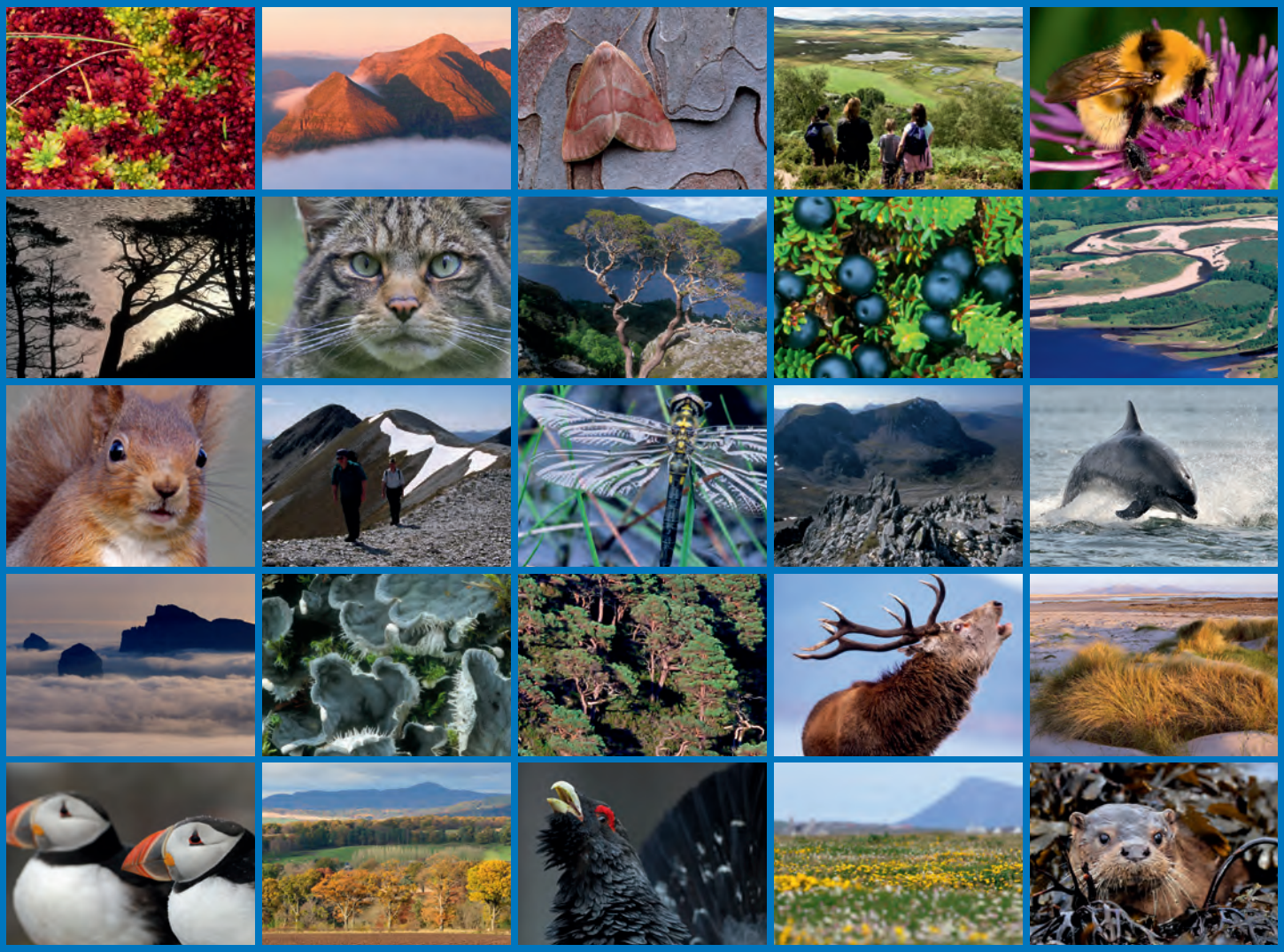
Scottish Natural Heritage
Commissioned Report No. 787

Uist Lagoons Survey



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COMMISSIONED REPORT

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Uist Lagoons Survey

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COMMISSIONED REPORT

Summary

Uist Lagoons Survey

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Keywords

Uists; lagoons; lochs; museum; identification; Outer Hebrides.

Background

Saline lagoons are rated as a Priority Habitat in Annex I of the Habitats Directive. They have a restricted distribution on the Atlantic Coast of Europe with a significant proportion of British sites selected as Special Areas of Conservation (SACs). There are at least 106 saline lagoon sites in Scotland covering approximately 3,000 hectares which is around twice the total area covered by all other UK lagoon sites. Over half of the Scottish lagoons are in the Western Isles and two of the ten British SACs established for lagoons, Obain Loch Euphort and Loch nam Madadh, are in the Uists.

Lagoon habitats are poorly known and species distribution is an important attribute related to monitoring. Taxonomic confusion within a number of phyla has led to doubts in some existing species records and without access to historical specimens it is difficult to assess the true distribution of particular species and identify any changes to the fauna and flora. Scottish Natural Heritage (SNH) therefore commissioned National Museums of Scotland (NMS) to undertake a survey to obtain a baseline of the distribution and abundance of the lagoon biota in the Uists, with a particular focus on lagoon specialist species. Whilst the survey was designed to optimise the chances of results contributing to future monitoring, it was not planned as a monitoring exercise.

Main findings

- The primary aim of the survey was to produce a permanent collection of botanical and zoological specimens, with a focus on lagoon specialist species.
- The survey took place in September 2012 in 23 lagoons at 75 stations.
- 243 taxa were recorded and 587 zoological and 262 botanical specimens were collected and accessioned to the NMS and Royal Botanic Garden Edinburgh (RBGE) collections, where they will be available in perpetuity.
- The most widespread lagoon specialist in 2012 was the isopod *Idotea chelipes* which was found in all of the lagoon systems except Howmore. *Idotea balthica*, reported in Thorpe *et al.* (1998) was not recorded. The isopod *Lekanesphaera hookeri* was found in three lagoon systems but was absent from the Loch nam Madadh and Loch Euphort systems.
- Hydrobiid gastropods were very abundant and the lagoon specialists *Hydrobia acuta neglecta* and *Ecrobia ventrosa* were found in eleven and three areas respectively. A third gastropod, *Onoba aculeus,* was found in the Clachan and Loch Euphort systems. The lagoon cockle *Cerastoderma glaucum* was confirmed from three areas in Loch Bì.

- Both tasselweed species *Ruppia cirrhosa* and *Ruppia maritima* were recorded, with their identity confirmed at a number of sites by the presence of flower heads. The rare foxtail stonewort *Lamprothamnium papulosum* was refound in five lagoons. Two species of algal lagoon specialists, the green filamentous *Chaetomorpha linum* and the fucoid *Fucus ceranoides*, were both found at sites scattered throughout the area surveyed.
- A comparison with previous data concentrated on Loch Bì. NMS found 106 taxa in the loch, a 60 % increase on previous surveys. The majority of the species known from Loch Bì have only been recorded on one occasion, reflecting differences in sampling approach and illustrating the diversity of habitats within the loch.
- The southern floodgate in Loch Bì was found to be broken and the salinity in the eastern floodgate arm of the loch appeared to have increased significantly since 1936 (Nicol, 1936a).
- Loch Fada and the Howmore Estuary were found to be fresh water, although there was some brackish influence in Loch Ròg. Bàgh Leireabhagh and the western pools in Loch Portain were marine whilst Greanacleit was considered to be an intertidal inlet rather than a lagoon.
- Loch Bì, Loch Leòdasaigh and Oban nam Fiadh produced the most records of specialist species, whilst the most taxa overall were recorded from Loch Bì, Oban Spònis and Oban nam Fiadh.
- Almost all of the lagoons surveyed have been modified in some way, generally by the construction of causeways and culverts at narrows. The least modified lagoon and most remote was Oban Spònis, which was also one of the most biologically diverse.
- The most obvious impact observed during the survey was a discharge from a pipe into the head of Bàgh Leireabhagh, creating an unpleasant scum on the water surface.
- The lagoons surveyed in the Uists illustrated the complexity of the network of fresh water, brackish and marine lagoons. A high diversity of species tolerant of brackish conditions was found, with the fauna dominated by Crustacea, particularly isopods, and hydrobiid gastropods, and the flora dominated by green algae.

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1. INTRODUCTION

Saline lagoons have a localised distribution in Europe with a restricted distribution on the Atlantic Coast and are rated as a Priority Habitat in Annex I of the Habitats Directive. The habitat type is complex, with a wide range of physical types and origins included in the broad definition, summarised in Thorpe *et al*. (1998). However, some of the lagoon types found in the UK are rare elsewhere in Europe and so a significant proportion of British sites identified as meeting the definition of a lagoon have been selected as Special Areas of Conservation (SACs) (Joint Nature Conservation Committee, 1995; UK Marine SACs project).

There are at least 106 saline lagoon sites in Scotland covering approximately 3,000 hectares (Angus, 2012a), which is around twice the total area covered by all other UK lagoon sites. Ten UK SACs, of which five are in Scotland, have been established for lagoons, with lagoons listed as a qualifying feature on a further eight, two of which are Scottish. Over half of the 106 Scottish lagoons are in the Western Isles and three of the large lagoon systems, Obain Loch Euphort, Loch nam Madadh and the Howmore system, are in the Uists (Figure 1). Lagoon habitats are poorly known, and a requirement of any monitoring is that it addresses attributes that relate to vulnerability and condition. There are no current valid monitoring protocols in respect of this habitat, and therefore Scottish Natural Heritage (SNH) commissioned the National Museums Scotland (NMS) to undertake a survey to obtain a baseline of the distribution and abundance of the lagoon biota in the Uists, with a particular focus on lagoon specialist species. Whilst the survey was designed to optimise the chances of results contributing to future monitoring, it was not planned as a monitoring exercise.

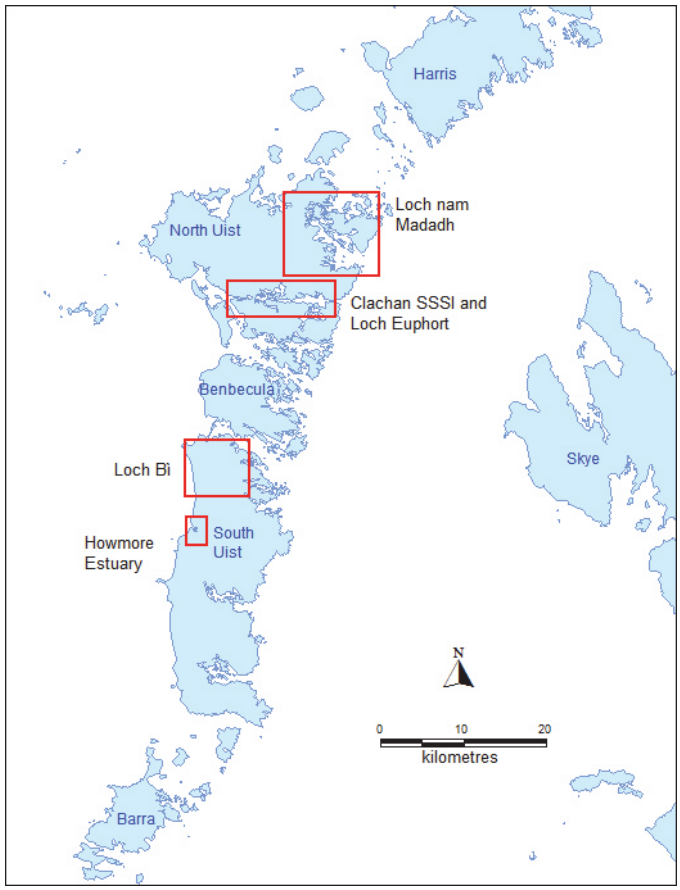

Figure 1. Survey area. © Crown copyright and database rights 2014 Ordnance Survey 100017908

1.1 Objectives

Of the 40 lagoon specialist species recorded for the UK (Davidson *et al*., 1991; Bamber *et al*., 1992; Stewart, 2004; Scott *et al.,* 2015) ten have been recorded from Scotland:-

Charophytes:	*Chara baltica; Chara canescens; Lamprothamnium papulosum; Tolypella nidifica*
Tasselweed:	*Ruppia cirrhosa*
Hydrobiids:	*Ecrobia ventrosa; Hydrobia acuta neglecta*
Lagoon cockle:	*Cerastoderma glaucum*
Isopods:	*Idotea chelipes; Lekanesphaera hookeri*

All ten have been recorded from the Uists, and this exceeds the known diversity of these species in both the Northern Isles and the Scottish mainland.

Table 1. Lagoons in the Uists selected for survey

Loch system	Lagoon Code	Lagoon name
Loch nam Madadh	LM01	Loch Portain Lagoon
	LM02	Greanacleit Lagoon
	LM03	Loch Dheoir
	LM04	Aileodair
	LM05	Bac-a-stoc
	LM06	Loch Collastrome & Mhidhinis lagoon
	LM07	Loch Houram
	LM08	Bàgh Ostram
	LM09	Ob nan Stearnain
	LM10	Loch na Ciste and Srom Bàn
	LM11	Bàgh Leireabhagh
Loch an Dùin	LD	Loch an Dùin (part)/ Loch an Dùin channel
Clachan SSSI	C01	Loch Leòdasaigh
	C02	Oban Irpeig
	C03	Oban a' Chlachain
Clachan Lochs, not in SSSI	C04	Loch na Faoileige
Loch Euphort	LE01	Oban Spònis
	LE02	Bàgh Orasaigh
	LE03	Oban na Curra
	LE04	Oban nam Fiadh
	LE05	Bàgh Uaine
Loch Bì	LB	Loch Bì
Howmore Estuary	HE	Howmore Estuary
	LR	Loch Ròg
	LF	Loch Fada

Recognised taxonomic confusion within a number of phyla has led to doubts in some existing species records. Without access to historical specimens it is difficult to assess the true distribution of particular species and identify any changes to the fauna and flora. Therefore, as a requirement for future monitoring programmes, it was essential to establish definitively which of these species are present in the Uists and where they are located.

Accurate species identification would be critical as some locations are sites both for specialist lagoon species and similar marine taxa.

The primary aim of the survey was therefore to produce a permanent collection of fully geo-referenced botanical and zoological specimens, including samples for molecular analysis. The focus was on lagoon specialist species but all macroinvertebrates, algae and charophytes were to be included during sampling. They would be accessioned at the Royal Botanic Garden Edinburgh and National Museums Scotland, to be available in perpetuity for loan to credible institutions and on-site research. To this end, 25 Uist lagoons within seven loch systems were selected for survey following discussions with SNH (Figure 1, Table 1).

The following were also required to support the specimen collection:

- a description of the main features of each lagoon including observations on the water exchange;
- physical data including salinity readings from each survey station;
- geo-referenced images to illustrate each lagoon and its flora and fauna.

2. REVIEW OF EXISTING DATA

2.1 Overview of previous work

Early workers in the heterogeneous and variable network of lagoons in the Outer Hebrides generally concentrated on taxonomic groups in which they had a particular interest and results were published as species lists with some associated ecological description (McIntosh, 1866; Nicol, 1936a, b; Lewis, 1957; Smith, 1978, 1987; Spence *et al.*, 1979; Waterston & Lyster, 1979; Dipper & Mitchell, 1980). Since the 1990s, the lagoon systems have been surveyed and mapped on a number of occasions to provide information for the implementation of the EC Habitats Directive (Angus, pers. comm.; Howson, 1991; Marine Nature Conservation Review (MNCR) unpublished survey data, 1993, 1994, 1995; Entec, 1996; Thorpe *et al.*, 1998; Covey, 1999; Howson & Davison, 1999, 2000; Howson *et al*., 2000; Foster-Smith *et al.*, 2000; Martin *et al.*, 2002; BMT Cordah Ltd, 2004; Moore *et al.*, 2006a,b). In contrast to the earlier work, these surveys largely concentrated on habitat description and distribution and the classification of biotopes.

However, very few samples from any of this work have been retained for verification. Smith and Waterston deposited their samples in NMS (Waterston, NMS.Z.1968.5; Waterston & Lyster, NMS.Z.1970.26, NMS.Z.1982.46 & NMS.Z.2001.94; Smith, NMS.Z.1977.46 & NMS.Z.1978.52). The MNCR, who carried out a lagoon survey programme from 1993 to 1995 (Thorpe *et al.*, 1998), only kept a small number of voucher specimens, and these have been accessioned at NMS (MNCR, NMS.Z.1998.25 & 26, NMS.Z.1999.9). Moore *et al.* (2006b) deposited a voucher collection of infaunal specimens at NMS (NMS.Z.2005.48). More recently, certain specialist lagoon species, such as the lagoon snail *Hydrobia acuta/neglecta* (Chevalier *et al.*, 2014) and the lagoon cockle *Cerastoderma glauca/edule* (Angus, *pers comm.*) have been the focus of taxonomic research.

2.2 Waterston and Lyster (1979)

Waterston & Lyster (1979) sampled 12 locations in East and West Loch Bì (Figure 2) as an extension of work by Nicol (1936a). Their intention was to record the fauna of brackish and fresh water, measure salinity and note any major environmental changes from an earlier visit in 1970.

In the Floodgate Loch in south-east Loch Bì the floodgate had been damaged in the autumn of 1966 and it was not repaired until 1970. This was considered to be the cause of the increasingly marine environment in the loch. Salinity was measured as 26 ‰ at the north west end of the loch, 12 ‰ At the central causeway and 2.6 ‰ in Brostam Bay (near LB03 or WCB of Waterston), East Loch Bì which is at the mouth of a stream entering from Loch Dubh. Waterston noted that in 1933 Nicol had measured the salinity in Loch Bì as ranging from 33 ‰ at the western end to 0.8 ‰ in the fresh water bays.

Inside the loch, a list of the brackish water fauna in both East and West Loch Bì was compiled and Waterston & Lyster (1979) used the micro-habitat and salinity distribution of the hydrobiids to describe the loch's ecology. *Hydrobia ulvae* was found on silt in a salinity of 25 to 33 ‰, *Hydrobia neglecta* on *Ruppia* tufts in 14 to 25 ‰, *Hydrobia ventrosa* on macrophytes and filamentous algae in 7 to 20 ‰ and *Potamopyrgus jenkinsi* also on macrophytes and filamentous algae in 1 to 14 ‰. The taxonomy and nomenclature of the Hydrobiidae has been significantly revised since this publication, making a direct comparison with more recent studies difficult, and the same is true for a number of other groups.

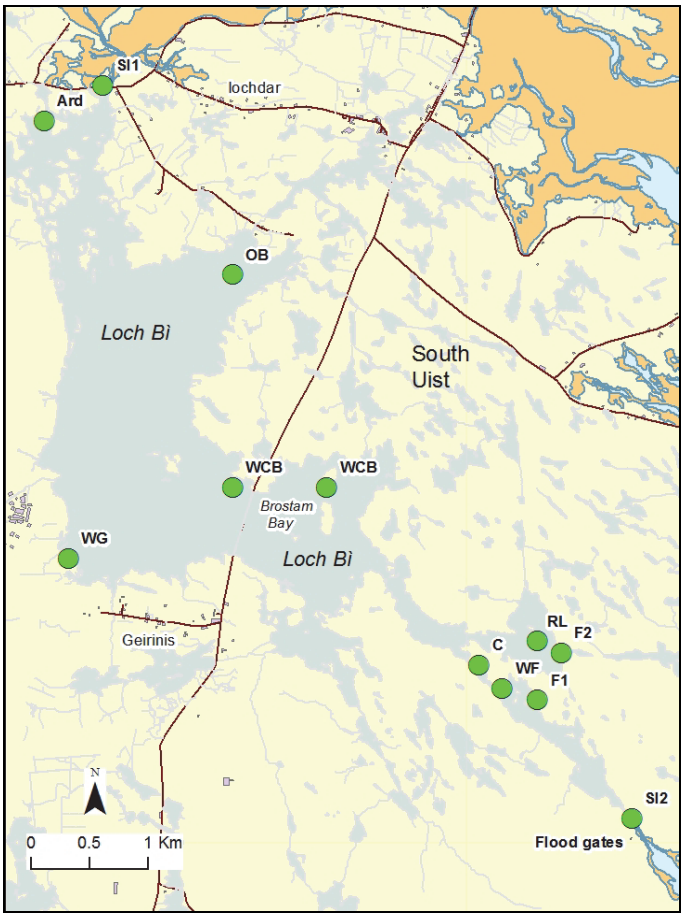

Figure 2. Stations reported in Waterston (1979). © Crown copyright and database rights 2014 Ordnance Survey 100017908

2.3 MNCR Lagoons area summaries

The MNCR lagoons area summaries (Thorpe *et al*., 1998) review the physical and biological data available up to 1998 for 72 lagoons in the Outer Hebrides. They incorporated field data from ten surveys of sea lochs and lagoons in the Uists, including the unpublished MNCR lagoons survey which ran from 1993 to 1995 (Smith, 1978; Powell *et al*., 1979; Dipper & Mitchell, 1980; Mitchell *et al*., 1980; Rostron, 1984; Howson, 1991; MNCR, 1993, 1994,

1995; Connor & Little, 1998). The species data available in Thorpe *et al*. (1998) for those lagoons included in the NMS 2012 survey were combined with outputs from the SNH database to provide background information, together with data from a more recent SNH survey (Beaver & Dipper, 2002). Figures 3, 4, 5 and 6 show the spread of locations of the MNCR and SNH data, which are the most relevant for the NMS survey.

Since 2002 there have been other statutory commissioned surveys of specific lagoons, such as work for SNH in 2010 on stoneworts in Loch an t-Sruith Mhoir and Loch an Dùin (Scott *et al*., 2015). Enquiries suggest that there is no material from this work deposited at the Royal Botanic Garden Edinburgh (RBGE).

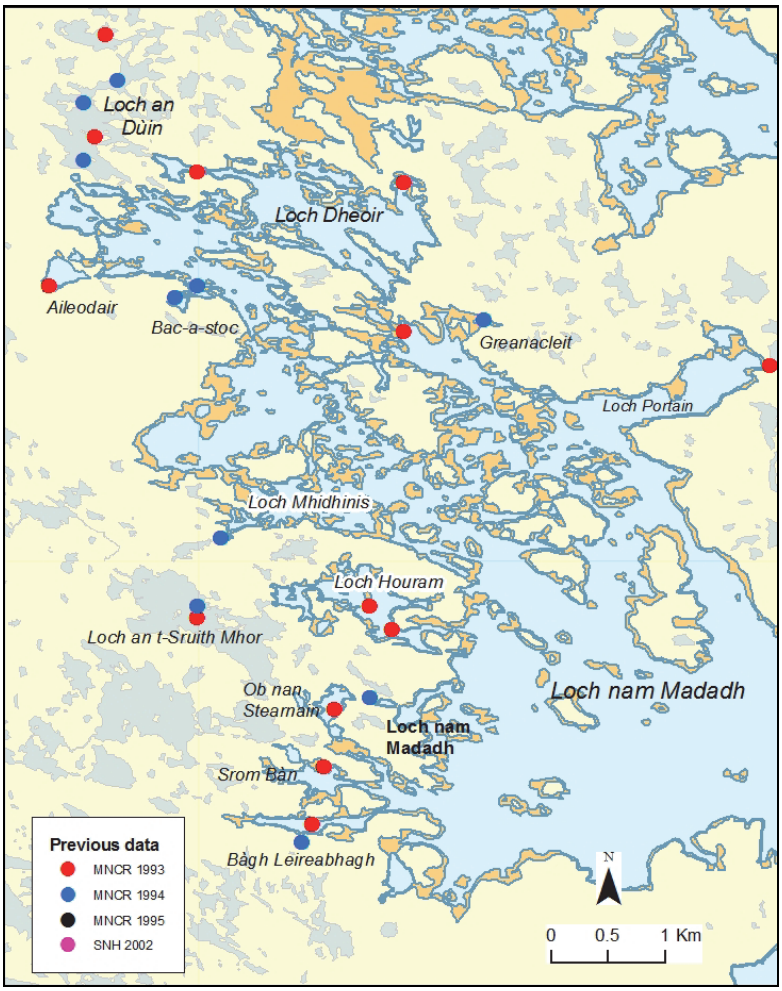

Figure 3. Locations of conservation agency data available from Loch nam Madadh. © Crown copyright and database rights 2014 Ordnance Survey 100017908

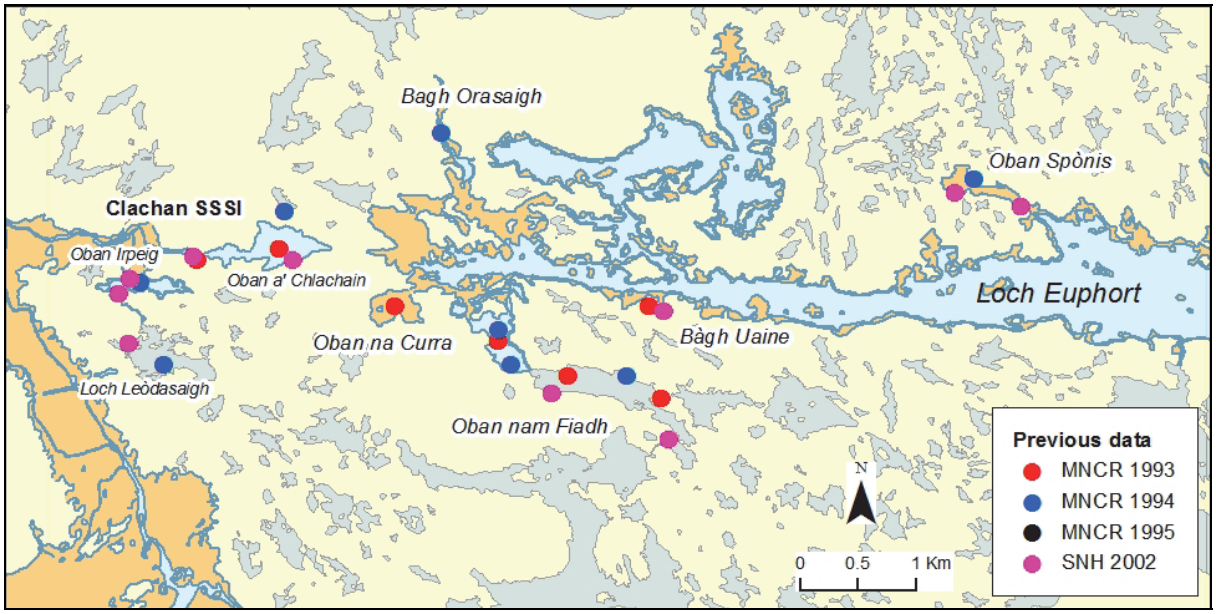

Figure 4. Locations of conservation agency data available from Loch Euphort and Clachan SSSI. © Crown copyright and database rights 2014 Ordnance Survey 100017908

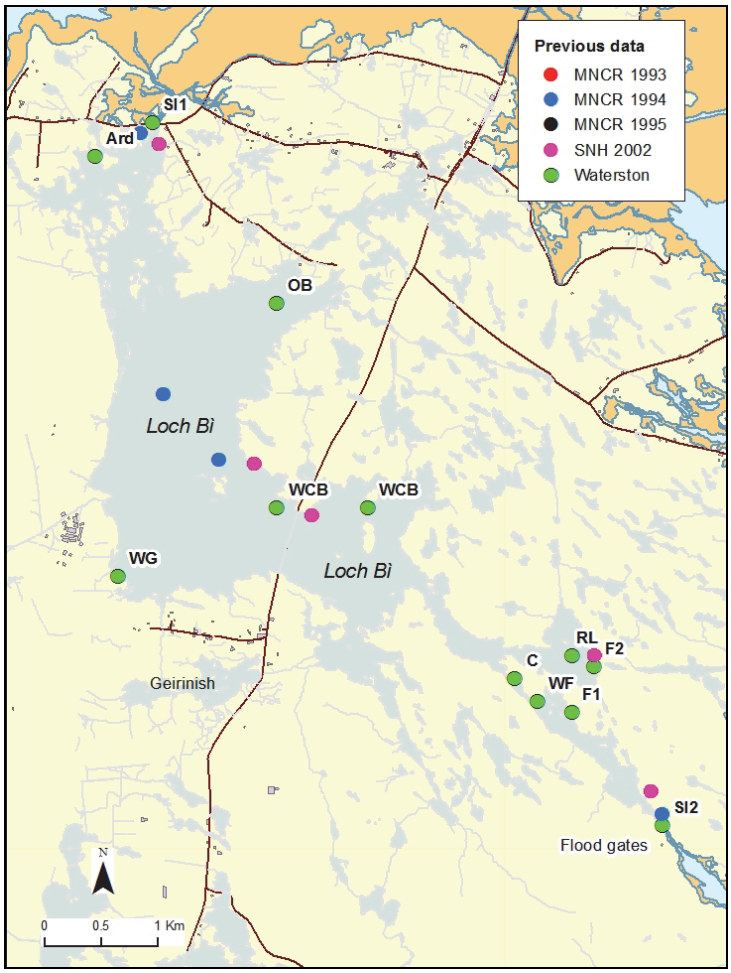

Figure 5. Locations of previous data available from Loch Bì. © Crown copyright and database rights 2014 Ordnance Survey 100017908

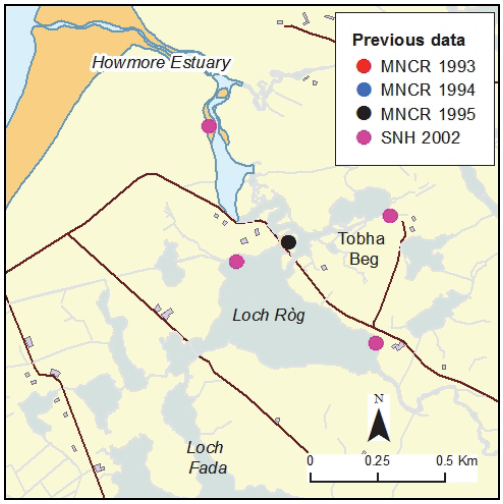

Figure 6. Locations of conservation agency data available from Howmore and Loch Ròg.
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3. METHODS

3.1 Station selection

Individual lagoons were selected for survey following discussions with SNH (Table 1), omitting those for which SNH felt there were already adequate data. These included Loch an t-Sruith Mhoir and the bulk of Loch an Dùin in Loch nam Madadh and, in Loch Euphort, Loch Obisary. All locality spellings followed OS Map Explorer 1:25 000 series numbers 453 and 454. Numbers were allocated to each lagoon in advance of the survey and a numerical suffix was added during fieldwork for each station sampled.

Stations were selected using existing information to suggest the likely presence of lagoon species and communities (Figures 2, 3, 4, 5 & 6) and to ensure representative coverage of the biota and habitats present within the lagoon system. The final decision on survey point location was made by the survey teams on site, based on a combination of an on site assessment of these criteria, accessibility and weather conditions. The stations included, where possible, the areas around culverts and sills. In the smaller lagoons the team generally walked around the whole basin, sampling at intervals. In these cases there were often additional data points (for example, salinity readings and photo points), recorded as GPS positions for mapping purposes, incorporated into the survey station.

Sampling in Loch Bì was targeted at the stations visited by Waterston & Lyster (1979), including the floodgates at the junction of Loch Bì and the sea at the head of Loch Sgiopoirt (Figure 2). Additional stations were selected by the survey teams on site, as described above.

3.2 Field methods

3.2.1 Data collection

Survey forms were printed onto waterproof paper for completion in the field (Appendix 1). At each station, the surveyors noted details of the substratum type, the major species present, the colour of the water and the tidal state. A brief description was made of the site, and observations on the nature of the barrier with the next water basin and any obvious human impacts were noted.

The position at each station was stored on a hand held GPS set on WGS 84. The time and relevant waypoints were recorded on the survey form.

3.2.2 Salinity measurements

The salinity was measured near the water's edge at each station using a Quanta Hydrolab (Plate 1). At most stations, conductivity and temperature were recorded and converted to salinity in ‰ at a later date using the Douglass Salinity Converter (Douglass, 2010). When a boat was available, salinity was also measured towards the centre of the basin at the surface and at the sea bed. To allow the data to be mapped, these were recorded as additional data points for a survey station (see Table 2). The survey team had two Hydrolab meters available, and therefore when surveyors worked in three teams in different parts of the survey area salinity at some stations was recorded directly using a refractometer. The salinity measurements were only indicative of the salinity regime in a basin as they were only single readings. For a comprehensive understanding of the salinity, a series of readings over a longer period would be required.

Plate 1. Measuring salinity in Loch Bì. Photo No. MSW_20120916_03563

3.2.3 Specimen collection

The main purpose of the survey was to document the flora and fauna with field records and a collection of preserved specimens. To this end, a meticulous search was made at each sampling station with the aim of compiling a comprehensive species list for that survey area. The search was not timed, and finished when no more new species were being found. Semi-quantitative abundance estimates of the main visually dominant and characterising species were made using the SACFOR scale (JNNC Website).

Sampling at each station included the following techniques:-

- Collection of individual specimens by eye;
- Stone turning and washing;
- Weed washing;
- Sweeping the water with a net (Plate 2);
- Sediment collection and sieving over a 0.5 mm mesh (non quantitative) (Plate 3);
- Wading and snorkelling.

A handheld Van Veen grab (0.2 m^2) was deployed from a boat at some sites to sample the bottom sediments. Grab samples were sieved over a 0.5 mm mesh and the residue preserved.

All specimens collected in the field were held in labelled buckets and taken to the lab for further sorting and identification.

3.2.4 Photography

Photographs were taken at each station with digital cameras to illustrate the features of the site, including the nature of the water exchange, and any prominent flora or fauna. Photo numbers were recorded on the field sheet. Mark Woombs also took underwater photographs whilst snorkelling at several sites using a Sony A77 Camera.

Plate 2. Sampling with sweep net. Photo No. MSW_20120916_03548

Plate 3. Sieving sediment sample. Photo No. MSW_20120916_03546

3.3 Laboratory techniques

Each evening after fieldwork was completed, the field notes were entered into Excel spreadsheets, GPS positions were downloaded and plotted in ArcGIS and photographs were downloaded and recorded in an Excel photo log.

Great care was taken to sort and preserve the biological material as soon as possible after collection to ensure that speciemns were retained in good condition. Zoological samples were placed in saline water from the collection site and animals removed and separated into major groups and, if time permitted, identified. Individual specimens were narcotised if necessary in either menthol or magnesium chloride solution, and were then transferred to buffered 10% formalin. Porifera were preserved in 74% Industrial Denatured Alcohol (IDA) instead of formalin. A representative number of specimens were preserved in ethanol for molecular analysis. Each sample was labelled with the appropriate code for future reference. Samples fixed in formalin were subsequently transferred to IDA.

Algae, charophytes and angiosperms were floated onto herbarium paper and pressed (Plate 4), with samples of some of the more fragile species preserved in seawater formalin. Wet paper was changed daily during the fieldwork. Where possible each sample was identified at the time and labelled with site data. A representative number of samples were placed directly into ethanol.

Plate 4. Pressing charophytes by floating onto herbarium paper. Photo No. MSW_20120924_04077

Following the fieldwork on return to the National Museums Collection Centre all the samples in ethanol were transferred to the freezer and the drying botanical specimens were transferred to dry papers. All other samples were transferred to sealed glass vials, checked against the sample log and sorted into major phyla for identification. The World Register of Marine Species (WoRMS) has been followed for all scientific names. Literature used in identification and some notes to assist with the identification of certain groups of species are given in Appendix 2.

Each sample was allocated an accession number (animals remaining at NMS: NMS.Z. 2013.034.001-587; plants destined for RBGE: CMH_1-262) and each sample was given an individual label with all relevant data.

3.4 Logistics

The team of five surveyors was based in a self-catering cottage at Loch nam Madadh from 17 – 30 September 2012. An additional team member cooked for the survey. The cottage had adequate space inside for a field laboratory and a shed available for storage of equipment and chemicals. An area outside the building was suitable for a Vircon viricide processing set up where sampling equipment and protective clothing were washed at the end of each day or between sampling in different lagoon systems.

Most sites were accessible on foot from the road but boats were used to reach a number of sites. For access to the southern Floodgates in Loch Bì, an angling boat with a small outboard engine was hired from Storas Uibhist. This was used on several days to reach sites that had no road access; it also enabled grab samples to be taken from the centre of the loch. Given the large size of the loch and the very shallow water, these boats are the only effective means of accessing much of the area.

Plate 5. Angling boat used for survey work on Loch Bì. Photo No. CMH_20120926_2652

Certain sites presented particular difficulties for access. Oban Spònis in Loch Euphort has no road access at all and was reached using a Zodiac Mark 3 inflatable with an outboard engine from the south side of Loch Euphort. An intertidal sill meant that the boat could not be taken into the lagoon and so the two inner basins, which lay within steep hills, were not surveyed in detail. Similarly, Oban nam Fiadh, on the south side of Loch Euphort, has limited access. In this case the road runs past the outer basin but two intertidal sills restrict access by boat to the inner basins. It is a distance of approximately 2.5 km to the head of the lagoon which is difficult to cover carrying adequate snorkelling and sampling gear. A light inflatable dinghy with paddles was used to transport equipment along Oban nam Fiadh but a small outboard would have improved the access; the Zodiac was too heavy to launch from the loch shore and to navigate the sills. In the event, the inner basins were not surveyed in detail. The eastern basin in Loch Portain also required boat access and the Zodiac was used for this.

4. RESULTS

4.1 Introduction

Surveys were carried out in 23 lagoons at 75 stations (Table 2, Figures 7, 8, 9 & 10). More detailed maps are provided in the description of each lagoon. The station data are summarised in Appendix 3 (Tables A3.1 & A3.2). Salinity was measured at 120 stations; the results are tabulated in Appendix 3 (Table A3.3) and illustrated in Figures 11 to 14. These figures are only indicative of the salinity in each lagoon as they were single measurements and not repeated over a period of time. Two hundred and forty-three taxa were recorded (Appendix 4) and 587 zoological and 262 botanical specimens were collected and accessioned (Appendix 5). 1334 photographs were catalogued (Appendix 6).

A description of each lagoon was compiled from the field data and species lists, and illustrated with station maps and photographs. These descriptions are given in Appendix 7.

Even after very careful handling of numerous samples in the field, the mysids *Neomysis integer* and *Praunus flexuosus* and other natant decapods were particularly difficult to preserve as complete specimens. In future it would be advisable to transfer live specimens from the sweep net immediately to large volumes of water (e.g. 5 litres). This should be achieved with as little handling as possible since contact with hard surfaces e.g. small vials,

forceps, seems to damage specimens. On arrival in the laboratory, specimens should be narcotised as soon as possible and then preserved.

Amphipods need to be collected in large numbers to include the probability of males and females in the samples. As many species cannot be identified without both males and females, a number of records are given at generic level only.

Table 2. Number of stations surveyed in the lagoons included in the 2012 survey. Data points include sites of sampling activitiy, salinity readings and photo points. Hyperlinks connect to lagoon descriptions in Appendix 7.

Loch system	Lagoon Code	Lagoon name	Area (ha)	Max depth (m)	No. full survey stations	No. data points	Lagoon status based on salinity readings/biota
Loch nam Madadh	LM01	Loch Portain Lagoon	0.06	0.3	3	4	W: Marine; E: single small lagoon basin
	LM02	Greanacleit Lagoon	1	1	1	1	Muddy intertidal inlet
	LM03	Loch Dheoir	90	4	7	10	Lagoon complex
	LM04	Aileodair	15	1.5	1	4	Brackish lagoon
	LM05	Bac-a-stoc	2	0.5	2	3	Brackish lagoon
	LM06	Loch Mhidhinis Lagoon	1	0.5	3	3	Brackish lagoon
	LM07	Loch Houram	37	6	2	6	Brackish lagoon, 2 basins
	LM08	Bàgh Ostram	2	1	Not surveyed due to lack of time		
	LM09	Ob nan Stearnain	10	1.5	3	3	Brackish lagoon
	LM10	Loch na Ciste and Strom Bàn	1	1.5	2	2	Brackish lagoon
	LM11	Bàgh Leireabhagh	9	3	2	9	Marine inlet
Loch an Dùin	LD	Loch an Dùin (part)/ Loch an Dùin channel			2	2	Part of large brackish lagoon
Clachan SSSI	C01	Loch Leòdasaigh	30	4	3	3	Brackish lagoon
	C02	Oban Irpeig	16	3	2	2	Brackish lagoon
	C03	Oban a' Chlachain	19	6	3	4	Brackish lagoon
	C04	Loch na Faoileige			2	2	Brackish lagoon
Loch Euphort	LE01	Oban Spònis	15	6	3	6	Brackish lagoon, 2 basins
	LE02	Bàgh Orasaigh	10	2	Not surveyed due to lack of time		
	LE03	Oban na Curra	8	5	2	2	Brackish lagoon
	LE04	Oban nam Fiadh	41	8	4	19	Brackish lagoon, 3 basins
	LE05	Bàgh Uaine	2	0.2	2	2	Brackish lagoon
Loch Bì	LB	Loch Bì	850	3	19	28	Large brackish lagoon
Howmore Estuary	HE	Howmore Estuary	23	3	4	4	Estuary, mostly fresh
	LR	Loch Ròg	17		2	2	Very low salinity
	LF	Loch Fada	31		1	1	Fresh water

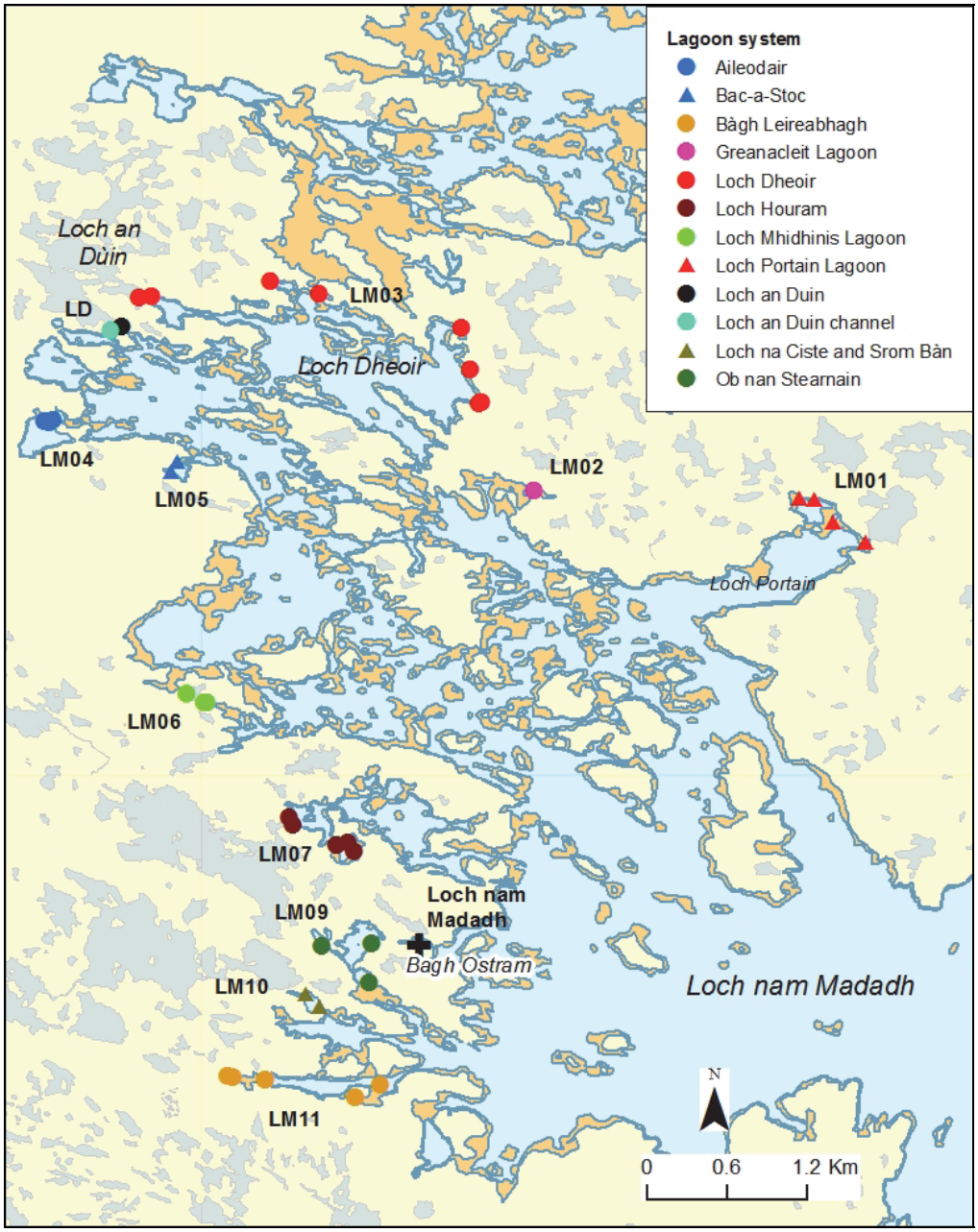

Figure 7. Overview of the stations sampled in the Loch nam Madadh and Loch an Duin systems. © Crown copyright and database rights 2014 Ordnance Survey 100017908

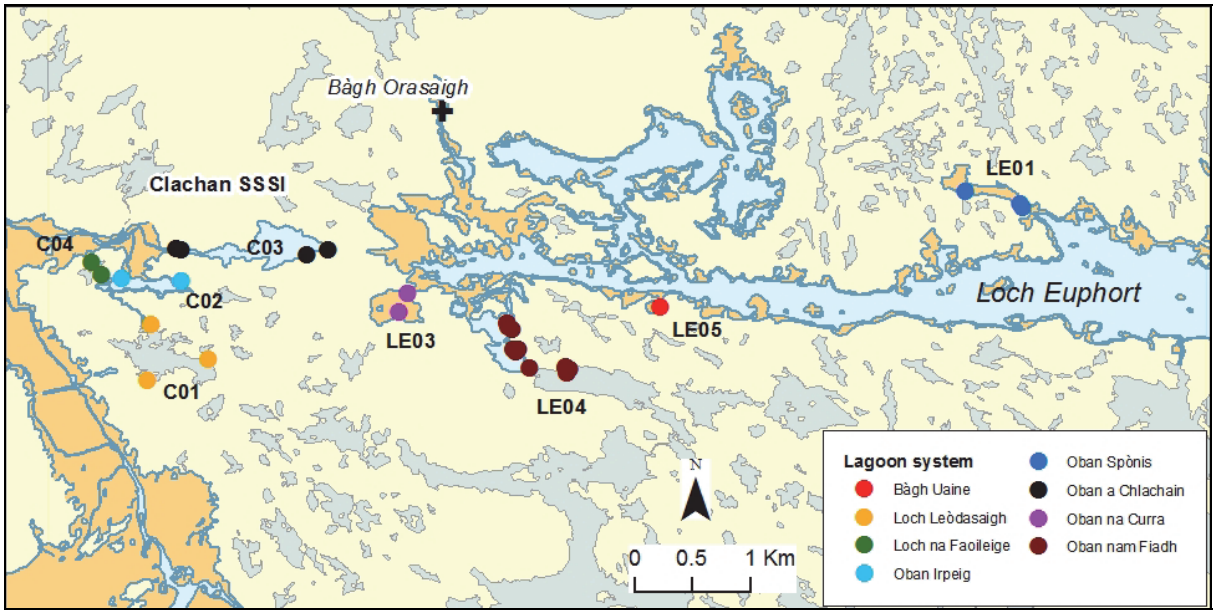

Figure 8. Overview of the stations sampled in the Clachan and Euphort systems. © Crown copyright and database rights 2014 Ordnance Survey 100017908

