling through. A fish farm at Hawks Neb would have problems surviving without damage on such a day – damage resulting in escaped fish infected by sea lice. These fish will in turn infect the wild species. The ferries from Rothesay to Weymss Bay managed to run to schedule on that same day. They were only seven miles away but obviously operating in a considerably different weather conditions How can these applications be taken seriously when they use weather data from Inverkip, 9 miles away and Glasgow airport 25 miles away? This makes weather data on the proposals irrelevant and a nonstarter	Species that depend the clean water they currently enjoy will disappear. Pollution by chemicals and fish faeces will mean seals, otters, dolphins, whales and other aquatic life will disappear.	The chemicals listed, Azamethiphos, Cypermethrin and Deltamethrin, are long lasting and highly toxic .An even more important fact is that two of them are carcinogenic, endangering human life.. These will pollute the whole width of the Clyde estuary in this area. So the coastline of Ayr, the two Cumbraes and Bute will all be no go areas at the affected stretches. This means a barrier is formed and no aquatic life, including wild salmon, will get through to the upper reaches of the Clyde	The beaches will become no go areas, unsafe for all the current recreational activities. No children playing in rock pools, building sand castles and paddling, swimmers or surfers, canoes or dinghies, sailing boats, water scooters etc. All fishing will be affected, including scallops, lobsters, crabs, mussels and other crustaceans.	All activities in the surrounding waters [see above] will be endangered.	Azamethiphos, Cypermethrin and Deltamethrin – all highly toxic Fish faeces in vast quantities
57	Pollution under the farms and surrounding area due to tonnes of fish faeces. The chemicals used to treat the fish in the nets can not be good for water quality, imadgine going swimming in one of these nets. The chemicals under the nets wipe out all life.	Sea lice will impact on wild salmon and sea trout, these farms attract millions of sea lice and they breed at an obseen rate and can be like a soup for 20 miles or so. Salmon smolts traveling to their feeding grounds get a few of these lice on them and they die, just like millions of the fish in the cages of fish farms. Dawnfresh have a very poor record on sea lice, - wild sea trout netting carried out by fishery biologists in 2015 recorded the worst sea lice infections ever in wild fish in Loch Etive. A year later in 2016 the argyll District Salmon Fishery Board reported that it could not catch ANY sea trout to sample. This was followed by a very poor grilse run in 2016 and 2017 which was the worst recored run on the Awe by a considerable margin. It is common sense that if you pour	All chemicals are not natural.	It has to impact on divers, creel fishers and any type of sport anywhere close. Divers - no fish near by and mountains of excrement near the cages. Creel Fishers - All living animals will be well away from the bing of faeces etc near the cages. Sport - Who would want to do any sport near the cages, floating effluent etc.		Our concern is sea lice, escapes and chemicals. Unfortunately, there is nothing in this consultation to say anything about Dawnfresh, they have failed routine benthic surveys often, had a very mixed bag of results in SEPAs Compliance Assesment Scheme (CAS) and had breaches of planning permission etc. not to mention the escapes of farmed fish into the wild.

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58	Argyll and Bute Council Opinion response to the Dawnfresh 19/00233/SCRSCO screening/scoping application on the 17 May 2019 This opinion from the ABCouncil stated the proposed fish farm is likely to give rise "to significant environmental effects" Fish faecal matter will affect water quality: For 94 years, from 1904 until 31 December 1998, the sewage sludge from Glasgow was shipped down the Clyde and dumped at Garroch Head of the south of Bute. On the SEPA website the water quality of the whole area around Arran, Bute and the Cumbraes was only moderate and the website cited sewage as the reason. Only in the last several years has the water quality in this area been upgraded to good. How can it be sensible to now allow three fish farms to allow untreated faeces from tens of thousands of caged fish enter this fragile area? Dr Luxmore, who before retiring was senior nature conservation officer at the National Trust Scotland said that one fish farm of the size proposed produces the sewage equivalent of a town twice the size of Oban. With three farms proposed across the mouth of the Clyde we would be allowing waste equivalent to that of 105,000 enter the waters. That is not acceptable. No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment. The idea that faeces and/or chemicals will be dispersed is not an acceptable argument: dispersal does not equal disappearance – it simply means it will be moved somewhere else. Use of highly toxic chemicals will affect other species in the area: The applicant plans to use azamethiphos, cypermethrin, deltamethrin. These are all highly toxic chemicals to the aquatic environment according to the European Chemicals Agency. They're utility in fighting lice by causing the destruction of their shells will also affect other crustaceans in the area. The South Bute site is already fished by CFA	The otters that live and feed all around Bute but particularly those near Hawks Neb, photos of which can be seen on the Isle of Bute Facebook Group page, which are enjoyed by many. The seal population at Millport both by the chemicals and they will see the farms as a source of food and will then be shot by Dawn fresh employees no doubt under license. "Kyle" the resident dolphin, just off Hunterston, and the local porpoise population will also be affected by the chemicals and possibly shot as predators. The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina. The water quality of the general area due to faecal and food waste	The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin Faecal waste from such a large number of fish for such an extended period of time I would like to say that in reading the application I am concerned overall by the slip shod science that has been used in producing the applications – this casts doubt upon any assertions Dawnfresh makes. In particular, I do not understand why we are consulting on information/data that was gathered almost three years ago. I do not understand why the required amount of current data gathering days is not met for South Bute – if there were difficulties due to weather or accidental dislodging due to another water user, surely it is up to Dawnfresh to spend the time and money to gather the appropriate amount of data. 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Merchant navy activity would also be impacted as the fish farms will sit on the busiest shipping routes in the Clyde estuary. Walkers of the "West island way" - which has been a great boost for visitors to the island - will also be affected due to the visual impact of proposed Bute fish farm. The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours. Wild swimmers would lose a stretch of the Bute coastline for their swimming activities. Please refer to the Bute Outdoor Swimming Society FB group page (approx. 500 members) and see the swims that have taken place from Kilchattan Bay to Glencallum Bay. Also, there is currently no knowledge of the possible effects of the toxic bath treatments on humans, so again the precautionary principle should be applied. The newly established paddle boarding company on Bute would lose a stretch of coast line for its customers.	I think it will cost some people part or all of their livelihood- and/or Clyde Fisherman Association members. I think it will inhibit the success of the recent re-introduction of oysters to the area, a project that will improve the water quality rather than negatively impact it as the proposed fish farms would. The proposed fish farms are directly in the highest use areas for kayaking, sailing, coastal rowing, sea fishing and wildlife tourism to the area. Merchant navy activity would also be impacted as the fish farms will sit on the busiest shipping routes in the Clyde estuary. Walkers of the "West island way" - which has been a great boost for visitors to the island - will also be affected due to the visual impact of proposed Bute fish farm. The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours. Wild swimmers would lose a stretch of the Bute coastline for their swimming activities. Please refer to the Bute Outdoor Swimming Society FB group page (approx. 500 members) and see the swims that have taken place from Kilchattan Bay to Glencallum Bay. Also, there is currently no knowledge of the possible effects of the toxic bath treatments on humans, so again the precautionary principle should be applied. The newly established paddle boarding company on Bute would lose a stretch of coast line for its customers.	The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin Faecal waste from such a large number of fish for such an extended period of time As above, I again would like to say that in reading the application I am concerned overall by the slip shod science that has been used in producing the applications – this casts doubt upon any assertions Dawnfresh makes. In particular, I do not understand why we are consulting on information/data that was gathered almost three years ago. I do not understand why the required amount of current data gathering days is not met for South Bute – if there were difficulties due to weather or accidental dislodging due to another water user, surely it is up to Dawnfresh to spend the time and money to gather the appropriate amount of data. I do not understand why Glasgow airport wind data and Inverkip meteorological data is used in the modelling. Any of us who live in this area know that the winds and weather we face here are completely different to Inverkip and even more so to Glasgow airport. And after the ECCLR report in 2018 chastised SEPA for lack of oversight and SEPA reformed its application standards, why are these applications being allowed to use old data in put to outdated modelling systems to submit this application?

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	and there is a young lobsterman who is not a CFA member who works that exact area. For the Cumbrae applications, it seems ridiculous that £1.8m is being spent to reintroduce oysters, including placing 1300 in the Largs Yacht Haven and Fairlie Quay Marina, and then fish farms will be introduced adjacent to these sites so that these toxic chemicals will impact those oysters. The oysters are touted as purifiers of water and a boon to the environment but if these neuro toxins affect them the money and project overall will be in vain. There are otters that swim in the area of the proposed South Bute fish farm. Otters are a European protected species and SEPA has an obligation to apply the precautionary principle here to protect them. These will be affected directly by absorbing the chemicals if they are in the water at the time of treatments and indirectly through eating shellfish that have been affected by the chemicals. SEPAs own study in 2018 in Shetland showed that chemical dispersion could be wider than modelled as well as chemicals lasting longer than expected. Why should we believe this will not happen in the Clyde? https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report. Lice soup will be created in the Clyde, impacting wild salmonids Holding 2500t of fish in an open cage will build up a concentration of lice which will be exacerbated by the relatively close proximity of the three proposed farms across the entrance of the Clyde. This will impact on the wild salmonids exiting and re-entering the Clyde as they leave and return to their spawning grounds at the Endrick Waters, a European designated Special Area of Conservation. The Scottish Government, and thus SEPA as its agent, is obliged to protect these wild salmonid as they travel through Scottish waters. It has recently been established that lice from fish farms can impact wild salmonids and any doubt about the magnitude of such impact should be subjected to the precautionary principle and this application rejected. Denmark and others have banned the use of open caged fish farms as they are terrible for the environment. Please refer to this model for impact of lice from fish farms and thus the impact on the water environment https://vimeo.com/496948354					

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59	Waste material from fish pens dropping to the sea bed in the immediate area. Faeces and uneaten food pellets.I am old enough to remember the disgusting smell in the area off Garroch Head when the sewage sludge boats from Glasgow dumped their toxic waste. It has taken years for the area to recover and reduce the heavy metal pollution. Why would we consider recommencing pollution in this area. The use of highly toxic chemiclas for fish treatment is not acceptable. The three stated chemicals,azamethiphos, cypermethrin and deltamethrin are all toxic in the marine environment as stated by the European Chemicals Agency. The use of such materials will probably be the subject of enquiry in future years, just as the disastrous impact which many previously used land based herbicides has had on bee populations. People will then be shocked that such behaviour was sanctioned by regulators.	Impact on the already low numbers of native salmon and sea trout in the area. The impact on seal populations which if they have the temerity to try to eat any farmed salmon which have suddenly arrived in their environment will be forced away by constant underwater noise methods, or be shot if they fail to comply. Impact of underwater noise on cetaceans in the area.	The three sea lice treatment chemicals quoted in the CAR. The degradation products from faecal waste and unused food pellets. Any anti-fouling treatments for the nets and pens.	All water users in the area. Boating, sailing, kayaking, diving. Anyone who visits the beautiful remote Glencallum Bay at the southern tip of Bute, either on foot or by boat.	Anyone who wants to swim in clean unpolluted waters in the adjacent Clyde area. It is particularly noted that the dispersion models show the three toxic chemicals being directed to the beaches surrounding Fintry Bay on Great Cumbrae. This is an area used by thousands of tourist each year who expect to be able to access clean, pollution free sea water for swimming and paddling.	The three toxic chemicals quoted in the CAR.
60	The negative impact of industrial levels of fish farming on the water and shoreline environment has been well documented. Recent reports highlight a vast increase of lice infestation in the fish pens of existing farms, and the subsequent increased use of chemicals. These chemicals – which are toxic to humans and to aquatic life – together with hormones used to treat the fish, untreated fish faeces and uneaten food, will stay in the waters of the Firth of Clyde for years, swilling back and forth with the tides and polluting our sea and our shores. The wind and tidal current modelling used for this application does not relate to the site in question. Anyone familiar with Kilchattan Bay knows that certain tides and high winds can deposit vast banks of seaweed and other detritus around the bay, and in particular at the weir on the side where the houses are situated. This can lie for weeks. If polluted by carcinogenic chemicals and faecal matter it would become a serious health hazard. The proposed site is highly exposed and prone to rough seas. Escaped farmed fish are an additional threat to the environment. Over 70% of Norway's rivers are now genetically polluted. Reports state that the effects are catastrophic and irreversible. The situation is now so critical that the Norwegian government no longer issues licences for open pen fish farming. As a result, Norwegian companies have now come to Scotland, where the same effects are now becoming evident.	All marine and shore life in the area at the south end of Bute is liable to be adversely affected. Otters have been recorded recently on the shoreline around the Hawks Neb and Glencallum Bay. Otters are a protected European species. If the proposed sonic barrier between Bute and the Cumbrae is installed there will be no seals, no otters, porpoise, whales or any aquatic mammals visiting our shores. Seals are shot if they venture near fish farms. Discarded ropes, netting and plastic debris washed up on the shoreline would be an additional hazard	The application seeks permission to use Cypermethrin, Deltamethrin and Azamethiphos as bathing treatments, all of which are highly toxic and hazardous to the aquatic environment, and to humans. Two of these chemicals are human carcinogens. This proposal involves dumping large quantities of untreated fish faeces, hormones and carcinogenic chemicals into the waters around Bute and the Cumbraes. Toxic chemicals will be in the water column for decades, long after the fish farms have gone. The chemicals will be ingested by all fish in the vicinity, which are then sold for human consumption. How can this be acceptable?	Kilchattan Bay in particular will be highly vulnerable to pollution from a fish farm at the Hawks Neb, given the prevailing winds and tide patterns. It is a large bay with significant variation in tide levels, making it suitable for a wide range of water-based and beach activities Once the pollution levels from the proposed fish farms are monitored and published, life in the village as we know it will be irrevocably changed	Wild swimming, kayaking and paddle boarding along the stretch of coast from Kilchattan Bay to the lighthouse at Glencallum Bay. All beach activities in Kilchattan Bay and along the shoreline where children play in the rockpools. Fishing in the bay, both commercial and recreational.	Cypermethrin, Deltamethrin and Azamethiphos are all used in 'bathing' the fish pens and are all highly toxic, a danger to both aquatic life and to humans. This proposal involves dumping large quantities of untreated fish faeces, hormones and carcinogenic chemicals into the waters around Bute and the Cumbraes, damaging the environment for many years.

