

	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 on impacted habitats and species	Tell us about why you think the application will impact the water environment. - Q5 - open text box three on specific chemical or substance concerns	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 on impact on activities and their locations	Tell us about why you think the application will impact on people who use the water environment. - Q6 - open text box three on specific chemicals or substance concerns
1	It is widely recognised that fish farms have a negative effect on the environment.	The fish farm will be situated very close to the mpa and also in the guillemot feeding ground.	All chemicals being used will have a harmful effect on the environment.	The application will be a deterrent to people who enjoy wild swimming as well as tourists to the island. No one wants to visit an island surrounded by industrial activity marine or otherwise.	Tourism and recreational activities will be negatively affected.	I am concerned about the effluent that will be released from the fish farm and the equipment and chemicals they have to use for de-lousing.
2	The proposed salmon farm will discharge an equivalent of faecal matter of almost 50 000 people daily into the North Sound of Papa Westray. This discharge, containing medical residues, will be regularly pushed into the MPA that surrounds much of Papa Westray.	The proposed salmon farm will negatively impact on shellfish (as it appears to have done on the western coast of Papa Westray from the Vestness fish farm), endangered flapper skate that are known to breed in the sound and are a priority species for conservation in the Orkney Local Biodiversity Action Plan, the local crab fishery that local families depend upon, and seabirds that will have their food chain interrupted and ingest medical residue used on the fish farm likely to cause them harm. This fish farm is unanimously unwanted by the Papa Westray Community, we value our natural environment and enjoy the economic and social benefits that it brings. This salmon farm will be detrimental to our marine environment	I am highly concerned about the antibiotics and other medical chemicals needed to maintain an intensively managed fish farm	The water environment of North Sound is an important visual attraction for visitors needed for the tourist economy of the island. Boat trips between Papa Westray and the Holm of Papay are an important attraction that will be negatively impacted by this proposed fish farm.	The location of this fish farm will have a significant amount of light and sound pollution. [REDACTED] 1.5km from the Vestness fish farm on the other side of Papa Westray and we endure a constant hum from that fish farm, as well as bright light pollution	
3	The vast amount of faecal salmon excreta coming from this industrial site is not supportable in these pristine waters...if it was the equivalent amount of sewage and toxic waste coming from a land source into these seas it would be banned straight away. The quantities of harmful waste will certainly contaminate the marine protected area around Papa Westray. The harm caused to our abundant marine life is indisputable.	Black guillemots, puffins, grey and common seals, risso dolphins, orcas....all familiar to the islands waters would suffer badly from habitat loss. The species such as the black guillemots, arctic terns and puffins which come to Papa Westray to breed would be hit massively by heavily polluted seas no longer able to provide the food they need. Canada has now realised the untold damage caused to its seas by these salmon units and the Canadian government will be shutting down all of the open net farms which are polluting its waters by 2025.....surely we should be astute enough to learn from Canadas retrospective response and make sure that here, the open net fish farm proposal is turned down emphatically.(Ironic that the company proposing this site is Canadian)		Papa Westray's economy largely relies on tourism....it gives local employment and supports our shop. The visitors come to enjoy the island's abundant and varied marine life....the marine life will be hugely affected by the degradation of our pristine waters and as the marine life dwindles and then disappears, so will our tourists and all the benefits they bring. Our shore waters are hugely popular with tourists and locals for various activities eg. wild swimming, kayaking, beach combing...all because the waters are so clean and therefore safe. Pollution caused by the proposed fish unit would mean that tourists would no longer wish to come here for any water based pursuit.		
