| | 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 |
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| 1 | The Firth of Clyde is already under great pressure. Resident Fish stocks have collapsed, which is well documented. Open cage salmon farming produces considerable amounts of effluent from the fish themselves, which end up localised on the sea bed. The chemicals used in the industry have a deleterious effect on the aquatic environment as a whole, and particular effect on crustaceans. | The Clyde has a run of Salmon and Sea Trout, as does the Loch Lomond system. Salmon farms are known to greatly increase the number of sea lice, far beyond more natural densities, in their locale. Increased sea lice numbers have been proven to have a highly negative effect on Salmon and Sea trout smolts as they transit through coastal areas, increasing mortality, and reducing the potential numbers of returning adult fish.<br><br>Salmon farms also suffer from frequent escape events, and escapee fish have been found in river systems up and down the west coast. The effect of farmed fish entering the spawning systems of wild fish is known to have negative consequences on the genetic integrity of local populations, and endangers further spawning success.<br><br>Salmon as a species have not evolved to be contained so closely in great numbers at sea - and the incidence of outbreaks of disease linked to salmon farming have lead to documented incidents of early mass-mortality. Outbreaks of such diseases may effect other local fish populations, as well as returning adult wild fish and outward migrating smolts. | All of them. | It is likely that the presence of industrial scale fish farming in an area of scenic beauty will adversely effect the experience of people who live nearby, and those who enjoy on-water leisure experiences, as well as a reduction in opportunity for safe open water swimming. There may be a drop in local property values, and a reduction in use of a public resource for recreation. | Sightseeing, boating, sailing, canoeing/kayaking, swimming. | All of them. |

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| 2 | 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 Argyll 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, including those in Argyll, Arran, 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. Our primary concern are impacts on wild salmonid fish and this is covered in the section below. | This and the other two proposed Dawnfresh sites lie on an important migration pathway for Atlantic salmon which all fish arising from the inner Firth of Clyde 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.<br><br>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 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 | | 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.<br>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. | |

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| | | 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.<br>We have attached a short summary of the science which underpins our objection.<br>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 each of the three proposed farms.<br>References<br>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.<br>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 | | | | |
| 3 | Given the amount of faeces that will be released by the fish not to mention the mix of chemicals required to keep the lice at by, I'd suggest that the impact on the local environment will be enormous.<br><br>Also, a look at the impact assessment shows that the wind assessment for the area, and the subsequent dispersal of waste from the farm, is based upon the wind measurements for Glasgow Airport; a site some forty miles inland and substantially different from the winds at the shore.<br><br>Furthermore, the proposed site of the farm faces an easterly direction - the winds of which can be notoriously fierce and damaging. | The waters surrounding the island of Great Cumbrae provides a home to many different species of marine mammals. Namely: otters, seals, harbour porpoises and a lone dolphin (the behaviour of which has become quite a focus for academic study).<br><br>Not forgetting the lobster and crab fisheries along the shoreline; some of which are right on the proposed site.<br><br>Add to this the delicate SSI on the mainland shoreline, and the use of acoustic devices to deter marine species, and I would argue that the impact of the proposed fish farm would be incredibly harmful to the species and habitats in the area. | And and all chemicals used to protect the fish. | As mentioned previously, the proposed site has been used for lobster and crab fisheries for some years. The use of the site as a fish farm, I would argue, would have a detrimental effect on the sea-life below it and could affect these sustainable industries. | As above. | And and all chemicals used. |
| 4 | I am extremely concerned that should this application be approved, it will further destroy the survival chances of our iconic migratory salmonoid species as a result of the inevitable increase in numbers of sea lice arising in and around the open cages of the fish farm.<br>There is a wealth of scientific evidence showing the enormous damage to wild fish | | | | | |

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| | in areas of aquaculture and until the recommendations of the Scottish Government Committee, Salmon Interactions Working Group, published in May 2020arefullyimplemented,no further expansion of aquaculture in the waters off the Firth of Clyde/Argyll ought to be allowed. | | | | | |
| 5 | 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. |
| 6 | Argyll and Bute Council Opinion response to the Dawnfresh 19/00233/SCRSCO screening/scoping application on the 17 May 2019<br>This opinion from the ABCouncil stated the proposed fish farm is likely to give rise "to significant environmental effects"<br>Fish faecal matter will affect water quality:<br>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.<br>No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment.<br>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.<br>Use of highly toxic chemicals will affect other species in the area:<br>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.<br>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.<br>For the Cumbrae applications, it seems ridiculous that £1.8m is being spent to reintroduce oysters, including placing 1300 in | 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<br>The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA<br>The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC<br>The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina<br>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<br>Faecal waste from such a large number of fish for such an extended period of time<br>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<br>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<br>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.<br>The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours.<br>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.<br>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<br>Faecal waste from such a large number of fish for such an extended period of time<br>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. 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| | 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.<br>*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.<br>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?<br>https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report.<br>Lice soup will be created in the Clyde, impacting wild salmonids<br>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.<br>Please refer to this model for impact of lice from fish farms and thus the impact on the water environment<br>https://vimeo.com/496948354 | | | | | |
| 7 | This development will adversely affect the local sea bed to destruction. And will spread chemicals and faeces across the area. | | | This development will cause additional hazard to local sailing community and all users of the area. | Yachting<br>Motor sailing | |
| 8 | I think it will put our waters at risk | | | | | |
| 9 | It can drastically effect the wildlife here. Where we live is beautiful and we are lucky enough to see beautiful animals. This could possibly change everything. | | | | | |

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| 10 | 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.<br>No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment.<br>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. | 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<br>The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA<br>The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC<br>The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina<br>The water quality of the general area due to faecal and food waste | 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<br>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<br>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.<br>The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours.<br>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.<br>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.<br>The newly established paddle boarding company on Bute would lose a stretch of coast line for its customers. | See 6A | The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin<br>Faecal waste from such a large number of fish for such an extended period of time |
| 11 | It will fill the waters with pesticides and antibiotics as they have to regularly empty the tanks. The local eco system is wrecked by eutrophication. The seals alarms will move them away. The fish suffer too as they fight in the tanks and most importantly farmed fish is not a healthy option for consumption. | Seals on the Eileen's.<br>The many species of birds.<br>Humans. | | Pesticides and antibacterial issues. | Swimming safely<br>Kayaking<br>Paddleboarding | You know what they are introducing to the sea. |
| 12 | See comments in wee Cumbrae submission. This needs to be a joined up approach. What is the cumulative impact of all 3 fish farms?<br><br>Also have not seen any significant risk assume the of potential accidents and likely environmental impact.<br><br>The material provided is inadequate for the impact that will occur. | | | The question is, why would this be allowed to pollute our water and environment. What is the benefit that we must make these compromises? Maybe a couple of jobs, some chemically dosed fish and huge profit for the owners. Vs impact to most basic marine life which will impact the whole marine environment.<br><br>When will we stop this????? | | |

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| 13 | 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.<br><br>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 migrate directly past the proposed developments on their migration through the inner Clyde, placing those fish at risk from | 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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| | | 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.<br>We have attached a short summary of the science which underpins our objection.<br>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.<br>References<br>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 | | | | |
| 14 | The use of highly toxic chemicals will affect our wildlife. High quantities of faecal matter | It is ludicrous to have invested millions in an oyster farm directly opposite this proposed site which will be decimated by the chemicals | The 3 bath treatment and the chemicals used in this process | This will directly impact the local oyster farm and the students who come to carry out important marine and environmental | Research by Field Studies Council marine and Environmental students. | Azamethiphos , cypermethrin, deltamethrin |

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| | in the water along with these chemicals will kill off many species of aquatic life | and high quantities faecal matter excreted by the farmed fish | | research at the marine biology station Field Studies Council | | |
| 15 | The water environment would be polluted by high concentrations of fish faecal matter, food waste, dead fish, concentrated lice infestation which will impact on the wild salmonids which travel in and out of the Clyde to and from their spawning grounds at the Endrick Waters, a European designated Special Area of Conservation, the toxic chemicals, Cypermethrin, deltamethrin and azamethiphos, which are detrimental and very toxic to aquatic life with long lasting effects, and acute hazards to the aquatic environment, as well as long-term hazards. Cypermethrin is a possible human carcinogen and reduces zooplankton density and biodiversity. Dawnfresh claim that a six week rest period after farming for 22.5 months will recover the environment from the drugs, faecal waste and food waste from 4,875 tonnes of food per year producing 2,500,000kg of fish stock. That does not seem probable or even possible. The waste will be dispersed to other locations, but does not disappear - it will have moved elsewhere causing detrimental impact elsewhere, as well as a large amount of faecal waste , food waste and dead fish remaining in the entire area below the fish pens, turning that area into an environmental wasteland and sewage dump.<br><br>The dispersion modelling for South Bute shows that all of the chemicals travel directly to the west coast of Cumbrae and from there, on to a large stretch of the coastline on the mainland as far north as Inverkip and farther.<br><br>The dispersion modelling for the chemicals from Little Cumbrae show that all of the chemicals from Little Cumbrae will travel to and land heavily directly into Newtown Bay and Kames Bay at Millport. Kames Bay has been recognised as a Site of Special Scientific Interest (SSSI) by Scottish Natural Heritage; for its educational value especially. As such it is illegal to damage the integrity of this sandy beach, which is used by children and families and swimmers for paddling, wading and swimming. Kames Bay is special in having a source of freshwater upwelling from beneath it (hence why the sand is always wet, even when it is not raining!) caused by drainage down the Great Cumbrae Fault (which is responsible for the valley up which the Ferry Road runs). That effectively creates an estuarine character to the biota of this marine beach, probably a unique feature in Britain. It is shocking to me that Dawnfresh would even consider risking harming this precious and unique area with the dispersion of highly toxic and potential cancer-causing | Ballochmartin Bay has been recognised as a Site of Special Scientific Interest (SSSI) by Scottish Natural Heritage; for its educational value especially. As such it is illegal to damage the integrity of this beach. Ballochmartin Bay is characterised by glacial deposited boulders and cobbles over an underlying layer of boulder clay. An interesting fauna of invertebrates lives within the sand that supports a diversity of wildfowl species. It was a site where native oysters could be found and where eelgrass beds once thrived. This bay lies just slightly north of the proposed location of the fish farm and in the direction shown in the dispersion modelling for the pharmaceutical treatments.<br><br>The wild salmonids which leave and return to and from their spawning grounds at the Endrick Water SAC will be impacted by the concentration of lice around the farm pens and from escapees which will transfer lice and also breed with the wild fish, causing genetic changes to their offspring and weakening the species.<br><br>The cumulative effects of the dispersion of the pharmaceutical treatments from all three proposed fish farms will have detrimental effects on the mainland coastal environment where there are newly installed oysters being bred and raised at Larges Yacht Marina and Fairlie Quay Marina.<br><br>The water quality for any and all aquatic life in the area will be harmed by the faecal and food waste. As well as remaining below the fish farm and thus destroying the natural marine life in that environment, the modelling by Dawnfresh shows that the bulk of pollutants and chemicals will travel to and settle on a huge stretch of mainland coastline, thus harming a much larger area than just the location of the farm. | Faecal waste from such a large concentrated quantity of fish over a long period of time is harmful to the marine environment.<br><br>The three bath treatment chemicals - Cypermethrin, deltamethrin and azamethiphos are all environmental hazards, very toxic to aquatic life with long lasting effects, and acute hazards to the aquatic environment, as well as long-term hazards. Cypermethrin is a possible human carcinogen. As well as the potential health risks of consuming fish which have been treated wth these chemicals, there is actual danger to the marine environment and aquatic life which live and/or feed in the waters. Cypermethrin also reduces zooplankton density and biodiversity. | It will impact on residents and visitors to Cumbrae who cycle, walk and drive along the coastal road where this fish farm is proposed. The southwest coast of Cumbrae is a natural area for outdoor recreation of hiking and cycling. Cycling is the “national sport of Cumbrae” historically, currently and hopefully for its entire future, but the location of a large fish farm so close to Millport, exactly where residents and visitors head to when wishing to enjoy the natural, peaceful environment. Therefore, it will have a detrimental impact on the tourism economy, which is the lifeblood of Cumbrae.<br><br>It will impact on the success of the new oyster businesses on the nearby mainland which can be threatened by the pollution caused by the toxic chemicals which will disperse to the shores of Largs and Fairlie, according to the dispersion modelling report.<br><br>The proposed farmed directly in the highest traffic area for marine traffic in the Clyde. Therefore it will impact on all of the people who travel through this area for recreational, military or economic reasons due to the narrowing of the channel caused by the farm. It will be detrimental to recreational water sports enthusiasts who chose natural areas in which to kayak or sail.<br><br>When the 228m long ship, The Valaris DS4 that was moored at Hunterston Terminal at Fairlie in February 2021 began to drift without power between the mainland and the Isle of Cumbrae, along with a second shop moored at the terminal which also require tug boat assistance, if the Dawnfresh fish farm had already been in place, the ships would have been on top of the pens. Their moorings failed in the high winds. Similar storms will happen again, and if there were a similar event with a fish farm in that location, it would endanger lives to an even greater degree. | Please see my comments above - tourism, oyster farming, cycling, hiking, sailing, kayaking, shipping, military marine activities, swimming, wildlife watching, preserving the natural environment, and the economy of Millport and therefore, the Isle of Cumbrae. | Cypermethrin, deltamethrin, azamethiphos, faecal waste, food waste, dead fish, fish lice. |