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	The Firth of Clyde is already circled by existing fish farms that require far stricter regulation than is currently exercised. To contemplate more farms in these circumstances would be the utmost folly. An environmental disaster driven by short term financial gain.					
61	The Bute News (Argyll Media Ltd) of Friday 30.04.2021 carried an advertisement of Sepa re this application. The description given 'The discharge to the water environment of fish excreta, uneaten food and other substances resulting from the operation of a new marine pen fish farm' seems enough to warrant objection. There is already a fish farm in Loch Striven, at the north end of Bute, there are further applications for two more fish farms in the area, i.e. Cumbrae and Little Cumbrae besides this one which seems a heavy concentration of fish farms in a relatively small area, which is NOT open sea but a river. Farmers get fined if they by accident cause pollution of surface water, so why allow a fish farm to cause pollution. As the fish farm will be operating in a river, the river banks will also be affected by any discharges from the fish farm. Experience teaches that accidents will happen at some stage, so then a major problem may arise, including allowing fish to escape.	The impact will be on the whole of the marine life, such as seaweed, prawns , shellfish, fish, seals, otters, gannets and other birds looking for food. Not only in the water but also on the riverbanks. The Clyde at one time was used as a dumping ground for sewage waste from Glasgow, that is no longer done for obvious reasons, but is the description of what the fish farm is going to discharge in the water so much different from what happened in the past? Rivers have been cleaned up since the mid 20th Century so why should we allow now in the 21st Century the process to be reversed.	The Bute Community Council is concerned about what and how much of the medication, hormones and other treatments will enter the water, the application is not very clear about that. No, we cannot specify any substance or chemical as such as we do not have the expertise, but deferring to authorities and others who advice that the discharges of fish farms contain known carninogens which are harmful to all marine life, and which should not be allowed on purpose to enter the waters of the Clyde. Fish farms often use a form of sound to scare of any would be predators in the water, and although not a chemical or a physical substance, it will harm other wildlife such as seals, otters, porpoises.	The Isle of Bute relies very much on tourism as a source of income and has in recent years greatly increased the number of outdoor and seaborne activities to attract more visitors to the Island. Walking, (the West Island Way passes quite close to the proposed area of the fish farm), birdwatching (there are several hides on the Island), cycling (electric bikes are now for hire), while activities on the water have increased with wild water swimming, kayaking, canoeing and the establishment of a paddle-boarding company. If the area becomes less attractive to tourists then this will impact negatively on all who rely to a greater or lesser extend on the tourist trace. There are various commercial fishing boats based in Rothesay harbour, whose areas will also be affected by the fish farm discharges. Sea angling may be affected, especially if fish escape from the farm and mix with the native species.	The West Island Way will pass very closely to the proposed fish farm, if the map is correct. Bute is relatively unspoilt and the construction of an industrial facility will not enhance the experience of walking the long distance footpath. In the same area another fish farm is proposed at Little Cumbrae, this will also be visible from the Isle of Bute Sailing boats, motor yachts, wild swimmers, kayakers, canoeists, all who use the water in some way will be impacted by the addition of fish farms in the area, as the application clearly states that there will be some form of pollution. The closer the contact with the water, the more important it is for the water to be unpolluted, so wild swimmers especially are concerned.	We have already answered this question in previous boxes but we are concerned about 'The discharge to the water environment of fish excreta, uneaten food and other substances resulting from the operation of a new marine pen fish farm' as this is very much contrary to what has happened in the recent past of cleaning up rivers, making sure that no pollution from the countryside enters the rivers and/or the sea. Fish farms are known to use audio signals to keep seals and other predators away, causing distress to those animals, which is also contrary to good husbandry of livestock. We therefore very much hope that the fish farm project will not go ahead.

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62	A. Concerns over the loss of marine life (including porpoise, whales, and seals) due to sonar audio equipment. If used this would potentially result in both a loss to the local marine environment and to the tourists and locals who enjoy seeing seals etc. regularly along the coast of Bute. B. Concerns over the proposed use of carcinogenic and harmful compounds and chemicals that can cause permanent irreversible damage to zooplankton (namely Cypermetherin, Deltametherin and Azmethipos) and subsequent possible contravention of Schedule 1 of The Water Environment (Controlled Activities) (Scotland) Regulations 2011. C. Concerns regarding the potential environmental impact on the surrounding seabed and coastline as a result of the waste created by the 2,500t of fish that are to be farmed. It is estimated that one fish farm of this size produces the sewage equivalent, untreated and left to disburse along the coast, of a town twice the size of Oban which is unacceptable. D. Concerns regarding the impact on migrating fish by concentrated cloud of sea lice originating from the fish farm. E. Concerns over the impact of the anchorage and subsurface mooring area on both the environment and pleasure/commercial vessels which regularly navigate the coastal areas of Bute.	A. Impact on Priority Marine Features such as natural oyster beds and clam species within the suggested location area (which could impact on otters feeding). B. Migratory fish affected by sea lice clouds generated by the farm. C. Impact on water quality due to waste produced by the fish farm affecting both the seabed and coastline.	A. Concerns over the use of carcinogenic chemicals Cypermetherin, Deltametherin and Azmethipos affecting both animals/fish and humans. Otters swim & feed in the area of the proposed South Bute fish farm and we are concerned that they will be severely impacted by the installation. As a European protected species, the otter is fully protected under the Conservation (Natural Habitats) Regulations 1994 (as amended). Use of above chemicals will potentially directly affect the otters through absorption if they are in the water at the time of treatments and indirectly through eating shellfish that have been affected by the chemicals.	A. There are significant concerns surrounding the proximity to the shore of the farm and waste products/chemicals/medicines that will be washed up along the coast which has the potential to impact on both humans and wildlife. This is especially the case for wild swimmers / kayak / SUP boarders who will be impacted by poor water quality. B. The visual & physical impact of the farm will be 150m x 375m (c.14 acres) and the subsurface impact will be much larger. C. The farm will be visible from multiple points on the island and in close proximity to the village of Kilchattan. D. The Isle of Bute is a designated Area of Panoramic Quality and the installation of a fish farm such as this could have a significant impact on this classification.	A. The West Island Way is a popular walking route for many locals and visitors to the Isle of Bute, with the Hawks Neb an attractive view point. Installation of a fish farm at this location would be unattractive visually and negatively impact the enjoyment of those on the walk. B. Sea kayaks / SUP Boarders etc. will be restricted from navigating around the coastal areas at Hawks Neb, having to go further out into the Clyde which could increase risk to users.	A. Concerns over the use of carcinogenic chemicals Cypermetherin, Deltametherin and Azmethipos.

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63	The proposed chemicals and discharge models for Azamethiphos, Cypermethrin, Deltamethrin will be significantly deleterious to the sea life around Bute and certainly the areas creel fisherman. With well demonstrated toxicity to lobster larve1, high toxicity to other crustacea such as shrimp2 and 100% toxicity to sea crabs, at concentrations lower than that proposed3. This is one example of the impacts on water quality, but the eutrophication and impacts associated with effluent discharge (noted in the proposal at 18kg/m2) are very significant not just for the marine environment and the species that live there, but also on water quality for those that use the area for swimming and various water sports. The supplied models show that a large stretch of foreshore around the fish farm will be impacted but the popular residential beach area immediately north of the proposal will be also be significantly negatively impacted. The modelling supplied with the proposal is insufficient in its breadth. With data collection being seasonally restricted, with short duration, the results cannot be extrapolated with confidence. Other weaknesses include weather data being taken from Glasgow Airport, a location which is so different to the proposed site that its inclusion is wholly unsuitable. The reduction of even this data to baseline averages is shocking in its simplicity. There is no doubt that significant effluence and feed discharge will be transported to the bathing area immediately north of the proposed site. 1: https://doi.org/10.1016/j.envpol.2020.114725 2: https://doi.org/10.1016/j.marenvres.2020.105007 3: https://doi.org/10.1016/j.chemosphere.2017.07.108	The proposed area is frequented by many cetacean species and the deep waters, immediately offshore often lead to basking sharks feeding within meters of the foreshore. Photographic evidence and videos, including drone footage can be provided. Basking Sharks are listed as Endangered on the IUCN Red List and are domestically protected under Schedule 5 of the Wildlife and Countryside Act 1981, the Countryside Rights of Way Act 2000 and the Nature Conservation (Scotland) Act 2004. The proposal directly impacts their feeding grounds, not just with physical obstruction but also in altering the marine environment through effluent discharge and chemical application. Further, the proposed use of sonic deterrents with significantly negatively impact cetacean populations and not just in the immediate vicinity but in a much broader area, as well document in previously published localised marine mammal reports. Secondly, in addition to the huge deleterious impacts of effluent discharge and as previously mentioned: Azamethiphos, Cypermethrin, Deltamethrin will be significantly deleterious to the sea life around Bute and certainly the areas creel fisherman. With well demonstrated toxicity to lobster larve1, high toxicity to other crustacea such as shrimp2 and 100% toxicity to sea crabs, at concentrations lower than that proposed3. 1: https://doi.org/10.1016/j.envpol.2020.114725 2: https://doi.org/10.1016/j.marenvres.2020.105007 3: https://doi.org/10.1016/j.chemosphere.2017.07.108	In addition to the chemical concerns listed above, well known in the industry is the rise of lice that are resistant to our current arsenal of pesticides. A recent study highlights the unique role of fish farms, leading to heritable pesticide resistance and consequently widespread infestations in the north-eastern Atlantic ocean. Resistant genes have spread through populations from Scandinavia to Greenland, and even up into Iceland where chemical pesticides are not used1. These results demonstrate the speed to which this parasite can develop widespread multiresistance, illustrating why the aquaculture industry has repeatedly lost the arms race with this highly problematic parasite1. Thus, the chemicals and modelling highlighted in this report are not relevant to the functioning of the proposed fish farm, where different chemicals and at differing concentrations will be needed in order for the fish farm to be economically viable. The impacts of these unknown treatments will be significantly different to that outlined in the proposal and impacting at different spatiotemporal scales. 1. https://doi.org/10.1098/rsos.210265	The area immediately north of the proposed site, with a distance measured in meters not miles, is a residential area that is popular with visitors. This attractive beach and area is well used by locals and tourists alike for bathing, swimming and a host of water sports. The impact of effluent discharge and associated eutrophication will have a significant deleterious impact and create health/safety concerns for those who use the water. The proposed location also physically blocks a popular swimming route from the bay to the lighthouse. Secondly, although the modelling supplied with the proposal is insufficient in its breadth and based on poor data, the results should be cause for concern. Even with such insufficient inputs, the supplied models show dispersal of azamethiphos, cypermethrin, deltamethrin concentrating in localised bathing spots including the populous mainland seaside resort of Largs. Consequently, the proposal will significantly impact a range of popular bathing locations locally and further afield.	In addition to that listed above, it should also be noted that the proposed development will have a significant deleterious impact on the areas creel fisherman with crustaceans most susceptible to the proposed chemical applications. The associated decline in these marine invertebrates can be very significant1,2,3 and therefore damaging to this small local industry. 1: https://doi.org/10.1016/j.envpol.2020.114725 2: https://doi.org/10.1016/j.marenvres.2020.105007 3: https://doi.org/10.1016/j.chemosphere.2017.07.108	The proposed applications of azamethiphos, cypermethrin, deltamethrin are deeply concerning and addressed elsewhere in this response. The need for further, as yet unidentified, chemicals is also of concern and again addressed in detail elsewhere in this response Further, the modelling supplied with the proposal is insufficient in its breadth. With data collection being seasonally restricted, with short duration, the results cannot be extrapolated with confidence. Other weaknesses include weather data being taken from Glasgow Airport, a location which is so different to the proposed site that its inclusion is wholly unsuitable. Far more detailed weather/climate data is available on a 1km grid resolution, so more suitable data exists is widely used in climate modelling papers. The reduction of even the 'Glasgow Airport' data to baseline averages is shocking in its simplicity. The proposed models are totally unsubtle for an assessment of the likely impacts of this proposal and presents a insincere narrative.

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64	District Salmon Fishery Boards have a statutory responsibility to protect and improve salmon and sea trout fisheries in their district and are statutory consultees in the planning process for fish farms. Whilst Fisheries Management Scotland do not routinely respond to CAR licence applications for fish farms, we believe that the proposed location for this development is inappropriate from the perspective of migratory salmonids and the interests of other water users. There are a number of important rivers and fisheries that would be affected by the proposed farm site, including those in North Ayrshire, the Clyde and Loch Lomond (which includes the Endrick Water Special Area of Conservation - https://sitelink.nature.scot/site/8252), which are not covered by a District Salmon Fishery Board. On that basis, Fisheries Management Scotland will be fully engaged with the licensing and wider planning process. Our primary concern are impacts on wild salmonid fish and this is covered in the section below.	All three proposed Dawnfresh sites lie on an important migration pathway for Atlantic salmon which all fish arising from the inner Clyde, including the Clyde and Lomond systems, will utilise. It is also high likely that Atlantic salmon and sea trout arising from rivers in North Ayrshire will utilise this area. We would emphasise that both Atlantic salmon and sea trout are Priority Marine Features – the habitats and species of greatest conservation importance in inshore waters. We also highlight that the Endrick Water is a Special Area of Conservation (SAC) with Atlantic salmon as a qualifying interest. The Endrick Water SAC is already rated as being in an 'unfavourable' condition by NatureScot site condition categorisation. The Habitats Directive (article 6) requires that Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive. It also states: In the light of the conclusions of the [appropriate] assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public. The proposed development, taken together with the other two proposed CAR licences in this area by the same company, represent a significant additional biomass of farmed fish in an area of the inner Clyde with no history of open cage fish farming. This will represent a highly significant addition of host fish for sea lice on an important migratory pathway for wild fish. It is important to emphasise that the total lice load arising from a marine fish farm is a function of the number of lice per farmed fish, and the total number of fish maintained in the cages. Maximum biomass consented via the CAR licensing system therefore has a direct influence on the number of larval sea lice released into the environment. As set out above, we therefore consider that SEPA must take the potential impacts on wild fish, and the associated impact on interests of other users of the water environment fully into account when considering these applications. Of particular relevance is the close proximity of the Endrick Water SAC. Fish arising from this SAC, and many other important local rivers, inevitably must		Scotland's wild salmon and sea trout are at crisis point with many populations below conservation limits, particularly on the West Coast within the 'Aquaculture zone'. Whilst wild salmon face a range of pressures, specific pressures from the aquaculture industry include impacts from escapes and sea lice. Salmon and sea trout fisheries are an important component of Scotland's rural economy. These fisheries and associated infrastructure rely on healthy populations of fish returning to Scotland's rivers. Scottish salmon rivers are categorised by Marine Scotland Science under the salmon conservation regulations according to the likelihood of them meeting their conservation limits. The gradings of rivers have been published for 2021. 104 rivers across Scotland are graded as Category 3, meaning there is a less than 60% probability of meeting their conservation limit. Where salmon populations are below their conservation limits, any additional pressure, including from sea lice, cannot be considered sustainable. Whilst Fisheries Management Scotland do not routinely respond to CAR licence applications for fish farms, we believe that the proposed location for this development is inappropriate based on the aforementioned impacts on the water environment, which will have a knock-on effect on other water users, including fisheries managers and anglers. As mentioned previously, the impacts of sea lice and farmed fish escapes can be detrimental to the water environment. Experience from previous escapes of rainbow trout from Dawnfresh farms, particularly in Loch Etive where at least 35,000 fish have escaped since 2015, have shown that in addition to these potential ecological impacts, the escapes create a significant nuisance to fishery owners and angling businesses. We therefore consider that SEPA must take the potential impacts on wild fish, and the associated impact on interests of other users of the water environment fully into account when considering this application.	As above, this farm, alongside the other two proposed CAR licences in this area, has the potential to impact fisheries management and angling activities in a number of important rivers and fisheries, including those in North Ayrshire, the Clyde and Loch Lomond (which includes the Endrick Water SAC), which are not covered by a District Salmon Fishery Board.	

