

[Redacted]

From: [Redacted] marineharvest.com>
Sent: 28 January 2009 12:02
To: [Redacted])
Cc: [Redacted]
Subject: 2SPC\3\3\16 - Clauchlands

Hi [Redacted]

Sorry I should have emailed you sooner. With regards to the above, I would say that other elements have to be resolved first which is proving to take a long time. I can only ask this be put on hold for the time being. I realise this might not be possible so therefore would say once the above has been resolved then the application will be submitted again possibly with amendments.

Sorry this has taken so long to get a decision on...

Best Regards - [Redacted]
Statutory Compliance Manager

Environmental and Technical Services
Marine Harvest (Scotland) Ltd
Scalpay Factory
Bayhead
Isle of Harris
HS4 3XY

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SCOTTISH EXECUTIVE

COAST PROTECTION ACT 1949 SECTION 34 CONSENT

Application Form for a Marine Farm

Please complete this form in full. Please enclose copies of all relevant plans, drawings and other documentation with this application. Please enclose a copy of the relevant Admiralty chart with the location of the marine farm clearly marked. If applying for more than one site, please complete a separate application form for each site.

You are asked to provide the positions of the marine farm. For positions read from charts of 1:25,000 scale or smaller, the format should be, e.g. 55°55'.55N 5°55'.55W (WGS84). The decimal point specifies that decimals of minutes are used and the datum is stated explicitly. If seconds are used then the datum should be explicitly marked, e.g. 55°55'33''N 5°55'33''W (WGS84). For positions read from larger scale charts, e.g. 1/10000, three decimal places of minutes should be used, e.g. 55°55'.555N 5°55'.555W (WGS84). It is important that the correct positions are included with this application, as any errors may result in the application being refused or delayed.

Submitting an Application

The application form and any attachments can be e-mailed to the following address:

[Redacted] [@scotland.gsi.gov.uk](mailto:[Redacted]@scotland.gsi.gov.uk)

Alternatively you can post a hardcopy or electronic version (on floppy disk or CD) to the following address:

Scottish Executive, Transport Division 4, 2F (north), Victoria Quay, Edinburgh, EH6 6QQ

If submitting an electronic version by e-mail or on floppy disk or CD, please ensure that the application form and all attachments are submitted in plain text, Word or pdf format. A signature is not required if submitting your application electronically.

If you require further assistance or advice please e-mail [Redacted] [scotland.gsi.gov.uk](mailto:[Redacted]@scotland.gsi.gov.uk) or telephone [Redacted] .

2.8 Please provide the positions of all equipment in the table below. Corner positions of cage groups, longlines or rafts and central positions for all other equipment such as moorings should be provided (please specify).

LATITUDE										LONGITUDE										
1	Corner Positions – Extremities of farm moorings (whole site)																			
	5	5	°	3	3	.	5	9	9	N	0	5	°	0	5	.	4	7	3	W
	5	5	°	3	3	.	7	4	4	N	0	5	°	0	5	.	2	1	1	W
	5	5	°	3	3	.	4	7	5	N	0	5	°	0	4	.	7	3	9	W
	5	5	°	3	3	.	3	3	0	N	0	5	°	0	4	.	9	9	8	W
2	Central Positions - Centre of farm moorings (whole site)																			
	5	5	°	3	3	.	5	3	7	N	0	5	°	0	5	.	1	0	6	W

LATITUDE										LONGITUDE										
1	Corner Positions – Extremities of surface cages group 1																			
	5	5	°	3	3	.	5	9	9	N	0	5	°	0	5	.	2	8	2	W
	5	5	°	3	3	.	6	3	7	N	0	5	°	0	5	.	2	1	4	W
	5	5	°	3	3	.	5	8	0	N	0	5	°	0	5	.	1	1	2	W
	5	5	°	3	3	.	5	4	1	N	0	5	°	0	5	.	1	8	2	W
2	Centre positions – Centre of surface cages group 1																			
	5	5	°	3	3	.	5	8	9	N	0	5	°	0	5	.	2	0	0	W

LATITUDE										LONGITUDE										
3	Corner Positions – Extremities of surface cages group 2																			
	5	5	°	3	3	.	5	1	3	N	0	5	°	0	5	.	1	3	1	W
	5	5	°	3	3	.	5	5	1	N	0	5	°	0	5	.	0	6	3	W
	5	5	°	3	3	.	4	7	6	N	0	5	°	0	4	.	9	2	7	W
	5	5	°	3	3	.	4	3	9	N	0	5	°	0	4	.	9	9	7	W
2	Centre positions – Centre of surface cages group 2																			
	5	5	°	3	3	.	4	9	5	N	0	5	°	0	5	.	0	3	3	W

LATITUDE										LONGITUDE										
End Positions – Start and finish positions of pontoon at shore-base																				
	5	5	°	3	0	.	6	6	1	N	0	5	°	0	5	.	2	9	7	W
	5	5	°	3	0	.	6	9	8	N	0	5	°	0	5	.	2	9	7	W

LATITUDE										LONGITUDE										
1	Corner Positions – Extremities of barge moorings																			
	5	5	°	3	3	.	5	8	8	N	0	5	°	0	5	.	1	9	7	W
	5	5	°	3	3	.	6	0	4	N	0	5	°	0	5	.	0	9	7	W
	5	5	°	3	3	.	5	6	2	N	0	5	°	0	5	.	0	2	1	W
	5	5	°	3	3	.	5	0	5	N	0	5	°	0	5	.	0	4	6	W
	5	5	°	3	3	.	4	8	9	N	0	5	°	0	5	.	1	4	7	W
	5	5	°	3	3	.	5	3	0	N	0	5	°	0	5	.	2	2	2	W
2	Central Positions – barge																			
	5	5	°	3	3	.	5	4	6	N	0	5	°	0	5	.	1	2	2	W

LATITUDE										LONGITUDE											
1	Central Positions – Fish Farm Vessel Moorings																				
	5	5	°	3	3	.	6	0	3	N		0	5	°	0	5	.	4	9	6	W
	5	5	°	3	3	.	3	5	3	N		0	5	°	0	5	.	0	7	8	W
	5	5	°	3	3	.	5	6	2	N		0	5	°	0	5	.	4	3	5	W
	5	5	°	3	3	.	4	1	3	N		0	5	°	0	5	.	1	8	1	W

2.9 Please confirm if you have consulted with any of the following organisations listed below prior to submitting this application by ticking the relevant box. A copy of any relevant correspondence should be included with this application:

Scottish Natural Heritage

Fisheries Research Service (Marine Laboratory)

Scottish Environment Protection Agency

Other (please specify)

2.10 Anticipated application start date:

From: LATE 2007

3. Check List and Declaration

Please ensure that the following documents are enclosed with your application:

The application form Included

A copy of all relevant plans and drawings Included

A copy of the extract from the relevant Admiralty chart Included

A copy of all other relevant documentation Included

A copy of the original consent letter (if applicable) Included

I certify that the information given on this form and on any attachments enclosed is true and accurate at the time of making this application.

SIGNED:

[Redacted]

NAME IN BLOCK CAPITALS:

[Redacted]

DATE: 18th May 2006



Figure 1

General view and location of Clachlands, Isle of Arran

Key:

Enlarged Chart Area for Fig 2

11/04/2006	DRY	DRY	0001	Final
Date	Drawn	Checked	Revision No.	Status

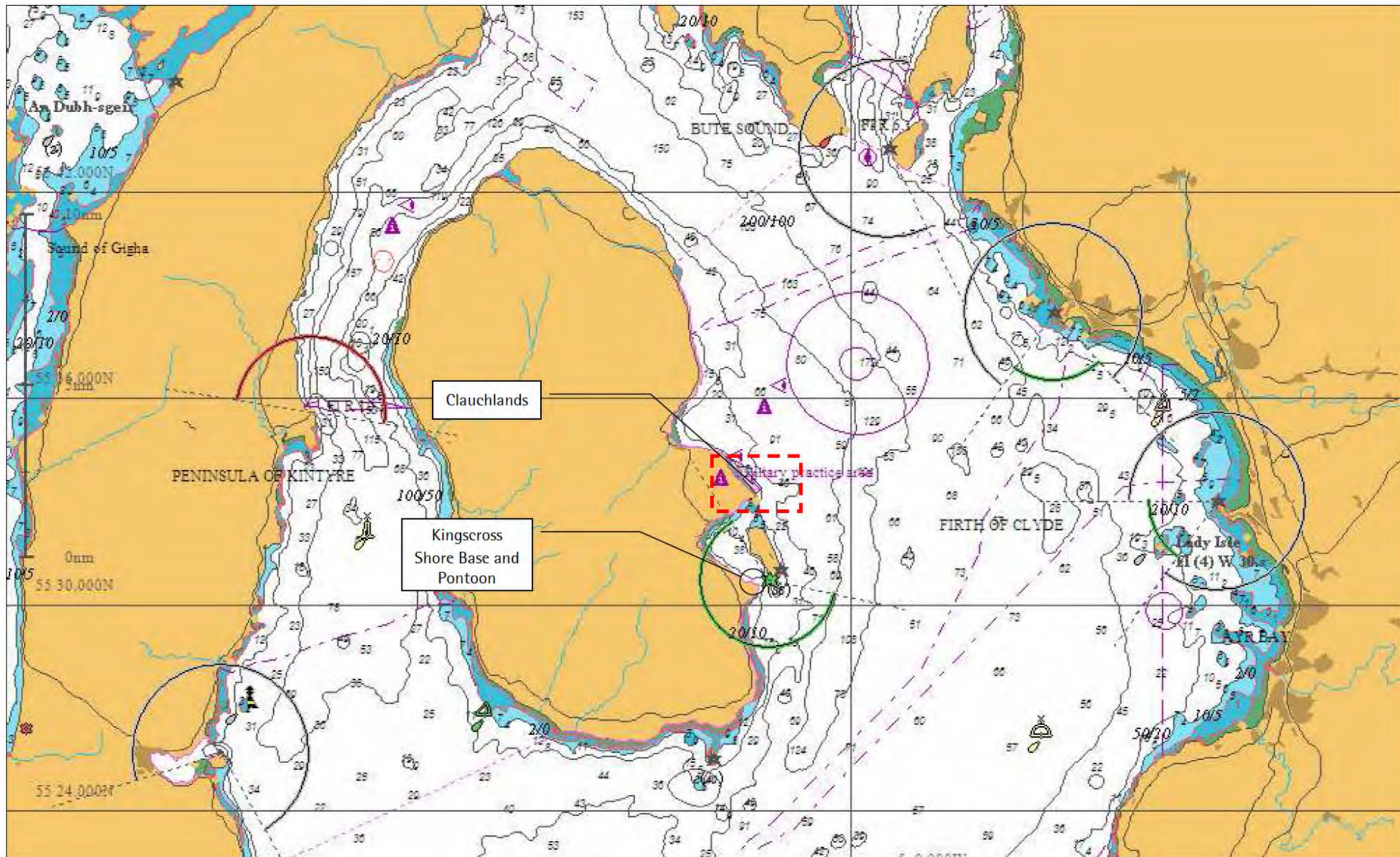


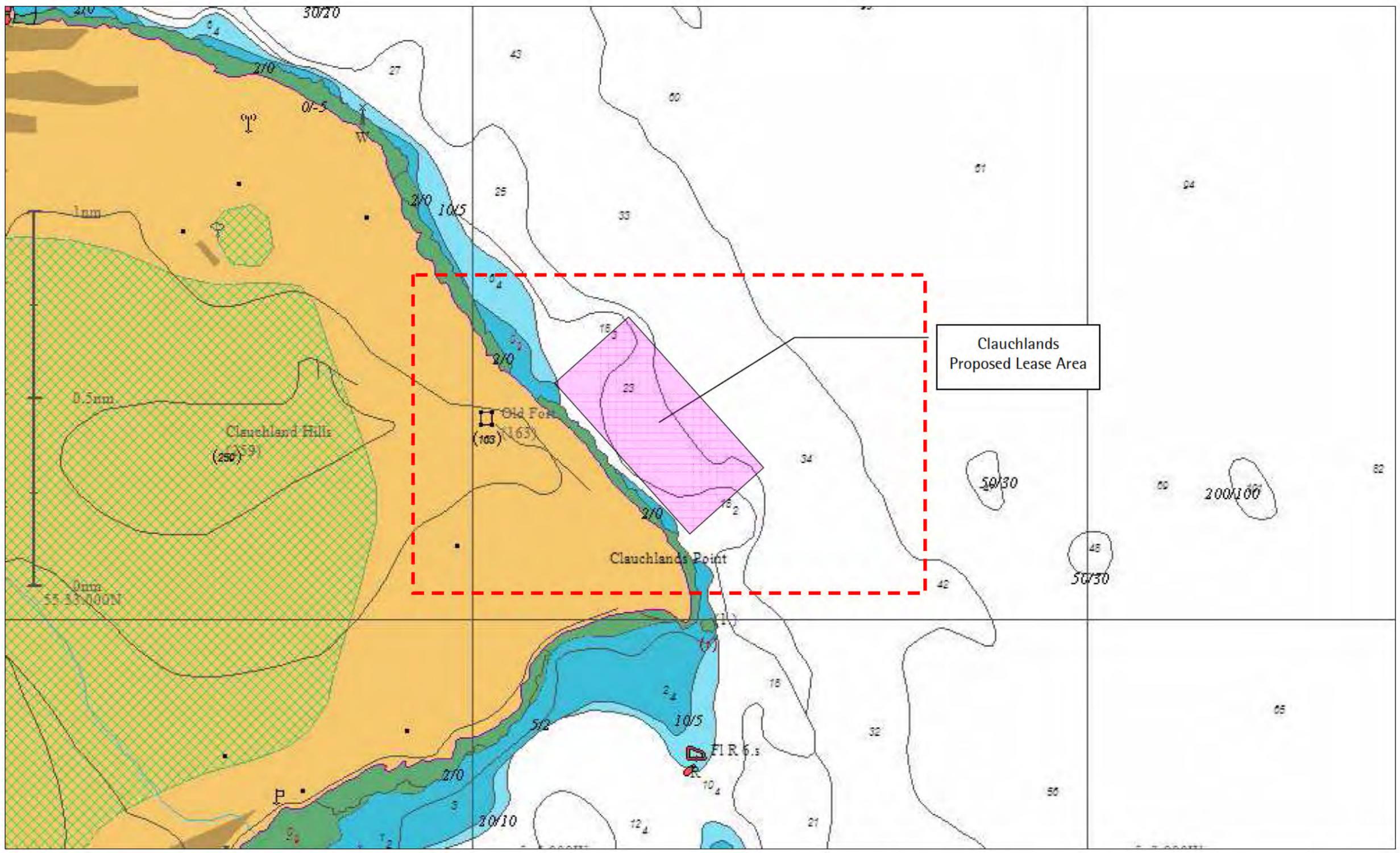
Figure 2

General view of Clauchlands proposal and shore base.