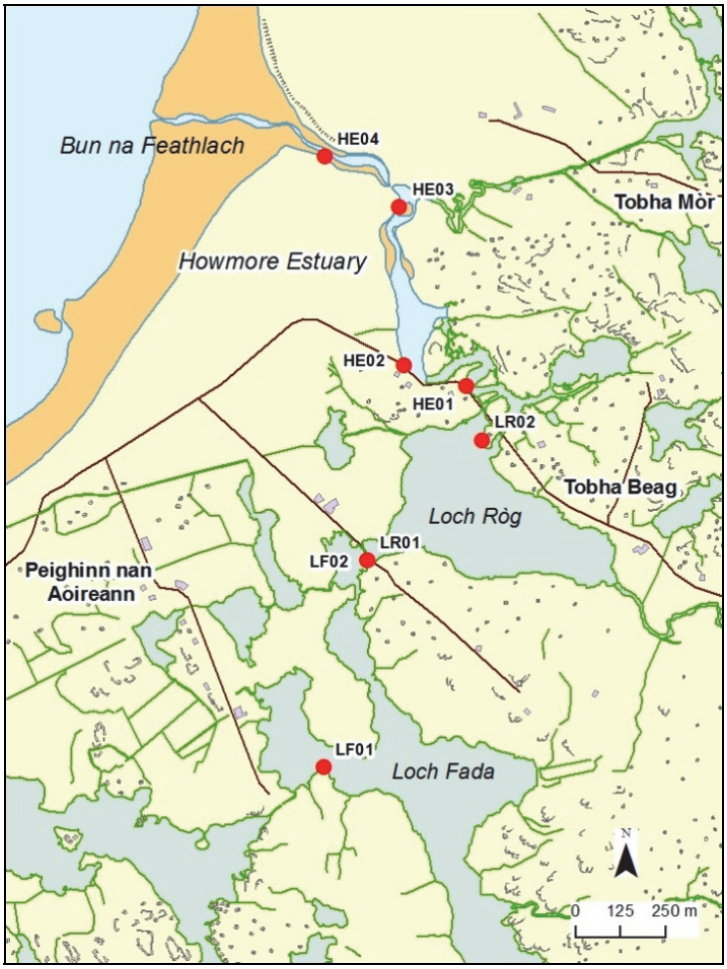

Figure 9. Overview of the stations sampled in the Howmore to Loch Fada system. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Figure 10. Overview of the stations sampled in Loch Bì. © Crown copyright and database rights 2014 Ordnance Survey 100017908

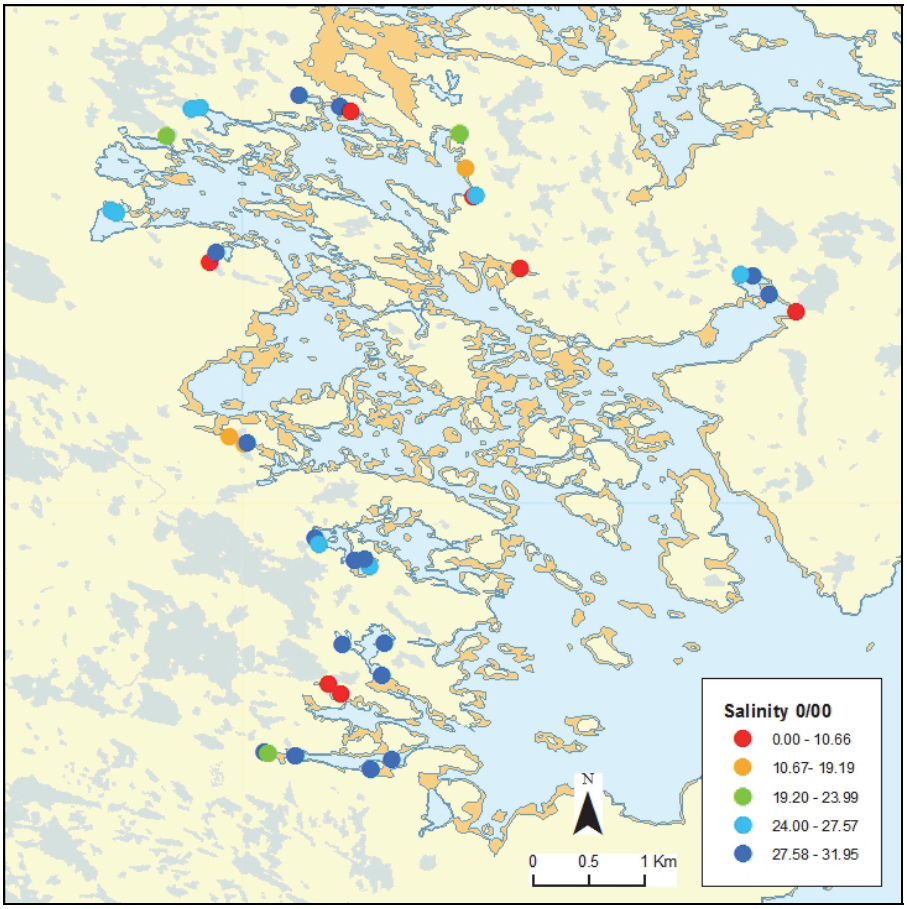

Figure 11. Salinity measurements in Loch nam Madadh. Note that each dot represents a single measurement. © Crown copyright and database rights 2014 Ordnance Survey 100017908

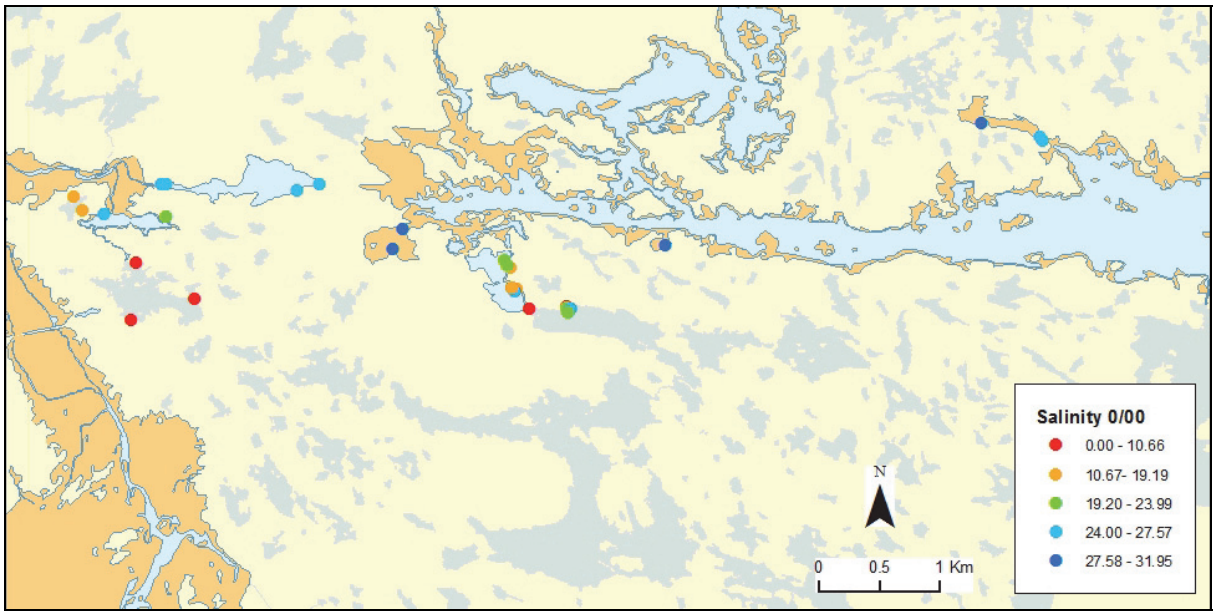

Figure 12. Salinity measurements in Loch Euphort and the Clachan lochs. Note that each dot represents a single measurement. © Crown copyright and database rights 2014 Ordnance Survey 100017908

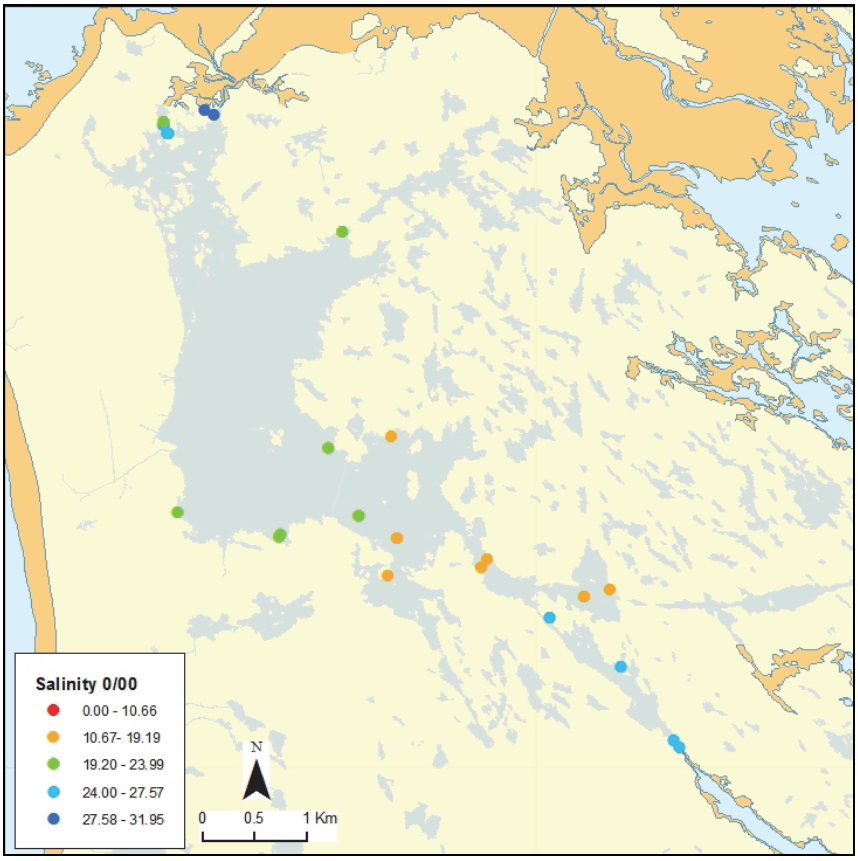

Figure 13. Salinity measurements in Loch Bì. Note that each dot represents a single measurement. © Crown copyright and database rights 2014 Ordnance Survey 100017908

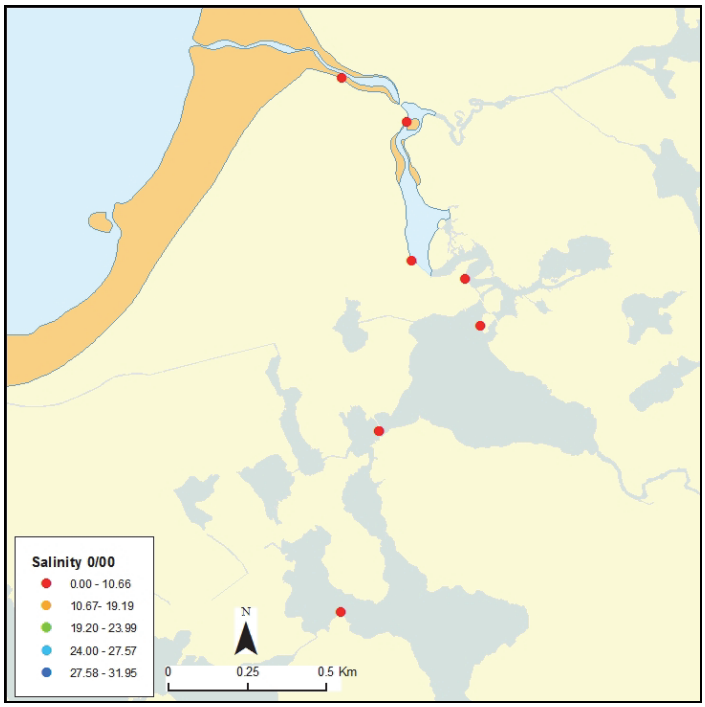

Figure 14. Salinity measurements in the Howmore system. Note that each dot represents a single measurement. © Crown copyright and database rights 2014 Ordnance Survey 100017908

4.2 Lagoon indicator species

There have been a number of lists proposed of species that indicate that a water body should be classed as a lagoon (referred to as *lagoon status* in this report) (Angus, 2012c) but historically these have been based on English and Welsh sites (Bamber, 1992; Barnes, 1980). For the purposes of this survey, Stewart Angus of SNH supplied a working list of species that he considers to be indicative of lagoon status in Scotland. The distribution of these species as recorded in the Uist lagoons in the 2012 survey is shown in Table 3. The two stations in Loch an Dùin have been omitted as they are not representative of that lagoon as a whole and Loch Bì has been divided into four sections (See Appendix 7).

Three of the indicator species were not found during this survey: the charophytes *Chara baltica* and *Tolypella nidifica* and the hydroid *Gonothyraea loveni.* There are confirmed records of both charophytes from Loch an Dùin and Loch an t-Sruith Mhoir and *C. baltica* is also known from Loch Bì (Stewart, 2004; Scott *et al*., 2015). Both are rare species and their distribution would be better established by wider searching for charophytes in particular, especially during the growing season, rather than this more general survey. *G. loveni* has previously been recorded from Oban nam Fiadh (Nicol, 1936b) and from the Floodgate Loch in southern Loch Bì (Waterston & Lyster, 1979). The similar species *Laomedea flexuosa* was widespread on *Ruppia* spp. and *Zostera* spp. throughout the 2012 survey area.

4.2.1 Crustacea

The most widespread lagoon indicator species in 2012 was the isopod *Idotea chelipes* which was found in all of the lagoon systems except Howmore. Thorpe *et al*. (1998) only reported this species from Loch an Dùin and Loch an t-Sruith Mhoir in the Hebrides whereas *Idotea balthica*, a species not found on the 2012 survey, was widespread.

In the present study, identification of *Idotea chelipes* was based on the presence of a single distal aesthetasc on the antennules as distinct from the pair of distal aesthetascs which the other *Idotea species* possess. In addition, the size of the coxal plates in *I. chelipes* is distinctive: the coxal plates of segments 2 to 5 do not extend for the full length of their segments. It was found that it was not possible to separate *Idotea balthica* and *Idotea chelipes* purely on the shape of the apical border of the telson as the key in Naylor (1972) suggests. In the absence of voucher specimens, therefore, it has not been possible to confirm the presence of I. balthica in the Uist lagoons.

Another isopod *Lekanesphaera hookeri* was found in eight survey areas, often in large numbers, but despite careful searching, it was not found in either the Loch nam Madadh or the Loch Euphort systems. This species was not recorded in Thorpe *et al.* (1998) and it is possible that there has been taxonomic confusion of isopod species in earlier surveys.

4.2.2 Mollusca

Hydrobiids are a conspicuous component of the lagoon fauna, often occurring in large numbers (Plate 6). Individual animals are very small, with a shell length of up to 6 mm, and the species are readily confused. Consequently records with no corresponding specimens must be questionable. Records prior to the publication of *Hydrobia neglecta* by Muus (1963), such as those in Nicol (1936a,b), will not include this species, and the first published record of the species from the Uists is that of Castell & Ellis (1964). Chevalier *et al.* (2014) collected four species of hydrobiid on North Uist in 2011, and the presence of *H. acuta neglecta*, *Peringia ulvae* and *Ecrobia ventrosa* was confirmed by DNA analysis.

Two species of hydrobiids are considered as *strongly indicative* (Angus, 2012b,c) of Scottish lagoon conditions and both were found in 2012. *Hydrobia acuta neglecta* was collected from 11 sites in four lagoon systems, and *Ecrobia ventrosa* from three sites in two lagoon systems

(Table 3). The third gastropod in Table 3, *Onoba aculeus*, which has a widespread distribution, was found in the Clachan and Loch Euphort systems.

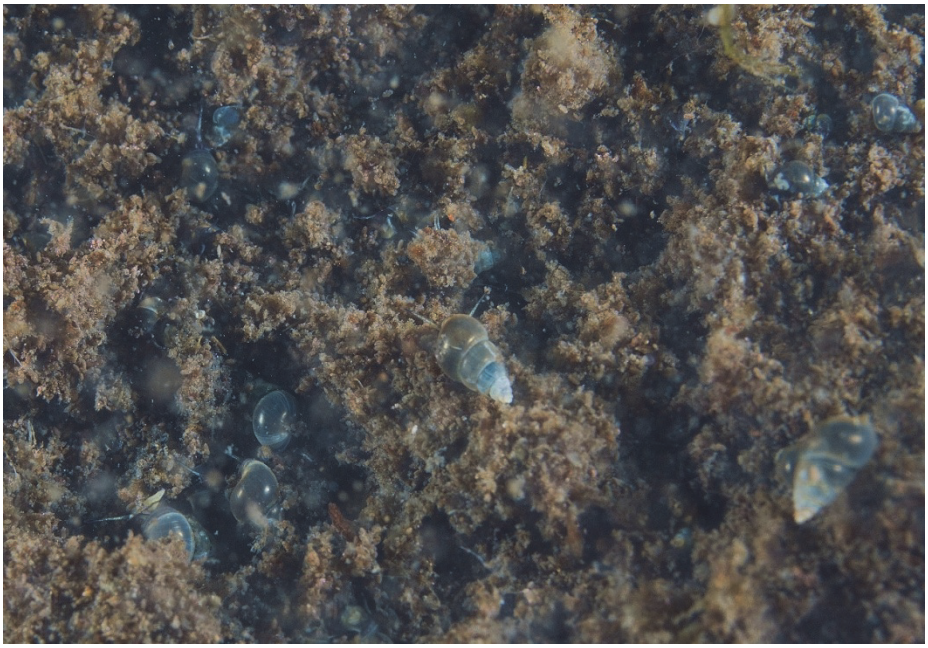

Plate 6. Hydrobiids amongst flocculent algae in Loch Dheoir. Photo no. MSW_20120917_03076

The lagoon cockle *Cerastoderma glaucum* was confirmed from three areas in Loch Bì but was not found anywhere else. *C. glaucum* can be difficult to separate from *Cerastoderma edule*, particularly in the field. Some of the large numbers of juvenile cockles found at several sites throughout the lagoons surveyed in 2012 could be *C. glaucum* but to confirm this, adults would need to be found in future surveys.

4.2.3 Plants

The tasselweed species *Ruppia cirrhosa* and *Ruppia maritima c*an only be identified in the field with confidence when they are in flower in the late summer, and *R. cirrhosa* is easier to spot than *R. maritima*. *Ruppia* beds were found at a large number of sites throughout the area and many of the plants had flowers (Plates 7 & 8). Even so, it was not always possible to be certain which species were present, particularly when *Ruppia* was in mixed beds with eel grass *Zostera marina* and *Zostera noltei* (Plate 9) and so many records have only been assigned to the genus. Specimens were preserved for many stations, however, and so it is considered that the records presented here give a fair representation of the distribution of the two species in the Uist lagoons. The foxtail stonewort *Lamprothamnium papulosum* has been found in several of the Uist lagoons, including seven of those visited in 2012. It was refound in extensive beds in five lagoons – Loch an Dùin (not included in Table 3), Aileodair (LM04), Oban a' Chlachain (C03), Oban na Curra (LE03) and Oban nam Fiadh (LE04).

The two species of algae considered *moderately indicative* (Angus, 2012b,c) of Scottish lagoon conditions, the green filamentous *Chaetomorpha linum* and the fucoid *Fucus ceranoides*, were both found at sites scattered throughout the Uist lagoons. *F. ceranoides* is characteristic of reduced salinity, and is commonly found in the marine intertidal where fresh water runs across a shore. In the Uist lagoons, it was normally found growing in permanently submerged beds, often in very low salinities, in a curly and quite brittle growth form. *C. linum* was found as tangled floating masses, often caught amongst the tasselweeds, eel grass and

stoneworts. There were generally several other species of green filamentous algae mixed in these tangles, particularly *Cladophora* spp., *Ulothrix* spp. and *Urospora* spp.

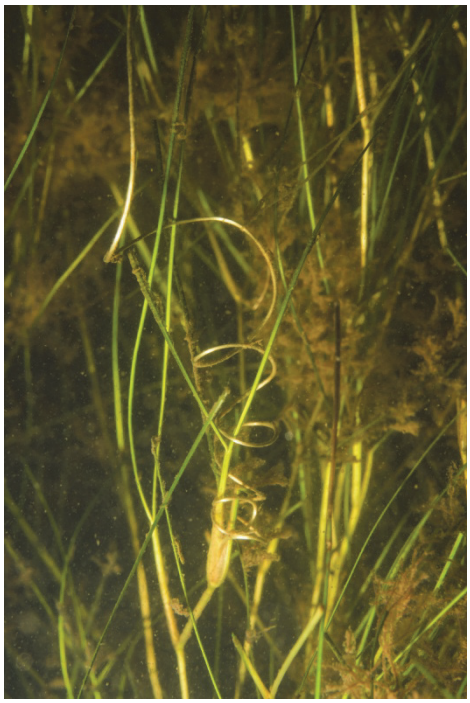

Plate 7. Ruppia cirrhosa. *Photo no. MSW_03526*

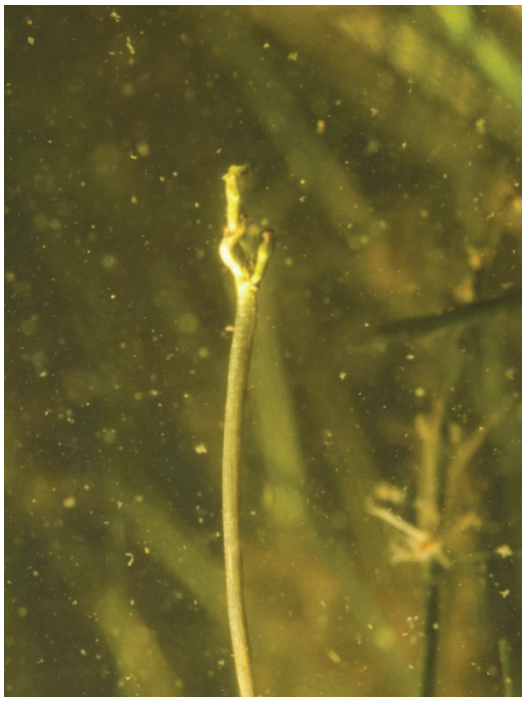

Plate 8. Ruppia *sp. Photo no. MSW_03533*

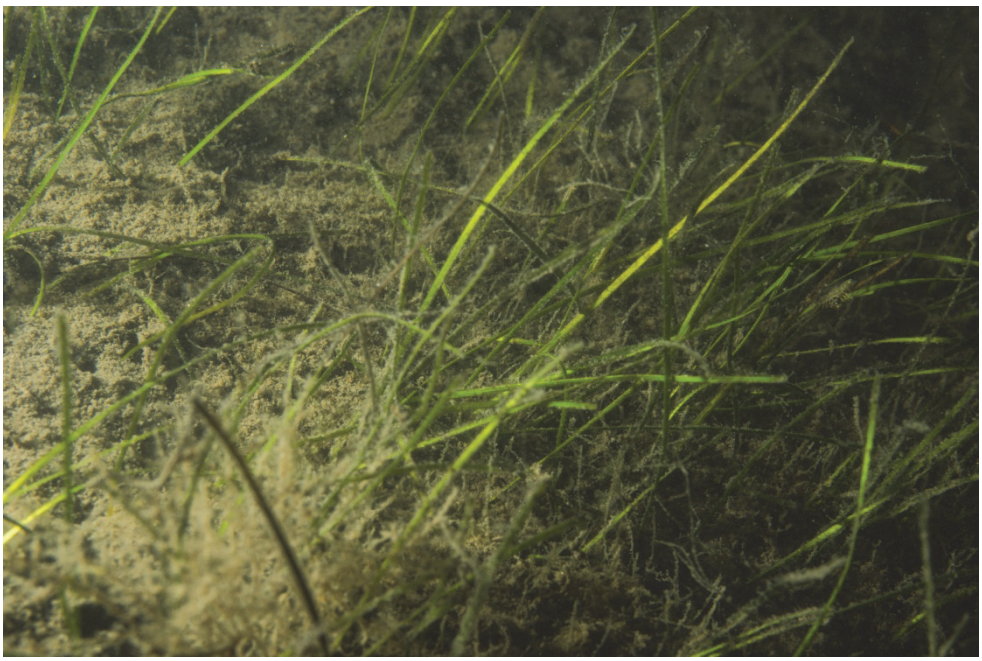

Plate 9. Mixed bed of Ruppia *sp. and* Zostera *sp. Photo no. MSW_03019*

Table 3. Distribution of Scottish lagoon indicator species recorded in the Uist lagoons in September 2012

Lagoon system	**Loch nam Madadh (LM)**											**Clachan (C)**				**Loch Euphort (LE)**				**Loch Bì (LB)**				**Howmore**			**No. lagoons**
Lagoon No.	**1E**	**1W**	**2**	**3**	**4**	**5**	**6**	**7**	**9**	**10**	**11**	**1**	**2**	**3**	**4**	**1**	**3**	**4**	**5**	**N**	**W**	**E**	**SE**	**HE**	**LR**	**LF**	
Bottom Salinity	6.7	24-30	7	6-29	25	25	16-18	24-30	30-31	8	22-31	7-8	21-25	26-27	17-18	27-28	29	3-17	29	26-30	21-23	15-21	25-26	5-6	5-6	5	
Approx. area (ha)	0.06	5	1	90	15	2	1	10	10	10	9	30	16	19	2.2	15	8	141	2	35	450	150	35	6	17	31	
No. Stations	1	2	1	6	1	2	2	4	3	2	2	3	2	3	2	3	2	4	1	2	5	8	4	4	2	2	
Strongly indicative																											
Chara baltica																											0
Lamprothamnium papulosum					■				■								■	■									4
Tolypella nidifica																											0
Ruppia cirrhosa				■	■		■	■	■					■		■		■		■	■						10
Ecrobia ventrosa																		■			■	■					3
Hydrobia acuta neglecta				■	■	■			■					■		■	■	■	■		■	■					11
Hydrobiidae ulvae/neglecta?																				■							1
Cerastoderma glaucum																					■	■	■				3
Idotea chelipes				■	■			■	■				■	■	■	■	■	■	■	■	■	■	■				15
Lekanesphaera hookeri												■		■						■	■	■	■	■	■		8
Moderately indicative																											
Chaetomorpha linum					■				■					■	■					■	■	■	■				8
Fucus ceranoides	■							■					■					■				■	■		■		7
Ruppia maritima							■			■									■								3
Gonothyraea loveni																											0
Onoba aculeus														■		■	■										3
Mya arenaria																		■				■					2
Ruppia sp.															■		■					■	■				4
Total recorded	1	0	0	3	5	1	2	3	5	1	0	1	2	6	3	4	5	7	2	5	7	9	6	1	2	0	

4.3 Other species observations

4.3.1 Algae

The algal flora in the lagoons is dominated by green algae, particularly *Cladophora* spp., which often formed tangled 'fluff' on sediment, floating on the surface or amongst the angiosperms. This group has almost certainly been under-recorded in previous surveys due to the difficulties of identification but the recent publication of a green algal flora for Britain and Ireland (Brodie *et al*., 2007) has made these species more accessible. This does mean that it is difficult to compare the 2012 findings with previous surveys. Species found in 2012 which have rarely been recorded in the west of Scotland or the Uists before include *Cladophora glomerata*, found at seven stations, *Cladophora coelothrix* and *Cladophora laetevirens*, both found at three stations, and *Cladophora battersii* and *Cladophora vagabunda,* both found at one station. *Ulva pseudocurvata* has been recorded from scattered locations around the British Isles but previously not in the Outer Hebrides. In 2012 it was found in Oban Spònis.

Small balls and mats of blue-green algae were numerous at a number of sites, particularly those with very variable or low salinity. The balls were attached to other algae and grasses and have not yet been identified. Very few red algae were found but of interest was a free living form of the red seaweed *Furcellaria lumbricalis*. This was found in Loch Bì growing as balls amongst *Ruppia* sp. It has previously been recorded in this form from Oban Spònis (Thorpe *et al*., 1998) and the Baltic (Dixon & Irvine, 1977). Two non-native algae were found. Fresh drift plants of wireweed *Sargassum muticum* were collected inside the culverts in northern Loch Bì at Station LB01 and the red alga *Heterosiphonia japonica,* which is spreading rapidly around the British Isles, was found in the Loch Portain lagoon (LM01.3).

4.3.2 Polychaeta

The majority of polychaetes recorded were common marine or estuarine species, such as *Hediste diversicolor* and *Harmothoe* spp. As a group, polychaetes are often poorly recorded during field surveys of this type as they need considerable care during collection and preservation to ensure specimens are of good enough quality for identification. *Platynereis dumerilii* was found in Loch Euphort; its absence from earlier lists may well be explained by the lack of good preservation facilities and techniques.

Plate 10. Ampharete acutifrons from Loch Houram lagoon. Photo No. MSW_20120925_03247

Two species were found which have not been previously recorded from the Outer Hebrides. *Ampharete acutifrons* is a tube dwelling polychaete which was found in a *Ruppia* bed in Loch Houram (LM07.2, Plate 10). There are few records of this from the British Isles. Although several tubes were collected, only one individual worm was found and this was not intact. *Polyophthalmus pictus,* was recorded from Loch Euphort for the first time. There is one previous record from North Uist in the National Biodiversity Network (NBN) database (NBN Database).

4.3.3 Crustacea

Crustaceans were a conspicuous component of the fauna at most sites, often occurring in large numbers. Three mysid species were common, *Neomysis integer*, which may be a lagoon indicator species (Angus, 2012 b,c), *Praunus flexuosus* and *Praunus inermis*. Tube forming amphipods such as *Ampithoe rubricata* were common, particularly where there were grasses to attach to. Several species of the isopod genus *Jaera* were found. These species are generally tolerant of lowered salinities.

The non-native barnacle *Austrominius modestus* was found near the floodgates in southern Loch Bì. This species has been gradually spreading around the British Isles, as far north as the Shetland Islands, but has not previously been recorded from the Uists.

4.3.4 Mollusca

The largest group of molluscs recorded was the hydrobiids, discussed above in Section 4.2.2. The rough winkle *Littorina saxatilis* was also common and widespread, occurring in all of the loch systems apart from Howmore, and was the second most frequently recorded species from the survey, with only the isopod *Idotea chelipes* found at more sites. The *L. saxatilis* found in the Uist brackish systems was recognisable as the *tenebrosa* form, which is typically associated with brackish habitats. However, since Reid (1996, p.316) considers *tenebrosa* to be an ecotype and synonymous with *saxatilis*, the Uist specimens have been recorded as *L. saxatilis*.

The use of names for the range of Littorinidae recorded from the British Isles has been confused until very recently. As Reid's comprehensive world-wide revision of *Littorina* provides taxonomic stability and comprehensive information (Reid, 1996), his specific synonomy has been followed for the four taxa recorded from the Uists (Table 4).

Table 4. Nomenclature of Littorina spp. in the Outer Hebrides

Name used by Reid (1966) and NMS	Names used by other workers in the Hebrides
Littorina (*Littorea*) *littorea* Linnaeus, 1758	
Littorina (*Neritrema*) *fabalis* Turton, 1825	*L. mariae* Thorpe, 1998 *L. mariae var beenensis* S. M Smith, 1987
Littorina (*Neritrema*) *obtusata* Linnaeus, 1758	*L. aestuarii* Waterston & Lyster, 1979 *L. littoralis* Waterston & Lyster, 1979 *L. obtusata var mariae* Thorpe, 1998
Littorina (*Neritrema*) *saxatilis* Olivi, 1792	*L. neglecta* Thorpe, 1998 *L. nigrolineata* Thorpe, 1998 *L. saxatilis var rudis* Thorpe, 1998 *L. saxatilis tenebrosa* Thorpe, 1998 *var tenebrosa* Smith, 1987

Two nudibranch species were found. *Tenellia adspersa* is a tiny nudibranch, tolerant of low salinities, which has rarely been recorded in the British Isles. It was found on the hydroid *Laomedea flexuosa*, epiphytic on *Zostera* sp., at a site in Loch Bì just west of the central

causeway (LB04). Another small nudibranch *Eubranchus exiguus* was found in large numbers in a similar situation on *L. flexuosa* and *Zostera noltei* in the southern floodgate arm of the loch (LB10). The opisthobranch *Akera bullata* occurred in large numbers on filamentous algae at two sites in Loch Euphort, one in the very sheltered inner basin in Oban Spònis (LE01.3) and the other at a similar site in Oban nam Fiadh (LE04.1). This species is locally common at scattered locations around the British Isles.

4.4 Observed impacts

Almost all of the lagoons surveyed have been modified in some way, generally by the construction of causeways and culverts at narrows. The least modified lagoon and most remote was Oban Spònis, which was also one of the most biologically diverse. In some cases causeways for access by foot had been built across intertidal narrows, creating low walls, such as those in Oban nam Fiadh and Greanacleit. The latter had a small hole in the wall for water exchange whilst the former had fallen partly into disrepair. Oban na Ciste was at one time used for salmon ranching and there is the remains of a caissoned wall and gate across its entrance. There was little evidence anywhere of recent intervention, and all of the interconnections between basins appeared to be unimpeded.

The most obvious impact observed during the survey was a discharge from a pipe into the head of Bàgh Leireabhagh, creating an unpleasant scum on the water surface (Plate 33).

5. DISCUSSION

5.1 Comparison with historical data

5.1.1 Loch Bì

Loch Bì is the most consistently studied of the brackish water lochs in the Uists, with faunal surveys dating back to Nicol in 1936 (Nicol, 1936a), and sites visited by Waterston & Lyster (1979) were revisited where possible in the present survey. Data from several of these surveys (Nicol, 1936a; Waterston & Lyster, 1979; Smith, 1987; Thorpe *et al*., 1998) have been extracted for comparison (Appendix 8), with a summary shown in Table 5. The majority of these publications concentrated on the fauna with only Thorpe *et al*. (1998), which included the MNCR surveys, and the present work recording the plants in any detail. Smith (1987) only recorded Mollusca. Protists, insects and arachnids have been excluded for the purposes of this comparison. The table shows that Nicol (1936a) recorded 29 taxa, Waterston & Lyster (1979) recorded 64, Smith (1987), who only looked at Mollusca, recorded 26, the MNCR surveys recorded 68 and the current survey 105 taxa.

Given the differences in recording focus, the only species which were recorded by all the surveys were the gastropod *Ecrobia ventrosa* and the mussel *Mytilus edulis*. If the Smith (1987) Mollusca records are discounted, the other taxa which are found in each survey are the fucoids *Ascophyllum nodosum* and *Fucus ceranoides,* the amphipod *Corophium volutator,* the gastropod *Potamopyrgus antipodarum* and the sand goby *Pomatoschistus microps.* The NMS survey recorded significantly more green algae, Crustacea and, apart from Smith, more molluscs than most of the other surveys. Waterston & Lyster, however, recorded more fish, a reflection of the information Waterston would have received from local fishermen. A number of species were found by several of the surveys but the most striking feature of this comparison is that the majority of the species on the list have only been recorded on one occasion. This illustrates the large size of Loch Bì and the variety of habitats it contains. It would merit a more detailed survey of its own.

Table 5. Comparison of taxa found during surveys in Loch Bì

Group	Nicol 1936a	Waterston & Lyster 1979	Smith 1987	MNCR Lagoon survey & SNH 2002	NMS 2012
Angiosperms	2	2	0	2	4
Charophytes	0	1	0	0	1
Red algae	0	0	0	6	8
Brown algae	4	5	0	10	8
Green algae	0	4	0	8	18
Cnidaria	2	2	0	1	6
Platyhelminthes	1	1	0	0	0
Annelida	1	4	0	10	7
Oligochaeta	0	0	0	1	0
Crustacea	8	20	0	10	26
Mollusca	4	14	25	15	23
Bryozoa	1	2	1	1	1
Pisces	6	9	0	3	2
Cyanobacteria	0	0	0	1	1
Total no. species	29	64	26	68	105

Species that are thought to be indicative of lagoon status (Table 3) and which have been recorded by the various surveys in Loch Bì are shown in Table 6. All were found during the 2012 survey, which produced the only record of the tasselweed *Ruppia cirrhosa*, although several previous surveys have recorded *Ruppia* sp.; these are notoriously difficult to identify if not in flower. Species that were found to be widespread in the loch in 2012 included the mysid *Neomysis integer* and the isopods *Lekanesphaera hookeri* and *Idotea chelipes*. These were also found by Waterston & Lyster (1979) and the isopods by Nicol (1936a) but were not found by the agency surveys (MNCR, 1993-1995; Site condition monitoring survey SNH database, 2002). The gastropod *Ecrobia ventrosa* was found by all the surveys and the lagoon cockle *Cerastoderma glaucum* by most. In contrast, the bivalve *Mya arenaria* was only found by the MNCR and NMS surveys. It was found in 2012 in grab samples and is another illustration of the need to sample different habitats with a range of techniques.

The perceived increase in biodiversity since Nicol in 1936 is largely due to the inclusion of more groups of fauna and flora and a difference in sampling effort. For example, more recent surveys have used boats to access the centre of the loch whereas some of the surveyors, such as Smith, are likely to have restricted their sampling to sites easily accessible from the road. In addition, the increased availability of identification literature has undoubtedly contributed to the apparent difference in species composition. Ensuring samples are in good condition by thorough sorting and careful preparation of samples in the field, whilst time consuming, enables a greater range of species to be identified.

Table 6. Species indicative of lagoon status recorded in Loch Bì

Scottish lagoon indicators in Loch Bì	NMS 2012	SNH 2002	MNCR 1993 - 95	Smith 1987	Waterston & Lyster 1979	Nicol 1936a
Neomysis integer	*				*	
Lekanesphaera hookeri	*				*	*
Idotea chelipes	*				*	*
Ecrobia ventrosa	*	*	*	*	*	*
Hydrobia acuta neglecta	*			*	*	
Cerastoderma glaucum	*	*	*	*	*	
Mya arenaria	*		*			
Chaetomorpha linum	*		*			
Ruppia cirrhosa	*					
Chara aspera v. aspera	*				*	

5.1.2 Salinity

Salinity has been measured in Loch Bì by several workers over the years, and there has been a suspicion that the eastern part of the loch has been becoming more saline with the ingress of sea water through the southern floodgates. These were designed to allow water to flow out of Loch Bì into Loch Sgioport but to prevent sea water flowing in, but the gates have been broken for a number of years. Table 7 shows the salinity recorded in different parts of the loch over the years.

Table 7. Salinity measurements in Loch Bì

	Nicol (1936a) July 1933	Waterston & Lyster (1979) July 1965 - 1977	NMS Sept 2012
North-west	33	26	28 – 30
West basin	0.8 – 33	1 – 14	20 – 23
Central causeway		12	
East basin	0.8 – 30		15 – 20
Floodgate Loch	7.6 – 9.6		25 - 26

Although all the data from 80 years of surveys are only single records from point sources, they do demonstrate the gradient of decreasing salinity with distance from the main sea water input at the northern culverts. However, there are risks in interpretation of single readings. The greatest difference in the measurements is between the figures recorded by Nicol (1936a) and NMS in the southern Floodgate Loch where there does seem to have been a significant increase. However, the narrows at the junction of the Floodgate Loch with East Loch Bì appear to form a partial barrier, with the salinity in the eastern part of the loch still considerably lower than the rest of Loch Bì.

5.2 Lagoon status

The majority of the lagoons surveyed had one or more of the indicator species present (Table 3). Of those where none was present, three were in the Madadh system (Portain West, Greanacleit, Bàgh Leireabhagh). The western basins at the head of Loch Portain had

a high salinity and were really marine pools at the head of the loch (Figures 15a & 15b). The eastern Portain lagoon was high on the shore and isolated from the other two. Sea water only entered on the high tide whilst there was a constant inflow of fresh water, and so the salinity was likely to be highly variable and often low. The only lagoon indicator present was *Fucus ceranoides*. Greanacleit Lagoon is a muddy intertidal inlet rather than a permanently submerged lagoon and was surveyed at low water. Bàgh Leireabhagh has a narrow entrance with a submerged sill and seawater enters at all states of the tide; it is a very sheltered marine inlet with marine communities typical of the area (Table 2).

In contrast, Loch Fada is a fresh water loch (Table 2) some considerable distance from a sea water source and must only receive saltwater in exceptional conditions. Loch Ròg has more saltwater influence although its salinity is very low and it contained *Fucus ceranoides* and *Lekanesphaera hookeri* near the channel into the Howmore estuary. The Howmore estuary itself was almost fresh water at the time of survey although there must be a sea water incursion on an incoming tide. There was little evidence of a significant brackish or marine fauna or flora although the isopod *L. hookeri* was found.

Loch Bì, Loch Leòdasaigh and Oban nam Fiadh were the most diverse lochs in terms of lagoon indicator species, whilst the most taxa overall were recorded from Loch Bì (105), Oban Spònis (69) and Oban nam Fiadh (49). Loch Bì and Oban nam Fiadh are both large, complex systems with several basins and sills, Oban Spònis is smaller but also has a series of basins and sills whilst Leòdasaigh has an indented shoreline, providing a variety of habitat types. They have moderate to high salinities which are probably highly variable and show a gradient, decreasing with distance from the sea water inflow. There are parts of Loch Bì such as the western shore that do not appear to have been surveyed in any detail because of access difficulties. The arm running south from station LB18 (Figure 10) may well be brackish. More detailed surveys targeted at Loch Bì, Oban nam Fiadh and Oban Spònis would undoubtedly produce many more species records.

5.3 Remarks

The lagoons surveyed in the Uists illustrated the complexity of this network of fresh water, brackish and marine lagoons. A high diversity of species tolerant of brackish conditions was found, with the fauna dominated by Crustacea, particularly isopods, and hydrobiid gastropods, and the flora dominated by green algae. The rare foxtail stonewort *Lamprothamnium papulosum* was found growing in healthy populations in four of the lagoons where it had been recorded previously and the distribution of species thought to be lagoon indicators in Scottish waters was established. Although the sampling techniques were varied and thorough it was only conducted during one season and similar surveys need to be repeated at other times of the year. It was only possible to collect at a small number of sites due to the time constraints and there were many areas that could not be reached easily eg the western arm of East Loch Bi.

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APPENDIX 1: LAGOON SURVEY FORM

NMS 2012: Uist lagoons **Lagoon** ..... **Date:** ..... **Surveyors:** .....

Conditions: ..... **Camera:** ..... **Time: Start:** ..... **End:** .....

Station	Site description	Species inc. abundance
..... **Time:** ..... **WPt** ..... **Posn**..... ..... **Photos:** .... **Tide state** ..... **Temp**: ..... **Conduct**	**Sediment** Mud very muddy gravelly shelly very fine medium coarse Sand Gravel Shell Pebble Cobble Bould. Rock well poorly sorted Softness (1 – 5): Black layer cm: Left in sieve: Insignif. Significant Lots **Description**	**Other observations** eg. Barrier type, height, Impacts

Station	Site description	Species inc. abundance
..... **Time:** ..... **WPt** ..... **Posn**..... ..... **Photos:** .... **Tide state** ..... **Temp**: ..... **Conduct**	**Sediment** Mud very muddy gravelly shelly very fine medium coarse Sand Gravel Shell Pebble Cobble Bould. Rock well poorly sorted Softness (1 – 5): Black layer cm: Left in sieve: Insignif. Significant Lots **Description**	**Other observations** eg. Barrier type, height, Impacts

APPENDIX 2: LITERATURE AND NOTES USED FOR SPECIES IDENTIFICATION

Appendix 2.1: Identification literature

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Appendix 2.2: Notes and photographs to aid the identification of molluscs and crustaceans in the Uist lagoons

Guidance for identification

Some lagoon indicator species are a challenge to identify on account of their small size, poor literature and lack of illustrated dichotomous keys. One character alone is generally inadequate for identification of any group of animals. It takes time and skill to acquire appropriate knowledge and apply this to the identification of an unfamiliar and less common fauna. There are several requirements for confident identification of any group:-

1. Specimens must be in good condition and include whole animals, with retractable features visible without dissection e.g. polychaete proboscis, anemone tentacles.
2. There should be a reasonable number of specimens. There should be at least ten, and if possible many more, as well as a range of sizes and both male and female individuals.
3. A good quality microscope with high magnification, *e.g.* x 20 eye pieces and x 40 objective, is needed. Flexible lighting allows light to be shone from various angles.
4. Access to a range of taxonomic literature and a reference collection.
5. Careful interpretation of descriptions and figures, not simply the characters in the dichotomous keys.

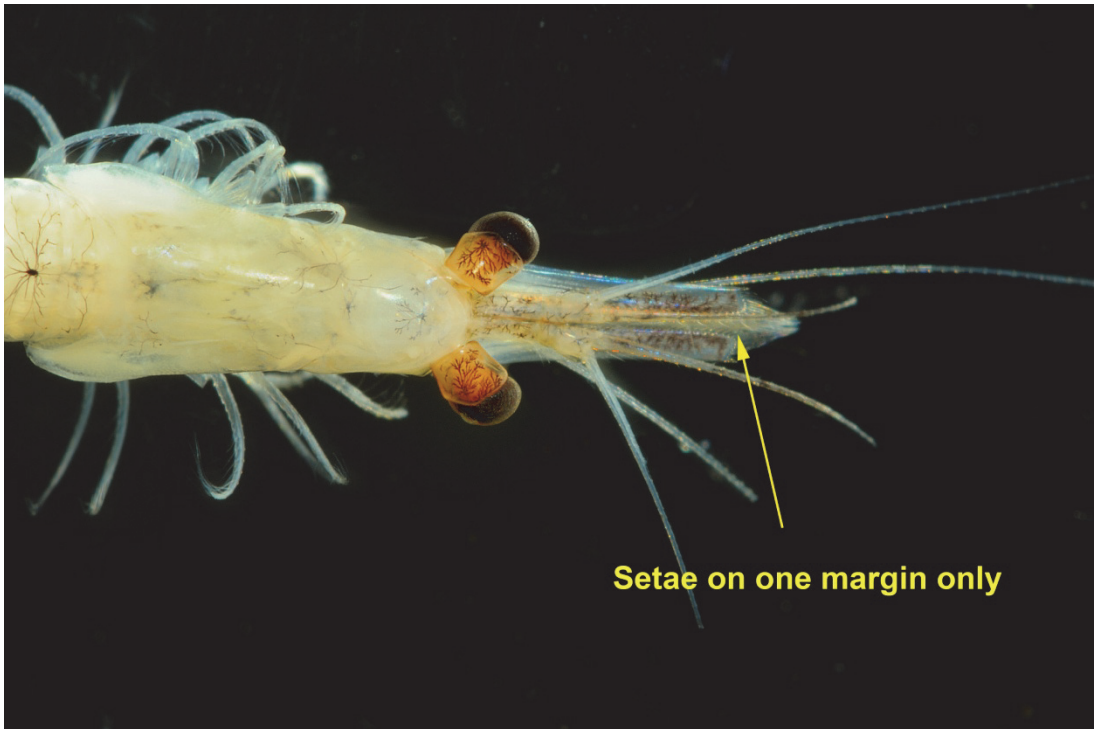
Crustacea

Notes on interpretation of keys for some lagoon species

Praunus flexuosus

- Antennal scale very long and narrow with no setae on outer margin;
- Rostrum rounded.

Praunus flexuous*, lateral view* *© NMS/SNH*

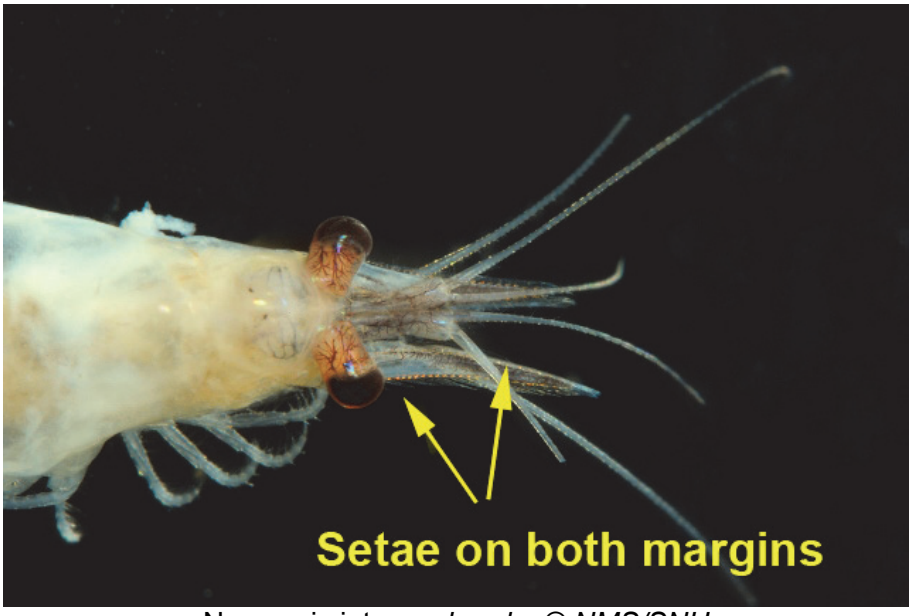


Praunus flexuosus*, head* *© NMS/SNH*

Neomysis integer

- Antennal scale long and narrow but with setae on both internal and outer margins.
- Rostrum short and pointed.