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		migrate directly past the proposed developments on their migration through the inner Clyde, placing those fish at risk from lethal or damaging infestation from sea lice. We would also highlight the potential risk of the effects of escaped farmed species on wild fish populations which is widely recognised within peer reviewed scientific literature (e.g. Glover et al. 2017). A recently recorded instance at the Mowi Scotland Ltd. Carradale North site saw 48,834 farmed salmon escape during a storm event in August 2020. A study of scale samples monitored the distribution of the escaped fish and found widespread dispersion of the farmed salmon. There were documented cases of farmed fish found within 17 rivers, the majority of which were captured within the Clyde and Loch Lomond systems and a number of rivers in Ayrshire and Argyll (Fisheries Management Scotland, 2021). Rainbow trout are a non-native species and have the potential to impact on native fish species through competition and predation. In addition, rainbow trout in the wild are not covered by wild fisheries legislation. Experience from previous escapes of rainbow trout from Dawnfresh farms, particularly in Loch Etive where at least 35,000 fish have escaped since 2015, have shown that in addition to these potential ecological impacts, the escapes create a significant nuisance to fishery owners and angling businesses. Dawnfresh have refused to recognise or compensate for these impacts. SEPA have direct responsibility for non-native species in rivers, so it is important that this potential impact is fully considered in determining this CAR licence. We have attached a short summary of the science which underpins our objection. Whilst the impacts of sea lice arising from farms may be mitigated by strategically planning farm locations, there is no current strategic plan within which this can happen. We are conscious that SEPA, Marine Scotland, NatureScot and local authorities are developing a strategic framework related to sea lice impacts on wild fish, but this is still in development. In the meantime, the precautionary principle should apply, and Fisheries Management Scotland strongly object to a licence being granted for each of the three proposed farms. References Fisheries Management Scotland (2021). Monitoring for the presence of farmed salmon in West Coast Scottish rivers following an escape from the Carradale				

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		North salmon farm. Glover, K. A., Solberg, M. F., McGinnity, P., Hindar, K., Verspoor, E., Coulson, M. W., Hansen, M. M., Araki, H., Skaala, Ø., & Svåsand, T. (2017). Half a century of genetic interaction between farmed and wild Atlantic salmon: Status of knowledge and unanswered questions. Fish and Fisheries, 18(5), 890–927. https://doi.org/10.1111/faf.12214				

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65	The proposed chemicals and discharge models for Azamethiphos, Cypermethrin, Deltamethrin will be significantly deleterious to the sea life around Bute and certainly the to the local creel fishermen. With well demonstrated toxicity to lobster larve (1), high toxicity to other crustacea such as shrimp (2) and 100% toxicity to sea crabs, at concentrations lower than that proposed (3). This is one example of the impact on water quality, but the eutrophication and impacts associated with effluent discharge (noted in the proposal at 18kg/m2) are very significant not just for the marine environment and the species that live there, but also on water quality for those that use the area for swimming and various water sports. The supplied models show that a large stretch of foreshore around the fish farm will be impacted but the popular residential beach area immediately north of the proposal will be also be significantly negatively impacted. The modelling supplied with the proposal is insufficient in its breadth. With data collection being seasonally restricted, with short duration, the results cannot be extrapolated with confidence. Other weaknesses include weather data being taken from Glasgow Airport, a location which is so different to the proposed site that its inclusion is wholly unsuitable. The reduction of even this data to baseline averages is shocking in its simplicity. There is no doubt that significant effluence and feed discharge will be transported to the bathing area immediately north of the proposed site. 1: https://doi.org/10.1016/j.envpol.2020.114725 2: https://doi.org/10.1016/j.marenvres.2020.105007 3: https://doi.org/10.1016/j.chemosphere.2017.07.108	The proposed area is frequented by many cetacean species and the deep waters immediately offshore often lead to basking sharks feeding within meters of the foreshore. Photographic evidence and videos, including drone footage can be provided. Basking Sharks are listed as Endangered on the IUCN Red List and are domestically protected under Schedule 5 of the Wildlife and Countryside Act 1981, the Countryside Rights of Way Act 2000 and the Nature Conservation (Scotland) Act 2004. The proposal directly impacts their feeding grounds, not just with physical obstruction but also in altering the marine environment through effluent discharge and chemical application. Further, the proposed use of sonic deterrents with significantly negatively impact cetacean populations and not just in the immediate vicinity but in a much broader area, as well document in previously published localised marine mammal reports. Secondly, in addition to the huge deleterious impacts of effluent discharge and as previously mentioned: Azamethiphos, Cypermethrin, Deltamethrin will be significantly deleterious to the sea life around Bute and certainly the area's creel fishermen. With well demonstrated toxicity to lobster larve (1,) high toxicity to other crustacea such as shrimp (2) and 100% toxicity to sea crabs, at concentrations lower than that proposed (3). 1: https://doi.org/10.1016/j.envpol.2020.114725 2: https://doi.org/10.1016/j.marenvres.2020.105007 3: https://doi.org/10.1016/j.chemosphere.2017.07.108	In addition to the chemical concerns listed above, well known in the industry is the rise of lice that are resistant to our current arsenal of pesticides. A recent study highlights the unique role of fish farms leading to heritable pesticide resistance and consequently widespread infestations in the north-eastern Atlantic ocean. Resistant genes have spread through populations from Scandinavia to Greenland, and even up into Iceland where chemical pesticides are not used (1). These results demonstrate the speed to which this parasite can develop widespread multi-resistance, illustrating why the aquaculture industry has repeatedly lost the arms race with this highly problematic parasite(1). Thus, the chemicals and modelling highlighted in this report are not relevant to the functioning of the proposed fish farm, where different chemicals and at differing concentrations will be needed in order for the fish farm to be economically viable. The impacts of these unknown treatments will be significantly different to that outlined in the proposal and impacting at different spatiotemporal scales. 1. https://doi.org/10.1098/rsos.210265	The area immediately north of the proposed site, with a distance measured in meters not miles, is a residential area that is popular with visitors. This attractive beach and area is well used by locals and tourists alike for bathing, swimming and a host of water sports. The impact of effluent discharge and associated eutrophication will have a significant deleterious impact and create health/safety concerns for those who use the water. The proposed location also physically blocks a popular swimming route from the bay to the lighthouse. Secondly, although the modelling supplied with the proposal is insufficient in its breadth and based on poor data, the results should be cause for concern. Even with such insufficient inputs, the supplied models show dispersal of azamethiphos, cypermethrin, deltamethrin concentrating in localised bathing spots including the populous mainland seaside resort of Largs. Consequently, the proposal will significantly impact a range of popular bathing locations locally and further afield.	In addition to that listed above, it should also be noted that the proposed development will have a significant deleterious impact on the area's creel fishermen with crustaceans most susceptible to the proposed chemical applications. The associated decline in these marine invertebrates can be very significant (1,2,3) and therefore damaging to this small local industry. 1: https://doi.org/10.1016/j.envpol.2020.114725 2: https://doi.org/10.1016/j.marenvres.2020.105007 3: https://doi.org/10.1016/j.chemosphere.2017.07.108	The proposed applications of azamethiphos, cypermethrin, deltamethrin are deeply concerning and addressed elsewhere in this response. The need for further, as yet unidentified, chemicals is also of concern and again addressed in detail elsewhere in this response Further, the modelling supplied with the proposal is insufficient in its breadth. With data collection being seasonally restricted, with short duration, the results cannot be extrapolated with confidence. Other weaknesses include weather data being taken from Glasgow Airport, a location which is so different to the proposed site that its inclusion is wholly unsuitable. Far more detailed weather/climate data is available on a 1km grid resolution, so more suitable data exists and is widely used in climate modelling papers. The reduction of even the 'Glasgow Airport' data to baseline averages is shocking in its simplicity. The proposed models are totally unsuitable for an assessment of the likely impacts of this proposal and present a insincere narrative.

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66	This opinion from the ABCouncil stated the proposed fish farm is likely to give rise "to significant environmental effects" Fish faecal matter will affect water quality: For 94 years, from 1904 until 31 December 1998, the sewage sludge from Glasgow was shipped down the Clyde and dumped at Garroch Head of the south of Bute. On the SEPA website the water quality of the whole area around Arran, Bute and the Cumbraes was only moderate and the website cited sewage as the reason. Only in the last several years has the water quality in this area been upgraded to good. How can it be sensible to now allow three fish farms to allow untreated faeces from tens of thousands of caged fish enter this fragile area? Dr Luxmore, who before retiring was senior nature conservation officer at the National Trust Scotland said that one fish farm of the size proposed produces the sewage equivalent of a town twice the size of Oban. With three farms proposed across the mouth of the Clyde we would be allowing waste equivalent to that of 105,000 enter the waters. That is not acceptable. No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment. The idea that faeces and/or chemicals will be dispersed is not an acceptable argument: dispersal does not equal disappearance – it simply means it will be moved somewhere else. Use of highly toxic chemicals will affect other species in the area: The applicant plans to use azamethiphos, cypermethrin, deltamethrin. These are all highly toxic chemicals to the aquatic environment according to the European Chemicals Agency. They're utility in fighting lice by causing the destruction of their shells will also affect other crustaceans in the area. The South Bute site is already fished by CFA and there is a young lobsterman who is not a CFA member who works that exact area. For the Cumbrae applications, it seems ridiculous that £1.8m is being spent to reintroduce oysters, including placing 1300 in the Largs Yacht Haven and Fairlie Quay Marina, and then fish farms will be introduced adjacent to these sites so that these toxic chemicals will impact those oysters. The oysters are touted as purifiers of water and a boon to the environment but if these neuro toxins affect them the money and project overall will be in vain. *There are otters that swim in the area of the proposed South Bute fish farm. Otters are a European protected species and SEPA has an obligation to apply the precautionary principle here to protect them. These will be affected directly by absorbing the chemicals	The otters that live and feed all around Bute but particularly those near Hawks Neb, photos of which can be seen on the Isle of Bute Facebook Group page, which are enjoyed by many The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina The water quality of the general area due to faecal and food waste	The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin Faecal waste from such a large number of fish for such an extended period of time I would like to say that in reading the application I am concerned overall by the slip shod science that has been used in producing the applications – this casts doubt upon any assertions Dawnfresh makes. In particular, I do not understand why we are consulting on information/data that was gathered almost three years ago. I do not understand why the required amount of current data gathering days is not met for South Bute – if there were difficulties due to weather or accidental dislodging due to another water user, surely it is up to Dawnfresh to spend the time and money to gather the appropriate amount of data. I do not understand why Glasgow airport wind data and Inverkip meteorological data is used in the modelling. Any of us who live in this area know that the winds and weather we face here are completely different to Inverkip and even more so to Glasgow airport. And after the ECCLR report in 2018 chastised SEPA for lack of oversight and SEPA reformed its application standards, why are these applications being allowed to use old data input to outdated modelling systems to submit this application	I think it will cost some people part or all of their livelihood- and/or Clyde Fisherman Association members I think it will inhibit the success of the re-introduction of oysters to the area, a project that will improve the water quality rather than negatively impact it as the proposed fish farms would The proposed fish farms are directly in the highest use areas for kayaking, sailing and merchant navy activity so any of these users will be impacted. The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours. Wild swimmers would lose a stretch of the Bute coastline for their swimming activities. Please refer to the Bute Outdoor Swimming Society FB group page (approx. 500 members) and see the swims that have taken place from Kilchattan Bay to Glencallum Bay. Also, there is currently no knowledge of the possible effects of the toxic bath treatments on humans, so again the precautionary principle should be applied. The newly established paddle boarding company on Bute would lose a stretch of coast line for its customers.	as above	The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin Faecal waste from such a large number of fish for such an extended period of time As above, I again would like to say that in reading the application I am concerned overall by the slip shod science that has been used in producing the applications – this casts doubt upon any assertions Dawnfresh makes. In particular, I do not understand why we are consulting on information/data that was gathered almost three years ago. I do not understand why the required amount of current data gathering days is not met for South Bute – if there were difficulties due to weather or accidental dislodging due to another water user, surely it is up to Dawnfresh to spend the time and money to gather the appropriate amount of data. I do not understand why Glasgow airport wind data and Inverkip meteorological data is used in the modelling. Any of us who live in this area know that the winds and weather we face here are completely different to Inverkip and even more so to Glasgow airport. And after the ECCLR report in 2018 chastised SEPA for lack of oversight and SEPA reformed its application standards, why are these applications being allowed to use old data in put to outdated modelling systems to submit this application?

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	if they are in the water at the time of treatments and indirectly through eating shellfish that have been affected by the chemicals. SEPAs own study in 2018 in Shetland showed that chemical dispersion could be wider than modelled as well as chemicals lasting longer than expected. Why should we believe this will not happen in the Clyde? https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report. Lice soup will be created in the Clyde, impacting wild salmonids Holding 2500t of fish in an open cage will build up a concentration of lice which will be exacerbated by the relatively close proximity of the three proposed farms across the entrance of the Clyde. This will impact on the wild salmonids exiting and re-entering the Clyde as they leave and return to their spawning grounds at the Endrick Waters, a European designated Special Area of Conservation. *The Scottish Government, and thus SEPA as its agent, is obliged to protect these wild salmonid as they travel through Scottish waters. It has recently been established that lice from fish farms can impact wild salmonids and any doubt about the magnitude of such impact should be subjected to the precautionary principle and this application rejected. Please refer to this model for impact of lice from fish farms and thus the impact on the water environment https://vimeo.com/496948354					
67	Fish faecal matter will affect water quality: For 94 years, from 1904 until 31 December 1998, the sewage sludge from Glasgow was shipped down the Clyde and dumped at Garroch Head of the south of Bute. On the SEPA website the water quality of the whole area around Arran, Bute and the Cumbraes was only moderate and the website cited sewage as the reason. Only in the last several years has the water quality in this area been upgraded to good. How can it be sensible to now allow three fish farms to allow untreated faeces from tens of thousands of caged fish enter this fragile area? Dr Luxmore, who before retiring was senior nature conservation officer at the National Trust Scotland said that one fish farm of the size proposed produces the sewage equivalent of a town twice the size of Oban. With three farms proposed across the mouth of the Clyde we would be allowing waste equivalent to that of 105,000 enter the waters. That is not acceptable. No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment.	The otters that live and feed all around Bute but particularly those near Hawks Neb, photos of which can be seen on the Isle of Bute Facebook Group page, which are enjoyed by many The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina The water quality of the general area due to faecal and food waste	The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin Faecal waste from such a large number of fish for such an extended period of time	I think it will cost some people part or all of their livelihood- and/or Clyde Fisherman Association members I think it will inhibit the success of the re-introduction of oysters to the area, a project that will improve the water quality rather than negatively impact it as the proposed fish farms would The proposed fish farms are directly in the highest use areas for kayaking, sailing and merchant navy activity so any of these users will be impacted.	See 6A	The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin Faecal waste from such a large number of fish for such an extended period of time

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	The idea that faeces and/or chemicals will be dispersed is not an acceptable argument: dispersal does not equal disappearance – it simply means it will be moved somewhere else.					
68	Mainly the problem will be the expanded Sea lice concentration but the toxic chemicals used to treat this and other diseases effect all marine species.	The mackerel that I caught last time I fished off Port Bannatyne tasted of mud and came aboard with sea lice which I have never seen before. The gannets we see from here are hugely reduced and last year there were hardly any waders. These were all byproducts of the salmon cages at Ardyne Point. Any salmon trying to breed in any river running into the Clyde no has to run a gauntlet of sea lice to get to spawn after which the much weaker smolts will have to do the same on the way to sea. The much reduced sea trout population will also be effected. The state of the Clyde fishery is famous for all the wrong reasons.		There are already reduced numbers of Gannets and waders which are a big attraction for anybody visiting this area and the sport fishing is now virtually non existent.	Fish farms and the treatments to mitigate the diseases that are endemic in wild fish at such concentrations. This still results in a 25% death rate which if it were happening on an establishment above the surface ie. on land would have the managers jailed.	