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| | chemicals travelling directly there from their proposed farm at Little Cumbrae. The bays surrounding Millport are the lifeblood of the economy of Millport and therefore the entire Isle of Cumbrae. If the owners of Dawnfresh are given permission for the three farms on Little Cumbrae, Great Cumbrae and Bute, the cumulative effect will be the ruin of the future of Millport and Cumbrae, just for the profit of a company whose owner is already a billionaire. Will he financially and environmentally rescue these small islands in the Clyde after he has ruined them? I don't think so! He will just leave us with the pollution of naturally beautiful and special areas and ruined economies.<br><br>These three CAR applications cannot be considered individually, as each one affects the others and cumulatively the environmental impacts will be disastrous to this small, beautiful, special, and so far protected part of the Clyde. | | | | | |
| 16 | Fish farms are unhealthy for the fish, the consumers of the fish and the surrounding water . | | | | | |
| 17 | The use of chemicals is bound to impact the marine life in the area. The build up of sea lice on the fish is already an acknowledged side effect of fish farming. The waters in the channel move constantly and it is inevitable that contaminated water will move and eventually wash up In Kames Bay and Newton Sands. These beaches are used all year round and the chemicals are bound to impact people and pets using the beach. | The company may say they will take measures to reduce this impact but if the application is passed they will do what they like as much of what they do will be unchecked. We have seals on the Eileans and often visiting pods of porpoises who will be compromised. We know that measures would be taken to keep seals away from the nets.<br><br>The channel is also rich in marine life and Dawn Fresh will do whatever they want to ensure that nothing damages their stock. They have no care for the seabed, marine life or how the chemicals may pollute the area. The fish they rear will also suffer as has been seen in many fish farms throughout the west coast. | The dangers of fish farming to wild fish, sea mammals and mostly to the fish themselves is clearly outlined in the Compassion in World Farming Trust leaflet attached. These farms use horrific methods in the process of rearing the fish, often fish escape causing damage to the wild fish, they shoot and kill seals or any predator that might reach the fish.<br><br>I am not a chemist but we already know what the use of chemicals can do to humans . It is now known that the sperm count has dropped by 60% in humans in my lifetime. We need to stop these so called fish farms and return to a more natural way of catching fish.<br><br>Dawn fresh are only interested in making money, nothing else and we do not want them near the island or any other place in Scotland. | "Current treatments centre on the use of strong nerve<br>toxins. The fish are crammed together and bathed in<br>organophosphates or synthetic pyrethroids, or receive<br>chemical treatments in their feed. These methods are<br>feared to have environmental repercussions. Alternatives include bathing fish in the irritant<br>hydrogen peroxide" | Inevitably these chemicals will be brought to shore and children and adults in the water will be affected by them. Also people canoeing or surfing on boards around the area will get get these chemicals on their hands and faces.<br><br>Lots of people on the island exercise their dogs in the water round the beaches. These animals are likely to ingest the chemicals. | Any chemicals added to the water can be damaging and we do not know just how much damage they may do. |
| 18 | Excessive waste, chemical pesticides- damage to wildlife, seal and marine life population | Seals, crabs, fish, jellyfish, dolphin, porpoise, others too | Pesticides used to prevent lice within the fish and other chemicals cause devastation to surrounding marine life | Chemical pollutants and excessive waste from fish will not only make it unsafe to swim, kayak, surf and sail in but will damage | | |

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| | | | | tourism due to the reputation of tainted food waters | | |
| 19 | 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.<br>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.<br>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.<br>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 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.<br>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? 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.<br>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 | 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.<br><br>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.)<br><br>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 and the others nearby being proposed concurrently by Dawnfresh.<br><br>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 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.<br><br>3. Otters (A European Protected Species) - present in the coastal area. Feed in the coastal waters and will be affected by impacts of waste and toxic chemicals directly and indirectly.<br><br>4. Commercially important shellfish, e.g. lobster, crab. Significant risk from effects of toxic chemicals and impact of waste on seabed habitats and ecology. | 1. The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin and deltamethrin.<br><br>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.<br><br>The following interests/businesses operate within the area/vicinity of the farm and will be negatively impacted by this proposed farm:<br>- Swimmers & beach users<br>- Wildlife watching businesses<br>- Kayakers/sailers/paddlboarders<br>- Fishermen – locally based and Clyde fishermen's Association members. Loss of ground and impact of chemicals and waste on target species (crustaceans)<br>- Scuba divers / snorkellers<br>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 comments above | 1. The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin and deltamethrin.<br><br>2. The faecal waste and waste from uneaten fish food that will be discharged, untreated, into the sea. |

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| | 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?<br>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 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.<br>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.<br>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.<br>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?<br>10. There is a significant and high likelihood of adverse impact on wild salmonids as a | 5. Oysters – native oysters recently introduced to Largs Yacht Marine and Fairlie Quay Marina<br><br>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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| | 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 in combination with other open cage fish farms: https://vimeo.com/496948354 | | | | | |

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| 20 | Argyll and Bute Council Opinion response to the Dawnfresh 19/00233/SCRSCO screening/scoping application on the 17 May 2019<br>This opinion from the ABCouncil stated the proposed fish farm is likely to give rise "to significant environmental effects"<br>Fish faecal matter will affect water quality:<br>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.<br>No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment.<br>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.<br>Use of highly toxic chemicals will affect other species in the area:<br>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.<br>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.<br>*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 | 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<br><br>The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA<br><br>The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC<br><br>The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina<br><br>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<br><br>Faecal waste from such a large number of fish for such an extended period of time<br><br>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<br><br>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<br><br>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.<br><br>The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours.<br><br>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.<br><br>The newly established paddle boarding company on Bute would lose a stretch of coast line for its customers. | As above | 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. 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| | 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.<br>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?<br>https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report.<br>Lice soup will be created in the Clyde, impacting wild salmonids<br>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.<br>Please refer to this model for impact of lice from fish farms and thus the impact on the water environment<br>https://vimeo.com/496948354 | | | | | |
| 21 | i believe this will have a negative impact on the water quality | i beleive that fish farming is cruel | | it's not natural and have concerns around pollution | | |

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| 22 | My concerns regarding this application are listed below, unfortunately sometimes repeating certain statements as the concerns apply to more than one question.<br><br>The discussion of the models associated with this application state: “The chemicals are shown to accumulate on the south and southwestern coastline of Greater Cumbrae. All the chemical discharges modelled resulted in plumes in the vicinity of Millport and Kames Bay, which is a Site of Special Scientific Interest (SSSI) due to it being the only example of a shore dominated by sand on Great Cumbrae.The sands at Kames Bay are constantly wet and even in summer never experience severe drying, resulting in a high faunal population, including large numbers of the lugworm Arenicolamarina and the bivalve Tellina tenuis(SNH,2000). Therefore, there is a potential for chemicals to impact the fauna within this area”<br><br>The proposed chemicals: azamethiphos, cypermethrin and deltamethrin will be significantly deleterious to sea life. 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. The impact on the SSI, which the models show will receive a high volume of the discharge, is significant and should not be allowed under SSI protective legislation. Effluent discharge (and associated eutrophication) noted in the proposal at 25kg/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, including on the popular sandy beach of greater Cumbrae.<br><br>1: https://doi.org/10.1016/j.envpol.2020.114725<br><br>2: https://doi.org/10.1016/j.marenvres.2020.105007<br><br>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. 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. There are a number of protected cetacean species that will be impacted and these are well documented in localised marine mammal reports.<br>The discussion of the models associated with this application state: “The chemicals are shown to accumulate on the south and southwestern coastline of Greater Cumbrae. All the chemical discharges modelled resulted in plumes in the vicinity of Millport and Kames Bay, which is a Site of Special Scientific Interest (SSSI) due to it being the only example of a shore dominated by sand on Great Cumbrae.The sands at Kames Bay are constantly wet and even in summer never experience severe drying, resulting in a high faunal population, including large numbers of the lugworm Arenicolamarina and the bivalve Tellina tenuis(SNH,2000). Therefore, there is a potential for chemicals to impact the fauna within this area”<br><br>The proposed chemicals: azamethiphos, cypermethrin and deltamethrin will be significantly deleterious to sea life. 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. The impact on the SSI, which the models show will receive a high volume of the discharge, is significant and should not be allowed under SSI protective legislation. Effluent discharge (and associated eutrophication) noted in the proposal at 25kg/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, including on the popular sandy beach of greater Cumbrae.<br>1: https://doi.org/10.1016/j.envpol.2020.114725 | 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 battle 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, including on the locally designated and vulnerable SSI.<br><br>As with antibiotic usage, the answer would seem not to be more pesticides to allow placement of farms in unsuitable sites at high stocking densities, but rather more thoughtful placement of sites at lower densities and alternative methods odf sea lice control.<br><br>1. https://doi.org/10.1098/rsos.210265 | The supplied models and discussion, states that the bulk of discharge has been: “shown to accumulate on the south and southwestern coastline of Greater Cumbrae. All the chemical discharges modelled resulted in plumes in the vicinity of Millport and Kames Bay, which is a Site of Special Scientific Interest (SSSI) due to it being the only example of a shore dominated by sand on Great Cumbrae” . 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 and chemical discharge, will have a significant deleterious impact and create health/safety concerns for those who use the water.<br><br>The supplied models show dispersal of azamethiphos, cypermethrin, deltamethrin concentrating in localised bathing spots, causing significant concerns for the health of those using the water. | 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.<br><br>1: https://doi.org/10.1016/j.envpol.2020.114725<br><br>2: https://doi.org/10.1016/j.marenvres.2020.105007<br><br>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.<br><br>Due to the impact on an SSI, local water quality, local marine species and the impact on small local industry, as well as the impact on local amenity, I think the proposal is wholly inappropriate. |

