Expansion plans for the Isle of Skye
Introducing your local Hjaltland contact

• Hjaltland have employed me, Elizabeth MacLeod, as a Marine Environment Surveyor. It is part of my job to liaise with interested parties and statutory consultees as well as undertaking base line monitoring and reporting for proposed sites as part of the planning/EIA process.

• I was brought up on Skye and have recently returned home after working and studying in Inverness. My employment background is in various laboratories and I have recently gained a BSc Environmental Science from UHI. As part of my course I undertook modules in aquaculture and Environmental Impact Assessments as well as undertaking placements within fishvet in Inverness and with the Skye and Lochalsh Mink survey. I have also undertaken research into the quality of aquaculture environmental impact assessments

• I am looking forward to meeting the various individuals, groups and consultees that have an interest in aquaculture developments. I hope with an open dialogue we can work together to create sustainable developments while minimising environmental impacts.

• Please feel free to contact me on
  – 07584684253
  – elizabeth@shetlandproducts.co.uk
Hjaltland Seafarms Ltd. expansion plans for the Isle of Skye

- Hjaltland Seafarms Ltd. are a well established aquaculture company, based in Shetland, who are looking to expand their business to incorporate sites on Skye.

- They have so far taken on two sites in Loch Dunvegan, Gob Na Hoe and Leinish. The Leinish site recently received planning permission to expand and update the equipment to include a feeding barge.

- It is hoped that Hjaltland can expand further around Skye by developing another site in Loch Dunvegan, at Corlarach on the opposite shore from Leinish. Planning permission for the Corlarach site was granted at the end of last year and we are currently awaiting a SEPA licence to operate this site.

- It is also hoped that we can develop two or three sites within Loch Snizort/Uig Bay and in Loch Slapin/Eishort.

- These proposed developments will create employment opportunities and boost the local economy.
Loch Slapin and Eishort – Proposed developments

- The following maps show sites in Loch Slapin and Loch Eishort where we are proposing to develop aquaculture. It is proposed that the site will comprise of 12 cages and a 200 tonne feed barge. Hjaltland are looking to develop three sites in the area with a shore base possibly located at Tarskivaig. We are aiming to submit a planning application including an environmental impact assessment towards the end of 2013.

- We are involving stakeholders at an early stage as part of a commitment to an open dialogue. This dialogue will enable us to take on board stakeholders opinions and advice prior to any decision making.

- Hjaltland, by following the mitigation measures documented within this presentation hope to minimise any negative impacts that our development may have and we would be interested to hear of any further measures we could implement at operational sites.
The developments within the Loch Slapin and Eishort area will directly create 8 local jobs. This would give a wage bill for full time staff of approximately £200,000, thus increasing the wage bill to £400,000 Skye wide. Using Scottish Government wage multipliers, this gives a value of £1,800,000 to the local economy. In addition, it is estimated that over £100,000 is spent in the local shops supplying fuel, safety equipment and marine chandlery products each year.

Further non direct employment will also be created for the dive team that undertake weekly inspections and at the feed production plant in Loch Kishorn. Hjaltlands processing plant and hatchery in Lerwick will also be supported by this development.
Loch Slapin—Zoomed out
Eishort 1 – zoomed in
Eishort 1 – zoomed out
Eishort 2 – zoomed in
Loch Slapin and Eishort – 3 proposed sites
Cage and Feeding Barge Layout for Loch Slapin and Eishort sites
Feeding Barge design proposed for Loch Slapin and Eishort sites
Feed barge - photograph
Loch Slapin and Eishort – Site specific modelling

• Computer modelling will be used to determine the amount of Salmon that can be produced over a two year production cycle while remaining within the environmental quality standards (EQS) set by SEPA.

• Further computer modelling will be undertaken to determine the amount of sea lice medication that can be used to treat the site while remaining within the EQS set by SEPA.

• Modelling requires the deployment of a meter to determine the current speeds at the proposed site locations. It is hoped we would be deploying the meter at the proposed locations over the summer months.
Loch Slapin and Eishort – Site specific surveys

• Baseline sediment samples will be taken and analysed to determine the number of species present and their abundance. Sediment sampling will be done routinely as part of the monitoring of the site once operational to detect any changes.

• A video survey of the seabed, consisting of 3 transects, will also be conducted to determine if there are any priority marine features in the area that could potentially be impacted by the development.

• I hope to arrange these surveys towards the end of the summer months.
Hjaltlands mitigation measures for minimising impacts on Wild Salmonids

• We have already signed up to the voluntary Skye Management Area agreement and have experience of working to management agreements within Shetland.

• We will cooperate with other companies, where necessary, to maintain a single year class and synchronised fallowing regime within a management area. This will be done to reduce sealice numbers.