4	Please see the following observations from the 13 years I have lived on Papa Westray, which are very relevant to the proposal to site a further salmon farm at East Moclett: Papa Westray's natural attributes are a major feature in its attraction for us and the visitors who come here, with dramatic landscapes, seascapes, seabirds and marine life. With regard to the latter, we, along with others on the island, are accustomed to foraging for 'wulks' (periwinkles), 'spoots' (razor clams) and mussels, all of which used to proliferate on the southwest shore along the Bight of Quoyolie to the Minister's Flag and beyond. Also, from the new pier at the southern end, large shoals of inshore fish were always visible in abundance and island children would line fish there with easy catches. During our time living here, and coincidental with the expansion of Cooke Aquaculture's Vestness salmon farm, we've	The Cooke Aquaculture application presents copious data to support compliance within all required parameters, so it would seem pointless to contest anything on scientific grounds. However, the proposed dumping of an extraordinarily disproportionate volume of effluent, both physical and chemical, into any marine environment, let alone one so close to the MPA, would seem imprudent and hugely irresponsible.	Having had to be compliant with the many stringent requirements of SEPA when installing my own septic tank and soakaway for disposal of domestic effluent, it is remarkable that the same regulatory body allows the dumping of massive volumes of untreated faecal matter from Cooke Aquaculture's salmon farms into the seas around the North Isles. Irrespective of whether the proposed East Moclett site is SEPA compliant, there is tremendously strong feeling in the community here that no such site should be established so near	The beautiful beaches of North Wick and South Wick on Papa Westray's east coast are popular with islanders and tourists for swimming and kayaking. The proximity of an industrial fish farm would impact adversely on people's confidence in the safety of these popular recreations. Popular boat trip tours are offered by Papay Development Trust to visitors who wish to go to the Holm of Papay to explore the tiny, remote island and its Neolithic cairns. That special remoteness would be	I would be concerned by any chemical or substance that would not naturally be present in the marine environment where the East Moclett site is proposed.	There has been a large amount of fish farm related debris washed up on our south and west shores close to the large Cooke Aquaculture Vestness site over recent years, mainly huge lengths of wide diameter black PVC pipe, much of which has had to be dragged up onto higher ground on the island to prevent it being washed back into the sea. Cooke Aquaculture have been made aware of this and invited to inspect it and give their opinion on its origin. (See attached photo taken last year, showing a long

	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 on impacted habitats and species	Tell us about why you think the application will impact the water environment. - Q5 - open text box three on specific chemical or substance concerns	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 on impact on activities and their locations	Tell us about why you think the application will impact on people who use the water environment. - Q6 - open text box three on specific chemicals or substance concerns
	<p>witnessed the complete disappearance of mussels and almost total loss of periwinkles. There are no longer shoals or even individual fish visible from the new Pier and many of us are now apprehensive about eating the only remaining shellfish, razor clams, due to fears of toxins from their polluted environment. The attribution of these phenomena to the nearby Vestness salmon farm and also to the two other neighbouring Cooke Aquaculture farms at Bay of Cleat and Skelwick Skerry, both of whose effluent is at the mercy of prevailing tides, might seem pure conjecture were it not for the rapidity with which these changes have occurred and been so clearly observed since the intensification of the salmon farming. The vast, proposed East Moclett site would inevitably impact similarly and dramatically on the marine environment.</p> <p>Our island fisherman drops creels in the waters all around Papa Westray, including Holm Sound and the entire east coast, the lower half of which is in great proximity to the proposed East Moclett site. Regardless of Cooke Aquaculture's expansive data in their modelling reports and conclusions of compliance, the quality of that marine environment, which is home to the crabs and lobsters fished there, will clearly deteriorate with the dumping of inordinate volumes of effluent, food spill and chemicals from the proposed site. The extreme proximity of the proposed site to the Marine Protected Area which surrounds most of Papa Westray beggar's belief. No amount of modelling data within Cooke Aquaculture's application can counter the obvious conclusion that such a site would impact detrimentally on the intentions of that MPA.