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| | | 2: https://doi.org/10.1016/j.marenvres.2020.105007<br>3: https://doi.org/10.1016/j.chemosphere.2017.07.108 | | | | |
| 23 | 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.<br>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.<br>This is one of three separate applications in a small geographic area. I have seen no opportunity to express concerns regarding cumulative effects. In a sense the application process has been ' Salami Sliced'. This is | Impact on the already low numbers of native salmon and sea trout in the area. The impact on adjacent 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.<br>Impact of underwater noise on cetaceans in the area.<br>The area is well documented for high numbers of Harbour Porpoise and is home to a famous resident dolphin. | The three sea lice treatment chemicals quoted in the CAR.<br>The degradation products from faecal waste and unused food pellets.<br>Any anti-fouling treatments for the nets and pens. | All water users in the area. Boating, sailing, kayaking, diving, fishing.<br>Anyone who visits the beautiful island of Great Cumbrae and who wishes to experience the variety of wildlife set in an unpolluted environment.<br>Anyone who wants to swim or dive in clean unpolluted waters in the adjacent Clyde area.<br>The area at the Butter Lump adjacent to the proposed site is a favourite dive location.<br>The area off Farland Point is a favourite fishing location. Both of these are very close to the proposed site. | It is particularly noted that the dispersion models show the three toxic chemicals being directed to the beaches surrounding Far Bowen Craigs near 'The Pencil' at Largs. This is an area used by thousands of tourists each year who expect to be able to access clean, pollution free sea water for swimming and paddling. It is also the location of the launch slipways which are used for National and International Sailing events hosted by Largs Sailing Club. I believe the beaches in this area are also covered by the 'Flag' status for water quality. | The three sea lice treatment chemicals quoted in the CAR.<br>The degradation products from faecal waste and unused food pellets.<br>Any anti-fouling treatments for the nets and pens. |

| | 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 |
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| | a technique which unfortunately locals are familiar with in planning applications in the Hunterston Peninsula area. Why has there been no opportunity to object to the total impact of the three CAR applications? | | | | | |
| 24 | 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 for Cumbrae. Neither is there any reference to benthic survey work in the screening / scoping conducted by North Ayrshire Council planners. 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<br><br>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 but perhaps most of all from the Cumbrae location 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<br>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 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.<br>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.<br>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. The biomass Modelling report in Section 4 page 5 dated November 2018 mentions 15 days of data, totally inadequate for describing the hydrographic characteristics of the site whereas in the summary of this same report it states an acoustic doppler current profiler (ADCP) was deployed for 90 days thus meeting current SEPA guidelines. All this introduces uncertainty placing in question the value of outcomes presented for public comment and for proper SEPA evaluation. | 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 all 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. The location of the Cumbrae development site, the subject of this consultation, is entirely inappropriate due to this stretch of coast being the main public route into Millport and on the other side of the channel a highly populated stretch of North Ayrshire coast, both coastlines and inshore waters being visited by extensive visitor numbers engaged in aquatic recreation in season. The potential for contact with dispersing chemicals and consequently health risk is very considerable. | Azamethiphos, an organophosphate, a chemical group of pesticides well known throughout on-land agriculture as carcinogens. The dispersion of this toxic chemical described in the Xodus Hydrographic Report in Section 3.3.1 points to a very concerning picture around the coastline at Largs.<br><br>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 this time with a new set of documents designed to meet the need of the regulator as specified in the latest sectoral guidance. |

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| | | | 4. 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.<br>5. 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 | | | |

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| 25 | This application will have a very significant negative impact on the water environment.<br><br>The discussion of the models associated with this application state: “The chemicals are shown to accumulate on the south and southwestern coastline of Greater Cumbrae. All the chemical discharges modelled resulted in plumes in the vicinity of Millport and Kames Bay, which is a Site of Special Scientific Interest (SSSI) due to it being the only example of a shore dominated by sand on Great Cumbrae. The sands at Kames Bay are constantly wet and even in summer never experience severe drying, resulting in a high faunal population, including large numbers of the lugworm Arenicolamarina and the bivalve Tellina tenuis(SNH,2000). Therefore, there is a potential for chemicals to impact the fauna within this area."<br><br>The proposed chemicals: azamethiphos, cypermethrin and deltamethrin will be very harmful to sea life, with well demonstrated toxicity to lobster larve, high toxicity to other crustacea such as shrimp and 100% toxicity to sea crabs, at concentrations lower than that proposed. The impact on the SSI, which the models show will receive a high volume of the discharge, is significant and should not be allowed under SSI protective legislation. Effluent discharge (and associated eutrophication) noted in the proposal at 25kg/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, including on the popular sandy beach of greater Cumbrae.<br><br>All in all, this application would be disastrous for the already damaged ecosystem in the Clyde, and should be declined.<br><br>1: https://doi.org/10.1016/j.envpol.2020.114725<br><br>2: https://doi.org/10.1016/j.marenvres.2020.105007<br><br>3: https://doi.org/10.1016/j.chemosphere.2017.07.108 | The proposed application will hvae a very negative impact on many species and habitats.<br><br>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. 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. There are a number of protected cetacean species that will be impacted and these are well documented in localised marine mammal reports.<br><br>The discussion of the models associated with this application state: “The chemicals are shown to accumulate on the south and southwestern coastline of Greater Cumbrae. All the chemical discharges modelled resulted in plumes in the vicinity of Millport and Kames Bay, which is a Site of Special Scientific Interest (SSSI) due to it being the only example of a shore dominated by sand on Great Cumbrae. The sands at Kames Bay are constantly wet and even in summer never experience severe drying, resulting in a high faunal population, including large numbers of the lugworm Arenicolamarina and the bivalve Tellina tenuis(SNH,2000). Therefore, there is a potential for chemicals to impact the fauna within this area”<br><br>The proposed chemicals: azamethiphos, cypermethrin and deltamethrin will be significantly deleterious to sea life. With well demonstrated toxicity to lobster larve, high toxicity to other crustacea such as shrimp and 100% toxicity to sea crabs, at concentrations lower than that proposed. The impact on the SSI, which the models show will receive a high volume of the discharge, is significant and should not be allowed under SSI protective legislation. Effluent discharge (and associated eutrophication) noted in the proposal at 25kg/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, including | 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. 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. 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, including on the locally designated and vulnerable SSI.<br><br>1. https://doi.org/10.1098/rsos.210265 | The application will have a significant, negative impact on people who use the water environment.<br>The supplied models and discussion, states that the bulk of discharge has been: “shown to accumulate on the south and southwestern coastline of Greater Cumbrae. All the chemical discharges modelled resulted in plumes in the vicinity of Millport and Kames Bay, which is a Site of Special Scientific Interest (SSSI) due to it being the only example of a shore dominated by sand on Great Cumbrae” . 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 and chemical discharge, will have a significant negative impact and create health/safety concerns for those who use the water.<br><br>The supplied models show dispersal of azamethiphos, cypermethrin, deltamethrin concentrating in localised bathing spots, causing significant concerns for the health of those using the water. | In addition to that listed above, it should also be noted that the proposed development will have a significant negative 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 and therefore damaging to this small local industry.<br><br>1: https://doi.org/10.1016/j.envpol.2020.114725<br><br>2: https://doi.org/10.1016/j.marenvres.2020.105007<br><br>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.<br><br>Given the stated impact on the local SSI, the impacts on cetaceans within the area and accumulation of discharge on popular bathing spots, this application appears wholly unsuitable. |

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| | | on the popular sandy beach of greater Cumbrae.<br><br>1: https://doi.org/10.1016/j.envpol.2020.114725<br><br>2: https://doi.org/10.1016/j.marenvres.2020.105007<br><br>3: https://doi.org/10.1016/j.chemosphere.2017.07.108 | | | | |
| 26 | It has been scientifically proven that certain chemical emissions will have a long term impact on marine life in the area particularly as Great Cumbrae would potentially have an additional 2 nearby farms at Bute and Little Cumbrae. The waters in this area have for generations been of valuable scientific interest. | | | Small fishing boats use these waters and their livelihood will be put at risk by this proposed development. Potentially chemical emissions could also impact on swimmers using the beaches very close to the proposed site. Plans are also being developed to make use of the recently closed water sports centre very close the the proposed Cumbrae site. | | |
| 27 | There will be lots of waste, equivalent to sewage waste, discharged into the water. We should aim to improve the water conditions in the Firth of Clyde, not make the situation worse. | All the chemicals are bad, they are alien substances to the sea, and will cause damage to the sea flora and faune in long terms. | Atlantic salmon population is decreasing and part of the problem is caused by pollution. All the Ayrhire rivers are polluted by the farms discharging animal waste into the rivers and SEPA knows this very well....SEPA has in its records all the complaints they have received about the Water of Fail (Failford village), that enters the river Ayr, which enters the sea. River Irvine is not any better; it is enough you walk along one of its tributaries like the Cessnock (near Kilmarnock) and you wil realise that it is a sewage! So, I really don't think we should make the problem worse, by adding fish farms in the Firth of Clyde. | People are using the sea more an more for recreational purposes; surfers, swimmers, kayaker, paddle boarding, yacht clubs, so we need a clean sea, not a sewage. | All chemicals are alien to the sea; they should not be used. | |

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| 28 | 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 area is also popular with divers seeking scallops which are also abundant in the area. 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 weather conditions which, although, mainly from the south west can also be significant from the east and south east. The Ayrshire mainland may provide some protection but the seas can be extremely rough at times and the recent incident involving the drill ships moored at the Peel Ports jetty at Hunterston must be considered. The breaking of the drill ship's mooring was only prevented from being a massive environmental disaster by the fact that the bow anchor held. Nevertheless, a number of tugs and protection agency vessels had to be on station for over a week to prevent the anchors dragging and before the ship was able to be secured back to the jetty. The proposed cages are right in the path of such an accident should it occur and the environmental impact of such an doubled accident cannot be ignored. 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 east coast of Great Cumbrae is going to be very vulnerable to any breakways or damage. | The proposed area is close to the Field Studies Centre (FSC, formerly the University Marine Biology Station), and directly above the 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. Although it may be only one isolated issue, but "Kylie" the dolphin has become a national and international star and she spends much of her time around this same location and must be liable to be affected by chemical discharges so close by as well as the temptations of captive fish. 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, from my own experience 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. | Effluent from cages is a pollutant. The waters of the Clyde are significantly cleaner than they were 20 years ago. Particularly in these post-coved 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. Fishing is a regular past time for many, especially on Cumbrae and the proposed area is one of the most popular areas for shore based fishing by rod. 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. | As in my previous reply |