Neomysis integer*, lateral view* © *NMSSNH*

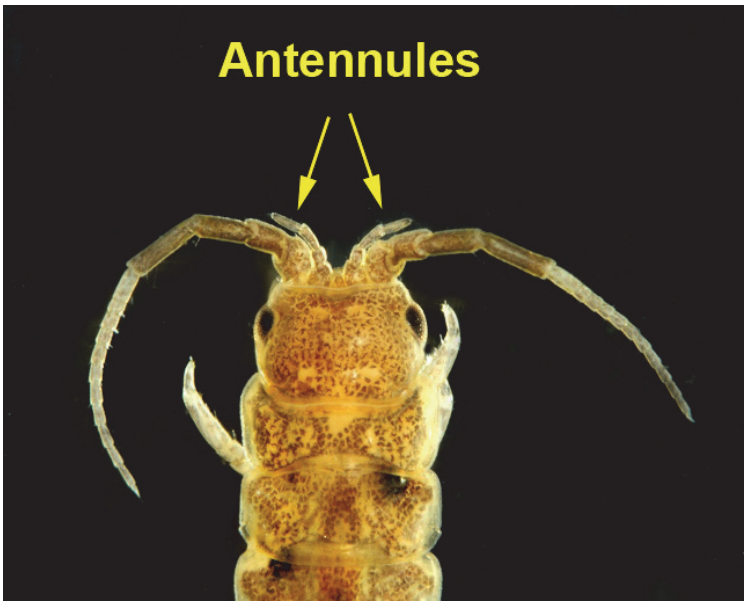


Neomysis integer*, head* © *NMS/SNH*

Idotea chelipes

- The pleotelson as illustrated by Naylor (1972) is not the best and only character to separate *I. chelipes* from *I. balthica*. More useful characters are a combination of antennae and body shape.
- The antennae aesthetasc series in *I. chelipes* has a single large single aesthetasc only visible under high power (at least x 200). This is the main character to separate this species from other *Idotea*.

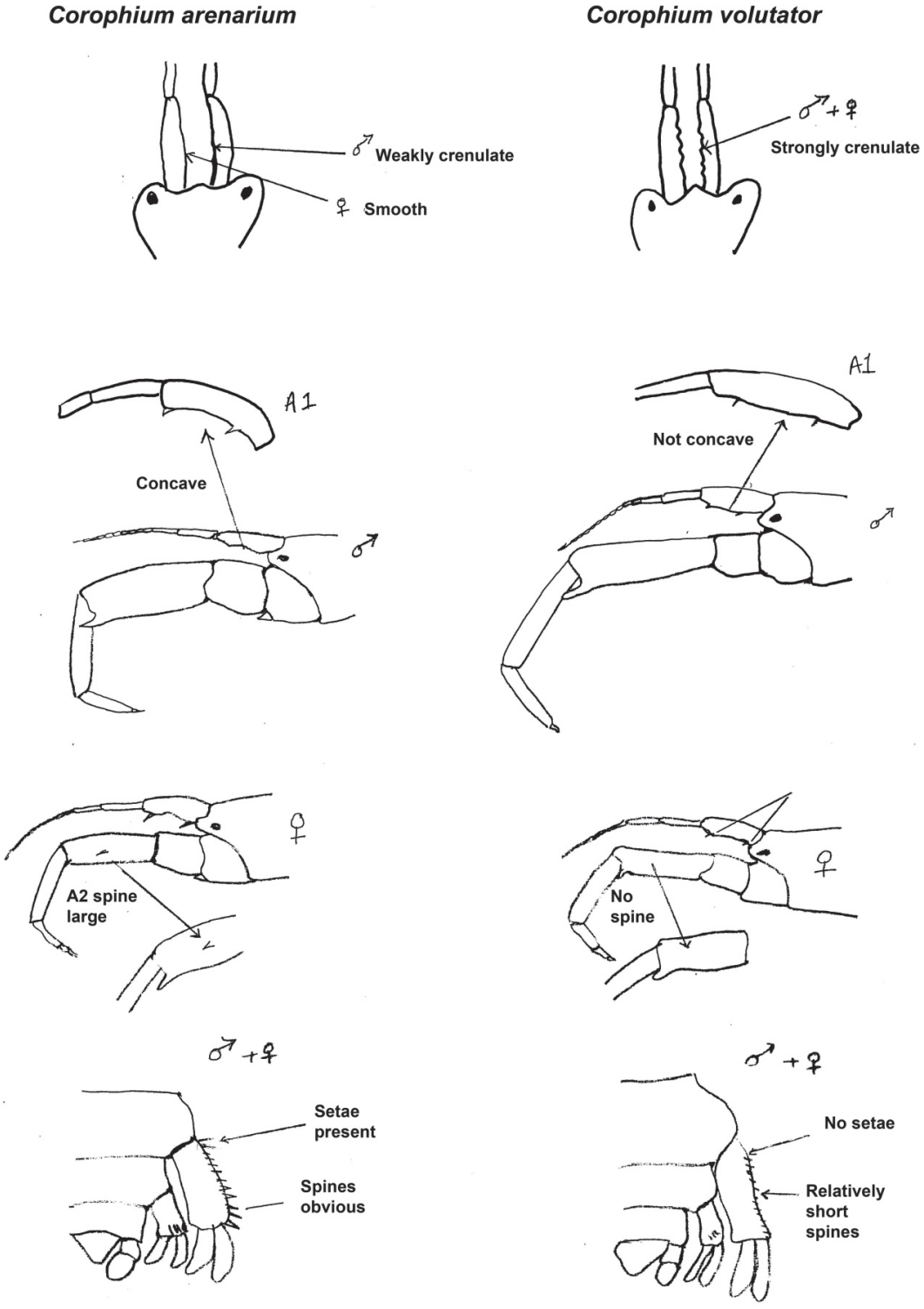
Idotea chelipes*, dorsal view* *© NMS/SNH*



Idotea chelipes*, head* *© NMS/SNH*

Corophium arenarium and *volutator*

- The most convincing distinguishing character was found to be the presence of 3 – 4 long spines on the inner margin of the uropod 1 peduncle in *C. volutator* (♂ and ♀) whereas *C. arenarium* (♂ and ♀) has just one distal spine. However, the characters for males and females are not always the same and the following illustration and photographs highlight some of the other characters that require attention.



Corophium volutator*, lateral view* *© NMS/SNH*

Corophium volutator*, head* *© NMSSNH*

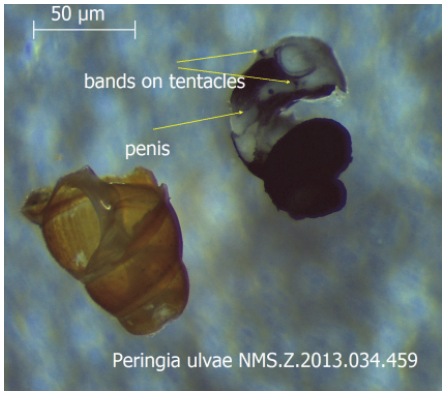
Mollusca

These images of molluscs found in the Uist lagoons are only intended as a guide to some useful characters.

Hydrobiidae
There is phenotypic variation within each species and no one single character is of value for a definitive identification. Intermediate characteristics are described in Wilke & Pfenniger (2002). Hydrobiids are easiest to identify as live specimens.

Peringia ulvae

Live Peringia ulvae
Photo no MSW_20120925_03499



Dissection of male to show features
© NMS/SNH

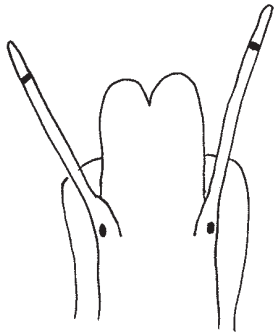
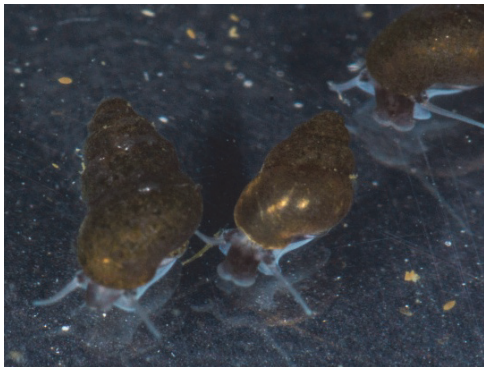


Diagram showing typical tentacle pigmentation

Potamopyrgus antipodarum

Potamopyrgus antipodarum
© NMS/SNH



No markings on tentacle, shell of uppermost animal showing faint keel
Photo: MSW_20120925_03490

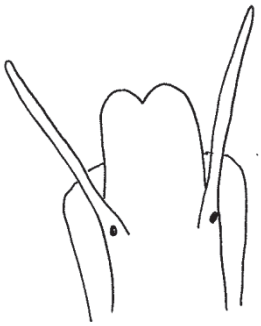
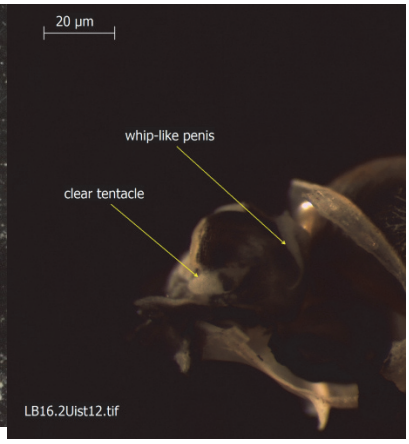


Diagram showing tentacle pigmentation

Ecrobia ventrosa

Live Ecrobia ventrosa *(from Kent)*
© NMS/SNH



Dissection of male
to show key features © NMSSNH

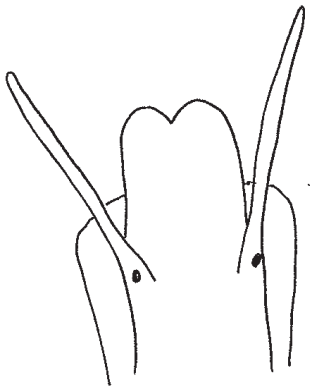


Diagram showing tentacle pigmentation

Hydrobia acuta neglecta

Live Hydrobia acuta neglecta
Photo MSW_20120917_03062

Animal showing faint v markings on tentacles (Kent) © NMS/SNH

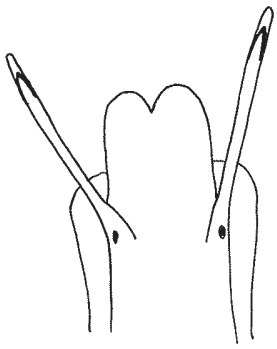
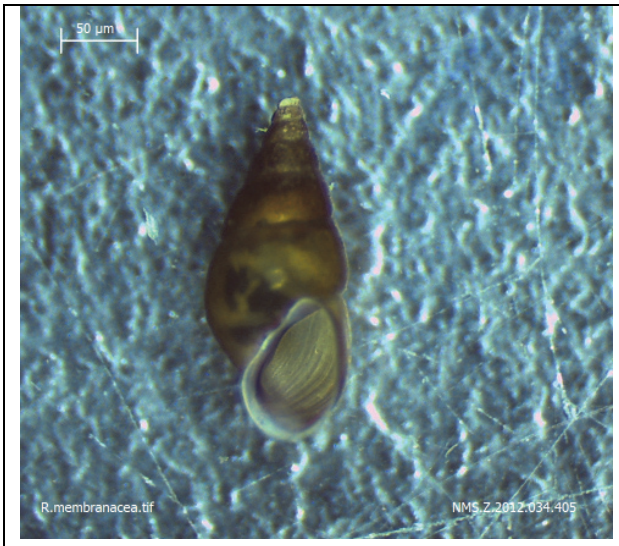


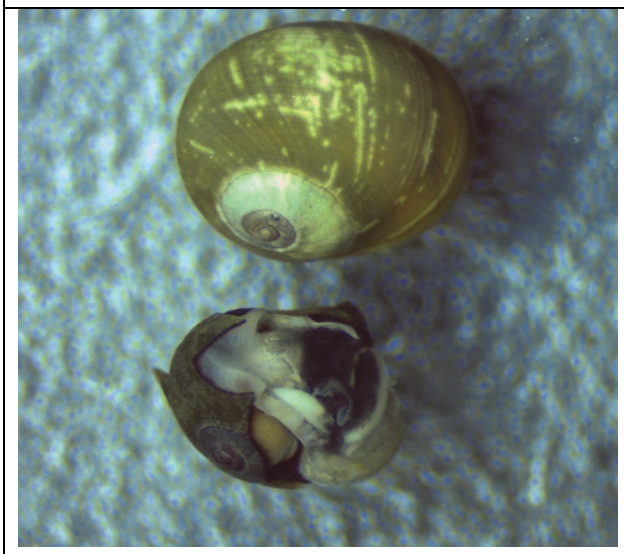
Diagram showing typical tentacle pigmentation

Some other molluscan images



Rissostomia membranacea © *NMS/SNH*

Cerastoderma *sp.*
Photo 20120926_SA_183



Littorina obtusata*, including dissection of male*
© *NMS/SNH*

Barleeia unifasciata © *NMS/SNH*

References

Wilke, T. & Pfenniger, M. 2002. Separating historic events from recurrent processes in cryptic species: phylogeography of mud snails (*Hydrobia* spp.) *Molecular Ecology*, **11**: 1439-1451.

APPENDIX 3: STATION DATA

Table A3. Station names and position

Station code	Lagoon system	Site name	Waypoint	Latitude (WGS84, decimal degrees)	Longitude (WGS84, decimal degrees)	Grid Ref (BNG)	Date
LM01.1a	Loch nam Madadh	Loch Portain Lagoon	CMH_10	57.63440° N	07.12115° W	NF 94477 72044	17/09/2012
LM01.1b	Loch nam Madadh	Loch Portain Lagoon	CMH_09	57.63440° N	07.11917° W	NF 94596 72035	17/09/2012
LM01.2	Loch nam Madadh	Loch Portain Lagoon	CMH_23	57.63180° N	07.11239° W	NF 94978 71716	19/09/2012
LM01.3	Loch nam Madadh	Loch Portain Lagoon	CMH_24	57.63300° N	07.11667° W	NF 94733 71868	19/09/2012
LM02	Loch nam Madadh	Greanacleit Lagoon	CMH_11	57.63360° N	07.15419° W	NF 92501 72105	17/09/2012
LM03.1a	Loch nam Madadh	Loch Dheoir	SJC_01	57.63920° N	07.16198° W	NF 92083 72751	17/09/2012
LM03.1b	Loch nam Madadh	Loch Dheoir	SJC_08	57.63920° N	07.16176° W	NF 92097 72762	17/09/2012
LM03.1c	Loch nam Madadh	Loch Dheoir	SJC_09	57.63920° N	07.16169° W	NF 92102 72761	17/09/2012
LM03.2	Loch nam Madadh	Loch Dheoir	SJC_02	57.64130° N	07.16339° W	NF 92018 73002	17/09/2012
LM03.3	Loch nam Madadh	Loch Dheoir	SJC_03	57.64400° N	07.16479° W	NF 91958 73309	17/09/2012
LM03.4	Loch nam Madadh	Loch Dheoir	SJC_04	57.64550° N	07.18295° W	NF 90888 73558	17/09/2012
LM03.6	Loch nam Madadh	Loch Dheoir	SJC_06	57.64450° N	07.20385° W	NF 89634 73543	17/09/2012
LM03.7	Loch nam Madadh	Loch Dheoir	SJC_07	57.64440° N	07.20530° W	NF 89547 73538	17/09/2012
LM03.10	Loch nam Madadh	Loch Dheoir	SJC_13	57.64610° N	07.18920° W	NF 90521 73654	18/09/2012
LD01	Loch nam Madadh	Loch an Dùin channel	SJC_14	57.64200° N	07.20858° W	NF 89331 73287	18/09/2012
LD02	Loch nam Madadh	Loch an Dùin	SA_LaD	57.64216° N	07.20745° W	NF 89408 73318	28/09/2012
LM04a	Loch nam Madadh	Aileodair	CMH_12	57.63570° N	07.21608° W	NF 88830 72621	17/09/2012
LM04b	Loch nam Madadh	Aileodair	CMH_13_a	57.63560° N	07.21535° W	NF 88873 72607	17/09/2012
LM04c	Loch nam Madadh	Aileodair	CMH_13_b	57.63560° N	07.21535° W	NF 88873 72607	17/09/2012
LM04d	Loch nam Madadh	Aileodair	CMH_13_c	57.63560° N	07.21535° W	NF 88873 72607	17/09/2012
LM05.1	Loch nam Madadh	Bac-a-stoc	SJC_12	57.63370° N	07.19918° W	NF 89820 72321	18/09/2012
LM05.2	Loch nam Madadh	Bac-a-stoc	SJC_11	57.63300° N	07.19983° W	NF 89776 72246	18/09/2012
LM06.1	Loch nam Madadh	Loch Collastrome	CMH_15	57.61830° N	07.19562° W	NF 89901 70593	18/09/2012
LM06.2	Loch nam Madadh	Loch Collastrome	CMH_16	57.61780° N	07.19334° W	NF 90033 70527	18/09/2012
LM06.3	Loch nam Madadh	Loch Collastrome	CMH_17	57.61790° N	07.19311° W	NF 90047 70537	18/09/2012
LM07.1a	Loch nam Madadh	Loch Houram	CMH_18	57.61070° N	07.18171° W	NF 90666 69685	18/09/2012
LM07.1b	Loch nam Madadh	Loch Houram	CMH_19	57.61020° N	07.18112° W	NF 90697 69627	18/09/2012
LM07.2a	Loch nam Madadh	Loch Houram	CMH_20	57.60870° N	07.17328° W	NF 91152 69424	18/09/2012
LM07.2b	Loch nam Madadh	Loch Houram	CMH_21	57.60930° N	07.17422° W	NF 91101 69495	18/09/2012
LM07.2c	Loch nam Madadh	Loch Houram	CMH_22_a	57.60910° N	07.17557° W	NF 91018 69479	18/09/2012
LM07.2d	Loch nam Madadh	Loch Houram	CMH_22_b	57.60910° N	07.17557° W	NF 91018 69479	18/09/2012
LM09.1	Loch nam Madadh	Ob nan Stearnain	SJC_15	57.60270° N	07.17024° W	NF 91282 68744	19/09/2012
LM09.2	Loch nam Madadh	Ob nan Stearnain	SJC_16	57.60010° N	07.17023° W	NF 91261 68455	19/09/2012
LM09.3	Loch nam Madadh	Ob nan Stearnain	SJC_17	57.60230° N	07.17639° W	NF 90912 68727	19/09/2012
LM10.1	Loch nam Madadh	Loch na Ciste and Srom Bàn	CMH_31	57.59900° N	07.17807° W	NF 90783 68368	20/09/2012
LM10.2	Loch nam Madadh	Loch na Ciste and Srom Bàn	SJC_20	57.59830° N	07.17614° W	NF 90893 68282	20/09/2012
LM11.1a	Loch nam Madadh	Bàgh Leireabhagh	CMH_26_s	57.59320° N	07.18691° W	NF 90207 67764	20/09/2012
LM11.1a	Loch nam Madadh	Bàgh Leireabhagh	CMH_26_b	57.59320° N	07.18691° W	NF 90207 67764	20/09/2012
LM11.1b	Loch nam Madadh	Bàgh Leireabhagh	CMH_27_s	57.59310° N	07.18634° W	NF 90240 67750	20/09/2012
LM11.1b	Loch nam Madadh	Bàgh Leireabhagh	CMH_27_b	57.59310° N	07.18634° W	NF 90240 67750	20/09/2012
LM11.1c	Loch nam Madadh	Bàgh Leireabhagh	CMH_28_s	57.59310° N	07.18219° W	NF 90487 67731	20/09/2012
LM11.1c	Loch nam Madadh	Bàgh Leireabhagh	CMH_28_b	57.59310° N	07.18219° W	NF 90487 67731	20/09/2012

Station code	Lagoon system	Site name	Waypoint	Latitude (WGS84, decimal degrees)	Longitude (WGS84, decimal degrees)	Grid Ref (BNG)	Date
LM11.2	Loch nam Madadh	Bàgh Leireabhagh	CMH_30_s	57.59240° N	07.17084° W	NF 91159 67602	20/09/2012
LM11.2	Loch nam Madadh	Bàgh Leireabhagh	CMH_30_b	57.59240° N	07.17084° W	NF 91159 67602	20/09/2012
LM11.3	Loch nam Madadh	Bàgh Leireabhagh	CMH_29	57.59340° N	07.16782° W	NF 91348 67699	20/09/2012
C01.1	Clachan SSSI	Loch Leòdasaigh	SJC_29	57.54280° N	07.33610° W	NF 80863 62856	26/09/2012
C01.2	Clachan SSSI	Loch Leòdasaigh	SJC_30	57.54480° N	07.32755° W	NF 81391 63038	26/09/2012
C01.3	Clachan SSSI	Loch Leòdasaigh	CJG_14	57.54710° N	07.33607° W	NF 80902 63333	26/09/2012
C02.1	Clachan SSSI	Oban Irpeig	SJC_27	57.55050° N	07.34092° W	NF 80642 63734	26/09/2012
C02.2	Clachan SSSI	Oban Irpeig	SJC_28	57.55070° N	07.33239° W	NF 81153 63716	26/09/2012
C03.1	Clachan SSSI	Oban a' Chlachain	CJG_10	57.55340° N	07.31458° W	NF 82241 63932	26/09/2012
C03.2	Clachan SSSI	Oban a' Chlachain	CJG_11	57.55400° N	07.31152° W	NF 82429 63985	26/09/2012
C03.3a	Clachan SSSI	Oban a' Chlachain	CJG_13	57.55310° N	07.33269° W	NF 81156 63984	26/09/2012
C03.3b	Clachan SSSI	Oban a' Chlachain	CJG_12	57.55310° N	07.33336° W	NF 81116 63987	26/09/2012
C04.1	Loch na Faoileige	Loch na Faoileige	SJC_25	57.55070° N	07.34393° W	NF 80464 63770	26/09/2012
C04.2	Loch na Faoileige	Loch na Faoileige	SJC_26	57.55160° N	07.34537° W	NF 80386 63877	26/09/2012
LE01.1	Loch Euphort	Oban Spònis	SJC_21	57.56140° N	07.21217° W	NF 88427 64346	21/09/2012
LE01.2	Loch Euphort	Oban Spònis	SJC_22	57.56170° N	07.21261° W	NF 88403 64381	21/09/2012
LE01.3	Loch Euphort	Oban Spònis	CMH_34	57.56230° N	07.22074° W	NF 87923 64485	21/09/2012
LE01Ph	Loch Euphort	Oban Spònis	CMH_32	57.56120° N	07.21129° W	NF 88478 64320	21/09/2012
LE01Ph	Loch Euphort	Oban Spònis	CMH_33	57.56160° N	07.21443° W	NF 88294 64379	21/09/2012
LE01Ph	Loch Euphort	Oban Spònis	CMH_35	57.56220° N	07.21855° W	NF 88053 64464	21/09/2012
LE03.1	Loch Euphort	Oban na Curra	SJC_18	57.54960° N	07.30077° W	NF 83033 63445	20/09/2012
LE03.2	Loch Euphort	Oban na Curra	SJC_19	57.55110° N	07.29965° W	NF 83113 63607	20/09/2012
LE04.1a	Loch Euphort	Oban nam Fiadh	CMH_38	57.54640° N	07.27605° W	NF 84482 62975	22/09/2012
LE04.1b	Loch Euphort	Oban nam Fiadh	CMH_39_s	57.54630° N	07.27614° W	NF 84476 62964	22/09/2012
LE04.1b	Loch Euphort	Oban nam Fiadh	CMH_39_b	57.54630° N	07.27614° W	NF 84476 62964	22/09/2012
LE04.1c	Loch Euphort	Oban nam Fiadh	CMH_40_s	57.54620° N	07.27559° W	NF 84508 62950	22/09/2012
LE04.1c	Loch Euphort	Oban nam Fiadh	CMH_40_b	57.54620° N	07.27559° W	NF 84508 62950	22/09/2012
LE04.1d	Loch Euphort	Oban nam Fiadh	CMH_42_s	57.54590° N	07.27587° W	NF 84488 62918	22/09/2012
LE04.1d	Loch Euphort	Oban nam Fiadh	CMH_42_b	57.54590° N	07.27587° W	NF 84488 62918	22/09/2012
LE04.2	Loch Euphort	Oban nam Fiadh	CMH_43	57.54600° N	07.28127° W	NF 84167 62954	22/09/2012
LE04.3a	Loch Euphort	Oban nam Fiadh	CMH_44	57.54740° N	07.28316° W	NF 84066 63119	22/09/2012
LE04.3b	Loch Euphort	Oban nam Fiadh	CMH_45_s	57.54720° N	07.28353° W	NF 84042 63098	22/09/2012
LE04.3b	Loch Euphort	Oban nam Fiadh	CMH_45_b	57.54720° N	07.28353° W	NF 84042 63098	22/09/2012
LE04.3c	Loch Euphort	Oban nam Fiadh	CMH_46_s	57.54740° N	07.28391° W	NF 84021 63122	22/09/2012
LE04.3c	Loch Euphort	Oban nam Fiadh	CMH_46_b	57.54740° N	07.28391° W	NF 84021 63122	22/09/2012
LE04.4a	Loch Euphort	Oban nam Fiadh	CMH_47	57.54890° N	07.28416° W	NF 84019 63290	22/09/2012
LE04.4b	Loch Euphort	Oban nam Fiadh	CMH_48_s	57.54910° N	07.28473° W	NF 83987 63315	22/09/2012
LE04.4b	Loch Euphort	Oban nam Fiadh	CMH_48_b	57.54910° N	07.28473° W	NF 83987 63315	22/09/2012
LE04.4c	Loch Euphort	Oban nam Fiadh	CMH_49_s	57.54940° N	07.28511° W	NF 83967 63350	22/09/2012
LE04.4c	Loch Euphort	Oban nam Fiadh	CMH_49_b	57.54940° N	07.28511° W	NF 83967 63350	22/09/2012
LE05	Loch Euphort	Bàgh Uaine	CMH_36	57.55150° N	07.26316° W	NF 85296 63481	21/09/2012
LE05Ph	Loch Euphort	Bàgh Uaine	CMH_37	57.54610° N	07.28137° W	NF 84161 62966	21/09/2012
HE01	Howmore Estuary	Howmore Estuary	CMH_53	57.29590° N	07.38734° W	NF 75621 35663	23/09/2012
HE02	Howmore Estuary	Howmore Estuary	CMH_54	57.29630° N	07.39025° W	NF 75449 35721	23/09/2012
HE03	Howmore Estuary	Howmore Estuary	CMH_55	57.30020° N	07.39103° W	NF 75437 36158	23/09/2012

Station code	Lagoon system	Site name	Waypoint	Latitude (WGS84, decimal degrees)	Longitude (WGS84, decimal degrees)	Grid Ref (BNG)	Date
HE04	Howmore Estuary	Howmore Estuary	CMH_56	57.30130° N	07.39462° W	NF 75230 36298	23/09/2012
LF01	Loch Fada	Loch Fada	CMH_50	57.28620° N	07.39247° W	NF 75226 34610	23/09/2012
LF02	Loch Fada	Loch Fada	CMH_51a	57.29140° N	07.39121° W	NF 75348 35181	23/09/2012
LR01	Loch Ròg	Loch Ròg	CMH_51b	57.29140° N	07.39121° W	NF 75348 35181	23/09/2012
LR02	Loch Ròg	Loch Ròg	CMH_52	57.29460° N	07.38639° W	NF 75666 35514	23/09/2012
LB01a	Loch Bì	Loch Bì	CMH_03	57.39200° N	07.38028° W	NF 76892 46308	16/09/2012
LB01b	Loch Bì	Loch Bì	CMH_04			NF 768 464	16/09/2012
LB01c	Loch Bì	Loch Bì	CMH_02	57.39240° N	07.38179° W	NF 76805 46359	16/09/2012
LB02a	Loch Bì	Loch Bì	CMH_08	57.39010° N	07.38739° W	NF 76449 46131	16/09/2012
LB02b	Loch Bì	Loch Bì	CMH_07	57.39010° N	07.38720° W	NF 76460 46130	16/09/2012
LB02c	Loch Bì	Loch Bì	CMH_06	57.39110° N	07.38827° W	NF 76405 46246	16/09/2012
LB02d	Loch Bì	Loch Bì	CMH_05	57.39080° N	07.38809° W	NF 76413 46212	16/09/2012
LB03	Loch Bì	Loch Bì	CMH_57	57.36540° N	07.34778° W	NF 78609 43198	24/09/2012
LB04	Loch Bì	Loch Bì	CMH_58	57.36400° N	07.35757° W	NF 78009 43089	24/09/2012
LB05	Loch Bì	Loch Bì	SJC_24	57.35740° N	07.38098° W	NF 76545 42466	24/09/2012
LB06	Loch Bì	Loch Bì	CMH_59	57.38280° N	07.35808° W	NF 78143 45180	24/09/2012
LB07	Loch Bì	Loch Bì	CMH_60	57.34050° N	07.29783° W	NF 81392 40195	26/09/2012
LB08	Loch Bì	Loch Bì	CMH_61	57.34110° N	07.29887° W	NF 81335 40267	26/09/2012
LB09	Loch Bì	Loch Bì	CMH_63	57.34710° N	07.30809° W	NF 80833 40977	26/09/2012
LB10	Loch Bì	Loch Bì	CMH_64	57.35080° N	07.32015° W	NF 80141 41445	26/09/2012
LB11	Loch Bì	Loch Bì	CMH_65	57.35370° N	07.31077° W	NF 80729 41723	27/09/2012
LB12	Loch Bì	Loch Bì	CMH_66_s	57.35290° N	07.31474° W	NF 80484 41653	27/09/2012
LB12	Loch Bì	Loch Bì	CMH_66_b	57.35290° N	07.31474° W	NF 80484 41653	27/09/2012
LB13	Loch Bì	Loch Bì	CMH_67	57.35550° N	07.33082° W	NF 79541 42017	27/09/2012
LB14	Loch Bì	Loch Bì	CMH_69_s	57.35670° N	07.34557° W	NF 78666 42221	27/09/2012
LB14	Loch Bì	Loch Bì	CMH_69_b	57.35670° N	07.34557° W	NF 78666 42221	27/09/2012
LB15	Loch Bì	Loch Bì	CMH_70_s	57.35830° N	07.35191° W	NF 78299 42428	27/09/2012
LB15	Loch Bì	Loch Bì	CMH_70_b	57.35830° N	07.35191° W	NF 78299 42428	27/09/2012
LB16	Loch Bì	Loch Bì	SJC_31	57.35620° N	07.36432° W	NF 77535 42254	27/09/2012
LB17	Loch Bì	Loch Bì	SJC_32	57.35600° N	07.36446° W	NF 77525 42232	27/09/2012
LB18	Loch Bì	Loch Bì	SJC_33	57.35340° N	07.34652° W	NF 78580 41858	27/09/2012
LB19	Loch Bì	Loch Bì	CMH_68_s	57.35470° N	07.33162° W	NF 79486 41932	27/09/2012
LB19	Loch Bì	Loch Bì	CMH_68_b	57.35470° N	07.33162° W	NF 79486 41932	27/09/2012

Table A3.2 Log of survey activity

Surveyors:

SA – Stewart Angus;
SJC – Susan Chambers;
NH – Natalie Hirst;
CMH – Christine Howson;
SP – Sankurie Pye;
FW – Fiona Ware;
MW – Mark Woombs

Survey effort:

SR – Site Record;
BR – Biological Record;
BS – Biological Sample;
T – Temperature;
C – Conductivity;
R – Refractometer reading;
P – Photography

Station code	Waypoint	Time	Water depth sampled (m)	Surveyors	Effort	Photo Nos.
LM01.1a	CMH_10	1135	0.1	NH, CMH, FW	SR, BR, BS, T, C, P	CMH_2461 - 2467
LM01.1b	CMH_09			NH, CMH, FW	T, C	
LM01.2	CMH_23	1330	0.4	CMH, MW	SR, BR, BS, T, C, P	CMH_2547 MSW_03801 - 03840
LM01.3	CMH_24	1430	2.5 max	CMH, MW	SR, BR, BS, T, C, P	CMH_2548 - 2554 MSW_03841 - 03860
LM02	CMH_11	1250	0.5	NH, CMH, FW	SR, BR, BS, T, C, P	CMH_2468 - 2473; 2478 - 2485
LM03.1a	SJC_01	1110	1	SJC, MW	SR, T, C, R, P	MSW_03008 - 03009; 03014 - 03015; 03027 - 03030; 03032 - 03033; 03055 - 03063; 03065 - 03069
LM03.1b	SJC_08	1530		SJC, MW	SR, T, C	
LM03.1c	SJC_09	1600	0.2	SJC, MW	SR, BR, BS, T, C, R, P	MSW_03589 - 03605; 03687 - 03690; 03692 - 03727
LM03.2	SJC_02	1130	1	SJC, MW	SR, BR, BS, T, C, R, P	MSW_03606 - 03622
LM03.3	SJC_03	1200	1	SJC, MW	SR, BR, T, C, R, P	MSW_03623 - 03643
LM03.4	SJC_04	1230	1.5 - 2	SJC, MW	SR, BR, T, C, R, P	MSW_03644 - 03666
LM03.6	SJC_06	1400		SJC, MW	SR, BR, T, C, R, P	MSW_03667 - 03686
LM03.7	SJC_07			SJC, MW	SR, BR, T, C, R, P	
LM03.10	SJC_13	1530	0.5	SJC, MW	SR, BR, BS, T, C, P	MSW_2; MSW_15 - 28; MSW_03072; 03075 - 03078; 03080; 03085; 03087; 03089 - 03102; 03104 - 03111
LD01	SJC_14	1645	0.5 - 0.75	SJC, MW	SR, BR, BS, T, C, P	MSW_2; MSW_2_2 - 2_24; MSW_03117 - 03119; 03123 - 03126; 03128 - 03131
LD02	SA_LaD	1020		SA	BR, BS	
LM04a	CMH_12	1430	0.5	NH, CMH, FW	SR, BR, BS, T, C, P	CMH_2486 - 2489
LM04b	CMH_13_a		Surface	NH, CMH, FW	T, C	
LM04c	CMH_13_b		Bottom	NH, CMH, FW	T, C	
LM04d	CMH_13_c		Surface	NH, CMH, FW	T, C	
LM05.1	SJC_12			SJC, MW	BS	
LM05.2	SJC_11	1220	1	SJC, MW	SR, BR, BS, T, C, P	MSW_02; MSW_02_2; MSW_07 - 12; 27 - 52
LM06.1	CMH_15	1055	1	NH, CMH	SR, BR, BS, T, C, P	CMH_2490 - 2495; 2504 - 2506
LM06.2	CMH_16			NH, CMH	BS, T, C, P	CMH_2496 - 2498

LM06.3	CMH_17			NH, CMH	T, C, P	CMH_2499 - 2503
LM07.1a	CMH_18	1230	1	NH, CMH	SR, BR, BS, T, C, P	CMH_2507 - 2517
LM07.1b	CMH_19			NH, CMH	T, C, P	CMH_2518 - 2529
LM07.2a	CMH_20	1440	1.5	NH, CMH	SR, BR, BS, T, C, P	CMH_2530 – 2546; 2661 - 2668
LM07.2b	CMH_21			NH, CMH	BS, T, C	
LM07.2c	CMH_22_a			NH, CMH	BS, T, C	
LM07.2d	CMH_22_b			NH, CMH	T, C	
LM09.1	SJC_15	1230	0.5	NH, FW	SR, BR, BS, T, C, P	NH_026 - 028
LM09.2	SJC_16	1330	0.5	NH, FW	SR, BR, BS, T, C, P	NH_029 - 034
LM09.3	SJC_17	1430	0.15 - 0.4	NH, FW	SR, BS, T, C, P	NH_035 - 037
LM10.1	CMH_31	1610	1	SJC, MW	SR, BR, B, T, C, P	MSW_03933 - 03938; 03941 - 03948
LM10.2	SJC_20	1605	0.4	NH, FW	SR, BR, BS, T, C, P	NH_2050 - 2063
LM11.1a	CMH_26_s	1110	0.5	FW, MW	SR, BR, BS, T, C, P	MSW_03891 - 03906
LM11.1a	CMH_26_b		Bottom	FW, MW	T, C	
LM11.1b	CMH_27_s		Surface	FW, MW	T, C	
LM11.1b	CMH_27_b		1.6	FW, MW	T, C	
LM11.1c	CMH_28_s		Surface	FW, MW	T, C	
LM11.1c	CMH_28_b		2.1	FW, MW	T, C	
LM11.2	CMH_30_s	1203	Surface	FW, MW	SR, BR, BS, T, C, P	MSW_03907 - 03932
LM11.2	CMH_30_b	1203	1.4	FW, MW	T, C	
LM11.3	CMH_29		Surface	FW, MW	T, C	
C01.1	SJC_29	1400	0.5	NH, SP	SR, BR, BS, T, C, P	NH_2174 - 2177
C01.2	SJC_30	1430	0.5	NH, SP	SR, BR, BS, T, C, P	NH_2178 - 2180
C01.3	CJG_14	1539	0.2 -0.5	SA, SJC	SR, BR, BS, T, C, R, P	SA_214 - 234
C02.1	SJC_27	1205	0.4	NH, SP	SR, BR, BS, T, C, P	NH_2163 - 2169
C02.2	SJC_28	1255	0.3	NH, SP	SR, BR, BS, T, C, P	NH_2170 - 2173
C03.1	CJG_10	1030	1	SA, SJC	SR, BR, BS, T, C, R, P	SA_141 - 169
C03.2	CJG_11	1135	0.15	SA, SJC	SR, BR, T, C, R, P	SA_170 - 198
C03.3a	CJG_13	1400	0.5 - 1	SA, SJC	SR, BR, BS, T, C, R, P	SA_199 - 213
C03.3b	CJG_12			SA, SJC	BS, T, C	
C04.1	SJC_25	1040	0.5	NH, SP	SR, BR, BS, T, C, P	NH_2150 - 2154
C04.2	SJC_26	1100	0.5	NH, SP	SR, BR, BS, T, C, P	NH_2155 - 2162
LE01.1	SJC_21	1200	1.5	SJC, MW	SR, BR, BS, T, C, P	MSW_03949 - 03958; 03967 - 03972
LE01.2	SJC_22	1240	1 - 2.5	SJC, MW	SR, BR, BS, T, C, P	MSW_03132; 03134 - 03141; 03144 - 03145; 03153 - 03156; 03166; 03168 - 03169; 03171; 03173 - 03175; 03177; 03179 – 03180; 03183 – 03192; 03194 – 03199; 03201 – 03202; 03959 - 03966
LE01.3	CMH_34	1110	1 - 1.5	NH, CMH	SR, BR, BS, T, C, P	CMH_2563 - 2570
LE01Ph	CMH_32			NH, CMH	Photo Point	NH_2064 - 2066; 2068 - 2070 CMH_2555 - 2562; 2571 - 2574
LE01Ph	CMH_33			NH, CMH	Photo Point	
LE01Ph	CMH_35			NH, CMH	Photo Point	

LE03.1	SJC_18	1245	0.5 - 1	SJC, NH	SR, BR, BS, T, C, P	NH_043 - 052
LE03.2	SJC_19	1445	0.5	SJC, NH	SR, BR, BS, T, C, P	NH_053 - 054
LE04				SJC, CMH, MW	P	CMH_2580 - 2583; 2585 - 2587 MSW_03983 - 03988; 04052 - 04059
LE04.1a	CMH_38	1037	1.2	SJC, CMH, MW	SR, BR, BS, T, C, P	CMH_2584 MSW_03989 - 03995; 03997 - 04007
LE04.1b	CMH_39_s		Surface	SJC, CMH, MW	T, C	
LE04.1b	CMH_39_b		1	SJC, CMH, MW	T, C	
LE04.1c	CMH_40_s		Surface	SJC, CMH, MW	T, C	
LE04.1c	CMH_40_b		1.2	SJC, CMH, MW	T, C	
LE04.1d	CMH_42_s		Surface	SJC, CMH, MW	T, C	
LE04.1d	CMH_42_b		1.2	SJC, CMH, MW	T, C	
LE04.2	CMH_43	1200	intertidal to 0.5	SJC, CMH, MW	SR, BR, BS, T, C, P	MSW_04008 - 04040
LE04.3a	CMH_44	1230	0.5	SJC, CMH, MW	SR, BR, BS, T, C, P	MSW_04041 - 04046; 04048 - 04051
LE04.3b	CMH_45_s		Surface	SJC, CMH, MW	T, C	
LE04.3b	CMH_45_b		0.6	SJC, CMH, MW	T, C	
LE04.3c	CMH_46_s		Surface	SJC, CMH, MW	T, C	
LE04.3c	CMH_46_b		0.4	SJC, CMH, MW	T, C	
LE04.4a	CMH_47	1330	0.5	SJC, CMH, MW	SR, BR, BS, T, C, P	MSW_04060 - 04069
LE04.4b	CMH_48_s		Surface	SJC, CMH, MW	T, C	
LE04.4b	CMH_48_b		0.7	SJC, CMH, MW	T, C	
LE04.4c	CMH_49_s		Surface	SJC, CMH, MW	T, C	
LE04.4c	CMH_49_b		1.2	SJC, CMH, MW	T, C	
LE05	CMH_36	1615	0.5	NH, MW	SR, BR, BS, T, C, P	MSW_03973 - 03975; 03977 - 03982
LE05Ph	CMH_37			NH, MW	Photo Point	
HE01	CMH_53	1245	0.4	NH, CMH, SP	SR, BR, BS, T, C, P	CMH_2613 - 2616
HE02	CMH_54	1250	0.5	NH, CMH, SP	SR, BR, BS, T, C, P	CMH_2617 - 2621
HE03	CMH_55	1325	0.2	NH, CMH, SP	SR, BR, BS, T, C, P	CMH_2623 - 2633; 2641 - 2642
HE04	CMH_56	1345	0.4	NH, CMH, SP	SR, T, C, P	CMH_2634 - 2640
LF01	CMH_50	1040	0.3	NH, CMH, SP	SR, BR, BS, T, C, P	CMH_2588 - 2594
LF02	CMH_51a	1120	0.5	NH, CMH, SP	SR, BR, BS, T, C, P	CMH_2595 - 2601
LR01	CMH_51b	1130	0.5	NH, CMH, SP	SR, BR, BS, T, C, P	CMH_2602 - 2604
LR02	CMH_52	1200	0.5	NH, CMH, SP	SR, BR, BS, T, C, P	CMH_2605 - 2612
LB01a	CMH_03			SJC, NH, CMH, FW, MW	BS, T, C	
LB01b	CMH_04	1030	0 - 0.7	SJC, NH, CMH, FW, MW	SR, BR, BS, T, C, P	MSW_03520 - 03553; 03555 - 03560
LB01c	CMH_02			SJC, NH, CMH, FW, MW	BS, T, C, R	
LB02a	CMH_08			SJC, NH, CMH, FW, MW	BS, T, C	
LB02b	CMH_07		0 - 0.8	SJC, NH, CMH, FW, MW	SR, BR, BS, T, C, P	MSW_03561 - 03588
LB02c	CMH_06			SJC, NH, CMH, FW, MW	T, C	
LB02d	CMH_05			SJC, NH, CMH, FW, MW	T, C	

LB03	CMH_57	1125	1	NH, SP	SR, BR, BS, T, C, P	NH_2116 - 2121
LB04	CMH_58	1240		NH, SP	SR, BR, BS, T, C, P	NH_2109 - 2114
LB05	SJC_24	1305	0.5	SJC, MW	SR, BR, BS, T, C, P	SNM_78-92 MSW_04079 - 04090
LB06	CMH_59	1425	1	SJC, NH, SP, MW	SR, BR, BS, T, C, P	NH_2122 - 2127 SNM_095 - 101
LB07	CMH_60	1130	1 - 6	CMH, MW	SR, BR, R, P	CMH_2643 - 2650 MSW_04091 - 04094; 04096 - 04129
LB08	CMH_61	1240	2.6 - 3.3	CMH, MW	SR, BR, BS, R, P	MSW_04130 - 04137
LB09	CMH_63	1325	1	CMH, MW	SR, BR, BS, R, P	MSW_04138 - 04145
LB10	CMH_64	1411	0.5	CMH, MW	SR, BR, BS, R, P	MSW_03514; 03521; 03524 - 03527; 03529; 03531; 03533; 03541; 03543 - 03545; 03547; 03549; 03552; 03557 - 03558; 03560 MSW_04146 - 04152
LB11	CMH_65	1120	1.3	NH, CMH, MW	SR, BR, BS, T, C, R, P	MSW_04153 - 04170; 04172
LB12.s	CMH_66_s	1120	Surface	NH, CMH, MW	SR, BR, BS, T, C	
LB12.b	CMH_66_b		1.3	NH, CMH, MW	T, C	
LB13	CMH_67	1226	1	NH, CMH, MW	SR, BR, BS, T, C, P	MSW_04173 - 04182
LB14.s	CMH_69_s		Surface	NH, MW	SR, BR, BS, T, C, R	
LB14.b	CMH_69_b		1.5	NH, MW	T, C	
LB15.s	CMH_70_s		Surface	NH, MW	SR, BR, BS, T, C	
LB15.b	CMH_70_b		1.2	NH, MW	T, C	
LB16	SJC_31	1120	0.6 - 1	SA, SJC	SR, BR, BS, T, C, R, P	NH_113 - 120
LB17	SJC_32	1210	0.15	SA, SJC	SR, BS, T, C, R, P	NH_121 - 122
LB18	SJC_33	1410	0.4	SA, SJC, CMH	SR, BR, BS, T, C, R, P	NH_123 - 129 MSW_04183 - 04186; 04190 - 04192
LB19.s	CMH_68_s		Surface	MW	SR, BR, BS, T, C, R	
LB19.b	CMH_68_b		1.3	MW	T, C, R	

Table A3.3 Salinity measurements

(Conductivity Standard Solution: 47.6 $mScm^{-1}$)

Station code	Waypoint	Temperature (° C)	Specific Conductance $mScm^{-1}$	Salinity (calculated) ‰	Refractometer ‰	Depth (m)	Comment	Tidal state
LM01.1a	CMH_10	13.1	39.7	24.85				Almost completely dried up, low tide
LM01.1b	CMH_09	12.1	48.4	29.60				
LM01.2	CMH_23	12.2	2.16	6.71				Ebb
LM01.3	CMH_24	12.2	49.5	30.16				LW
LM02	CMH_11	12.5	3.1	7.15			Almost fresh water at LW	Low
LM03.1a	SJC_01	11.4	11.87	10.60	10		Fresh water stream/inlet	HW dropping
LM03.1b	SJC_08	11.4	1.35	6.06				
LM03.1c	SJC_09	15.2	44.3	26.82	33			LW
LM03.2	SJC_02	11.3	28	18.85	21			HW dropping
LM03.3	SJC_03	11.3	36.5	23.38	29			HW dropping
LM03.4	SJC_04	11.7	46.6	28.76	33		Eastern end fresh water inlet	HW dropping
LM03.6	SJC_06	12.5	41.6	25.93	31		Large culvert through road, water running fast	HW
LM03.7	SJC_07	12.3	40.5	25.37	31		Large culvert through to SJC_06	
LM03.10	SJC_13	11.9	48.5	29.74				LW
LD01	SJC_14	11.4	32.8	21.39				LW
LD02	SA_LaD	no data	no data	-				
LM04a	CMH_12	12.7	40.8	25.47		0.5		HW
LM04b	CMH_13_a	12.7	40.7	25.42		Surface	At culvert in Loch Aileodair	
LM04c	CMH_13_b	12.6	41.1	25.64		Bottom	At culvert in Loch Aileodair	
LM04d	CMH_13_c	12.8	41.1	25.61		Surface	Other side of culvert in Loch Aileodair	
LM05.1	SJC_12	no data	no data	-				
LM05.2	SJC_11	12.0	46.4	28.58				Mid tide
LM06.1	CMH_15	10.4	26.6	18.05				HW
LM06.2	CMH_16	9.8	24.2	16.69			Culvert	
LM06.3	CMH_17	11.9	51.7	31.44			Outside culvert at Mid to Low tide	
LM07.1a	CMH_18	12.8	50.9	30.72				LW
LM07.1b	CMH_19	11.7	38.8	24.57				
LM07.2a	CMH_20	13.1	44.2	27.16				LW
LM07.2b	CMH_21	14.0	47.5	28.65				