</p> <p>The figures on mortality among open-cage farmed salmon are alarming. Massive farmed salmon deaths add to the burden of pollution from salmon farms. Industry-wide, mortality rates in factory salmon operations range from 10 percent to 40 percent. Outbreaks of infectious diseases, such as Infectious Salmon Anaemia, can necessitate the slaughter of 100 percent of a farm's stock, as it did in Scotland in 1998-99 when eight million fish had to be killed to stem the spread of disease. There is great concern about the disposal of such quantities of dead fish and the ensuing impact on the marine environment, in particular that of the MPA which is so very near. (See attached comparison maps)</p> <p>In Scotland, salmon farms have been shown to be a much more important contributor than wild fish to the total numbers of sea lice in the Scottish coastal zone and infection of wild fish by sea lice emanating from salmon farms is well documented. Whatever the predicted dispersal patterns of sea lice from the proposed East Moclett site might be, the distribution of these lice by currents will clearly impact on wild species in and outside the nearby MPA.</p>		<p>to a Marine Protected Area. 'Modelling' on the issue might be hypothetically supportive of the proposal but common sense screams out that it is neither sensible nor responsible to site a massive salmon farm so very close to the most significant MPA within the North Isles.</p> <p>Scotland is one of the biggest producers of farmed salmon in the world, with the industry worth an estimated £2bn a year to the Scottish economy. But the costs in environmental terms alone were reckoned to be £1.4bn from 2013 to 2019, by Just Economics, which carried out the research for a report, entitled Dead Loss, for the Changing Markets Foundation campaigning organisation. The sheer quantity of wild fish used in salmon farms is also a growing concern. About a fifth of the world's annual wild fish catch, amounting to about 18m tonnes of wild fish a year, is used to make fishmeal and fish oil, of which about 70% goes to fish farms. This is causing problems for fishers in developing countries, who are seeing their stocks depleted in order to feed western consumption of farmed fish.</p> <p>It is ironic that Cooke Aquaculture Inc, Cooke Aquaculture Scotland's parent company, is based in Canada where, in British Columbia, open cage fish farming will be completely banned by June 2022 on environmental grounds.</p>	<p>marred by the visible presence of a huge, industrial fish farm which will also have a visual impact from Papa Westray itself.</p>		<p>length of black polypipe caught under the new pier, which could have been hazardous towards boats using the waters around the pier.)</p>
5	<p>I am concerned by the large scale of this development extremely close to the Papa Westray Marine Protected Area (MPA), which does not seem to be mentioned in any of the planning or application documents. It is clear from tidal movements that discharges will enter this MPA. The potential impacts on marine life within the MPA are not adequately described. Of particular concern is the area between Papa Westray and the Holm of Papay - a key area for wildlife and for recreation. There is potential for any discharges to become trapped within this area. Further, concerning discharge</p>	<p>The Papa Westray MPA is a key feeding area and of national importance for Black Guillemots, Arctic Terns, Arctic Skuas and other seabirds that breed on Papa Westray and the Holm of Papay. Sightings of cetaceans, e.g. Orca, Risso's Dolphin and Otter are regular in the MPA, whilst Grey Seal and Common Seal are frequent, with the Holm of Papay being a particularly important haul-out. The Critically Endangered Flapper Skate occurs in the MPA, with</p>	<p>Fish faeces: The large scale of the proposed development suggest a huge volume of fish faeces will be produced. This could impact water turbidity, which in turn affects sensitive marine habitats, including within Papa Westray MPA.</p> <p>All chemicals: The scale of the development is concerning and the</p>	<p>Island residents of Papa Westray highly value the clear waters especially along the east coast, where the island's main beaches occur. This area is vital for recreation and tourism, and also holds the only mooring site for local fishing boat(s) and visiting boats. Residents have experienced significant deposition of</p>	<p>Tourism; e.g. visiting smaller cruise ships visit every summer, mooring south of the Holm of the Papay, bringing guests ashore in ribs. Beach-based recreation, e.g. swimming, kayaking.</p>	<p>Cumulative impact of all chemicals and fish faeces.</p>

	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 on impacted habitats and species	Tell us about why you think the application will impact the water environment. - Q5 - open text box three on specific chemical or substance concerns	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 on impact on activities and their locations	Tell us about why you think the application will impact on people who use the water environment. - Q6 - open text box three on specific chemicals or substance concerns
	effluent (Form C), no information is provided about how the developers intend to minimise the deposition of fish faeces underneath the cages, nor about the expected volume of faeces produced.	recent sightings just east of the Holm of Papay. The area supports crabs, lobsters and scallops, amongst other economically important species. Note that there is a breeding colony of Black Guillemots at Moclett, which depend on adjacent waters for feeding during the breeding season. Marine habitats of the MPA such as mearl and kelp beds are sensitive to turbidity. The applications do not seem to provide information about or potential risks in relation to any marine species.	cumulative impact of chemicals and their potential to be 'trapped' within the South Wick west of the Holm of Papay merits deeper consideration.	'bruck' originating from salmon farms at the southwest of Papa Westray. People are very concerned about deposition on the island's main beaches and in their adjacent waters.		