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| 29 | 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.<br><br>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 migrate directly past the proposed developments on their migration through the inner Clyde, placing those fish at risk from | | 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.<br><br>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.<br><br>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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| | | lethal or damaging infestation from sea lice.<br><br>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.<br><br>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.<br><br>References<br><br>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.<br><br>Glover, K. A., Solberg, M. F., McGinnity, P., Hindar, K., Verspoor, E., Coulson, M. W., Hansen, M. M., Araki, H., Skaala, Ø., & | | | | |

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| | | 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 | | | | |
| 30 | I strongly disagree with the 3 fish farms and allowing them untreated faeces from tens and thousands of caged fish enter the the fragile area around Arran, Bute and Cumbraes as the sewage equivalent of one fish farm would be double the size of Oban. With the 3 farms we would be allowing th waste equivalent 105,000enter the waters. This is disgusting and not acceptable. | Fishes like Salmonids, oysters, and other species of mammals like otters, seals and wild life including bird varieties who feed on these and imbibe the chemicals. | Azamethiphos, cypermethrin and deltamethrin are all dangerous chemicals and carcinogenic. My speciality is cancer and i am aghast that these chemicals will be freely floating around. Dangerous for flora, fauna, fishes, mammals, and human beings | Apart fro the above toxic wastes, it will impact on livelihood of fishermen. And in particular th Clyde Fishermen Ass and members. It will affect the reintroduction of oysters to the area that will improve the water quality | Wild swimming, kayaking, boating, sailing and all water sport and especially children. | Azamethiphos, cypermethrin, deltamethin as many of these are carcinogenic and highly toxic to both the aquatic environment as well a humans. |
| 31 | 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.<br>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?<br>By-discharges of highly toxic chemicals will contaminate the water for miles around, as shown by the modelling studies.<br>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.<br>Also fish excreta, and uneaten food. | Leisure and competitive sailors (sailing dinghies and larger boats) - restriction to navigation in one of the most highly transited parts of the Clyde, PLUS this application will inhibit access to the waters used by Largs Sailing Club (LSC) and other organisations for major sailing events, which bring huge economic benefit to the area e.g. LSC regularly holds National and World championship sailing events, with up to 400 competitors on the water, and many more supporters ashore. Almost all need accommodation, and will use local catering, shopping and tourist attractions. National and world associations won't bring these events to Largs if they believe their is any risk to the competitors from the toxic chemicals used in the farming process. | As above - potential huge impact on the attractiveness of Largs SC as Scotland's major competitive sailing venue, with very significant loss of tourism income to Largs and the surrounding area.<br>As an example, the Laser and Topper National Championships in August 2019 had over 350 boats and sailors competing in these two events, each a week long, bringing over 1000 people into the local economy, requiring accommodation, shopping, feeding, and entertaining. Many Topper families took the opportunity to spend time in Largs (Nardini's was popular!), and visit Cumbrae, Mount Stuart, and other attractions.<br>In total, these visitors contributed over £300,000 into the local economy, a not insignificant amount. | 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. It seems their long term toxicology on humans has not been established.<br>Also fish excreta - Scottish Water have spent many millions in Largs in recent years, establishing a sewage treatment plant to the north of the town - so why do we now want to consider uncontrolled discharge of many tonnes of fish excreta in prime recreational waters??<br>These must be of significant concern to open water swimmers, a growing activity from Largs Sailing Club and the adjacent public jetty, and Pencil Beach, the major tourist beach in the town. |

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| | | | | 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.<br>Existing commercial fishermen will lose access to the area and vicinity of the farm.<br>Tourists - fish farms aren't exactly very attractive, and wildlife tours around this part of Big Cumbrae, and around Wee Cumbrae, are particularly popular. | Also open water swimming - the annual Saltire Swim between Cumbrae and Largs raises thousands of pounds for this charity. Would they still have this event, when the modelling shows that the toxic chemicals pollutes the Largs Channel, and ends up on the beaches between Largs Marina and the town pier?<br>The current project to re-establish oyster farming in this area would also seem at risk from this proposal. | |
| 32 | Argyll and Bute Council Opinion response to the Dawnfresh 19/00233/SCRSCO screening/scoping application on the 17 May 2019<br>This opinion from the ABCouncil stated the proposed fish farm is likely to give rise "to significant environmental effects"<br>Fish faecal matter will affect water quality:<br>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.<br>No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment.<br>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.<br>Use of highly toxic chemicals will affect other species in the area:<br>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 | The otters that live and swim / feed around Cumbrae .<br>The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina<br>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<br>Faecal waste from such a large number of fish for such an extended period of time<br>I have reservations with the data that has been used in producing the applications and conclusions Dawnfresh make in their application. Glasgow airport wind data and Inverkip meteorological data has been used which are not relevant to the weather in Cumbrae. wh Re ECCLR report in 2018 which chastised SEPA for lack of oversight and caused SEPA to reform its application standards yet here we see data being used that is 3 years old and not accurate for the area. | The contamination of the water would give concern to those who live and visit Cumbrae .<br>The island depends financially on tourism which has suffered considerably recently and this contamination and concern will impact on this. | Swimming, kayaking , water boarding, paddling. The beaches around Cumbrae are used by young children. | The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin<br>Faecal waste from such a large number of fish |

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| | will also affect other crustaceans in the area. 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.<br>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?<br>https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report.<br>Lice soup will be created in the Clyde, impacting wild salmonids<br>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.<br>Please refer to this model for impact of lice from fish farms and thus the impact on the water environment<br>https://vimeo.com/496948354 | | | | | |
| 33 | Otters and seal may be impacted that are often seen around the island | Totes near farmland point. Seals all round island | | It's a leisure island and the impact on everyone visually and the use of the water areas can be impacted. | Canoeing, swimming, sailing | |
| 34 | thousands and thousands of fish all crapping in the one area Makes the sea bed toxic for all living things as has been proved at other sites ! | | | | | |
| 35 | the amount of chemicals and fish excrement poisoning the water<br><br>it is a known fact that nothing grows or lives under the cages due to the amount of faeces coming from the fish .<br><br>the chemicals that are used to kill sea lice and other parasites will then be in the water<br><br>Oysters that are grown at Hunterston . Mussels and cockles and all other bi-valves will be taking the chemicals in making them poison to who ever or what ever eats them . | Oysters that are grown at Hunterston . Mussels and cockles and all other bi-valves will be taking the chemicals in making them poison to who ever or what ever eats them<br><br>Nephrops or langoustines as they are some times called will be also taking these chemicals into there systems | formaldyde | Well I wont be eating any fish or shellfish products that come from the clyde or clyde esturary due to the amount of chemicals that the proposed fish farms will use<br>i have seen the damage that the fish are suffering due to over crowding bad husbandry and the use of chemicals | sailing ,swimming ,fishing , tourism ( who wants to go and see fish cages )<br><br>comercial fishing | these are fish in the cages if you are having to use chemicals ANY chemicals they are doing something wrong!<br><br>maybe you should have a look on salmon feedlots on the facebook pages |

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| 36 | The negative impact of industrial levels of fish farming on the water and shoreline environment has been well documented.<br><br>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 etc will stay in the waters of the Firth of Clyde for years, swilling back and forth with the tides, polluting our sea and our shores<br><br>Reports from Norway state that the environmental damage caused by open pen fish farming is now so critical that the Norwegian government no longer issues licences to the companies involved. As a result, Norwegian fish farming companies have now come to Scotland.<br><br>The Firth 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. | All marine and shore life in the area around the Cumbraes and between the Cumbraes and Bute is liable to be adversely affected.<br><br>£1.8m is being spent to reintroduce oysters to the Largs Yacht Haven and Fairley Quay Marina. The toxic chemicals in use in the fish pens, together with the pollution caused by the fish faeces and uneaten food, will impact these oysters and all the money and effort spent will have been in vain. | 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.<br><br>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? | All water and shore based activity, both leisure and commercial, would be impacted by pollution from the vast quantity of untreated faeces and toxic chemicals dumped into the water. This level of pollution would be an environmental disaster for the area. | See above | 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.<br><br>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. |
| 37 | Any chemicals added to our waters which kill off lice for example, also impacts negatively on other marine life. The tides carry the chemicals over a wide distance reaching other shores, in this case Largs and Fairlie shown by the companies own research. Waste leeches into the seabed and it takes more fish caught from our already sparse seas to feed the farmed salmon. 5lbs of fish to produce 1 lb of salmon. | We have a colony of seals here at Cumbrae. We have dolphins, porpoises, whales and basking sharks. Acoustic deterrent devices (as researched by the NatureScot Commisioned Report 517) have been proved to be harmful to these animals. Kylie the dolphin has become famous and is a visitor attraction and has made her home in exactly the same place the cages are proposed to be situated. Deltamethrin poses a significant risk to lobsters. We have lobster pots situated all round Great Cumbrae. | None of the three chemicals proposed to be used are fully effective. Azamethiphos is moderately toxic to mammals and does not have EU approval for use. Deltamethrin poses a significant risk to lobster. Cypermethrin is highly toxic to most aquatic species and is considered to be a serious marine pollutant. This information is from the University of Hertfordshire. | Millport on Great Cumbrae is a family holiday island. Many people have small boats and come to fish around the coast or if no boat then fish from the rocks. People will be worried about any fish caught being contaminated. Some residents have lobster pots and will also be worried about contamination. Lugworms, ragworms and molluscs are dug up from the Sandy bays and used as bait. Again these may be contaminated and affect the numbers | Fishing. All around the coast. Dolphin watching which is mainly along the straight between Cumbrae and Largs or Fairley. Whale spotting again in the straight between Cumbrae and the mainland. | None of the three chemicals proposed to be used are fully effective. Azamethiphos is moderately toxic to mammals and does not have EU approval for use. Deltamethrin poses a significant risk to lobster. Cypermethrin is highly toxic to most aquatic species (also honeybees which are disappearing, and earthworms, if the chemical should leech into the shore around the cages)and is considered to be a serious marine pollutant. This information is from the University of Hertfordshire. |
| 38 | The waters around Cumbrae are home to a diverse range of wildlife, I feel these plans would almost certainly impact the habitats in which these species live.<br>For example otters , seals , sea birds , porpoises, many kinds of fish and eels to name but a few ... | Any chemicals used are a danger to all and more of the above listed species as it would not naturally occur in their habitats . | See above | People use the waters off cumbrae for work and recreational purposes as the waters are mainly untouched by humans | Swimmers , kayakers, sail and motor boats , divers , marine biology students studying at the marine station , local fishermen....the list goes on | As previously stated any chemicals used would affect the marine environment. |

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| 39 | This opinion from the ABCouncil stated the proposed fish farm is likely to give rise "to significant environmental effects"<br>Fish faecal matter will affect water quality:<br>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.<br>No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment.<br>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.<br>Use of highly toxic chemicals will affect other species in the area:<br>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.<br>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.<br>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.<br>*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 | 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<br>The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA<br>The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC<br>The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina<br>The water quality of the general area due to faecal and food waste | and food waste<br>5C – Please also tell us if you think there is a specific substance or chemical in the application that you are concerned about.<br>The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin<br>Faecal waste from such a large number of fish for such an extended period of time<br>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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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.<br>The newly established paddle boarding company on Bute would lose a stretch of coast line for its customers. | see above | The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin<br>Faecal waste from such a large number of fish for such an extended period of time<br>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. 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| 40 | 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<br><br>There seems to be no suitable place to address the inadequacy of the pollution modelling submitted by DawnFresh, so I will include it here:<br><br>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.<br>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.<br><br>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.<br><br>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.<br>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. | 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.<br>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.<br><br>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.<br>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.<br><br>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.<br>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:<br>'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.'<br><br>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.<br><br>NB: Not providing documents as it seems only possible to upload one. |