Station code	Waypoint	Temperature (° C)	Specific Conductance $mScm^{-1}$	Salinity (calculated) ‰	Refractometer ‰	Depth (m)	Comment	Tidal state
LM07.2c	CMH_22_a	12.4	46.7	28.64			On Loch Houram side	
LM07.2d	CMH_22_b	12.5	46.7	28.61			On inner side	
LM09.1	SJC_15	11.2	50.3	30.91				Mid to LW
LM09.2	SJC_16	12.4	51.2	31.02				LW
LM09.3	SJC_17	12.5	50.1	30.39				HW
LM10.1	CMH_31	12.7	5.2	8.09				LW
LM10.2	SJC_20	13.5	5.14	8.40				Microtidal
LM11.1a	CMH_26_s	10.8	4.29	6.86		Surface		Mid-High
LM11.1a	CMH_26_b	11.6	50.4	30.83		Bottom		
LM11.1b	CMH_27_s	11.2	18.3	13.78		Surface		
LM11.1b	CMH_27_b	12.0	34.4	22.20		1.6		
LM11.1c	CMH_28_s	11.9	50.5	30.81		Surface		
LM11.1c	CMH_28_b	12.0	51.2	31.13		2.1		
LM11.2	CMH_30_s	12.3	52.7	31.84		Surface		Mid-High
LM11.2	CMH_30_b	12.3	52.7	31.86		1.4		
LM11.3	CMH_29	12.5	53	31.95		Surface		
C01.1	SJC_29	10.1	6.96	7.77				Microtidal/HW
C01.2	SJC_30	10.4	6.46	7.67				Microtidal/HW
C01.3	CJG_14	11.5	7.64	8.65	4.16			None
C02.1	SJC_27	9.5	39.1	25.07				Mid tide
C02.2	SJC_28	11.2	32.9	21.45				Mid tide
C03.1	CJG_10	9.9	42.3	26.81	26.47			None
C03.2	CJG_11	10.0	41.8	26.50	25.8			None
C03.3a	CJG_13	11.0	43.4	27.17	27.37			None
C03.3b	CJG_12	10.8	43	27.01				
C04.1	SJC_25	9.2	26.1	17.70				Microtidal
C04.2	SJC_26	9.2	26.2	17.76				Microtidal/HW
LE01.1	SJC_21	11.2	44.2	27.57				HW
LE01.2	SJC_22	11.7	43.6	27.13				High-Mid
LE01.3	CMH_34	11.8	46.5	28.67				HW
LE01Ph	CMH_32	n/a	n/a	n/a				
LE01Ph	CMH_33	n/a	n/a	n/a				
LE01Ph	CMH_35	n/a	n/a	n/a				
LE03.1	SJC_18	11.7	47.5	29.24				HW falling to LW
LE03.2	SJC_19	12.1	47.9	29.35				Mid tide dropping
LE04.1a	CMH_38	4.7	3.26	3.12				Mid to high
LE04.1b	CMH_39_s	7.1	3.11	4.46		Surface		
LE04.1b	CMH_39_b	14.2	36.9	23.33		1.0		
LE04.1c	CMH_40_s	7.2	2.73	4.29		Surface		
LE04.1c	CMH_40_b	14.4	38.7	24.20		1.2		
LE04.1d	CMH_42_s	8.2	44	28.23		Surface		
LE04.1d	CMH_42_b	14.0	38.2	23.99		1.2		
LE04.2	CMH_43	7.5	3.6	4.87				HW
LE04.3a	CMH_44	8.8	18.7	13.51				HW dropping

Station code	Waypoint	Temperature (° C)	Specific Conductance $mScm^{-1}$	Salinity (calculated) ‰	Refractometer ‰	Depth (m)	Comment	Tidal state
LE04.3b	CMH_45_s	8.8	12.96	10.35		Surface		
LE04.3b	CMH_45_b	13.7	40.4	25.13		0.6		
LE04.3c	CMH_46_s	8.5	13.72	10.67		Surface		
LE04.3c	CMH_46_b	10.2	18.4	13.63		0.4		
LE04.4a	CMH_47	11.0	25.4	17.45				HW dropping
LE04.4b	CMH_48_s	10.6	23.5	16.40		Surface		
LE04.4b	CMH_48_b	11.9	35.3	22.69		0.7		
LE04.4c	CMH_49_s	10.2	22.6	15.87		Surface		
LE04.4c	CMH_49_b	11.1	34.1	22.11		1.2		
LE05	CMH_36	13.0	47.3	28.80				LW
LE05Ph	CMH_37	n/a	n/a	n/a				
HE01	CMH_53	10.1	3.71	6.27				Microtidal/HW
HE02	CMH_54	10.3	3.6	6.32				Microtidal/HW
HE03	CMH_55	10.4	3.51	6.32				LW?
HE04	CMH_56	10.4	2.28	5.85				LW
LF01	CMH_50	10.0	0.7	5.11				Microtidal
LF02	CMH_51a	9.9	0.83	5.10				Microtidal
LR01	CMH_51b	9.9	0.91	5.13				Microtidal
LR02	CMH_52	10.0	4.84	6.71				Microtidal
LB01a	CMH_03	12.7	50.6	30.61				
LB01b	CMH_04	12.7	48.5	29.51				Sandbank uncovered
LB01c	CMH_02	12.5	49	29.82	7.8			
LB02a	CMH_08	13.6	43.2	26.56				
LB02b	CMH_07	13.1	43.6	26.85				Nothing uncovered
LB02c	CMH_06	12.8	31.6	20.73			Inside wall, no direct connection to main loch	
LB02d	CMH_05	13.2	43.3	26.68			Outside small wall	
LB03	CMH_57	8.7	23.1	15.97				Micro tidal/HW
LB04	CMH_58	10.0	34.2	22.24				
LB05	SJC_24	9.5	34.1	22.22				Microtidal/HW
LB06	CMH_59	10.3	33.3	21.72				Microtidal/HW
LB07	CMH_60	n/a	n/a	-	25.00			Ebb
LB08	CMH_61	n/a	n/a	-	26.00			Ebb - Microtidal
LB09	CMH_63	n/a	n/a	-	26.00			Microtidal
LB10	CMH_64	n/a	n/a	-	25.00			Ebb - Microtidal
LB11	CMH_65	9.9	26	17.69	15.6			Microtidal
LB12.s	CMH_66_s	9.9	26	17.69		Surface		
LB12.b	CMH_66_b	9.9	27.5	18.52		1.3		
LB13	CMH_67	10.1	26.3	17.87				Microtidal
LB14.s	CMH_69_s	10.3	28.5	19.08	17.2	Surface		
LB14.b	CMH_69_b	10.3	28.7	19.19		1.5		
LB15.s	CMH_70_s	10.4	31.2	20.56		Surface		
LB15.b	CMH_70_b	10.2	33.2	21.66		1.2		

Station code	Waypoint	Temperature (° C)	Specific Conductance $mScm^{-1}$	Salinity (calculated) ‰	Refractometer ‰	Depth (m)	Comment	Tidal state
LB16	SJC_31	9.9	36.8	23.70	22.7			Microtidal
LB17	SJC_32	10.3	36.7	23.60	22.66			Microtidal
LB18	SJC_33	11.1	21.36	15.34	12.79			Microtidal
LB19.s	CMH_68_s	10.0	27.2	18.35	16.3	Surface		
LB19.b	CMH_68_b	10.3	26	17.72	15.75	1.3		

APPENDIX 4: SPECIES MATRICES

Table A4.1 Species recorded by NMS in 2012 in Loch nam Madadh lagoon complex

Y represents a collected specimen
P = Present; **Number** = total individuals seen
Other letters represent points on the SACFOR scale:
S = superabundant; **A** = abundant; **C** = common; **F** = frequent; **O** = occasional; **R** = rare

Lagoon codes	LM01.1a	LM01.2	LM01.3	LM02	LM03.1c	LM03.2	LM03.3	LM03.4	LM03.6	LM03.7	LM03.10	LD01	LD02	LM04a	LM05.1	LM05.2	LM06.1	LM06.2	LM07.1a	LM07.2abc	LM09.1	LM09.2	LM09.3	LM10.1	LM10.2	LM11.1a	LM11.2
PORIFERA																											
PORIFERA indet.																											
Polymastia mamillaris																											
Halichondria panicea			P																	Y							
CNIDARIA																											
Aurelia aurita																											
?Dicoryne sp.																											
Hydractinia echinata																											
Hydractinia ?borealis																											
Dynamena pumila																				P							
Laomedea flexuosa														Y		Y							Y				
Obelia dichotoma																											
Actiniaria indet.															Y					Y							
Actinia equina	P													2								R					
Anemonia viridis														Y													
Sagartia sp.																											
Sagartiogeton laceratus?															Y												
NEMERTEA																											
Micrura ?fasciolata																											
SIPUNCULA																											
?Sipuncula indet.											Y																
POLYCHAETA																											
Worm tubes																											
Harmothoe extenuata																											
Harmothoe imbricata																											
Pholoe synophthalmica																											
Hediste diversicolor				Y																Y			Y				
Nereis sp.		Y																									
Platynereis dumerilii																											
Malacoceros fuliginosus																											
Pygospio elegans																											
Arenicola marina	SA		P								O			A		O	R		R	O						S
OPHELIIDA													Y														
Polyophthalmus pictus																											
Ampharete ?acutifrons																				Y							
Eupolymnia nebulosa																											
?Sabella sp.			P																								
Spirobranchus sp.			P																								
Spirobranchus triqueter																						YF					
Spirorbis spirorbis															Y	Y											
Tubificoides sp.	Y			Y							Y					Y				Y	Y						
CRUSTACEA																											
Austrominius modestus																											
Semibalanus balanoides				R															R	R							R
COPEPODA																											
OSTRACODA																							Y				

Lagoon codes	LM01.1a	LM01.2	LM01.3	LM02	LM03.1c	LM03.2	LM03.3	LM03.4	LM03.6	LM03.7	LM03.10	LD01	LD02	LM04a	LM05.1	LM05.2	LM06.1	LM06.2	LM07.1a	LM07.2abc	LM09.1	LM09.2	LM09.3	LM10.1	LM10.2	LM11.1a	LM11.2
Mysidae indet.												S															
Neomysis integer				Y								Y			Y		Y O										
Praunus flexuosus					Y						Y O	Y		Y	Y				Y	Y	Y A	R					
Praunus inermis																											
AMPHIPODA						P	P						P				P			P		Y				P	F
Apherusa jurinei																											
Calliopius laevisculus																				Y							
Apohyale prevostii	Y																			Y							
?Dexaminidae																											
Dexamine spinosa																											
GAMMAROIDEA		O		A																							
Echinogammarus marinus																				Y							
Echinogammarus stoerensis																				Y							
Eulimnogammarus obtusatus	Y			Y															Y	Y						Y	Y
Gammarus sp.																	Y					Y					
Gammarus duebeni																											
Gammarus finmarchicus		Y																						Y			
Gammarus ?locusta																											
Gammarus ?oceanicus																											
Gammarus ?zaddachi					Y																						
Melita palmata																											
Ampithoe rubricata			Y																			Y					
Jassa falcate			Y																								
Corophium arenarium											Y																
Corophium volutator	Y S			Y A								Y				Y	Y						Y				Y
Lekanesphaera hookeri																											
Jaera sp.																											
Jaera "albifrons" group																	Y										Y
Jaera albifrons	Y											Y															
Jaera forsmani																						Y R					
Jaera ischiosetosa				Y																							
Jaera nordmanni																											
Idotea sp.																											
Idotea chelipes					Y						Y	Y		Y						Y	Y R	Y R	Y				
Idotea granulosa																											
Ligia oceanica		Y			P											Y						Y R					
Crangon sp. [juv]																											Y
Crangon crangon				Y																Y				R			
Pagurus bernhardus																											
Carcinus maenas			P									C		P					Y O				Y	R		Y	Y
MOLLUSCA																											
POLYPLACOPHORA															Y					Y P							
Lacuna vincta																											
Littorina sp.																											
Littorina littorea																P			Y R	Y P	Y	Y			O		
Littorina obtusata	Y													Y P						Y P		Y					Y
Littorina saxatilis		Y O		Y C	Y						Y			Y	Y				Y	Y	Y	Y			Y	Y F
Skeneopsis planorbis					Y									Y		Y											

Lagoon codes	LM01.1a	LM01.2	LM01.3	LM02	LM03.1c	LM03.2	LM03.3	LM03.4	LM03.6	LM03.7	LM03.10	LD01	LD02	LM04a	LM05.1	LM05.2	LM06.1	LM06.2	LM07.1a	LM07.2abc	LM09.1	LM09.2	LM09.3	LM10.1	LM10.2	LM11.1a	LM11.2
Barleeia unifasciata																											
Rissoa interrupta																											
Rissoa membranacea																											
Rissoa parva																											
Onoba aculeus																											
Pusillina ?inconspicua																											
Pusillina sarsi																											
Hydrobiidae indet.	P												P														
Potamopyrgus antipodarum																	Y C							Y	Y A		
Hydrobiidae *ulvae/neglecta?*																											
Hydrobia acuta neglecta					Y						Y O			Y	Y	Y					Y S						
Peringia ulvae																			Y	Y		Y S		Y			
Ecrobia ventrosa																											
Radix peregra																											
OPISTHOBRANCHIA														Y													
Akera bullata																											
Archidoris pseudoargus			P																								
Tenellia adspersa																											
Eubranchus ?exiguus																											
Mytilus edulis															Y	P				Y R		Y O					
Musculus sp. juv. (prob *M. discors)*															Y												
Musculus discors																											
Cerastoderma sp. including juv.																								Y			
Cerastoderma edule	Y ? 1																			Y P							
Cerastoderma glaucum																											
Scrobicularia sp.	P																										
Turtonia minuta					Y									Y	Y												
Mya sp.																											
Mya ?truncata																											
Mya arenaria																											
BRYOZOA																											
Bryozoa indet.																											
Crisia eburnea																											
Alcyonidium hirsutum														Y													
Flustrellidra hispida														Y								Y					
Walkeria uva					Y																						
Electra pilosa																						Y					
TUNICATA																											
Clavelina lepadiformis																											
Ciona intestinalis			P																								
Ascidiella scabra			S											F		A				A							
Dendrodoa grossularia																											
Botrylloides leachii			P																								
Molgula sp.																											
PISCES																											
Pisces indet.																					R						
Pollachius virens																											
Gasterosteus aculeatus														Y		P	Y R								Y		
Syngnathus sp.																				Y							
Taurulus bubalis																				P							

Lagoon codes	LM01.1a	LM01.2	LM01.3	LM02	LM03.1c	LM03.2	LM03.3	LM03.4	LM03.6	LM03.7	LM03.10	LD01	LD02	LM04a	LM05.1	LM05.2	LM06.1	LM06.2	LM07.1a	LM07.2abc	LM09.1	LM09.2	LM09.3	LM10.1	LM10.2	LM11.1a	LM11.2
Gobiusculus flavescens														P												
Pomatoschistus sp.																										C
Pomatoschistus microps																										
Pomatoschistus pictus			P																							
?Platichthys sp.																			Y F							R
Pleuronectes platessa																										
INSECTA																										
Chironomid larvae																								Y		
PLANTS																										
CYANOBACTERIA																										
Blue-green algal balls																										
Blue-green algal crust																										
XANTHOPHYCOTA																										
?Vaucheria																										
RHODOPHYCOTA																										
Algal crusts																										
Filamentous alga indet.																										
Gelidium pusillum																										
Hildenbrandia rubra		Y S																								
Enc. Corallinaceae indet.			A																							
Catenella caespitosa				Y C															Y O							
Cystoclonium purpureum			Y F		Y																					
Rhodophyllis divaricata			Y																							
?Furcellaria lumbricalis, free living balls																										
Furcellaria lumbricalis					Y									Y	Y							Y				
Chondrus crispus			Y P											P												
Phyllophora pseudoceranoides														Y P												
Sphaerococcus coronopifolius																										
Gracilaria gracilis/longissima																										
Gracilaria gracilis					Y									Y						Y						
Plocamium cartilagineum																										
Cordylecladia erecta																										
Ceramium botryocarpum															Y											
Ceramium deslongchampii																				Y						
Ceramium nodulosum																										
Ceramium pallidum																				Y						
Ceramium secundatum														Y						Y						
Ptilota plumose																										
Cryptopleura ramose			Y P																							
Delesseria sanguinea																										
Hypoglossum hypoglossoides			P																							
Odonthalia dentate																										
Polysiphonia brodiae																										
Polysiphonia fucoides					Y																					
Polysiphonia lanosa	F																									
Rhodomela confervoides																						Y				
Heterosiphonia japonica			Y F																							
CHROMOPHYCOTA																										
Chromophycota indet.																				Y				Y		
Ectocarpaceae																										

Lagoon codes	LM01.1a	LM01.2	LM01.3	LM02	LM03.1c	LM03.2	LM03.3	LM03.4	LM03.6	LM03.7	LM03.10	LD01	LD02	LM04a	LM05.1	LM05.2	LM06.1	LM06.2	LM07.1a	LM07.2abc	LM09.1	LM09.2	LM09.3	LM10.1	LM10.2	LM11.1a	LM11.2
Dictyota dichotoma			Y																								
Chorda filum			C																								
Laminaria digitata																											
Laminaria hyperborean			A																								
Laminaria saccharina			P																								
Halidrys siliquosa			C																								
Ascophyllum nodosum	C		S	A				P						C			R		C	R		R					S
Fucus ceranoides		Y C																	O								
Fucus serratus			S											C		A				P		Y					
Fucus spiralis	C			A					P										C	F						O	A
Fucus vesiculosus	C		S	A				P	P	P						A				F		Y					
Pelvetia canaliculata	C	O		A				P	P		P								C	F		Y P				F	A
Sargassum muticum																											
CHLOROPHYCOTA																											
Chlorophycota filamentous indet.		C	O																					Y C	F		
?Rosenvingiella sp.																											
?Rosenvingiella polyrhiza																											
Gayralia oxysperma																											
Ulothrix sp.																			Y								
Ulothrix flacca					Y																						
Ulothrix subflaccida																											
Ulothrix speciosa																											
Urospora penicilliformis											Y																
Blidingia marginata																											
?Blidingia minima																											
Capsosiphon fulvescens																											
Ulva clathrata		Y			Y																						
Ulva ?flexuosa																											
Ulva intestinalis		Y																						Y	Y		
Ulva prolifera																											
Percusaria percursa																		Y						Y			
Ulva californica/linza																											
Ulva sp.			P																	P							
Ulva lactuca			Y																								
Ulva pseudocurvata																											
Ulva rigida			?																								
Cladophora rupestris/dalmatica																											
Cladophora vagabunda/glomerata											Y																
Chaetomorpha linum														Y								Y					
Chaetomorpha ligustica											Y			Y													
Cladophora glomerata																		Y			Y						
Cladophora sp.														Y							Y						
Cladophora albida																						Y					
Cladophora battersii																											
Cladophora coelothrix																		Y									
Cladophora laetevirens																											
Cladophora rupestris			Y P																	Y							
Cladophora sericea																		Y									
Cladophora vagabunda											Y																
Rhizoclonium riparium														Y				Y									
Codium fragile fragile																											
LICHENS		P																							P	F	C
Lichina pygmaea		F		O																							C

Lagoon codes	LM01.1a	LM01.2	LM01.3	LM02	LM03.1c	LM03.2	LM03.3	LM03.4	LM03.6	LM03.7	LM03.10	LD01	LD02	LM04a	LM05.1	LM05.2	LM06.1	LM06.2	LM07.1a	LM07.2abc	LM09.1	LM09.2	LM09.3	LM10.1	LM10.2	LM11.1a	LM11.2
Verrucaria spp.				C			P												P								
Verrucaria maura		S					P													P						C	A
ANGIOSPERMAE																											
Armeria maritima																				F							
Ruppia sp.											O			S							S						
Ruppia cirrhosa					Y						Y			Y			P	Y		Y P	Y						
Ruppia maritima																	P	Y						Y F	Y R		
Zostera sp.														A													
Zostera marina											Y			Y													
Zostera noltei															Y						Y						
CHAROPHYCOTA																											
Chara aspera v. aspera																											
Lamprothamnium papulosum														Y							Y						
BACTERIA																											
Beggiatoa			P																								O

Table A4.2 Species recorded by NMS in 2012 in lochs at Clachan

Y represents a collected specimen
P = Present; **Number** = total individuals seen
Other letters represent points on the SACFOR scale:
S = superabundant; **A** = abundant; **C** = common; **F** = frequent; **O** = occasional; **R** = rare

Lagoon codes	**CO1.1**	**CO1.2**	**CO1.3**	**CO2.1**	**CO2.2**	**CO3.1**	**CO3.2**	**CO3.3a**	**CO4.1**	**CO4.2**
PORIFERA										
PORIFERA indet.										
Polymastia mamillaris										
Halichondria panicea						Y				
CNIDARIA										
Aurelia aurita								Y		
?Dicoryne sp.										
Hydractinia echinata										
Hydractinia ?borealis										
Dynamena pumila										
Laomedea flexuosa				R						
Obelia dichotoma										
Actiniaria indet.								P		
Actinia equina										
Anemonia viridis										
Sagartia sp.										
Sagartiogeton laceratus?										
NEMERTEA										
Micrura ?fasciolata						Y				
SIPUNCULA										
?Sipuncula indet.										
POLYCHAETA										
Worm tubes										
Harmothoe extenuata										
Harmothoe imbricata										
Pholoe synophthalmica										
Hediste diversicolor					Y					Y

Lagoon codes	CO1.1	CO1.2	CO1.3	CO2.1	CO2.2	CO3.1	CO3.2	CO3.3a	CO4.1	CO4.2
Nereis sp.								Y		
Platynereis dumerilii										
Malacoceros fuliginosus										
Pygospio elegans										
Arenicola marina										
OPHELIIDA										
Polyophthalmus pictus										
Ampharete ?acutifrons										
Eupolymnia nebulosa										
?Sabella sp.										
Spirobranchus sp.										
Spirobranchus triqueter										
Spirorbis spirorbis				Y		Y				
Tubificoides sp.					Y					
CRUSTACEA										
Austrominius modestus										
Semibalanus balanoides										
COPEPODA		R								
OSTRACODA				Y						
Mysidae indet.										
Neomysis integer										
Praunus flexuosus				Y	Y	Y		Y		Y
Praunus inermis						Y		Y		
AMPHIPODA										
Apherusa jurinei										
Calliopius laeviusculus										
Apohyale prevostii										
?Dexaminidae								Y		
Dexamine spinosa										
GAMMAROIDEA										
Echinogammarus marinus										
Echinogammarus stoerensis										
Eulimnogammarus obtusatus										
Gammarus sp.			Y				Y	Y	Y	Y
Gammarus duebeni										
Gammarus finmarchicus	Y?	Y?				Y?				
Gammarus ?locusta				Y	Y					
Gammarus ?oceanicus										
Gammarus ?zaddachi										
Melita palmata								Y		
Ampithoe rubricata						Y		Y		
Jassa falcata										
Corophium arenarium										
Corophium volutator										
Lekanesphaera hookeri	Y	Y	Y O				P	Y		
Jaera sp.										
Jaera "albifrons" group								Y		
Jaera albifrons										
Jaera forsmani						Y				
Jaera ischiosetosa										
Jaera nordmanni			Y						Y R	
Idotea sp.										
Idotea chelipes					Y	Y	P	Y	Y R	Y
Idotea granulosa										
Ligia oceanica										
Crangon sp. [juv]										
Crangon crangon										
Pagurus bernhardus										
Carcinus maenas					Y					P
MOLLUSCA										

Lagoon codes	CO1.1	CO1.2	CO1.3	CO2.1	CO2.2	CO3.1	CO3.2	CO3.3a	CO4.1	CO4.2
POLYPLACOPHORA										
Lacuna vincta										
Littorina sp.										
Littorina littorea								Y P		
Littorina obtusata						Y		Y		
Littorina saxatilis					Y	Y		Y		
Skeneopsis planorbis						Y		Y		
Barleeia unifasciata										
Rissoa interrupta								Y		
Rissoa membranacea										
Rissoa parva										
Onoba aculeus						Y				
Pusillina ?inconspicua								Y		
Pusillina sarsi						Y		Y		
Hydrobiidae indet.						P				
Potamopyrgus antipodarum	Y	Y O	Y F						Y	Y
Hydrobiidae *ulvae/neglecta?*										
Hydrobia acuta neglecta								Y		
Peringia ulvae										
Ecrobia ventrosa										
Radix peregra										
OPISTHOBRANCHIA										
Akera bullata										
Archidoris pseudoargus										
Tenellia adspersa										
Eubranchus ?exiguus										
Mytilus edulis							P			
Musculus sp. juv. (prob *M. discors)*								Y		
Musculus discors						Y				
Cerastoderma sp. including juv.						Y S		Y P		
Cerastoderma edule										
Cerastoderma glaucum										
Scrobicularia sp.										
Turtonia minuta										
Mya sp.										
Mya ?truncata										
Mya arenaria										
BRYOZOA										
Bryozoa indet.							P	P		
Crisia eburnean										
Alcyonidium hirsutum										
Flustrellidra hispida										
Walkeria uva										
Electra pilosa										
TUNICATA										
Clavelina lepadiformis										
Ciona intestinalis								Y		
Ascidiella scabra				F		P		P		
Dendrodoa grossularia						P				
Botrylloides leachii										
Molgula sp.						Y				
PISCES										
Pisces indet.										
Pollachius virens										
Gasterosteus aculeatus		Y R	Y R						Y	
Syngnathus sp.										
Taurulus bubalis										
Gobiusculus flavescens										
Pomatoschistus sp.										
Pomatoschistus microps					Y					

Lagoon codes	CO1.1	CO1.2	CO1.3	CO2.1	CO2.2	CO3.1	CO3.2	CO3.3a	CO4.1	CO4.2
Pomatoschistus pictus										
?Platichthys sp.										
Pleuronectes platessa										
INSECTA										
Chironomid larvae										
PLANTS										
CYANOBACTERIA										
Blue-green algal balls										
Blue-green algal crust										
XANTHOPHYCOTA										
?Vaucheria										
RHODOPHYCOTA										
Algal crusts										
Filamentous alga indet.										
Gelidium pusillum										
Hildenbrandia rubra										
Enc. Corallinaceae indet.										
Catenella caespitosa										
Cystoclonium purpureum										
Rhodophyllis divaricata										
?Furcellaria lumbricalis, free living balls										
Furcellaria lumbricalis										
Chondrus crispus										
Phyllophora pseudoceranoides										
Sphaerococcus coronopifolius										
Gracilaria gracilis/longissima										
Gracilaria gracilis										
Plocamium cartilagineum										
Cordylecladia erecta										
Ceramium botryocarpum										
Ceramium deslongchampii										
Ceramium nodulosum				Y						
Ceramium pallidum										
Ceramium secundatum										
Ptilota plumose										
Cryptopleura ramose										
Delesseria sanguinea										
Hypoglossum hypoglossoides										
Odonthalia dentate										
Polysiphonia brodiae										
Polysiphonia fucoides										
Polysiphonia lanosa										
Rhodomela confervoides										
Heterosiphonia japonica										
CHROMOPHYCOTA										
Chromophycota indet.	A	A		S	F					P
Ectocarpaceae				Y						
Dictyota dichotoma										
Chorda filum				R						
Laminaria digitata										
Laminaria hyperborea										
Laminaria saccharina										
Halidrys siliquosa				R						
Ascophyllum nodosum						C				
Fucus ceranoides					O					
Fucus serratus				S	O	F				
Fucus spiralis				S						
Fucus vesiculosus						F				
Pelvetia canaliculata				A	O					

Lagoon codes	CO1.1	CO1.2	CO1.3	CO2.1	CO2.2	CO3.1	CO3.2	CO3.3a	CO4.1	CO4.2
Sargassum muticum										
CHLOROPHYCOTA										
Chlorophycota filamentous indet.					R					
?Rosenvingiella sp.										
?Rosenvingiella polyrhiza										
Gayralia oxysperma										
Ulothrix sp.										
Ulothrix flacca										
Ulothrix subflaccida										
Ulothrix speciosa										
Urospora penicilliformis			Y							
Blidingia marginata										
?Blidingia minima										
Capsosiphon fulvescens										
Ulva clathrata										
Ulva ?flexuosa								Y		
Ulva intestinalis		C/Y	Y					Y	O/Y	Y
Ulva prolifera										
Percusaria percursa										
Ulva californica/linza										
Ulva sp.										
Ulva lactuca										
Ulva pseudocurvata										
Ulva rigida										
Cladophora rupestris/dalmatica										
Cladophora vagabunda/glomerata										
Chaetomorpha linum							P	Y		R
Chaetomorpha ligustica										
Cladophora glomerata										
Cladophora sp.	Y									
Cladophora albida										
Cladophora battersii										
Cladophora coelothrix										
Cladophora laetevirens										
Cladophora rupestris										
Cladophora sericea				Y						
Cladophora vagabunda										
Rhizoclonium riparium	Y	Y								
Codium fragile fragile				Y						
LICHENS										
Lichina pygmaea										
Verrucaria spp.										
Verrucaria maura										
ANGIOSPERMAE										
Fresh water plants	F	C	P							
Armeria maritima										
Ruppia sp.									P	?
Ruppia cirrhosa							P	Y		
Ruppia maritima										
Zostera sp.										
Zostera marina							P	Y		
Zostera noltei										
CHAROPHYCOTA										
Chara aspera v. aspera										
Lamprothamnium papulosum										
BACTERIA										
Beggiatoa										

Table A4.3 Species recorded by NMS in 2012 in Loch Euphort

Y represents a collected specimen
P = Present; **Number** = total individuals seen
Other letters represent points on the SACFOR scale:
S = superabundant; **A** = abundant; **C** = common; **F** = frequent; **O** = occasional; **R** = rare

Lagoon codes	LE01.1	LE01.2	LE01.3	LE03.1	LE03.2	LE04.1a	LE04.2	LE04.3a	LE04.4a	LE05
PORIFERA										
PORIFERA indet.										R
Polymastia mamillaris										
Halichondria panicea					F					
CNIDARIA										
Aurelia aurita										
?Dicoryne sp.										
Hydractinia echinata		R								
Hydractinia ?borealis										
Dynamena pumila										
Laomedea flexuosa			Y							
Obelia dichotoma										
Actiniaria indet.										
Actinia equina			P							Y F
Anemonia viridis		O	Y F		Y F					
Sagartia sp.										R
Sagartiogeton laceratus?										
NEMERTEA										
Micrura ?fasciolata										
SIPUNCULA										
?Sipuncula indet.										
POLYCHAETA										
Worm tubes										
Harmothoe extenuata		Y								
Harmothoe imbricata		Y								Y
Pholoe synophthalmica		Y								
Hediste diversicolor								Y		
Nereis sp.										
Platynereis dumerilii		Y	Y							
Malacoceros fuliginosus										
Pygospio elegans										
Arenicola marina		R		F						C
OPHELIIDA										
Polyophthalmus pictus		Y								
Ampharete ?acutifrons										
Eupolymnia nebulosa		Y								
?Sabella sp.										
Spirobranchus sp.					A					C
Spirobranchus triqueter										
Spirorbis spirorbis		Y								
Tubificoides sp.			Y							
CRUSTACEA										
Austrominius modestus										
Semibalanus balanoides	P									
COPEPODA										
OSTRACODA		Y								
Mysidae indet.										
Neomysis integer								Y		
Praunus flexuosus			Y	Y A	Y			Y	Y	Y A
Praunus inermis										
AMPHIPODA										
Apherusa jurinei										

Lagoon codes	LE01.1	LE01.2	LE01.3	LE03.1	LE03.2	LE04.1a	LE04.2	LE04.3a	LE04.4a	LE05
Calliopius laevisculus		Y			Y?					
Apohyale prevostii										
?Dexaminidae		Y								
Dexamine spinosa		Y								
GAMMAROIDEA										
Echinogammarus marinus										
Echinogammarus stoerensis										
Eulimnogammarus obtusatus					Y					
Gammarus sp.		Y				Y		Y	Y	Y
Gammarus duebeni										
Gammarus finmarchicus							Y?			
Gammarus ?locusta										
Gammarus ?oceanicus					Y					
Gammarus ?zaddachi										
Melita palmata					Y					
Ampithoe rubricata	Y	Y	Y							
Jassa falcata										
Corophium arenarium										
Corophium volutator								Y	Y	Y
Lekanesphaera hookeri										
Jaera sp.							Y			
Jaera "albifrons" group		Y			Y			Y		
Jaera albifrons										
Jaera forsmani										
Jaera ischiosetosa						Y			Y	
Jaera nordmanni						Y				
Idotea sp.						Y			Y	
Idotea chelipes		Y	Y	Y R	Y			Y		Y
Idotea granulosa		Y								
Ligia oceanica										
Crangon sp. [juv]										
Crangon crangon										
Pagurus bernhardus		O								
Carcinus maenas		O	P	Y	Y				O	Y R
MOLLUSCA										
POLYPLACOPHORA		Y R				Y				R
Lacuna vincta										
Littorina sp.										
Littorina littorea	Y	Y O			Y					P
Littorina obtusata		Y	Y	Y	Y					Y
Littorina saxatilis		Y	Y	Y	Y	Y	Y	Y	Y	
Skeneopsis planorbis			Y	Y						Y
Barleeia unifasciata						Y				
Rissoa interrupta										
Rissoa membranacea				Y						Y
Rissoa parva										Y
Onoba aculeus		Y	Y	Y						
Pusillina ?inconspicua										
Pusillina sarsi										
Hydrobiidae indet.										
Potamopyrgus antipodarum						Y	Y	Y	Y	
Hydrobiidae *ulvae/neglecta?*										
Hydrobia acuta neglecta			Y S					Y?		Y
Peringia ulvae		Y						Y	Y	
Ecrobia ventrosa								Y		
Radix peregra										
OPISTHOBRANCHIA										
Akera bullata			Y C			P				
Archidoris pseudoargus										

Lagoon codes	LE01.1	LE01.2	LE01.3	LE03.1	LE03.2	LE04.1a	LE04.2	LE04.3a	LE04.4a	LE05
Tenellia adspersa										
Eubranchus ?exiguus										
Mytilus edulis	Y A			Y	R	Y P				R
Musculus sp. juv. (prob *M. discors)*			Y R	Y						
Musculus discors										
Cerastoderma sp. including juv.		Y		Y						
Cerastoderma edule		Y								Y
Cerastoderma glaucum										
Scrobicularia sp.										
Turtonia minuta		Y	Y	Y						Y
Mya sp.										
Mya ?truncata										
Mya arenaria							Y			
BRYOZOA										
Bryozoa indet.										
Crisia eburnea										
Alcyonidium hirsutum										
Flustrellidra hispida										
Walkeria uva									Y	
Electra pilosa										
TUNICATA										
Clavelina lepadiformis		R								
Ciona intestinalis			Y P							
Ascidiella scabra		F	Y P	Y O						O
Dendrodoa grossularia										
Botrylloides leachii										
Molgula sp.										
PISCES										
Pisces indet.				R	R					
Pollachius virens		R								
Gasterosteus aculeatus			P	Y						Y R
Syngnathus sp.										
Taurulus bubalis										
Gobiusculus flavescens										
Pomatoschistus sp.		O	P							R
Pomatoschistus microps										
Pomatoschistus pictus										
?Platichthys sp.										
Pleuronectes platessa		R								
INSECTA										
Chironomid larvae										
PLANTS										
CYANOBACTERIA										
Blue-green algal balls						Y				
Blue-green algal crust										
XANTHOPHYCOTA										
?Vaucheria										
RHODOPHYCOTA										
Algal crusts								Y		
Filamentous alga indet.									Y	
Rhodophycota indet.	P				O					
Gelidium pusillum										
Hildenbrandia rubra							P			
Enc. Corallinaceae indet.	P	P	P		O					
Catenella caespitosa										
Cystoclonium purpureum										
Rhodophyllis divaricata										
?Furcellaria lumbricalis, free living balls										
Furcellaria lumbricalis			P							

Lagoon codes	LE01.1	LE01.2	LE01.3	LE03.1	LE03.2	LE04.1a	LE04.2	LE04.3a	LE04.4a	LE05
Chondrus crispus				Y R	R					
Phyllophora pseudoceranoides										
Sphaerococcus coronopifolius										
Gracilaria gracilis/longissima			Y							
Gracilaria gracilis			Y							
Plocamium cartilagineum		C								
Cordylecladia erecta										
Ceramium botryocarpum										
Ceramium deslongchampii										
Ceramium nodulosum										
Ceramium pallidum										
Ceramium secundatum										
Ptilota plumosa										
Cryptopleura ramosa										
Delesseria sanguinea										
Hypoglossum hypoglossoides										
Odonthalia dentata										
Polysiphonia brodiae									Y	
Polysiphonia fucoides						Y?				
Polysiphonia lanosa										
Rhodomela confervoides										
Heterosiphonia japonica										
CHROMOPHYCOTA										
Chromophycota indet.			Y P							Y
Ectocarpaceae										
Dictyota dichotoma										
Chorda filum		R								
Laminaria digitata										
Laminaria hyperborea										
Laminaria saccharina										
Halidrys siliquosa										
Ascophyllum nodosum				R	S					R
Fucus ceranoides						Y P	Y P	Y P		
Fucus serratus	A				A				P	R
Fucus spiralis			P			A				A
Fucus vesiculosus			P				P		P	A
Pelvetia canaliculata	P		P		P				P	A
Sargassum muticum										
CHLOROPHYCOTA										
Chlorophycota filamentous indet.					A					Y P
?Rosenvingiella sp.										
?Rosenvingiella polyrhiza										
Gayralia oxysperma										
Ulothrix sp.										
Ulothrix flacca										
Ulothrix subflaccida										
Ulothrix speciosa										
Urospora penicilliformis										
Blidingia marginata										
?Blidingia minima										
Capsosiphon fulvescens										
Ulva clathrata			Y							
Ulva ?flexuosa										
Ulva intestinalis						Y				
Ulva prolifera										
Percusaria percursa										
Ulva californica/linza										
Ulva sp.										P
Ulva lactuca			Y							

Lagoon codes	LE01.1	LE01.2	LE01.3	LE03.1	LE03.2	LE04.1a	LE04.2	LE04.3a	LE04.4a	LE05
Ulva pseudocurvata			Y							
Ulva rigida										
Cladophora rupestris/dalmatica		Y								
Cladophora vagabunda/glomerata							Y			
Chaetomorpha linum										
Chaetomorpha ligustica										
Cladophora glomerata						Y				
Cladophora sp.		Y	?Y C							
Cladophora albida						Y				
Cladophora battersii								Y		
Cladophora coelothrix			?Y C			?Y				
Cladophora laetevirens										
Cladophora rupestris							P	P		
Cladophora sericea						Y				
Cladophora vagabunda										
Rhizoclonium riparium			Y							
Codium fragile fragile			Y							
LICHENS	**P**			**P**		**P**				
Lichina pygmaea										
Verrucaria spp.										
Verrucaria maura										
ANGIOSPERMAE										
Armeria maritima										
Ruppia sp.		P								
Ruppia cirrhosa		S	Y A			Y A		P		
Ruppia maritima				A						Y C
Zostera sp.						A		P	S	
Zostera marina			Y A	Y		Y				
Zostera noltei						Y				
CHAROPHYCOTA										
Chara aspera v. aspera										
Lamprothamnium papulosum				Y A		Y A		P		
BACTERIA										
Beggiatoa										

Table A4.4 Species recorded by NMS in 2012 in Howmore Estuary

Y represents a collected specimen
P = Present; **Number** = total individuals seen
Other letters represent points on the SACFOR scale:
S = superabundant; **A** = abundant; **C** = common; **F** = frequent; **O** = occasional; **R** = rare

Lagoon codes	HE01	HE02	HE03	LF01	LF02	LR01	LR02
PORIFERA							
PORIFERA indet.							
Polymastia mamillaris							
Halichondria panicea							
CNIDARIA							
Aurelia aurita							
?Dicoryne sp.							
Hydractinia echinata							
Hydractinia ?borealis							
Dynamena pumila							
Laomedea flexuosa							
Obelia dichotoma							
Actiniaria indet.							
Actinia equina							
Anemonia viridis							
Sagartia sp.							
Sagartiogeton laceratus?							
NEMERTEA							
Micrura ?fasciolata							
SIPUNCULA							
?Sipuncula indet.							
POLYCHAETA							
Worm tubes							
Harmothoe extenuata							
Harmothoe imbricata							
Pholoe synophthalmica							
Hediste diversicolor							
Nereis sp.							
Platynereis dumerilii							
Malacoceros fuliginosus							
Pygospio elegans							
Arenicola marina							
OPHELIIDA							
Polyophthalmus pictus							
Ampharete ?acutifrons							
Eupolymnia nebulosa							
?Sabella sp.							
Spirobranchus sp.							
Spirobranchus triqueter							
Spirorbis spirorbis							
Tubificoides sp.							
CRUSTACEA							
Austrominius modestus							
Semibalanus balanoides							
COPEPODA							
OSTRACODA						Y	
Mysidae indet.							
Neomysis integer							
Praunus flexuosus							
Praunus inermis							
AMPHIPODA							
Apherusa jurinei							

Lagoon codes	HE01	HE02	HE03	LF01	LF02	LR01	LR02
Calliopius laevisculus							
Apohyale prevostii							
?Dexaminidae							
Dexamine spinosa							
GAMMAROIDEA							
Echinogammarus marinus							
Echinogammarus stoerensis							
Eulimnogammarus obtusatus							
Gammarus sp.	Y			Y	Y	Y	
Gammarus duebeni							
Gammarus finmarchicus			Y?				Y?
Gammarus ?locusta							
Gammarus ?oceanicus							
Gammarus ?zaddachi							
Melita palmata							
Ampithoe rubricata							
Jassa falcata							
Corophium arenarium							
Corophium volutator							
Lekanesphaera hookeri	Y		Y				Y
Jaera sp.							
Jaera "albifrons" group							
Jaera albifrons							
Jaera forsmani							
Jaera ischiosetosa							
Jaera nordmanni							Y
Idotea sp.							
Idotea chelipes							
Idotea granulosa							
Ligia oceanica							
Crangon sp. [juv]							
Crangon crangon							
Pagurus bernhardus							
Carcinus maenas							
MOLLUSCA							
POLYPLACOPHORA							
Lacuna vincta							
Littorina sp.							
Littorina littorea							
Littorina obtusata							
Littorina saxatilis							
Skeneopsis planorbis							
Barleeia unifasciata							
Rissoa interrupta							
Rissoa membranacea							
Rissoa parva							
Onoba aculeus							
Pusillina ?inconspicua							
Pusillina sarsi							
Hydrobiidae indet.							
Potamopyrgus antipodarum				Y A	Y A	Y A	A
Hydrobiidae *ulvae/neglecta?*							
Hydrobia acuta neglecta							
Peringia ulvae							
Ecrobia ventrosa							
Radix peregra					Y		
OPISTHOBRANCHIA							
Akera bullata							
Archidoris pseudoargus							

Lagoon codes	HE01	HE02	HE03	LF01	LF02	LR01	LR02
Tenellia adspersa							
Eubranchus ?exiguus							
Mytilus edulis							
Musculus sp. juv. (prob *M. discors)*							
Musculus discors							
Cerastoderma sp. including juv.							
Cerastoderma edule							
Cerastoderma glaucum							
Scrobicularia sp.							
Turtonia minuta							
Mya sp.							
Mya ?truncata							
Mya arenaria							
BRYOZOA							
Bryozoa indet.							
Crisia eburnea							
Alcyonidium hirsutum							
Flustrellidra hispida							
Walkeria uva							
Electra pilosa							
TUNICATA							
Clavelina lepadiformis							
Ciona intestinalis							
Ascidiella scabra							
Dendrodoa grossularia							
Botrylloides leachii							
Molgula sp.							
PISCES							
Pisces indet.							
Pollachius virens							
Gasterosteus aculeatus		Y R			Y		Y
Syngnathus sp.							
Taurulus bubalis							
Gobiusculus flavescens							
Pomatoschistus sp.							
Pomatoschistus microps							
Pomatoschistus pictus							
?Platichthys sp.							
Pleuronectes platessa							
INSECTA							
Chironomid larvae						Y	
PLANTS							
CYANOBACTERIA							
Blue-green algal balls							
Blue-green algal crust							
XANTHOPHYCOTA							
?Vaucheria							
RHODOPHYCOTA							
Algal crusts							
Filamentous alga indet.						Y	
Gelidium pusillum							
Hildenbrandia rubra							
Enc. Corallinaceae indet.							
Catenella caespitosa							
Cystoclonium purpureum							
Rhodophyllis divaricata							
? Furcellaria lumbricalis, free living balls							
Furcellaria lumbricalis							
Chondrus crispus							

Lagoon codes	HE01	HE02	HE03	LF01	LF02	LR01	LR02
Phyllophora pseudoceranoides							
Sphaerococcus coronopifolius							
Gracilaria gracilis/longissima							
Gracilaria gracilis							
Plocamium cartilagineum							
Cordylecladia erecta							
Ceramium botryocarpum							
Ceramium deslongchampii							
Ceramium nodulosum							
Ceramium pallidum							
Ceramium secundatum							
Ptilota plumosa							
Cryptopleura ramosa							
Delesseria sanguinea							
Hypoglossum hypoglossoides							
Odonthalia dentata							
Polysiphonia brodiae							
Polysiphonia fucoides							
Polysiphonia lanosa							
Rhodomela confervoides							
Heterosiphonia japonica							
CHROMOPHYCOTA							
Chromophycota indet.						Y A	Y C
Ectocarpaceae							
Dictyota dichotoma							
Chorda filum							
Laminaria digitata							
Laminaria hyperborea							
Laminaria saccharina							
Halidrys siliquosa							
Ascophyllum nodosum							
Fucus ceranoides						DRIFT	Y S
Fucus serratus							
Fucus spiralis							
Fucus vesiculosus							
Pelvetia canaliculata							
Sargassum muticum							
CHLOROPHYCOTA							
Chlorophycota filamentous indet.						Y	
?Rosenvingiella sp.						Y	
?Rosenvingiella polyrhiza							
Gayralia oxysperma						Y	
Ulothrix sp.							
Ulothrix flacca							
Ulothrix subflaccida							
Ulothrix speciosa							
Urospora penicilliformis							
Blidingia marginata							
?Blidingia minima							Y
Capsosiphon fulvescens							
Ulva clathrata							
Ulva ?flexuosa							
Ulva intestinalis						A/Y	Y
Ulva prolifera							
Percusaria percursa							
Ulva californica/linza							
Ulva sp.						Y	
Ulva lactuca							
Ulva pseudocurvata							

Lagoon codes	HE01	HE02	HE03	LF01	LF02	LR01	LR02
Ulva rigida							
Cladophora rupestris/dalmatica							
Cladophora vagabunda/glomerata							
Chaetomorpha linum							
Chaetomorpha ligustica							
Cladophora glomerata					?Y	Y	
Cladophora sp.							
Cladophora albida							
Cladophora battersii							
Cladophora coelothrix							
Cladophora laetevirens							
Cladophora rupestris							
Cladophora sericea							
Cladophora vagabunda							
Rhizoclonium riparium						Y	
Codium fragile fragile							
LICHENS							
Lichina pygmaea							
Verrucaria spp.							
Verrucaria maura							
ANGIOSPERMAE							
Armeria maritima							
Ruppia sp.							
Ruppia cirrhosa							
Ruppia maritima							
Zostera sp.							
Zostera marina							
Zostera noltei							
CHAROPHYCOTA							
Chara aspera v. aspera						Y	
Lamprothamnium papulosum							
BACTERIA							
Beggiatoa							

Table A4.5 Species recorded by NMS in 2012 in Loch Bì

Y represents a collected specimen
P = Present; **Number** = total individuals seen
Other letters represent points on the SACFOR scale:
S = superabundant; **A** = abundant; **C** = common; **F** = frequent; **O** = occasional; **R** = rare