6	<p>The water environment around Papa Westray has already been impacted and polluted by the established fish farms in close proximity to our shorelines.</p> <p>This proposed industrial size development is an 'over-development' of aquaculture in this area and the cumulative impact needs to be taken seriously 'by the powers that be' by listening and taking heed from our locally informed residential perspective.</p> <p>PLEASE SEE 'NO EAST MOCLETT LETTER & DOCUMENT'.</p>	<p>All species and habitats will be impacted, as they already have been, especially on the Western and Southern coasts of Papa Westray due to the established fish farms.</p> <p>The copious amount of feed entering the cages, to feed the staggering number of fish, not to mention the faecal effluent and waste, 'blankets' the sea bed. The 'out of sight and out of mind' mentality and expectation that the sea/ocean will just deal with it is surely not the way forward; especially when other countries are banning open cage farming due to the damaging effects they are having upon their ecological systems.</p> <p>The proposed development is only 600m away from our Marine Protection Area (MPA) which is an integral and important breeding/feeding ground for the Black Guillemot and other sea birds. A line may be drawn on a map but in the sea it moves!</p> <p>SEPA would take any resident to task if a household's effluent/waste was not in accordance with their guidelines and legislation. The effluent and waste from an aquaculture farm should be more vigorously scrutinised when the amount in comparison is massive, incomprehensible & very damaging to marine life.</p> <p>There is visibly a decline in the number of shellfish, shoals of fish and seals seen now that once upon a time were visibly more abundant in these waters.</p> <p>A young male Orca was washed up on the Western shore of Papa Westray last September 2021, 'whilst no rope was found on the animal, so it's not possible to say if this animal became entangled in active fishing gear or discarded/lost material, but based upon the lesion pattern it is likely the animal became entangled prior to death, as it was unable to reach the surface and drowned'.</p> <p>Whilst Papa Westray is a remote Orkney Isle, the surrounding waters where this site is proposed is not truly 'off-shore' as CAS claim. For example, it is not 12-200 nautical miles away (The Marine Act, 2010) from the nearest land mass. The Western, Southern and</p>	<p>All chemotherapeutics that are used to control and treat sea lice are a concern. Clearly CAS have had issues with sea lice on their established farms in the area as the use of taupaulins have been observed.</p> <p>PLEASE SEE 'NO EAST MOCLETT LETTER & DOCUMENT'.</p>	<p>Fundamentally the waste from fish farms pollutes the water environment whether we like it or not!</p> <p>I enjoy wild swimming and it is an absolute tragedy that I am unable to swim off the Western / South Western shore due to the extremely close proximity of CAS's Vestness site and other farms.</p> <p>Over the course of 16 months over 2 tonnes of bruck was collected from the Vestness beach alone (photographs attached).</p>	<p>The proposed development will take away our LAST remaining pristine seascape vista to which residents have direct access to the shore.</p> <p>No matter what modelling CAS have utilised, fundamentally, the waste and effluent will scathe our South and East shorelines which is exactly what has happened to the West.</p> <p>It cannot be emphasised enough how this proposed industrial development will act a 'noose and stranglehold' around Papay as a whole, by impacting upon tourism, recreational use of our beaches and the consequences that this will have upon Papay's economy and future'. Please SEPA do not allow this to go ahead.</p> <p>PLEASE SEE 'NO EAST MOCLETT LETTER & DOCUMENT'.</p>	<p>The use of all chemotherapeutics is known to be detrimental to crustaceans and other marine wildlife.</p> <p>PLEASE SEE 'NO EAST MOCLETT LETTER & DOCUMENT'.</p>

	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 on impacted habitats and species	Tell us about why you think the application will impact the water environment. - Q5 - open text box three on specific chemical or substance concerns	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 on impact on activities and their locations	Tell us about why you think the application will impact on people who use the water environment. - Q6 - open text box three on specific chemicals or substance concerns
		<p>Eastern shores of the Isle almost provide a 'sheltered' passage for mammals who no doubt take refuge from the greater expanse of ocean that unfortunately already has six farms.</p> <p>PLEASE SEE 'NO EAST MOCLETT LETTER & DOCUMENT'.</p>				