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69	At the broadest level, the use of three chemical treatments and the deposition of huge amounts of fish excrement from three closely sited farms will inevitably affect the water environment. Given all the good work that has taken place in recent years to help restore the water quality of this area of the Clyde (after it had been in a poor condition for many years certainly in part due to human sewage dumping), it is surely a step backwards by now allowing untreated faeces from tens of thousands of caged fish enter this fragile area. There are already simply too many fish farms in the Clyde and these are placed at a very damaging position. I also believe it is important that the impact of the 3 proposed applications (Bute + Cumbraes) should be considered collectively, since they are relatively close and the sum of the dispersal of fish waste and treatment chemicals should be considered as a whole - not individually - i.e. it is not appropriate to consider each proposed fish farm in isolation, given their proximity. I also believe that the proposed fish farms will impact the water environment because Dawnfresh have a record of poor behaviour in Loch Etive with a similar group of farms. This is highly relevant. Dawnfresh intend to use azamthiphos, cypermethrin, deltamethrin. These are all highly toxic chemicals to the aquatic environment according to the European Chemicals Agency. They fight lice by causing the destruction of their shells, but this will also affect other crustaceans in the area. The South Bute site is already fished by CFA and there is a young lobsterman who is not a CFA member who works that exact area. SEPA carried out a study in 2018 in Shetland that showed that chemical dispersion could be wider than modelled, in addition to chemicals lasting longer than expected. Why should we believe this will not happen in the Clyde? The Scottish Government and SEPA is obliged to protect wild salmonid as they travel through Scottish waters. It has recently been established that lice from fish farms can impact wild salmonids and any doubt about the magnitude of such impact should not be ignored. The concentrations of lice, from the proposed 3 sites in close proximity, will impact on the wild salmonids exiting and re-entering the Clyde as they leave and return to their spawning grounds at the Endrick Waters, a European designated Special Area of Conservation.	The fishing grounds at Hawks Neb, fished by the lobsterman and of members of the CFA The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC There are otters that live and feed all around Bute but particularly those near Hawks Neb, photos of which can be seen on the Isle of Bute Facebook Group page The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina	Azamethiphos, deltamethrin and cypermethrin. All three are highly poisonous chemicals which have the potential to harm many forms of marine life - any doubts around these cannot be set aside. in fact should deltamethrin and cypermethrin be permitted at all when MOWI are on record as claiming that they are no longer effective against sea lice. Additionally, the biochemical effects of such large deposits of waste, rich in ammonia, phosphates and nitrates are by no means agreed - again, is the evidence robust enough to allow these applications to continue? - surely not the modelling undertaken on behalf of Dawnfresh is now 3 years old, with potentially irrelevant weather data from a remote and different location - this is grounds for unreliable conclusions having been submitted by Dawnfresh. Also, the faecal waste itself, from such a large number of fish and for such an extended period of time, is not a good thing! More generally the use of Glasgow airport wind data and Inverkip meteorological data in the modelling undertaken is inappropriate: i have lived on Bute for 20+ years and am adamant that the winds and weather we face here are completely different - it is a local weather pattern. And given that the ECCLR report in 2018 criticised SEPA for lack of oversight, why are these applications now being allowed to use old data input to outdated modelling systems as part of this application? This is highly relevant to the addition of treatment chemicals to our local waters, given the doubts around the modelling undertaken.	As mentioned, there is a local lobster fisherman who fishes the waters in question, as do members of the Clyde Fisherman's Assn Sea swimmers would lose a stretch of the Bute coastline for their swimming activities. The Bute Outdoor Swimming Society (approx. 500 members) have organised swims from Kilchattan Bay to Glencallum Bay - see their Facebook site for evidence of this. Similarly the newly formed paddle boarding company on Bute would lose a stretch of coast line for its customers. The proposed fish farms are directly in one of the highest use areas for kayaking, sailing and merchant navy activity so any of these users will be impacted. The dispersion modelling for the Bute fishfarm but also the 2 Cumbrae fishfarms shows that the coast of Big Cumbrae, particularly Millport Bay and the western shore, and the waterfront of Largs will have the three toxic chemicals washing up and accumulating after bath treatments. Can people be sure that water quality on these shorelines, which are often used by families to swim and paddle, will not be affected - surely this cannot be guaranteed. How these chemicals can be allowed to impact populated areas, without some expectation of impact on locals.	pretty much same answer as question immediately above: local lobster fisherman who fishes the waters in question, as do members of the Clyde Fisherman's Assn Sea swimmers would lose a stretch of the Bute coastline for their swimming activities. The Bute Outdoor Swimming Society (approx. 500 members) have organised swims from Kilchattan Bay to Glencallum Bay - see their Facebook site for evidence of this. Similarly the newly formed paddle boarding company on Bute would lose a stretch of coast line for its customers. The proposed fish farms are directly in one of the highest use areas for kayaking, sailing and merchant navy activity so any of these users will be impacted. The dispersion modelling for the Bute fishfarm but also the 2 Cumbrae fishfarms shows that the coast of Big Cumbrae, particularly Millport Bay and the western shore, and the waterfront of Largs will have the three toxic chemicals washing up and accumulating after bath treatments. Can people be sure that water quality on these shorelines, which are often used by families to swim and paddle, will not be affected - surely this cannot be guaranteed. How these chemicals can be allowed to impact populated areas, without some expectation of impact on locals.	The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin - and the amounts of these and where they end up Faecal waste from such a large number of fish for such an extended period of time - again, the amounts of this and where ends up Please allow the Clyde the chance to continue to grow back to full health, and not allow for the introduction of these proposed fish farms to usher in long term damage

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70	Environment - Over the last 50 years there has been great progress in cleaning up the Clyde, industrial effluent now greatly reduced, new sewage treatment plants installed to improve water quality, dumping of Glasgow's sewage sludge off the South of Bute discontinued. Not long ago SEPA registered the water quality around Arran, Bute and the Cumbraes as only moderate but in more recent years this has been upgraded to good. The river is no longer considered a dumping ground for waste. How can it now be sensible to allow three new fish farms to deposit untreated faeces from tens of thousands of caged fish to enter our waters. No other form of farming would be allowed to let untreated waste enter our river system. The idea that the river will disperse the effluent and chemicals is not an acceptable argument, it only means that it will be moved in diluted form to other areas, in this case the beaches and waters of the islands and North Coast which our public enjoy. These three proposed farms are either in or very close to the migratory run of salmon going up the Clyde and risk the salmon being contaminated by lice on their journey. Unintentional releases of large numbers of farmed fish into the rivers from fish farms in the past have also caused problems to wild stock and the businesses they support. The chemicals proposed for use to treat sea lice are forms of insecticides. Due to the enclosed nature of fish farms sea lice, a natural inhabitant of our waters in low numbers, proliferated and need treated, hence the chemical treatments used. Dead and decaying fish can also be a problem. As previously said huge effort, through EU and Government controls, have been applied to clean up our waters, is this now sensible or correct to take a backward step? Especially as the local area has nothing to gain and much to lose if such developments go ahead.			Tourism - This area benefits from and depends heavily on tourism. Sailing, canoeing, kayaking, paddle boarding, windsurfing etc attract visitors to the area. Our beaches host a range of activities such as rock pooling, wild swimming, paddling, fishing and diving which also enhance the visitor experience for those onshore. The sandy areas and beaches are used for family swimming and picnics, dog walking and dog swimming etc. Our Largs and Millport proms are amongst the best used in Scotland by locals and visitors alike. Wildlife such as seals, porpoise, dolphin, otters, swans, herons and ducks to name a few add to the enjoyment of our shores. Any degradation of water quality, either biological or chemical contamination will affect the users of these waters both in the short and long term. Surely this is a most important consideration when there in no material or financial benefit to offset loss of amenity.		
71	I am concerned about the discharge of fish faeces which would inevitably find its way to large areas of water. Also there would be degradation of the seabed , likely escapes (which has happened before) that would impact on the native marine life let alone the toxic chemicals used. There would also be a build up of lice which would specifically effect salmonids both entering and exiting the Clyde.	As above - Salmonids, Otters	Cypermethrin - which is used commercially as a preservative, azamethiphos and deltamethrin.	Businesses , for example, fishermen, companies who charter tourist boats. Kayakers (of which I'm one), wild swimmers to name but few.		

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72	Fish faecal matter from a fish farm this size will have a detrimental impact on the marine ecosystem in the surrounding area also adversely affecting the natural habitats of marine mammals.	Otters, seals, dolphin, porpoise, whales and basking sharks are all known to inhabit and frequent the area. Particularly sea otters which frequent the shoreline and areas close to shore along the coast from Kilchattan bay to Glencallum bay will have their habitat threatened. Otter aer a protected species and are also an attraction to visiting tourists who come to Bute and its secluded shore to view and photograph them in their natural habitat. Basking shark, porpoise dolphins and whales are common visitors to the coastline of Bute and are a major attraction to locals and visiting tourists who come specifically to observe them in theor natural habitat.	Azamethiphos, cypermethrin, deltamethrin are all Toxic chemicals which will have a detrimental effect on the natural environment, the flaura and fauna close by and humans who use the waters and coastline for recreational puposes.	Azamethiphos, cypermethrin, deltamethrin, al Toxic chemicals will impact and cause harm to the many locals and visitors who regularly use the area for recreational purposes. Recreational users include sailors, kayakers, scuba divers, sport fisherman and open water swimmers. There is a local swimming group Bute Outdoor Swimming Society, based on the island, whch regularly arranges organised swims from Kilchattan bay to Glencallum bay for local and visiting swimmers, the proposed site of the fish farm is directly on the line that the swims take. The Bute Outdoor swimming Society is a facebook group which has 483 members who use the site to share information about swimming around the coast of Bute and regularly meet to hold organised swims. If the fish farm goes ahead, the alraedy established swims mentioned above would no longer be able to take place, thus depriving an established group of a natural resource which is beneficial to so many local and visiting swimmers. The toxic chemicals I mentioned previously would also adversley affect the health of anyone swimming nearby.	As above... Particularly kayakers and swimmers, both groups regularly use this specific location as it on a well established swimming and kayaking route from Kilchattan bay to Glencallum bay.	Azamethiphos, cypermethrin and deltamethrin. If I am swimming in an area where these chemicals are used, who is responsible and who has a duty of care to notify me of their usage and pressence in the water and the likely effect on my health and wellbeing? This is a major concern to me.

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Dr Luxmore, who before retiring was senior nature conservation officer at the National Trust Scotland said that one fish farm of the size proposed produces the sewage equivalent of a town twice the size of Oban. With three farms proposed across the mouth of the Clyde we would be allowing waste equivalent to that of 105,000 enter the waters. That is not acceptable. No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment. The idea that faeces and/or chemicals will be dispersed is not an acceptable argument: dispersal does not equal disappearance – it simply means it will be moved somewhere else. Use of highly toxic chemicals will affect other species in the area: The applicant plans to use azamethiphos, cypermethrin, deltamethrin. These are all highly toxic chemicals to the aquatic environment according to the European Chemicals Agency. 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The oysters are touted as purifiers of water and a boon to the environment but	The otters that live and feed all around Bute but particularly those near Hawks Neb, photos of which can be seen on the Isle of Bute Facebook Group page, which are enjoyed by many The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina The water quality of the general area due to faecal and food waste	The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin Faecal waste from such a large number of fish for such an extended period of time. I would like to say that in reading the application I am concerned overall by the slip shod science that has been used in producing the applications – this casts doubt upon any assertions Dawnfresh makes. 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I think it will cost some people part or all of their livelihood- and/or Clyde Fisherman Association members I think it will inhibit the success of the re-introduction of oysters to the area, a project that will improve the water quality rather than negatively impact it as the proposed fish farms would The proposed fish farms are directly in the highest use areas for kayaking, sailing and merchant navy activity so any of these users will be impacted. The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours. Wild swimmers would lose a stretch of the Bute coastline for their swimming activities. Please refer to the Bute Outdoor Swimming Society FB group page (approx. 500 members) and see the swims that have taken place from Kilchattan Bay to Glencallum Bay. Also, there is currently no knowledge of the possible effects of the toxic bath treatments on humans, so again the precautionary principle should be applied. 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	if these neuro toxins affect them the money and project overall will be in vain. *There are otters that swim in the area of the proposed South Bute fish farm. Otters are a European protected species and SEPA has an obligation to apply the precautionary principle here to protect them. These will be affected directly by absorbing the chemicals if they are in the water at the time of treatments and indirectly through eating shellfish that have been affected by the chemicals. SEPAs own study in 2018 in Shetland showed that chemical dispersion could be wider than modelled as well as chemicals lasting longer than expected. Why should we believe this will not happen in the Clyde? https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report. Lice soup will be created in the Clyde, impacting wild salmonids Holding 2500t of fish in an open cage will build up a concentration of lice which will be exacerbated by the relatively close proximity of the three proposed farms across the entrance of the Clyde. This will impact on the wild salmonids exiting and re-entering the Clyde as they leave and return to their spawning grounds at the Endrick Waters, a European designated Special Area of Conservation. *The Scottish Government, and thus SEPA as its agent, is obliged to protect these wild salmonid as they travel through Scottish waters. It has recently been established that lice from fish farms can impact wild salmonids and any doubt about the magnitude of such impact should be subjected to the precautionary principle and this application rejected. Please refer to this model for impact of lice from fish farms and thus the impact on the water environment https://vimeo.com/496948354					

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74	We wish to reiterate the points made by Clyde Coastal Community Councils (CCCC) and refer you to the extensive case made by Buteiful Coasts https://buteifulcoasts.com/sepa-clyde-fish-farm-consultation/. In summery: • Individually, all 3 fish farm proposals are likely to have 'significant environmental effect' • Faecal and Food waste deposited from the fish farm cages will adversely increase organic and nutrient enrichment of the Clyde estuary reducing water quality. This is already concern over areas if Baggiota, an indicator of poor water quality, which will be exacerbated by organic enrichment from farm sites. • The area around fish farm sites are a known hotspot for invasive species and pose significant risk to Scotland biodiversity. The carpet sea squirt (Didemnum vexillum) is a high priority INNS species and further spread likely lead to a failure to meet water quality standards. The fish farms and attendant vessels will provides attachment surface and act as transmission vector for this species. • Hydrodynamic models developed by Strathclyde University (FVCOM Models) indicates that waste and chemical pollutants are unlikely to be dispersed into open sea from the upper Clyde estuary. The hydrodynamic parameters and environment in Clyde estuary are changing and in a state of flux. • Nutrient enrichment will increase occurrence and severity of deleterious algal blooms. This significant issue in some Clyde sea lochs (Loch Fyne, Striven & Loch Long) and of increasing concern in the outer estuary during periods of thermal stratification.	We wish to reiterate the points made by Clyde Coastal Community Councils (CCCC) and refer you to the extensive case made by Buteiful Coasts https://buteifulcoasts.com/sepa-clyde-fish-farm-consultation/. In summary: • The Cumbraes Marine Consultation Area is noted for its diverse benthic communities and assemblages of macroalgae. Two farms are located within this designation but effluent from all three will severely impact biota located there. • Southannan SSSI is noted for its diversity of infauna species (Nature Scot 2015) and substantial areas of dwarf eelgrass (Zostera noltei). It is also home to biogenic reefs listed at OSPAR Priority Marine features including native oyster and mussel biotopes. Any additional nutrient enrichment and chemical pollution pose a substantial threat to these internationally and highly protected habitats. • Kames Bay SSSI is in the direct path the effluent plumes modelled from Little Cumbrae. The chemical effluents will have deleterious impact on crustacea and molluscs studied there and impact is usefulness and purpose of notification as a SSSI. Intelligent decision making about how best to manage SSSIs, and coasts in general, in a sensitive and sustainable way in order to conserve biodiversity, requires basic science at the heart of an integrated Coastal Zone Management policy (Moore 2020). • Ballochmartin Bay SSSI will be impacted and home to diverse range of macrofauna and denuded native oyster population which will be impacted from proposed fish farm effluents. • Loch Goil MPA is distant to the proposed fish farm locations but widely known and accepted that prevailing winds force litter and effluents towards the heads of Loch Long and Goil and impact the sea sill area of Loch Goil MPA. • Endrick Water SAC. The fish farms are located on migratory pathway for Endrick Water SAC. • European Protected Species o Otters are protected species. All 3 fish farms are located within the home range and prime foraging locations of known otter populations. Otters will be displaced from natural foraging grounds, bioaccumulate toxins and resultant predator management issues. o Harbour Porpoise are year round residents and utilise the areas where fish farms will be located. Passive Acoustic Monitoring survey data indicates that these areas are persistent hotspots for this species (Marine Scotland 2020). Scottish Marine Animal	We wish to reiterate the points made by Clyde Coastal Community Councils (CCCC) and refer you to the extensive case made by Buteiful Coasts https://buteifulcoasts.com/sepa-clyde-fish-farm-consultation/. In summary: o The applicant plans to use azamethiphos, cypermethrin, deltamethrin are recognised to have high levels of toxicity and harmful to most forms of marine life. o The chemical dispersion modelling is inadequate and likely to be much wider and more persistent than that reported in CAR application. o Faeces and waste food will exacerbate eutrophication on Clyde estuary water body. o Sea lice can be considered a biogenic effluent and poses a significant and unacceptable risk to migratory and wild salmonids. o The application proposes to deposit 25kg/square metre per annum of food and faeces below the farm cages. This is wholly unacceptable within Cumbraes MCA are which is designated for assortment of benthic biota, PMFs and algae communities. o Fishfarm companies (MOWI) have stated in recent applications that Cypermethrin and Deltamethrin are no longer effective and that only Azamethiphos works. This raises a legitimate question as to why anyone should be given permission to introduce these chemicals into the environment at all.	We wish to reiterate the points made by Clyde Coastal Community Councils (CCCC) and refer you to the extensive case made by Buteiful Coasts https://buteifulcoasts.com/sepa-clyde-fish-farm-consultation/. In summary: o Commercial and hobby fishers will be impacted both directly and indirectly. The fish farm locations are heavily utilised by static gear fisherman who will be displaced from these areas and result in further conflict with other water users and mobile sector. The toxic chemical listed in application are known to have deleterious impact on crustacea shell formation with resultant economic impact to fishers. o The dispersion modelling for the three farms shows that the North Coast area, particularly Millport Bay and the waterfront of Largs will be exposed to toxic chemicals. This exposure is unacceptable to all water users and children who visit these areas. o All three farm sites present an significant obstruction to vessels, the safe passage of sailing vessels and present a risk to navigation. o Also, there is currently no knowledge of the possible effects of the toxic bath treatments on humans, so again the precautionary principle should be applied.	We wish to reiterate the points made by Clyde Coastal Community Councils (CCCC) and refer you to the extensive case made by Buteiful Coasts https://buteifulcoasts.com/sepa-clyde-fish-farm-consultation/. In summary: o Wild Oyster Project – The projects areas of interest and proposed sites for biogenic reef and native oyster restoration will be impacted by effluents from proposed fish farm sites. Considerable investment has been made to identify potential sites and fish farms locations present an unacceptable risk to further development and investment in the area. o Environmental Education – The coastal sites around Cumbrae are heavily utilised by eco tourism businesses and used for environmental education purposes which will be impacted and reduce quality of offering. o All of the proposed fish farm sites are in high recreational use areas and will impact quality of experience and pose significant health risk to coastal swimmers, kayakers etc. o Sports fishermen.	We wish to reiterate the points made by Clyde Coastal Community Councils (CCCC) and refer you to the extensive case made by Buteiful Coasts https://buteifulcoasts.com/sepa-clyde-fish-farm-consultation/. In summary: o The fish farm application does not address any cumulative impacts between the farms. It is our understanding that the AutoDepomod modelling presented in the application has been superseded by NewDepomod which should have been used for the application and impossible to properly predict discharge impacts without it. o The report plays 'lip-service' to combined effects from the various farms and dismisses importance of modelling cumulative impacts. o The farm sites are in close spatial proximity to each other and hydrodynamic modelling fails to indicate pollution source interactions across the sites. o The modelling reports state that the method used produces artefacts close to the shore and exactly where concentrations of pollutants are of most concern and highest risk to human receptors. o Our communities endure nuclear contamination from Hunterston effluent outflows and irresponsible not to cumulative impacts to receptors. o The meteorological data used in modelling is not fit for purpose and does not describe situation. o Some of the surrounding communities have experienced an increase in population (Fairlie +25%) but waste water infrastructure has not been updated with more effluent and increasing frequency of storm overflow discharge events. The environment is under considerable pressure from eutrophication yet no mention of cumulative impacts from fish farms. o The waters around these sites are heavily utilised by water users who will become exposed to azamethiphos and calls made for independent assessment of the impacts of these chemicals on people immersed in the sea. Is SEPA responsible for this assessment? o The proposed farm sites will bridge the Loch Striven and Arran Disease Management Areas but no indication in license applications on increase in pollutants that will be required to control disease spreading across management areas. o The hydrodynamic modelling makes no reference to planned coastal flood defence works in Millport Bay which will greatly modify the currents and pollutant exposure from fish farm sites.