Lagoon codes	LB01	LB02	LB03	LB04	LB05	LB06	LB07	LB08	LB09	LB10	LB11	LB12	LB13	LB14	LB15	LB16	LB17	LB18	LB19
PORIFERA																			
PORIFERA indet.																			
Polymastia mamillaris																			
Halichondria panicea																			
CNIDARIA																			
Aurelia aurita																			
?Dicoryne sp.			Y																
Hydractinia echinata																			
Hydractinia ?borealis			Y													Y			
Dynamena pumila	Y																		
Laomedea flexuosa		Y		O						Y A	P		Y						

Lagoon codes	LB01	LB02	LB03	LB04	LB05	LB06	LB07	LB08	LB09	LB10	LB11	LB12	LB13	LB14	LB15	LB16	LB17	LB18	LB19
Obelia dichotoma								Y											
Actiniaria indet.																			
Actinia equina																			
Anemonia viridis																			
Sagartia sp.																			
Sagartiogeton laceratus?																			
NEMERTEA																			
Micrura ?fasciolata																			
SIPUNCULA																			
?Sipuncula indet.																			
POLYCHAETA																			
Worm tubes			A																
Harmothoe extenuata																			
Harmothoe imbricata																			
Pholoe synophthalmica																			
Hediste diversicolor			Y			Y		Y	Y	Y	Y	Y		Y		Y			
Nereis sp.																			
Platynereis dumerilii																			
Malacoceros fuliginosus								Y											
Pygospio elegans																Y			
Arenicola marina		Y						O											
OPHELIIDA																			
Polyophthalmus pictus																			
Ampharete ?acutifrons																			
Eupolymnia nebulosa																			
?Sabella sp.																			
Spirobranchus sp.								Y											
Spirobranchus triqueter																			
Spirorbis spirorbis	Y	Y																	
Tubificoides sp.	Y					Y												Y	
CRUSTACEA																			
Austrominius modestus								Y											
Semibalanus balanoides							P	R											
COPEPODA																			
OSTRACODA																			
Mysidae indet.			F	YP	S			P								P		F	
Neomysis integer			Y		Y	Y A				Y			Y			Y	Y	Y	
Praunus flexuosus	Y	Y	Y	Y	Y					Y			Y			Y	Y	Y	
Praunus inermis																			
AMPHIPODA																			
Apherusa jurinei	Y																		
Calliopius laevisculus																			
Apohyale prevostii	Y																		
?Dexaminidae																			
Dexamine spinosa																			
GAMMAROIDEA																P			
Echinogammarus marinus																			
Echinogammarus stoerensis																			
Eulimnogammarus obtusatus	Y																		
Gammarus sp.		Y			Y	Y					Y	Y	Y		Y		Y	Y	
Gammarus duebeni														Y		Y?			
Gammarus finmarchicus			Y?	Y?						Y?		Y?							
Gammarus ?locusta	Y							Y											
Gammarus ?oceanicus																			
Gammarus ?zaddachi																			
Melita palmata			Y							Y			Y		Y				
Ampithoe rubricata								Y			Y								
Jassa falcata																			

Lagoon codes	LB01	LB02	LB03	LB04	LB05	LB06	LB07	LB08	LB09	LB10	LB11	LB12	LB13	LB14	LB15	LB16	LB17	LB18	LB19
Corophium arenarium																			
Corophium volutator			Y	Y	Y	Y				Y		Y		Y	Y	Y		Y	
Lekanesphaera hookeri		Y	Y	Y	Y R	Y				Y	Y	Y	Y	Y	Y		Y	Y	
Jaera sp.											Y								
Jaera "albifrons" group	Y									Y					Y		Y		
Jaera albifrons																			
Jaera forsmani																			
Jaera ischiosetosa		Y	Y	Y				Y					Y						
Jaera nordmanni											Y		Y						
Idotea sp.					Y R											P		Y P	
Idotea chelipes		Y	Y	Y						Y	Y	Y	Y	Y	Y	Y	Y		
Idotea granulosa																			
Ligia oceanica																			
Crangon sp. [juv]										P									
Crangon crangon																			
Pagurus bernhardus																			
Carcinus maenas	Y P				R			F	O	O									
MOLLUSCA																			
POLYPLACOPHORA																			
Lacuna vincta	Y																		
Littorina sp.																			
Littorina littorea								Y F	O										
Littorina obtusata											Y								
Littorina saxatilis		Y		Y	Y	Y								Y		Y	Y		
Skeneopsis planorbis																			
Barleeia unifasciata																			
Rissoa interrupta																			
Rissoa membranacea																			
Rissoa parva	Y																	Y	
Onoba aculeus																			
Pusillina ?inconspicua																			
Pusillina sarsi																			
Hydrobiidae indet.				A															
Potamopyrgus antipodarum										Y	Y O	Y	Y	Y	Y	Y		Y	
Hydrobiidae *ulvae/neglecta?*		Y																	
Hydrobia acuta neglecta						Y?									Y?				
Peringia ulvae								Y		Y	Y								
Ecrobia ventrosa				Y	Y R								Y	Y	Y	Y	Y		
Radix peregra																			
OPISTHOBRANCHIA																			
Akera bullata																			
Archidoris pseudoargus																			
Tenellia adspersa				Y R															
Eubranchus ?exiguus										Y									
Mytilus edulis							P	Y F	Y O		Y		Y R						
Musculus sp. juv. (prob *M. discors)*															Y				
Musculus discors																			
Cerastoderma sp. including juv.		Y		Y A	O						Y	Y	Y	Y	Y	Y			P
Cerastoderma edule																			
Cerastoderma glaucum			Y		Y					Y			Y						

Lagoon codes	LB01	LB02	LB03	LB04	LB05	LB06	LB07	LB08	LB09	LB10	LB11	LB12	LB13	LB14	LB15	LB16	LB17	LB18	LB19
										P									
Scrobicularia sp.																			
Turtonia minuta																			
Mya sp.											Y	P		P	P				P
Mya ?truncata													Y						
Mya arenaria											Y	Y		Y	Y				Y
BRYOZOA																			
Bryozoa indet.																			
Crisia eburnea	Y																		
Alcyonidium hirsutum																			
Flustrellidra hispida																			
Walkeria uva																			
Electra pilosa																			
TUNICATA																			
Clavelina lepadiformis																			
Ciona intestinalis																			
Ascidiella scabra																			
Dendrodoa grossularia																			
Botrylloides leachii																			
Molgula sp.																			
PISCES																			
Pisces indet.																			
Pollachius virens																			
Gasterosteus aculeatus					Y	Y O				P							Y		
Syngnathus sp.																			
Taurulus bubalis																			
Gobiusculus flavescens																			
Pomatoschistus sp.																			
Pomatoschistus microps	Y F															Y			
Pomatoschistus pictus																			
?Platichthys sp.																			
Pleuronectes platessa																			
INSECTA																			
Chironomid larvae	Y					Y								P	P				
PLANTS																			
CYANOBACTERIA																			
Blue-green algal balls			Y	Y						Y	Y		Y					Y	
Blue-green algal crust											Y								
XANTHOPHYCOTA																			
?Vaucheria		Y																	
RHODOPHYCOTA																			
Algal crusts																			
Filamentous alga indet.																			
Rhodophycota indet.																			
Gelidium pusillum																			
Hildenbrandia rubra									P										
Enc. Corallinaceae indet.																			
Catenella caespitosa																			
Cystoclonium purpureum																			
Rhodophyllis divaricata																			
?Furcellaria lumbricalis, free living balls				Y	Y											Y			
Furcellaria lumbricalis				Y												Y			
Chondrus crispus	D																		
Phyllophora pseudoceranoides																			
Sphaerococcus coronopifolius	D																		
Gracilaria gracilis/longissima																			

Lagoon codes	LB01	LB02	LB03	LB04	LB05	LB06	LB07	LB08	LB09	LB10	LB11	LB12	LB13	LB14	LB15	LB16	LB17	LB18	LB19
Gracilaria gracilis																			
Plocamium cartilagineum	D																		
Cordylecladia erecta	D																		
Ceramium botryocarpum					Y					O/ Y									
Ceramium deslongchampii																			
Ceramium nodulosum										Y									
Ceramium pallidum																			
Ceramium secundatum																			
Ptilota plumosa	D																		
Cryptopleura ramosa																			
Delesseria sanguinea	D																		
Hypoglossum hypoglossoides																			
Odonthalia dentata	D																		
Polysiphonia brodiae																			
Polysiphonia fucoides				Y				Y											
Polysiphonia lanosa																			
Rhodomela confervoides																			
CHROMOPHYCOTA																			
Chromophycota indet.		Y	A	O				Y											
Ectocarpaceae																			
Dictyota dichotoma																			
Chorda filum								F											
Laminaria digitata	D																		
Laminaria hyperborea																			
Laminaria saccharina																			
Halidrys siliquosa																			
Ascophyllum nodosum							P	F											
Fucus ceranoides								Y	O	Y F	Y P		Y O						
Fucus serratus	D								O							Y P			
Fucus spiralis					O			F	O										
Fucus vesiculosus							P		O										
Pelvetia canaliculata																			
Sargassum muticum	D																		
CHLOROPHYCOTA																			
Chlorophycota filamentous indet.								Y					Y X 2						
?Rosenvingiella sp.																			
?Rosenvingiella polyrhiza	Y																		
Gayralia oxysperma																			
Ulothrix sp.													Y						
Ulothrix flacca	Y																		
Ulothrix subflaccida								Y											
Ulothrix speciosa	Y																		
Urospora penicilliformis																			
Blidingia marginata	Y																		
?Blidingia minima																			
Capsosiphon fulvescens	Y																		
Ulva clathrata																			
Ulva ?flexuosa																			
Ulva intestinalis	Y?									O/ Y	Y F		Y						
Ulva prolifera	Y																		
Percusaria percursa																			
Ulva californica/linza	Y																		
Ulva sp.							P		F				P					P	
Ulva lactuca																			

Lagoon codes	LB01	LB02	LB03	LB04	LB05	LB06	LB07	LB08	LB09	LB10	LB11	LB12	LB13	LB14	LB15	LB16	LB17	LB18	LB19
Ulva pseudocurvata																			
Ulva rigida																			
Cladophora rupestris/dalmatica																			
Cladophora vagabunda/glomerata																			
Chaetomorpha linum		Y		YC	YA				C	YC	C		YF			Y		Y	
Chaetomorpha ligustica	Y																		
Cladophora glomerata											Y							Y	
Cladophora sp.		Y											?Y						
Cladophora albida			?Y																
Cladophora battersii																			
Cladophora coelothrix																			
Cladophora laetevirens	Y			?Y									Y						
Cladophora rupestris								Y	C										
Cladophora sericea		Y																	
Cladophora vagabunda																			
Rhizoclonium riparium																			
Codium fragile fragile																			
LICHENS																			
Lichina pygmaea																			
Verrucaria spp.							P												
Verrucaria maura									P									P	
ANGIOSPERMAE																			
Armeria maritima																			
Ruppia sp.			A	A	YC	YA			C	YS		P		P	P			R	
Ruppia cirrhosa		YA														YP			
Ruppia maritima											YP		YS						
Zostera sp.				A		C					P								
Zostera marina																			
Zostera noltei										Y									
CHAROPHYCOTA																			
Chara aspera v. aspera																		YS	
Lamprothamnium papulosum																			
BACTERIA																			
Beggiatoa																			

APPENDIX 5: SPECIMEN ACCESSION DATA

Table A5.1 NMS accession data

SNH Uist lagoons Survey, 2012 - SPECIMEN COLLECTION			Accession Number: NMS.Z.2013.034	
Serial No.	**MCS (1997) Biocode**	**TAXON**	**Station Code**	**Waypoint**
001	C0361	*Polymastia mamillaris*	LM01.3	CMH_24
002	C0651	*Halichondria panicea*	C03.1	CJG_10
003	C0651	*Halichondria panicea*	LM01.3	CMH_24
004	C0651	*Halichondria panicea*	LM07.2	CMH_22
005	D0048	*Aurelia aurita*	C03.3	CJG_12
006	D0276*	*Hydractinia ?borealis*	LB03	CMH_57
007	D0276*	*Hydractinia ?borealis*	LB16	SJC_31
008	D0261	*?Dicoryne sp.*	LB03	CMH_57
009	D0422	*Dynamena pumila*	LB01	
010	D0515	*Laomedea flexuosa*	LB02	
011	D0515	*Laomedea flexuosa*	LB10	CMH_64
012	D0515	*Laomedea flexuosa*	LB13	CMH_67
013	D0515	*Laomedea flexuosa*	LE01.3	CMH_34
014	D0515	*Laomedea flexuosa*	LM04a	CMH_12
015	D0515	*Laomedea flexuosa*	LM05.2	SJC_11
016	D0515	*Laomedea flexuosa*	LM09.3	SJC_17
017	D0662	ACTINIARIA indet.	LM05.1	SJC_12
018	D0662	ACTINIARIA indet.	LM07.2	CMH_22
019	D0675	*Actinia equina*	LE05	CMH_36
020	D0679	*Anemonia viridis*	LE01.3	CMH_34
021	D0679	*Anemonia viridis*	LE03.2	SJC_19
022	D0679	*Anemonia viridis*	LM04a	CMH_12
023	D0721	*Sagartiogeton laceratus?*	LM05.1	SJC_12
024	G0062	*Micrura fasciolata?*	C03.1	CJG_10
025	N0001	?SIPUNCULA	LM03.10	SJC_13
026	P0058	*Harmothoe extenuata*	LE01.2	SJC_22
027	P0064	*Harmothoe imbricata*	LE01.2	SJC_22
028	P0064	*Harmothoe imbricata*	LE05	CMH_36
029	P0094	*Pholoe synophthalmica*	LE01.2	SJC_22
030	P0462	*Hediste diversicolor*	C02.2	SJC_28
031	P0462	*Hediste diversicolor*	C04.2	SJC_26
032	P0462	*Hediste diversicolor*	LB03	CMH_57
033	P0462	*Hediste diversicolor*	LB06	CMH_59
034	P0462	*Hediste diversicolor*	LB08	CMH_61
035	P0462	*Hediste diversicolor*	LB09	CMH_63
036	P0462	*Hediste diversicolor*	LB10	CMH_64
037	P0462	*Hediste diversicolor*	LB11	CMH_65
038	P0462	*Hediste diversicolor*	LB12	CMH_66
039	P0462	*Hediste diversicolor*	LB14	CMH_69
040	P0462	*Hediste diversicolor*	LB16	SJC_31
041	P0462	*Hediste diversicolor*	LE04.3a	CMH_44
042	P0462	*Hediste diversicolor*	LM02	CMH_11
043	P0462	*Hediste diversicolor*	LM07.2	CMH_20
044	P0462	*Hediste diversicolor*	LM09.3	SJC_17
045	P0473	*Nereis* sp.	C03.3	CJG_13
046	P0473	*Nereis* sp.	LM01.2	CMH_23
047	P0484	*Platynereis dumerilii*	LE01.2	SJC_22
048	P0484	*Platynereis dumerilii*	LE01.3	CMH_34
049	P0737	*Malacoceros fuliginosus*	LB08	CMH_61
050	P0776	*Pygospio elegans*	LB16	SJC_31
051	P1487	*Tubificoides* sp.	C02.2	SJC_28
052	P1487	*Tubificoides* sp.	LB18	SJC_33
053	P1487	*Tubificoides* sp.	LE01.3	CMH_34
054	P1487	*Tubificoides* sp.	LM01.1a	CMH_10
055	P1487	*Tubificoides* sp.	LM02	CMH_11
056	P1487	*Tubificoides* sp.	LM03.10	SJC_13
057	P1487	*Tubificoides* sp.	LM05.2	SJC_11
058	P1487	*Tubificoides* sp.	LM07.2	CMH_20
059	P1487	*Tubificoides* sp.	LM09.1	SJC_15

SNH Uist lagoons Survey, 2012 - SPECIMEN COLLECTION			Accession Number: NMS.Z.2013.034	
Serial No.	**MCS (1997) Biocode**	**TAXON**	**Station Code**	**Waypoint**
060	P1487	*Tubificoides* sp.	LB01	
061	P1487	*Tubificoides* sp.	LB06	CMH_59
062	P0992	OPHELIIDA	LD02	SA_LaD
063	P1019	*Polyophthalmus pictus*	LE01.2	SJC_22
064	P1138	*Ampharete ?acutifrons*	LM07.2	CMH_21
065	P1189	*Eupolymnia nebulosa*	LE01.2	SJC_22
066	P1339	*Spirobranchus* sp.	LB08	CMH_61
067	P1341	*Spirobranchus triqueter*	LM09.2	SJC_16
068	P1396	*Spirorbis spirorbis*	C02.1	SJC_27
069	P1396	*Spirorbis spirorbis*	C03.1	CJG_10
070	P1396	*Spirorbis spirorbis*	LB01	
071	P1396	*Spirorbis spirorbis*	LB02	
072	P1396	*Spirorbis spirorbis*	LE01.2	SJC_22
073	P1396	*Spirorbis spirorbis*	LM05.2	SJC_11
074	R0068	*Austrominius modestus*	LB08	CMH_61
075	R2412	OSTRACODA	C02.1	SJC_27
076	R2412	OSTRACODA	LE01.2	SJC_22
077	R2412	OSTRACODA	LM09.3	SJC_17
078	R2412	OSTRACODA	LR01	CMH_51b
079	S0031	*Mysidae* indet.	C04.2	SJC_26
080	S0031	*Mysidae* indet.	LB04	CMH_58
081	S0076	*Neomysis integer*	LB03	CMH_57
082	S0076	*Neomysis integer*	LB05	SJC_24
083	S0076	*Neomysis integer*	LB06	CMH_59
084	S0076	*Neomysis integer*	LB10	CMH_64
085	S0076	*Neomysis integer*	LB13	CMH_67
086	S0076	*Neomysis integer*	LB16	SJC_31
087	S0076	*Neomysis integer*	LB17	SJC_32
088	S0076	*Neomysis integer*	LB18	SJC_33
089	S0076	*Neomysis integer*	LD01	SJC_14
090	S0076	*Neomysis integer*	LE04.3a	CMH_44
091	S0076	*Neomysis integer*	LM02	CMH_11
092	S0076	*Neomysis integer*	LM05.1	SJC_12
093	S0076	*Neomysis integer*	LM06.1	CMH_15
094	S0082	*Praunus flexuosus*	C02.1	SJC_27
095	S0082	*Praunus flexuosus*	C02.2	SJC_28
096	S0082	*Praunus flexuosus*	C03.1	CJG_10
097	S0082	*Praunus flexuosus*	C03.3	CJG_13
098	S0082	*Praunus flexuosus*	C03.3	CJG_12
099	S0082	*Praunus flexuosus*	C04.2	SJC_26
100	S0082	*Praunus flexuosus*	LB01	
101	S0082	*Praunus flexuosus*	LB02	
102	S0082	*Praunus flexuosus*	LB03	CMH_57
103	S0082	*Praunus flexuosus*	LB04	CMH_58
104	S0082	*Praunus flexuosus*	LB05	SJC_24
105	S0082	*Praunus flexuosus*	LB10	CMH_64
106	S0082	*Praunus flexuosus*	LB13	CMH_67
107	S0082	*Praunus flexuosus*	LB16	SJC_31
108	S0082	*Praunus flexuosus*	LB17	SJC_32
109	S0082	*Praunus flexuosus*	LB18	SJC_33
110	S0082	*Praunus flexuosus*	LD01	SJC_14
111	S0082	*Praunus flexuosus*	LE01.3	CMH_34
112	S0082	*Praunus flexuosus*	LE03.1	SJC_18
113	S0082	*Praunus flexuosus*	LE03.2	SJC_19
114	S0082	*Praunus flexuosus*	LE04.3a	CMH_44
115	S0082	*Praunus flexuosus*	LE04.4a	CMH_47
116	S0082	*Praunus flexuosus*	LE05	CMH_36
117	S0082	*Praunus flexuosus*	LM03.10	SJC_13
118	S0082	*Praunus flexuosus*	LM03.1c	SJC_09
119	S0082	*Praunus flexuosus*	LM04a	CMH_12
120	S0082	*Praunus flexuosus*	LM05.1	SJC_12
121	S0082	*Praunus flexuosus*	LM07.1a	CMH_18
122	S0082	*Praunus flexuosus*	LM07.2	CMH_20
123	S0082	*Praunus flexuosus*	LM09.1	SJC_15

SNH Uist lagoons Survey, 2012 - SPECIMEN COLLECTION			Accession Number: NMS.Z.2013.034	
Serial No.	**MCS (1997) Biocode**	**TAXON**	**Station Code**	**Waypoint**
124	S0083	*Praunus inermis*	C03.1	CJG_10
125	S0083	*Praunus inermis*	C03.3	CJG_13
126	S0097	AMPHIPODA indet.	LM09.2	SJC_16
127	S0106	*Apherusa jurinei*	LB01	
128	S0112	*?Calliopius laeviusculus*	LE03.2	SJC_19
129	S0112	*Calliopius laeviusculus*	LE01.2	SJC_22
130	S0112	*Calliopius laeviusculus*	LM07.2	CMH_21
131	S0224	*Apohyale prevostii*	LB01	
132	S0224	*Apohyale prevostii*	LM01.1a	CMH_10
133	S0224	*Apohyale prevostii*	LM07.2	CMH_21
134	S0408	*?Dexaminidae*	C03.3	CJG_13
135	S0408	*?Dexaminidae*	LE01.2	SJC_22
136	S0415	*Dexamine spinosa*	LE01.2	SJC_22
137	S0466	*Echinogammarus marinus*	LM07.2	CMH_21
138	S0468	*Echinogammarus stoerensis*	LM07.2	CMH_20
139	S0470	*Eulimnogammarus obtusatus*	LB01	
140	S0470	*Eulimnogammarus obtusatus*	LE03.2	SJC_19
141	S0470	*Eulimnogammarus obtusatus*	LM01.1a	CMH_10
142	S0470	*Eulimnogammarus obtusatus*	LM02	CMH_11
143	S0470	*Eulimnogammarus obtusatus*	LM07.1a	CMH_18
144	S0470	*Eulimnogammarus obtusatus*	LM07.2	CMH_21
145	S0470	*Eulimnogammarus obtusatus*	LM11.1a	CMH_26
146	S0470	*Eulimnogammarus obtusatus*	LM11.2	CMH_30
147	S0471	*Gammarus* sp.	C01.3	CJG_14
148	S0471	*Gammarus* sp.	C03.2	CJG_12
149	S0471	*Gammarus* sp.	C03.3a	CJG_13
150	S0471	*Gammarus* sp.	C04.1	SJC_25
151	S0471	*Gammarus* sp.	C04.2	SJC_26
152	S0471	*Gammarus* sp.	HE01	CMH_53
153	S0471	*Gammarus* sp.	LB02	
154	S0471	*Gammarus* sp.	LB05	SJC_24
155	S0471	*Gammarus* sp.	LB06	CMH_59
156	S0471	*Gammarus* sp.	LB11	CMH_65
157	S0471	*Gammarus* sp.	LB12	CMH_66
158	S0471	*Gammarus* sp.	LB13	CMH_67
159	S0471	*Gammarus* sp.	LB15	CMH_70
160	S0471	*Gammarus* sp.	LB17	SJC_32
161	S0471	*Gammarus* sp.	LB18	SJC_33
162	S0471	*Gammarus* sp.	LE01.2	SJC_22
163	S0471	*Gammarus* sp.	LE04.1a	CMH_38
164	S0471	*Gammarus* sp.	LE04.3a	CMH_44
165	S0471	*Gammarus* sp.	LE04.4a	CMH_47
166	S0471	*Gammarus* sp.	LE05	CMH_36
167	S0471	*Gammarus* sp.	LF01	CMH_50
168	S0471	*Gammarus* sp.	LF02	CMH_51a
169	S0471	*Gammarus* sp.	LM06.1	CMH_15
170	S0471	*Gammarus* sp.	LM09.2	SJC_16
171	S0471	*Gammarus* sp.	LR01	CMH_51b
172	S0474	*Gammarus ?duebeni*	LB16	SJC_31
173	S0474	*Gammarus ?duebeni*	LM03.1c	SJC_09
174	S0474	*Gammarus ?duebeni*	LM10.2	SJC_20
175	S0474	*Gammarus duebeni*	LB14	CMH_69
176	S0475	*Gammarus ?finmarchicus*	C01.1	SJC_29
177	S0475	*Gammarus ?finmarchicus*	C01.2	SJC_30
178	S0475	*Gammarus ?finmarchicus*	C03.1	CJG_10
179	S0475	*Gammarus ?finmarchicus*	HE03	CMH_55
180	S0475	*Gammarus ?finmarchicus*	LB03	CMH_57
181	S0475	*Gammarus ?finmarchicus*	LB04	CMH_58
182	S0475	*Gammarus ?finmarchicus*	LB10	CMH_64
183	S0475	*Gammarus ?finmarchicus*	LB12	CMH_66
184	S0475	*Gammarus ?finmarchicus*	LE04.2	CMH_43
185	S0475	*Gammarus ?finmarchicus*	LM02	CMH_11
186	S0475	*Gammarus ?finmarchicus*	LR02	CMH_52
187	S0475	*Gammarus finmarchicus*	LM01.2	CMH_23
188	S0475	*Gammarus finmarchicus*	LM10.2	SJC_20

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Serial No.	**MCS (1997) Biocode**	**TAXON**	**Station Code**	**Waypoint**
189	S0478	*Gammarus ?locusta*	C02.1	SJC_27
190	S0478	*Gammarus ?locusta*	C02.2	SJC_28
191	S0478	*Gammarus ?locusta*	LB01	
192	S0478	*Gammarus ?locusta*	LB08	CMH_61
193	S0479	*Gammarus ?oceanicus*	LE03.2	SJC_19
194	S0483	*Gammarus ?zaddachi*	LM03.1c	SJC_09
195	S0525	*Melita palmata*	C03.3	CJG_13
196	S0525	*Melita palmata*	LB03	CMH_57
197	S0525	*Melita palmata*	LB10	CMH_64
198	S0525	*Melita palmata*	LB13	CMH_67
199	S0525	*Melita palmata*	LB15	CMH_70
200	S0525	*Melita palmata*	LE03.2	SJC_19
201	S0534	*Ampithoe rubricata*	C03.1	CJG_10
202	S0534	*Ampithoe rubricata*	C03.3	CJG_13
203	S0534	*Ampithoe rubricata*	C03.3	CJG_12
204	S0534	*Ampithoe rubricata*	LB08	CMH_61
205	S0534	*Ampithoe rubricata*	LB11	CMH_65
206	S0534	*Ampithoe rubricata*	LE01.1	SJC_21
207	S0534	*Ampithoe rubricata*	LE01.2	SJC_22
208	S0534	*Ampithoe rubricata*	LE01.3	CMH_34
209	S0534	*Ampithoe rubricata*	LM01.3	CMH_24
210	S0534	*Ampithoe rubricata*	LM09.2	SJC_16
211	S0569	*Jassa falcata*	LM01.3	CMH_24
212	S0609	*Corophium arenarium*	LM03.10	SJC_13
213	S0616	*Corophium volutator*	LB03	CMH_57
214	S0616	*Corophium volutator*	LB04	CMH_58
215	S0616	*Corophium volutator*	LB05	SJC_24
216	S0616	*Corophium volutator*	LB06	CMH_59
217	S0616	*Corophium volutator*	LB10	CMH_64
218	S0616	*Corophium volutator*	LB12	CMH_66
219	S0616	*Corophium volutator*	LB14	CMH_69
220	S0616	*Corophium volutator*	LB15	CMH_70
221	S0616	*Corophium volutator*	LB16	SJC_31
222	S0616	*Corophium volutator*	LB18	SJC_33
223	S0616	*Corophium volutator*	LD01	SJC_14
224	S0616	*Corophium volutator*	LE04.3a	CMH_44
225	S0616	*Corophium volutator*	LE04.4a	CMH_47
226	S0616	*Corophium volutator*	LE05	CMH_36
227	S0616	*Corophium volutator*	LM01.1a	CMH_10
228	S0616	*Corophium volutator*	LM02	CMH_11
229	S0616	*Corophium volutator*	LM03.2	SJC_02
230	S0616	*Corophium volutator*	LM05.2	SJC_11
231	S0616	*Corophium volutator*	LM06.1	CMH_15
232	S0616	*Corophium volutator*	LM07.2	CMH_20
233	S0616	*Corophium volutator*	LM09.3	SJC_17
234	S0616	*Corophium volutator*	LM11.2	CMH_30
235	S0869	*Lekanesphaera hookeri*	C01.1	SJC_29
236	S0869	*Lekanesphaera hookeri*	C01.2	SJC_30
237	S0869	*Lekanesphaera hookeri*	C01.3	CJG_14
238	S0869	*Lekanesphaera hookeri*	C03.3	CJG_12
239	S0869	*Lekanesphaera hookeri*	HE01	CMH_53
240	S0869	*Lekanesphaera hookeri*	HE03	CMH_55
241	S0869	*Lekanesphaera hookeri*	LB02	
242	S0869	*Lekanesphaera hookeri*	LB03	CMH_57
243	S0869	*Lekanesphaera hookeri*	LB04	CMH_58
244	S0869	*Lekanesphaera hookeri*	LB05	SJC_24
245	S0869	*Lekanesphaera hookeri*	LB06	CMH_59
246	S0869	*Lekanesphaera hookeri*	LB10	CMH_64
247	S0869	*Lekanesphaera hookeri*	LB11	CMH_65
248	S0869	*Lekanesphaera hookeri*	LB12	CMH_66
249	S0869	*Lekanesphaera hookeri*	LB13	CMH_67
250	S0869	*Lekanesphaera hookeri*	LB14	CMH_69
251	S0869	*Lekanesphaera hookeri*	LB15	CMH_70
252	S0869	*Lekanesphaera hookeri*	LB17	SJC_32
253	S0869	*Lekanesphaera hookeri*	LB18	SJC_33

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254	S0869	*Lekanesphaera hookeri*	LR02	CMH_52
255	S0884	*Jaera* sp.	LB11	CMH_65
256	S0884	*Jaera* sp.	LE04.2	CMH_43
257	S0885	*Jaera "albifrons"* group	C03.3	CJG_12
258	S0885	*Jaera "albifrons"* group	LB01	
259	S0885	*Jaera "albifrons"* group	LB10	CMH_64
260	S0885	*Jaera "albifrons"* group	LB15	CMH_70
261	S0885	*Jaera "albifrons"* group	LB17	SJC_32
262	S0886	*Jaera forsmani*	LE01.2	SJC_22
263	S0885	*Jaera "albifrons"* group	LE03.2	SJC_19
264	S0885	*Jaera "albifrons"* group	LE04.3a	CMH_44
265	S0885	*Jaera "albifrons"* group	LM06.1	CMH_15
266	S0885	*Jaera "albifrons"* group	LM11.2	CMH_30
267	S0885	*Jaera albifrons*	LD01	SJC_14
268	S0885	*Jaera albifrons*	LM01.1a	CMH_10
269	S0886	*Jaera forsmani*	C03.1	CJG_10
270	S0886	*Jaera forsmani*	LM09.2	SJC_16
271	S0888	*Jaera ischiosetosa*	LB02	
272	S0888	*Jaera ischiosetosa*	LB03	CMH_57
273	S0888	*Jaera ischiosetosa*	LB04	CMH_58
274	S0888	*Jaera ischiosetosa*	LB08	CMH_61
275	S0888	*Jaera ischiosetosa*	LB13	CMH_67
276	S0888	*Jaera ischiosetosa*	LE04.1a	CMH_38
277	S0888	*Jaera ischiosetosa*	LE04.4a	CMH_47
278	S0888	*Jaera ischiosetosa*	LM02	CMH_11
279	S0889	*Jaera nordmanni*	C01.3	CJG_14
280	S0889	*Jaera nordmanni*	C04.1	SJC_25
281	S0889	*Jaera nordmanni*	LB11	CMH_65
282	S0889	*Jaera nordmanni*	LB13	CMH_67
283	S0889	*Jaera nordmanni*	LE04.1a	CMH_38
284	S0889	*Jaera nordmanni*	LR02	CMH_52
285	S0934	*Idotea* sp.	LB18	SJC_33
286	S0934	*Idotea* sp.	LE04.1a	CMH_38
287	S0934	*Idotea* sp.	LE04.4a	CMH_47
288	S0936	*Idotea chelipes*	C02.2	SJC_28
289	S0936	*Idotea chelipes*	C03.1	CJG_10
290	S0936	*Idotea chelipes*	C03.3	CJG_12
291	S0936	*Idotea chelipes*	C04.1	SJC_25
292	S0936	*Idotea chelipes*	C04.2	SJC_26
293	S0936	*Idotea chelipes*	LB02	
294	S0936	*Idotea chelipes*	LB03	CMH_57
295	S0936	*Idotea chelipes*	LB04	CMH_58
296	S0936	*Idotea chelipes*	LB05	SJC_24
297	S0936	*Idotea chelipes*	LB10	CMH_64
298	S0936	*Idotea chelipes*	LB11	CMH_65
299	S0936	*Idotea chelipes*	LB12	CMH_66
300	S0936	*Idotea chelipes*	LB13	CMH_67
301	S0936	*Idotea chelipes*	LB14	CMH_69
302	S0936	*Idotea chelipes*	LB15	CMH_70
303	S0936	*Idotea chelipes*	LB16	SJC_31
304	S0936	*Idotea chelipes*	LB17	SJC_32
305	S0936	*Idotea chelipes*	LD01	SJC_14
306	S0936	*Idotea chelipes*	LE01.2	SJC_22
307	S0936	*Idotea chelipes*	LE01.3	CMH_34
308	S0936	*Idotea chelipes*	LE03.1	SJC_18
309	S0936	*Idotea chelipes*	LE03.2	SJC_19
310	S0936	*Idotea chelipes*	LE04.3a	CMH_44
311	S0936	*Idotea chelipes*	LE05	CMH_36
312	S0936	*Idotea chelipes*	LM03.10	SJC_13
313	S0936	*Idotea chelipes*	LM03.1c	SJC_09
314	S0936	*Idotea chelipes*	LM04a	CMH_12
315	S0936	*Idotea chelipes*	LM07.2	CMH_21
316	S0936	*Idotea chelipes*	LM09.1	SJC_15
317	S0936	*Idotea chelipes*	LM09.2	SJC_16
318	S0936	*Idotea chelipes*	LM09.3	SJC_17

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Serial No.	**MCS (1997) Biocode**	**TAXON**	**Station Code**	**Waypoint**
319	S0938	*Idotea granulosa*	LE01.2	SJC_22
320	S1056	*Ligia oceanica*	LM01.2	CMH_23
321	S1056	*Ligia oceanica*	LM05.2	SJC_11
322	S1056	*Ligia oceanica*	LM09.2	SJC_16
323	S1383	*Crangon* sp. [juv]	LM11.2	CMH_30
324	S1385	*Crangon crangon*	LM02	CMH_11
325	S1385	*Crangon crangon*	LM07.2	CMH_20
326	S1594	*Carcinus maenas*	C02.2	SJC_28
327	S1594	*Carcinus maenas*	LB01	
328	S1594	*Carcinus maenas*	LE03.1	SJC_18
329	S1594	*Carcinus maenas*	LE03.2	SJC_19
330	S1594	*Carcinus maenas*	LE05	CMH_36
331	S1594	*Carcinus maenas*	LM07.1a	CMH_18
332	S1594	*Carcinus maenas*	LM09.3	SJC_17
333	S1594	*Carcinus maenas*	LM11.1a	CMH_26
334	S1594	*Carcinus maenas*	LM11.2	CMH_30
335	W:f/w	*Radix peregra*	LF02	CMH_51a
336	W0046	POLYPLACOPHORA	LE01.2	SJC_22
337	W0046	POLYPLACOPHORA	LE04.1a	CMH_38
338	W0046	POLYPLACOPHORA	LM05.1	SJC_12
339	W0046	POLYPLACOPHORA	LM07.2	CMH_20
340	W0292	*Lacuna vincta*	LB01	
341	W0296	*Littorina littorea*	C03.3	CJG_13
342	W0296	*Littorina littorea*	LB08	CMH_61
343	W0296	*Littorina littorea*	LE01.1	SJC_21
344	W0296	*Littorina littorea*	LE01.2	SJC_22
345	W0296	*Littorina littorea*	LE03.2	SJC_19
346	W0296	*Littorina littorea*	LM07.1a	CMH_18
347	W0296	*Littorina littorea*	LM07.2	CMH_21
348	W0296	*Littorina littorea*	LM09.1	SJC_15
349	W0296	*Littorina littorea*	LM09.2	SJC_16
350	W0302	*Littorina obtusata*	C03.1	CJG_10
351	W0302	*Littorina obtusata*	C03.3	CJG_13
352	W0302	*Littorina obtusata*	C03.3	CJG_12
353	W0302	*Littorina obtusata*	LB11	CMH_65
354	W0302	*Littorina obtusata*	LE01.2	SJC_22
355	W0302	*Littorina obtusata*	LE01.3	CMH_34
356	W0302	*Littorina obtusata*	LE03.1	SJC_18
357	W0302	*Littorina obtusata*	LE03.2	SJC_19
358	W0302	*Littorina obtusata*	LE05	CMH_36
359	W0302	*Littorina obtusata*	LM01.1a	CMH_10
360	W0302	*Littorina obtusata*	LM04a	CMH_12
361	W0302	*Littorina obtusata*	LM07.2	CMH_22
362	W0302	*Littorina obtusata*	LM09.2	SJC_16
363	W0302	*Littorina obtusata*	LM11.2	CMH_30
364	W0305	*Littorina saxatilis*	C02.2	SJC_28
365	W0305	*Littorina saxatilis*	C03.1	CJG_10
366	W0305	*Littorina saxatilis*	C03.3	CJG_12
367	W0305	*Littorina saxatilis*	LB02	
368	W0305	*Littorina saxatilis*	LB04	CMH_58
369	W0305	*Littorina saxatilis*	LB05	SJC_24
370	W0305	*Littorina saxatilis*	LB06	CMH_59
371	W0305	*Littorina saxatilis*	LB14	CMH_69
372	W0305	*Littorina saxatilis*	LB16	SJC_31
373	W0305	*Littorina saxatilis*	LB17	SJC_32
374	W0305	*Littorina saxatilis*	LE01.2	SJC_22
375	W0305	*Littorina saxatilis*	LE01.3	CMH_34
376	W0305	*Littorina saxatilis*	LE03.1	SJC_18
377	W0305	*Littorina saxatilis*	LE03.2	SJC_19
378	W0305	*Littorina saxatilis*	LE04.1a	CMH_38
379	W0305	*Littorina saxatilis*	LE04.2	CMH_43
380	W0305	*Littorina saxatilis*	LE04.3a	CMH_44
381	W0305	*Littorina saxatilis*	LE04.4a	CMH_47
382	W0305	*Littorina saxatilis*	LM01.2	CMH_23
383	W0305	*Littorina saxatilis*	LM02	CMH_11

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Serial No.	**MCS (1997) Biocode**	**TAXON**	**Station Code**	**Waypoint**
384	W0305	*Littorina saxatilis*	LM03.10	SJC_13
385	W0305	*Littorina saxatilis*	LM03.1c	SJC_09
386	W0305	*Littorina saxatilis*	LM04a	CMH_12
387	W0305	*Littorina saxatilis*	LM05.1	SJC_12
388	W0305	*Littorina saxatilis*	LM07.1a	CMH_18
389	W0305	*Littorina saxatilis*	LM07.2	CMH_20
390	W0305	*Littorina saxatilis*	LM09.1	SJC_15
391	W0305	*Littorina saxatilis*	LM09.2	SJC_16
392	W0305	*Littorina saxatilis*	LM11.1a	CMH_26
393	W0305	*Littorina saxatilis*	LM11.2	CMH_30
394	W0312	*Skeneopsis planorbis*	C03.1	CJG_10
395	W0312	*Skeneopsis planorbis*	C03.3	CJG_12
396	W0312	*Skeneopsis planorbis*	LE01.3	CMH_34
397	W0312	*Skeneopsis planorbis*	LE03.1	SJC_18
398	W0312	*Skeneopsis planorbis*	LE05	CMH_36
399	W0312	*Skeneopsis planorbis*	LM03.1c	SJC_09
400	W0312	*Skeneopsis planorbis*	LM04a	CMH_12
401	W0312	*Skeneopsis planorbis*	LM05.2	SJC_11
402	W0323	*Barleeia unifasciata*	LE04.1a	CMH_38
403	W0328	*Rissoa interrupta*	C03.3	CJG_12
404	W0333	*?Rissoa membranacea*	LE05	CMH_36
405	W0333	*Rissoa membranacea*	LE03	
406	W0333	*Rissoa membranacea*	LE03.1	SJC_18
407	W0334	*?Rissoa parva*	LE05	CMH_36
408	W0334	*Rissoa parva*	LB01	
409	W0334	*Rissoa parva*	LB18	SJC_33
410	W0368	*Onoba aculeus*	C03.1	CJG_10
411	W0368	*Onoba aculeus*	LE01.2	SJC_22
412	W0368	*Onoba aculeus*	LE01.3	CMH_34
413	W0368	*Onoba aculeus*	LE03.1	SJC_18
414	W0376	*Pusillina ?inconspicua*	C03.3	CJG_12
415	W0377	*Pusillina sarsi*	C03.1	CJG_10
416	W0377	*Pusillina sarsi*	C03.3	CJG_13
417	W0377	*Pusillina sarsi*	C03.3	CJG_12
418	W0381*	*Potamopyrgus antipodarum*	C01.1	SJC_29
419	W0381*	*Potamopyrgus antipodarum*	C01.2	SJC_30
420	W0381*	*Potamopyrgus antipodarum*	C01.3	CJG_14
421	W0381*	*Potamopyrgus antipodarum*	C04.1	SJC_25
422	W0381*	*Potamopyrgus antipodarum*	LB10	CMH_64
423	W0381*	*Potamopyrgus antipodarum*	LB11	CMH_65
424	W0381*	*Potamopyrgus antipodarum*	LB12	CMH_66
425	W0381*	*Potamopyrgus antipodarum*	LB13	CMH_67
426	W0381*	*Potamopyrgus antipodarum*	LB14	CMH_69
427	W0381*	*Potamopyrgus antipodarum*	LB15	CMH_70
428	W0381*	*Potamopyrgus antipodarum*	LB16	SJC_31
429	W0381*	*Potamopyrgus antipodarum*	LB18	SJC_33
430	W0381*	*Potamopyrgus antipodarum*	LE04.1a	CMH_38
431	W0381*	*Potamopyrgus antipodarum*	LE04.2	CMH_43
432	W0381*	*Potamopyrgus antipodarum*	LE04.3a	CMH_44
433	W0381*	*Potamopyrgus antipodarum*	LE04.4a	CMH_47
434	W0381*	*Potamopyrgus antipodarum*	LF01	CMH_50
435	W0381*	*Potamopyrgus antipodarum*	LF02	CMH_51a
436	W0381*	*Potamopyrgus antipodarum*	LM06.1	CMH_15
437	W0381*	*Potamopyrgus antipodarum*	LM10.1	CMH_31
438	W0381*	*Potamopyrgus antipodarum*	LM10.2	SJC_20
439	W0381*	*Potamopyrgus antipodarum*	LR01	CMH_51b
440	W0381*	*Potamopyrgus antipodarum* [juv]	C04.2	SJC_26
441	W0384	*Hydrobia acuta neglecta*	C03.3	CJG_12
442	W0384	*Hydrobia acuta neglecta*	LE01.3	CMH_34
443	W0384	*Hydrobia acuta neglecta*	LE05	CMH_36
444	W0384	*Hydrobia acuta neglecta*	LM03.10	SJC_13
445	W0384	*Hydrobia acuta neglecta*	LM03.1c	SJC_09
446	W0384	*Hydrobia acuta neglecta*	LM04a	CMH_12
447	W0384	*Hydrobia acuta neglecta*	LM05.1	SJC_12
448	W0384	*Hydrobia acuta neglecta*	LM05.2	SJC_11

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449	W0384	*Hydrobia acuta neglecta*	LM09.1	SJC_15
450	W0384	*Hydrobia acuta neglecta?*	LB06	CMH_59
451	W0384	*Hydrobia acuta neglecta?*	LB15	CMH_70
452	W0384	*Hydrobia acuta neglecta?*	LM03.1c	SJC_09
453	W0384	*Hydrobia acuta neglecta?*	LE04.3a	CMH_44
454	W0384 W0385	*Hydrobiidae ulvae/neglecta?*	LB02	
455	W0385	*Peringia ulvae*	LB08	CMH_61
456	W0385	*Peringia ulvae*	LB10	CMH_64
457	W0385	*Peringia ulvae*	LB11	CMH_65
458	W0385	*Peringia ulvae*	LE01.2	SJC_22
459	W0385	*Peringia ulvae*	LE04.3a	CMH_44
460	W0385	*Peringia ulvae*	LE04.4a	CMH_47
461	W0385	*Peringia ulvae*	LM07.1a	CMH_18
462	W0385	*Peringia ulvae*	LM07.2	CMH_20
463	W0385	*Peringia ulvae*	LM09.2	SJC_16
464	W0385	*Peringia ulvae*	LM10.1	CMH_31
465	W0387	*Ecrobia ventrosa*	LB04	CMH_58
466	W0387	*Ecrobia ventrosa*	LB05	SJC_24
467	W0387	*Ecrobia ventrosa*	LB13	CMH_67
468	W0387	*Ecrobia ventrosa*	LB14	CMH_69
469	W0387	*Ecrobia ventrosa*	LB15	CMH_70
470	W0387	*Ecrobia ventrosa*	LB16	SJC_31
471	W0387	*Ecrobia ventrosa*	LB17	SJC_32
472	W0387	*Ecrobia ventrosa*	LE04.3a	CMH_44
473	W1002	OPISTHOBRANCHIA	LM04a	CMH_12
474	W1142	*Akera bullata*	LE01.3	CMH_34
475	W1443	*Tenellia adspersa*	LB04	CMH_58
476	W1447	*Eubranchus exiguus?*	LB10	CMH_64
477	W1695	*Mytilus edulis*	LB08	CMH_61
478	W1695	*Mytilus edulis*	LB09	CMH_63
479	W1695	*Mytilus edulis*	LB11	CMH_65
480	W1695	*Mytilus edulis*	LB13	CMH_67
481	W1695	*Mytilus edulis*	LE01.1	SJC_21
482	W1695	*Mytilus edulis*	LE03.1	SJC_18
483	W1695	*Mytilus edulis*	LM05.1	SJC_12
484	W1695	*Mytilus edulis*	LM07.2	CMH_22
485	W1695	*Mytilus edulis*	LM09.2	SJC_16
486	W1695	*Mytilus* on *Ruppia*	LE04.1a	CMH_38
487	W1719	*Musculus* sp.[juv] (prob *M. discors*)	C03.3	CJG_12
488	W1719	*Musculus* sp.[juv] (prob *M. discors*)	LB15	CMH_70
489	W1719	*Musculus* sp.[juv] (prob *M. discors*)	LE01.3	CMH_34
490	W1719	*Musculus* sp.[juv] (prob *M. discors*)	LE03.1	SJC_18
491	W1719	*Musculus* sp.[juv] (prob *M. discors*)	LM05.1	SJC_12
492	W1721	*Musculus discors*	C03.1	CJG_10
493	W1960	*Cerastoderma* sp. [juv]	C03.1	CJG_10
494	W1960	*Cerastoderma* sp. [juv]	C03.3	CJG_12
495	W1960	*Cerastoderma* sp. [juv]	LB02	
496	W1960	*Cerastoderma* sp. [juv]	LB04	CMH_58
497	W1960	*Cerastoderma* sp. [juv]	LB11	CMH_65
498	W1960	*Cerastoderma* sp. [juv]	LB12	CMH_66
499	W1960	*Cerastoderma* sp. [juv]	LB14	CMH_69
500	W1960	*Cerastoderma* sp. [juv]	LB15	CMH_70
501	W1960	*Cerastoderma* sp. [juv]	LB16	SJC_31
502	W1960	*Cerastoderma* sp. [juv]	LE01.2	SJC_22
503	W1960	*Cerastoderma* sp. [juv]	LE03.1	SJC_18
504	W1960	*Cerastoderma* sp. [juv]	LM10.1	CMH_31
505	W1961	*Cerastoderma edule*	LE01.2	SJC_22
506	W1961	*Cerastoderma edule*	LE05	CMH_36
507	W1961	*Cerastoderma edule*	LM07.2	CMH_20
508	W1961	*Cerastoderma edule?*	LM01.1a	CMH_10
509	W1962	*Cerastoderma glaucum*	LB03	CMH_57
510	W1962	*Cerastoderma glaucum*	LB05	SJC_24
511	W1962	*Cerastoderma glaucum*	LB10	CMH_64
512	W1962	*Cerastoderma glaucum*	LB13	CMH_67