7	<p>The water environment will be impacted not only in the immediate vicinity, but also over a widespread area. CAS have failed to publish the figures in their own calculation, but using their equation, I have estimated that the faecal and waste discharge will be similar to that of 49,500 people, from such a vast tonnage of fish. This sewage will be constant for the entire life of the development, every day of every week ad infinitum. The development has no planning time limit, unlike other developments such as wind farms etc. There will also be usage of chemotherapeutics even though the development is to be classed as "ORGANIC" - the Soil Association have damaged their own reputation by giving accreditation, yet allowing the use of such chemicals! It's a disgrace. The site of this development is only 600m from Papay's MPA, and the "strong residual benthic currents flow in a north westerly direction" - straight into the bay between Papay and the Holm of Papay, the main area for residents and visitors to appreciate and enjoy our coastal environment due to the ease of beach and shore access. Would SEPA allow any individual (or business) to discharge such quantities of sewage, effluent and dangerous chemotherapeutics directly into a watercourse, loch or into the sea from land?</p>	<p>All marine species will potentially be impacted - fish, crustaceans, cetaceans, aquatic mammals, plantlife, seaweed, birds and many other aquatic species. The assumption cannot be made that there will be no effect, for the convenience of economic venture. There are known areas of important protected species which we stand to lose! We already know that the Vestness site (that has grown from 6 to 16 cages) is sited right beside two registered areas of sea grass! With the number of fish farms already sited locally, this is a definite case of over-development. Cooke Aquaculture vary the number of farm sites (5, 6, or 7) they currently have throughout the EIAR document, as well as other figures, depending on what they are trying to prove.</p>	<p>"Although being classed as organic, CAS plans to implement the use of chemotherapeutics as this is the only currently effective means of de-licing the fish. Among the planned chemotherapeutic chemicals mentioned within the EIAR document is Deltamethrin, which has been shown not only to be acutely toxic to non-target crustaceans such as stage one and stage two lobster larvae, but also found to have a large impact zone around the farm itself, thereby posing a significant risk to lobster, and other Decapoda organisms, in the surrounding areas of salmon farms (Parsons et al., 2020., Urbina et al., 2019., Ernst et al., 2014.,)." Deltamethrin Azamethiphos - cannot be used with Soil Association Organic accreditation Cypermethrin Emamectin Hydrogen Peroxide Antifoulants Net cleaning solutions See also in-depth response sent to SEPA on 30/4/22 by No East Moclett group - [REDACTED], and have read the EIAR document Files could be added as suggested below - glitch?</p>	<p>Our bay between Papay and the Holm of Papay is essentially a lagoon due to the Taing - the reef connecting the two islands. This geographical feature connects the north of the Holm to the North and South Wicks - the main beaches on the east coast of Papay, within a sheltered bay. Due to the sheltered location, these beaches are popular with local residents and visitors alike, and also wildlife (seals, otters and many birds). Activities such as wild swimming, snorkelling, diving, kayaking, recreational and creel fishing, beach-combing, wildlife watching and photography are all popular. Local residents also gather seaweed to use as fertiliser and culinary purposes, and it could be questioned how we stand with the ancient Udal Law - our deeds allow us to gather seaweed and kelp. Is their a right for this to be safe and clean?</p>	<p>Also, our tourism will be affected by the visual impact. Papay has many individuals whose employment may suffer due to a downturn in tourism, which will in turn have an impact on local services such as the school, shop, surgery, hostel and travel connections - a knock-on domino effect!</p>	<p>Deltamethrin Emamectin Cypermethrin (not legal in Scotland, yet mentioned in the EIAR document?) Azamethiphos (cannot be used with Organic Accreditation from the Soil Association) Hydrogen Peroxide Antifouling Diesel Effluent from barge (staff facilities) As before I don't seem to be able to attach documents so please refer to No East Moclett document and letter of 30/4/22 (glitch?).</p>

	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 on impacted habitats and species	Tell us about why you think the application will impact the water environment. - Q5 - open text box three on specific chemical or substance concerns	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 on impact on activities and their locations	Tell us about why you think the application will impact on people who use the water environment. - Q6 - open text box three on specific chemicals or substance concerns