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| | | The report does not use scientific notation - 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)?<br><br>The report does not refer to, or model, pesticide concentrations with reference to SEPA's EQSs for the different chemicals.<br><br>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.<br><br>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?<br><br>This is not acceptable.<br><br>Why was hydrogen peroxide dispersion not modelled, as Mowi has done at Canna?<br><br>Other flaws with DawnFresh's AutoDepomod modelling include:<br>References to the Allowable Zone of Effect (AZE) which has been consigned to history - new farms have mixing zones.<br><br>The report says, 'the mid-range speeds observed at the site during a 90 day ADCP deployment were used in the modelling'.<br>The main body of the document says that just 15 days of sampled tidal data are used to simulate where the waste will go.<br><br>This analysis proposes just one seabed sampling transect. SEPA now requires more sampling for all new sites, with four transects.<br><br>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.<br>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 | | | | |

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| | | benzoate?<br><br>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.<br><br>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.'<br><br>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 settings?<br><br>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.<br><br>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.<br><br>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.'<br><br>And this? 'Bath treatments – Neap and Spring tide model runs<br>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 | | | | |

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| | | (Neaps) and 2nd June 2020 0800 (Springs)) and were chemicals are shown to accumulate at the coastline. '<br><br>Why have DF assumed the same starting concentrations for all three chemicals? That seems unrealistic and must be justified.<br><br>Why have DF not modelled sea lice dispersion while they were at it?<br><br>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. NewDepomod modelling must also be provided to the public for comment before this proposal is assessed by SEPA. | | | | |

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| 41 | Argyll and Bute Council Opinion response to the Dawnfresh 19/00233/SCRSCO screening/scoping application on the 17 May 2019<br>This opinion from the ABCouncil stated the proposed fish farm is likely to give rise "to significant environmental effects"<br>Fish faecal matter will affect water quality:<br>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? 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| | 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.<br>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?<br>https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report.<br><br>Lice soup will be created in the Clyde, impacting wild salmonids<br>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.<br>Please refer to this model for impact of lice from fish farms and thus the impact on the water environment<br>https://vimeo.com/496948354 | | | | | |
| 42 | All fish farms discharge harmful chemicals into the sea, hence the reason there is no fin fish stock recovery on the west coast of Scotland. The Norwegians should go back to Norway and farm in their own waters | Every where is impacted | | | | |
| 43 | Based on the modelling results I do not believe the farm will have impact on the water environment outwith the allowed zone of effects, though this should be confirmed by monitoring. | | The dispersion predicted for medicinal ingredients should ensure that any impacts should be transient , though this should be confirmed by monitoring. | While there will be visual impact due to the cages and feed barge, from the island this would be interference with the view of the Hunterston terminal and power stations, which are not generally recognized as beautyspots. There will undoubtedly be impact on accessibility to the sea bed and water in the immediate area of the farm but this will be localized to the immediate vicinity of the farm and as such should not be a problem.<br>The farm should give rise to employment opportunities both on the farm, including apprenticeships in farm operation, and for local trades providing services. | As has been observed in other areas of Scotland and Northern Ireland bivalves grow well in the vicinity of fish farms and this could enhance stocks. The localized organic enrichment under the sea cages will provide additional sources of nutrition for benthic communities which, in turn, are utilized as food by foraging fish and as such can be expected to benefit fish populations. The mooring for the cages will deter fishing boats from trawling/dredging close to the farm and thus provide refugia. The presence of the fish farm opposite the Hunterston facilities should help to ensure that there is heightened awareness in those operating the facilities that there is a greater chance that | The assessment process SEPA has in place for chemicals/medicines used at fish farms and their restrictions on authorization of same should ensure that they do not cause adverse impacts. |

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| | | | | | any release of unauthorized material will be detected and thus contribute to the overall good of those sharing the environment. | |
| 44 | Fish Faecal matter and chemicals will affect water quality.<br>Use of highly toxic chemicals will affect other species in the area:<br>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.<br>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.<br>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?<br>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. | The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina<br>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 | 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<br>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.<br>The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours. | Re-introduction of oysters to the area, kayaking, sailing, merchant navy activity and the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours. | The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin.<br><br>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? |
| 45 | This project will introduce pollution, discharges and possible disease into an otherwise natural environment.<br>This area of water is also well used by recreational sailors, boaters and fishermen who access to it for centuries.<br>It is a thoroughfare for these same sailors, boaters and fishermen. | Local seal population are at risk from this scheme. | | This project will introduce pollution, discharges and possible disease into an otherwise natural environment, impacting on wild swimmers and water users.<br>This area of water is also well used by recreational sailors, boaters and fishermen who have had access to it for centuries.<br>It is a thoroughfare for these same sailors, boaters and fishermen. All watersports. | All watersports users, whether they be.....<br>Recreational sailors, boaters, fishermen, wild swimmers, sports divers and canoeists.<br>Inshore fishermen. | |

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| | | | | Inshore fishermen also use this area for sustainable fishing. | | |
| 46 | Individually, all 3 fish farm proposals are likely to have 'significant environmental effect' 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 chemicalson people immersed in the sea. The limited hydrodynamic modelling indicates that chemical will end up on tourist beaches (Kames Bay, Largs and N.Cumbrae). This will further reduce the water quality at these beaches with unknown cumulativez impacts. 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.. | There is no mention of guarantees all fish are triploidie incapable of reproduction in the wild. Even if they are all triploid, they are indiscriminate feeders when they escape and they also die in big numbers, causing clear up issues. If diploids escape/are released, they could breed and displace native species.They return as "steel heads" and can damage native salmonid spawning groundsAll three farm sites present an significant obstruction to vessels, the safe passage of sailing vessels and present a risk to navigation. | | Family enjoying the use of the safe beaches and waters for kayaks and paddle boards use the area regularly here as do many others since COVID<br>Restricted travel the oyster farm owners at Hunterston are concerned about the proposed fishfarms at Cumbrae and Wee Cumbrae. | | 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. |

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| 47 | 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.<br>No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment.<br>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.<br>Use of highly toxic chemicals will affect other species in the area:<br>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.<br>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.<br>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.<br>*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.<br>SEPAs own study in 2018 in Shetland showed | The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA<br>The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC<br>The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina<br>The water quality of the general area due to faecal and food waste<br>The seal population in Millport bay - will see the fish farms as a source of food and be shot as predators - no doubt under licence.<br>The local resident dolphin "Kyle".<br>Local resident porpoise. | The three bath treatment chemicals that have been mentioned in the CAR application – azamethiphos, cypermethrin, and deltamethrin<br>Faecal waste from such a large number of fish for such an extended period of time<br>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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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<br>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<br>The proposed fish farms are directly in the highest use areas for kayaking, sailing, coastal rowing and merchant navy activity so any of these users will be impacted.<br>The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours.<br>Wild swimmers would lose a stretch of the Bute coastline for their swimming activities.<br>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.<br>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.<br>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<br>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<br>The proposed fish farms are directly in the highest use areas for kayaking, sailing, coastal rowing and merchant navy activity so any of these users will be impacted.<br>The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours.<br>Wild swimmers would lose a stretch of the Bute coastline for their swimming activities.<br>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.<br>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.<br>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<br>Faecal waste from such a large number of fish for such an extended period of time<br>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. 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| 48 | The modelling is insufficient to demonstrate that the Cumbrae site will not have an adverse impact on the Fairlie shore and the Fairlie Sands SSSI. | see attache | I cannot comment on the significance of the concentrations of the chemicals, only on the numerical modelling used to predict the concentrations. | see attachment | recreational use of Fairlie shore<br>Fairlie Sands SSSI | Those investigated in model |
| 49 | Chemicals and uneaten fish food will increase local pollution to this predominantly tourist area . Noise pollution impact to local sea mammals | Grey seals, harbour seals, Kylie the local dolphin and basking sharks and other shark species. | Any chemical used to artificially produce fish will be harmful to local wildlife. | Wild swimming, annual Cumbrae/Largs charity swim, Watersports use from yachts to kayaks, dinghies, boards | Boat and rock fishing, scuba diving, | |
| 50 | Chemicals in the water will seriously damage the health of wildlife and humans | Seals and wild birds | All chemicals | Chemicals will be dangerous to wild swimmers | All water activities | All chemicals |
| 51 | There will be infestations of sealice and other contaminants that will destroy the and kill the surrounding fish in the area.<br><br>There are resident seals on the eiland islands off the town of Millport and the thought of them being shot dead if they tried to feed off the farm is disgusting!<br><br>Farming fish is not healthy for the fish and should be banned completely! Just another company wanting to make millions and destroy the local seas! | Seals, Kyle the dolphin both resident in the area! | Any chemicals are not environmentally friendly | The area is used for all kinds of shipping from Cruise ships to pleasure crafts, the impact will block parts of the water that has been open to everyone | Pleasure sailing will be affected hugely off the coast of Millport where tourism is imperative to the town's survival | Any chemicals are bad for the environment |
| 52 | It will affect all marine life in the Clyde | All species and habitats as chemicals will spread with the tide | All of them | Spread of chemicals around Island and surrounding areas | All water sports and swimming | All chemicals |

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| 53 | Pollution of beaches - affecting water sports, tourism, enjoyment of natural environment - and adverse impact on wildlife (eg wild salmon) is totally unacceptable.<br><br>Plus Cumbrae is currently initiating a community run acquisition of the water sports well-being centre to attract visitors and provide resources to locals.<br><br>This requires unpolluted waters and environment and has so much potential to stimulate accommodation, catering, healthy activities and wellbeing projects.<br><br>Let us be a leader in sustainable, environmentally positive food production and farming - taking progressive action to inspire and encourage healthy food and environments instead.<br><br>This in turn will benefit nhs (creating wellbeing / less strain on resources) and contribute to positive climate action for a sustainable future. | I don't have direct knowledge of this, only what I've seen others modelling. | Same as above. I don't have expert knowledge, but none of it sounds good to me!!! | As already mentioned, tourism and local enjoyment - particularly the burgeoning water sports and wellbeing potential of the new community enterprise on Cumbrae. Sea swimming is getting increasingly understood to offer huge mental and physical health benefits. Let's support this! And other water sports and outdoor activities contribute so much to quality of life and mental health. | Kayaking, swimming, paddle boarding etc on Cumbrae - from my local knowledge (I am an island resident) -and am sure the other islands and mainland have similar. | I don't have specific knowledge. But a general concern. I favour organic, biodynamic and other natural food production methods. |
| 54 | Noted that st other sites in scotland there has been noticable pollution from the feed and waste from fish farms. | There is a colony of seals living in the islands around Millport bay who would be attracted by the salmon and could be trapped in the nets. | | We have a number of shell fish fishermen around the island.<br>There are several kayakers and sail boats who would be affected by fish farm. | | |
| 55 | 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. | | |
| 56 | 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. | | |
| 57 | This proposal from Dawnfresh for three more fish farms in this small area of the Firth of Clyde 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. | The waters are home to the Common Grey Seals, Otters, Porpoises, Whales, Basking Sharks and many other smaller marine life. Otters are strictly protected by the Wildlife and Countryside Act of 1981. | Azamethiphos, Cypermethrin and Deltamethrin, which have an adverse effect on marine life and, with two of the chemicals having a carcinogenic effect on humans | Open water swimmers, paddle boarding and all those who partake in other water sports, together with those who use the beaches for recreation, children playing and dogs swimming | See above | Azamethiphos, Cypermethrin and Deltamethrin together with large quantities of faecal waste from the cages. |