Key:

Enlarged Chart Area for Fig 3

11/04/2006	DRY	DRY	0001	Final
Date	Drawn	Checked	Revision No.	Status



Clauchlands
Proposed Lease Area

Figure 3

General view of proposed lease area for 14 cages

Key:

- Enlarged Chart Area for Figs 4 and 5
- Lease Area

11/04/2006	DRY	DRY	0001	Final
Date	Drawn	Checked	Revision No.	Status

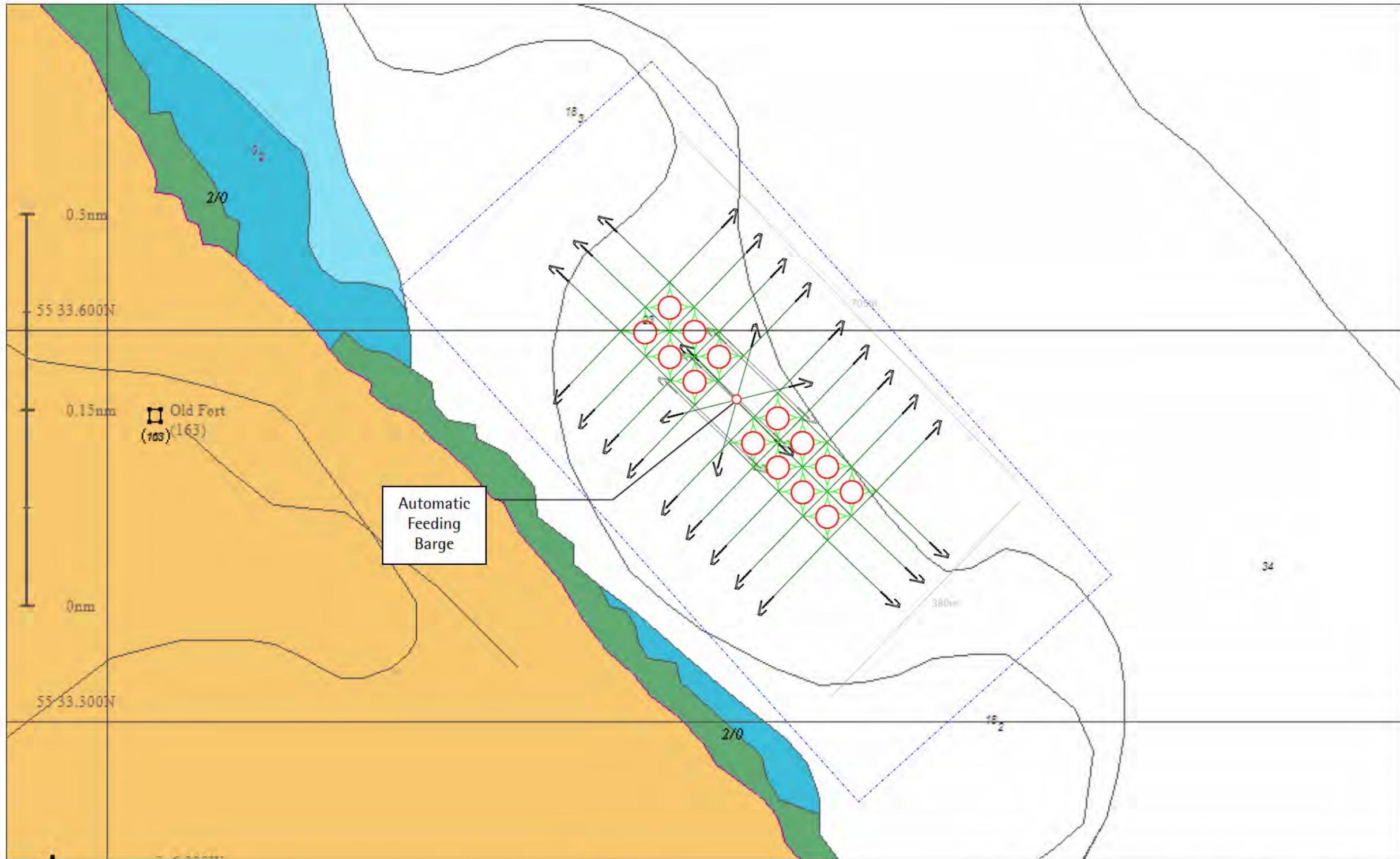


Figure 4

Detailed illustration of cage group and moorings including feeding barge and dimensions of extremities.
 14 cages at 100m circumference - 3 x 2 and 4 x 2 configuration

Key:	
	Lease Area
	Cages
	Mooring rope and anchor

11/04/2006	DRY	DRY	0001	Final
Date	Drawn	Checked	Revision No.	Status



Figure 5

Detailed illustration of cage group and feeding barge.
 Surface structure of cages and dimensions to mooring grid buoys.
 14 cages at 100m circumference - 3 x 2 and 4 x 2 configuration

Key:
 ○ Cages
 ● Mooring grid buoys

11/04/2006	DRY	DRY	0001	Final
Date	Drawn	Checked	Revision No.	Status

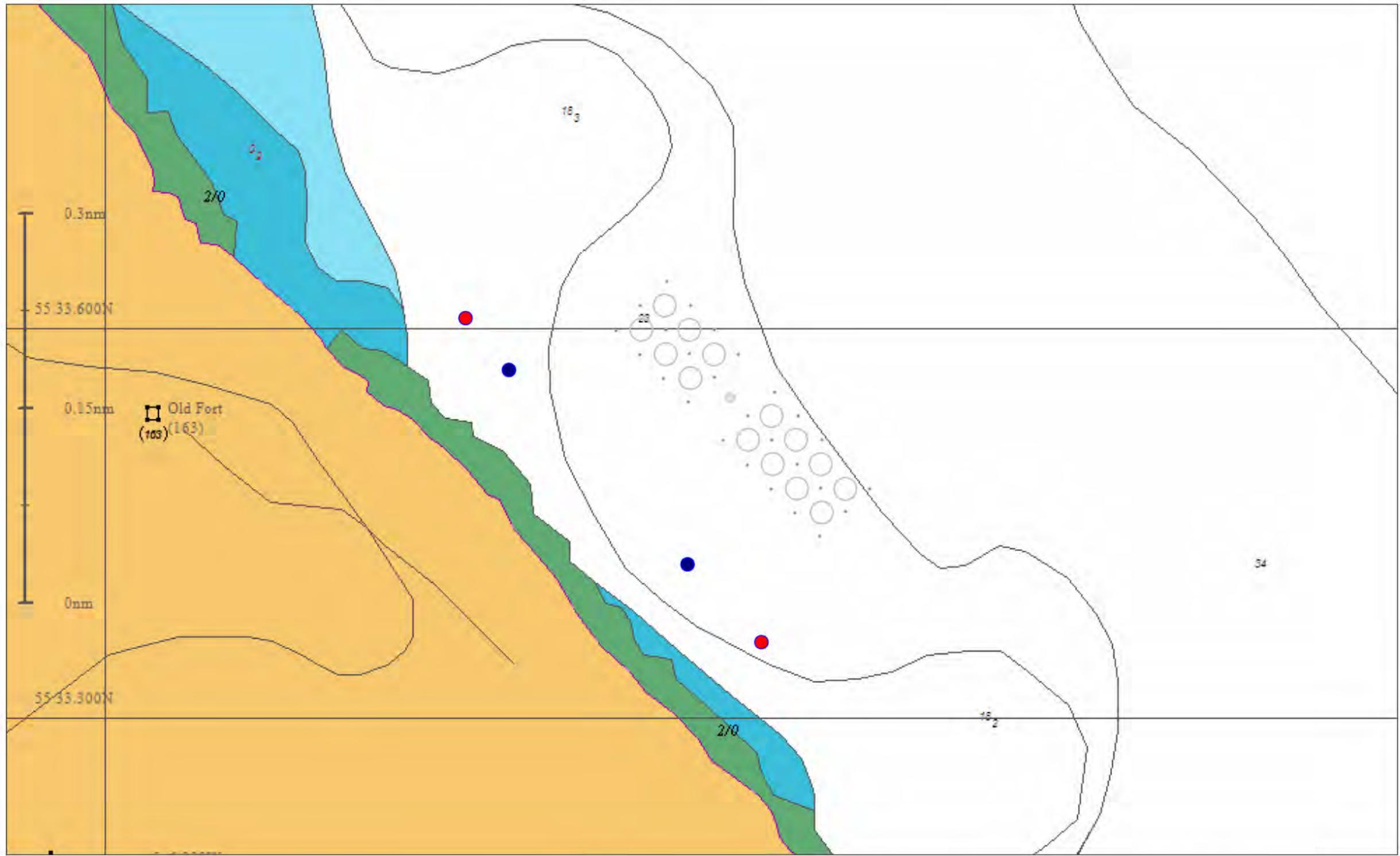


Figure 6

Detailed illustration of cage group and vessel moorings.
 2 heavy vessel moorings
 2 light vessel moorings

- Key:
- Heavy vessel mooring
 - Light Vessel Mooring

11/04/2006	DRY	DRY	0001	Final
Date	Drawn	Checked	Revision No.	Status

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Edinburgh, EH4 3BJ

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With compliments



**THE CROWN
ESTATE**

FAO: [Redacted]

COPY FOR CONSULTEES

Mr [Redacted]
Marine Harvest (Scotland) Ltd
Farms Office
Blar Mhor Industrial Estate
Fort William
PH33 7PT

[Redacted]
[Redacted]
Tel: 0131 260 6076
Fax: 0131 260 6090
E-mail: [Redacted] @thecrownestate.co.uk

Your Ref.:
Our Ref.: XX100/224B

18 February 2009

Dear [Redacted]

**APPLICATION TO ESTABLISH A MARINE FINFISH FARM SITE – CLAUCHLANDS,
ISLE OF ARRAN**

I refer to the application received on 11 October 2006 to establish a new salmon cultivation site at the above location.

By letter dated 31 March 2008, The Crown Estate Commissioners advised that on the recommendation of the local authority the proposed development had been rejected.

Following further consideration of the above application on appeal, and on the recommendation of the DPEA Reporter, the Crown Estate Commissioners have decided that:

- A lease should not be granted for the proposed development

The main reason for the decision:-

- The DPEA Reporter has recommended that the application for a seabed lease for the proposed finfish farm be refused

A full copy of the Reporters report is enclosed.

Yours sincerely
[Redacted]

This letter is being copied to persons who submitted comments on the application.

Enc.

Application for a seabed lease for a proposed finfish farm at Claughlands Point, Isle of Arran

- Case reference IQC/35/23
- Reporter [Redacted]
- Applicant Marine Harvest Scotland
- Planning Authority North Ayrshire Council
- Statutory Consultees Scottish Natural Heritage (SNH)
Scottish Environmental Protection Agency (SEPA)
Scottish Executive Environment and Rural Affairs Department (SEERAD, now the Scottish Government Marine Directorate Aquaculture and Freshwater Fisheries division)
- Other parties (organisations) Community of Arran Seabed Trust (COAST)
The Isle of Arran Community Council
The Firth of Clyde Forum
Clyde Fishermen's Association
Argyll District Salmon Fishery Board
Rivers and Fisheries Trusts of Scotland
- Other parties (individuals) 102 letters of objection and 13 letters of support
- Date of application 11 October 2006
- Method of consideration and date Site inspection on 12 August 2008 and written submissions
- Date of report 13 February 2009
- Reporter's recommendation Refusal

The Site: The site lies off the east coast of Arran, some 4-5 kilometres south-east of Brodick. The proposed lease area would be 1000 metres long and 500 metres wide, with its southern corner about 500 metres north of Claughlands Point. This is at the entrance to Lamlash Bay, the site of a No Take Zone (NTZ) which has resulted from the COAST project and came into force in September 2008 with the Inshore Fishing (Prohibited Methods of Fishing) (Lamlash Bay) Order 2008. There are two paths opposite the site, one along the base of the cliffs and one along the top.

Description of the Development: The proposed salmon farm would have 14 circular fish pens about 250 metres from the shore, with the most southerly pen some 900 metres north of Claughlands Point.