SNH Uist lagoons Survey, 2012 - SPECIMEN COLLECTION			Accession Number: NMS.Z.2013.034	
Serial No.	**MCS (1997) Biocode**	**TAXON**	**Station Code**	**Waypoint**
513	W2133	*Turtonia minuta*	LE01.2	SJC_22
514	W2133	*Turtonia minuta*	LE01.3	CMH_34
515	W2133	*Turtonia minuta*	LE03.1	SJC_18
516	W2133	*Turtonia minuta*	LE05	CMH_36
517	W2133	*Turtonia minuta*	LM03.1c	SJC_09
518	W2133	*Turtonia minuta*	LM04a	CMH_12
519	W2133	*Turtonia minuta*	LM05.1	SJC_12
520	W2144	*Mya* sp. [juv]	LB11	CMH_65
521	W2147	*Mya truncata?*	LB13	CMH_67
522	W2149	*Mya arenaria*	LB11	CMH_65
523	W2149	*Mya arenaria*	LB12	CMH_66
524	W2149	*Mya arenaria*	LB14	CMH_69
525	W2149	*Mya arenaria*	LB15	CMH_70
526	W2149	*Mya arenaria*	LB19	CMH_68
527	W2149	*Mya arenaria*	LE04.2	CMH_43
528	Y0017	*Crisia eburnea*	LB01	
529	Y0078	*Alcyonidium hirsutum*	LM04a	CMH_12
530	Y0084	*Flustrellidra hispida*	LM04a	CMH_12
531	Y0084	*Flustrellidra hispida*	LM09.2	SJC_16
532	Y0112	*Walkeria uva*	LE04.4a	CMH_47
533	Y0112	*Walkeria uva*	LM03.1c	SJC_09
534	Y0178	*Electra pilosa*	LM09.2	SJC_16
535	ZD0071	*Ciona intestinalis*	C03.3	CJG_12
536	ZD0071	*Ciona intestinalis*	LE01.3	CMH_34
537	ZD0085	*Ascidiella scabra*	LE01.3	CMH_34
538	ZD0085	*Ascidiella scabra*	LM01.3	CMH_24
539	ZD0085	*Ascidiella scabra*	LM04a	CMH_12
540	ZD0085	*Ascidiella scabra*	LM07.2	CMH_22
541	ZD0087	*Ascidia* sp.	LE03.1	SJC_18
542	ZD0128	*Botrylloides leachii*	LM01.3	CMH_24
543	ZD0146	*Molgula* sp.?	C03.1	CJG_10
544	ZG0226	*Gasterosteus aculeatus*	C01.2	SJC_30
545	ZG0226	*Gasterosteus aculeatus*	C01.3	CJG_14
546	ZG0226	*Gasterosteus aculeatus*	C04.1	SJC_25
547	ZG0226	*Gasterosteus aculeatus*	HE02	CMH_54
548	ZG0226	*Gasterosteus aculeatus*	LB05	SJC_24
549	ZG0226	*Gasterosteus aculeatus*	LB06	CMH_59
550	ZG0226	*Gasterosteus aculeatus*	LB17	SJC_32
551	ZG0226	*Gasterosteus aculeatus*	LE03.1	SJC_18
552	ZG0226	*Gasterosteus aculeatus*	LE05	CMH_36
553	ZG0226	*Gasterosteus aculeatus*	LF02	CMH_51a
554	ZG0226	*Gasterosteus aculeatus*	LM04a	CMH_12
555	ZG0226	*Gasterosteus aculeatus*	LM06.1	CMH_15
556	ZG0226	*Gasterosteus aculeatus*	LM10.2	SJC_20
557	ZG0226	*Gasterosteus aculeatus*	LR02	CMH_52
558	ZG0244	*Syngnathus* sp.	LM07.2	CMH_20
559	ZG0478	*Pomatoschistus microps*	C02.2	SJC_28
560	ZG0478	*Pomatoschistus microps*	LB01	
561	ZG0478	*Pomatoschistus microps*	LB16	SJC_31
562	ZG0575	*Platichthys* sp?	LM07.1a	CMH_18
563	R0070	*Semibalanus balanoides* (and *Obelia dichotoma, Polysiphonia fucoides, Ulothrix subflaccida, U. speciosa*	LB08	CMH_61
564	P0255	*Glycera sp.*	LB08	CMH_61
565	P0720	Spionidae	LM05.1	SJC_12
566	P0720	Spionidae	LB03	CMH_57
567	P0305	*Kefersteinei cirrata?*	LB08	CMH_61
568	P1579	HIRUDINEA	LF01	CMH_50
569	P0462	*Hediste diversicolor*	LE04.3	CMH_44
570	P0929	*Arenicola* sp.	LB02	
571	P0720	Spionidae	LB03	CMH_57
572	D0519	*Obelia dichotoma*	LB08	CMH_61
573	S0224	*Apohyale prevostii*	LM11.2	CMH_30
574	W0312	*Skeneopsis planorbis*	LE01.2	SJC_22
575	W0384	*Hydrobia acuta neglecta*	LE03.1	SJC_18

SNH Uist lagoons Survey, 2012 - SPECIMEN COLLECTION			Accession Number: NMS.Z.2013.034	
Serial No.	**MCS (1997) Biocode**	**TAXON**	**Station Code**	**Waypoint**
576	ZD0083	*Ascidiella* sp.	LE01.2	SJC_22
577	P1487	*Tubificoides* sp.	LB12	CMH_66
578	P1487	*Tubificoides* sp.	LM03.2	SJC_02
579	P1391	*Spirorbis* sp.	LM09.2	SJC_16
580	Y0001	BRYOZOA indet.	LB01	
581	Y0084	*Flustrellidra hispida*	LB01	
582	Y0170	*Membranipora membranacea*	LB01	
583	Y0178	*Electra pilosa*	LB01	
584	Y0337	*Celleporella hyalina*	LB01	
585	Y0495	*Celleporella pumicosa*	LB01	
586	ZD0002	ASCIDIACEA indet.	LB01	
587	ZD0126	*Botryllus schlosseri*	LB01	
588	C0651	*Halichondria panicea*	LM07.2c	CMH_22
589	D0515	*Laomedea flexuosa*	LM04a	CMH_12
590	D0721	*Sagartiogeton laceratus*	LM05.2	SJC_11
591	P0462	*Hediste diversicolor*	LB06	CMH_59
592	P0462	*Hediste diversicolor*	LM02	CMH_11
593	P1019	*Polyophthalmus pictus*	LE01.2	SJC_22
594	P1487	*?Tubificoides sp.*	LM01.1a	CMH_10
595	W0296	*Littorina littorea*	LE01.2	SJC_22
596	W0296	*Littorina littorea*	LM09.2	SJC_16
597	W0302	*Littorina ?obtusata*	LE01.3	CMH_34
598	W0305	*Littorina saxatilis*	LB02	
599	W0305	*Littorina saxatilis*	LB05	SJC_24
600	W0305	*Littorina saxatilis*	LB06	CMH_59
601	W0305	*Littorina saxatilis*	LE01.3	CMH_34
602	W0305	*Littorina saxatilis*	LE03.1	SJC_18
603	W0305	*Littorina saxatilis*	LE04.3a	CMH_44
604	W0305	*Littorina saxatilis*	LM02	CMH_11
605	W0305	*Littorina saxatilis*	LM09.2	SJC_16
606	W0305	*Littorina saxatilis*	LM11.2	CMH_30
607	W0312	*Skeneopsis planorbis*	LE01.3	CMH_34
608	W0333	*Rissoa membranacea*	LE03.1	SJC_18
609	W0334	*Rissoa parva*	LB01	
610	W0384	*Hydrobia acuta neglecta*	LE03.1	SJC_18
611	W0384	*Hydrobia acuta neglecta*	LE04.3a	CMH_44
612	W0384	*Hydrobia acuta neglecta*	LM03.1c	SJC_09
613	W0384	*Hydrobia acuta neglecta*	LM05.2	SJC_11
614	W0384	*Hydrobia acuta neglecta*	LM09.1	SJC_15
615	W0385	*Peringia ulvae*	LM07.1a	CMH_18
616	W0387	*?Ecrobia ventrosa*	LB03	CMH_57
617	W0387	*Ecrobia ventrosa*	LB05	SJC_24
618	W0387	*?Ecrobia ventrosa*	LM10.1	CMH_31
619	W0393	*Potamopyrgus antipodarum*	LB03	CMH_57
620	W0393	*Potamopyrgus antipodarum*	LB18	SJC_33
621	W0393	*Potamopyrgus antipodarum*	LE04.3a	CMH_44
622	W0393	*Potamopyrgus antipodarum*	LF02	CMH_51a
623	W0393	*Potamopyrgus antipodarum*	LM06.1	CMH_15
624	W0393	*Potamopyrgus antipodarum*	LM06.1	CMH_15
625	W0393	*Potamopyrgus antipodarum*	LM10.2	SJC_20
626	W0393	*Potamopyrgus antipodarum*	LR01	CMH_51b
627	W1695	*Mytilus edulis*	LB13	CMH_67
628	W0393	*Potamopyrgus antipodarum*	LE04.3a	CMH_44
629	W1960	*Cerastoderma sp. [juv]*	LB03	CMH_57
631	W1960	*Cerastoderma sp. [juv]*	LB04	CMH_58
632	W1960	*Cerastoderma sp. [juv]*	LB12	CMH_66
633	W1960	*Cerastoderma sp. [juv]*	LB16	SJC_31
634	W1962	*Cerastoderma glaucum*	LB03	CMH_57
635	W1962	*Cerastoderma glaucum*	LB04	CMH_58
636	W1962	*Cerastoderma glaucum*	LB05	SJC_24
637	W2133	*Turtonia minuta*	LE01.3	CMH_34
638	W2149	*Mya arenaria*	LB12	CMH_66
639	Y0178	*Electra pilosa*	LE01.1	SJC_21

Table A5.2 Royal Botanic Garden Edinburgh accession data

RBGE Accession Number	TAXON	Preservative	Collection date	Station	Waypoint
CMH_001	*Blidingia marginata*	Wet	16/09/2012	LB01ab	
CMH_002	*Ulva ?intestinalis*	Wet	16/09/2012	LB01ab	
CMH_003	*Chaetomorpha ligustica*	Wet	16/09/2012	LB01ab	
CMH_004	*?Rosenvingiella polyrhiza* with *Ulothrix flacca & Ulothrix speciosa*	Wet	16/09/2012	LB01c	CMH_02
CMH_005	*Capsosiphon fulvescens*	Wet	16/09/2012	LB01c	CMH_02
CMH_006	*Ulva prolifera*	Dry	16/09/2012	LB01c	CMH_02
CMH_007	*Ulva californica/linza*	Wet	16/09/2012	LB01c	CMH_02
CMH_008	*Cladophora laetevirens*	Wet	16/09/2012	LB01c	CMH_02
CMH_009	*Ruppia cirrhosa*	Dry	16/09/2012	LB02b	CMH_07
CMH_010	*?Vaucheria* [blue green mat on submerged peat]	Wet	16/09/2012	LB02b	CMH_07
CMH_011	*Cladophora sericea*	Wet	16/09/2012	LB02b	CMH_07
CMH_012	Chromophycota	Wet	16/09/2012	LB02	
CMH_013	*Chaetomorpha linum*	Wet	16/09/2012	LB02	
CMH_014	*Cladophora* sp.	Dry	16/09/2012	LB02a	CMH_08
CMH_015	*Catenella caespitosa*	Wet	17/09/2012	LM02	CMH_11
CMH_016	*Ruppia cirrhosa*	Dry	17/09/2012	LM03.1c	SJC_09
CMH_017	*Cystoclonium purpureum*	Wet	17/09/2012	LM03.1c	SJC_09
CMH_018	*Furcellaria lumbricalis*	Dry	17/09/2012	LM03.1c	SJC_09
CMH_019	*Gracilaria gracilis*	Dry	17/09/2012	LM03.1c	SJC_09
CMH_020	*Polysiphonia fucoides*	Wet	17/09/2012	LM03.1c	SJC_09
CMH_021	*Ulothrix flacca*	Wet	17/09/2012	LM03.1c	SJC_09
CMH_022	*Ulva clathrata*	Wet	17/09/2012	LM03.1c	SJC_09
CMH_023	*Ulva clathrata*	Dry	17/09/2012	LM03.1c	SJC_09
CMH_024	*Walkeria uva* [epiphytic on red alga]	Dry	17/09/2012	LM03.1c	SJC_09
CMH_025	*Zostera marina*	Dry	17/09/2012	LM04a	CMH_12
CMH_026	*Zostera marina*	Dry	17/09/2012	LM04a	CMH_12
CMH_027	*Ruppia cirrhosa*	Dry	17/09/2012	LM04a	CMH_12
CMH_028	*Ruppia cirrhosa*	Dry	17/09/2012	LM04a	CMH_12
CMH_029	*Lamprothamnium papulosum*	Wet	17/09/2012	LM04a	CMH_12
CMH_030	*Lamprothamnium papulosum*	Dry	17/09/2012	LM04a	CMH_12
CMH_031	*Lamprothamnium papulosum*	Dry	17/09/2012	LM04a	CMH_12
CMH_032	*Furcellaria lumbricalis*	Dry	17/09/2012	LM04a	CMH_12
CMH_033	*Phyllophora pseudoceranoides*	Dry	17/09/2012	LM04a	CMH_12
CMH_034	*Gracilaria gracilis*	Dry	17/09/2012	LM04a	CMH_12
CMH_035	*Ceramium secundatum*	Wet	17/09/2012	LM04a	CMH_12
CMH_036	*Chaetomorpha linum* with *Rhizoclonium riparium*	Wet	17/09/2012	LM04a	CMH_12
CMH_037	*Chaetomorpha ligustica*	Wet	17/09/2012	LM04a	CMH_12

RBGE Accession Number	TAXON	Preservative	Collection date	Station	Waypoint
CMH_038	*Cladophora* sp. [poor condition]	Wet	17/09/2012	LM04a	CMH_12
CMH_039	*Ulva intestinalis*	Dry	17/09/2012	LM04a	CMH_12
CMH_040	*Ruppia sp.*	Dry	17/09/2012	LM03.10	SJC_13
CMH_041	*?Ruppia maritima*	Dry	18/09/2012	LM03.10	SJC_13
CMH_042	*Zostera marina*	Dry	18/09/2012	LM03.10	SJC_13
CMH_043	*Ruppia cirrhosa*	Dry	18/09/2012	LM03.10	SJC_13
CMH_044	*Urospora penicilliformis*	Wet	18/09/2012	LM03.10	SJC_13
CMH_045	*Cladophora vagabunda/glomerata*	Wet	18/09/2012	LM03.10	SJC_13
CMH_046	*Chaetomorpha ligustica*	Dry	18/09/2012	LM03.10	SJC_13
CMH_047	*Cladophora vagabunda*	Dry	18/09/2012	LM03.10	SJC_13
CMH_048	*Zostera noltei*	Dry	18/09/2012	LM05.1	SJC_12
CMH_049	*Furcellaria lumbricalis*	Wet	18/09/2012	LM05.1	SJC_12
CMH_050	*Ceramium botryocarpum*	Wet	18/09/2012	LM05.1	SJC_12
CMH_051	*Ruppia maritima*	Dry	18/09/2012	LM06.2	CMH_16
CMH_052	*Ruppia maritima*	Dry	18/09/2012	LM06.2	CMH_16
CMH_053	*Ruppia maritima*	Dry	18/09/2012	LM06.2	CMH_16
CMH_054	*Ruppia cirrhosa*	Dry	18/09/2012	LM06.2	CMH_16
CMH_055	*Cladophora glomerata* with *Percusaria percursa* and *Rhizoclonium riparium*	Wet	18/09/2012	LM06.2	CMH_16
CMH_056	*Cladophora coelothrix*	Wet	18/09/2012	LM06.2	CMH_16
CMH_057	*Cladophora sericea*	Wet	18/09/2012	LM06.2	CMH_16
CMH_058	*Catenella caespitosa*	Wet	18/09/2012	LM07.1a	CMH_18
CMH_059	*Catenella caespitosa*	Dry	18/09/2012	LM07.1a	CMH_18
CMH_060	*Fucus* sp. [from peat]	Dry	18/09/2012	LM07.1a	CMH_18
CMH_061	*Fucus spiralis*	Dry	18/09/2012	LM07.1a	CMH_18
CMH_062	*Pelvetia canaliculata*	Dry	18/09/2012	LM07.1a	CMH_18
CMH_063	*?Ulothrix* sp.	Wet	18/09/2012	LM07.1a	CMH_18
CMH_064	*Ruppia cirrhosa*	Dry	18/09/2012	LM07.2b	CMH_21
CMH_065	Green algal epiphytes	Wet	18/09/2012	LM07.2b	CMH_21
CMH_066	*Gracilaria gracilis*	Dry	18/09/2012	LM07.2c	CMH_22
CMH_067	*Ceramium deslongchampii*	Wet	18/09/2012	LM07.2c	CMH_22
CMH_068	*Ceramium pallidum*	Wet	18/09/2012	LM07.2c	CMH_22
CMH_069	*Ceramium secundatum*	Dry	18/09/2012	LM07.2c	CMH_22
CMH_070	Filamentous brown alga	Wet	18/09/2012	LM07.2c	CMH_22
CMH_071	*Cladophora rupestris*	Wet	18/09/2012	LM07.2c	CMH_22
CMH_072	*Ulva rigida*	Dry	18/09/2012	LM07.2c	CMH_22
CMH_073	*Hildenbrandia rubra*	Dry	19/09/2012	LM01.2	CMH_23
CMH_074	*Fucus ceranoides*	Dry	19/09/2012	LM01.2	CMH_23
CMH_075	*Ulva clathrata*	Dry	19/09/2012	LM01.2	CMH_23
CMH_076	*Ulva intestinalis*	Wet	19/09/2012	LM01.2	CMH_23
CMH_077	*Cystoclonium purpureum*	Dry	19/09/2012	LM01.3	CMH_24
CMH_078	*Rhodophyllis divaricata*	Dry	19/09/2012	LM01.3	CMH_24
CMH_079	*Heterosiphonia japonica* on *Chondrus crispus*	Dry	19/09/2012	LM01.3	CMH_24
CMH_080	*Cryptopleura ramosa*	Dry	19/09/2012	LM01.3	CMH_24
CMH_081	*Dictyota dichotoma*	Dry	19/09/2012	LM01.3	CMH_24

RBGE Accession Number	TAXON	Preservative	Collection date	Station	Waypoint
CMH_082	*Ulva lactuca*	Dry	19/09/2012	LM01.3	CMH_24
CMH_083	*Cladophora rupestris*	Wet	19/09/2012	LM01.3	CMH_24
CMH_084	*Cladophora rupestris*	Dry	19/09/2012	LM01.3	CMH_24
CMH_085	*Zostera noltei*	Dry	19/09/2012	LM09.1	SJC_15
CMH_086	*Ruppia cirrhosa*	Dry	19/09/2012	LM09.1	SJC_15
CMH_087	*Lamprothamnium papulosum*	Dry	19/09/2012	LM09.1	SJC_15
CMH_088	*Cladophora glomerata*	Wet	19/09/2012	LM09.1	SJC_15
CMH_089	*Cladophora* sp.	Wet	19/09/2012	LM09.1	SJC_15
CMH_090	*Cladophora* sp.	Dry	19/09/2012	LM09.2	SJC_16
CMH_091	*Furcellaria lumbricalis*	Dry	19/09/2012	LM09.2	SJC_16
CMH_092	*Rhodomela confervoides*	Wet	19/09/2012	LM09.2	SJC_16
CMH_093	*Fucus serratus*	Dry	19/09/2012	LM09.2	SJC_16
CMH_094	*Fucus vesiculosus*	Dry	19/09/2012	LM09.2	SJC_16
CMH_095	*Pelvetia canaliculata*	Dry	19/09/2012	LM09.2	SJC_16
CMH_096	*Chaetomorpha linum*	Wet	19/09/2012	LM09.2	SJC_16
CMH_097	*Cladophora albida*	Wet	19/09/2012	LM09.2	SJC_16
CMH_098	*Cladophora ?coelothrix*	Wet	19/09/2012	LM09.2	SJC_16
CMH_099	*Ruppia ?maritima*	Dry	19/09/2012	LM09.3	SJC_17
CMH_100	*Zostera marina*	Dry	20/09/2012	LE03.1	SJC_18
CMH_101	*Lamprothamnium papulosum*	Wet	20/09/2012	LE03.1	SJC_18
CMH_102	*Chondrus crispus*	Dry	20/09/2012	LE03.1	SJC_18
CMH_103	*Ruppia maritima*	Dry	20/09/2012	LM10.1	CMH_31
CMH_104	*Ruppia maritima*	Dry	20/09/2012	LM10.1	CMH_31
CMH_105	*Ruppia maritima*	Dry	20/09/2012	LM10.1	CMH_31
CMH_106	*Rhizoclonium riparium* with *Percusaria percursa,* fil. brown & fil. Green	Wet	20/09/2012	LM10.1	CMH_31
CMH_107	*Ulva intestinalis* (with green crust on pebble)	Wet	20/09/2012	LM10.1	CMH_31
CMH_108	*Rhizoclonium riparium* or filamentous brown	Wet	20/09/2012	LM10.2	SJC_20
CMH_109	*Ulva intestinalis*	Wet	20/09/2012	LM10.2	SJC_20
CMH_110	*Ruppia maritima*	Dry	20/09/2012	LM10.2	SJC_20
CMH_111	*Cladophora rupestris/dalmatica*	Wet	21/09/2012	LE01.2	SJC_22
CMH_112	*Cladophora* sp.	Wet	21/09/2012	LE01.2	SJC_22
CMH_113	*Ruppia cirrhosa*	Dry	21/09/2012	LE01.3	CMH_33
CMH_114	*Ruppia cirrhosa*	Dry	21/09/2012	LE01.3	CMH_33
CMH_115	*Ruppia cirrhosa*	Dry	21/09/2012	LE01.3	CMH_34
CMH_116	*Ruppia cirrhosa*	Dry	21/09/2012	LE01.3	CMH_34
CMH_117	*Ruppia cirrhosa*	Dry	21/09/2012	LE01.3	CMH_34
CMH_118	*Zostera marina*	Dry	21/09/2012	LE01.3	CMH_34
CMH_119	*Gracilaria gracilis/longissima*	Wet	21/09/2012	LE01.3	CMH_34
CMH_120	*?Gracilaria gracilis*	Dry	21/09/2012	LE01.3	CMH_34
CMH_121	Chromophycota	Wet	21/09/2012	LE01.3	CMH_34
CMH_122	Chromophycota	Wet	21/09/2012	LE01.3	CMH_34
CMH_123	Chromophycota indet.	Dry	21/09/2012	LE01.3	CMH_34
CMH_124	Chromphycotal algal tuft	Wet	21/09/2012	LE01.3	CMH_34
CMH_125	*Ulva clathrata*	Wet	21/09/2012	LE01.3	CMH_34

RBGE Accession Number	TAXON	Preservative	Collection date	Station	Waypoint
CMH_126	*Ulva lactuca*	Wet	21/09/2012	LE01.3	CMH_34
CMH_127	*Ulva pseudocurvata*	Dry	21/09/2012	LE01.3	CMH_34
CMH_128	*?Cladophora* sp.	Wet	21/09/2012	LE01.3	CMH_34
CMH_129	*Cladophora coelothrix*	Wet	21/09/2012	LE01.3	CMH_34
CMH_130	*Rhizoclonium riparium*	Wet	21/09/2012	LE01.3	CMH_34
CMH_131	*Codium fragile fragile*	Wet	21/09/2012	LE01.3	CMH_34
CMH_132	*Codium fragile fragile*	Dry	21/09/2012	LE01.3	CMH_34
CMH_133	*Ruppia maritima*	Dry	21/09/2012	LE05	CMH_36
CMH_134	Filamentous brown alga	Wet	21/09/2012	LE05	CMH_36
CMH_135	Filamentous green indet.	Wet	21/09/2012	LE05	CMH_36
CMH_136	*Zostera marina*	Dry	22/09/2012	LE04.1a	CMH_38
CMH_137	*Zostera noltei*	Dry	22/09/2012	LE04.1a	CMH_38
CMH_138	*Ruppia cirrhosa*	Dry	22/09/2012	LE04.1a	CMH_38
CMH_139	*Ruppia cirrhosa*	Dry	22/09/2012	LE04.1a	CMH_38
CMH_140	*Lamprothamnium papulosum*	Wet	22/09/2012	LE04.1a	CMH_38
CMH_141	*Lamprothamnium papulosum*	Dry	22/09/2012	LE04.1a	CMH_38
CMH_142	*Lamprothamnium papulosum*	Dry	22/09/2012	LE04.1a	CMH_38
CMH_143	*Lamprothamnium papulosum*	Dry	22/09/2012	LE04.1a	CMH_38
CMH_144	*Fucus ceranoides*	Dry	22/09/2012	LE04.1a	CMH_38
CMH_145	*Fucus ceranoides*	Dry	22/09/2012	LE04.1a	CMH_38
CMH_146	*Fucus ceranoides*	Dry	22/09/2012	LE04.1a	CMH_38
CMH_147	Green algal balls	Wet	22/09/2012	LE04.1a	CMH_38
CMH_148	*Ulva intestinalis*	Wet	22/09/2012	LE04.1a	CMH_38
CMH_149	*Cladophora glomerata*	Wet	22/09/2012	LE04.1a	CMH_38
CMH_150	*Cladophora glomerata*	Wet	22/09/2012	LE04.1a	CMH_38
CMH_151	*Cladophora albida*	Wet	22/09/2012	LE04.1a	CMH_38
CMH_152	*Cladophora battersii*	Dry	22/09/2012	LE04.1a	CMH_38
CMH_153	*Cladophora ?coelothrix*	Wet	22/09/2012	LE04.1a	CMH_38
CMH_154	*Cladophora sericea*	Wet	22/09/2012	LE04.1a	CMH_38
CMH_155	*Fucus ceranoides*	Dry	22/09/2012	LE04.2	CMH_43
CMH_156	*Cladophora vagabunda/glomerata*	Wet	22/09/2012	LE04.2	CMH_43
CMH_157	Algal crusts – SPECIMEN MISSING	formalin	22/09/2012	LE04.3a	CMH_44
CMH_158	*Fucus ceranoides*	Dry	22/09/2012	LE04.3a	CMH_44
CMH_159	*Cladophora battersii*	Dry	22/09/2012	LE04.3a	CMH_44
CMH_160	*Lamprothamnium papulosum*	Dry	22/09/2012	LE04.3a	CMH_44
CMH_161	*Ruppia maritima*	Dry	22/09/2012	LE04.3a	CMH_44
CMH_162	*Polysiphonia brodiae*	Wet	22/09/2012	LE04.4a	CMH_47
CMH_163	*Polysiphonia fucoides*	Dry	22/09/2012	LE04.4a	CMH_47
CMH_164	Filamentous alga – SPECIMEN MISSING	Wet	22/09/2012	LE04.4a	CMH_47
CMH_165	*Cladophora ?glomerata*	Wet	23/09/2012	LF02	CMH_51a
CMH_166	*Chara aspera* v. *aspera*	Wet	23/09/2012	LR01	CMH_51b
CMH_167	*?Chara aspera* v. *aspera*	Dry	23/09/2012	LR01	CMH_51b
CMH_168	Red or brown alga	Wet	23/09/2012	LR01	CMH_51b

RBGE Accession Number	TAXON	Preservative	Collection date	Station	Waypoint
CMH_169	Filamentous alga [?fresh water]	Wet	23/09/2012	LR01	CMH_51b
CMH_170	Filamentous brown alga [?fresh water]	Wet	23/09/2012	LR01	CMH_51b
CMH_171	Filamentous green indet. [?fresh water]	Wet	23/09/2012	LR01	CMH_51b
CMH_172	Filamentous green indet. [?fresh water]	Wet	23/09/2012	LR01	CMH_51b
CMH_173	*Gayralia oxysperma*	Wet	23/09/2012	LR01	CMH_51b
CMH_174	*Gayralia oxysperma*	Dry	23/09/2012	LR01	CMH_51b
CMH_175	*Ulva intestinalis*	Wet	23/09/2012	LR01	CMH_51b
CMH_176	*Ulva* type [?fresh water]	Wet	23/09/2012	LR01	CMH_51b
CMH_177	*Cladophora glomerata* with *Rhizoclonium riparium and ?Rosenvingiella* sp.	Wet	23/09/2012	LR01	CMH_51b
CMH_178	*Fucus ceranoides*	Dry	23/09/2012	LR02	CMH_52
CMH_179	Filamentous brown alga	Wet	23/09/2012	LR02	CMH_52
CMH_180	*?Blidingia minima*	Wet	23/09/2012	LR02	CMH_52
CMH_181	*Ulva intestinalis*	Wet	23/09/2012	LR02	CMH_52
CMH_182	*Ruppia* sp.	Dry	24/09/2012	LB03	CMH_57
CMH_183	Small green globules on *Ruppia ?spiralis*	Dry	24/09/2012	LB03	CMH_57
CMH_184	*Cladophora ?albida*	Wet	24/09/2012	LB03	CMH_57
CMH_185	*?Furcellaria lumbricalis* [balls attached to *Ruppia*]	Wet	24/09/2012	LB04	CMH_58
CMH_186	*?Furcellaria lumbricalis* [forming balls]	Dry	24/09/2012	LB04	CMH_58
CMH_187	*Polysiphonia fucoides*	Wet	24/09/2012	LB04	CMH_58
CMH_188	Green algal filaments	Wet	24/09/2012	LB04	CMH_58
CMH_189	*Chaetomorpha linum*	Wet	24/09/2012	LB04	CMH_58
CMH_190	*Cladophora ?laetevirens*	Wet	24/09/2012	LB04	CMH_58
CMH_191	*Ruppia* sp.	Dry	24/09/2012	LB05	SJC_24
CMH_192	*?Furcellaria lumbricalis*	Wet	24/09/2012	LB05	SJC_24
CMH_193	Red alga indet cf. *Furcellaria*	Wet	24/09/2012	LB05	SJC_24
CMH_194	*Ceramium botryocarpum*	Wet	24/09/2012	LB05	SJC_24
CMH_195	*Chaetomorpha linum*	Wet	24/09/2012	LB05	SJC_24
CMH_196	*Chaetomorpha linum*	Dry	24/09/2012	LB05	SJC_24
CMH_197	*Ruppia* sp.	Dry	24/09/2012	LB06	CMH_59
CMH_198	*Cladophora* sp.	Wet	26/09/2012	CO1.1	SJC_29
CMH_199	*Rhizoclonium riparium*	Wet	26/09/2012	CO1.1	SJC_29
CMH_200	*Ulva intestinalis*	Wet	26/09/2012	CO1.2	SJC_30
CMH_201	*Rhizoclonium riparium*	Wet	26/09/2012	CO1.2	SJC_30
CMH_202	*Urospora penicilliformis*	Wet	26/09/2012	CO1.3	CJG_14
CMH_203	*Ulva intestinalis*	Wet	26/09/2012	CO1.3	CJG_14
CMH_204	*Ceramium nodulosum*	Wet	26/09/2012	CO2.1	SJC_27
CMH_205	Ectocarpaceae	Wet	26/09/2012	CO2.1	SJC_27
CMH_206	*Cladophora sericea*	Wet	26/09/2012	CO2.1	SJC_27
CMH_207	*Codium fragile fragile*	Dry	26/09/2012	CO2.1	SJC_27
CMH_208	*Codium fragile fragile*	Wet	26/09/2012	CO2.1	SJC_27
CMH_209	*Ruppia cirrhosa*	Dry	26/09/2012	CO3.2	CJG_11

RBGE Accession Number	TAXON	Preservative	Collection date	Station	Waypoint
CMH_210	*Zostera marina*	Dry	26/09/2012	CO3.2	WP12
CMH_211	*Ulva ?flexuosa*	Wet	26/09/2012	CO3.2	CJG_11
CMH_212	*Ulva intestinalis*	Wet	26/09/2012	CO3.2	CJG_11
CMH_213	*Chaetomorpha linum*	Wet	26/09/2012	CO3.2	CJG_11
CMH_214	*Ulva intestinalis*	Wet	26/09/2012	CO4.1	SJC_25
CMH_215	*Ulva intestinalis*	Wet	26/09/2012	CO4.2	SJC_26
CMH_216	*Polysiphonia fucoides*	Wet	26/09/2012	LB08	CMH_61
CMH_217	*Polysiphonia fucoides/Ceramium*	Wet	26/09/2012	LB08	CMH_61
CMH_218	*Polysiphonia fucoides* [epiphytic on mussel]	IDA	26/09/2012	LB08	CMH_61
CMH_219	*Fucus ceranoides*	Dry	26/09/2012	LB08	CMH_61
CMH_220	Filamentous brown alga	Wet	26/09/2012	LB08	CMH_61
CMH_221	*?Brown alga* [Poor condition]	Wet	26/09/2012	LB08	CMH_61
CMH_222	*Cladophora rupestris*	Wet	26/09/2012	LB08	CMH_61
CMH_223	*Cladophora rupestris*	Dry	26/09/2012	LB08	CMH_61
CMH_224	*Ruppia* sp.	Dry	26/09/2012	LB10	CMH_64
CMH_225	*Zostera noltei*	Dry	26/09/2012	LB10	CMH_64
CMH_226	*Ceramium botryocarpum*	Wet	26/09/2012	LB10	CMH_64
CMH_227	*Ceramium botryocarpum*	Dry	26/09/2012	LB10	CMH_64
CMH_228	*Ceramium nodulosum*	Wet	26/09/2012	LB10	CMH_64
CMH_229	*Fucus ceranoides*	Dry	26/09/2012	LB10	CMH_64
CMH_230	Green algal balls	Wet	26/09/2012	LB10	CMH_64
CMH_231	*Ulva intestinalis*	Wet	26/09/2012	LB10	CMH_64
CMH_232	*Chaetomorpha linum*	Wet	26/09/2012	LB10	CMH_64
CMH_233	*Ruppia maritima*	Dry	27/09/2012	LB11	CMH_65
CMH_234	*Fucus ceranoides*	Dry	27/09/2012	LB11	CMH_65
CMH_235	Green algal balls	Wet	27/09/2012	LB11	CMH_65
CMH_236	*Ulva ?intestinalis*	Wet	27/09/2012	LB11	CMH_65
CMH_237	*Cladophora glomerata*	Wet	27/09/2012	LB11	CMH_65
CMH_238	*Ruppia ?maritima*	Dry	27/09/2012	LB13	CMH_67
CMH_239	*Ruppia maritima*	Dry	27/09/2012	LB13	CMH_67
CMH_240	*Fucus ceranoides*	Dry	27/09/2012	LB13	CMH_67
CMH_241	Filamentous green indet.	Wet	27/09/2012	LB13	CMH_67
CMH_242	*Ulothrix* spp.	Wet	27/09/2012	LB13	CMH_67
CMH_243	Green blobs	Wet	27/09/2012	LB13	CMH_67
CMH_244	*Ulva intestinalis*	Wet	27/09/2012	LB13	CMH_67
CMH_245	*Chaetomorpha linum*	Wet	27/09/2012	LB13	CMH_67
CMH_246	*Chaetomorpha linum* (with *?Ulothrix*)	Wet	27/09/2012	LB13	CMH_67
CMH_247	*?Cladophora* sp.	Wet	27/09/2012	LB13	CMH_67
CMH_248	*Cladophora laetevirens*	Wet	27/09/2012	LB13	CMH_67
CMH_249	*Ruppia cirrhosa*	Dry	27/09/2012	LB16	SJC_31
CMH_250	*?Furcellaria lumbricalis* [free living balls]	Dry	27/09/2012	LB16	SJC_31
CMH_251	*Fucus serratus*	Dry	27/09/2012	LB16	SJC_31
CMH_252	*Chaetomorpha linum*	Wet	27/09/2012	LB16	SJC_31
CMH_253	*Chaetomorpha linum*	Dry	27/09/2012	LB16	SJC_31

RBGE Accession Number	TAXON	Preservative	Collection date	Station	Waypoint
CMH_254	*Chara aspera v. aspera*	Wet	27/09/2012	LB18	SJC_33
CMH_255	*Chara ?aspera v. aspera*	Wet	27/09/2012	LB18	SJC_33
CMH_256	*Chara aspera v. aspera*	Dry	27/09/2012	LB18	SJC_33
CMH_257	*Chara aspera v. aspera*	Dry	27/09/2012	LB18	SJC_33
CMH_258	Green algal balls	Wet	27/09/2012	LB18	SJC_33
CMH_259	Green algal balls	Wet	27/09/2012	LB18	SJC_33
CMH_260	*Chaetomorpha linum*	Wet	27/09/2012	LB18	SJC_33
CMH_261	*Chaetomorpha linum* (with *C. glomerata*)	Wet	27/09/2012	LB18	SJC_33
CMH_262	*Cladophora glomerata*	Wet	27/09/2012	LB18	SJC_33

APPENDIX 6: PHOTO LOG

Photo Number	Site Name	Station code	Notes
CMH_20120917_2461	Loch Portain Lagoon	LM01.1	*Ascophyllum* on sill
CMH_20120917_2462	Loch Portain Lagoon	LM01.1	*Ascophyllum* on sill
CMH_20120917_2463	Loch Portain Lagoon	LM01.1	Mud basin surrounded by fucoids
CMH_20120917_2464	Loch Portain Lagoon	LM01.1	Mud basin surrounded by fucoids
CMH_20120917_2465	Loch Portain Lagoon	LM01.1	Mud surface
CMH_20120917_2466	Loch Portain Lagoon	LM01.1	*Arenicola* on mud
CMH_20120917_2467	Loch Portain Lagoon	LM01.1	*Arenicola* on mud
CMH_20120919_2547	Loch Portain Lagoon	LM01.2	View over fresh water lochan above lagoon
CMH_20120919_2548	Loch Portain Lagoon	LM01.2	View over fresh water lochan above lagoon
CMH_20120919_2549	Loch Portain Lagoon	LM01.2	View of lagoon from fresh water inflow
CMH_20120919_2550	Loch Portain Lagoon	LM01.2	Waterfall from fresh water lochan into lagoon
CMH_20120919_2551	Loch Portain Lagoon	LM01.2	Waterfall from fresh water lochan into lagoon
CMH_20120919_2552	Loch Portain Lagoon	LM01.2	Waterfall from fresh water lochan into lagoon
CMH_20120919_2553	Loch Portain Lagoon	LM01.2	Waterfall from lagoon into sealoch
CMH_20120919_2554	Loch Portain Lagoon	LM01.2	View over shore below lagoon
MSW_20120919_03801	Loch Portain Lagoon	LM01.2	Christine sieving
MSW_20120919_03802	Loch Portain Lagoon	LM01.2	Christine sieving
MSW_20120919_03803	Loch Portain Lagoon	LM01.2	Top of sill
MSW_20120919_03804	Loch Portain Lagoon	LM01.2	Across top of sill, Loch Portain on right
MSW_20120919_03805	Loch Portain Lagoon	LM01.2	View towards Loch Portain
MSW_20120919_03806	Loch Portain Lagoon	LM01.2	Christine sieving
MSW_20120919_03807	Loch Portain Lagoon	LM01.2	Christine sieving
MSW_20120919_03808	Loch Portain Lagoon	LM01.2	View into lagoon, connection with upper loch on left
MSW_20120919_03809	Loch Portain Lagoon	LM01.2	View across lagoon towards hillside
MSW_20120919_03810	Loch Portain Lagoon	LM01.2	*Fucus ceranoides*
MSW_20120919_03811	Loch Portain Lagoon	LM01.2	*Fucus ceranoides*
MSW_20120919_03812	Loch Portain Lagoon	LM01.2	Christine sampling
MSW_20120919_03813	Loch Portain Lagoon	LM01.2	Christine sampling
MSW_20120919_03814	Loch Portain Lagoon	LM01.2	*Ascophyllum* on Loch Portain side of sill
MSW_20120919_03815	Loch Portain Lagoon	LM01.2	Outflow through *Ascophyllum*, lagoon above
MSW_20120919_03816	Loch Portain Lagoon	LM01.2	Outflow through *Ascophyllum*, lagoon above
MSW_20120919_03817	Loch Portain Lagoon	LM01.2	Outflow through *Ascophyllum*, lagoon above
MSW_20120919_03818	Loch Portain Lagoon	LM01.2	Outflow through *Ascophyllum*, lagoon above
MSW_20120919_03819	Loch Portain Lagoon	LM01.2	Outflow through *Ascophyllum*, lagoon above
MSW_20120919_03820	Loch Portain Lagoon	LM01.2	Outflow through *Ascophyllum*, lagoon above
MSW_20120919_03821	Loch Portain Lagoon	LM01.2	Outflow through *Ascophyllum*, lagoon above
MSW_20120919_03822	Loch Portain Lagoon	LM01.2	Outflow through *Fucus vesiculosus/spiralis*, lagoon above
MSW_20120919_03823	Loch Portain Lagoon	LM01.2	Outflow through *Fucus vesiculosus/spiralis*, lagoon above
MSW_20120919_03824	Loch Portain Lagoon	LM01.2	Boat afloat in *Ascophyllum* in Loch Portain
MSW_20120919_03825	Loch Portain Lagoon	LM01.2	Boat afloat in *Ascophyllum* in Loch Portain
MSW_20120919_03826	Loch Portain Lagoon	LM01.2	Boat afloat in *Ascophyllum* in Loch Portain
MSW_20120919_03827	Loch Portain Lagoon	LM01.2	*Ascophyllum* in Loch Portain
MSW_20120919_03828	Loch Portain Lagoon	LM01.2	Upper shore fucoids on sill
MSW_20120919_03829	Loch Portain Lagoon	LM01.2	Upper shore fucoids on sill
MSW_20120919_03830	Loch Portain Lagoon	LM01.2	Upper shore fucoids on sill
MSW_20120919_03831	Loch Portain Lagoon	LM01.2	Upper shore fucoids on sill
MSW_20120919_03832	Loch Portain Lagoon	LM01.2	Upper shore fucoids on sill
MSW_20120919_03833	Loch Portain Lagoon	LM01.2	Outflow through upper shore fucoids
MSW_20120919_03834	Loch Portain Lagoon	LM01.2	Outflow through upper shore fucoids
MSW_20120919_03835	Loch Portain Lagoon	LM01.2	Outflow through upper shore fucoids
MSW_20120919_03836	Loch Portain Lagoon	LM01.2	*Pelvetia canaliculata* on sill
MSW_20120919_03837	Loch Portain Lagoon	LM01.2	*Fucus spiralis* on sill
MSW_20120919_03838	Loch Portain Lagoon	LM01.2	View across lagoon towards connection with upper loch (FW)
MSW_20120919_03839	Loch Portain Lagoon	LM01.2	Outflow through upper shore fucoids
MSW_20120919_03840	Loch Portain Lagoon	LM01.2	Outflow through upper shore fucoids
MSW_20120919_03841	Loch Portain Lagoon	LM01.3	Sky

Photo Number	Site Name	Station code	Notes
MSW_20120919_03842	Loch Portain Lagoon	LM01.3	View to north across lagoon
MSW_20120919_03843	Loch Portain Lagoon	LM01.3	View to north east
MSW_20120919_03844	Loch Portain Lagoon	LM01.3	Sill
MSW_20120919_03845	Loch Portain Lagoon	LM01.3	South west sill
MSW_20120919_03846	Loch Portain Lagoon	LM01.3	Sill
MSW_20120919_03847	Loch Portain Lagoon	LM01.3	Panorama from sill with Christine sampling
MSW_20120919_03848	Loch Portain Lagoon	LM01.3	Panorama from sill with Christine sampling
MSW_20120919_03849	Loch Portain Lagoon	LM01.3	Christine sampling in *Chorda*
MSW_20120919_03850	Loch Portain Lagoon	LM01.3	Christine sampling in *Chorda*
MSW_20120919_03851	Loch Portain Lagoon	LM01.3	Christine sampling in *Chorda*
MSW_20120919_03852	Loch Portain Lagoon	LM01.3	Fucoid covered shores
MSW_20120919_03853	Loch Portain Lagoon	LM01.3	Fucoids on sill
MSW_20120919_03854	Loch Portain Lagoon	LM01.3	Fucoids on sill, looking out to main loch
MSW_20120919_03855	Loch Portain Lagoon	LM01.3	Christine bobbing around
MSW_20120919_03856	Loch Portain Lagoon	LM01.3	View over lagoon
MSW_20120919_03857	Loch Portain Lagoon	LM01.3	View over lagoon
MSW_20120919_03858	Loch Portain Lagoon	LM01.3	View over lagoon
MSW_20120919_03859	Loch Portain Lagoon	LM01.3	Fucoids on sill, looking out to main loch
MSW_20120919_03860	Loch Portain Lagoon	LM01.3	Fucoids on sill, looking out to main loch
CMH_20120917_2468	Greanacleit Lagoon	LM02	Fucoid covered sill
CMH_20120917_2469	Greanacleit Lagoon	LM02	Fucoid covered sill
CMH_20120917_2470	Greanacleit Lagoon	LM02	Head of basin
CMH_20120917_2471	Greanacleit Lagoon	LM02	Channel through saltmarsh leading into basin
CMH_20120917_2472	Greanacleit Lagoon	LM02	Channel through saltmarsh leading into basin
CMH_20120917_2473	Greanacleit Lagoon	LM02	Fucoid covered sill
CMH_20120917_2478	Greanacleit Lagoon	LM02	*Semibalanus balanoides*
CMH_20120917_2479	Greanacleit Lagoon	LM02	Small boulder culvert in sill
CMH_20120917_2480	Greanacleit Lagoon	LM02	Small boulder culvert in sill
CMH_20120917_2481	Greanacleit Lagoon	LM02	Small boulder culvert in sill
CMH_20120917_2482	Greanacleit Lagoon	LM02	View from road
CMH_20120917_2483	Greanacleit Lagoon	LM02	Boulder crossing
CMH_20120917_2484	Greanacleit Lagoon	LM02	Boulder crossing
CMH_20120917_2485	Greanacleit Lagoon	LM02	Head of lagoon
MSW_20120917_03008	Loch Dheoir	LM03.1	*Zostera* & *Ruppia*
MSW_20120917_03009	Loch Dheoir	LM03.1	*Zostera* & *Ruppia*
MSW_20120917_03014	Loch Dheoir	LM03.1	*Zostera* & *Ruppia*
MSW_20120917_03015	Loch Dheoir	LM03.1	*Zostera* & *Ruppia* with gastropods
MSW_20120917_03027	Loch Dheoir	LM03.1	Gastropods on *Zostera* & flocculent algae
MSW_20120917_03028	Loch Dheoir	LM03.1	Hydrobiidae on *Zostera* & flocculent algae
MSW_20120917_03029	Loch Dheoir	LM03.1	Hydrobiidae on *Zostera* & flocculent algae
MSW_20120917_03030	Loch Dheoir	LM03.1	Hydrobiidae on *Zostera* & flocculent algae
MSW_20120917_03032	Loch Dheoir	LM03.1	Hydrobiidae on *Zostera* & flocculent algae
MSW_20120917_03033	Loch Dheoir	LM03.1	Hydrobiidae on *Zostera* & flocculent algae
MSW_20120917_03055	Loch Dheoir	LM03.1	Hydrobiidae on flocculent algae
MSW_20120917_03056	Loch Dheoir	LM03.1	Hydrobiidae on *Zostera* & flocculent algae
MSW_20120917_03057	Loch Dheoir	LM03.1	Hydrobiidae on flocculent algae
MSW_20120917_03058	Loch Dheoir	LM03.1	Hydrobiidae incl H.acuta neglecta on flocculent algae
MSW_20120917_03059	Loch Dheoir	LM03.1	Hydrobiidae incl H.acuta neglecta on flocculent algae
MSW_20120917_03060	Loch Dheoir	LM03.1	Hydrobiidae incl H.acuta neglecta on flocculent algae
MSW_20120917_03061	Loch Dheoir	LM03.1	Hydrobiidae incl H.acuta neglectaon flocculent algae
MSW_20120917_03062	Loch Dheoir	LM03.1	Hydrobiidae incl H.acuta neglecta on flocculent algae
MSW_20120917_03063	Loch Dheoir	LM03.1	Mysid on flocculent algae
MSW_20120917_03065	Loch Dheoir	LM03.1	Mysid on flocculent algae
MSW_20120917_03066	Loch Dheoir	LM03.1	Hydrobiidae on flocculent algae
MSW_20120917_03067	Loch Dheoir	LM03.1	Hydrobiidae on flocculent algae
MSW_20120917_03068	Loch Dheoir	LM03.1	Hydrobiidae on flocculent algae
MSW_20120917_03069	Loch Dheoir	LM03.1	Hydrobiidae on *Zostera* & flocculent algae
MSW_20120917_03589	Loch Dheoir	LM03.1	View of loch with grass to water's edge
MSW_20120917_03590	Loch Dheoir	LM03.1	View across loch