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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<br>This opinion from the ABCouncil stated the proposed fish farm is likely to give rise "to significant environmental effects"<br>Fish faecal matter will affect water quality:<br>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.<br>No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment.<br>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.<br>Use of highly toxic chemicals will affect other species in the area:<br>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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Otters are a European protected species and SEPA has an | 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<br>The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA<br>The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC<br>The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina<br>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<br>Faecal waste from such a large number of fish for such an extended period of time<br>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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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<br>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<br>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.<br>The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours.<br>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.<br>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<br>Faecal waste from such a large number of fish for such an extended period of time<br>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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| | 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.<br>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?<br>https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report<br>Lice soup will be created in the Clyde, impacting wild salmonids<br>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.<br>Please refer to this model for impact of lice from fish farms and thus the impact on the water environment<br>https://vimeo.com/496948354 | | | | | |
| 59 | There have been examples in particular in mull where the farm caused a lot of damage to the local environment | I am concerned that the slightest impact on the smallest organism has shown in the past to be seriously detrimental | I am particularly concerned with the salmon excrement | A lot of the areas economy is based on tourism and sailing the farm will interfere with that | | |
| 60 | Significant concerns for surrounding wildlife in particular the breading grounds for the seal population around the island . Also concerns about sea lice and the impact on the finally balanced habitat. The seal population also offer a unique tourism opportunity for the Island.<br>Even minor deterrents around the fish pens will be unsuitable in the unique habitat.<br>In addition the waters around the island are frequently used by swimmers . | Significant concerns for surrounding wildlife in particular the breading grounds for the seal population around the island . Also concerns about sea lice and the impact on the finally balanced habitat. The seal population also offer a unique tourism opportunity for the Island.<br>Even minor deterrents around the fish pens will be unsuitable in the unique habitat. | | Chemicals used in cleaning of tanks and the treatment of sea lice. Will not only have an impact on wildlife but also the many local swimmers that use the waters surrounding the island. | | |

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| 61 | The waters around Cumbrae are popular for watersports (sailing, rowing, canoeing, paddle boarding and open water swimming), participation in which contributes to health and well being as well as employment in the marine activities and tourism industries. The proposed installation of fish farms in these waters would be a significant deterrent and impediment to such activity as they would present navigational challenges and waters contaminated with chemicals and pathogens potentially harmful to humans | The waters around Cumbrae are particularly rich in sealife, which again is a major attractant to sailors and other watersports enthusiasts. Seals around Cumbrae will inevitably be attracted to the proposed fish farms and could be in danger of becoming caught up in the lines/ equipment around the installations. Dolphins and porpoises, as well as sea birds, which make up this rich marine habitat, will all likely be impacted and risk infection and injury, which would be highly detrimental to for the region as a recreational boating destination | The pathogens such as lice as well as cancerogenic chemicals associated with fish farms are of particular concern when these waters are extensively accessed by watersports enthusiasts. This includes children and young adults, who benefit hugely from such outdoor activity and would very likely be deterred from doing it by the presence of the proposed fish farms | The waters around Cumbrae are popular for watersports, participation in which contributes to health and well being. The proposed installation of fish farms in these waters would be a significant deterrent and impediment to such activity. Specifically for sailing, these waters are the base for 2 of Scotland's largest and most active Marinas: Largs Yacht Haven and Kip Marina. Recreational and competitive sailing from these sites is a regular activity contributing to the local economy and supporting many jobs. Boat owners form across the UK choose to keep their vessels in these marinas because of the excellent sailing opportunities in safe clean waters. The presence of the proposed fish farm will lead to loss of anchorages (for recreational and safe haven purposes), present navigational challenges and negatively impact water quality as chemicals and pathogenic organisms are released | The waters around Cumbrae, which are particularly rich in sealife, are a major attractant to sailors and other watersports enthusiasts. The risk of infection and injury to many species of birds, seals, porpoises and dolphins, which would be highly detrimental to the region as a recreational boating destination.<br>Largs Sailing Club (LSC) who are lodging this objection, is a site for major National sailing championships, which bring significant economic benefit to the community. These events come to Largs because of the clean and available racing waters, much of which would be lost to the proposed fish farms<br>Sail training of children and young adults also takes place out of LSC and the proposed installations would significantly reduce available clean, safe waters to run such programmes which are recognised as being highly beneficial to health and well being | The pathogens such as lice as well as cancerogenic chemicals associated with fish farms are of particular concern when these waters are extensively accessed by watersports enthusiasts. This includes children and young adults, who benefit hugely from such outdoor activity and would very likely be deterred from doing it by the presence of the proposed fish farms |
| 62 | The modelling is based on mean winds and tides. This area on the southeast tip of Great Cumbrae is subject to a more complex tidal pattern than tide tables can show. There is a back eddy on the flood which runs south along the shore at the proposed site, which results in turbulence and swirls which will undoubtedly spread the detritus much further than predicted by the modelling.<br>Mean windspeeds as measured at Glasgow airport are not very relevant to this area. This area can experience frequent windspeeds in excess of 30 knots and occasionally over 50 knots during the winter months. For instance, there is no mention of the strong easterly winds, often experienced during May, which are a local feature of the Largs and Fairlie area, whilst Glasgow airport enjoys a light breeze at the same time! Surely the extremes are more relevant than the mean? | The Cumbrae Islands are well known as bio diverse. FSC Millport, just to the southwest of the proposed site, will be able to provide details better than I can.<br><br>Basking sharks, dolphins, seals, porpoise, and occasional small whales are increasingly seen in these waters.<br><br>There is an SSSI at Southannan Sands, 1km to the East. | We are concerned about the three toxic treatment chemicals in use, which will find their way onto local beaches. This is evident from the data in the application.<br><br>Surplus feed and faeces are also of concern. | Sediment and chemical pollution local to the site will have a serious effect on diving, dinghy sailing and fishing in the area, if not preclude these activities completely.<br>Further afield, dispersal of chemicals is likely to put local beaches at risk, along with the sail training activities on the Largs shore. | Cumbrae is a renowned recreational dive site. This whole area will be rendered unusable, due to pollution, and sediment covering the seabed.<br>The public beaches at Kames Bay, Millport, Largs and Fairlie will be polluted. These areas are very popular seasonal holiday venues.<br>Local creel fishermen, and trawlers will have their catch reduced.<br>The Largs Channel is a popular sailing area. Dinghy sailors and windsurfers in particular are much more likely to ingest pollutants present in this area. | The chemicals listed in the application are of concern. There is a mountain of evidence available with a simple google search on the internet. |
| 63 | They kill seals who go near them . The farms pollute the water and affect the clean waters we are lucky to have . | Seals , fishing, tourists | Chemicals used to kill sea lice | This island relies on tourist and the clean water which attracts them here . This will kill our island which was voted top 10 islands in the world | Go to an area which is not a tourist area | |

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| 64 | Fish feed waste and faeces pollute the water and the seabed. The sludge from the faeces reduces the oxygenation of the water Studies have shown that hydrogen peroxide which is poured into the sea in large quantities affects and kills off kelp up to 4 kilometres from the site. This is going to degrade the marine wildlife and balance of a delicate ecosystem.<br><br>Disinfectants, algaecides, anti fouling chemicals, bactericides, pesticides and antibiotics are in common use and pass into the water. 70-80% of antibiotics pass into the water.<br><br>The Firth of Clyde is just that, a firth, and as thus a semi enclosed body of water. All of the above will contaminate and impact the surrounding marine life. | Parasites are an endemic problem with farmed fish and these can spread to wild fish and affect their health.<br>Furthermore escapees from the tanks interact with the wild species and degrade their gene pool.<br><br>The food given to the farmed fish is composed of fish meal and oil made from wild caught fish and sand eels. The loss of this resource, nationwide, has a detrimental effect of many bird species and lead to a drop in species numbers.<br><br>I brought my children for summers in Millport starting around thirty years ago. Water quality was very poor at the time. Many unsavoury objects were in Kames bay in particular. Sewerage and water treatments put in place since then have greatly improved water quality. Now I am taking grandchildren there. I feel all the above mentioned chemicals and faeces sludge will have a harmful effect on their health and on other beach users. This really seems to be a retrograde step in environmental terms.<br><br>There is a resident seal population around Millport and the Wee Cumbrae. Fish deaths are waste material. These seals and the numerous seabirds in the area will eat this debris which in turn will adversely affect their bodily systems.<br><br>This island relies heavily on holiday makers and day tripper. Paddle boarders and kayakers are frequently seen from the pier to Kames bay . Adults , children and toddlers are generally to be seen in the water. Good water quality is imperative for their well-being. It seems inappropriate to site a fish farm anywhere near this location . | I am an ordinary person with an interest in preserving the environment for future generations.<br><br>I am very unhappy about the use of the many chemicals used in the process of farming fish especially as it is discharged into what is essentially semi closed water which is used for recreational activities by all ages but it is the numerous young that are at greatest risk from the pollutants.<br><br>Please seriously consider rejecting this application. | I have already commented in earlier boxes<br><br>Water sports users, kayakers paddle boarders and windsurfers in the bay will be at risk of ingesting harmful pollutants<br><br>Swimmers abound during the summer. I would be very concerned for the well being of all the numerous young ones paddling and ingesting water.<br><br>Fishermen are often seen on the pier and at the point beyond Kames bay. Their catches may well be contaminated by pollutants at the fish farm and this will enter the human food chain. | | |