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		Stranding's toxicological data indicate that harbour porpoise populations are accumulating biotoxins and susceptible to chemicals listed in CAR application. o A resident common dolphin has a home range within meters of the Cumbrae fish farm site. This animal will be impacted by chemical toxins from fish farms and effluent from attendant vessels. o Basking Sharks are known to utilise the currents at the Wee Cumbrae and Hawks Nebb sites. • Seals haul out sites and foraging areas are located near and within the modelled effluent streams. . • Non Native Species - Rainbow trout and species proposed for fish farm sites are non-native species and derived from hatcheries in Denmark and South Africa. Escaped fish, either diploid or triploid, present an unacceptable risk to native and wild stocks. Dawnfresh have very poor track record and cannot guarantee fish will not escape and interact with wild population and in natural habitat including Endrick Water SAC and other important river fisheries. • Salmon and Sea Trout are Priority Marine Features o All three farm sites are located on migratory pathway for Salmon entering the Lomond and Endrick Waters SAC. o The biomass and stocking density pose an unacceptable risk to PMFs and SEPA should assess the impact of consenting almost 7500t of additional biomass to migrating pathway and smolt corridor to designated sites like Endrick Water SAC.				

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I do not understand why Glasgow airport wind data and Inverkip meteorological data is used in the modelling. Any of us who live in this area know that the winds and weather we face here are completely different to Inverkip and even more so to Glasgow airport. And after the ECCLR report in 2018 chastised SEPA for lack of oversight and SEPA reformed its application standards, why are these applications being allowed to use old data in put to outdated modelling systems to submit this application?

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	the proposed South Bute fish farm. Otters are a European protected species and SEPA has an obligation to apply the precautionary principle here to protect them. These will be affected directly by absorbing the chemicals if they are in the water at the time of treatments and indirectly through eating shellfish that have been affected by the chemicals. SEPAs own study in 2018 in Shetland showed that chemical dispersion could be wider than modelled as well as chemicals lasting longer than expected. Why should we believe this will not happen in the Clyde? https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report. Lice soup will be created in the Clyde, impacting wild salmonids Holding 2500t of fish in an open cage will build up a concentration of lice which will be exacerbated by the relatively close proximity of the three proposed farms across the entrance of the Clyde. This will impact on the wild salmonids exiting and re-entering the Clyde as they leave and return to their spawning grounds at the Endrick Waters, a European designated Special Area of Conservation. *The Scottish Government, and thus SEPA as its agent, is obliged to protect these wild salmonid as they travel through Scottish waters. It has recently been established that lice from fish farms can impact wild salmonids and any doubt about the magnitude of such impact should be subjected to the precautionary principle and this application rejected. Please refer to this model for impact of lice from fish farms and thus the impact on the water environment https://vimeo.com/4969483					
76	As Chairman of the Ruel River Improvement Association, I am extremely concerned that the proposed fish farm will further increase the number of sea lice in the location which in turn will further reduce the survival rates of the iconic seatrout population on the Argyll coast and rivers. We have already seen the disastrous effects which open cage aquaculture has an wild migratory fish populations and to allow this application to proceed would be another nail in their coffin.		The recent Governmental Committees recommendations in respect of how aquaculture should be regulated are contained in the Salmon Interactions Working Group report dated May 2020.			
77	Loss of vital scallop , nep and most importantly spawning herring grounds	As above	That's obvious	Look on google maps there a too many in the Clyde as it is.	Fishing, sailing etc	Yes

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78	Fish farms produce large quantities of fish fescues which alone will be to the severe detriment of the popular bathing waters in which this farm would be sited. Add to that the chemicals used will also be a major health hazard. Generations of children have learned to swim in the relatively safe shallow waters of Kilchattan Bay and many return year after year to enjoy this tranquil seaside resort. Indeed, a number now take part in the growing recreation of open water swimming which is enjoyed year round. Indeed, swimming races from Kilchattan Bay to Glencallum Bay now take place. Do you expect swimmers to detour out into the shipping channel to circumnavigate fish pens? Sound pollution will also be a factor in these waters as fish farms intend to install them to frighten off mammals of which several species inhabit the area. (See otters later).	Many varieties of marine life will be lost to the area. Pictures have been published showing the sea bed below fish farms turned into desert like scenes as all plant and shellfish life has been killed off by the deposits from the pens It should be particularly noted that the area from Kilchattan Bay to Glencallum Bay is a breeding ground for otters. I am informed that otters are a protected species and it is a criminal offense to disturb them. A fish farm at this location would not only disturb them, it would eradicate them.	I do not know the full range of chemicals used in fish farming at present but cochineal was if not still is used to color the flesh of farmed fish. I know of one location where this coloured the shell fish up to a mile away rendering them unusable for human consumption.	Polution! Obstruction to swimmers and canoeing/yachting etc		I cannot understand how any body with the name Environment Protection Agency could possibly even consider recommending such a proposal! If you really seek to protect the environment you should reject this application. To sanction it would tell the public that you are merely a body set up to rubber stamp items on the instruction of a government department.
79	1. Release of untreated fish farm waste (faeces & waste food) and the toxic chemicals used as sea lice treatments will smother seabed habitats and affect water quality for marine life and all users of the area. 2. For this proposed farm alone, the untreated fish waste that will be discharged is equivalent to the sewage produced by a town of over 10,000 people. Such a discharge would not be allowed for any other food production industry and should not be acceptable practice in the sea. 3. The overall environmental health of the Clyde region is not good as is shown in the 2017 Clyde Marine Region Assessment. Historic dumping of sewage sludge in the Clyde seriously impacted water quality, the effects of which are only recently being reversed. The siting of this and two other open cage fish farms in close proximity to each other will again lead to dumping of huge volumes of untreated waste into the sea with consequent negative impacts. 4. The modelling of the impacts of discharges from the farm is inadequate and does not meet current standards. The old AutoDEPOMOD model that has been used in the modelling has been shown to be flawed in terms of describing sediment transport and deposition, meaning that the results of the waste modelling presented for this application are therefore unacceptable and cannot be relied upon. It is not acceptable that this outdated and discredited modelling approach is considered adequate to assess the likely impacts of this proposed farm, or the other two farms proposed by Dawnfresh	1. Benthic marine species and benthic Priority Marine Features – impact from waste and chemicals. There is insufficient information provided with the consultation documents to enable a more detailed comment on this point. The seabed survey data for the area needs to be made publicly available and be available for public scrutiny and comment alongside the other application documents. 2. Wild salmonids. Salmon and sea trout are Priority Marine Features and are protected under national and international legislation (Atlantic Salmon are listed in: Annex III of the Bern Convention and Annex II of the EC Habitats Directive; the UK Biodiversity Action Plan (BAP), the Scottish Biodiversity List and the IUCN Red List of threatened species. Sea trout are also listed as a BAP species.) Migrating wild salmon will be impacted by this proposed farm when leaving/returning to their spawning grounds and will pass through the areas of the proposed fish farm and sea lice plumes resulting from the fish farm (alone and in combination with sea lice from other fish farms). There are many important salmon rivers within the Clyde catchment that all risk being affected by this proposed farm . Wild salmon that are a feature of the Endrick Water Special Area of Conservation (SAC) are at risk of being adversely affected by this proposed farm. As part of the CAR licencing process (a plan/project), a Habitats Regulations Appraisal (HRA) should be prepared by SEPA that assesses the impact of sea lice and other impacts of the	1. The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin and deltamethrin. 2. The faecal waste and waste from uneaten fish food that will be discharged, untreated, into the sea	1. There are a wide range of people who will be impacted by this proposed fish farm as a result of the release of waste and toxic chemicals, and the disturbance due to the presence of the fish farm – noise and physical presence of the structure. There are both direct and indirect impacts on the quality of people's enjoyment, health and livelihoods. Impact on marine life impacts people's wellbeing but also directly affects any businesses (tourism, fishing, snorkelling, diving) that rely on a healthy marine environment. The following interests/businesses operate within the area/vicinity of the farm and will be negatively impacted by this proposed farm: - Swimmers & beach users - Wildlife watching businesses - Kayakers/sailers/paddlboarders - Fishermen – locally based and Clyde fishermen's Association members. Loss of ground and impact of chemicals and waste on target species (crustaceans) - Scuba divers / snorkellers The dispersion modelling for this application and the two other Dawnfresh farm applications nearby shows that there will be toxic chemicals washing up in areas of the coast, particularly Millport Bay and the western shore and the waterfront of Largs.	See previous comments	1. The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin and deltamethrin. 2. The faecal waste and waste from uneaten fish food that will be discharged, untreated, into the sea.

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	in the nearby locality. Issuing a CAR licence on the basis of this outdated modelling methodology is unacceptable and contrary to current modelling and regulatory requirements. 5. We can see that additional hydrodynamic modelling (Delft-3D) has been presented by Dawnfresh. Was the modelling approach approved by SEPA? How does the modelling of particulate waste dispersal by this different system compare to the NewDepomod approach accepted by SEPA? How do the model outputs presented in the documents compare to assessment of seabed quality using IQI standards? Only limited current data has been applied to the model. We cannot see that the hydrodynamic modelling enables a realistic prediction of benthic impacts. All this further highlights the flaws in the modelling and questions the validity of the model outputs to assess impacts on seabed ecology and biodiversity. 6. Where are the reports of benthic seabed surveys? It is impossible to see how assessment of impact on benthic marine communities and any Priority Marine Feature benthic habitat and species has been addressed as this information has not been made publicly available as part of the consultation documents. The seabed survey reports need to be part of the consultation documents so that everyone can see, and assess, the adequacy of the information that is being used. The modelling report is dated 2018. Has any more recent survey data been collected and, if it has, how has it been incorporated into the assessment of impacts? 7. The applicant proposes to use chemicals that are all highly toxic to the aquatic environment (azamethiphos, cypermethrin, deltamethrin). These chemicals will affect other marine life (in particular crustaceans) in the area and post a health risk to sea users. The assessment of chemical dispersion from the farms is fundamentally flawed. The modelling report acknowledges that the method cannot accurately predict what happens near the coast where, it could be argued, understanding the fate of the chemicals is most critical in terms of impact on many sea users. The report seeks to undermine the significance of coastal chemical concentrations by saying that the model outputs reflect a worst case scenario. For any sea users in the area, whether they are swimmers, kayakers, fishermen or scuba divers, understanding the full implications of the discharge of these toxic chemicals and	proposed farm (alone and in combination) on the Endrick Water SAC. The HRA should be made publicly available as part of the documentation for this application. The purpose of the HRA is to show beyond reasonable scientific doubt that the plan or project that is being assessed will not adversely affect the integrity of the SAC. Processing the CAR application should not proceed without the HRA being completed and available for public comment. 3. Otters (A European Protected Species) - present all around Bute. Feed in the coastal waters and will be affected by impacts of waste and toxic chemicals directly and indirectly. 4. Commercially important shellfish, e.g. lobster, crab. Significant risk from effects of toxic chemicals and impact of waste on seabed habitats and ecology. 5. Oysters – native oysters recently introduced to Largs Yacht Marine and Fairlie Quay Marina 6. Humans – impact of toxic chemicals and waste on wellbeing and livelihoods of existing businesses that rely on a healthy, productive and attractive marine environment.				