Photo Number	Site Name	Station code	Notes
MSW_20120917_03591	Loch Dheoir	LM03.1	View to south east
MSW_20120917_03592	Loch Dheoir	LM03.1	*Ramalina*
MSW_20120917_03593	Loch Dheoir	LM03.1	Lichens
MSW_20120917_03594	Loch Dheoir	LM03.1	Lichens
MSW_20120917_03595	Loch Dheoir	LM03.1	Grass at water's edge
MSW_20120917_03596	Loch Dheoir	LM03.1	Grass & lichen covered rocks at water's edge
MSW_20120917_03597	Loch Dheoir	LM03.1	Grass & lichen covered rocks at water's edge
MSW_20120917_03598	Loch Dheoir	LM03.1	Grass & lichen covered rocks at water's edge
MSW_20120917_03599	Loch Dheoir	LM03.1	Stream coming into loch head
MSW_20120917_03600	Loch Dheoir	LM03.1	Susan recording
MSW_20120917_03601	Loch Dheoir	LM03.1	Susan recording
MSW_20120917_03602	Loch Dheoir	LM03.1	Susan recording
MSW_20120917_03603	Loch Dheoir	LM03.1	View to north west along loch
MSW_20120917_03604	Loch Dheoir	LM03.1	High water saltmarsh at water's edge
MSW_20120917_03605	Loch Dheoir	LM03.1	Saltmarsh at water's edge
MSW_20120917_03687	Loch Dheoir	LM03.1	Saltmarsh pool with *Ruppia*
MSW_20120917_03688	Loch Dheoir	LM03.1	Saltmarsh pool with *Ruppia*
MSW_20120917_03689	Loch Dheoir	LM03.1	Saltmarsh pool with *Ruppia*
MSW_20120917_03690	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03692	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03693	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03694	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03695	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03696	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03697	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03698	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03699	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03700	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03701	Loch Dheoir	LM03.1	*Pelvetia canaliculata*
MSW_20120917_03702	Loch Dheoir	LM03.1	*Pelvetia canaliculata*
MSW_20120917_03703	Loch Dheoir	LM03.1	*Pelvetia canaliculata*
MSW_20120917_03704	Loch Dheoir	LM03.1	Lichens
MSW_20120917_03705	Loch Dheoir	LM03.1	*Lecanora*
MSW_20120917_03706	Loch Dheoir	LM03.1	Lichens
MSW_20120917_03707	Loch Dheoir	LM03.1	Sill
MSW_20120917_03708	Loch Dheoir	LM03.1	Boulders below saltmarsh
MSW_20120917_03709	Loch Dheoir	LM03.1	Susan sorting samples
MSW_20120917_03710	Loch Dheoir	LM03.1	Partly submerged boulders
MSW_20120917_03711	Loch Dheoir	LM03.1	Partly submerged boulders
MSW_20120917_03712	Loch Dheoir	LM03.1	Partly submerged boulders
MSW_20120917_03713	Loch Dheoir	LM03.1	Susan sorting samples
MSW_20120917_03714	Loch Dheoir	LM03.1	Flocculent algae
MSW_20120917_03715	Loch Dheoir	LM03.1	Sampling at saltmarsh edge
MSW_20120917_03716	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03717	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03718	Loch Dheoir	LM03.1	*Ruppia*
MSW_20120917_03719	Loch Dheoir	LM03.1	Susan sampling saltmarsh pool
MSW_20120917_03720	Loch Dheoir	LM03.1	Susan sampling saltmarsh pool
MSW_20120917_03721	Loch Dheoir	LM03.1	View down loch
MSW_20120917_03722	Loch Dheoir	LM03.1	View down loch
MSW_20120917_03723	Loch Dheoir	LM03.1	View up to stream
MSW_20120917_03724	Loch Dheoir	LM03.1	Saltmarsh/lagoon edge
MSW_20120917_03725	Loch Dheoir	LM03.1	View down loch
MSW_20120917_03726	Loch Dheoir	LM03.1	Panorama of stream entering lagoon
MSW_20120917_03727	Loch Dheoir	LM03.1	Panorama of stream entering lagoon
MSW_20120917_03606	Loch Dheoir	LM03.2	View over heather moorland then loch
MSW_20120917_03607	Loch Dheoir	LM03.2	View over heather moorland then loch
MSW_20120917_03608	Loch Dheoir	LM03.2	View to head of loch
MSW_20120917_03609	Loch Dheoir	LM03.2	View to head of loch

Photo Number	Site Name	Station code	Notes
MSW_20120917_03610	Loch Dheoir	LM03.2	*Ramalina*
MSW_20120917_03611	Loch Dheoir	LM03.2	Lichens
MSW_20120917_03612	Loch Dheoir	LM03.2	Lichens on boulders at water's edge
MSW_20120917_03613	Loch Dheoir	LM03.2	View along edge of loch
MSW_20120917_03614	Loch Dheoir	LM03.2	Lichens
MSW_20120917_03615	Loch Dheoir	LM03.2	Lichens
MSW_20120917_03616	Loch Dheoir	LM03.2	Lichens
MSW_20120917_03617	Loch Dheoir	LM03.2	Lichens
MSW_20120917_03618	Loch Dheoir	LM03.2	Susan recording
MSW_20120917_03619	Loch Dheoir	LM03.2	View to north west along loch
MSW_20120917_03620	Loch Dheoir	LM03.2	View to north west along loch
MSW_20120917_03621	Loch Dheoir	LM03.2	Western shore
MSW_20120917_03622	Loch Dheoir	LM03.2	Foam at water's edge
MSW_20120917_03623	Loch Dheoir	LM03.3	View to north west along loch
MSW_20120917_03624	Loch Dheoir	LM03.3	View to north west along loch
MSW_20120917_03625	Loch Dheoir	LM03.3	View to south
MSW_20120917_03626	Loch Dheoir	LM03.3	Panorama looking south
MSW_20120917_03627	Loch Dheoir	LM03.3	View into head of arm
MSW_20120917_03628	Loch Dheoir	LM03.3	View down loch
MSW_20120917_03629	Loch Dheoir	LM03.3	Grass and drift fucoids
MSW_20120917_03630	Loch Dheoir	LM03.3	Saltmarsh & rock at water's edge
MSW_20120917_03631	Loch Dheoir	LM03.3	Boulders at water's edge
MSW_20120917_03632	Loch Dheoir	LM03.3	Panorama looking south and east
MSW_20120917_03633	Loch Dheoir	LM03.3	Lichens
MSW_20120917_03634	Loch Dheoir	LM03.3	Lichens
MSW_20120917_03635	Loch Dheoir	LM03.3	Eastern shoreline with lichen-covered rocks
MSW_20120917_03636	Loch Dheoir	LM03.3	Culvert by road
MSW_20120917_03637	Loch Dheoir	LM03.3	Shoreline
MSW_20120917_03638	Loch Dheoir	LM03.3	View into head of loch
MSW_20120917_03639	Loch Dheoir	LM03.3	Saltmarsh plants
MSW_20120917_03640	Loch Dheoir	LM03.3	Eroded saltmarsh
MSW_20120917_03641	Loch Dheoir	LM03.3	Drift fucoids on grass at water's edge
MSW_20120917_03642	Loch Dheoir	LM03.3	Saltmarsh ditch by road
MSW_20120917_03643	Loch Dheoir	LM03.3	Saltmarsh ditch by road
MSW_20120917_03644	Loch Dheoir	LM03.4	View into arm
MSW_20120917_03645	Loch Dheoir	LM03.4	View out of arm into main loch
MSW_20120917_03646	Loch Dheoir	LM03.4	View across loch
MSW_20120917_03647	Loch Dheoir	LM03.4	Panoramic view from north shore
MSW_20120917_03648	Loch Dheoir	LM03.4	View to west
MSW_20120917_03649	Loch Dheoir	LM03.4	Lichen covered rocks
MSW_20120917_03650	Loch Dheoir	LM03.4	View to east
MSW_20120917_03651	Loch Dheoir	LM03.4	Susan on loch shore
MSW_20120917_03652	Loch Dheoir	LM03.4	Panorama to south and east
MSW_20120917_03653	Loch Dheoir	LM03.4	Panorama to west
MSW_20120917_03654	Loch Dheoir	LM03.4	Rocks, saltmarsh & cast algae at loch edge
MSW_20120917_03655	Loch Dheoir	LM03.4	Susan recording
MSW_20120917_03656	Loch Dheoir	LM03.4	Lichens
MSW_20120917_03657	Loch Dheoir	LM03.4	Water's edge
MSW_20120917_03658	Loch Dheoir	LM03.4	*Ramalina*
MSW_20120917_03659	Loch Dheoir	LM03.4	Burrows in saltmarsh
MSW_20120917_03660	Loch Dheoir	LM03.4	Eroded peat bank
MSW_20120917_03661	Loch Dheoir	LM03.4	Peat & saltmarsh above shore
MSW_20120917_03662	Loch Dheoir	LM03.4	Peat drainage channel
MSW_20120917_03663	Loch Dheoir	LM03.4	Peat drainage channel
MSW_20120917_03664	Loch Dheoir	LM03.4	Peat drainage channel
MSW_20120917_03665	Loch Dheoir	LM03.4	Peat drainage channel
MSW_20120917_03666	Loch Dheoir	LM03.4	Peat drainage channel
MSW_20120917_03667	Loch Dheoir	LM03.6/7	View along lagoon from culvert
MSW_20120917_03668	Loch Dheoir	LM03.6/7	View along lagoon from culvert

Photo Number	Site Name	Station code	Notes
MSW_20120917_03669	Loch Dheoir	LM03.6/7	View along lagoon from culvert
MSW_20120917_03670	Loch Dheoir	LM03.6/7	View along lagoon from culvert
MSW_20120917_03671	Loch Dheoir	LM03.6/7	Water flowing through culvert
MSW_20120917_03672	Loch Dheoir	LM03.6/7	Culvert
MSW_20120917_03673	Loch Dheoir	LM03.6/7	Head of loch with culvert
MSW_20120917_03674	Loch Dheoir	LM03.6/7	View down loch
MSW_20120917_03675	Loch Dheoir	LM03.6/7	Saltmarsh & boulders at loch edge
MSW_20120917_03676	Loch Dheoir	LM03.6/7	Saltmarsh & boulders at loch edge
MSW_20120917_03677	Loch Dheoir	LM03.6/7	Looking towards culvert
MSW_20120917_03678	Loch Dheoir	LM03.6/7	*Pelvetia* and saltmarsh plants
MSW_20120917_03679	Loch Dheoir	LM03.6/7	Water's edge
MSW_20120917_03680	Loch Dheoir	LM03.6/7	Culvert
MSW_20120917_03681	Loch Dheoir	LM03.6/7	View down loch
MSW_20120917_03682	Loch Dheoir	LM03.6/7	Looking towards culvert
MSW_20120917_03683	Loch Dheoir	LM03.6/7	View across lagoon
MSW_20120917_03684	Loch Dheoir	LM03.6/7	Saltmarsh fringe
MSW_20120917_03685	Loch Dheoir	LM03.6/7	Looking towards culvert
MSW_20120917_03686	Loch Dheoir	LM03.6/7	Susan recording from GPS
MSW_20120918_2	Loch Dheoir	LM03.10	View from saltmarsh looking down loch
MSW_20120918_15	Loch Dheoir	LM03.10	View from saltmarsh looking down loch
MSW_20120918_16	Loch Dheoir	LM03.10	View from saltmarsh looking down loch
MSW_20120918_17	Loch Dheoir	LM03.10	Peat bank above *Pelvetia*
MSW_20120918_18	Loch Dheoir	LM03.10	Peat bank above *Pelvetia*
MSW_20120918_19	Loch Dheoir	LM03.10	View along loch shore
MSW_20120918_20	Loch Dheoir	LM03.10	Peat bank above *Pelvetia*
MSW_20120918_21	Loch Dheoir	LM03.10	View along edge of loch
MSW_20120918_22	Loch Dheoir	LM03.10	Bedrock & *Pelvetia*
MSW_20120918_23	Loch Dheoir	LM03.10	Silty cobbles in shallow water
MSW_20120918_24	Loch Dheoir	LM03.10	Peat bank above *Pelvetia*
MSW_20120918_25	Loch Dheoir	LM03.10	Head of loch
MSW_20120918_26	Loch Dheoir	LM03.10	Saltmarsh and peat bank at loch head
MSW_20120918_27	Loch Dheoir	LM03.10	View down loch
MSW_20120918_28	Loch Dheoir	LM03.10	View across loch
MSW_20120918_03072	Loch Dheoir	LM03.10	Flocculent algae
MSW_20120918_03075	Loch Dheoir	LM03.10	Flocculent algae
MSW_20120918_03076	Loch Dheoir	LM03.10	Gastropod on flocculent algae
MSW_20120918_03077	Loch Dheoir	LM03.10	Flocculent algae
MSW_20120918_03078	Loch Dheoir	LM03.10	Flocculent algae
MSW_20120918_03080	Loch Dheoir	LM03.10	*Arenicola* cast
MSW_20120918_03085	Loch Dheoir	LM03.10	Flocculent algae
MSW_20120918_03087	Loch Dheoir	LM03.10	*Zostera* leaves
MSW_20120918_03089	Loch Dheoir	LM03.10	Flocculent algae
MSW_20120918_03090	Loch Dheoir	LM03.10	*Zostera* leaves
MSW_20120918_03091	Loch Dheoir	LM03.10	*Zostera* leaves
MSW_20120918_03092	Loch Dheoir	LM03.10	*Lamprothamnium* & *Ruppia*
MSW_20120918_03093	Loch Dheoir	LM03.10	Green algae
MSW_20120918_03094	Loch Dheoir	LM03.10	*Arenicola* cast
MSW_20120918_03095	Loch Dheoir	LM03.10	*Lamprothamnium* & *Ruppia*
MSW_20120918_03096	Loch Dheoir	LM03.10	*Zostera*
MSW_20120918_03097	Loch Dheoir	LM03.10	*Arenicola* cast & ?*Lamprothamnium*
MSW_20120918_03098	Loch Dheoir	LM03.10	*Arenicola* cast & ?*Lamprothamnium*
MSW_20120918_03099	Loch Dheoir	LM03.10	*Arenicola* cast & ?*Lamprothamnium*
MSW_20120918_03100	Loch Dheoir	LM03.10	*Zostera* leaves
MSW_20120918_03101	Loch Dheoir	LM03.10	*Zostera* leaves
MSW_20120918_03102	Loch Dheoir	LM03.10	Green algae
MSW_20120918_03104	Loch Dheoir	LM03.10	*Zostera*
MSW_20120918_03105	Loch Dheoir	LM03.10	*Zostera*
MSW_20120918_03106	Loch Dheoir	LM03.10	*Zostera* & *Ruppia*
MSW_20120918_03107	Loch Dheoir	LM03.10	*Zostera* & *Ruppia*

Photo Number	Site Name	Station code	Notes
MSW_20120918_03108	Loch Dheoir	LM03.10	*Zostera* & *Ruppia*
MSW_20120918_03109	Loch Dheoir	LM03.10	*Zostera* & *Ruppia*
MSW_20120918_03110	Loch Dheoir	LM03.10	Green algae
MSW_20120918_03111	Loch Dheoir	LM03.10	? in green algae
MSW_20120918_2	Loch an Dùin channel	LD01	Culvert
MSW_20120918_2_2	Loch an Dùin channel	LD01	View into Loch an Dùin
MSW_20120918_2_3	Loch an Dùin channel	LD01	Narrows
MSW_20120918_2_4	Loch an Dùin channel	LD01	Saltmarsh
MSW_20120918_2_5	Loch an Dùin channel	LD01	Eroded peat bank
MSW_20120918_2_6	Loch an Dùin channel	LD01	Culvert
MSW_20120918_2_7	Loch an Dùin channel	LD01	Culvert
MSW_20120918_2_8	Loch an Dùin channel	LD01	End of lagoon by culvert
MSW_20120918_2_9	Loch an Dùin channel	LD01	End of lagoon by culvert
MSW_20120918_2_10	Loch an Dùin channel	LD01	Rapids
MSW_20120918_2_11	Loch an Dùin channel	LD01	Rapids
MSW_20120918_2_12	Loch an Dùin channel	LD01	Rapids
MSW_20120918_2_13	Loch an Dùin channel	LD01	Rapids
MSW_20120918_2_14	Loch an Dùin channel	LD01	Rapids
MSW_20120918_2_15	Loch an Dùin channel	LD01	Rapids
MSW_20120918_2_16	Loch an Dùin channel	LD01	Rapids
MSW_20120918_2_17	Loch an Dùin channel	LD01	Rapids
MSW_20120918_2_18	Loch an Dùin channel	LD01	Rapids
MSW_20120918_2_19	Loch an Dùin channel	LD01	Eroded peat bank
MSW_20120918_2_20	Loch an Dùin channel	LD01	Shoreline
MSW_20120918_2_21	Loch an Dùin channel	LD01	View of lagoon above culvert
MSW_20120918_2_22	Loch an Dùin channel	LD01	View of lagoon above culvert
MSW_20120918_2_23	Loch an Dùin channel	LD01	View of loch below culvert
MSW_20120918_2_24	Loch an Dùin channel	LD01	View of loch below culvert
MSW_20120918_03117	Loch an Dùin channel	LD01	*Arenicola* cast
MSW_20120918_03118	Loch an Dùin channel	LD01	*Ruppia*
MSW_20120918_03119	Loch an Dùin channel	LD01	*Ruppia*
MSW_20120918_03123	Loch an Dùin channel	LD01	*Zostera* & *Ruppia*
MSW_20120918_03124	Loch an Dùin channel	LD01	*Zostera* & *Ruppia*
MSW_20120918_03125	Loch an Dùin channel	LD01	Green algae
MSW_20120918_03126	Loch an Dùin channel	LD01	Pebbles with green algae
MSW_20120918_03128	Loch an Dùin channel	LD01	*Furcellaria/Polyides*
MSW_20120918_03129	Loch an Dùin channel	LD01	Mysids
MSW_20120918_03130	Loch an Dùin channel	LD01	Flocculent algae
MSW_20120918_03131	Loch an Dùin channel	LD01	*Arenicola* cast
CMH_20120917_2486	Aileodair	LM04	View over lagoon to south
CMH_20120917_2487	Aileodair	LM04	View over lagoon to north west
CMH_20120917_2488	Aileodair	LM04	View over lagoon to north
CMH_20120917_2489	Aileodair	LM04	View across lagoon
MSW_20120918_02	Bac-a-stoc	LM05.2	View over Loch nam Madadh lagoons towards hills
MSW_20120918_02_2	Bac-a-stoc	LM05.2	Panorama over Loch nam Madadh from above Bac-a-stoc
MSW_20120918_07	Bac-a-stoc	LM05.2	Panorama over Loch nam Madadh from above Bac-a-stoc
MSW_20120918_08	Bac-a-stoc	LM05.2	Panorama over Loch nam Madadh from above Bac-a-stoc
MSW_20120918_09	Bac-a-stoc	LM05.2	Panorama over Loch nam Madadh from above Bac-a-stoc
MSW_20120918_10	Bac-a-stoc	LM05.2	Panorama of Bac-a-stoc
MSW_20120918_11	Bac-a-stoc	LM05.2	Panorama of lagoon edge
MSW_20120918_12	Bac-a-stoc	LM05.2	Panorama over Loch nam Madadh from above Bac-a-stoc
MSW_20120918_27	Bac-a-stoc	LM05.2	Panorama over Loch nam Madadh from above Bac-a-stoc
MSW_20120918_28	Bac-a-stoc	LM05.2	Panorama over Loch nam Madadh from above Bac-a-stoc
MSW_20120918_29	Bac-a-stoc	LM05.2	Panorama over Loch nam Madadh from above Bac-a-stoc
MSW_20120918_30	Bac-a-stoc	LM05.2	View across lagoon
MSW_20120918_31	Bac-a-stoc	LM05.2	View across lagoon
MSW_20120918_32	Bac-a-stoc	LM05.2	View across lagoon
MSW_20120918_33	Bac-a-stoc	LM05.2	View across lagoon
MSW_20120918_34	Bac-a-stoc	LM05.2	View across lagoon

Photo Number	Site Name	Station code	Notes
MSW_20120918_35	Bac-a-stoc	LM05.2	View across lagoon
MSW_20120918_36	Bac-a-stoc	LM05.2	View across lagoon
MSW_20120918_37	Bac-a-stoc	LM05.2	Susan sampling
MSW_20120918_38	Bac-a-stoc	LM05.2	Eroded peat on lagoon shore
MSW_20120918_39	Bac-a-stoc	LM05.2	Lagoon arm
MSW_20120918_40	Bac-a-stoc	LM05.2	Stream at lagoon edge
MSW_20120918_41	Bac-a-stoc	LM05.2	View across lagoon
MSW_20120918_42	Bac-a-stoc	LM05.2	Bedrock & heather above lagoon
MSW_20120918_43	Bac-a-stoc	LM05.2	Susan sampling
MSW_20120918_44	Bac-a-stoc	LM05.2	Seawater connection
MSW_20120918_45	Bac-a-stoc	LM05.2	Seawater connection
MSW_20120918_46	Bac-a-stoc	LM05.2	Corner of lagoon
MSW_20120918_47	Bac-a-stoc	LM05.2	Seawater connection
MSW_20120918_48	Bac-a-stoc	LM05.2	Seawater connection
MSW_20120918_49	Bac-a-stoc	LM05.2	Seawater connection
MSW_20120918_50	Bac-a-stoc	LM05.2	*Pelvetia* & *Fucus spiralis*
MSW_20120918_51	Bac-a-stoc	LM05.2	*Pelvetia* & *Fucus spiralis*
MSW_20120918_52	Bac-a-stoc	LM05.2	*Pelvetia* & *Fucus spiralis*
CMH_20120918_2490	Loch Collastrome	LM06.1	View of lagoon
CMH_20120918_2491	Loch Collastrome	LM06.1	View of lagoon
CMH_20120918_2492	Loch Collastrome	LM06.1	View of lagoon
CMH_20120918_2493	Loch Collastrome	LM06.1	View of lagoon
CMH_20120918_2494	Loch Collastrome	LM06.1	View of lagoon
CMH_20120918_2495	Loch Collastrome	LM06.1	Flocculent algae and *Ruppia*
CMH_20120918_2504	Loch Collastrome	LM06.1	*Ruppia* in lagoon
CMH_20120918_2505	Loch Collastrome	LM06.1	Grasses & emergent reeds in lagoon
CMH_20120918_2506	Loch Collastrome	LM06.1	Grasses & emergent reeds in lagoon
CMH_20120918_2496	Loch Collastrome	LM06.2	Channel leading to culvert
CMH_20120918_2497	Loch Collastrome	LM06.2	Channel leading to culvert
CMH_20120918_2498	Loch Collastrome	LM06.2	Channel leading to culvert
CMH_20120918_2499	Loch Collastrome	LM06.3	Outflow from Loch Collastrome into marine side
CMH_20120918_2500	Loch Collastrome	LM06.3	Outflow from Loch Collastrome into marine side
CMH_20120918_2501	Loch Collastrome	LM06.3	Marine shore below outflow from lagoon
CMH_20120918_2502	Loch Collastrome	LM06.3	Outflow from Loch Collastrome into marine side
CMH_20120918_2503	Loch Collastrome	LM06.3	Outflow from Loch Collastrome into marine side
CMH_20120918_2507	Loch Houram	LM07.1	Saltmarsh vegetation to fucoids at half tide
CMH_20120918_2508	Loch Houram	LM07.1	Saltmarsh vegetation to fucoids at half tide
CMH_20120918_2509	Loch Houram	LM07.1	Saltmarsh vegetation to fucoids at half tide
CMH_20120918_2510	Loch Houram	LM07.1	Fucoids at half tide
CMH_20120918_2511	Loch Houram	LM07.1	View of shore
CMH_20120918_2512	Loch Houram	LM07.1	View over lagoon
CMH_20120918_2513	Loch Houram	LM07.1	Saltmarsh vegetation to fucoids
CMH_20120918_2514	Loch Houram	LM07.1	*Fucus spiralis* & *Armeria* in peat bank
CMH_20120918_2515	Loch Houram	LM07.1	*Fucus spiralis* & *Armeria* in peat bank
CMH_20120918_2516	Loch Houram	LM07.1	*Fucus spiralis* & *Armeria* in peat bank
CMH_20120918_2517	Loch Houram	LM07.1	*Pelvetia canaliculata* & *Armeria* in peat bank
CMH_20120918_2518	Loch Houram	LM07.1	View of Sruth Mor narrows
CMH_20120918_2519	Loch Houram	LM07.1	View of Sruth Mor narrows
CMH_20120918_2520	Loch Houram	LM07.1	View of Sruth Mor narrows
CMH_20120918_2521	Loch Houram	LM07.1	View of Sruth Mor narrows
CMH_20120918_2522	Loch Houram	LM07.1	View of Sruth Mor narrows
CMH_20120918_2523	Loch Houram	LM07.1	View of Sruth Mor narrows
CMH_20120918_2524	Loch Houram	LM07.1	Nat with salinity sampler, Sruth Mor narrows
CMH_20120918_2525	Loch Houram	LM07.1	View of Sruth Mor narrows
CMH_20120918_2526	Loch Houram	LM07.1	View of Sruth Mor narrows
CMH_20120918_2527	Loch Houram	LM07.1	Nat with salinity sampler, Sruth Mor narrows
CMH_20120918_2528	Loch Houram	LM07.1	Nat with salinity sampler, Sruth Mor narrows
CMH_20120918_2529	Loch Houram	LM07.1	*Ascophyllum* in Sruth Mor narrows
CMH_20120918_2530	Loch Houram	LM07.2	Cobble & mud shore with fucoids

Photo Number	Site Name	Station code	Notes
CMH_20120918_2531	Loch Houram	LM07.2	Cobble & mud shore with fucoids
CMH_20120918_2532	Loch Houram	LM07.2	Wall and fucoids on cobble/mud shore
CMH_20120918_2533	Loch Houram	LM07.2	Wall and fucoids on cobble/mud shore
CMH_20120918_2534	Loch Houram	LM07.2	Cobble & mud shore with fucoids
CMH_20120918_2535	Loch Houram	LM07.2	*Ascophyllum* & *Fucus vesiculosus* on cobble/mud
CMH_20120918_2536	Loch Houram	LM07.2	Sediment surface
CMH_20120918_2537	Loch Houram	LM07.2	Lagoon fucoids
CMH_20120918_2538	Loch Houram	LM07.2	Lagoon fucoids
CMH_20120918_2539	Loch Houram	LM07.2	View across lagoon to south east
CMH_20120918_2540	Loch Houram	LM07.2	View from raised ledge to south near narrows
CMH_20120918_2541	Loch Houram	LM07.2	Bedrock in narrows
CMH_20120918_2542	Loch Houram	LM07.2	Fucoids on bedrock near narrows
CMH_20120918_2543	Loch Houram	LM07.2	Nat wading near narrows
CMH_20120918_2544	Loch Houram	LM07.2	Geese flying to south
CMH_20120918_2545	Loch Houram	LM07.2	Geese flying to south
CMH_20120918_2546	Loch Houram	LM07.2	Geese flying to south
CMH_20120928_2661	Loch Houram	LM07.2	Susan & Christine sampling
CMH_20120928_2662	Loch Houram	LM07.2	Susan & Christine sampling
CMH_20120928_2663	Loch Houram	LM07.2	Susan & Christine sampling
CMH_20120928_2664	Loch Houram	LM07.2	Susan & Christine sampling
CMH_20120928_2665	Loch Houram	LM07.2	Susan & Christine sampling
CMH_20120928_2666	Loch Houram	LM07.2	Susan & Christine sampling
CMH_20120928_2667	Loch Houram	LM07.2	Susan & Christine sampling
CMH_20120928_2668	Loch Houram	LM07.2	Susan & Christine sampling
20120919_NH_0026	Ob nan Stearnain	LM09.1	First station near roadside of Lagoon
20120919_NH_0027	Ob nan Stearnain	LM09.1	First station near roadside of Lagoon
20120919_NH_0028	Ob nan Stearnain	LM09.1	First station near roadside of Lagoon
20120919_NH_0029	Ob nan Stearnain	LM09.2	Second station. Main sill
20120919_NH_0030	Ob nan Stearnain	LM09.2	Second station. Sill to sea transition
20120919_NH_0031	Ob nan Stearnain	LM09.2	Second station. Main sill
20120919_NH_0032	Ob nan Stearnain	LM09.2	Second station. Seaward side of sill
20120919_NH_0033	Ob nan Stearnain	LM09.2	Second station. Second smaller sill
20120919_NH_0034	Ob nan Stearnain	LM09.2	Second station. Second smaller sill transition to sea
20120919_NH_0035	Ob nan Stearnain	LM09.3	Third station
20120919_NH_0036	Ob nan Stearnain	LM09.3	Third station. Snorkel survey
20120919_NH_0037	Ob nan Stearnain	LM09.3	Third station
MSW_20120920_03933	Loch na Ciste	LM10.1	View over lagoon
MSW_20120920_03934	Loch na Ciste	LM10.1	View over lagoon
MSW_20120920_03935	Loch na Ciste	LM10.1	View over lagoon
MSW_20120920_03936	Loch na Ciste	LM10.1	View over lagoon
MSW_20120920_03937	Loch na Ciste	LM10.1	View over lagoon
MSW_20120920_03938	Loch na Ciste	LM10.1	View over lagoon
MSW_20120920_03941	Loch na Ciste	LM10.1	Panorama of lagoon
MSW_20120920_03942	Loch na Ciste	LM10.1	Panorama of lagoon
MSW_20120920_03943	Loch na Ciste	LM10.1	Channel connecting to sea
MSW_20120920_03944	Loch na Ciste	LM10.1	Channel connecting to sea
MSW_20120920_03945	Loch na Ciste	LM10.1	View over lagoon
MSW_20120920_03946	Loch na Ciste	LM10.1	View over lagoon
MSW_20120920_03947	Loch na Ciste	LM10.1	View of inner part of lagoon
MSW_20120920_03948	Loch na Ciste	LM10.1	View of channel
20120920_NH_2050	Loch na Ciste	LM10.2	Second station. Man made sill
20120920_NH_2051	Loch na Ciste	LM10.2	Second station. Marine side of sill
20120920_NH_2052	Loch na Ciste	LM10.2	Second station. Close up of marine side of sill
20120920_NH_2053	Loch na Ciste	LM10.2	Second station. Close up of marine side of sill
20120920_NH_2054	Loch na Ciste	LM10.2	Second station. Close up of marine side of sill
20120920_NH_2055	Loch na Ciste	LM10.2	Second station. Lagoon side of sill
20120920_NH_2056	Loch na Ciste	LM10.2	Second station. Lagoon side of sill
20120920_NH_2057	Loch na Ciste	LM10.2	Second station. From lagoon side of sill, looking up to head of Lagoon

Photo Number	Site Name	Station code	Notes
20120920_NH_2058	Loch na Ciste	LM10.2	Second station. From lagoon side of sill, looking up to head of Lagoon, with road access in distance
20120920_NH_2059	Loch na Ciste	LM10.2	Second station. Adjacent to sill, snorkel survey
20120920_NH_2060	Loch na Ciste	LM10.2	Second station. Close up of lagoon side of sill
20120920_NH_2061	Loch na Ciste	LM10.2	Second station. Close up of lagoon side of sill
20120920_NH_2062	Loch na Ciste	LM10.2	Second station. Close up of lagoon side of sill
20120920_NH_2063	Loch na Ciste	LM10.2	Second station. Chicken wire support of the man made sill
MSW_20120920_03891	Bàgh Leireabhagh	LM11.1	Head of lagoon with surface film
MSW_20120920_03892	Bàgh Leireabhagh	LM11.1	Surface film
MSW_20120920_03893	Bàgh Leireabhagh	LM11.1	Head of lagoon with surface film
MSW_20120920_03894	Bàgh Leireabhagh	LM11.1	View along loch towards sea
MSW_20120920_03895	Bàgh Leireabhagh	LM11.1	Fiona in boat
MSW_20120920_03896	Bàgh Leireabhagh	LM11.1	Fiona in boat
MSW_20120920_03897	Bàgh Leireabhagh	LM11.1	Surface film
MSW_20120920_03898	Bàgh Leireabhagh	LM11.1	Surface film
MSW_20120920_03899	Bàgh Leireabhagh	LM11.1	Fiona in boat
MSW_20120920_03900	Bàgh Leireabhagh	LM11.1	View of loch with Fiona in boat
MSW_20120920_03901	Bàgh Leireabhagh	LM11.1	View of loch with Fiona in boat
MSW_20120920_03902	Bàgh Leireabhagh	LM11.1	Surface film
MSW_20120920_03903	Bàgh Leireabhagh	LM11.1	Surface film
MSW_20120920_03904	Bàgh Leireabhagh	LM11.1	Stream coming into loch head
MSW_20120920_03905	Bàgh Leireabhagh	LM11.1	Stream coming into loch head
MSW_20120920_03906	Bàgh Leireabhagh	LM11.1	Stream coming into loch head
MSW_20120920_03907	Bàgh Leireabhagh	LM11.2	*Ascophyllum* in shallow water
MSW_20120920_03908	Bàgh Leireabhagh	LM11.2	*Ascophyllum* in shallow water
MSW_20120920_03909	Bàgh Leireabhagh	LM11.2	*Ascophyllum* in shallow water
MSW_20120920_03910	Bàgh Leireabhagh	LM11.2	Fiona recording in boat
MSW_20120920_03911	Bàgh Leireabhagh	LM11.2	Cobble shore with *Ascophyllum* in shallows
MSW_20120920_03912	Bàgh Leireabhagh	LM11.2	Intertidal *Pelvetia*
MSW_20120920_03913	Bàgh Leireabhagh	LM11.2	*Pelvetia* and fucoids
MSW_20120920_03914	Bàgh Leireabhagh	LM11.2	Steep intertidal rock
MSW_20120920_03915	Bàgh Leireabhagh	LM11.2	View across head of loch
MSW_20120920_03916	Bàgh Leireabhagh	LM11.2	Fiona recording in boat
MSW_20120920_03917	Bàgh Leireabhagh	LM11.2	Narrows
MSW_20120920_03918	Bàgh Leireabhagh	LM11.2	Narrows with wreckage
MSW_20120920_03919	Bàgh Leireabhagh	LM11.2	View towards narrows
MSW_20120920_03920	Bàgh Leireabhagh	LM11.2	View towards narrows
MSW_20120920_03921	Bàgh Leireabhagh	LM11.2	Narrows with wreckage
MSW_20120920_03922	Bàgh Leireabhagh	LM11.2	Narrows with wreckage
MSW_20120920_03923	Bàgh Leireabhagh	LM11.2	View towards narrows
MSW_20120920_03924	Bàgh Leireabhagh	LM11.2	Narrows with wreckage
MSW_20120920_03925	Bàgh Leireabhagh	LM11.2	View through narrows across next basin
MSW_20120920_03926	Bàgh Leireabhagh	LM11.2	*Ascophyllum* boulders
MSW_20120920_03927	Bàgh Leireabhagh	LM11.2	Narrows with wreckage
MSW_20120920_03928	Bàgh Leireabhagh	LM11.2	*Ascophyllum* covered shore
MSW_20120920_03929	Bàgh Leireabhagh	LM11.2	*Ascophyllum* covered shore
MSW_20120920_03930	Bàgh Leireabhagh	LM11.2	Head of loch with hills behind
MSW_20120920_03931	Bàgh Leireabhagh	LM11.2	*Ascophyllum* covered shore
MSW_20120920_03932	Bàgh Leireabhagh	LM11.2	*Ascophyllum* covered shore
20120926_NH_2174	Loch Leòdasaigh	C01.1	C01_1 Station 1 at mid point along Loch Leòdasaigh
20120926_NH_2175	Loch Leòdasaigh	C01.1	C01_1 Station 1 at mid point along Loch Leòdasaigh
20120926_NH_2176	Loch Leòdasaigh	C01.1	C01_1 Station 1 at mid point along Loch Leòdasaigh
20120926_NH_2177	Loch Leòdasaigh	C01.1	C01_1 Station 1 at mid point along Loch Leòdasaigh
20120926_NH_2178	Loch Leòdasaigh	C01.2	C01_2 Freshwater inlet end of Loch Leòdasaigh
20120926_NH_2179	Loch Leòdasaigh	C01.2	C01_2 Freshwater inlet end of Loch Leòdasaigh
20120926_NH_2180	Loch Leòdasaigh	C01.2	C01_2 Freshwater inlet end of Loch Leòdasaigh
20120926_SA_214	Loch Leòdasaigh	C01.3	Travelling south of station C01_3
20120926_SA_215	Loch Leòdasaigh	C01.3	Channel connecting Oban Irpeig and Leòdasaigh from North
20120926_SA_216	Loch Leòdasaigh	C01.3	Oban Irpeig

Photo Number	Site Name	Station code	Notes
20120926_SA_217	Loch Leòdasaigh	C01.3	Oban Irpeig
20120926_SA_218	Loch Leòdasaigh	C01.3	Channel connecting Oban Irpeig and Leòdasaigh from North
20120926_SA_219	Loch Leòdasaigh	C01.3	Channel connecting Oban Irpeig and Leòdasaigh from North
20120926_SA_220	Loch Leòdasaigh	C01.3	Travelling to station C01_3
20120926_SA_221	Loch Leòdasaigh	C01.3	C01_3 Northern causeway (1 of 2), with channel but no culvert
20120926_SA_222	Loch Leòdasaigh	C01.3	View up northern causeway channel
20120926_SA_223	Loch Leòdasaigh	C01.3	View up northern causeway channel
20120926_SA_224	Loch Leòdasaigh	C01.3	View up northern causeway channel
20120926_SA_225	Loch Leòdasaigh	C01.3	View up northern causeway channel
20120926_SA_226	Loch Leòdasaigh	C01.3	C01_3 View of station at Leòdasaigh
20120926_SA_227	Loch Leòdasaigh	C01.3	C01_3 View of station at Leòdasaigh
20120926_SA_228	Loch Leòdasaigh	C01.3	C01_3 View of station at Leòdasaigh
20120926_SA_229	Loch Leòdasaigh	C01.3	C01_3 View of station at Leòdasaigh
20120926_SA_230	Loch Leòdasaigh	C01.3	C01_3 View of station at Leòdasaigh
20120926_SA_231	Loch Leòdasaigh	C01.3	C01_3 View of station at Leòdasaigh
20120926_SA_232	Loch Leòdasaigh	C01.3	C01_3 Southern causeway (2 of 2) over channel with culvert
20120926_SA_233	Loch Leòdasaigh	C01.3	C01_3 Northern causeway. Looking to the South, with water flowing out of Leòdasaigh into Irpeig
20120926_SA_234	Loch Leòdasaigh	C01.3	C01_3 Northern causeway. Looking to the South, with water flowing out of Leòdasaigh into Irpeig
20120926_NH_2163	Oban Irpeig	C02.1	C02_1 Marine inlet (sill) of Oban Irpeig. Lagoon on right.
20120926_NH_2164	Oban Irpeig	C02.1	C02_1 Marine inlet (sill) of Oban Irpeig. Lagoon on right.
20120926_NH_2165	Oban Irpeig	C02.1	C02_1 Oban Irpeig lagoon
20120926_NH_2166	Oban Irpeig	C02.1	C02_1 Oban Irpeig lagoon
20120926_NH_2167	Oban Irpeig	C02.1	C02_1 Oban Irpeig lagoon
20120926_NH_2168	Oban Irpeig	C02.1	C02_1 Oban Irpeig lagoon
20120926_NH_2169	Oban Irpeig	C02.1	C02_1 Oban Irpeig lagoon
20120926_NH_2170	Oban Irpeig	C02.2	C02_2 Oban Irpeig lagoon
20120926_NH_2171	Oban Irpeig	C02.2	C02_2 Oban Irpeig lagoon
20120926_NH_2172	Oban Irpeig	C02.2	C02_2 Oban Irpeig lagoon
20120926_NH_2173	Oban Irpeig	C02.2	C02_2 Oban Irpeig lagoon
20120926_SA_141	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_142	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_143	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_144	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_145	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_146	Oban a' Chlachain	C03.1	Under-boulder fauna at station C03_1
20120926_SA_147	Oban a' Chlachain	C03.1	Under-boulder fauna at station C03_1 Sea squirt indet
20120926_SA_148	Oban a' Chlachain	C03.1	Under-boulder fauna at station C03_1 Sponge indet
20120926_SA_149	Oban a' Chlachain	C03.1	Under-boulder fauna at station C03_1
20120926_SA_150	Oban a' Chlachain	C03.1	Under-boulder fauna at station C03_1
20120926_SA_151	Oban a' Chlachain	C03.1	Under-boulder fauna at station C03_1
20120926_SA_152	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_153	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_154	Oban a' Chlachain	C03.1	Under-boulder fauna at station C03_1
20120926_SA_155	Oban a' Chlachain	C03.1	Under-boulder fauna at station C03_1
20120926_SA_156	Oban a' Chlachain	C03.1	Under-boulder fauna at station C03_1
20120926_SA_157	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_158	Oban a' Chlachain	C03.1	C03_1 Gammarid and *Cerastoderma* sp?
20120926_SA_159	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_160	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_161	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_162	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_163	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_164	Oban a' Chlachain	C03.1	Views of station C03_1
20120926_SA_165	Oban a' Chlachain	C03.1	Gate at shore level station C03_1
20120926_SA_166	Oban a' Chlachain	C03.1	Travelling between stations 1 and 2

Photo Number	Site Name	Station code	Notes
20120926_SA_167	Oban a' Chlachain	C03.1	Travelling between stations 1 and 2
20120926_SA_168	Oban a' Chlachain	C03.1	Travelling between stations 1 and 2
20120926_SA_169	Oban a' Chlachain	C03.1	Travelling between stations 1 and 2
20120926_SA_170	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_171	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_172	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_173	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_174	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_175	Oban a' Chlachain	C03.2	Cockle gravel at station C03_2
20120926_SA_176	Oban a' Chlachain	C03.2	Cockle gravel at station C03_2
20120926_SA_177	Oban a' Chlachain	C03.2	Cockle gravel at station C03_2
20120926_SA_178	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_179	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_180	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_181	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_182	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_183	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_184	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_185	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_186	Oban a' Chlachain	C03.2	Views of station C03_2
20120926_SA_187	Oban a' Chlachain	C03.2	C03_2 *Modiolus/Musculus*?
20120926_SA_188	Oban a' Chlachain	C03.2	C03_2 Dense aggregations of *Cerastoderma glaucum*?
20120926_SA_189	Oban a' Chlachain	C03.2	C03_2 Dense aggregations of *Cerastoderma glaucum*?
20120926_SA_190	Oban a' Chlachain	C03.2	C03_2 Dense aggregations of *Cerastoderma glaucum*?
20120926_SA_191	Oban a' Chlachain	C03.2	C03_2 Dense aggregations of *Cerastoderma glaucum*?
20120926_SA_192	Oban a' Chlachain	C03.2	C03_2 Dense aggregations of *Cerastoderma glaucum*?
20120926_SA_193	Oban a' Chlachain	C03.2	C03_2 Dense aggregations of *Cerastoderma glaucum*?
20120926_SA_194	Oban a' Chlachain	C03.2	C03_2 View of stones which had the dense cockle aggregations
20120926_SA_195	Oban a' Chlachain	C03.2	C03_2 View of stones which had the dense cockle aggregations
20120926_SA_196	Oban a' Chlachain	C03.2	C03_2 View of stones which had the dense cockle aggregations
20120926_SA_197	Oban a' Chlachain	C03.2	C03_2 View of stones which had the dense cockle aggregations
20120926_SA_198	Oban a' Chlachain	C03.2	C03_2 View of stones which had the dense cockle aggregations
20120926_SA_199	Oban a' Chlachain	C03.3	C03_3 View of Oban a' Chlachain 3rd station
20120926_SA_200	Oban a' Chlachain	C03.3	C03_3 Culverts
20120926_SA_201	Oban a' Chlachain	C03.3	C03_3 Culverts
20120926_SA_202	Oban a' Chlachain	C03.3	C03_3 View East up Oban a' Chlachain lagoon
20120926_SA_203	Oban a' Chlachain	C03.3	C03_3 *Beggiatoa*?
20120926_SA_204	Oban a' Chlachain	C03.3	C03_3 View of Oban a' Chlachain
20120926_SA_205	Oban a' Chlachain	C03.3	C03_3 View of Oban a' Chlachain
20120926_SA_206	Oban a' Chlachain	C03.3	C03_3 View of Oban a' Chlachain
20120926_SA_207	Oban a' Chlachain	C03.3	C03_3 Culverts
20120926_SA_208	Oban a' Chlachain	C03.3	C03_3 Culverts
20120926_SA_209	Oban a' Chlachain	C03.3	C03_3 *Codium* sp, possibly drift
20120926_SA_210	Oban a' Chlachain	C03.3	C03_3 *Codium* sp, possibly drift
20120926_SA_211	Oban a' Chlachain	C03.3	C03_3 View East up Oban a' Chlachain lagoon
20120926_SA_212	Oban a' Chlachain	C03.3	C03_3 View East up Oban a' Chlachain lagoon
20120926_SA_213	Oban a' Chlachain	C03.3	C03_3 View East up Oban a' Chlachain lagoon
20120926_NH_2150	Loch na Faoileige	C04.1	C04_1 Loch na Faoileige
20120926_NH_2151	Loch na Faoileige	C04.1	C04_1 Loch na Faoileige
20120926_NH_2152	Loch na Faoileige	C04.1	C04_1 Loch na Faoileige
20120926_NH_2153	Loch na Faoileige	C04.1	C04_1 Loch na Faoileige
20120926_NH_2154	Loch na Faoileige	C04.1	C04_1 Loch na Faoileige
20120926_NH_2155	Loch na Faoileige	C04.2	C04_2 Sill of Loch na Faoileige to the sea
20120926_NH_2156	Loch na Faoileige	C04.2	C04_2 Sill of Loch na Faoileige to the sea