• Sealice numbers will be monitored and appropriate treatment taken when trigger levels are reached. Sealice numbers will be documented and reported to interested parties.

• Maintenance and procurement of suitably strong nets and other equipment to help prevent escapees. Escapees will be documented and reported to interested parties.
Hjaltlands mitigation measures for minimising visual impacts

- Hjaltland adhere to SNH guidelines on the siting and design of aquaculture developments. I attended a sharing good practice event on the revised SNH guidelines and found this training to be very useful.

- Hjaltland like to standardise the design of their developments. We favour the use of muted dark colours, a concrete barge feeding system and aligning the cages with the coast. The choice of colours and materials enables the development to sit and blend into the coastline. An example of where this works well is at Gob Na Hoe and a picture taken from the opposite coast is on the cover of this presentation. Standardising the look of developments is beneficial in areas where there is more than one development as it creates consistency, making the view less disjointed.

- Hjaltland take public and statutory consultees opinions on the visual impact into consideration when looking for new sites, or expanding existing sites.
Hjaltlands mitigation measures for minimising visual impacts – areas identified for inclusion in visual impact assessment.
Hjaltlands mitigation measures for minimising impacts – Marine Mammals

- Where species of importance are noted within the area we will liaise with SNH at an early stage to determine appropriate buffer zones from haul out sites and any other mitigation measures deemed necessary.
- We will cooperate with other companies, where necessary, to maintain a single year class and synchronised fallowing regime within a management area. This will be done to reduce the possibility of Seals and other marine mammals becoming dependant on farmed Salmon as a source of food.
- We will maintain and procure suitably strong nets and other equipment to help prevent net damage allowing mammals access to stock and preventing stock escaping. Nets will be checked on a regular basis and replaced after 5 years.
- Along with robust equipment net tensioning will be our first level of defence from predators. Where this is unsuccessful and we have continued attacks an acoustic scrambler will be used, the scrambler will only sound in the event of an attack.
- It is hoped that the above methods will protect stock, leading to no need for lethal predator control methods. Where lethal control is considered necessary Marine Science Scotland will issue a licence for this and as part of our planning application we would commit to dispatching no more than one common seal per year. It has not been necessary for Hjaltland to resort to lethal control in Loch Dunvegan and we aim to achieve this within all areas where we develop.
Flow diagram of Hjaltlands predator control method

Seal attack - >100 fish lost

Thorough check of net tensioning

2\textsuperscript{nd} seal attack - <1 week later

Deploy ADD device

2\textsuperscript{nd} seal attack - >1 week later

No further seal attacks within 1 month

Turn off ADD

Further seal attacks within one month

Consider lethal control
Hjaltlands mitigation measures for minimising impacts on Wild Birds

• We will maintain and procure suitably strong nets and other equipment to help prevent net damage allowing avian predators access to stock.
• Along with robust equipment net tensioning will be our first level of defence from predators and this also protect the birds from becoming tangled in the nets.
• Nets will be checked on a regular basis and any birds tangled in the nets removed
• Where species of importance are noted within the area we will liaise with SNH and RSPB at an early stage to determine appropriate buffer zones from nest sites and any other mitigation measures deemed necessary.
• The generator proposed within the feed barge will be situated in a sound canopy to reduce noise disturbance.
Noise and Lighting

- Noise from sites results from a variety of sources:
  - Operational activities, such as boat and crane movements.
  - Feeding activities, this includes the feed in the pipes and the cage selector.
  - The barge generator, this will be situated within a sound canopy which greatly reduces the associated noise.

- A noise assessment will be undertaken as part of the environmental impact assessment process for any sites taken forward to a planning application.

- During the winter months in every 2nd year, “anti-grilsing” lights may be used at night to slow down maturation.

- If needed these lights are situated 4m below the surface and shielded from above.

- Hjaltland are working towards the breeding of fish that do not require anti-grilsing light treatment.
Waste

• There is little material used on site that could be accidentally lost. Feed bags and pallets are returned with the feed delivery boat. A limited number of chemical drums will be used for bath treatments. In the event of the loss of any item staff will endeavour to recover it immediately. Any reported marine litter on the adjacent shoreline will be removed by company personnel.

• A fish farm is effectively a temporary structure held in place by anchors. Cages, barges and anchors are easily removed when production ceases. Cages would be removed, broken down and recycled. The barge would be removed for recycling. Site anchors would be lifted and would either be re-used, sold or recycled.

• Dead and moribund fish will be removed from the net as quickly as possible and disposed of in a controlled manner. Surface mortalities will be removed daily by farm personnel and divers will remove submerged mortalities during weekly visits. In the event of a disease outbreak, mortalities are removed daily by farm personnel and divers. All mortalities will be macerated and ensiled with formic acid, stored in IBCs on site before being picked up by a licensed carrier of animal by-products.