The Issues:

- (1) the impact on the NTZ proposals, on the integrity of the scientific evaluation of the COAST project and whether the precautionary principle should apply;
- (2) the impact on visual amenity from the coastal paths and on the character of the undeveloped coast;
- (3) the impact on cetaceans and seals: and
- (4) other considerations.

The Case for Scottish Natural Heritage: The key purpose of the COAST project is to demonstrate the effectiveness of no take zones as a means of increasing the productivity of adjacent areas. As the proposed fish farm is on the threshold of this zone and within the area which would be monitored to assess the beneficial impacts of the NTZ, it could have a damaging impact on the success of the project. Considerable community and industry based effort has gone into the development of the project. On issue 2, SNH objects to the proposal due to the substantial adverse impacts on local landscape character and on the experience of walkers along the two coastal paths.

The Applicant's Case: On issue 1, the applicant relies principally on the observations of SEPA who approved in principle the application for a licence for discharge consent of 2500 tonnes maximum standing biomass. Together with the Fisheries Research Service (SEERAD) and SNH, all three regulators agree that there would be a minimal (if any) negative impact on the NTZ. On issue 2, the fish farm would not be overlooked by any residences or tourist properties and would only be visible to any significant extent from the paths. Views from the cliff top path are to a great extent obscured by vegetation.

Observations by SEPA and SEERAD (Issue 1 only): SEPA states that modelling outputs suggest that the Allowable Zone of Effects for the deposition of waste should extend for 104 metres from the cages in an approximately south-south-east direction and that conditions on the seabed should be returning to a more normal state towards the extremities of the site. Un-impacted conditions should prevail a short distance beyond this. At about 900 metres, the NTZ lies considerably further from the proposed cage site. SEERAD (now the Scottish Government Marine Directorate Aquaculture and Freshwater Fisheries division) notes that the modelling results indicate that in a worst case scenario, a not excessive area of the seabed would be degraded by organic carbon deposition. Scallops in the immediate vicinity of the cages are likely to be affected, but overall, SEERAD does not expect a significant adverse effect on scallops. Because of a lack of data, some effects on the NTZ cannot be ruled out.

Objectors' Cases: The majority of organisations and individuals were critical of the proposals. The COAST project has been independently supported and endorsed by the world's leading marine scientists. It could be a template for the way the seas around Scotland are managed. But with an expected 800,000 fish with a peak biomass of 2500 tonnes, being fed 5221 tonnes of feed in 22.5 months, it is difficult not to be very concerned about the impact on the COAST project. Also, a considerable amount of chemicals would be put into the waters to control disease. Scallop spat could not live in the chemical and

effluent discharges from the proposed farm. Locating a fish farm next to the NTZ immediately confounds the ability of scientists to say whether observed changes are due to the effect of the NTZ or of the fish farm. The proposal is totally contrary to marine conservation and at the very least the precautionary principle should be adopted. On issue 2, many of the other parties making representations referred to this issue, opposing the development. The proposed very large fish farm would have a considerable impact on this beautiful scenic area. The network of footpaths from Lamlash to Brodick, which includes the Arran Coastal Way, provides one of the most popular walks on Arran for both the local community and visitors.

Supporters' Cases

The letters of support emphasised the value of the jobs provided by MHS and the strengthening of the operation which would follow the establishment of the proposal.

Reporter's Reasoning

Issue 1: The siting of the COAST project in Lamlash Bay introduces a special consideration. This is the need to ensure that the proposal does not have an unacceptable impact on the recently established NTZ and the scientific evaluation of this pioneering project in the management of the marine environment. The main risk is to the monitoring of the scallop population, with possibly irreversible effects disrupting the scientific evaluation of the project. A secondary consideration is the possibility, albeit remote, of contamination of the NTZ, so damaging its biodiversity and frustrating the scientific evaluation of that aspect. Although the potential damage to the marine environment is uncertain, the NTZ proposals and the integrity of the scientific evaluation of the COAST project are considerations of such importance that, applying the precautionary principle, the proposal is unacceptable.

Issue 2: Notwithstanding the parallel alignment of the pens, their low profile, the presence of clear water between the pens, the backdrop of cliffs, the sober colour of the structures and the absence of development of any sort on the land opposite the site, this large development would be an unsightly feature as seen from the lower path for the entire length of the installation. The upper path gives impressive long views over the Firth of Clyde, over Lamlash Bay and Holy Island and over Arran itself. From time to time there is a dramatic shorter view down on to the sea where the pens would be. Serious damage would be done to the views from both these coastal paths.

Issues 3 and 4: The contribution to the Scottish economy is an important consideration; however, the impacts on cetaceans and seals, on the SSSI, on scallop fishing or on the Lamlash Bay outdoor centre would not be such as to justify the rejection of the application.

Final conclusion: The proposal is assessed against the four principles in *the Strategic Framework for Scottish Aquaculture* and against the requirement that the decision should be made in accordance with the development plan unless material considerations indicate otherwise. The proposal fails both tests. The application for a seabed lease for the proposed fish farm should be refused.

Report to the Crown Estate Commissioners



INTERIM SCHEME FOR THE AUTHORISATION OF MARINE FISH FARMS IN SCOTTISH WATERS

APPLICATION FOR A SEABED LEASE FOR A PROPOSED FINFISH FARM AT CLAUGHLANDS POINT, ISLE OF ARRAN

Report by [Redacted], a Reporter appointed by the Scottish Ministers

- Case reference: IQC/35/23
- Application by Marine Harvest (Scotland) Ltd
- Date of site visit by Reporter: 12 August 2008

Date of this report and recommendation: 13 February 2009



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A summary of the report is attached

ABBREVIATIONS

The following abbreviations are used:-

AMA	Area Management Agreement
AZE	Allowable Zone of Effects
CAR	The Water Environment (Controlled Activities) (Scotland) Regulations 2005
CEC	Crown Estate Commissioners
COAST	Community of Arran Seabed Trust
DPEA	Directorate for Planning and Environmental Appeals
EA	Environmental Assessment
EQS	Environmental Quality Standard
ES	Environmental Statement
MHS	Marine Harvest (Scotland) Ltd
MLWS	Mean Low Water Springs
NAC	North Ayrshire Council
NTZ	No Take Zone
SEERAD	Scottish Executive Environment and Rural Affairs Department (of which the Fisheries and Rural Development Group subsequently became the Marine Directorate Food and Fish Division and is currently the Scottish Government Marine Directorate Aquaculture and Freshwater Fisheries division)
SEPA	Scottish Environmental Protection Agency
SNH	Scottish Natural Heritage

DOCUMENTS

The supporting documents are grouped as follows:-

- 1/1 -2 Letter from MHS to DPEA of 19 June 2008, accepted as a request that the application be examined further (with updating letter of 7 July 2008)
- 2/1 MHS' new site application to the Crown Estate
- 2/2 Crown Estate screening opinion
- 2/3 NAC report to Planning Committee
- 2/4 Letter from NAC informing the Crown Estate of NAC decision
- 2/5 Letter from NAC to Crown Estate confirming the terms of the NAC decision
- 2/6 Letter from Crown Estate to MHS giving decision on the application
- 2/7 Letter from MHS to Crown Estate requesting that the papers be referred to SEIRU (DPEA)
- 2/8 Letter from Crown Estate to NAC concerning procedure
- 2/9 Reply from NAC confirming written submissions procedure
- 3/1 Environmental Statement
- 4/1-62 Copies of Crown Estate correspondence
- 5/1-135 Copies of NAC correspondence
- 6/1 MHS' responses to representations
- 7/1-29 Further representations
- 7/30 MHS' response to further representations
- 8/1-3 Further comments by the statutory consultees (SEPA, Scottish Government Marine Directorate and SNH) on issue 1 etc.
- 8/4 MHS' response to further comments

Documents are referred to in the report as (e.g.) 2/3, 4/29.

Directorate for Planning and Environmental Appeals
 4 The Courtyard
 Callendar Business Park
 Callendar Road
 Falkirk
 FK1 1XR

The Crown Estate Commissioners
 6 Bell's Brae
 Edinburgh
 EH4 3BJ

Our ref: IQC/35/23

REPORT OF FURTHER EXAMINATION BY WRITTEN SUBMISSIONS AND SITE INSPECTION OF APPLICATION FOR SEABED LEASE: PROPOSED FINFISH FARM AT CLAUGHLANDS POINT, ISLE OF ARRAN

Introduction

1. The above application was referred to this office on 19 June 2008 with a request for further examination in accordance with paragraph 25 of the Interim Scheme for the Authorisation of Marine Fish Farming in Scottish Waters. The principal parties were content that this should take place on the basis of an exchange of written submissions and a site inspection.

2. Accordingly, I held an accompanied site inspection of the application site and the surrounding area on 12 August 2008. In the morning, I walked sections of the footpaths opposite the site; in the afternoon I visited the salmon farm at St Mollo's, Lamlash Bay by boat which then took me to the application site; and on the return journey I visited Holy Island and walked part of the footpath on its northern side. The following accompanied me for all or part of the site inspection:-

[Redacted]	Marine Harvest (Scotland)
[Redacted]	“ “
[Redacted]	North Ayrshire Council
[Redacted]	Scottish Natural Heritage
[Redacted]	Isle of Arran Community Council
[Redacted]	“ “ “ “
[Redacted]	Community of Arran Seabed Trust
[Redacted]	Coastal Way Supporters Group
[Redacted]	MSP

Also accompanying me were the following local residents:- [Redacted]

The Proposal

3. The application is for a seabed lease for a new salmon farm at Claughlands, Isle of Arran. The site is off the east coast some four to five kilometres south-east of Brodick. This length of the coast runs north-west to south-east before turning into Lamlash Bay at Claughlands Point. Lamlash Bay is partly enclosed by Holy Island, a small mountainous island rising to a height of 314 metres.

4. The proposed lease area would be 1000 metres long and 500 metres wide, with co-ordinates stated as follows:-

55° 33.630'N	005° 05.590'W
55° 33,808'N	005° 05.245'W
55° 33,412'N	005° 04.599'W
55° 33,233'N	005° 04.944'W

Its southern corner would be about 500 metres north of Claughlands Point.

5. The 14 circular fish pens would be arranged in two groups - the northerly in a 3 x 2 configuration and the southerly in a 4 x 2 configuration. They would be about 250 metres from the shore and the most southerly pen would be about 900 metres north of Claughlands Point. Each plastic pen would be 32 metres in diameter and 100 metres in circumference, with 16 metres deep nets. The pens would be moored using a combination of concrete blocks and spade anchors.

6. An automatic feeding barge would be moored between the two groups of pens. This would be a 100 ton feed storage capacity C-cap (Circular Concrete Auto-feed Pontoon) barge with a crane on board to assist with loading. Also on board would be a small office and basic mess facilities. When fully loaded, the barge would be 3.5 metres above water level; when empty, the height would be 4.5 metres (these heights exclude the height of the safety rail on the top of the barge). It would be powered by an on-board generator. All servicing would be done by boat from the applicant's shore base for the existing fish farm at St Mollo's Kingscross, Lamlash Bay. There would be no development of any sort on the coast opposite the fish farm.

7. The intended maximum production per annum is 3648 tonnes of salmon, with a maximum biomass during the production cycle of 2500 tonnes.

Procedural Background

8. Marine Harvest (MHS) submitted their application to the Crown Estate Commissioners (CEC) on 11 October 2006. It was advertised in the local press and a copy of the application with the accompanying Environmental Statement (ES) was made available for public inspection. In accordance with the Interim Scheme for the Authorisation of Marine Fish Farming in Scottish Waters, the CEC sent the proposal with the responses of the statutory consultees – SEERAD (now the Scottish Government Marine Directorate Food

and Fish Division), SNH and SEPA - and representations from the public to the North Ayrshire Council (NAC).

9. One of the statutory consultees, Scottish Natural Heritage (SNH), objected to the proposals. A total of 102 letters of objection and 13 letters in support were received. Although officers considered the proposal acceptable, the NAC submitted to the CEC an unfavourable view on the following grounds:-

- (1) the precautionary principle should apply in the light of the uncertain impact of the development on the integrity of the scientific evaluation of the COAST project;
- (2) the detrimental impact of the development on visual amenity from the coastal paths;
and
- (3) the unresolved objection submitted by SNH.

(Planning Committee decision of 4 March 2008)

10. Having been informed by CEC of the situation, MHS asked for further examination of the application. The CEC therefore referred it on 22 May 2008 to DPEA and I am the Reporter appointed to consider the application and prepare a report and recommendation to the CEC. The main parties wished the case to be examined by written submissions and site visit. I made an accompanied inspection of the application site and the surrounding area on 12 August 2008.

11. After my site visit, it came to light that the statutory consultees and interested persons had not been sent copies of MHS's written statement of 19 June 2008 (1/1) with update of 7 July (1/2) addressed to DPEA asking for a recommendation of approval to be made to the CEC. It was decided that these documents should be made available to give the opportunity for further comment. The comments received, together with the response of MHS, are referred to as appropriate below.

12. Having reviewed the submissions, it was evident that those relating to the first issue were very fragmented, notably those opposing the fish farm. I therefore prepared a draft summary of the evidence and because it contained points which had not been addressed by the statutory consultees, they were asked to submit further comments. Again, the responses received are referred to below. The consultees were also asked to comment on the effect on the wild salmonid population of the disease said to be responsible for the high mortality experienced at MHS' site at St Molio's (a material consideration included in issue 4).

13. MHS continues to pursue this application notwithstanding the transfer of the St Molio's site to a new company, Lighthouse Caledonia. Should the application be successful, it is intended that the operation should be incorporated in that business (1/2). Throughout this report, both sites are nevertheless referred to as MHS sites.