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	levels of contamination along the shore and inshore areas is paramount for their safety and livelihoods. The information presented does not enable an accurate assessment of potential risk and therefore should not be accepted as a justification for licencing these applications. The modelling assumes the same starting concentrations for all chemicals considered. Why is this? What are the real concentrations at the point of discharge and how are these worked out? How do the chemical concentration over time relate to the SEPA EQS thresholds? This should be clearly shown on the information presented. 8. There are three farms proposed in close proximity to each other but there is no assessment of cumulative effects of the discharges from these farms in combination. The dispersion modelling predicts that there will be some interaction between discharges from the farms but does not investigate this further. A proper cumulative assessment is required. 9. There appears to be no consideration of the likely overlapping of Disease Management Areas (DMAs). The National Marina Plan states that new aquaculture sites should not bridge DMAs, so how is this requirement being addressed? 10. There is a significant and high likelihood of adverse impact on wild salmonids as a result of this proposal alone and in combination with the other two Dawnfresh open cage fish farm proposals that are being consulted on. This is due to the thousands of farmed fish that would be present in the cages acting as hosts for sea lice, creating a significant source for sea lice that are dispersed into the surrounding area and on to infect wild salmon and trout within the water body. The total sea lice load arising from a marine fish farm is a function of the number of lice per farmed fish, and the total number of fish maintained in the cages. Maximum biomass consented via the CAR licensing system directly influences the number of larval sea lice released into the environment. There is a cumulative impact from farms within the same water body – this is not just the three Dawnfresh proposals but also the overall sea lice burden arising from other open cage fish farms within the Clyde Region. This cumulative impact needs to be assessed. I refer you to this animation of modelled sea lice burden which indicates the very significant risk from this proposed farm and					

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	in combination with other open cage fish farms: https://vimeo.com/496948354					

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80	Fish farms using open nets discharge all their organic particulate waste, all the dissolved nutrients excreted by the fish, and all the pesticides used to treat the fish into the water. They can all affect the water quality and seabed life. Fish farms also discharge sea lice larvae, threatening wild salmon and trout which are a valuable part of the water environment. The number of sea lice larvae discharged depends on the licensed fish biomass of the farm, which is set by SEPA. SEPA used to take responsibility for sea lice emissions but now declines to do so. It ought to take responsibility again, in particular for the cumulative impact of lice from multiple farms in the same waterbody, regardless of ownership.	see above re wild salmonids There seems to be no suitable place to address the inadequacy of the pollution modelling submitted by DawnFresh, so I will include it here: DF first applied for CAR licences for its Firth of Clyde farms before NewDepomod replaced AutoDepomod but this is no excuse for not submitting NewDepomod modelling as well. SEPA has acknowledged that the assumptions and simplifications inherent in AutoDepomod only make it suitable for broad risk assessment. It assumes the seabed is flat for instance and that all material transported further than 500m from the farm will vanish forever and not return on the next tide. It underestimates the dispersion of waste from the vicinity of the farm. SEPA says that it has performed its own NewDepomod modelling for this farm, but this is not provided in the application package on which we are being consulted. This is not acceptable. How can we assess the risk without seeing the NewDepomod modelling? It must be provided to the public for comment before this proposal is assessed by SEPA. The three proposed farms are close together. There is potential for cumulative impacts yet SEPA has not provided its own assessment of this risk, as it has done for instance for proposals in Kilbrannan Sound. This is inadequate. SEPA has asked DF for hydrodynamic modelling of the larger area, and says it gave DF advice on what this modelling should include. It would be more normal for DF to have submitted a modelling method statement in advance, for SEPA approval. The modelling advice has not been published but the resulting hydrodynamic modelling is of poor quality and is not fit for the purpose of assessing the cumulative risk of these three farms. Presumably SEPA will agree and ask for better modelling. For instance DF's modelling report refers to the potential for plumes of pesticides from farms to interact ('The modelling indicates that there is the potential for the bath medicines to interact with treatments form South Bute along the western coast of Great Cumbrae, if treatments conducted simultaneously.') but then models each farm's discharges separately. Why not map all three farms' discharges at the same time? DF's conclusion that 'It is not predicted that the discharges from the Isle of Little Cumbrae will interact with those from Greater Cumbrae' is not justified by this modelling report. The report does not use scientific notation -	All the fish farm pesticides are of concern: azamethiphos, cypermethrin, deltamethrin and hydrogen peroxide. Peer-reviewed science shows that they are all toxic to marine life at the levels used in fish farms. It seems to be impossible to load more than one document in the box below - the attached is just one example. Emamectin benzoate is also of concern but is not part of this application.	Many fishermen in the Greater Clyde catch crabs, prawns and lobsters. Fish farm pesticides are intended to kill crustaceans, so these species are vulnerable to harm. Norwegian shrimp fishermen have reported falling catches around fish farms, and so have fishermen in Wester Ross and the Hebrides. Anne Anderson (02/08/2018), then at SEPA, told us that she was aware of this but that: 'SEPA does not collect or produce data on crustacean fisheries or on the stocks that are pursued by fishermen. SEPA has been aware either through direct reports or through information provided indirectly - for example in media stories of a possible change in crustacean abundance which may have been anecdotally linked to the use of sea louse medicines such as emamectin benzoate.' This threatens jobs. Fish farm workers must have regular blood tests if they handle the organophosphate pesticide azamethiphos. It would clearly be reckless to discharge this and other bath chemicals at the concentrations used in treatments when swimmers were nearby. Treating the two farms that have applied to use azamethiphos would take ten days each time (one cage per day), so swimmers/marine animals would be exposed to this chemical every day for ten days each time (3 days at a time for the other chemicals). Mowi states that 'Over the past 5 years (2016 – 2020 inclusive), a total of 102 individual cage treatments using azamethiphos have taken place at Carradale…on 78 days during that 5-year period.' https://portal360.argyll-bute.gov.uk/my-requests/document-viewer?DocNo=22437057 Many regular swimmers swim every day. The likelihood of swimming through an organophosphate pesticide plume from Carradale on 78 occasions in five years does not sound infrequent at all. Swimmers are allowed to swim anywhere, including in fish farm pollution mixing zones. They care about the highest dose of pesticides they might encounter, even once. Plumes of fish farm pesticides are allowed by SEPA to disperse over 72 hours to Environmental Quality Standards established to protect lobsters but SEPA has recently confirmed that it does not know the safety thresholds for swimmers exposed to these pesticides when they are dumped in the sea. Wild swimming has grown greatly in popularity in Scotland in recent years. It is a major reason for tourists to visit this area. The risk of exposure to organophosphate nerve agents is not appealing to tourists. This also threatens jobs.	see above	All the licensed fish farm bath chemicals are a threat to commercially-fished crustaceans and to people in the water near the farms or well boats, at the concentrations used in fish farm cages and potentially at considerable distances beyond. SEPA does not limit the quantities of hydrogen peroxide discharged by fish farms. Modelling by Mowi for its proposed Canna farm show that 122 tonnes of this highly reactive oxidant are dumped in the sea every time a farm is treated. Its half-life is 14 days. Peer-reviewed research shows that hydrogen peroxide kills shrimps, kelp and the polychaete worms needed to aerate the sediment under fish farm cages. Escobar-Lux et al 2020 (Short-term exposure to hydrogen peroxide induces mortality and alters exploratory behaviour of European lobster (Homarus gammarus) https://doi.org/10.1016/j.ecoenv.2020.111111) concluded that: 'Exposure to H_2O_2 was toxic to all pelagic larval stages tested, with estimated median lethal concentrations (LC50) of 177, 404, 665 and 737 mg/L for stage I, II, III and IV, respectively. These concentrations represent approximately 10, 23, 40 and 43%, of the recommended H_2O_2 concentrations used for delousing salmon on Norwegian fish farms, respectively…Numerous behavioural parameters including distance travelled to shelter, time to locate shelter and the number of shelter inspections, were negatively affected in lobsters exposed to H_2O_2 when assessed immediately after the exposure period. However, no differences between control and exposed lobsters were detected after a 24 h post-exposure period. Our results demonstrate that short term exposures to H_2O_2 are lethal to pelagic H. gammarus life stages and can negatively affect the shelter seeking behaviour of benthic life stages, though these behavioural changes may be short-lived.' SEPA must assess the impact of hydrogen peroxide on marine life. It must also reassess the EQS for other bath chemicals, and apply pollution mixing zones consistently to these chemicals, as it would to other industries discharging waste into the sea. NB: Not providing documents as it seems only possible to upload one.

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		for instance, how does 0.0000001 kg/m3 compare to the 100,000 ng/L concentration for azamethiphos at the point of release (quoted in Mowi's N Kilbrannan modelling)? The report does not refer to, or model, pesticide concentrations with reference to SEPA's EQSs for the different chemicals. Fundamentally, the report undermines its own conclusions by saying 'the predicted relative highs in concentrations on the coastline are primarily due to particle accumulation, with particles not being decayed or biodegraded', and 'in the Delft3D model the particles are not acted upon once they interact with the coastline. This includes processes such as decay and bioturbation, and therefore the predicted coastal chemical densities should be considered as worst case', in other words the report says that the high concentrations of chemicals at the coastline are an artefact of the modelling rather than a real effect. The coastline is where wild swimmers are most likely to encounter these chemicals and where most creel fishermen operate. How can DF use this model to assess those impacts or impacts on PMFs, all of which depend on knowing the concentrations of bath chemicals? This is not acceptabl Why was hydrogen peroxide dispersion not modelled, as Mowi has done at Canna? Other flaws with DawnFresh's AutoDepomod modelling include: References to the Allowable Zone of Effect (AZE) which has been consigned to history - new farms have mixing zones. The report says, 'the mid-range speeds observed at the site during a 90 day ADCP deployment were used in the modelling'. The main body of the document says that just 15 days of sampled tidal data are used to simulate where the waste will go. This analysis proposes just one seabed sampling transect. SEPA now requires more sampling for all new sites, with four transects. This farm is in a critically important location for migrating wild salmon smolts from the Endrick Water SAC, which must be protected beyond reasonable scientific doubt. How can DF expect to keep sea lice on its fish at a very low level during the wild smolt migration if this farm cannot use emamectin benzoate? The Rural Economy and Connectivity Committee's 2018 report on salmon farming recommended that farms are not sited in wild salmon migration routes. This and the other DF proposals fly in the face of that recommendation. They should be turned down.				

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		DF's hydrodynamic modelling argues that SEPA's standard modelling methods are too conservative: 'it is acknowledged by SEPA, and demonstrated by site surveys, that for some sites with higher biomass loading in high energy locations the standard modelling does not sufficiently predict the deposition in the far-field and is unable to model cumulative impacts. Therefore, Dawnfresh Farming Ltd. (Dawnfresh) commissioned Xodus Group (Xodus) to develop a Delft3D hydrodynamic model for their aquaculture sites in the Firth of Clyde. The model more accurately predicts and assesses deposition within high energy environments and therefore is better at determining the maximum biomass that sites are capable of supporting without adversely impacting the benthic environment.' How can SEPA compare particulate waste modelling in this Dispersion Modelling report, when it uses a different system to SEPA's NewDepomod system under its default setting How can SEPA compare the resulting impacts on the quality of seabed ecology when the DF hydrodynamic modelling doesn't predict benthic impact at all. One of key aims of this Dispersion Modelling report is said to be to assess 'to what extent are the SSSIs and PMFs situated in proximity to the proposed sites impacted by the discharges.' It has not attempted to do this seriously. Some of the language used in this report makes no sense, for instance what on earth does this mean? 'It was decided that the decision to run in-combination discharge models (i.e. Greater Cumbrae + Isle of Little Cumbrae + South Bute) would be based on the results of the individual discharges.' And this? 'Bath treatments – Neap and Spring tide model runs The model results for the chemical dispersion model runs are presented below. In all models the maximum concentration of approximately 0.0000001 kg/m3 (0.0001 ppm). These densities are generally evident in the initial releases (7th June 2020 12:30 (Neaps) and 2nd June 2020 0800 (Springs)) and were chemicals are shown to accumulate at the coastline. ' Why have DF assumed the same starting concentrations for all three chemicals? That seems unrealistic and must be justified. Why have DF not modelled sea lice dispersion while they were at it? The modelling submitted is not fit for purpose and should be redone and published for public comment before any decision is made on these licences.				

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		NewDepomod modelling must also be provided to the public for comment before this proposal is assessed by SEPA.				

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81	The application uses AutoDepomod for its waste dispersion and benthic effect modelling, which SEPA has stated is not fit for this purpose, and the applicant should have used NewDepomod for the waste modelling under the current regulations. The Allowable Zone of Effect (AZE) referred to in the results is out of date as the regulations now state that Mixing Zone modelling is required. The model presented is not consistent with the NewDepomod system and the modelled impacts on the seabed benthic ecology are not comparable (e.g. SEPA uses IQI to measure this rather than the ITI predicted by AutoDepomod). The hydrodynamic modelling presented does not, of course, model benthic impact. All in all the modelling is inadequate, non-compliant with the current SEPA regulations and therefore not fit for purpose.	It is understood from looking at the screening / scoping response from Argyll and Bute Council that benthic surveys exist for this site and have been submitted to SEPA but such information is absent from this consultation. Therefore the public cannot comment in an informed manner on the quality and richness of this substrate and what damage might be done by both chemical treatments and solids discharge and deposition if there is no reference to the data from the benthic study. These survey data and interpretation needs to be made available to this consultation. The recently announced project to establish oyster beds at Fairlie Quay and Largs Marina would be a major source of concern that in future chemicals and organic waster release in this confined area of the Clyde Estuary from all three Dawnfresh developments would put this oyster project at considerable risk of failure. The proximity of all three development proposals introduces a heightened risk of spreading of disease vectors and infestation throughout the linked operations by natural transmission pathways and by contact with service vessels and personnel. Specifically this same proximity could result in a continuous barrier of potential infection stretching across the very important wild salmon smolt migration bottleneck from Loch Lomond and the Endrick Water SAC catchment, sea lice population growth within the sea-trout cages and widespread dispersal and concentration along current interfaces being a crucial risk and barrier.	Azamethiphos is particularly toxic to crustaceans. These include the crabs, lobsters and prawns caught by Clyde fishermen. Azamethiphos in particular is also referred to in a following section which covers the effect on users of the water environment. The fact that SEPA has not undertaken a scientific assessment on the risk to health of in and on-water marine users of this chemical or any other chemicals which enter the water from the fish farm operations is a matter for grave concern and does not appear compliant with the Water Environment (Controlled Activities) (Scotland) Regulations 2011.	The distance to shore of the cages is less than 200m and to treat all the cages with azamethiphos will take 10 days. This plume will spread along the shore and will come into contact with coastal water users as indicated in the presented dispersion modelling report. The published data sheets for azamethiphos, an organophosphorus pesticide, state that it should not be released into the environment, but SEPA's licences tolerate and permit a specified level of harm to marine life and the environment. There is no such tolerable level of harm permitted for humans. This chemical is toxic as it disrupts the nervous system. The data sheets require unnecessary staff to be cleared from the area when applying the chemical, operators should wear full protective clothing and it is dangerous enough to require regular blood tests. Numerous scientific studies have shown that poisoning can result from one large dose or repeated very small doses of organophosphates which cause acetylcholine to build up in the human body over time. Organophosphates in sheep dip and insecticides have been blamed for degenerative neurological illness in agricultural workers and it is an offence for farmers to allow organophosphates to contaminate a water-course. In SEPA's response to community Freedom of Information Requests asking SEPA and Marine Scotland how they assessed the safety of swimmers nearby it was stated that they hold no data or studies on safe levels of exposure for people swimming in water containing this chemical. It is also understood that SEPA have never assessed this risk before issuing CAR Licences for any other site in Scotland. If azamethiphos is dangerous for the users wearing protective clothing, then it is self-evidently be even more dangerous for unprotected swimmers or kayakers in the immediate vicinity of a farm or well-boat discharging azamethiphos over a 10 day period. This risk is not mitigated; attempting to stop the public approaching the farm is denying them their right of access to the sea and there is no law that permits an exclusion zone. Exposure to repeated low doses further from the farm is also understood to be dangerous, particularly for small children with a small body mass, anyone suffering from neurodegenerative diseases and	The Clyde islands concerned in the three development proposals from Dawnfresh, and the mainland nearby, have for many decades and continue to be popular with day trippers and holiday visitors who take to the shores for recreation including swimming, snorkelling, diving, kayaking and boating. These locations will bring large numbers of people in contact with toxic chemicals and contaminated organic wastes and the risk to them has not been assessed scientifically and is therefore unacceptable. As well as the human health risk the potential blight on the local tourist economy from increased pollution and a decrease in visitors is unacceptable during a time when sustainable economic recovery is required. In the specific case of Bute; Kilchattan Bay, a favourite recreational seaside location immediately north of this proposed development would be at risk.	Azamethiphos, an organophosphate, a chemical group of pesticides well known throughout on-land agriculture as carcinogens has already been covered in some detail in the section above.