8	<p>Nutrient Loading from all sources</p> <p>It is known that the accumulation of waste food and fish faecal material results in sediment changes below and in proximity to fish cages, artificially creating an area characterised by high organic material, low redox potential and the accumulation of nitrogenous and phosphorous compounds.</p> <p>Despite the expressed intentions of the applicant to monitor the delivery of food remotely to reduce overfeeding, previous research indicates that approximately 50% of nitrogen and 28% of phosphorous supplied is wasted in dissolved form(1). Olsen and Olsen(2) indeed observed that dissolved inorganic nutrients are assimilated by phytoplankton (Cooke Aquaculture Nutrient Assessment Report), they also noted that this was followed by a very pronounced increase in sedimentation rate – increasing the flow of dead organic matter to both deep water and sediments. This pelagic-benthic coupling not only impacts upon benthic communities generally but, more specifically, has potential to impact upon neritic nursery grounds around both Papa Westray and Westray.</p> <p>The Equilibrium Concentration Enhancement (ECE) assessment model (within the Nutrient Assessment Report) calculates predicted enhancement of nutrient waste whilst considering only five out of the seven finfish aquaculture sites in proximity to the proposed development area, with both Bay of Cleat South and Scarfhall Point excluded due to a lack of hydrographic data. We would suggest therefore that the results from the ECE modelling are less than robust, are potentially misleading and fail to fully address the concerns of cumulative impact and bio-magnification.</p> <p>Regarding the Bath Modelling report, whilst it is obviously necessary to know the maximum dosage for each chemical treatment in order to ensure EQS compliance, our belief is that dosing (if permitted) should always aim for the lowest dosage possible in order to be effective, rather than dosing to the limit of the compliance. We would also comment that there appears to be an attitude throughout the report that if the highest concentrations are located away from the proposed farm then this is ok. This is a serious concern as it shows a lack of consideration for the various wild species that will be affected by a change in water quality, particularly as the modelling indicates that chemicals will be dispersed southwards into Orkney waters, rather than into the wider pelagic environment. Dilution of chemicals is not the only solution and more sustainable options should be used in order to avoid cumulative effects with pockets of concentration above those set out by SEPA – a pattern this model shows already occurs at Vestness.</p> <p>Further more, the potential impact of hydrogen sulphide has not been modelled within the reports. Whilst local waters are well oxygenated (working against the production of hydrogen sulphide), hydrogen sulphide can form in biofilters, stagnant piping systems and, most likely, within the sediment below cages. This can see sulphate reducing bacteria competing with nitrate reducing bacteria for volatile fatty acids, resulting in a fish farm operating at higher nitrate levels than initially modelled, as well as hydrogen sulphide entering overlying waters by diffusion. We feel that modelling of the potential for (and impact of) hydrogen sulphide should be undertaken and considered.</p>	<p>Seabirds and other marine wildlife</p> <p>Seabirds</p> <p>A number of designated sites in the extended vicinity of the proposed site contain seabirds as protected features (see section 6 of Cooke Aquaculture’s EIA – Environmental Description for location). A number of these species are known to actively interact with aquaculture installations for feeding and roosting opportunities.</p> <p>As both SEPA and Cooke are aware, Azamethiphos is acutely and highly toxic to birds if ingested orally and has an extremely low therapeutic margin of safety in salmon (3).</p> <p>Crustaceans</p> <p>It must be noted that the effects of both Azamethiphos and Deltamethrin have the potential to affect local crustacean populations around the proposed site. The NOAH Compendium of Datasheets for Animal Medicines (2020) gives clear advice that these should not be used in proximity to crustaceans and, if used at all, should be used at times when the tidal spread of the chemicals is more limited. Due to the severity and strength of the tides in Orkney (including the North Sound) we would argue that these chemicals cannot be used safely within those guidelines. The potential use of this therefore raises serious concerns.</p> <p>Other comments</p> <p>Whilst we acknowledge that sea lice infestations are a welfare concern, we feel that the potential impact of chemical treatments upon seabirds and other marine wildlife is of paramount importance in this instance. The routine use of Emamectin Benzoate in feed (itself a cause of concern to SEPA in recent years(3)) has been identified as likely to be ineffectual from the applicant’s own reports, as has cypermethrin. We therefore ask that both are excluded from any licence granted.</p> <p>We also ask that the licensed biomass be set at a level to ensure that non-chemical treatment methodologies are sufficient to manage the welfare concern of sea lice and that a license is not given for the use of Azamethiphos or Deltamethrin.