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| 65 | 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.<br>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.<br>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.<br>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?<br>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 newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina.<br>The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC.<br>Crustaceans generally that may come into contact with treatment chemicals which work by penetrating crustacean shells.<br>Possibly any shore wildlife that are part of the food chain. | 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.<br>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.<br>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!<br>More generally the use of Glasgow airport wind data and Inverkip meteorological data in the modelling undertaken is inappropriate: i have lived in the Clyde area for 20+ years and am adamant that the winds and weather we face here are completely different out on these local islands - 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. | The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours. This proposal is alongside two other proposals (Bute and Large Cumbrae) so it is critical that the combined impact of these 3 fish farms in a small area of the Clyde should be considered - it is surely not viable to just consider impact of each individually, given their proximity. It follows that they each impact on the locations of the other - the proposed Bute fish farm will impact on both Cumbrae islands, as well as their individual fish farms, and so on. Therefore this Little Cumbrae fish farm could impact a range of people using the water environment around Bute and Large Cumbrae:<br>There is a local lobster fisherman who fishes the waters in question, as do members of the Clyde Fisherman's Assn<br>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.<br>Similarly the newly formed paddle boarding company on Bute would lose a stretch of coast line for its customers.<br>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.<br>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. | I believe the response here is covered by the response to the question immediately above, which I will restate for convenience:<br>The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours. This proposal is alongside two other proposals (Bute and Large Cumbrae) so it is critical that the combined impact of these 3 fish farms in a small area of the Clyde should be considered - it is surely not viable to just consider impact of each individually, given their proximity. It follows that they each impact on the locations of the other - the proposed Bute fish farm will impact on both Cumbrae islands, as well as their individual fish farms, and so on. 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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.<br>Similarly the newly formed paddle boarding company on Bute would lose a stretch of coast line for its customers.<br>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.<br>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 –<br>azamethiphos, cypermethrin, and deltamethrin - and the amounts of these and where they end up.<br>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.<br>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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| 66 | Concerned about impact to sea bed, and local wildlife. Concerned about impact on local fish population when/if damage occurs to fish farm infrastructure. | Local fish population. Local sea life under/around proposed fish farm due to feeding mechanisms, and lice control. | Medication/chemicals used to control disease within fish farm | N/a | | |
| 67 | Fish farms, discharge waste, pesticides, and other chemicals directly into ecologically fragile coastal waters, destroying local ecosystems.<br>Waste from the excessive number of fish can cause huge blankets of green slime on the water's surface, depleting oxygen and killing much of the life in the water.<br><br>The most common negative environmental impacts that have been associated with aquaculture include: waters eutrophication, water quality, alteration or destruction of natural habitats; introduction and transmission of aquatic animal diseases.<br><br>The development is in close proximity to two unique SSSI areas (Southannan Sands and Kames Bay)<br><br>There has been no Environmental Impact Assessment (EIA)carried out for the proposed Development.<br>The development is a Schedule 2 development (Intensive Fish Farming) as defined by the Town and Country Planning (Environmental Impact Regulations) (Scotland) Regulations 2017. As such, an EIA should have been submitted. The fact that this has not been carried out by the applicants is worrying.<br><br>The area proposed for the site is in very close proximity to Peel Ports. There is already an application being considered for this area to be used for the decommissioning of oil rigs. If both proposals go ahead the impact on the marine environment would be devastating. | Dolphins, Porpoises and Seals are frequently spotted in the area proposed for the site with " Kylie" the dolphin having achieved worldwide scientific fame. Studies of Kylie have provided the first evidence that Dolphins and Porpoises communicate with each other.<br>Southannan sands is an SSSI. | Bath treatments containing Cypermethrin, Deltamethrin and Azamethiphos. | | | |

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| 68 | The application uses AutoDepomod for its waste dispersion and benthic effect modelling, which SEPA has stated ad nauseum is not fit for 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. | The absence of the submission of any benthic survey data mean that 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.<br><br>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.<br><br>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.<br><br>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.<br><br>Azamethiphos in particular is also referred to in a following section which covers the effect on users of the water environment.<br><br>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 150m 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.<br><br>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.<br>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.<br>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.<br>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 others who are susceptible to organophosphates.<br><br>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 | 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.<br><br>The location of the Cumbrae development site, the subject of this consultation, is entirely inappropriate due to this stretch of coast being the main public route into Millport, and on the other side of the channel a highly populated and visited coastal stretch of North Ayrshire coast.<br><br>This location 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. | 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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| | | | | published data sheets for this chemical treatment state that it should not be released into the environment.<br><br>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.<br><br>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.<br><br>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. | | |
| 69 | 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.<br><br>Proposals are based on weather information irrelevant to the Cumbrae. 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 Cumbrae 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.<br><br>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<br><br>How can these applications be taken seriously when they use weather data from Inverkip, 9 miles away and Glasgow airport 25 miles away? | 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.<br>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<br>Fish faeces in vast quantities |

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| | This makes weather data on the proposals irrelevant and a nonstarter | | | | | |
| 70 | I believe discharging chemicals into our beautiful river is beyond objectionable it is a terrible insult to the animals and fish living there and will be detrimental to the environment | | | | | |
| 71 | Chemicals used in fish farming and faecal deposits from large quantities of fish will significantly impact on the current water quality. | Newly introduced Oysters in Largs Marina, otters and general fish and shellfish populations will undoubtedly be affected both by pollutants and the general fish farming activities. Escaped fish from other fish farms locally in 2020 arrived in quantity in local Ayrshire rivers providing the significant possibility of interaction with wild salmon returning to their spawning grounds. | Pesticides and faecal deposits. | Any deterioration in the marine environment will also detrimentally affect the ability of fishermen making a living in these waters. | Inshore locations around the Cumbrae coast where fishermen currently set creels for shellfish | Pesticides and fish faecal deposits |

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| 72 | Argyll and Bute Council Opinion response to the Dawnfresh 19/00233/SCRSCO screening/scoping application on the 17 May 2019<br>This opinion from the ABCouncil stated the proposed fish farm is likely to give rise "to significant environmental effects"<br>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.<br>No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment.<br>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.<br>Use of highly toxic chemicals will affect other species in the area:<br>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.<br>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.<br>*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 | 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<br>The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA<br>The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC<br>The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina<br>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<br>Faecal waste from such a large number of fish for such an extended period of time<br>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<br>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<br>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.<br>The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours.<br>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.<br>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<br>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<br>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.<br>The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours.<br>Wild swimmers would lose a stretch of the Bute coastline for their swimming activities. 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| | 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.<br>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?<br>https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report.<br><br>Lice soup will be created in the Clyde, impacting wild salmonids<br>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.<br>Please refer to this model for impact of lice from fish farms and thus the impact on the water environment<br>https://vimeo.com/496948354 | | | | | |

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| 73 | • Individually, all 3 fish farm proposals are likely to have 'significant environmental effect'<br>• 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.<br>• 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.<br>• 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.<br>• 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.<br>• 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.<br>• 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.<br>• 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.<br>• 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.<br>• 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.<br>• Endrick Water SAC. The fish farms are located on migratory pathway for Endrick Water SAC.<br>• European Protected Species<br>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.<br>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.<br>o A resident common dolphin has a home range within meters of the Cumbrae fish farm site. This animal will be impacted by chemical | 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.<br>o The chemical dispersion modelling is inadequate and likely to be much wider and more persistent than that reported in CAR application.<br>o Faeces and waste food will exacerbate eutrophication on Clyde estuary water body.<br>o Sea lice can be considered a biogenic effluent and poses a significant and unacceptable risk to migratory and wild salmonids.<br>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.<br>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.<br>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.<br>o All three farm sites present an significant obstruction to vessels, the safe passage of sailing vessels and present an unecessary risk to navigation.<br>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.<br>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.<br>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.<br>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.<br>o The report plays 'lip-service' to combined effects from the various farms and dismisses importance of modelling cumulative impacts.<br>o The farm sites are in close spatial proximity to each other but hydrodynamic modelling fails to indicate pollution source interactions across the sites.<br>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.<br>o Our communities endure nuclear contamination from Hunterston effluent outflows and irresponsible not to acknowledge cumulative impacts to receptors.<br>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.<br>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.<br>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.<br>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.<br>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.<br>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 Little Cumbrae fish farm proposals. The criteria for awarding this status hinges on the demonstration of outstanding beach |

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| | | toxins from fish farms and effluent from attendant vessels.<br>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.<br>• Common and grey Seals haul-out sites and foraging areas are located near and within the modelled effluent streams. .<br>• 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.<br>• Salmon and Sea Trout are Priority Marine Features<br>o All three farm sites are located on migratory pathway for Salmon entering the Lomond and Endrick Waters SAC.<br>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. | | | | 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.<br>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. |
| 74 | pollution under the fish farm cages and surrounding area due to the tonnes of faeces from the fish and the chemicals used to treat the fish can not be good for the water quality and certainly not good for anything living close by. | Sea lice will impact on salmon and sea trout, Dawnfresh have a very poor record on this, 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 recorded run on the River Awe by a considerable margin. How else can one measure this?<br><br>It is common sense that if you pour chemicals into the water or feed fish with chemicals in the food it can not be good for the environment, it is not natural.<br><br>Fish farms attract sea lice and it becomes a breeding ground for them, the water round the farm cages can end up with millions of sea lice - this can extend for 20 miles. These sea lice can attach themselves to salmon smolts heading to their feeding grounds and eventually kill them - eaten to death. The fish farms have the same problem as they lose millions of their own salmon due to this. Sea | Any chemical is bad for the environment, and add benthic pollution ( uneaten fish food, faces and general detritus. | It has to be bad for divers,creel fishers and any type of local sport.<br>Divers - no fish close by and what a smell.<br>Creel fishers - all crustations will be dead.<br>Sport - apart from the smell it will be another place the public will be kept out of. | | One should be very wary of any chemical, mistakes happen.<br><br>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 in planning etc. |

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| | | trout in the west coast of Scotland are already a species under threat of extinction. | | | | |
| 75 | Dispersion of feed and faeces could have a detrimental impact on the Clyde. | Use of pesticides will detrimentally effect local marine ecosystems. | Any pesticides and processed fish food. | The proposed location is directly across from FSC Millport, the farm would effect the centre economically. | The FSC centre runs many activities in the Clyde that are integral to its operation. Such as snorkeling, rock pooling, and boat trips. It would also effect many recreational activities not related to the such as kayaking. | All chemicals. |
| 76 | 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.<br><br>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.<br><br>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.<br><br>The chemicals proposed for use to treat sea lice are forms of insecticides.<br>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 | | | 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.<br><br>The sandy areas and beaches are used for family swimming and picnics, dog walking and dog swimming etc.<br>Our Largs and Millport proms are amongst the best used in Scotland by locals and visitors alike.<br>Wildlife such as seals, porpoise, dolphin, otters, swans, herons and ducks to name a few add to the enjoyment of our shores.<br>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. | | |

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| | and decaying fish can also be a problem.<br><br>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. | | | | | |
| 77 | 1. Pollution by fish farm waste and chemicals,<br>2. The unnatural increase in sea lice infestation and danger to wild stocks which have been improving over recent years.<br>3. The spread of salmon diseases to fragile wild salmon and sea trout in the Clyde system.<br>4. Deleterious effect of fish farm infrastructure on the established and increasingly valuable recreational resources of the Clyde estuary.<br><br>All salmon farm applications in the Firth of Clyde must be for land based operations only. | The Clyde system, including Clyde, Leven, Echaig, and many small spawning streams will be adversely impacted by disease and sea lice which are certain to become a problem for wild salmon and sea trout as they have been everywhere open pen salmon farms are situated on the Scottish coast. The recent return of Atlantic Salmon to the Clyde is too precious a resource to endanger by technology and practices that are being phased out around the world in favour of land based fish farming (Canada, Norway). | Farm waste (food, feces, chemicals).<br><br>Se lice infestations that require large quantities of pesticide to be introduced to the water for control.<br><br>There is plenty of evidence for the negative impact of open pen fish farms on the environment and wild salmon stocks. | The Firth of Clyde is developing as a first rate tourist and recreational area for a large segment of the UK population, especially Glasgow.<br><br>Open pen salmon farms have a damaging effect on other inshore economic activity, such as creel fishing, tourist diving, pleasure boating, etc.<br><br>The visual amenity is also of tremendous economic value, as increasing numbers of house purchasers choose the Largs are to live for the natural beauty of the area.. | Pleasure boating: Inverkip marina, Largs Yacht Haven, Fairlie Yacht Club.<br><br>Tourist activity: Largs, Fairlie, Millport. | Anti-parasite chemicals.<br><br>Fish feces.<br><br>Fish food waste.<br><br>Sea lice. |
| 78 | Fish farms have been proved to be detrimental to the collapse of wild fish stocks in the Argyll and Bute area over the last 20year and adding another fish farm will further damage stocks. Sealice alone will give smolts absolutely no chance of return. Please stop installing these inshore and demand that they are build a minimum 1mile offshore. | Sea trout, salmon, mackerel. Sea floor habitat in and around the farms | azamethiphos, cypermethrin, and deltamethrin, Which will not even prevent sealice in the sea around the nets. | I think it will cost some people part or all of their livelihood- and/or Clyde Fisherman Association members<br>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 | Fishing, water sports In shore angling and creel fishing | azamethiphos, has this even been proved to prevent sealice numbers in open water with tidal flow |
| 79 | The waters around the proposed sites are used heavily for bathing and the town of Millports two main beaches would be at risk in terms of water purity | This is a common leisure fishing area and any new chemicals released may have a detrimental affect on the local fish stocks. | | As before the beaches on main Cumbrae would be vulnerable | Fishing<br>Swimming<br>Diving<br>Kayaking | |