Policy Background

14. The Strategic Framework for Scottish Aquaculture was published in March 2000 and is updated at intervals. It is the main policy instrument to deliver a diverse, competitive but sustainable aquaculture industry in Scotland and provides a set of parameters within which industry can balance socio-economic benefits against environmental impact. Sustainability is the overarching consideration in four guiding principles (paragraphs 1.5 - 1.10):-

- The economic principle is that aquaculture should be enabled to make a positive contribution to the Scottish economy through being internationally competitive in the marketplace and economically viable at a national level.
- The environmental principle is that the industry should work in harmony with nature, managing and minimising transient environmental impacts and avoiding significant, cumulative, long-term or irreversible changes to ecological systems, to cultural remains or to valued landscape and scenery.
- The social principle is that aquaculture should foster strong community links, recognising and supporting the needs of local communities and working with community initiatives to manage local environments for mutual benefit.
- The principle of stewardship is about delivering outcomes sustainably.

15. The Scottish Executive's Locational Guidelines for the Authorisation of Marine Fish Farms in Scottish Waters, 1999 identify two categories of area which are likely to be particularly environmentally sensitive to new or expanded developments. No part of the coast of Arran is included in either category. However, the appended Advice Note: Marine Fish Farming and the Environment gives detailed advice of general application. Advice on husbandry and management (paragraphs 68 – 77) notes that:-

“Disease can be transferred.....by the transmission of pathogens through the water medium. The movement of micro-organisms in coastal waters depends on currents which may be erratic. It can therefore be difficult to predict where pathogens, entering the water at a particular point, will end up”.

The consequences of mass escape of fish are noted, being not only of economic significance, but also having long-term repercussions for fish populations and associated fisheries. Indicative separation standards for finfish farms are:-

Finfish farms: 8 kilometres, although closer siting may be possible between small-scale farms and in large loch systems or open water.

Public viewpoints, tourist centres and popular tourist routes: 1.5 kilometres, although screening by buildings, landform or woodlands may permit closer siting.

Vulnerable wildlife: 0.8 kilometres, assuming adequate anti-predator measures.

16. The Advice Note also has a section on landscape, siting and design (paras. 78-102). A landscape assessment should be undertaken for sensitive sites and particularly where an environmental assessment (EA) is required. It is noted that:--

“Visibility is determined partly by local topography and vegetation, which can screen or expose a marine fish farm, and partly by public use and access. Distance and

angle of view are also relevant. For example, tank farms and cage sites can be prominent in elevated panoramic views, whereas in distant low-level views topographic screening or camouflage effects may greatly reduce their visibility”.

Water-based development should reflect the local landform and coastal configuration; in general, a compact or linear pattern suits a simple coastline.

17. SNH’s Marine Aquaculture and the Landscape gives advice on the siting and design of fish farms. It refers to the landscape character assessments carried out for the whole country. On coastal sites, cage structures should align with the coastal edge.

18. Relevant planning advice includes NPPG 13: Coastal Planning (August 1997). One of the principles advocated is that where potential damage to the environment is both uncertain and significant, a precautionary approach is required (paragraph 15).

19. PAN 51: Planning, Environmental Protection and Regulation (paragraph 7) deals with the precautionary principle. It states that reasonable measures to prevent a serious or irreversible threat to health or to the environment should not be postponed solely because we lack full scientific certainty about the threat itself. Measures should however be proportionate. The principle applies particularly where irreversible effects may follow if action is delayed.

20. NPPG 13 identifies three types of coast – the developed, the undeveloped and the isolated. The undeveloped coast should generally be considered for development only where the proposal can be expected to yield social and economic benefits sufficient to outweigh any potentially detrimental impact on the coastal environment (paragraph 23). The potential benefits of marine aquaculture to the local economy should be acknowledged, while in areas where the tourism industry is based on high quality scenery and an unspoilt environment, special attention should be paid to the number of fish farms, their location in relation to each other and the surrounding land mass as well as the design and colour of cages, buoys and other equipment (paragraph 49).

21. The development plan consists of the Ayrshire Joint Structure Plan 2025 (approved in 2007) and the Isle of Arran Local Plan (adopted in 2005). Policy ENV 1 of the structure plan requires particular care to be taken to conserve those features that contribute to local distinctiveness, including the special qualities of coasts. The local plan shows the coast opposite the application site as undeveloped coast. It is also included in a Site of Special Scientific Interest (SSSI). Policy ENV 7 indicates that proposals which would affect an SSSI must not compromise the objectives of the designation or the overall integrity of the area; and they must have no significant adverse effects on the qualities for which the area has been designated. Exceptions will be acceptable only if the disadvantages are clearly outweighed by social or economic benefits of national importance. Policy ENV 8 acknowledges the Community of Arran Seabed Trust (COAST) project and generally supports seabed regeneration and marine conservation in Lamlash Bay where the continued existence of the maerl beds, an important habitat for a wide variety of marine animals and plants, is under threat.

22. Policy ENV 9 of the local plan states that:-

“To protect the value of the coastal zone, within the undeveloped coast, development shall not accord with the local plan unless it is within a settlement or is associated with an existing development or there are special operational reasons for the proposal to be located on the site or there are no feasible alternative sites available and the social and economic benefits outweigh the environmental loss.”

The Cases

23. The case for MHS is to be found in the following documents:-

- the application (2/1),
- the Environmental Statement (3/1), which is summarised in the non-technical Executive Summary at pages 8–13,
- responses to representations (6/1),
- letter to DPEA of 19 June 2008 requesting that the development should be recommended for approval, with updating letter of 7 July (1/1 and 1/2)
- response to further representations (7/30)

24. As regards the NAC, the officer's report to the Committee (2/3) contains useful background information, but as it recommends that a qualified favourable view be submitted to the CEC, it does not represent the views of the Council. The Committee's decision is in the Planning Committee Minute of 4 March 2008 (2/4).

25. The observations of the statutory and other consultees, the 102 letters of objection and the 13 letters of support which had been received up to that point are summarised in the NAC officer's report to the Committee (2/3). Further representations and observations were received after my site visit (see paragraphs 11–12 above); as with all other documents, points of substance are referred to in the report.

The Issues

26. I am instructed to determine whether the three grounds given by NAC for their unfavourable view (paragraph 9 above) are valid. Grounds (1) and (2) are clearly defined. Ground 3 refers to “the unresolved objection submitted by SNH”. I interpret this from SNH's letters to NAC of 1 December 2006 (5/7) and 21 November 2007 (5/6) as referring to three topics. First is the impact on the character of the undeveloped coast and on the experience of walkers along two coastal paths. This covers ground (2) and widens it somewhat. The second topic is the impact on cetaceans (European Protected Species) and seals; this is an additional item. Third is the impact on the Lamlash Bay “No Take Zone” (NTZ) proposals; this incorporates and widens ground (1).

27. I shall therefore deal with the following issues:-

- (1) the impact on the NTZ proposals, on the integrity of the scientific evaluation of the COAST project and whether the precautionary principle should apply;
- (2) the impact on visual amenity from the coastal paths and on the character of the undeveloped coast; and
- (3) the impact on cetaceans and seals.

The Interim Scheme under which this application is being considered is intended to be a precursor of the bringing of marine fish farming into the land use planning system. As a planning decision must take account of the development plan and all other material considerations, I shall therefore also address briefly a fourth issue:-

- (4) other considerations,

and in my overall conclusions include an assessment of whether the proposal meets the test in section 25 of the Town and Country Planning (Scotland) Act 1997. This requires the decision to be made in accordance with the development plan unless material considerations indicate otherwise. I also assess the proposal against the principles set out in the Strategic Framework for Scottish Aquaculture, which similarly go wider than issues (1)-(3) and require items in issue (4) to be considered.

The COAST project (Issue 1)

The project

28. The Community of Arran Seabed Trust (COAST) has been instrumental in the establishment of a Marine Reserve/No Take Zone in Lamlash Bay. This is seen as Scotland's first highly protected marine reserve.

29. The proposals were first put forward in the 1990's. The Scottish Parliament's Environment and Rural Development Committee visited Arran in 2006 and heard oral evidence from interested parties. The Convener then wrote to the Minister commending COAST's petition seeking the Parliament's support for the proposal that Lamlash Bay should be a marine protected area (4/44, 4/54). The Lamlash Bay Working Group was set up with members from COAST, the Clyde Fishermen's Association, the Firth of Clyde Forum, Fisheries Research Services and SNH, with a Scottish Government official attending the meetings. The intention was that the proposals would be mutually acceptable and beneficial from both a nature conservation and a fisheries management standpoint.

30. The proposals put forward by the Group were for a Marine Reserve, which would be a NTZ and a Fisheries Management Area, which would together form a Community Marine Conservation Area. Consultation on the Marine Reserve/NTZ took place in the spring of 2008 and it came into force on 20 September with The Inshore Fishing (Prohibited Methods of Fishing) (Lamlash Bay) Order 2008. This relates to part only of the bay; fisheries management measures covering the remainder of Lamlash Bay had not at that time been formulated.

31. The NTZ covers that part of Lamlash Bay which lies between lines drawn between (a) on the east, Claughlands Point/ Hamilton Rock and the east coast of Holy Island; and (b) on the west, Mount Pleasant Farm (which is some 1.5 kilometres west of Claughlands Point) and White Point on the west coast of Holy Island.

32. This statutory underpinning is seen as providing maximum protection of the area, ensuring, so far as is possible, the integrity of the scientific monitoring to be undertaken. All fishing is banned. The objective of the NTZ is firstly to protect and enhance biodiversity; this includes the maerl beds (species of calcified red seaweed creating deep deposits) in Lamlash Bay. Secondly, the NTZ is seen as contributing to the enhancement of scallop stocks; any benefits to stocks adjacent to the NTZ will be assessed and measured.

The issue (issue 1)

33. I have defined the issue (in paragraph 28 above) as covering the impact on the Lamlash Bay NTZ proposals, the impact on the integrity of the scientific evaluation of the COAST project and whether the precautionary principle should apply. The project is concerned not only with the NTZ, but also with the impact on the adjacent area as regards the effect on scallop stocks.

MHS' case in favour of the fish farm (issue 1)

34. The main points in favour of the fish farm not impacting adversely on the COAST project are to be found in MHS' letter to DPEA of 19 June 2008 requesting that the development should be recommended for approval (1/1), the Environmental Statement (3/1) and MHS' responses to representations (6/1, 7/30). The response to further comments by the statutory consultees (8/4) is reported separately at paragraphs 88 - 92 and 143 below.

35. MHS points out (1/1) that the Government's own environmental regulator, SEPA, approved in principle the application for a CAR (Controlled Activities Regulation) licence for discharge consent of 2500 tonnes maximum standing biomass for the Claughlands site. Modelling work using a great amount of scientific data determined the likely impacts and the Environmental Quality Standards (EQS) which must be met. CAR discharge licences are highly regulated and site specific; should a site be shown to be in breach of the EQS, the licence would be amended, ranging from a reduction in biomass consented to revocation of the licence.

36. Indeed, SEPA has assured the planning authority and other parties that there would be no impact from the farm discharges on the aquatic environment outside the farm footprint and certainly not the NTZ. The main potential environmental impacts were identified in the ES as nutrient enrichment and the effects of the use of anti-sea lice medicines. The mitigation measures outlined in the ES were accepted by SEPA.

37. MHS also points out that the Fisheries Research Service (SEERAD) also supported the application and was happy that any impacts on wild salmonids from escapes and disease transfer risks were low and could be managed by the mitigating action plans

submitted as part of the ES. MHS has recently taken delivery of nets which are significantly stronger than the traditional cages nets.

38. As regards the effect of sea lice medicines on Lamlash Bay, the local authority sought expert advice from the NHS and their report states categorically that there would be no impact on the health of children using the new outdoor centre there (5/14).

39. MHS recognises the effort by the COAST group to develop the NTZ, indeed it supports this initiative. It would be willing to set an arbitrary cap on the tonnage for the first production cycle and to undertake increased site monitoring by SEPA in order that local parties can be satisfied that the EQS levels are achieved. It also offers to support the COAST group in terms of use of boats and personnel to assist with any sampling operations they may wish to conduct. It is noted that the St Molio's farm, which has been operational for over 19 years, is closer to the NTZ than the Cloughlands site (7/30).

40. In response to the objection by the Firth of Clyde Forum, MHS emphasises that SEPA is the most appropriate body to evaluate and assess the potential effect on the NTZ – and it has stated that there would be no impact on the area. It is also noted that neither the Rivers and Fisheries Trusts of Scotland nor the Argyll District Salmon Fishery Board had any specific objection provided that MHS participated in local Area Management Agreements (AMAs): it is stated in the ES that MHS is willing to sign up to AMA.

41. As regards the relevant policies, MHS notes that the Locational Guidelines for the Authorisation of Marine Fish Farms in Scottish Waters consider the cumulative impact of fish farms in an area which is designated under one of three categories. However, Cloughlands Point is not included in any category due to the open nature of the site. The implication is that the proposal would not contribute to any cumulative effect when considered with the impacts of the St Molio's site. (6/1)

42. MHS points out that the separation distances proposed in the Guidelines are indicative only. The closer siting of a shellfish farm to a marine cage farm is appropriate where neither operator has any issues with the presence of the other. The siting of marine cage fish farms closer than 8 kilometres is also acceptable when there is co-operation between operators in the form of an AMA, which dictates the need for synchronised stocking, fallowing and treatments within the given area. Full control of this synchronisation would be possible in the case of the proposed fish farm and the St Molio's site as both would be operated by the same company. (6/1)

43. The sections of the ES (3/1) most relevant to the impact on the COAST project are:-

Section 4.4 and Appendix 2 - Hydrography:

- The site was shown to be a highly energetic area with a mean current speed of 10.1 cm s^{-1} .