</p> <p>3) WRC Review of Environmental Quality Standard for Emamectin Benzoate (2017) Report Reference UC12191.03</p> <p>4) Committee for Veterinary Medicinal Products. AZAMETHIPHOS. Summary Report (2) (1999) EMEA/MRL/527/98-Final</p>	Please see comments above.	<p>Small-scale in-shore fisheries</p> <p>Azamethiphos and Deltamethrin have been shown to be acutely toxic to lobster larvae. They have the potential to impact upon areas surrounding the farm and, as such, present a significant risk to lobster (both stage 1 & 2 larvae).(5) There is likely to be a significant impact on the creel fishers that use the surrounding area for their livelihood.</p> <p>5) The impact of anti-sea lice pesticides, azamethiphos and deltamethrin, on European lobster (<i>Homarus gammarus</i>) larvae in the Norwegian marine environment (2020) Aoife E. Parsons, Rosa H. Escobar-Lux, Pål Næverlid Sævik, Ole B. Samuelson, Ann-Lisbeth Agnalt</p>	See comments above	<p>L. salmonis infestations are consistently high in the CAS sites locally. Despite being flagged as potentially organic(6), the applicant has stated the necessity of using chemical treatments. As Soil Association accreditation now permits these anti-parasitics to be used, their use would make it impossible to produce genuinely organic farmed salmon and marketing the product as such is deceptive at best.</p> <p>6) Cooke Scotland plans 3,850t offshore salmon farm (2022) fishfarmingexpert.com/article/cooke-scotland-plans-3850t-offshore-salmon-farm</p>

	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 on impacted habitats and species	Tell us about why you think the application will impact the water environment. - Q5 - open text box three on specific chemical or substance concerns	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 on impact on activities and their locations	Tell us about why you think the application will impact on people who use the water environment. - Q6 - open text box three on specific chemicals or substance concerns
	<p>Finally, we would note that the box modelling undertaken in the Nutrient Assessment Report appears to exclude potential nutrient loading from morts. This source should be considered and incorporated in order to improve model accuracy.</p> <p>Separately, the conclusion to the East Moclett Nutrient Assessment Report states that the report assumes that all sites are producing salmon at one time but that 'in terms of management and environmental sustainability' this is highly unlikely to be the case. This does beg the question as to why the applicant feels that another fish farm site, of such a large scale, in an already overcrowded aquaculture area, is necessary at all.</p> <p>Lepeophtheirus salmonis dispersal We note that no modelling appears to have been undertaken regarding the potential dispersal and infestation patterns of sea lice – both for East Moclett and as part of a cumulative assessment based upon the proximity of other active finfish aquaculture sites.</p> <p>General hydrographic modelling concerns It is disappointing that the modelling undertaken for each report has focused upon dispersal by near surface currents, particularly when the Visual Survey Report notes that residual bed currents align along a NW bearing and the complex topography of the surrounding sea bed will substantially alter current patterns through the water column. Turbulent flow is not random and not only can it be modelled but it should be modelled in order to produce accurate predictions of vertical mixing in the water column. The focus upon near surface waters is of particular concern when considering nutrient dispersal, which will see concentration typically increasing with depth. Despite this, the current modelling would indicate a potential for accumulation of nutrients within Bay of Moclett and a potential impact upon rocky shore ecosystems of both Papa Westray and the Holms of Papay and this does not appear to be addressed within the report.</p> <p>Finally, we were unable to find modelling of nutrient plumes that combines the cumulative impact of in-feed therapeutics, bath/wellboat treatments and waste produced. This has limited our ability to fully comment upon the potential total impacts upon the water column.</p> <p>We therefore feel that more accurate 3D hydrographic modelling that also includes an assessment as to the combined inputs from the site should be undertaken before the question of granting of licenses is addressed.</p> <p>1) Effect of feed and feeding in the culture of salmonids on the marine aquatic environment: a synthesis for European Aquaculture (2006) 2) Environmental Impact of Aquaculture on Coastal Planktonic Ecosystems (2008)</p>					
9	<p>A submission has been made by email, if you wish to view this response please email registry@sepa.org.uk and request a copy. Please refer to reference CAR/L/1191746 – East Moclett MPFF when emailing.</p>					