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| 80 | I believe it will be devastating for the water environment. The areas off shore are prone to extremely stormy weather which will cause havoc for the farm being unable to maintain the security of the fish. | We have porpoises in the channel, we also have a dolphin in the same area. We have had in the past bottle nose whales, and also orca. A very diverse and varied fish stock from Cod, Mackerel, Cukoo Wrasse, Conger, Dog Fish, and many more. Also lobster and many crabs. | Everything about the application concerns me. The blight on the scenery, the ability to ensure the security of the environment around the farms. | The area is a much used shipping lane for both pleasure craft and commercial shipping . I believe this would be a huge impact and do not want this to be allowed. | Fishing, sightseeing, beach use as our Newton Beach is a blue flag beach. Also out Kames Bay is an area of scientific interest and is protected.<br><br>I'd like to take this mo.ent to advise this survey is not fair. It does not give and further option to put information an is a very staged to a conclusion survey. Not one question of do you want this fish farm to be built? I am sure the 90 / 10 % split of No to Yes would give the only answer needed. | Previously asked / repeated question. All the chemicals used would have an impact on the surrounding ecology. No matter if at an acceptable level. This is not something wanted by the community which should be individually consulted as it will directly impact on tourism. Ruined views, spoled scenery will reduce tourism something that Dawnfesh would have to compensate for and the number could be in the millions of pounds. |
| 81 | Escaped fish, chemical pollution, waste and disease threat to the Clyde and its tributaries. | Native resident and migratory fish stocks. | | restrict access | fishing boating windsurfing etc | All by products and waste is harmful from this non=land bases production process |
| 82 | pollution from chemicals | | | i have rib and can get spray in my eyes and mouth | children swimming | |
| 83 | The amount of chemicals will impact the water environment and damage the environs | | | The livelihoods of other fishers and watersports will be impacted | | |
| 84 | We've had major issues with sewage in the past. 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?<br>Also the use of toxic chemicals into 'managing' the fish farms can only add to the already complicated situation.<br>Thirdly, I understand that with the already agreed investment in oyster farming across from Cumbrae at Fairlie would suffer with such fish farm in near proximity.<br>Also, in looking at other sites in Scotland where fish farming has been introduced, we can see the environment has been severely impacted - for the worst. | Otters, swans, porpoises and seals and (soon to be) oyster beds in Fairlie. | azamethiphos, cypermethrin, and deltamethrin<br><br>Not to mention IF some form of sound technology is used to ward off wild fish/sea mammals from these unnatural fish farms, surely that too is a major hazard? Also the nets around the farms preventing natural fish and sea mammals to take their normal routes through the sea in the Firth of Clyde ... | Kayaking, sailing and paddle boarders as well as wild swimmers.<br>Approach of The Waverley (and/or other similar vessels) into the Keppel Pier, especially during high season.<br>The impact on sight for visitors. Great and Wee Cumbrae in particular attract high numbers of visitors and having these fish farms will negate the views and experiences of such; not to mention all of us who live there.<br>The impact on FSC - who are providing great income to the island for visiting students of marine biology. Over the last 150 years, this centre (formerly run by the University of London) has attracted students from all over the world as the marine life is extremely rare because of the depths of the channels adjacent to Keppel Pier - near where Dawnfresh are considering putting their farms. This will SEVERELY affect our island's business.<br>Furthermore, merchant navy activity is regular in this area.<br>Also, decommissioning of ships opposite in Fairlie has caused issues when the weather is stormy and with added fish farms just opposite, this will add to the problems.<br>The latter would impact on the Coastguards work when weather is bad. | See above. | ANY chemical is harmful to our sealife. Humans have done enough to destroy our marine life across the globe. This type of 'farming' is not normal. It upsets the delicate balance of nature. ANY chemical or substance that is introduced is going to cause harm - especially those with sound waves that disrupt the fish and sense of direction. Let our sealife be left alone to thrive in nature. |
| 85 | Local councils and government bodies have spent many years and millions of pounds cleaning up the Firth of Clyde. It seems like complete madness to undo this fantastic investment by inviting long term and sustained pollutants that fish farms bring into this area. | Anything that lives under the cages of proposed fish farms. As a keen angler the decline of wild salmon and sea trout stocks has reached danger level. Infestations of sea lice from fish farm cages has been proved to be a factor in this decline. Otters ,seals, porpoises and dolphins will be affected not only by chemical effluent but also the sonar deterrents that will be deployed in the area. The trapping and use of wrasse to use as a cleaner fish should also be stopped immediately. | No. All chemicals where possible should be removed from the eco system. Pre fish farm, no chemicals and relatively clean water. After fish farming, chemical and sewage effluent, dirty, contaminated water. Seems like a no brainer to me. | Sailing, boating and angling banned where these cages will be positioned. An obvious blight on beautiful scenery and views from homes and holiday homes. Pollution. I cannot believe why anyone would welcome any form of pollution in the environment where they live, work or spend their recreational time. | As above. Sailing, boating, angling and anyone spending time in the upper Firth. People are attracted to this area as it is easily accessible, the water and beaches are clean and safe. There is an abundance of wildlife with seal colonies on both the Cumbraes. Scaring seals, porpoises and otters away from cages will have an impact on people who travel to this area to see them. | Any chemicals. Why would any sane person pour chemicals into the sea and think it's ok to do so? |

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| 86 | Fish faecal matter will affect water quality:<br>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 Cumbrae 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 76 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.<br><br>Use of highly toxic chemicals:<br>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. A lot of money is being spent to reintroduce oysters to the local area with farms at Largs Yacht Haven and Fairlie Quay Marina. These creatures will filter the water, improving the water quality overall. Why allow ths fish farm that will only add faeces and toxic chemicals, to impact this much more worthwhile project.<br><br>Lice:<br>The Cumbrae 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 Wee Cumbrae and South Bute 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 | The waterquality of the general area will be impacted due to faecal and food waste.<br><br>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 in the area, the newly installed oysters at Largs Yacht Marina and Fairlie Quay, and quite possibly the humans who wade or swim or use the waters around Cumbrae for other water sports. In particular, all the people who visit Largs and its nearby coastline and wade or swim or use the water for other activities, as Dawnfresh's own dispersion modelling shows that the toxic chemicals used in bath treatments will directly impact this coastal area. Also, the Ballochmartin SSSI is very close by.<br>Documents relating to this site in the Register of Scotland describe it as 'The most varied section of coast on Great Cumbrae....intensively surveyed and studied, and the site is of considerable importance for research and the teaching of marine biology.'<br>A further document states that 'Anyone who proposes to carry out one of the operations listed below must first consult the Nature Conservancy Council (now Nature Scotland).'<br>This application would have Dawnfresh carrying out three of the listed operations: 6 application of pesticides, 7 dumping, spreading or discharge of any materials and 16b changes in coastal fishing practice or fisheries management and seafood or marine life collection, including the use of traps or fish cages. Why are we not able to see what Nature Scotland has to say about this application as part of this consultation?<br><br>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 three bath treatment chemicals that have been mentioned in the CAR application - azamethiphos, cypermethrin and deltamethrin.<br><br>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.<br><br>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!<br><br>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. 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 it will cost some people all or a part of their livelihoods - local fishermen, the new oyster farm, local hoteliers/shopkeepers as people become aware f the toxic chemicals being used around the beaches, particularly in Millport and Largs and decide to go somewhere else for their day trip/paddle<br><br>I think it will impact on the success of the re-introduction of oysters to the area, a project that will improve the water quality rather than degrade it as the proposed fish farms would<br><br>The proposed fish farm sites are all in the heaviset use areas for kayaking, sailing and merchant navy activity so anyone participating in these activities would be impacted. This could have a knock on effect as sailors want to avoid the cages and their extended anchoring systems and sail to places without these, as kayakers decide to go to a less environmentally degraded area to enjoy their day paddling. My daughter sat on her tug for four days when the two ships broke loose from Hunterston Jetty a few months ago, holding the two vessels in place and she said they would have been sitting on or running into the fish farm if it had been there.<br><br>As well, it is a detraction from the scenic beauty of the area so might impact the charter companies running tours of the area.<br><br>In addition, I would think that it wouldnegatively impact the quality of the research that takes place related to the Ballochmartin SSSI. | as above | As in question 5, part 3:<br>The three bath treatment chemicals that have been mentioned in the CAR application - azamethiphos, cypermethrin and deltamethrin.<br><br>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.<br><br>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!<br><br>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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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. 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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| | putting multiple sites in close proximity to one another. | | | | | |

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| 87 | Argyll and Bute Council Opinion response to the Dawnfresh 19/00233/SCRSCO screening/scoping application on the 17 May 2019<br>This opinion from the ABCouncil stated the proposed fish farm is likely to give rise "to significant environmental effects"<br>Fish faecal matter will affect water quality:<br>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.<br>No other form of farming would be allowed to let the untreated waste of its animals freely enter and pollute the environment.<br>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.<br>Use of highly toxic chemicals will affect other species in the area:<br>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.<br>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.<br>*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 | 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<br><br>The fishing grounds at Hawks Neb of the lobsterman and of members of the CFA<br><br>The wild salmonids that are leaving/returning to their spawning grounds at the Endrick Water SAC<br><br>The newly installed oysters at the Largs Yacht Marina and Fairlie Quay Marina<br><br>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<br><br>Faecal waste from such a large number of fish for such an extended period of time<br><br>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<br><br>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<br><br>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.<br><br>The Cumbrae farms would affect the livelihoods of all the charter companies that use the area for wildlife sight-seeing tours.<br><br>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.<br><br>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<br><br>Faecal waste from such a large number of fish for such an extended period of time<br><br>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. 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| | 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.<br>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?<br>https://consultation.sepa.org.uk/sector-plan/finfishaquaculture/supporting_documents/Fish%20Farm%20Survey%20Report.<br>Lice soup will be created in the Clyde, impacting wild salmonids<br>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.<br>Please refer to this model for impact of lice from fish farms and thus the impact on the water environment<br>https://vimeo.com/496948354 | | | | | |
| 88 | We undertake recreation in the local waters and this would pollute and make this impossible | | | Local swimmers and paddlers | | |