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				others who are susceptible to organophosphates. Anyone swimming along the coast will not know when the water is contaminated, so there should be no traces of harmful chemicals where humans may be swimming and it should not be forgotten that the published data sheets for this chemical treatment state that it should not be released into the environment. As well as individually the proposed Bute and Cumbrae farms need to have their effects assessed cumulatively along with the other existing farms in the Clyde region to ensure the health of the public is protected. Azamethiphos is particularly toxic to crustaceans. These include the crabs, lobsters and prawns caught by Clyde fishermen. Can SEPA to clarify whether it is certain that there will be no possible impact on commercially fished species and therefore the livelihood of local creel fishermen, despite SEPA's concerns about the cumulative impact of azamethiphos plumes at other farms in the Clyde. Apart from the toxic chemicals employed in intensive industrial salmon and sea trout fish farming to keep diseases and pests at bay and also the excreted wastes, mainly faeces, are released untreated into the marine environment and dispersed widely in confined areas of sea raising issues of public health for those who come into contact with this pollution. The potential impact of the waste and all chemical treatments on the public health of in water and on water users of the environment has not been assessed.		

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82	• Individually, all 3 fish farm proposals are likely to have 'significant environmental effect' • Faecal and food waste deposited from the fish farm cages will adversely increase organic and nutrient enrichment of the Clyde estuary reducing its water quality. • There are increased concerns over extensive areas of Beggiaot spp. smothering sub littoral sediments in Fairlie Roads, Hunterston and Largs Channels . This species is an indicator of polluted marine environments and sign of environmental degradation which will be exacerbated by organic enrichment from the farm sites. • The area around fish farm sites are a known hotspot for invasive species and pose significant risk to Scotland biodiversity. The carpet sea squirt (Didemnum vexillum) is a high priority INNS species and further spread likely lead to a failure to meet water quality standards. The fish farms and attendant vessels will provide attachment surface and act as transmission vector for this species. • Hydrodynamic models developed by Strathclyde University (FVCOM Models) indicates that waste and chemical pollutants are unlikely to be dispersed into open sea from this area of the Clyde estuary. The hydrodynamic parameters and environment in Clyde estuary are in a constant state of flux, and seasonally changes occur depending on wind direction, influx of fresh water and thermalise stratification. The Dawnfresh models fail to properly attend to dynamic changes. • Nutrient enrichment will increase occurrence and severity of deleterious algal blooms. This significant issue in some Clyde sea lochs (Loch Fyne, Striven & Loch Long) and of increasing concern in the outer estuary during periods of thermal stratification and reduce mixing.	• The Cumbraes Marine Consultation Area is noted for its diverse benthic communities and assemblages of macroalgae. Two farms are located within this designation but effluent from all three will severely impact biota located there. • Southannan SSSI is noted for its diversity of infauna species and substantial areas of dwarf eelgrass (Zostera noltei). It is also home to biogenic reefs listed as OSPAR Priority Marine features including native oyster and mussel biotopes. Any additional nutrient enrichment and chemical pollution pose a substantial threat to these internationally and highly protected habitats. • Kames Bay SSSI is in the direct path of the effluent plumes modelled from Little Cumbrae. The chemical effluents will have deleterious impact on crustacea and molluscs studied there and impact is usefulness and purpose of notification as a SSSI. Intelligent decision making about how best to manage SSSIs, and coasts in general, in a sensitive and sustainable way in order to conserve biodiversity, requires basic science at the heart of an integrated Coastal Zone Management policy (Moore 2020). The Dawnfresh applications offend basic concepts enshrined within ecosystem approach to marine spatial planning. • Ballochmartin Bay SSSI will be impacted and home to diverse range of macrofauna and denuded native oyster population which will be impacted from proposed fish farm effluents. • Loch Goil MPA is distant to the proposed fish farm locations but widely known and accepted that prevailing winds force litter and effluents towards the heads of Loch Long and Goil and consequences for protected features located there. • Endrick Water SAC. The fish farms are located on migratory pathway for Endrick Water SAC. • European Protected Species o Otters are protected species. All 3 fish farms are located within the home range and prime foraging locations of known otter populations. Otters will be displaced from natural foraging grounds, bioaccumulate toxins and resultant predator management issues. o Harbour Porpoise are year round residents and utilise the areas where fish farms will be located. Passive Acoustic Monitoring survey data indicates that these areas are persistent hotspots for this species. Scottish Marine Animal Stranding's toxicological data indicate that harbour porpoise populations are accumulating biotoxins and susceptible to chemicals listed in the CAR applications. o A resident common dolphin has a home	o The applicant plans to use azamethiphos, cypermethrin, deltamethrin are recognised to have high levels of toxicity and harmful to most forms of marine life. o The chemical dispersion modelling is inadequate and likely to be much wider and more persistent than that reported in CAR application. o Faeces and waste food will exacerbate eutrophication on Clyde estuary water body. o Sea lice can be considered a biogenic effluent and poses a significant and unacceptable risk to migratory and wild salmonids. o The application proposes to deposit 25kg/square metre per annum of food and faeces below the farm cages. This is wholly unacceptable within Cumbraes MCA are which is designated for assortment of benthic biota, PMFs and algae communities. o Fishfarm companies (MOWI) have stated in recent applications that Cypermethrin and Deltamethrin are no longer effective and that only Azamethiphos works. This raises a legitimate question as to why Dawnfresh should be given permission by SEOA to introduce these chemicals into the environment.	o Commercial and hobby fishers will be impacted both directly and indirectly. The fish farm locations are heavily utilised by static gear fisherman who will be displaced from these areas and result in further conflict with other water users and mobile sector. The toxic chemical listed in application are known to have deleterious impact on crustacea shell formation with resultant economic impact to fishers. o The dispersion modelling for the three farms indicates that the North Coast area, particularly Millport Bay and the waterfront of Largs will be exposed to toxic chemicals. This exposure is unacceptable to all water users and children who visit these areas. o All three farm sites present an significant obstruction to vessels, the safe passage of sailing vessels and present an unecessary risk to navigation. o There is currently no knowledge of the possible effects of the toxic bath treatments on humans, so again the precautionary principle should be applied.	o Wild Oyster Project – The projects areas of interest and proposed sites for biogenic reef and native oyster restoration will be impacted by effluents from proposed fish farm sites. Considerable investment has been made to identify potential sites and fish farms locations present an unacceptable risk to further development and investment in the area. o Environmental Education – The coastal sites around Cumbrae and Hawks Nebb are heavily utilised by eco tourism businesses and used for environmental education purposes which will be economically impacted and substantially reduce quality of eco-tourism offering. o All of the proposed fish farm sites are high recreational use areas and will impact quality of experience and pose significant health risk to coastal swimmers, kayakers, anglers and non-commercial water users. o The children from our communities will be exposed to carcinogenic and toxic chemicals.	o The fish farm application does not address any cumulative impacts between the farms. It is our understanding that the AutoDepomod modelling presented in the application has been superseded by NewDepomod which should have been used in the application and impossible to properly predict discharge impacts without it. o The report plays 'lip-service' to combined effects from the various farms and dismisses importance of modelling cumulative impacts. o The farm sites are in close spatial proximity to each other but hydrodynamic modelling fails to indicate pollution source interactions across the sites. o The modelling reports state that the method used produces artefacts close to the shore and exactly where concentrations of pollutants are of most concern and highest risk to human receptors. o Our communities endure nuclear contamination from Hunterston effluent outflows and irresponsible not to acknowledge cumulative impacts to receptors. o The meteorological data used in modelling is not fit for purpose and resolution does not properly describe meteorological situation at the fish farm sites. o Some of the surrounding communities have experienced an increase in population (Fairlie +25%) but waste water infrastructure has not been updated with more effluent and increasing frequency of storm overflow discharge events. The environment is under considerable pressure from eutrophication yet no mention of eutrophication baseline and/or assessment of cumulative impacts from fish farms. o The waters around these sites are heavily utilised by water users who will become exposed to azamethiphos. Calls have been made for independent assessment of the impacts of these chemicals on people immersed in the sea. SEPA is required to take responsible for this assessment. o The proposed farm sites will bridge the Loch Striven and Arran Disease Management Areas but no indication in license applications on increases in pollutants that will be required to control disease events spreading across management areas. o The hydrodynamic modelling makes no reference to planned coastal flood defence works in Millport Bay which will greatly modify the currents and pollutant exposure from fish farm sites. o Newton Beach in Kames Bay is North Ayrshire only award winning beach and will be heavily and directly impacted by organic and chemical pollution plumes from the

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		range within meters of the Cumbrae fish farm site. This animal will be impacted by chemical toxins from fish farms and effluent from attendant vessels. o Basking Sharks are known to utilise the currents at the Wee Cumbrae and Hawks Nebb sites and likely to assimilate chemicals pollution from the farm sites. • Common and grey Seals haul-out sites and foraging areas are located near and within the modelled effluent streams. . • Non Native Species - Rainbow trout and species proposed for fish farm sites are non-native species and derived from hatcheries in Denmark and South Africa. Escaped fish, either diploid or triploid, present an unacceptable risk to native and wild stocks. Dawnfresh have very poor track record and cannot guarantee fish will not escape and interact with wild population and in natural habitat including Endrick Water SAC and other important river fisheries that are confluent to the Clyde estuary. • Salmon and Sea Trout are Priority Marine Features o All three farm sites are located on migratory pathway for Salmon entering the Lomond and Endrick Waters SAC. o The biomass and stocking density pose an unacceptable risk to salmonid and smolt PMFs. SEPA should assess the impact of consenting almost 7500t of additional biomass to migrating pathway and smolt corridor.				Little Cumbrae fish farm proposals. The criteria for awarding this status hinges on the demonstration of outstanding beach management and environmental practices. Community wealth building on Cumbrae depends on this type of recognition which has been designed in partnership and to complement the work undertaken by SEPA. This good work will be undone if these CAR licenses are granted approval. o It is clear from the license submissions that Dawnfresh fail to comprehend the complex hydrodynamic environment of Hunterston and Largs Channel with no mention of any expected impacts to Fairlie Beach or impact to increasing amount of visitors that utilise it for recreational purposes.
83	I grew up sailing on the Clyde when the sludge boats dumped their waste. From studies presented online this project seems to be taking us back into an age when our respect for the environment was minimal.... and we're paying the price now.	See studies by people more expert than I.		As mentioned I grew up sailing on the Clyde in an era of sludge dumping. Friends contracted hepatitis and this proposal is taking us back to that time and should be stopped.		Can you make it any more difficult for ordinary people to protect their local environment?
84	I grew up sailing on the Clyde when the sludge boats dumped their waste. From studies presented online this project seems to be taking us back into an age when our respect for the environment was minimal.... and we're paying the price now.					

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85	My concerns about this application are listed below. There is some repetition as some concerns apply to more than one question. The proposed chemicals and discharge models for Azamethiphos, Cypermethrin, Deltamethrin will be significantly deleterious to the sea life around Bute and certainly the areas creel fisherman. With well demonstrated toxicity to lobster larve1, high toxicity to other crustacea such as shrimp2 and 100% toxicity to sea crabs, at concentrations lower than that proposed3. This is one example of the impacts on water quality, but the eutrophication and impacts associated with effluent discharge (noted in the proposal at 18kg/m2) are very significant not just for the marine environment and the species that live there, but also on water quality for those that use the area for swimming and various water sports. The supplied models show that a large stretch of foreshore around the fish farm will be impacted but the popular residential beach area immediately north of the proposal will be also be significantly negatively impacted. The modelling supplied with the proposal is insufficient in its breadth. With data collection being seasonally restricted, with short duration, the results cannot be extrapolated with confidence. Other weaknesses include weather data being taken from Glasgow Airport, a location which is so different to the proposed site that its inclusion is wholly unsuitable. The reduction of even this data to baseline averages is shocking in its simplicity. There is no doubt that significant effluence and feed discharge will be transported to the bathing area immediately north of the proposed site. 1: https://doi.org/10.1016/j.envpol.2020.114725 2: https://doi.org/10.1016/j.marenvres.2020.105007 3: https://doi.org/10.1016/j.chemosphere.2017.07.108	The proposed area is frequented by many cetacean species and the deep waters, immediately offshore often lead to basking sharks feeding within meters of the foreshore. Photographic evidence and videos, including drone footage can be provided. Basking Sharks are listed as Endangered on the IUCN Red List and are domestically protected under Schedule 5 of the Wildlife and Countryside Act 1981, the Countryside Rights of Way Act 2000 and the Nature Conservation (Scotland) Act 2004. The proposal directly impacts their feeding grounds, not just with physical obstruction but also in altering the marine environment through effluent discharge and chemical application. Further, the proposed use of sonic deterrents with significantly negatively impact cetacean populations and not just in the immediate vicinity but in a much broader area, as well document in previously published localised marine mammal reports. Secondly, in addition to the huge deleterious impacts of effluent discharge and as previously mentioned: Azamethiphos, Cypermethrin, Deltamethrin will be significantly deleterious to the sea life around Bute and certainly the areas creel fisherman. With well demonstrated toxicity to lobster larve1, high toxicity to other crustacea such as shrimp2 and 100% toxicity to sea crabs, at concentrations lower than that proposed3. 1: https://doi.org/10.1016/j.envpol.2020.114725 2: https://doi.org/10.1016/j.marenvres.2020.105007 3: https://doi.org/10.1016/j.chemosphere.2017.07.108	In addition to the concerns above, well known in the industry is the rise of lice that are resistant to our current arsenal of pesticides. A recent study highlights the unique role of fish farms, leading to heritable pesticide resistance and consequently widespread infestations in the north-eastern Atlantic ocean. Resistant genes have spread through populations from Scandinavia to Greenland, and even up into Iceland where chemical pesticides are not used1. These results demonstrate the speed to which this parasite can develop widespread multi-resistance, illustrating why the aquaculture industry has repeatedly lost battles with this highly problematic parasite1. Thus, the chemicals and modelling highlighted in this report are not relevant to the functioning of the proposed fish farm, where different chemicals and at differing concentrations will be needed in order for the fish farm to be economically viable. The impacts of these unknown treatments will be significantly different to that outlined in the proposal and impacting at different spatiotemporal scales. 1. https://doi.org/10.1098/rsos.210265	The area immediately north of the proposed site, with a distance measured in meters, is a residential area that is extremely popular with visitors. This attractive beach and area is well used by locals and tourists alike for bathing, swimming and a host of water sports. The impact of effluent discharge and associated eutrophication will have a significant deleterious impact and create health/safety concerns for those who use the water. The proposed location also physically blocks a popular swimming route from the bay to the lighthouse, which is frequently used by the outdoor swimming club, and for charity events. Secondly, although the modelling supplied with the proposal is insufficient in its breadth and based on poor data, the results should be cause for concern. Even with such insufficient inputs, the supplied models show dispersal of azamethiphos, cypermethrin, deltamethrin concentrating in localised bathing spots including the populous mainland seaside resort of Largs. Consequently, the proposal will significantly impact a range of popular bathing locations locally and further afield.	As well as the comments listed above, it should also be noted that the proposed development will have a significant deleterious impact on the areas creel fisherman with crustaceans most susceptible to the proposed chemical applications. The associated decline in these marine invertebrates can be very significant1,2,3 and therefore damaging to this small local industry. 1: https://doi.org/10.1016/j.envpol.2020.114725 2: https://doi.org/10.1016/j.marenvres.2020.105007 3: https://doi.org/10.1016/j.chemosphere.2017.07.108	The proposed applications of azamethiphos, cypermethrin, deltamethrin are deeply concerning and addressed elsewhere in this response. The need for further, as yet unidentified, chemicals is also of concern and again addressed in detail elsewhere in this response Further, the modelling supplied with the proposal is insufficient in its breadth. With data collection being seasonally restricted, with short duration, the results cannot be extrapolated with confidence. Other weaknesses include weather data being taken from Glasgow Airport, a location which is so different to the proposed site that its inclusion is wholly unsuitable. Far more detailed weather/climate data is available on a 1km grid resolution, so more suitable data exists is widely used in climate modelling papers. The reduction of even the 'Glasgow Airport' data to baseline averages is shocking in its simplicity. The proposed models are totally unsubtle for an assessment of the likely impacts of this proposal and presents a insincere narrative, a cause for concern throughout this proposal.