Appendix 3 - Modelling Report:

- The modelling results determine the biomass levels and levels of treatment use which would comply with the required Environmental Quality Standards (EQS).
- The maximum consent biomass calculated was 2,500 tonnes. Some loss of solid waste (56.27%) was predicted as a result of resuspension processes. It is commented that “the fate of the lost material is difficult to assess without better knowledge of the detailed hydrography of the area. The near surface, middle and near bed currents however, have a significant south east component and it is likely that most of this lost material follows a south east direction. This would direct this material out of the strait between Arran and mainland Scotland, and most likely out to open sea”. (paragraph 4.3.1)
- For in-feed treatments, the recommended consent mass for Teflubenzuron (Calicide) equated to a treatable fish biomass of 2,500 tonnes; for Emamectin Benzoate (Slice) it equated to 12,500 tonnes. Some loss of chemical was predicted as a result of resuspension; for the two treatments, it was 64.38% and 57.06 % respectively. Comments similar to those made in respect of solid waste are made as regards the fate of the lost material, most of which would be likely to be dispersed in a wide area (North Atlantic Ocean).
- For bath treatments (for which dispersion modelling predicts the concentration in the water column after release) EQS compliance was predicted for both Azamethiphos (Salmosan) and Cypermethrin (Excis) using the short term model; the permissible quantities in any 3 hour period were 522.2 grammes (1 cage/ treatment) and 35.34 grammes (2 cages/treatment) respectively. A 72 hour standard has also to be applied to Azamethiphos, due to its longevity and multiple treatments. The model predicted EQS compliance with a treatment regime of one cage per treatment and one treatment per day. Full treatment of the 14 cages would take 14 days.

Section 4.7 and Appendix 8 - Wind and wave analysis

- Most strong winds come from the south to west directions.
- The storm wave climate at Cloughlands is not strongly directional, as the wave climate is of a similar magnitude for a range of storm directions. The maximum 1 in 1 and 1 in 50 year return period storms are predicted to have significant wave heights of 1.48 and 2.31 metres respectively.
- The proposed fish farm is expected to be sheltered from direct wave attack from the west, but exposed to waves approaching from the north to south east directions. During severe south westerly storms, waves from the North Channel and southern Clyde area will reach the site due to the effects of refraction and diffraction, but will be significantly altered by the effect of refraction.

Section 5 - Potential impacts and mitigation

Waste

- There would be a maximum standing biomass of 2500 tonnes and a maximum production of 4919 tonnes over a 22 months cycle, fed by 5221 tonnes of feed.

- Waste over the 22 months cycle would total some 1170 tonnes. Of this, 258 tonnes would be solid waste and 912 tonnes dissolved (mainly CO₂ with some urea and ammonia). The solid waste would consist of some 157 tonnes of uneaten feed and 101 tonnes of excreta.
- As regards nutrient loading, the total impact from nitrogen input into the Firth of Clyde would be kept under the SEPA EQS for nitrogen loading, even when a worst case scenario is considered.
- Nevertheless, efforts to reduce nutrient waste and possible nutrient enrichment will continue, including the reduction of the volume of uneaten feed.
- The cumulative effect of the proposed fish farm and the St Molio's site (with an assumed maximum biomass of 1335 tonnes at the latter site, which MHS is considering applying for) would be some 21% of the SEPA EQS for nitrogen loading.

Medicines

- As the emergency use of medicines is not allowed, all licensed medicines which might be required are included in the discharge consent. In practice, few of these treatments are actually administered.
- Sea lice infection is the most serious and common problem.
- Bath treatments are carried out in complete tarpaulins arranged to hold a shallow pool. Following treatment, the dissolved medicine is discharged into the water column. Due to the small quantities of medicine used and the large volume of water, the medicine is well diluted and therefore potential impact on non-targeted species outwith the AZE (Allowable Zone of Effect) is likely to be negligible.
- Azamethiphos (Salmosan) does not accumulate in exposed animals or aquatic organisms, as it is broken down and excreted; it is also very unlikely to accumulate in sediments due to its high solubility. It degrades in seawater within a matter of days and its degradation products are removed within several months.
- Cypermethrin (Excis) is rapidly diluted following a bath treatment and most is absorbed on to particulate material which settles on the seabed, reducing its availability and hence its toxicity to benthic organisms. Shellfish are the most likely marine organisms to be affected.
- [For predictive dispersion modelling, see the points in Appendix 3 of the ES listed above.]
- To avoid re-infection of the pens already treated, bath treatments should be applied to the whole farm within 4 days. The proposed fish farm (14 pens) could be completely treated with cypermethrin in less than 4 days.
- In-feed treatments offer significant environmental advantages. The concentrations of any residues are primarily related to the distribution of waste feed and faeces on the seabed.
- Emamectin Benzoate (Slice) is rapidly diluted in the environment, most being absorbed into particulate material which will settle on the seabed. The time taken for it to be broken down depends on conditions, but it is usually removed within a few months. However, one of the main products of breakdown is equally toxic.
- Teflubenzuron (Calicide) is not intended to be used at the proposed fish farm.

- In the event of resistance being found, MHS will consider the rotation of products or the use of new ones.
- The proposed fish farm is not expected to have a negative impact on the NTZ as it is located outwith the area of the NTZ. Indeed, it will positively work towards the implementation of the NTZ, preventing scallop dredging and removal of any marine species inside the lease area.
- Monthly data for March 2005 – June 2006 of sea lice infestation at the St Molio's fish farm show a very low incidence.

Escapes

- Escapes can occur either as small losses through handling errors, which can be addressed through staff training and site management practices; or as large scale catastrophic losses (e.g. in freak weather conditions) due to the failure of the containment equipment, which can be dealt with by maintaining it to a high standard.
- A site specific contingency plan is presented (Appendix 6).

Observations of the Statutory Consultees (Issue 1)

44. Two of the statutory consultees submitted observations relating to issue 1 which were generally supportive of the proposal: SEPA (4/44A, 5/8-10, 7/14) and SEERAD (5/3, 5/13, 7/25).

45. SEPA considers the ES to be well constructed; it covers the necessary issues. There is no objection in principle to the proposal.

46. SEPA controls the rate of discharge of waste so that the local environment is able to cope with it. This ensures that the waste is taken up and assimilated by local fauna and flora, so that it does not accumulate. Regular monitoring ensures that the sea bed outwith the immediate vicinity of the cages is not seriously degraded. The safe environmental concentration for sea lice treatments – the Environmental Quality Standard (EQS) – is set to ensure that all marine life, particularly the most sensitive species and life stages, is protected.

47. Further controls ensure that the cumulative impacts of fish farms within a given area are not likely to give rise to algal blooms or other wider scale effects. SEPA is satisfied that the proposed fish farm does not pose a risk of significant cumulative impacts when considered with the existing discharges in the area.

48. Where unacceptable impacts are detected, a number of sanctions are open to SEPA to ensure that the situation is brought under control. In most cases, however, due to the licensing system, monitoring shows that most fish farms operate in a manner which does not have significant impacts outwith the immediate vicinity of the cages.

49. The SEERAD Fisheries and Rural Development Group (subsequently the Marine Directorate Food and Fish Division and now the Scottish Government Marine Directorate Aquaculture and Freshwater Fisheries division) noted that the proposed stocking density would be acceptable. Although the proposed transfer of fish from St Molio's to Clachlands

would not be in support of best fish health practice, this movement would be in the same management area, so the risk of further spread of disease is minimised. Subject to this point being noted, no adverse risk implications are foreseen. The ES is sufficient to assess the application's nutrient enhancement and benthic impacts. Due to the open nature of the site, the fairly strong tidal currents and the predicted low benthic impacts, there is no objection to the application.

50. In further observations SEERAD noted that the modelling results indicate that in a worst case scenario, a not excessive area of the seabed would be degraded by organic carbon deposition; sea bed current speeds are likely to resuspend much of the deposited material from the sea bed. Peak loading of carbon to the sea bed is quite low for a farm of this size.

51. Scallops may be affected by high levels of organic carbon loading to the sediment, so scallops in the immediate vicinity of the cages are likely to be affected. Toxic effects of sea lice medicines are only likely to occur where concentrations significantly exceed EQS limits. Overall, SEERAD does not expect a significant adverse effect on scallops.

52. As regards the effect on the NTZ, SEERAD comments that the residual current direction at the site of the proposed fish farm would be likely to take any solid material resuspended by fast current speeds to the south east and closer to the NTZ. It is expected that the dilution of waste material would be such that impacts would be likely to be minimal, but deposition of small quantities of organic carbon on to maerl may have an adverse impact. Although there is some potential for quantities of organic carbon and in-feed medicines to be transported to the NTZ, this would be extremely difficult to predict using available models. Without data on current speeds and directions and some appropriate models, it is not possible to make an accurate assessment of the fate of those solid wastes from the site that would be re-suspended and transported a long way from the site.

53. The observations of the third statutory consultee, SNH (5/6, 5/7, 7/15) are less favourable to the proposal. SNH makes the point that the key purpose of the COAST project is to demonstrate the effectiveness of no take zones as a means of increasing the productivity of adjacent areas. As the proposed fish farm is on the threshold of this zone and within the area which would be monitored to assess the beneficial impacts of the NTZ, it could have a damaging impact on the success of the project. Given the considerable community and industry based effort that has gone into the development of the project, the potential impacts on the outcome of the project should be a material consideration. (5.7)

54. SNH notes that the proposed fish farm would be 5 kilometres from the existing fish farm at St Molio's and 4.5 kilometres from the adjacent shell fish farm. There would thus be three fish farms within a distance of 5 kilometres, whereas the Scottish Executive's Locational Guidelines for the Authorisation of Marine Fish Farms in Scottish Waters recommends a separation standard of 8 kilometres between finfish farms and 3 kilometres between shell fish farms – although closer siting may be possible in open water. It is also noted that a significant enlargement of the St Molio's fish farm has recently been approved. It appears that no cumulative assessment has been made.(5/7)

Parties opposing the fish farm (Issue 1)

55. The alleged damaging effect of the proposed fish farm on the NTZ was included in objections by COAST (4/44, 4/54, 5/31, 5/33, 7/9, 7/13), The Isle of Arran Community Council (7/16), the Firth of Clyde Forum (5/129), Clyde Fishermen's Association (4.19 and 4/25) and most of the local residents who submitted letters of objection. The representations of the Scottish Anglers National Association (7/12) are also relevant, albeit directed to the impact on wild salmon. Although not opposing the proposal outright, the Argyll District Salmon Fishery Board addresses a number of relevant aspects in the context of possible conditions of consent (4/53), as does the Rivers and Fisheries Trusts of Scotland (RAFTS) (4/34); the Board subsequently strongly questions the suitability of the site (7/20).

56. Having considered the proposal, the views of the statutory consultees and the initial representations, the NAC formulated its unfavourable view, ground (1) of which is:-

“the precautionary principle should apply in the light of the uncertain impact of the development on the integrity of the scientific evaluation of the COAST project”.

The NAC did not elaborate this view.

57. The following paragraphs summarise the points relating to this issue which were made by the other parties opposing the fish farm.

58. The COAST project has been independently supported and endorsed by the world's leading marine scientists. It could be a template for the way the seas around Scotland are managed.

59. With an expected 800,000 fish with a peak biomass of 2500 tonnes, being fed 5221 tonnes of feed in 22.5 months, it is difficult not to be very concerned about the impact in Lamlash Bay (as well as at Clachlands and in the Firth of Clyde). MHS calculates that the untreated waste discharge would be a minimum 1012.51 tonnes of fish excrement every 22 months.

60. Also, a considerable amount of chemicals would be put into the waters to control disease, which is prevalent in all fish farms. Data obtained under the Freedom of Information Act indicates the range and quantity of chemicals used by MHS' St Molio's salmon farm, which is much smaller than the proposed farm. Notwithstanding this treatment, high rates of mortality were experienced in May 2005 (2245 dead fish weighing 8736 kilograms), February 2006 (28,155 dead fish weighing 3542 kilograms) and November 2007 (202,069 dead fish weighing 197,045 kilograms). Indeed, in the three months October-December 2007, there were over 300,000 mortalities (5/33, 7/12, 7/17B). This is one reason why the suitability of the proposed site is strongly questioned, given its proximity to St Molio's (7/20). Serious problems continue there, with an incident in September 2008 (7/22).

61. In January and February 2007, 220.5 kilograms of SLICE (emamectin benzoate) were used at the St Molio's site. In the year as a whole, there were released 81 tonnes of

nitrogen, 11 tonnes of phosphorus, 81.33 kilograms of zinc and 3.84 kilograms of copper. The efficacy of SLICE, which is an in-feed sea lice treatment, is declining. As a consequence, bath treatments are likely to become essential to lice control. However there is considerable doubt as to the efficacy of any bath treatment when used in large circular cages and it has not been shown that MHS can use bath treatments effectively and efficiently in cages 100 metres in circumference. A further issue is the difficulty of using bath treatments in high sea temperatures, when fish become stressed and mortalities can occur. (7/12, 7/17B,7/20)

62. EXCIS (cypermethrin), which is used as a bath treatment, remains in the water column for several hours. Location of peak deposition is therefore determined by prevailing wind-driven currents during and after treatment in addition to the tidal direction. There seems to be little research on the effects and spread of the plume in waters where there are wind currents and tidal currents, which are often prevalent around Cloughlands.(4/29)

63. However, hydrographic measurements undertaken by COAST indicate that discharges from the proposed fish farm would be transported by the currents and tides into Lamlash Bay. A survey was carried out of water flow from the proposed site on an outgoing tide in February 2008. The floats with fins near the surface went south, but those with fins at deeper depths headed into Lamlash Bay. With over 200 dry tonnes per annum of waste entering the marine environment close to the NTZ (and associated maerl beds and eel grass nurseries), sediment would clog nursery beds and impact on oxygen aeration. The waste could include resuspended material off the bottom, especially in storm conditions. Also, a raised nitrogen/phosphate content would be detrimental to maerl and eel grass beds. (7/13, 7/17B)

64. Sea lice medications affect all exoskeleton invertebrates, including crabs, shrimps and lobsters, so the impact on nursery beds would be severe. Research has concluded that:-

“even a single cage application of cypermethrin has the potential to create a plume of up to 1 km that may retain its toxicity for several hours. In that study, water samples collected up to 5 hours post-treatment were toxic, causing immobilisation during 48 hour exposures. This has potential ecological implications because, in reality, cypermethrin treatments involve multiple releases daily, usually over several consecutive days.” (The Scottish Association for Marine Science and Napier University) (4/36, 7/17B)

65. Scallop spat is known to travel many miles. The spat could not live in the chemical and effluent discharges from the proposed farm, nor could the commercial dredgers operate in the very area where scallop overspill from the NTZ will be at its greatest.(7/13)

66. The EA is presented as a series of distinct pieces of evidence. Nowhere is the information integrated to understand the complexity of the marine environment. It could happen, for instance, that pollution from the expanded St Mollo's site would be washed north into the NTZ on the flood tide and pollution from the proposed fish farm washed south into the NTZ on the ebb. A particularly serious situation could arise if this were to occur

when cypermethrin was being administered in both fish farms at the same time, as is suggested in MHS' reference to synchronised medicine (7/13 referring to ES page 64).

67. To the need to assess the cumulative effect of the three fish farms, it is necessary to add the effect of the sewage outfall pipe that enters the sea adjacent to Cloughlands Point. The route of the pipe was moved several times; and in order to avoid causing problems in the bay, it bends north of Hamilton Rock (just off Cloughlands Point). It discharges 280 metres beyond MLWS at a depth of 12 metres. Minimum dilution is X50, although with rain runoff, this may reach X250. This sewage interceptor scheme was commissioned after the 2002 baseline survey included in the EA was undertaken. Sewage untreated in all respects other than solids separation will undoubtedly have a major impact on the nitrogen content of local waters. Moreover, the sewage load will continue to increase in line with the growth of the local residential and seasonal population of Lamlash. (4/29, 5/74)

68. It is inevitable that farmed fish will escape into the wild during extreme weather conditions or accidents. The site at Cloughlands is subject to severe weather, particularly in the winter. Exposure to severe weather has been responsible for some disastrously high levels of escapes. They can have an impact on the genetic fitness of the wild fish population and disease and parasites can be passed on. MHS reported that 15,756 farmed salmon escaped from their sites in 2006 and Pan fish reported 33,319 escapes.

69. It is noted that SEPA states that "there would be no impact from the farm discharges on the aquatic environment outside the farm footprint and certainly not the no take zone". Given that little information was included in the EA on the flow of the tide around Cloughlands and none on the resuspension of waste material (the EA states that the dispersion model applied does not consider the resuspension of solids – Appendix 3, paragraph 4.3.1), this is fanciful thinking at best and downright misinformation at worst. SEPA has no knowledge of how a NTZ could be affected, as no such area has been designated before in Scotland. Similarly, the SEPA computer model incorporates no allowance for the disturbance of the NTZ. SEPA's analysis is on the basis of a properly functioning fish farm and there being no tides or currents flowing into Lamlash Bay. (7/9, 7/13, 7/17B)

70. The COAST project is intended to protect Lamlash Bay and the surrounding waters from various aspects of fishing for a scientific trial on the natural regeneration of the seabed including its entire associated species. The results will be made available to all and could be significant in the way the inshore seas are managed in the future. When this trial takes place, it is vital that a minimum of adverse disturbance or pollution should occur within the area and its adjacent waters. [Redacted] (Bangor University) who is monitoring the only other NTZ in similar waters off the Isle of Man has said that "locating a fish farm next to the No Take Zone area immediately confounds the ability of scientists to say whether observed changes are due to the effect of the No Take Zone or the fish farm." (7/9)

71. Given its proximity to the NTZ, the proposed fish farm is considered to be totally contrary to marine conservation and at the very least the precautionary principle should be adopted. (7/13)

Further observations of the Statutory Consultees (issue 1)

72. As noted in paragraph 12 above, the statutory consultees were asked to submit observations on a draft summary of the evidence relating to issue 1. This summary consisted essentially of paragraphs 34-71 above. Responses on issue 1 were received from SEPA and SNH.

SEPA

73. SEPA's response includes observations on the three constituent parts of the first issue, followed by comments on particular paragraphs of the summary (now paragraphs 34-71 of this report).

74. As regards the ***impact on the NTZ proposals***, SEPA uses a computer modelling package in order to determine the likely zone of impact of the deposition of waste from a marine cage fish farm. This modelling allows SEPA to set limits on the standing stock that may be held at the farm to ensure that impacts do not extend too far beyond the cage site. SEPA defines the zone of impact as the Allowable Zone of Effects (AZE) accepting that within this area there will be some impact upon the seabed and the fauna living there. Moving towards the outer edge of the AZE however, conditions on the seabed should be returning to a more normal state and un-impacted conditions should prevail a short distance beyond this.

75. In the case of Clachlands, modelling outputs suggest that the AZE should extend for 104 metres from the cages in an approximately south-south-east direction and that conditions on the seabed should be returning to a more normal state towards the extremities of the site and that un-impacted conditions should prevail a short distance beyond this. The NTZ lies considerably further from the proposed cage site than 104m.

76. Similar modelling techniques are used to place limits upon the use of in-feed sea lice medicines to ensure that fauna are protected. SEPA also limits the amount of bath medicines for the treatment of sea lice to ensure that as the plume of medicine is dispersed from the cages the impact upon non-target fauna outwith the immediate vicinity of the cages is minimised.

77. In determining the licence for Clachlands Point marine cage fish farm under the Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR) SEPA considers that sufficient safeguards are in place to protect the wider environment in general. This includes the interests of the NTZ.

78. SEPA's observations on ***the impact on the integrity of the scientific evaluation of the COAST project*** are as follows. It is not clear to SEPA what this statement means. SEPA assumes that there is a concern that discharges arising from the fish farm or the presence of the fish farm itself may in some way alter the outcome of the scientific assessment of the COAST project or interfere with or threaten the survey or research work there. As discussed above, SEPA considers it unlikely that the discharges arising from the fish farm will have an impact upon the wider environment outwith the AZE including the NTZ.

79. On ***whether the precautionary principle should apply***, SEPA states that its licensing process is based upon the output of computer modelling packages which use local physical data to present a simulation of the marine environment and an assessment of the likely impacts. The models developed for the CAR licensing process are not infallible; however, the model parameters have been configured to represent a best fit with observed data and where more uncertainty exists additional conservatism has been adopted. In simplistic terms, the models used have proven to be robust in most situations and include a degree of in-built precaution. The modelling outputs form the starting point in the CAR licence determination process and these are overlain with other information about the site such as the biological characteristics. The decision making process also involves considerable input from consultees and members of the public.

80. The decision to apply the precautionary principle or not in the determination of the Crown Estate application is the responsibility of the planning authority (NAC). In general terms, the application of the precautionary principle may be appropriate in cases where for example;

- a) there is a high degree of uncertainty of the scale of impacts, or
- b) where the asset to be protected is of particular value, or
- c) where even a low probability of impact may represent too high a risk.

The decision to adopt the precautionary principle may therefore reflect the degree of confidence in the regulatory process, or it may represent the value that it places upon the NTZ, either of which may prove to be justifiable reasons in appropriate circumstances.

81. SEPA's comments on individual paragraphs of the evidence and representations reported at paragraphs 34-71 above are as follows.

82. On the case for MHS:-

- (paragraph 36) SEPA is content that the extent of seabed impacts is acceptable and that impacts on the NTZ are unlikely. SEPA has included licence conditions to limit the use and impact of nutrients and sea lice medicines.
- (paragraph 39) SEPA imposes a monitoring requirement on farms to allow the Agency to assess the impacts of the production of fish upon the marine environment. SEPA also undertakes occasional additional audit monitoring to validate the results of operator self-monitoring surveys. Should MHS wish to undertake additional monitoring of the conditions of the seabed on the vicinity of the new fish farm then this is a matter for the company itself. SEPA will normally neither require additional monitoring nor assess additional surveys undertaken voluntarily by fish farm operators.
- (paragraph 43, fourth bullet point on in-feed treatments) Contrary to the assertion in this paragraph, the approved limits for the treatment chemicals teflubenzuron and emamectin benzoate are sufficient to treat 26.98 tonnes and 4618.86 tonnes respectively although the licence limits the amount of the

latter chemical to that sufficient to treat the maximum permitted biomass i.e. 2500 tonnes.

83. On the cases opposing the fish farm:-

- (paragraph 59) These data detailing the scale of the discharges arising from the proposed fish farm are within the range of that anticipated to arise from a farm of that scale. The models and policies developed by SEPA are designed precisely to deal with discharges of this scale and allow the agency to draw authoritative conclusions regarding the fate and impact of such discharges; it is a significant but routine component of the regulatory process. The licensing process used by SEPA sets conditions limiting the scale of discharges to ensure that the environment outwith the immediate vicinity of the cages is protected.
- (paragraph 62) The modelling process used by SEPA to determine appropriate licence limits for bath treatments such as cypermethrin and azamethiphos consider the likely worst case scenario; additional dilution or dispersion provided by wind-driven currents may increase the dilution rate provided to the effluent plume, reducing the time taken to reach an environmentally safe concentration within the plume. The *raison d'être* for the licensing process for discharges such as those containing sea lice medication, is to ensure that the environment outwith the vicinity of the cages is protected.
- (paragraph 63) The AutoDEPOMOD model provides a validated approach to predicting the fate of particulate matter arising from the fish cages. This integrates the effects of currents at a range of depths, both close to the surface and near the seabed as well as at intermediate levels. SEPA is content with the prediction of the likely footprint at Clauchlands and that this footprint does not impinge upon the NTZ.
- (paragraphs 64-65) SEPA is well aware of the potential for sea lice medicines to impact upon non-target animals, this is indeed one of the main reasons for the existence of a licensing system placing restrictions on the use of these substances. SEPA limits the amount of these products which can be discharged to ensure that concentrations drop to below the safe environmental concentrations outwith the immediate vicinity of the cages or within six hours of discharge. The licensing process includes a degree of precaution as indeed does the defined safe environmental concentration to doubly ensure that impacts are avoided.
- (paragraph 69) The SEPA model produces predictions defining the spatial extent of the impact of solid waste matter on the seabed around a fish farm. The outputs of the model are site specific and re-suspension of particulate matter is considered at sites such as Clauchlands where the current regime is such that this is likely to occur, the extent re-suspension was considered during the determination of the CAR license application for this site. The predictions for this site show that impacts are likely to extend for a little over 100 metres to the south-south-east of the site and outwith this area, conditions will be rapidly returning to a natural undisturbed state. This is a considerable distance from the NTZ and irrespective whether or not an NTZ has been designated in Scottish waters or not, it is SEPA's view that it is very

unlikely that the discharges from the fish farm will have any impact upon the more distant NTZ. SEPA's analysis is based upon a conventionally operated fish farm and a comprehensive and complex analysis of the tidal regime and bathymetry of the area.

SNH

84. In order to fully assess the effectiveness of the recently declared NTZ, a monitoring scheme is being undertaken by SNH in partnership with the Fisheries Research Services on behalf of the Scottish Government. Broad scale baseline surveys were completed in autumn 2008. The monitoring of the NTZ is intended to assess its effectiveness in two respects.

85. The first relates to benefits to the natural heritage, monitoring changes in biodiversity within the NTZ. This monitoring would be largely confined to the NTZ. Any risk of the proposed fish farm having a direct impact on the habitats in the NTZ is relatively small given the separation distance. In this respect, SNH concurs with the comments of SEPA and the Fisheries Research Services (SEERAD) in relation to modelled impacts.

86. The second purpose of monitoring relates to benefits to fisheries management; changes in the scallop population would be monitored both within the NTZ and adjacent to it. Indeed, the Lamlash Bay NTZ is a fisheries management project specifically aimed at assessing potential improvements to local scallop stocks. Improvements are anticipated to stocks both within the NTZ and in the surrounding area. The monitoring area has therefore been defined to include the coastal zone from the south end of Brodick Bay to south of Holy Island, which includes the proposed fish farm site. This area was defined by reference to hydrographic patterns, sea bed conditions and the pattern of scallop fishing activity in the area.

87. The presence of the fish farm would inhibit the monitoring work in two ways. First, the scallops within the zone of impact beneath and adjacent to the fish farm would be likely to be eliminated or reduced in number. Secondly, the presence of the farm would physically prevent the collection of data in its vicinity. The area likely to be occupied by the farm would comprise a significant part of the area in which the monitoring programme is being conducted and there is a risk that its presence will make the interpretation of future results difficult. At this point, SNH is not in a position to say whether this would raise insurmountable problems and require the monitoring of scallop abundance to be abandoned. However, at the very least it would be necessary to exclude the farm area from the study.