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86	Fish faecal matter will affect water quality: Fish faecal matter will affect water quality, just as the dumping of Glasgow's sewage sludge off south Bute at Garroach Head did. When this process began in 1904 dispersion might have been an accepted theory, but surely in modern times we must realise that dispersion does not equal disappearance, the problem just moves somewhere else while the creator/s of the problem take no responsibility for creating it or cleaning it up. It is only in the past few years that the water around our island has reached 'good' quality again, so it seems absurd to allow this farm, in combination with 2 other proposed Dawnfresh sites nearby, to again put untreated faecal matter equivalent to approximately 105,000 people into the waters - you wouldn't allow our small island population, almost 20 times smaller, to put our untreated facal matter into the sea, would you? And no form of land farming would be allowed to do this, would it? So it is unacceptable that fish farms are allowed to exploit a resource that belongs to all of us to do it. Use of highly toxic chemicals: The applicant plans to use azamethiphos, cypermethrin and deltamethrin. These are all highly toxic chemicals to the aquatic environment according to the European Chemicals Agency. Their utility in fighting lice will be harmful to other crustaceans. The South Bute proposed site is already fished by CFA members as well as a young lobsterman who is not a CFA member. Why will you allow Dawnfresh to be allowed to use these chemicals to deal with a problem they themselves have created (putting tens of thousands of fish together in an enclosed space) if they will impact other marine life and water users who depend on the quality of the water for their lives and livelihoods? As a facilitator of the Bute Outdoor Swimming Society, I question what the impacts of these chemicals may be on open water swimmers and who is responsible should a person be adversely affected. I am aware that MOWI has undertaken to study this very question but I have no trust in a study that will be done by people who have a huge bias in what the outcome will be. Why is SEPA not doing this study? Whatever the outcome of this study it will set a precedent and all other fish farm proposals will cite it as evidence. It is too important to be left in the hands of a for profit company with its own motives in what the outcome will be. Lice:	The waterquality of the general area will be impacted due to faecal and food waste. The toxic chemicals used will affect other species both at the site and for some distance around as your own study in Shetland in 2018 showed that dispersion can be wider than previoulsy thought. The potential victims of such impacts would include all the fishermen currently fishing at the proposed South Bute site and in vicinities nearby, the newly installed oysters at Largs Yacht Marina and Fairlie Quay, and the otters that live and feed around Bute, but particularly those near Hawks Neb, photos of which can be seen on the Isle of Bute FB group page. The lice problem that will be created by this proposed site, exponentially increased by the other two proposed sites, will have a huge impact on the wild salmon and trout populations as has recently been accepted. Does SEPA not have an obligation to protect the salmon as they swim to and from the Endrick Waters SAC? How can these applications even be considered? The Bute Outdoor Swimming Society FB group page now has approx 500 members, many swimming here on Bute or in other parts of the world, who aspire to come to the beautiful coastal waters of Bute to swim and in the meantime enjoy all the photos the local swimmers post. There have been several swims by the group through the very site of the proposed Dawnfresh South Bute site. It would be a tragedy to close this beautiful section of isolated coastline to use by the people who live on or visit Bute.	The three bath treatment chemicals that have been mentioned in the CAR application - azamethiphos, cypermethrin and deltamethrin. I did not see Formaldehyde or hydrogen peroxide mentioned in the papers we were allowed to see but they would also be of concern if they are mentioned in other documents. Faecal waste from a large number of fish over an extended period of time - after all we know what happens to a fish tank , even a goldfish bowl, if not cleaned every few days! I do not understand why we are being given data to look at from 2018 that has been put into outdated modelling software. I also do not understand why Dawnfresh have been allowed to create the model they have based on an insufficient amount of current gathering days if there were difficulties due to weather, an instrument being dislodged by another water user or a glitch in the equipment, then surely it is up to Dawnfresh to spend the time and money to gather the appropriate amount of data. If I as an individual am applying for planning permission to build a house I am not able to gloss over problem areas or cut corners in making the application; why should a company get to do that when there is so much at stake? I do not understand why Glasgow airport wind data and Inverkip meteorological data is used in the modelling. It may be what is available (though there was Inverkip wind data available, I checked the site they referenced in the application) but any of us living in the area know that the winds and weather we face are completely different to that in either of the other two locations mentioned. My husband has been on the tugs on the Clyde since 1974 and can definitively tell you that! After the ECCLR report chastised SEPA rather rigorously for lack of oversight and SEPA reformed its application standards, why are these applications being allowed to use old, irrelevant data input to outdated modelling systems in their submission?	I think that it will cost some people part or all of their livelihood (CFA/other fishermen who use the area/exact site) I think it will impact the success of the re-introduction of oysters to the area, a project that will improve the water quality rather than negatively impact it as the proposed fish farms would All three proposed farm sites are directly in the highest use areas for kayaking, sailing and merchant navy activity so anyone involved in any of these activities will be impacted Wild swimmers would lose use of an entire section of the Bute coastline as would the newly established paddle boarding company on Bute and the round Bute sail would be hampered It is not just the people who get in or on teh water but the people who enjoy being near the coast - everytime I have ever walked along the West Island Way, I have always met both locals and visitors enjoying the scenery - sealife, birdlife, the watersports activities going on close by, the various merchant and military vessels that can be seen. To put a fish farm directly adjacent to the designated path is unthinkable.	As above	As in question 5, part 3: The three bath treatment chemicals that have been mentioned in the CAR application - azamethiphos, cypermethrin and deltamethrin. I did not see Formaldehyde or hydrogen peroxide mentioned in the papers we were allowed to see but they would also be of concern if they are mentioned in other documents. Faecal waste from a large number of fish over an extended period of time - after all we know what happens to a fish tank , even a goldfish bowl, if not cleaned every few days! I do not understand why we are being given data to look at from 2018 that has been put into outdated modelling software. 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My husband has been on the tugs on the Clyde since 1974 and can definitively tell you that! After the ECCLR report chastised SEPA rather rigorously for lack of oversight and SEPA reformed its application standards, why are these applications being allowed to use old, irrelevant data input to outdated modelling systems in their submission?

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	The South Bute application on its own would create a lice problem that does not exist at that site at the moment, but taken in conjunction with the other two Dawnfresh proposed sites at the Cumbraes there would be a lice cloud formed across the entire expanse of the Clyde from south Bute to the mainland. This is not my opinion but the modelling of Dr Tom Scanlon, a hydrodynamicist, university lecturer for 25 years and MD of a fluid modelling company. The video resulting from his study of the Clyde waters and how their movements would disperse lice can be seen at https://vimeo.com/496948354 . Again, this would be a problem that does not naturally exist but is created directly as a result of Dawnfresh's own action of corralling tens of thousandsof fish into one site and then putting multiple sites in close proximity to one another.					
87	Fish excreta and uneaten food will build up on the seabed below the cages, destroying the seabed, and requiring the farm to be moved on in future years. Much capital has been spent in recent years around the Clyde on improving treatment and reducing human sewage discharge - why should we now allow unfettered fish excreta discharges on a huge scale? By-discharges of highly toxic chemicals will contaminate the water for miles around, as shown by the modelling studies. Sea lice will very likely infect wild fish.	All wild species, both resident, and transiting the area.	In particular, all the chemicals listed (azamethiphos, cypermethrin, deltamethrin), all of which are stated to be very toxic to aquatic life, and have long-lasting side effects. Also fish excreta, and uneaten food.	Existing commercial fishermen will lose access to the area and vicinity of the farm. Open water swimmers, kayakers and paddle boarders, which are increasingly popular activities. Swimming is surely a particular risk, as there is significant exposure to the water. Leisure sailors (larger boats) - restriction to navigation in one of the most highly transited parts of the Clyde (leisure sailors are discouraged from using the commercial shipping channel). Tourists - fish farms aren't exactly very attractive.	As above - loss of existing commercial fishing grounds, plus restrictions on recreational use of the area, and tourism.	In particular, all the chemicals listed (azamethiphos, cypermethrin, deltamethrin), all of which are stated to be very toxic to aquatic life, and have long-lasting side effects. Fish excreta.
88	This project will introduce pollution, discharges and possible disease into an otherwise natural environment. Winter storms play havoc along this area, prevailing wind, tidal surges and associated fetch. This area of water is also well used by recreational sailors, boaters and fishermen who access to it for centuries. It is a thoroughfare for these same sailors, boaters and fishermen.	All native seal and fish populations.		This project will introduce pollution, discharges and possible disease into an otherwise natural environment. This area of water is also well used by recreational sailors, boaters and fishermen who access to it for centuries. It is a thoroughfare for these same sailors, boaters and fishermen. All watersports users, whether they be recreational sailors, boaters, fishermen, wild swimmers, sports	All of the aforementioned.	

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				divers and canoeists. Inshore fishermen.		
89	Please see COAST's response to this application. I agree with the technical objections put forward in their response.	Please see COAST's response to this application. I agree with the technical objections put forward in their response.	Please see COAST's response to this application. I agree with the technical objections put forward in their response.	Please see COAST's response to this application. I agree with the technical objections put forward in their response.	Please see COAST's response to this application. I agree with the technical objections put forward in their response.	Please see COAST's response to this application. I agree with the technical objections put forward in their response.
90	District Salmon Fishery Boards have a statutory responsibility to protect and improve salmon and sea trout fisheries in their district and are statutory consultees in the planning process for fish farms. Whilst Fisheries Management Scotland do not routinely respond to CAR licence applications for fish farms, we believe that the proposed location for this development is inappropriate from the perspective of migratory salmonids and the interests of other water users. There are a number of important rivers and fisheries that would be affected by the proposed farm site, including those in North Ayrshire, the Clyde and Loch Lomond (which includes the Endrick Water Special Area of Conservation - https://sitelink.nature.scot/site/8252), which are not covered by a District Salmon Fishery Board. On that basis, Fisheries Management Scotland will be fully engaged with the licensing and wider planning process. Our primary concern are impacts on wild salmonid fish and this is covered in the section below.	All three proposed Dawnfresh sites lie on an important migration pathway for Atlantic salmon which all fish arising from the inner Clyde, including the Clyde and Lomond systems, will utilise. It is also high likely that Atlantic salmon and sea trout arising from rivers in North Ayrshire will utilise this area. We would emphasise that both Atlantic salmon and sea trout are Priority Marine Features – the habitats and species of greatest conservation importance in inshore waters. We also highlight that the Endrick Water is a Special Area of Conservation (SAC) with Atlantic salmon as a qualifying interest. The Endrick Water SAC is already rated as being in an 'unfavourable' condition by NatureScot site condition categorisation. The Habitats Directive (article 6) requires that Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive. It also states: In the light of the conclusions of the [appropriate] assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public. The proposed development, taken together with the other two proposed CAR licences in this area by the same company, represent a significant additional biomass of farmed fish in an area of the inner Clyde with no history of open cage fish farming. This will represent a highly significant addition of host fish for sea lice on an important migratory pathway for wild fish. It is important to emphasise that the total lice load arising from a marine fish farm is a function of the number of lice per farmed fish, and the total number of fish maintained in the cages. Maximum biomass consented	n/a	Scotland's wild salmon and sea trout are at crisis point with many populations below conservation limits, particularly on the West Coast within the 'Aquaculture zone'. Whilst wild salmon face a range of pressures, specific pressures from the aquaculture industry include impacts from escapes and sea lice. Salmon and sea trout fisheries are an important component of Scotland's rural economy. These fisheries and associated infrastructure rely on healthy populations of fish returning to Scotland's rivers. Scottish salmon rivers are categorised by Marine Scotland Science under the salmon conservation regulations according to the likelihood of them meeting their conservation limits. The gradings of rivers have been published for 2021. 104 rivers across Scotland are graded as Category 3, meaning there is a less than 60% probability of meeting their conservation limit. Where salmon populations are below their conservation limits, any additional pressure, including from sea lice, cannot be considered sustainable. Whilst Fisheries Management Scotland do not routinely respond to CAR licence applications for fish farms, we believe that the proposed location for this development is inappropriate based on the aforementioned impacts on the water environment, which will have a knock-on effect on other water users, including fisheries managers and anglers. As mentioned previously, the impacts of sea lice and farmed fish escapes can be detrimental to the water environment. Experience from previous escapes of rainbow trout from Dawnfresh farms, particularly in Loch Etive where at least 35,000 fish have escaped since 2015, have shown that in addition to these potential ecological impacts, the escapes create a significant nuisance to fishery owners and angling businesses. We therefore consider that SEPA must take the potential impacts on wild fish, and the associated impact on interests of other users of the water environment fully into account when considering this application.	As above, this farm, alongside the other two proposed CAR licences in this area, has the potential to impact fisheries management and angling activities in a number of important rivers and fisheries, including those in North Ayrshire, the Clyde and Loch Lomond (which includes the Endrick Water SAC), which are not covered by a District Salmon Fishery Board.	n/a

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		via the CAR licensing system therefore has a direct influence on the number of larval sea lice released into the environment. As set out above, we therefore consider that SEPA must take the potential impacts on wild fish, and the associated impact on interests of other users of the water environment fully into account when considering these applications. Of particular relevance is the close proximity of the Endrick Water SAC. Fish arising from this SAC, and many other important local rivers, inevitably must migrate directly past the proposed developments on their migration through the inner Clyde, placing those fish at risk from lethal or damaging infestation from sea lice. We would also highlight the potential risk of the effects of escaped farmed species on wild fish populations which is widely recognised within peer reviewed scientific literature (e.g. Glover et al. 2017). A recently recorded instance at the Mowi Scotland Ltd. Carradale North site saw 48,834 farmed salmon escape during a storm event in August 2020. A study of scale samples monitored the distribution of the escaped fish and found widespread dispersion of the farmed salmon. There were documented cases of farmed fish found within 17 rivers, the majority of which were captured within the Clyde and Loch Lomond systems and a number of rivers in Ayrshire and Argyll (Fisheries Management Scotland, 2021). Rainbow trout are a non-native species and have the potential to impact on native fish species through competition and predation. In addition, rainbow trout in the wild are not covered by wild fisheries legislation. Experience from previous escapes of rainbow trout from Dawnfresh farms, particularly in Loch Etive where at least 35,000 fish have escaped since 2015, have shown that in addition to these potential ecological impacts, the escapes create a significant nuisance to fishery owners and angling businesses. Dawnfresh have refused to recognise or compensate for these impacts. SEPA have direct responsibility for non-native species in rivers, so it is important that this potential impact is fully considered in determining this CAR licence. We have attached a short summary of the science which underpins our objection. Whilst the impacts of sea lice arising from farms may be mitigated by strategically planning farm locations, there is no current strategic plan within which this can happen. We are conscious that SEPA, Marine Scotland, NatureScot and local authorities are developing a strategic framework related to sea lice impacts on wild fish, but this is still in development. In the meantime,				

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		the precautionary principle should apply, and Fisheries Management Scotland strongly object to a licence being granted for each of the three proposed farms. References Fisheries Management Scotland (2021). Monitoring for the presence of farmed salmon in West Coast Scottish rivers following an escape from the Carradale North salmon farm. Half a century of genetic interaction between farmed and wild Atlantic salmon: Status of knowledge and unanswered questions. Fish and Fisheries, 18(5), 890–927. https://doi.org/10.1111/faf.12214				
91	Media reporting re dangerous effects of chemicals have worried me about pollution of the Kilchattan Bay shore where I have paddled and swum since I was a boy. I would like to know that is safe to take my grandchild to the shore.	The Clyde estuary has provided a playground for the children and adults of west and central Scotland for more than a century. We have already had to live with a nuclear power station and a naval base for submarines fuelled by nuclear power and carrying nuclear weapons. Of course we want food prices to be kept down but not at the expense of our health or our simple pleasures. Please keep our waters as clean as we can. Any chemical which is even suspected of being carcinogenic should be eliminate from the farming procedures. This illness has already claimed millions of life and is continuing to do so.		Adults will be wary of using the beach and will certainly be restricting their children's paddling or swimming. The Kilchattan jetty from which people have dived and swum for years will cease to be an attraction for holidaymakers. Pleasure craft including open dinghies and kayaks may also be affected because their users wade into the water at launching and returning.	One of the safest and most accessible sandy shores on the island will cease to be an asset for Kilchattan and for Bute.	A sad day for Kilchattan all in the name of un-necessaryfactory farming.