MHS' response to the further comments of the statutory consultees (Issue 1)

88. MHS makes the point that SEPA have further confirmed that the CAR licensing process for both benthic impacts and medicinal discharges is firmly based in the ethos of the precautionary principle. The use of validated computer models with "in-built" precaution and further "conservatism" used in the licensing process shows that there is a large factor built in to safeguard the environment when setting the requisite EQS limits. It is accepted that the farm would have some minimal environmental impact, but it would be confined to

the AZE as regulated by SEPA and, as is stated, it is highly improbable that there will be any impact on the NTZ or non-target organisms. This is especially so for any medicines, which would likely be further diluted and dispersed through diffusive processes from wind driven currents. The “worst case scenario” modelling software now in use does not allow for these further additional effects.

89. On the response from SNH, it is noted that SNH concurs with SEPA that the farm would have very little effect on the NTZ due to the separation distance. Indeed, there is a broad consensus from the three regulators that there would be minimal, if any, negative impact on the NTZ.

90. On the impact on the monitoring to be carried out, the farm footprint represents a very small area overall of the whole monitoring area and although the farm would be a physical barrier, it would still be possible to sample the scallop populations around the farm itself. MHS would accept a condition allowing SNH to access this area so that monitoring was not “inhibited”.

91. MHS would be very willing to assist with any monitoring or survey work required or requested to promote the intended benefits of the NTZ and scallop regeneration work.

92. SNH infers that the presence of the farm would impact on the scallop population *per se*; but the farm could also offer benefits through the requirement of any dredgers to circumvent it. It is also pertinent that there is already a fish farm in the selected scallop monitoring area.

Reasoned conclusions (Issue 1)

General acceptability of the fish farm

93. The applicant has a powerful argument in that SEPA has no objection in principle to the proposed fish farm and has issued a CAR licence for the necessary discharge consent. SEPA is satisfied that the farm would not pose a risk of significant cumulative impacts when considered with existing discharges in the area and has stated that there would be no impact on the aquatic environment outside the farm footprint and certainly not on the NTZ. In addition, the Fisheries Research Services (SEERAD, now the Marine Directorate Aquaculture and Freshwater Fisheries division) makes no objection, referring specifically to the open nature of the site, organic carbon deposition, nutrient enhancement and benthic impacts. Both bodies appear to be satisfied that the ES is adequate.

94. In normal circumstances, such an argument could well be conclusive. But in the present case, the siting of the COAST project in Lamlash Bay, close to the proposed fish farm, introduces a special consideration. This is the need to ensure that the proposal does not have an unacceptable impact on the recently established NTZ and the scientific evaluation of this pioneering project in the management of the marine environment.

Importance of the COAST project

95. SNH identifies the key purpose of the COAST project as to demonstrate the effectiveness of no take zones as a means of increasing the productivity of adjacent areas. It notes the considerable community and industry based effort that has gone into the development of the project. Indeed, the proposals date back to the 1990s, with the Scottish Parliament's Environment and Rural Development Committee visited Arran in 2006 to hear oral evidence followed by the setting up of the Lamlash Bay Working Group with members from COAST, the Clyde Fishermen's Association, the Firth of Clyde Forum, Fisheries Research Services and SNH, with a Scottish Government official in attendance. Consultation on the Marine Reserve/NTZ took place in the spring of 2008 and it came into force on 20 September with The Inshore Fishing (Prohibited Methods of Fishing) (Lamlash Bay) Order 2008. With this background, it is clear that the NTZ proposals and the integrity of the scientific evaluation of the COAST project are considerations of high importance.

96. There are two purposes in the monitoring process. The first relates to the biodiversity of the NTZ itself and measures the benefits to the natural heritage. The second purpose relates to benefits to fisheries management; changes in the scallop population would be monitored both within the NTZ and adjacent to it. The project is specifically aimed at assessing potential improvements to local scallop stocks.

The precautionary principle

97. Given the importance of this project, it is my opinion that the precautionary principle should be applied if there is a danger of significant damage to the NTZ or to the integrity of the scientific evaluation of the COAST project. This would be in accordance with NPPG 13, which advises that where potential damage to the environment is both uncertain and significant, a precautionary approach is required. PAN 51 adds that the principle applies particularly if the effects are irreversible and that any measures taken should be proportionate. I note also that SEPA has stated, in relation to the present proposal, that the decision to adopt the precautionary principle may reflect the degree of confidence in the regulatory process, or it may represent the value placed upon the NTZ, either of which may prove to be justifiable reasons in appropriate circumstances.

98. The applicant suggests that the precautionary principle is in effect already incorporated in the CAR licensing process. Although SEPA has made the point that the relevant computer modelling packages include a degree of in-built precaution, this does not mean that the precautionary principle is satisfied. In my interpretation, the essence of the principle in the present context is that consent should not be given if there is significant uncertainty about the existence of a serious or irreversible threat to the environment. This contrasts with the normal approach whereby consent would be likely to be given unless such a threat were shown to exist. Rather than adding a safety margin, the principle involves a radically different approach to making the decision.

Biodiversity of the NTZ

99. On the first purpose of monitoring (measuring the benefits to the natural heritage), SNH sees any risk of a direct impact on the habitats of the NTZ as "relatively small". SEPA

(modifying somewhat its earlier stance) considers it “unlikely” and “very unlikely”, given the distance between the proposed cage site and the NTZ and the reliability of the modelling techniques used. SEERAD sees the impact as “likely to be minimal”, but notes some potential for organic carbon to be deposited on the maerl beds in Lamlash Bay. The comment is made that it would be extremely difficult to predict the amount of organic carbon and in-feed medicines transported to the NTZ using available models; and that without data on current speeds and directions and some appropriate models, it is not possible to make an accurate assessment of the fate of those solid wastes from the site that would be re-suspended and transported a long way from the site.

100. There is therefore an element of doubt, which is not removed by the ES noting that the near surface, middle and near bed currents at the site have a significant south-east component so that material from the proposed fish farm would travel in that direction. It is stated that “this would direct this material out of the strait between Arran and mainland Scotland, and most likely out to open sea”, but the possibility of the material entering Lamlash Bay nearby is overlooked. The ES notes “the fate of the lost material is difficult to assess without better knowledge of the detailed hydrography of the area”. However, COAST has produced evidence that on an outgoing tide in February 2008, water flows from the site (other than flows near the surface) entered the bay.

101. So there is evidence to suggest that waste from the fish farm could enter the bay. It could include solids as well as liquids, as some 57% of solid waste is predicted to escape from the area of the site as a result of resuspension; also, a similar proportion of the in-feed medicine likely to be used (emamectin benzoate, or Slice) is predicted to be resuspended. Some of the solid waste could be deposited on the bed of the NTZ, including the maerl beds.

102. However, given SEPA’s evidence that there should be no impact a short distance beyond the AZE (which extends 104 metres from the proposed cages) any impact on the NTZ (which would be a minimum of some 900 metres distant) would in my view be exceptional and very limited. I am not convinced that the cumulative impact of the proposed fish farm with the two existing farms in Lamlash Bay would add significantly to the receipt of any solid or liquid wastes in the NTZ, as the distance between the St. Mollo’s site and the nearest part of the NTZ is over one kilometre. Although there is a lack of detailed evidence on this, it seems possible that in unusual circumstances, a discharge from the fish farm could add to the nitrogen content at the entrance to Lamlash Bay caused by the sewage outfall at that point. But again, any significant effect would seem unlikely.

Fisheries management - scallops

103. The second purpose of the monitoring process is to measure changes in the scallop population both within the NTZ and in the surrounding area. As already discussed, the effect of the proposal on the NTZ itself is unlikely to be significant, although not entirely free of risk. There would, however, clearly be an effect on the surrounding area. The area defined includes not only the approach to the northern entrance to Lamlash Bay through which scallop spats (and other species) might be expected to pass into the Firth of Clyde, but also the site of the fish farm cages and the adjoining AZE.

104. It is possible that the proposed site, being in this context comparatively close to the entrance to Lamlash Bay, would stand in the way of spats being swept up the coast on a current. The presence of the fish farm might therefore be more significant than is suggested by its area in relation to the size of the monitoring area (which extends from the south end of Brodick Bay to south of Holy Island).

105. There would certainly be a profound change in the marine environment under the fish farm cages and (to a diminishing extent towards the periphery) in the AZE, with the possibility of some deposition of material and suspension of medicines up to the entrance to Lamlash Bay and into the NTZ. As indicated above, the effect by the time it reached the NTZ is likely to be minimal, but the possibility of the NTZ being affected cannot be discounted.

Conclusion (Issue 1)

106. In conclusion on this issue, the question is whether there would be a danger of significant damage to the NTZ or to the integrity of the scientific evaluation of the COAST project. In my view, the greater risk is to the monitoring of the scallop population, as this involves the fish farm site and the entrance to Lamlash Bay, as well as the NTZ itself. The danger is that irreversible effects, disrupting the scientific evaluation of the project, might follow the development of the fish farm. A secondary consideration is the possibility, albeit remote, of contamination of the NTZ, so damaging its biodiversity and frustrating the scientific evaluation of that aspect.

107. I conclude that there is a danger of significant damage, in particular to the integrity of the scientific evaluation of the project in relation to scallops. Although SNH is unable to say whether the establishment of the fish farm would require the monitoring of scallop abundance to be abandoned - which would mean the irreversible failure of a major element of the COAST project – the possibility remains that this could be the result. It underlies the uncertainty as regards the potential damage to the marine environment. Given the importance of the NTZ proposals and of the integrity of the scientific evaluation of the COAST project, the precautionary principle should be applied. On this basis, the proposal is unacceptable.

Visual amenity (Issue 2)

The issue

108. The second issue is the impact of the proposed fish farm on visual amenity from the coastal paths and on the character of the undeveloped coast. There are two paths along the stretch of undeveloped coast opposite the site of the proposed farm; one along the base of the cliffs and one along the top.

Summary of the cases (issue 2)

109. The applicant, MHS, commissioned a landscape character and visual impact assessment which found that the proposed fish farm would have moderate to substantial adverse visual impacts on only 3 of the 21 viewpoints identified. Of these 21 viewpoints (receptors), 8 were dwellings, 7 were roads or ferry routes and 3 were paths. The last were the significantly affected receptors; the impact on the coastal path at the base of the cliffs would be *substantial adverse*, that on the cliff-top path *moderate to substantial adverse* and that on Holy Island *moderate adverse*. These impacts would be localised and experienced in passing.

110. Of the two landscape character areas mainly affected, the impact on the *coastal fringe with agriculture* area, which includes the first two paths, was seen as *substantial adverse (locally)*; and on the *rocky volcanic island* (Holy Island) as *moderate adverse*. These assessments assume that certain mitigation principles are followed. They include the use of circular plastic pens, which are less obtrusive than square steel pens; pens painted black/grey and C-cap painted navy grey; a backdrop of shadows and rising ground, as provided by the cliffs at Cloughlands; and pens parallel to the shore.

111. It was concluded that although there would be some significant impacts on both the landscape character and the visual receptors, these impacts would be localised. The point was made that there would be no shore-based structures at Cloughlands. Also, there would be no significant visual relationship or cumulative effects with the existing farm at St Molio's.

112. MHS emphasises that the fish farm would not be overlooked by any residences or tourist properties and would only be visible to any significant extent from the paths. Views from the cliff top path are to a great extent obscured by vegetation. The level of visual impact is insignificant, as it would be temporary for any individual as they passed the site. Also, it is considered unlikely that the presence of a single fish farm on the whole coast of Arran would affect the level of tourism; on the contrary, experience shows that it could well become an attraction of interest to passing boats.

113. MHS also point out that, contrary to claims made by objectors, there would be no walkways connecting the pens, which would be separated by 30 metres of clear water. Pipes leading to the C-cap barge could be submerged. Moorings would be invisible except for their marker buoys. (7/30)

114. The NAC, in formulating its unfavourable view of the proposal, gave as ground (2):-

“the detrimental impact of the development on visual amenity from the coastal paths.”

The NAC did not elaborate this.

115. SNH objects to the proposal due to the substantial adverse impacts on local character and on the experience of walkers along the two coastal paths. It would be

contrary to Policy ENV 9 of the Isle of Arran Local Plan, which seeks to protect the environmental value of the undeveloped coast.

116. COAST considers that the proposed very large fish farm would have a considerable impact on this beautiful scenic area. The network of footpaths from Lamlash to Brodick, which includes the Arran Coastal Way, provides one of the most popular walks on Arran for both the local community and visitors. The visual impact would degrade the scenic element of the area and harm tourism, which is the major wealth creator for the island.

117. The impact would not be localised. The fish farm would be seen from many miles away in different directions, including from the sea when tourists arrive by boat, when walking the coastal footpath and by the many visitors to Holy Island.

118. Many of the other parties making representations referred to this issue. Additional points made include the following:-

- Among other stipulations, Policy ENV 9 of the Isle of Arran Local Plan (reflecting advice in NPPG 13) envisages development being allowed on the undeveloped coast only if it can be expected to yield social and economic benefits which outweigh any damage to the coastal environment. The very marginal economic or social contribution of the proposal is far outweighed by the economic consequences of loss of public amenity and intrinsic landscape value.
- The four extra jobs that would be created would contribute little to the economy of the island, as there is already full employment.
- Nearly £30M a year is generated by tourism on Arran, with Lamlash Bay a particularly popular site for recreation and other activities. The magnificent landscape and views available from the coast, coupled with the outstanding wildlife, marine life and the peace and tranquillity of the Buddhist community on Holy Island would all be disrupted.
- In 2007 the Centre for World Peace and Health on Holy Island had more than 2000 visitors, who came as day visitors or to stay for retreats, short courses or holiday breaks; it is the second largest hotel associated with Arran.
- Policy ENV 9 also refers to the availability of feasible alternative sites. This possibility is inadequately explored; the ES is inconsistent in applying visual criteria to the alternatives mentioned and fails to examine the alternative of expanding one of the applicant's 45 existing marine farming sites.
- The proposed fish farm and the St Mollo's site would be seen together from a number of viewpoints, particularly from Holy Island. The view north from Holy Island at elevation is one of the finest in terms of Scottish natural landscape.

Reasoned conclusions (Issue 2)

119. The pens of the proposed fish farm would be aligned parallel to the coast and from the sea would be seen against a backdrop of cliffs. The colour of the structures would be sober and as all servicing would be done by sea, there would be no development of any sort on the land opposite the site. These factors would be significant in reducing the impact on the character of this length of coast and on the views from the two footpaths along it.

120. Yet it is a large development and although the impact on distant views can be exaggerated, I consider that notwithstanding its low profile and the presence of clear water between the pens, it would be an unsightly feature as seen from the lower path for the entire length of the installation - 7 pairs of circular pens with a C-cap barge near the middle. The Firth of Clyde would no longer be seen as open sea.

121. The upper path gives impressive long views over the Firth of Clyde, over Lamlash Bay and Holy Island and over Arran itself. From time to time there is a dramatic shorter view down on to the sea where the pens would be. I do not accept that these intermittent impacts would be insignificant, as even a short exposure to an unsightly view can spoil the experience of the whole walk. At present, this experience of a beautiful length of coast is unspoilt; but if the fish farm were there, it would be seriously intrusive.

122. Serious damage would therefore be done to the views from both these coastal paths. Similarly, the proposed development would seriously compromise the character of this stretch of undeveloped coast, as its quality is determined by its wild and unspoilt nature.

123. Moreover, I consider that substantial weight should be given to this conclusion, as these paths are clearly well used and appreciated by local residents and visitors. The tourist trade is an important source of wealth in the island economy, so in addition to the environmental argument, there is an economic justification for conserving this length of coast, which is part of the environment of visitors to (and the inhabitants of) Lamlash and Holy Island.

Cetaceans and Seals (Issue 3)

The issue

124. In considering the effect of the proposal on European Protected Species, SNH noted that the ES included little quantification of the potential impacts on cetaceans. Although accepting that the impact on seals at the site of the fish farm had been addressed in additional information, SNH expressed concern that no comment had been made on the use by seals of a wider area.

125. Cetaceans (dolphins, porpoises and all species of whales) are listed in Annex IV of the EC Habitats Directive (92/43/EEC) as species being in need of strict protection. It is an offence to deliberately disturb cetaceans or to cause deterioration or destruction to their breeding or resting places. They are also protected under the Wildlife and Countryside Act 1981.

126. Under the Habitats Directive, both common and grey seals are protected species for which Special Areas of Conservation (SAC) must be designated. Seals are also protected during close seasons by the Conservation of Seals Act 1970.

Summary of the cases (issue 3)

127. MHS is aware that there is a seal haul on Hamilton Rock, which lies just off Cloughlands Point. The proposed fish farm would be defended against seal attacks by high tension nets and seal scaring devices. The local waters are not often visited by cetaceans, although species sighted in the area include harbour porpoise, bottlenose dolphin and common dolphin.

128. The NAC, in formulating its unfavourable view of the proposal, referred to “the unresolved objection submitted by SNH”, without elaborating on this.

129. SNH raised the issue of the impact on cetaceans and seals as reported above in paragraph 117. The view of SNH is that seals currently use the area around Hamilton Rock for various aspects of their life cycle.

130. SEPA considers that the discharges from the fish farm will have no direct impact upon populations of cetaceans and seals on the Arran coast. It is possible that the development of the fish farm will lead to other impacts upon populations of such mammals that may be pertinent to the planning process such as additional disturbance due to the presence of boats and site staff.

131. Other parties noted that seals and cetaceans are regularly seen along the shore. Seals on Hamilton Rock and in the more sheltered beach areas at Cloughlands Point provide a recognised visitor spectacle.

Reasoned conclusions (Issue 3)

132. It is clear that cetaceans and seals are to be found in the area. Although the ES includes little information on these species, there is no strong evidence that the proposed fish farm would cause deterioration or destruction to the breeding or resting places of any cetacean. Nor am I persuaded that there would be any unacceptable disturbance of seals, notwithstanding that they are frequently seen nearby on Hamilton Rock and at Cloughlands Point.

133. This area is not included in any SAC or other area providing special protection to these species. In the circumstances I see no justification for rejecting the application on this ground.

Other Considerations (Issue 4)

134. The contribution to the Scottish Economy is an issue inherently raised by the government’s Strategic Framework for Scottish Aquaculture. Of the four guiding principles set out, the economic principle is discussed less in the representations than the environmental principle. Yet it is a major consideration, as the planning task is to balance socio-economic benefits against environmental impact.

135. The proposal is for a large fish farm expected to produce a yearly output of 3648 tonnes of salmon. Irrespective of its ownership, the enterprise would make a significant contribution to the Scottish economy, although the employment benefits would be spread over an area wider than Arran. The additional four full-time jobs which would be created in Lamlash would not be insignificant, as they are likely to be better paid than most jobs in the tourist industry, as well as lasting all the year round. Indeed, not only MHS, but also letters of support emphasised the value of the jobs provided by MHS and the strengthening of the operation which would follow the establishment of the proposal. There would, however, be a negative element in that the unsightliness of the development would make this part of Arran somewhat less attractive to tourists. In my view this would reduce but not eliminate the economic benefit of the fish farm.

136. The impact on the SSSI is raised as an issue. The section of the designated area opposite the site of the proposed farm is primarily of geological interest. That further north is of geological and biological interest; in that section there is a transition of coastal plant communities from beach head saltmarsh to an extensive area of cliff vegetation comprising deciduous woodland. Although the proposed farm would be close to the SSSI, there is no convincing evidence that it would have any significant adverse effect on these interests.

137. The impact on the Lamlash Bay outdoor centre, particularly as regards the health implications, was raised by a number of parties. The evidence points to there being no threat to human health from either the waste or medicines associated with the proposed fish farm, so those enjoying water-based activities would not be endangered.

138. The impact on scallop fishing was raised by the Clyde Fishermen's Association, who expressed concern at the possible loss of part of the scallop fishery between Holy Isle and Brodick. However, MHS argue that the area of sea with a depth suitable for occupation by the king scallop extends at least 2.5 kilometres from the shore at this point. As the importance of the area from which fishing would be excluded has not been established, I do not consider that this objection should carry any great weight.

139. The effect on wild salmonids was raised by the Argyll District Salmon Fishery Board, the Rivers and Fisheries Trusts of Scotland (RAFTS), COAST and private individuals. The ES states that the proposal is not expected to have an adverse effect on the wild salmon and trout populations around Arran, as the site is not close to any migratory runs and the numbers of migratory fish in this area are comparatively low. As the site is highly flushed, concentrations of sea lice larvae (in the event of an infestation) would be lessened to a level where the probability of their reaching a wild salmonid host would be small. Also reducing the chances of wild salmonids being affected by lice infection or nutrient/chemical discharges is the proposed fallow period of at least 6 months in every 22.5 months production cycle. Good practice would be followed to ensure that disease and escapes were prevented. Should an escape occur, the procedures laid down in a Site Specific Contingency Plan would be followed.

140. The Fishery Board registers a number of concerns, referring also to observations by the Scottish Anglers National Association. There is doubt as to the effectiveness of bath treatments in the 100 metres circumference cages proposed; there is evidence that following the successful restoration of fish to the Clyde and Kelvin, runs of salmon up the

Firth of Clyde have increased significantly and the possibility of the main run being up the Arran shore should not be discounted; and there is concern that the size of the proposed farm and its individual cages would inevitably increase the risk of significant escapes.

141. The Board also expressed disappointment over the refusal to contribute to a juvenile fish survey of rivers near the site, but were particularly concerned with the recent mortality record of the St Molio's site. The cause is thought to be Proliferative Gill Disease (PGD), upon which no research has been carried out and for which there appears currently to be no means of control. The Board requests that before any consideration is given to approving the proposal, an independent review of disease transfer issues between the Cloughlands and St Molio's sites should be undertaken. Given the possibility of ongoing proliferation of disease due to high water temperatures together with associated fish mortalities, the review should also include consideration of the suitability of the Cloughlands site as a salmon farm.

142. As noted in paragraph 12 above, the statutory consultees were asked to submit observations on this consideration. SEERAD (now the Scottish Government Marine Directorate Aquaculture and Freshwater Fisheries division) replied that some research into PGD has been carried out. As it is not a notifiable disease, there are no statutory measures in place for its control. However, diagnostic samples would normally be taken from any site experiencing high mortalities and advice given on biosecurity to help control any disease present. As regards treatments, aeration of the water to increase dissolved oxygen concentrations may be effective, as death from PGD results from hypoxia (lack of oxygen) due to gill damage. No information about the St Molio's outbreak is supplied.

143. In response to the Marine Directorate, MHS states that there is no evidence to suggest that the outbreak of PGD at St Molio's in 2008 is in any way linked to this site or area. These types of disease challenges can occur from time to time. A considerable amount of research into the disease is taking place. MHS is confident that the implementation of improved husbandry practice and specially formulated diets will ameliorate and help prevent any such occurrence in future,

144. Although MHS confirms that PGD was the cause of the high mortality experienced at the St Molio's site in 2008, there remains a paucity of firm information about the ease with which the disease might be controlled and contained. I am therefore unable to reach a conclusion on the last consideration.

Overall Conclusions

The test in the Strategic Framework for Scottish Aquaculture

145. Assessing this proposal against the principles set out in the Strategic Framework for Scottish Aquaculture, it must be recognised that the economic principle would be satisfied in that the proposed fish farm would make a significant positive contribution to the Scottish economy notwithstanding some damage to the interests of the tourist industry.

146. However, the environmental principle would be breached in two main respects. First, waste products and medicines from the proposed fish farm could damage the marine environment, so threatening the integrity of the scientific evaluation of the COAST project, which has received statutory backing by the coming into force of the Order establishing the No Take Zone (NTZ). The greater risk is to the monitoring of the scallop population, a major element of the COAST project, involving a wide area including the proposed fish farm site and the entrance to Lamlash Bay, as well as the NTZ. The danger is that irreversible effects, disrupting or even terminating the scientific evaluation of the project, might follow the development of the fish farm. There is also a risk, albeit remote, of contamination of the NTZ, so damaging its biodiversity and frustrating the scientific evaluation of that aspect. Given the importance of the COAST project, it is appropriate to apply the precautionary principle, in accordance with the advice in NPPG 13. On this basis, the proposal is unacceptable.

147. The environmental principle would also be breached by the serious damage done to the views from the coastal paths opposite the site. These paths are important both to local inhabitants and visitors (hence the negative economic impact on the tourist industry). The proposal would also compromise the character of this length of undeveloped coast.

148. The third principle in the Strategic Framework (the social principle) is also breached, as the proposed fish farm would undermine the community initiative represented by the COAST project.

149. Finally, the principle of stewardship relates to the ways in which the first three principles would be observed. As I have found that two of them would be breached, it is not necessary to pursue this further.

The section 25 test

150. I have also to assess whether the proposal meets the test in section 25 of the Town and Country Planning (Scotland) Act 1997, which requires the decision to be made in accordance with the development plan unless material considerations indicate otherwise.

151. The COAST project and the principles of seabed regeneration and marine conservation in Lamlash Bay are supported by Policy ENV 8 of the local plan. As I have found that, applying the precautionary principle, these interests would be jeopardised, the proposed fish farm would breach this policy.

152. Policy ENV 1 of the structure plan requires particular care to be taken in conserving the special qualities of coasts. The theme is taken up in policy ENV 9 of the local plan, but an exception is made where there are special operational reasons for the proposal to be located on the site and the social and economic benefits outweigh the environmental loss. Whether or not it is accepted that those special operational reasons exist, I have concluded that the benefits of the proposal do not outweigh the environmental loss, so these policies also are breached.

153. I have discussed the effect on the SSSI at paragraph 126 above. Consequently, I do not consider that policy ENV 7 of the local plan would be breached.

154. The proposal is therefore not in accordance with Policy ENV 1 of the structure plan and policies ENV 8 and 9 of the local plan. Against this, the main material consideration favouring the development is the significant net contribution it would make to the Scottish economy. I am not persuaded that the impacts on scallop fishing or the Lamlash Bay outdoor centre would be such as to justify the rejection of the application. My conclusion as regards the impact on cetaceans and seals is similar; this aspect is not therefore in my opinion a valid ground for an unfavourable view of the proposal. However, with this exception, I have found the other grounds put forward by the NAC for its unfavourable view to be valid.

155. In my opinion, these other material considerations do not outweigh the breaches to the development plan.

156. A further disadvantage weighing against the proposal is the inadequate information on the possible transmission of disease to wild salmonids. In the circumstances, I do not consider it necessary to defer the decision on the application in order to await further information on this issue.

Final conclusion

157. I conclude that the proposal fails both tests.

Recommendation

158. Accordingly, I recommend that the application for a seabed lease for the proposed finfish farm be refused.

[Redacted]

Reporter