Photo Number	Site Name	Station code	Notes
20120926_NH_2157	Loch na Faoileige	C04.2	C04_2 Sill of Loch na Faoileige to the sea
20120926_NH_2158	Loch na Faoileige	C04.2	C04_2 Sill of Loch na Faoileige to the sea
20120926_NH_2159	Loch na Faoileige	C04.2	C04_2 Lagoon side of sill
20120926_NH_2160	Loch na Faoileige	C04.2	C04_2 Loch na Faoileige from sill
20120926_NH_2161	Loch na Faoileige	C04.2	C04_2 Loch na Faoileige from sill
20120926_NH_2162	Loch na Faoileige	C04.2	C04_2 Loch na Faoileige from sill
MSW_20120921_03949	Oban Spònis	LE01.1	Christine & Nat heading up the hill
MSW_20120921_03950	Oban Spònis	LE01.1	View through first sill towards Loch Euphort
MSW_20120921_03951	Oban Spònis	LE01.1	Outer sill
MSW_20120921_03952	Oban Spònis	LE01.1	Outer sill
MSW_20120921_03953	Oban Spònis	LE01.1	Susan sampling on outer sill
MSW_20120921_03954	Oban Spònis	LE01.1	Susan sampling on outer sill
MSW_20120921_03955	Oban Spònis	LE01.1	Susan sampling on outer sill
MSW_20120921_03956	Oban Spònis	LE01.1	Fucoids on outer sill
MSW_20120921_03957	Oban Spònis	LE01.1	Outer sill
MSW_20120921_03958	Oban Spònis	LE01.1	View through first sill towards Loch Euphort
MSW_20120921_03967	Oban Spònis	LE01.1	View towards outer sill from Loch Euphort at low tide, over *Ascophyllum* boulders
MSW_20120921_03968	Oban Spònis	LE01.1	View towards outer sill from Loch Euphort at low tide, over *Ascophyllum* boulders
MSW_20120921_03969	Oban Spònis	LE01.1	View towards outer sill from Loch Euphort at low tide, over *Ascophyllum* boulders
MSW_20120921_03970	Oban Spònis	LE01.1	View towards outer sill from Loch Euphort at low tide, over *Ascophyllum* boulders
MSW_20120921_03971	Oban Spònis	LE01.1	Christine and Nat
MSW_20120921_03972	Oban Spònis	LE01.1	View towards outer sill from Loch Euphort at low tide, over *Ascophyllum* boulders
MSW_20120921_03132	Oban Spònis	LE01.2	*Furcellaria/Polyides* and *Ruppia* sp.
MSW_20120921_03134	Oban Spònis	LE01.2	*Ruppia* with epiphytic algae
MSW_20120921_03135	Oban Spònis	LE01.2	*Furcellaria/Polyides* and *Ruppia* sp.
MSW_20120921_03136	Oban Spònis	LE01.2	*Carcinus* in *Ruppia*
MSW_20120921_03137	Oban Spònis	LE01.2	*Ruppia* sp.
MSW_20120921_03138	Oban Spònis	LE01.2	*Furcellaria/Polyides*
MSW_20120921_03139	Oban Spònis	LE01.2	*Ascidiella scabra* in *Furcellaria/Polyides*
MSW_20120921_03140	Oban Spònis	LE01.2	*Ascidiella scabra*, *Chondrus crispus* and filamentous algae
MSW_20120921_03141	Oban Spònis	LE01.2	*Ascidiella scabra* in *Furcellaria/Polyides*
MSW_20120921_03144	Oban Spònis	LE01.2	*Ruppia* sp.
MSW_20120921_03145	Oban Spònis	LE01.2	*Furcellaria/Polyides* and *Ruppia* sp.
MSW_20120921_03153	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia*
MSW_20120921_03154	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia*
MSW_20120921_03155	Oban Spònis	LE01.2	*Ascidiella scabra* in *Furcellaria/Polyides*
MSW_20120921_03156	Oban Spònis	LE01.2	*Ascidiella scabra* in *Furcellaria/Polyides*
MSW_20120921_03166	Oban Spònis	LE01.2	*Ascidiella scabra* in *Furcellaria/Polyides*
MSW_20120921_03168	Oban Spònis	LE01.2	*Ascidiella scabra* in *Furcellaria/Polyides*
MSW_20120921_03169	Oban Spònis	LE01.2	*Ruppia* sp.
MSW_20120921_03171	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia*
MSW_20120921_03173	Oban Spònis	LE01.2	*Ascidiella scabra* in *Furcellaria/Polyides*
MSW_20120921_03174	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia*
MSW_20120921_03175	Oban Spònis	LE01.2	*Pagurus* and *Hydractinia* in *Ruppia*
MSW_20120921_03177	Oban Spònis	LE01.2	*Pagurus* and *Hydractinia* in *Ruppia*
MSW_20120921_03179	Oban Spònis	LE01.2	*Ruppia* sp.
MSW_20120921_03180	Oban Spònis	LE01.2	*Ruppia* sp.
MSW_20120921_03183	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03184	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03185	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03186	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03187	Oban Spònis	LE01.2	*Zostera/Ruppia* with gastropods
MSW_20120921_03188	Oban Spònis	LE01.2	*Carcinus* in *Ruppia/Zostera*
MSW_20120921_03189	Oban Spònis	LE01.2	*Pleuronectes platessa* in *Ruppia/Zostera*

Photo Number	Site Name	Station code	Notes
MSW_20120921_03190	Oban Spònis	LE01.2	*Pleuronectes platessa* in *Ruppia/Zostera*
MSW_20120921_03191	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03192	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03194	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03195	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03196	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03197	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03198	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03199	Oban Spònis	LE01.2	*Zostera/Ruppia* on muddy sand
MSW_20120921_03201	Oban Spònis	LE01.2	*Anemonia viridis* on *Ruppia/Zostera*
MSW_20120921_03202	Oban Spònis	LE01.2	*Arenicola* cast
MSW_20120921_03959	Oban Spònis	LE01.2	First basin view
MSW_20120921_03960	Oban Spònis	LE01.2	Towards outer narrows from basin
MSW_20120921_03961	Oban Spònis	LE01.2	Panoramic view of Oban Spònis, Outer Basin, with Susan and salinity sampler
MSW_20120921_03962	Oban Spònis	LE01.2	Panoramic view of Oban Spònis, first sill and basin
MSW_20120921_03963	Oban Spònis	LE01.2	Boulder shore inside first sill
MSW_20120921_03964	Oban Spònis	LE01.2	*Pelvetia* and grass on boulder shore
MSW_20120921_03965	Oban Spònis	LE01.2	Salinity sampler
MSW_20120921_03966	Oban Spònis	LE01.2	*Pelvetia* at waters edge
CMH_20120921_2563	Oban Spònis	LE01.3	Boulder shore at Station LE01_3
CMH_20120921_2564	Oban Spònis	LE01.3	Boulders with *Pelvetia*
CMH_20120921_2565	Oban Spònis	LE01.3	View along shore to SW
CMH_20120921_2566	Oban Spònis	LE01.3	View to west
CMH_20120921_2567	Oban Spònis	LE01.3	Swans to north of Station LE01_3
CMH_20120921_2568	Oban Spònis	LE01.3	Swans to north of Station LE01_3
CMH_20120921_2569	Oban Spònis	LE01.3	View across lagoon to north west
CMH_20120921_2570	Oban Spònis	LE01.3	View across lagoon to north west from hillside above stn 3
20120921_NH_2064	Oban Spònis	LE01	View of station 1. Narrow sill to lagoon, looking out to marine side
20120921_NH_2065	Oban Spònis	LE01	View up to the head of the lagoon
20120921_NH_2066	Oban Spònis	LE01	View up to the head of the lagoon with Freshwater Loch to left
20120921_NH_2068	Oban Spònis	LE01	View of sill to lagoon at station 1.
20120921_NH_2069	Oban Spònis	LE01	Station 3. Head of the lagoon SW corner
20120921_NH_2070	Oban Spònis	LE01	SW corner of station 3 at head of lagoon.
CMH_20120921_2555	Oban Spònis	LE01	View of Station LE01 from hillside above, looking into Loch Euphort
CMH_20120921_2556	Oban Spònis	LE01	View of Station LE01 from hillside above, looking into Loch Euphort
CMH_20120921_2557	Oban Spònis	LE01	View of Station LE01 from hillside above, looking into Loch Euphort
CMH_20120921_2558	Oban Spònis	LE01	View west over Oban Spònis from hillside
CMH_20120921_2559	Oban Spònis	LE01	View west over Oban Spònis from hillside
CMH_20120921_2560	Oban Spònis	LE01	View west over Oban Spònis from hillside
CMH_20120921_2561	Oban Spònis	LE01	View west over Oban Spònis from hillside
CMH_20120921_2562	Oban Spònis	LE01	View of Station LE01 from hillside above, looking into Loch Euphort
CMH_20120921_2571	Oban Spònis	LE01	Narrows into inner basin of Oban Spònis
CMH_20120921_2572	Oban Spònis	LE01	View to east from hillside above stn 3
CMH_20120921_2573	Oban Spònis	LE01	Swans on Oban Spònis
CMH_20120921_2574	Oban Spònis	LE01	Outflow into Loch Euphort from Stn 1
CMH_20120921_2575	Oban Spònis	General view	Susan in boat
CMH_20120921_2576	Oban Spònis	General view	Susan in boat
CMH_20120921_2577	Oban Spònis	General view	Susan in boat
CMH_20120921_2578	Oban Spònis	General view	Mark in boat
CMH_20120921_2579	Oban Spònis	General	Loch Eport below Oban Spònis

Photo Number	Site Name	Station code	Notes
		view	
20120920_NH_043	Oban na Curra	LE03.1	Road side adjacent to sill
20120920_NH_044	Oban na Curra	LE03.1	Road side adjacent to sill
20120920_NH_045	Oban na Curra	LE03.1	Road side adjacent to sill
20120920_NH_046	Oban na Curra	LE03.1	SE shore edge of lagoon
20120920_NH_047	Oban na Curra	LE03.1	SE shore edge of lagoon
20120920_NH_048	Oban na Curra	LE03.1	SE shore edge of lagoon
20120920_NH_049	Oban na Curra	LE03.1	Station 1. SW end of lagoon, snorkel survey
20120920_NH_050	Oban na Curra	LE03.1	Station 1. SW end of lagoon, snorkel survey
20120920_NH_051	Oban na Curra	LE03.1	Across lagoon from Station 1
20120920_NH_052	Oban na Curra	LE03.1	Station 1, snorkel survey notes
20120920_NH_053	Oban na Curra	LE03.2	Station 2. Man made road sill. Snorkel survey
20120920_NH_054	Oban na Curra	LE03.2	Station 2. Man made road sill
CMH_20120922_2580	Oban nam Fiadh	LE04	Mark rowing at narrrows between stns 3 & 4
CMH_20120922_2581	Oban nam Fiadh	LE04	Mark rowing at narrrows between stns 3 & 4
CMH_20120922_2582	Oban nam Fiadh	LE04	Narrrows between stns 3 & 4
CMH_20120922_2583	Oban nam Fiadh	LE04	Narrrows between stns 3 & 4
CMH_20120922_2584	Oban nam Fiadh	LE04.1a	Mark in boat at Stn LE04_1
CMH_20120922_2585	Oban nam Fiadh	LE04	Mark & Susan taking salinity samples from boat in Oban nam Fiadh
CMH_20120922_2586	Oban nam Fiadh	LE04	Mark & Susan taking salinity samples from boat in Oban nam Fiadh
CMH_20120922_2587	Oban nam Fiadh	LE04	Mark & Susan taking salinity samples from boat in Oban nam Fiadh
MSW_20120921_03983	Oban nam Fiadh	LE04	View of lagoon from bridge
MSW_20120921_03984	Oban nam Fiadh	LE04	Causeway with channel to main loch
MSW_20120921_03985	Oban nam Fiadh	LE04	Panorama from causeway
MSW_20120921_03986	Oban nam Fiadh	LE04	View of lagoon from bridge
MSW_20120921_03987	Oban nam Fiadh	LE04	View of lagoon from bridge
MSW_20120921_03988	Oban nam Fiadh	LE04	View of lagoon from bridge
MSW_20120922_04052	Oban nam Fiadh	LE04	Wall across first sill
MSW_20120922_04053	Oban nam Fiadh	LE04	Wall across first sill
MSW_20120922_04054	Oban nam Fiadh	LE04	Wall across first sill
MSW_20120922_04055	Oban nam Fiadh	LE04	Susan & Christine wading, first sill
MSW_20120922_04056	Oban nam Fiadh	LE04	View across first sill
MSW_20120922_04057	Oban nam Fiadh	LE04	View across loch
MSW_20120922_04058	Oban nam Fiadh	LE04	View north towards road and bridge
MSW_20120922_04059	Oban nam Fiadh	LE04	View across first sill
MSW_20120922_03989	Oban nam Fiadh	LE04.1	Christine & Susan on shore
MSW_20120922_03990	Oban nam Fiadh	LE04.1	View to north west
MSW_20120922_03991	Oban nam Fiadh	LE04.1	View across basin
MSW_20120922_03992	Oban nam Fiadh	LE04.1	View across basin
MSW_20120922_03993	Oban nam Fiadh	LE04.1	View towards narrows
MSW_20120922_03994	Oban nam Fiadh	LE04.1	View towards narrows
MSW_20120922_03995	Oban nam Fiadh	LE04.1	Panorama towards west
MSW_20120922_03997	Oban nam Fiadh	LE04.1	Upper shore lichens
MSW_20120922_03998	Oban nam Fiadh	LE04.1	Upper shore lichens
MSW_20120922_03999	Oban nam Fiadh	LE04.1	*Zostera* on strandline
MSW_20120922_04000	Oban nam Fiadh	LE04.1	*Zostera* on strandline
MSW_20120922_04001	Oban nam Fiadh	LE04.1	*Zostera* on strandline
MSW_20120922_04002	Oban nam Fiadh	LE04.1	Susan with salinity sampler
MSW_20120922_04003	Oban nam Fiadh	LE04.1	View to west
MSW_20120922_04004	Oban nam Fiadh	LE04.1	Heather & grass above shoreline
MSW_20120922_04005	Oban nam Fiadh	LE04.1	Christine snorkelling
MSW_20120922_04006	Oban nam Fiadh	LE04.1	Christine snorkelling
MSW_20120922_04007	Oban nam Fiadh	LE04.1	Christine snorkelling
MSW_20120922_04008	Oban nam Fiadh	LE04.2	View across loch
MSW_20120922_04009	Oban nam Fiadh	LE04.2	View across loch
MSW_20120922_04010	Oban nam Fiadh	LE04.2	View into narrows

Photo Number	Site Name	Station code	Notes
MSW_20120922_04011	Oban nam Fiadh	LE04.2	View into narrows
MSW_20120922_04012	Oban nam Fiadh	LE04.2	Sill
MSW_20120922_04013	Oban nam Fiadh	LE04.2	Sill
MSW_20120922_04014	Oban nam Fiadh	LE04.2	Sill
MSW_20120922_04015	Oban nam Fiadh	LE04.2	View across loch
MSW_20120922_04016	Oban nam Fiadh	LE04.2	View across loch
MSW_20120922_04017	Oban nam Fiadh	LE04.2	Sill
MSW_20120922_04018	Oban nam Fiadh	LE04.2	Sill
MSW_20120922_04019	Oban nam Fiadh	LE04.2	Sill
MSW_20120922_04020	Oban nam Fiadh	LE04.2	Bedrock shoreline by sill
MSW_20120922_04021	Oban nam Fiadh	LE04.2	Bedrock & heather by sill
MSW_20120922_04022	Oban nam Fiadh	LE04.2	Heather moorland behind shore
MSW_20120922_04023	Oban nam Fiadh	LE04.2	Heather moorland behind shore
MSW_20120922_04024	Oban nam Fiadh	LE04.2	Christine sampling
MSW_20120922_04025	Oban nam Fiadh	LE04.2	Christine sampling
MSW_20120922_04026	Oban nam Fiadh	LE04.2	Christine sampling
MSW_20120922_04027	Oban nam Fiadh	LE04.2	Sill
MSW_20120922_04028	Oban nam Fiadh	LE04.2	Sill
MSW_20120922_04029	Oban nam Fiadh	LE04.2	Christine wading on sill
MSW_20120922_04030	Oban nam Fiadh	LE04.2	View from second sill towards first
MSW_20120922_04031	Oban nam Fiadh	LE04.2	View from second sill towards first
MSW_20120922_04032	Oban nam Fiadh	LE04.2	Panorama from sill towards road
MSW_20120922_04033	Oban nam Fiadh	LE04.2	Panorama from sill towards inner basin
MSW_20120922_04034	Oban nam Fiadh	LE04.2	Sill
MSW_20120922_04035	Oban nam Fiadh	LE04.2	Pool on sill
MSW_20120922_04036	Oban nam Fiadh	LE04.2	Sill
MSW_20120922_04037	Oban nam Fiadh	LE04.2	Susan & Christine recording on shore
MSW_20120922_04038	Oban nam Fiadh	LE04.2	Susan & Christine recording on shore
MSW_20120922_04039	Oban nam Fiadh	LE04.2	*Fucus ceranoides*
MSW_20120922_04040	Oban nam Fiadh	LE04.2	Susan recording from GPS
MSW_20120922_04041	Oban nam Fiadh	LE04.3	Christine kitting up for snorkelling
MSW_20120922_04042	Oban nam Fiadh	LE04.3	Christine kitting up for snorkelling
MSW_20120922_04043	Oban nam Fiadh	LE04.3	View north west towards first sill
MSW_20120922_04044	Oban nam Fiadh	LE04.3	View north west towards first sill
MSW_20120922_04045	Oban nam Fiadh	LE04.3	Susan and small boat
MSW_20120922_04046	Oban nam Fiadh	LE04.3	Susan and small boat
MSW_20120922_04048	Oban nam Fiadh	LE04.3	Susan and small boat
MSW_20120922_04049	Oban nam Fiadh	LE04.3	Shoreline rocks
MSW_20120922_04050	Oban nam Fiadh	LE04.3	Shoreline looking south
MSW_20120922_04051	Oban nam Fiadh	LE04.3	Susan and small boat
MSW_20120922_04060	Oban nam Fiadh	LE04.4	Boulder shore and heather hinterland
MSW_20120922_04061	Oban nam Fiadh	LE04.4	View towards causeway
MSW_20120922_04062	Oban nam Fiadh	LE04.4	Panorama looking north west
MSW_20120922_04063	Oban nam Fiadh	LE04.4	Fucoids and grass at water's edge
MSW_20120922_04064	Oban nam Fiadh	LE04.4	Fucoids and grass at water's edge
MSW_20120922_04065	Oban nam Fiadh	LE04.4	Susan and small boat
MSW_20120922_04066	Oban nam Fiadh	LE04.4	Christine snorkelling
MSW_20120922_04067	Oban nam Fiadh	LE04.4	Susan
MSW_20120922_04068	Oban nam Fiadh	LE04.4	Shoreline looking south west
MSW_20120922_04069	Oban nam Fiadh	LE04.4	Shoreline looking south west
MSW_20120921_03973	Bàgh Uaine	LE05	Fucoids on shoreline
MSW_20120921_03974	Bàgh Uaine	LE05	Cobble shoreline
MSW_20120921_03975	Bàgh Uaine	LE05	View across basin
MSW_20120921_03977	Bàgh Uaine	LE05	Fucoids on shoreline
MSW_20120921_03978	Bàgh Uaine	LE05	Nat recording
MSW_20120921_03979	Bàgh Uaine	LE05	Fucoid covered shoreline
MSW_20120921_03980	Bàgh Uaine	LE05	Fucoid covered shoreline
MSW_20120921_03981	Bàgh Uaine	LE05	Fucoid covered shoreline
MSW_20120921_03982	Bàgh Uaine	LE05	Saltmarsh behind shore

Photo Number	Site Name	Station code	Notes
CMH_20120923_2613	Howmore Estuary	HE01	Bank and fence at HE01
CMH_20120923_2614	Howmore Estuary	HE01	View of river channels through grassland
CMH_20120923_2615	Howmore Estuary	HE01	View of river channels through grassland
CMH_20120923_2616	Howmore Estuary	HE01	View of river channels through grassland
CMH_20120923_2617	Howmore Estuary	HE02	View of river channels through grassland
CMH_20120923_2618	Howmore Estuary	HE02	View of river channels through grassland
CMH_20120923_2619	Howmore Estuary	HE02	View of river channels through grassland
CMH_20120923_2620	Howmore Estuary	HE02	View of river channels through grassland
CMH_20120923_2621	Howmore Estuary	HE02	Bank edge
CMH_20120923_2623	Howmore Estuary	HE03	Sandbank in channel with drift algae
CMH_20120923_2624	Howmore Estuary	HE03	View upstream
CMH_20120923_2625	Howmore Estuary	HE03	Downstream towards bridge
CMH_20120923_2626	Howmore Estuary	HE03	Channel from other system
CMH_20120923_2627	Howmore Estuary	HE03	Channel from other system
CMH_20120923_2628	Howmore Estuary	HE03	Nat & Sankurie
CMH_20120923_2629	Howmore Estuary	HE03	Nat & Sankurie
CMH_20120923_2630	Howmore Estuary	HE03	Hawk moth caterpillar
CMH_20120923_2631	Howmore Estuary	HE03	Hawk moth caterpillar
CMH_20120923_2632	Howmore Estuary	HE03	Hawk moth caterpillar
CMH_20120923_2633	Howmore Estuary	HE03	Bridge from seaward side
CMH_20120923_2641	Howmore Estuary	HE03	Confluence upstream from bridge
CMH_20120923_2642	Howmore Estuary	HE03	Confluence upstream from bridge
CMH_20120923_2634	Howmore Estuary	HE04	Bank of cast algae in estuary mouth
CMH_20120923_2635	Howmore Estuary	HE04	Dunes at estuary mouth
CMH_20120923_2636	Howmore Estuary	HE04	Dunes at estuary mouth
CMH_20120923_2637	Howmore Estuary	HE04	View from shore towards bridge & mountains
CMH_20120923_2638	Howmore Estuary	HE04	View from shore towards bridge & mountains
CMH_20120923_2639	Howmore Estuary	HE04	Estuary mouth
CMH_20120923_2640	Howmore Estuary	HE04	Estuary mouth
CMH_20120923_2588	Loch Fada	LF01	Nat recording at Loch Fada
CMH_20120923_2589	Loch Fada	LF01	Shallows
CMH_20120923_2590	Loch Fada	LF01	View to east
CMH_20120923_2591	Loch Fada	LF01	View to south west
CMH_20120923_2592	Loch Fada	LF01	Lichens on boulder
CMH_20120923_2593	Loch Fada	LF01	Shoreline with lichen covered boulders
CMH_20120923_2594	Loch Fada	LF01	View across loch to north
CMH_20120923_2595	Loch Fada	LF02	Sankurie sampling below culvert
CMH_20120923_2596	Loch Fada	LF02	Sankurie sampling below culvert
CMH_20120923_2597	Loch Fada	LF02	Sankurie sampling below culvert
CMH_20120923_2598	Loch Fada	LF02	Sluice gate control and reeds
CMH_20120923_2599	Loch Fada	LF02	Sluice gate control and reeds
CMH_20120923_2600	Loch Fada	LF02	Sluice gate control and reeds
CMH_20120923_2601	Loch Fada	LF02	View over reed beds
CMH_20120923_2602	Loch Ròg	LR01	Causeway
CMH_20120923_2603	Loch Ròg	LR01	Emergent vegetation
CMH_20120923_2604	Loch Ròg	LR01	
CMH_20120923_2605	Loch Ròg	LR02	Shore to east
CMH_20120923_2606	Loch Ròg	LR02	Submerged vegetation
CMH_20120923_2607	Loch Ròg	LR02	Shore to north towards northern culverts
CMH_20120923_2608	Loch Ròg	LR02	Northern culverts
CMH_20120923_2609	Loch Ròg	LR02	Southern culverts
CMH_20120923_2610	Loch Ròg	LR02	Southern culverts
CMH_20120923_2611	Loch Ròg	LR02	Channel leading to southern culverts
CMH_20120923_2612	Loch Ròg	LR02	Channel near southern culverts
CMH_20120926_2651	Loch Bì	General view	Boat on Loch Bì at mooring
CMH_20120926_2652	Loch Bì	General view	Boat on Loch Bì at mooring
CMH_20120926_2653	Loch Bì	General view	View over Loch Bì from mooring
CMH_20120926_2654	Loch Bì	General	View over Loch Bì from mooring

Photo Number	Site Name	Station code	Notes
		view	
CMH_20120926_2655	Loch Bì	General view	Mark mooring boat
CMH_20120927_2656	Loch Bì	General view	Swans on loch
CMH_20120927_2657	Loch Bì	General view	Swans on loch
CMH_20120927_2658	Loch Bì	General view	Swans on loch
CMH_20120927_2659	Loch Bì	General view	Swans on loch
CMH_20120927_2660	Loch Bì	General view	Swans on loch
MSW_20120916_03520	Loch Bì	LB01	Loch Bì near northern culverts
MSW_20120916_03521	Loch Bì	LB01	Snorkelling
MSW_20120916_03522	Loch Bì	LB01	Susan & Christine sampling
MSW_20120916_03523	Loch Bì	LB01	View of northern arm, Loch Bì
MSW_20120916_03524	Loch Bì	LB01	View of northern arm, Loch Bì
MSW_20120916_03525	Loch Bì	LB01	View of northern arm, Loch Bì
MSW_20120916_03526	Loch Bì	LB01	Snorkelling
MSW_20120916_03527	Loch Bì	LB01	Christine wading in Loch Bì
MSW_20120916_03528	Loch Bì	LB01	Christine wading in Loch Bì
MSW_20120916_03529	Loch Bì	LB01	*Sargassum*
MSW_20120916_03530	Loch Bì	LB01	*Sargassum*
MSW_20120916_03531	Loch Bì	LB01	*Sargassum*
MSW_20120916_03532	Loch Bì	LB01	*Sargassum*
MSW_20120916_03533	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03534	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03535	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03536	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03537	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03538	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03539	Loch Bì	LB01	Culvert in north arm Loch Bì
MSW_20120916_03540	Loch Bì	LB01	Culvert in north arm Loch Bì
MSW_20120916_03541	Loch Bì	LB01	Sand, N Loch Bì
MSW_20120916_03542	Loch Bì	LB01	Sand, N Loch Bì
MSW_20120916_03543	Loch Bì	LB01	Sand, N Loch Bì
MSW_20120916_03544	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03545	Loch Bì	LB01	Susan sieving
MSW_20120916_03546	Loch Bì	LB01	Susan sieving
MSW_20120916_03547	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03548	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03549	Loch Bì	LB01	Recording, Loch Bì
MSW_20120916_03550	Loch Bì	LB01	View to south
MSW_20120916_03551	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03552	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03553	Loch Bì	LB01	Sampling in northern arm, Loch Bì
MSW_20120916_03555	Loch Bì	LB01	Panorama
MSW_20120916_03556	Loch Bì	LB01	Panorama
MSW_20120916_03557	Loch Bì	LB01	Panorama view of site
MSW_20120916_03558	Loch Bì	LB01	Contents of sieve
MSW_20120916_03559	Loch Bì	LB01	Contents of sieve
MSW_20120916_03560	Loch Bì	LB01	Contents of sieve
MSW_20120916_03561	Loch Bì	LB02	Salinity sampling
MSW_20120916_03562	Loch Bì	LB02	Salinity sampling
MSW_20120916_03563	Loch Bì	LB02	Salinity sampling
MSW_20120916_03564	Loch Bì	LB02	Salinity sampling
MSW_20120916_03565	Loch Bì	LB02	Salinity sampling
MSW_20120916_03566	Loch Bì	LB02	Salinity sampling
MSW_20120916_03567	Loch Bì	LB02	Salinity sampling
MSW_20120916_03568	Loch Bì	LB02	Salinity sampling
MSW_20120916_03569	Loch Bì	LB02	Salinity sampling

Photo Number	Site Name	Station code	Notes
MSW_20120916_03570	Loch Bì	LB02	View across site
MSW_20120916_03571	Loch Bì	LB02	View across site
MSW_20120916_03572	Loch Bì	LB02	View across site
MSW_20120916_03573	Loch Bì	LB02	Panorama
MSW_20120916_03574	Loch Bì	LB02	Panorama
MSW_20120916_03575	Loch Bì	LB02	Panorama
MSW_20120916_03576	Loch Bì	LB02	Panorama
MSW_20120916_03577	Loch Bì	LB02	Sampling
MSW_20120916_03578	Loch Bì	LB02	Sampling
MSW_20120916_03579	Loch Bì	LB02	Sampling
MSW_20120916_03580	Loch Bì	LB02	Sampling
MSW_20120916_03581	Loch Bì	LB02	Sampling
MSW_20120916_03582	Loch Bì	LB02	Sampling
MSW_20120916_03583	Loch Bì	LB02	Sampling
MSW_20120916_03584	Loch Bì	LB02	Sampling
MSW_20120916_03585	Loch Bì	LB02	Sampling
MSW_20120916_03586	Loch Bì	LB02	Sampling
MSW_20120916_03587	Loch Bì	LB02	Sampling
MSW_20120916_03588	Loch Bì	LB02	Sampling
20120924_NH_2116	Loch Bì	LB03	LB03 NW of Loch Bì causeway
20120924_NH_2117	Loch Bì	LB03	LB03 NW of Loch Bì causeway
20120924_NH_2118	Loch Bì	LB03	LB03 NW of Loch Bì causeway
20120924_NH_2119	Loch Bì	LB03	LB03 NW of Loch Bì causeway
20120924_NH_2120	Loch Bì	LB03	LB03 NW of Loch Bì causeway
20120924_NH_2121	Loch Bì	LB03	LB03 NW of Loch Bì causeway
20120924_NH_2109	Loch Bì	LB04	LB04 NE of Loch Bì causeway
20120924_NH_2110	Loch Bì	LB04	LB04 NE of Loch Bì causeway
20120924_NH_2111	Loch Bì	LB04	LB04 NE of Loch Bì causeway
20120924_NH_2112	Loch Bì	LB04	LB04 NE of Loch Bì causeway-salinity measures
20120924_NH_2113	Loch Bì	LB04	LB04 NE of Loch Bì causeway
20120924_NH_2114	Loch Bì	LB04	LB04 NE of Loch Bì causeway - bedrock
20120924_SNM_78	Loch Bì	LB05	Underwater of seagrass
20120924_SNM_79	Loch Bì	LB05	Underwater of seagrass
20120924_SNM_80	Loch Bì	LB05	Underwater of seagrass
20120924_SNM_81	Loch Bì	LB05	Underwater of seagrass
20120924_SNM_82	Loch Bì	LB05	Underwater of seagrass
20120924_SNM_83	Loch Bì	LB05	Underwater of seagrass
20120924_SNM_84	Loch Bì	LB05	Underwater of *Cerastoderma* sp on seagrass
20120924_SNM_85	Loch Bì	LB05	Underwater of *Cerastoderma* sp on seagrass
20120924_SNM_86	Loch Bì	LB05	Underwater of *Cerastoderma* sp on seagrass
20120924_SNM_87	Loch Bì	LB05	Underwater of seagrass
20120924_SNM_88	Loch Bì	LB05	Underwater of *Cerastoderma* sp on seagrass
20120924_SNM_89	Loch Bì	LB05	Underwater of *Cerastoderma* sp on seagrass
20120924_SNM_90	Loch Bì	LB05	Underwater of *Cerastoderma* sp on seagrass
20120924_SNM_91	Loch Bì	LB05	Underwater of *Cerastoderma* sp on seagrass
20120924_SNM_92	Loch Bì	LB05	Underwater of *Cerastoderma* sp on seagrass
MSW_20120924_04079	Loch Bì	LB05	Small spit
MSW_20120924_04080	Loch Bì	LB05	Foam on shore
MSW_20120924_04081	Loch Bì	LB05	View towards army base
MSW_20120924_04082	Loch Bì	LB05	Causeway
MSW_20120924_04083	Loch Bì	LB05	Panorama view of site
MSW_20120924_04084	Loch Bì	LB05	View across site
MSW_20120924_04085	Loch Bì	LB05	View across site
MSW_20120924_04086	Loch Bì	LB05	View across site
MSW_20120924_04087	Loch Bì	LB05	View across site
MSW_20120924_04088	Loch Bì	LB05	Foam on shore
MSW_20120924_04089	Loch Bì	LB05	Foam on shore
MSW_20120924_04090	Loch Bì	LB05	Foam on shore
20120924_NH_2122	Loch Bì	LB06	LB06 North Loch Bì

Photo Number	Site Name	Station code	Notes
20120924_NH_2123	Loch Bì	LB06	LB06 North Loch Bì - fish netting
20120924_NH_2124	Loch Bì	LB06	LB06 North Loch Bì - sediment sample collection
20120924_NH_2125	Loch Bì	LB06	LB06 North Loch Bì
20120924_NH_2126	Loch Bì	LB06	LB06 North Loch Bì - fish netting
20120924_NH_2127	Loch Bì	LB06	LB06 North Loch Bì - sediment sieving
20120924_SNM_095	Loch Bì	LB06	LB06 North Loch Bì, survey team activities
20120924_SNM_096	Loch Bì	LB06	LB06 North Loch Bì, Drainage pipes at sill exchange to Loch an Os
20120924_SNM_097	Loch Bì	LB06	LB06 North Loch Bì, Drainage pipes at sill exchange to Loch an Os
20120924_SNM_098	Loch Bì	LB06	LB06 North Loch Bì, Channel leading to drainage pipes to Loch an Os
20120924_SNM_099	Loch Bì	LB06	LB06 North Loch Bì, Channel leading to drainage pipes to Loch an Os
20120924_SNM_100	Loch Bì	LB06	LB06 North Loch Bì, Drainage pipes at sill exchange to Loch an Os
20120924_SNM_101	Loch Bì	LB06	LB06 North Loch Bì, Drainage pipes at sill exchange to Loch an Os
CMH_20120926_2643	Loch Bì	LB07	Channel leading to sluice gates
CMH_20120926_2644	Loch Bì	LB07	Channel leading to sluice gates
CMH_20120926_2645	Loch Bì	LB07	Mark in channel at sluice gates
CMH_20120926_2646	Loch Bì	LB07	Mark in channel at sluice gates
CMH_20120926_2647	Loch Bì	LB07	Navigating sluice gate channel
CMH_20120926_2648	Loch Bì	LB07	Navigating sluice gate channel
CMH_20120926_2649	Loch Bì	LB07	Navigating sluice gate channel
CMH_20120926_2650	Loch Bì	LB07	Navigating sluice gate channel
MSW_20120926_04091	Loch Bì	LB07	Channel leading to floodgates
MSW_20120926_04092	Loch Bì	LB07	Channel leading to floodgates
MSW_20120926_04093	Loch Bì	LB07	Channel leading to floodgates
MSW_20120926_04094	Loch Bì	LB07	Channel leading to floodgates
MSW_20120926_04096	Loch Bì	LB07	Rock with barnacles near floodgates
MSW_20120926_04097	Loch Bì	LB07	Green algae on rock by floodgates
MSW_20120926_04098	Loch Bì	LB07	Channel leading to floodgates
MSW_20120926_04099	Loch Bì	LB07	Floodgates from sea side
MSW_20120926_04100	Loch Bì	LB07	Floodgates from sea side
MSW_20120926_04101	Loch Bì	LB07	Floodgates from sea side
MSW_20120926_04102	Loch Bì	LB07	Fucoids on rock wall outside floodgates
MSW_20120926_04103	Loch Bì	LB07	Channel outside floodgates
MSW_20120926_04104	Loch Bì	LB07	Channel outside floodgates
MSW_20120926_04105	Loch Bì	LB07	Channel outside floodgates
MSW_20120926_04106	Loch Bì	LB07	Floodgate hinges from above
MSW_20120926_04107	Loch Bì	LB07	Floodgate hinges from above
MSW_20120926_04108	Loch Bì	LB07	Floodgate hinges from above
MSW_20120926_04109	Loch Bì	LB07	Metal bridge over floodgate
MSW_20120926_04110	Loch Bì	LB07	Channel outside floodgates
MSW_20120926_04111	Loch Bì	LB07	Channel outside floodgates
MSW_20120926_04112	Loch Bì	LB07	Channel outside floodgates
MSW_20120926_04113	Loch Bì	LB07	Channel on Loch Bì side of floodgates
MSW_20120926_04114	Loch Bì	LB07	Christine in boat at floodgates
MSW_20120926_04115	Loch Bì	LB07	Floodgate hinges from downstream
MSW_20120926_04116	Loch Bì	LB07	Floodgate hinges from downstream
MSW_20120926_04117	Loch Bì	LB07	Channel outside floodgates
MSW_20120926_04118	Loch Bì	LB07	Channel outside floodgates
MSW_20120926_04119	Loch Bì	LB07	Floodgate hinges from downstream
MSW_20120926_04120	Loch Bì	LB07	Floodgate bridge & wall
MSW_20120926_04121	Loch Bì	LB07	Floodgate stepping stones
MSW_20120926_04122	Loch Bì	LB07	Channel outside floodgates
MSW_20120926_04123	Loch Bì	LB07	Channel outside floodgates
MSW_20120926_04124	Loch Bì	LB07	Channel outside floodgates

Photo Number	Site Name	Station code	Notes
MSW_20120926_04125	Loch Bì	LB07	Christine at floodgates
MSW_20120926_04126	Loch Bì	LB07	Channel leading to floodgates (Loch Bì side)
MSW_20120926_04127	Loch Bì	LB07	Channel leading to floodgates (Loch Bì side)
MSW_20120926_04128	Loch Bì	LB07	Channel leading to floodgates (Loch Bì side)
MSW_20120926_04129	Loch Bì	LB07	Boat at floodgates
MSW_20120926_04130	Loch Bì	LB08	Channel leading to floodgates (Loch Bì side)
MSW_20120926_04131	Loch Bì	LB08	Channel leading to floodgates (Loch Bì side)
MSW_20120926_04132	Loch Bì	LB08	Channel entrance
MSW_20120926_04133	Loch Bì	LB08	View to NW from channel entrance
MSW_20120926_04134	Loch Bì	LB08	Shoreline
MSW_20120926_04135	Loch Bì	LB08	Shoreline
MSW_20120926_04136	Loch Bì	LB08	Christine & boat on shore
MSW_20120926_04137	Loch Bì	LB08	Panorama from channel entrance to north west
MSW_20120926_04138	Loch Bì	LB09	Christine & boat & view across loch towards hills
MSW_20120926_04139	Loch Bì	LB09	View across loch towards hills
MSW_20120926_04140	Loch Bì	LB09	Christine & boat & view across loch towards hills
MSW_20120926_04141	Loch Bì	LB09	View across loch towards hills
MSW_20120926_04142	Loch Bì	LB09	Panorama
MSW_20120926_04143	Loch Bì	LB09	Grass at water's edge
MSW_20120926_04144	Loch Bì	LB09	Shoreline towards narrows
MSW_20120926_04145	Loch Bì	LB09	Christine recording
MSW_20120926_03514	Loch Bì	LB10	*Ruppia*
MSW_20120926_03521	Loch Bì	LB10	*Ruppia* with filamentous algae
MSW_20120926_03524	Loch Bì	LB10	*Ruppia spiralis*
MSW_20120926_03525	Loch Bì	LB10	*Ruppia spiralis*
MSW_20120926_03526	Loch Bì	LB10	*Ruppia spiralis*
MSW_20120926_03527	Loch Bì	LB10	*Ruppia spiralis* flower head
MSW_20120926_03529	Loch Bì	LB10	*Ruppia spiralis*
MSW_20120926_03531	Loch Bì	LB10	*Ruppia spiralis* flower head
MSW_20120926_03533	Loch Bì	LB10	*Ruppia spiralis* flower head
MSW_20120926_03541	Loch Bì	LB10	?
MSW_20120926_03543	Loch Bì	LB10	*Eubranchus* on *Ruppia* hydroids
MSW_20120926_03544	Loch Bì	LB10	*Ceramium* sp
MSW_20120926_03545	Loch Bì	LB10	*Eubranchus* on *Ruppia* hydroids
MSW_20120926_03547	Loch Bì	LB10	*Eubranchus* on *Ruppia* hydroids
MSW_20120926_03549	Loch Bì	LB10	*Eubranchus* on *Ruppia* hydroids
MSW_20120926_03552	Loch Bì	LB10	Bivalve on *Ruppia*
MSW_20120926_03557	Loch Bì	LB10	*Eubranchus* on *Ruppia* hydroids
MSW_20120926_03558	Loch Bì	LB10	*Eubranchus* on *Ruppia* hydroids
MSW_20120926_03560	Loch Bì	LB10	*Eubranchus* on *Ruppia* hydroids
MSW_20120926_04146	Loch Bì	LB10	Christine & boat
MSW_20120926_04147	Loch Bì	LB10	View towards narrows
MSW_20120926_04148	Loch Bì	LB10	View to south east
MSW_20120926_04149	Loch Bì	LB10	Measuring salinity
MSW_20120926_04150	Loch Bì	LB10	View to north west
MSW_20120926_04151	Loch Bì	LB10	Cobbles & grass in shallow water
MSW_20120926_04152	Loch Bì	LB10	View back towards channel
MSW_20120927_04153	Loch Bì	LB11	Swans on loch
MSW_20120927_04154	Loch Bì	LB11	Swans on loch
MSW_20120927_04155	Loch Bì	LB11	Swans on loch
MSW_20120927_04156	Loch Bì	LB11	Swans on loch
MSW_20120927_04157	Loch Bì	LB11	Nat & Christine unloading boat
MSW_20120927_04158	Loch Bì	LB11	Nat & Christine unloading boat
MSW_20120927_04159	Loch Bì	LB11	View across loch towards hills
MSW_20120927_04160	Loch Bì	LB11	View across loch towards hills
MSW_20120927_04161	Loch Bì	LB11	Nat & Christine unloading boat
MSW_20120927_04162	Loch Bì	LB11	Panorama
MSW_20120927_04163	Loch Bì	LB11	Shoreline with foam
MSW_20120927_04164	Loch Bì	LB11	Shoreline with foam

Photo Number	Site Name	Station code	Notes
MSW_20120927_04165	Loch Bì	LB11	Shoreline with foam
MSW_20120927_04166	Loch Bì	LB11	Grass in shallow water
MSW_20120927_04167	Loch Bì	LB11	View across loch towards hills
MSW_20120927_04168	Loch Bì	LB11	Boat
MSW_20120927_04169	Loch Bì	LB11	Windmills
MSW_20120927_04170	Loch Bì	LB11	Windmills
MSW_20120927_04172	Loch Bì	LB11	Panorama
MSW_20120927_04173	Loch Bì	LB13	View to north west towards narrows
MSW_20120927_04174	Loch Bì	LB13	View to north west towards narrows
MSW_20120927_04175	Loch Bì	LB13	View to south west across loch
MSW_20120927_04176	Loch Bì	LB13	Christine & boat at shore
MSW_20120927_04177	Loch Bì	LB13	Nat, Christine & boat at shore
MSW_20120927_04178	Loch Bì	LB13	Shallow water
MSW_20120927_04179	Loch Bì	LB13	Shoreline to north west
MSW_20120927_04180	Loch Bì	LB13	Shoreline to south east
MSW_20120927_04181	Loch Bì	LB13	Shoreline to south east with boat & Christine
MSW_20120927_04182	Loch Bì	LB13	Shoreline to south east with boat & Christine
20120927_NH_113	Loch Bì	LB16	Site LB16, Stewart Angus surveying
20120927_NH_114	Loch Bì	LB16	LB16 - Littorinids
20120927_NH_115	Loch Bì	LB16	LB16 - Littorinids
20120927_NH_116	Loch Bì	LB16	View of station LB16
20120927_NH_117	Loch Bì	LB16	View of station LB16
20120927_NH_118	Loch Bì	LB16	View of station LB16
20120927_NH_119	Loch Bì	LB16	View of station LB16
20120927_NH_120	Loch Bì	LB16	View of station LB16
20120927_NH_121	Loch Bì	LB17	View of station LB17
20120927_NH_122	Loch Bì	LB17	View of station LB17
20120927_NH_123	Loch Bì	LB18	View of station LB18
20120927_NH_124	Loch Bì	LB18	View of station LB18
20120927_NH_125	Loch Bì	LB18	View of station LB18
20120927_NH_126	Loch Bì	LB18	View of station LB18
20120927_NH_127	Loch Bì	LB18	View of station LB18
20120927_NH_128	Loch Bì	LB18	Sieving grabs from LB14 and LB15
20120927_NH_129	Loch Bì	LB18	Sieving grabs from LB14 and LB15
MSW_20120927_04183	Loch Bì	LB18	Shingle bar
MSW_20120927_04184	Loch Bì	LB18	Shingle bar
MSW_20120927_04185	Loch Bì	LB18	Shingle bar
MSW_20120927_04186	Loch Bì	LB18	Group heading to next station
MSW_20120927_04190	Loch Bì	LB18	Panorama
MSW_20120927_04191	Loch Bì	LB18	Nat in boat
MSW_20120927_04192	Loch Bì	LB18	Nat in boat
MSW_20120919_03869	Laboratory		*Sagartiogeton*
MSW_20120919_03870	Laboratory		*Sagartiogeton*
MSW_20120919_03872	Laboratory		*Sagartiogeton*
MSW_20120919_03873	Laboratory		*Sagartiogeton*
MSW_20120919_03874	Laboratory		*Sagartiogeton*
MSW_20120919_03875	Laboratory		*Sagartiogeton*
MSW_20120919_03876	Laboratory		*Sagartiogeton*
MSW_20120919_03877	Laboratory		*Sagartiogeton*
MSW_20120919_03878	Laboratory		*Sagartiogeton*
MSW_20120919_03879	Laboratory		*Sagartiogeton*
MSW_20120919_03880	Laboratory		*Sagartiogeton*
MSW_20120919_03885	Laboratory		*Sagartiogeton*
MSW_20120919_03886	Laboratory		*Sagartiogeton*
MSW_20120919_03887	Laboratory		*Sagartiogeton*
MSW_20120919_03888	Laboratory		*Sagartiogeton*
MSW_20120919_03889	Laboratory		*Sagartiogeton*
MSW_20120919_03890	Laboratory		*Sagartiogeton*
MSW_20120924_04070	Laboratory		Susan sorting samples

Photo Number	Site Name	Station code	Notes
MSW_20120924_04071	Laboratory		Susan at microscope
MSW_20120924_04072	Laboratory		Susan at microscope
MSW_20120924_04073	Laboratory		Christine
MSW_20120924_04074	Laboratory		Pressing charophytes
MSW_20120924_04075	Laboratory		Pressing charophytes
MSW_20120924_04076	Laboratory		Pressing charophytes
MSW_20120924_04077	Laboratory		Pressing charophytes
MSW_20120924_04078	Laboratory		Pressing charophytes
MSW_20120925_2	Laboratory		Hydrobiid Ecrobia ventrosa
MSW_20120925_2_2	Laboratory		Hydrobiid Ecrobia ventrosa
MSW_20120925_2_3	Laboratory		Hydrobiid Ecrobia ventrosa
MSW_20120925_2_4	Laboratory		Hydrobiid Ecrobia ventrosa
MSW_20120925_2_5	Laboratory		Hydrobiid Ecrobia ventrosa
MSW_20120925_2_6	Laboratory		Hydrobiid Ecrobia ventrosa
MSW_20120925_03207	Laboratory		Scale worm Harmothoe imbricata
MSW_20120925_03213	Laboratory		Scale worm Harmothoe imbricata
MSW_20120925_03214	Laboratory		Scale worm Harmothoe imbricata
MSW_20120925_03215	Laboratory		Scale worm Harmothoe imbricata
MSW_20120925_03220	Laboratory		Scale worm Harmothoe imbricata
MSW_20120925_03222	Laboratory		Scale worm Harmothoe imbricata
MSW_20120925_03223	Laboratory		Scale worm Harmothoe imbricata
MSW_20120925_03224	Laboratory		Scale worm Harmothoe imbricata
MSW_20120925_03225	Laboratory		*Eupolymnia nebulosa*
MSW_20120925_03228	Laboratory		*Eupolymnia nebulosa*
MSW_20120925_03230	Laboratory		*Eupolymnia nebulosa*
MSW_20120925_03231	Laboratory		*Eupolymnia nebulosa*
MSW_20120925_03233	Laboratory		*Eupolymnia nebulosa*
MSW_20120925_03234	Laboratory		*Eupolymnia nebulosa*
MSW_20120925_03236	Laboratory		Worm tube material
MSW_20120925_03238	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03239	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03241	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03242	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03244	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03245	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03246	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03247	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03248	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03249	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03251	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03252	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03254	Laboratory		Seagrass worm Ampharete ?acutifrons
MSW_20120925_03391	Laboratory		Corophium tubes
MSW_20120925_03392	Laboratory		Corophium tubes
MSW_20120925_03393	Laboratory		Corophium tubes
MSW_20120925_03394	Laboratory		Corophium tubes
MSW_20120925_03395	Laboratory		Corophium tubes
MSW_20120925_03398	Laboratory		Corophium
MSW_20120925_03401	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03402	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03403	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03404	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03405	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03406	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03407	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03408	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03410	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03411	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03412	Laboratory		Polychaete Nereis diversicolor

Photo Number	Site Name	Station code	Notes
MSW_20120925_03414	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03415	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03416	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03417	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03419	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03420	Laboratory		Polychaete Nereis diversicolor
MSW_20120925_03421	Laboratory		Polychaete Nereis diversicolor dorsal view
MSW_20120925_03422	Laboratory		Polychaete Nereis diversicolor dorsal view
MSW_20120925_03423	Laboratory		Polychaete Nereis diversicolor dorsal view
MSW_20120925_03424	Laboratory		Polychaete Nereis diversicolor dorsal view
MSW_20120925_03426	Laboratory		Polychaete Nereis diversicolor dorsal view
MSW_20120925_03427	Laboratory		*Ruppia* flowers
MSW_20120925_03428	Laboratory		*Ruppia* flowers
MSW_20120925_03429	Laboratory		*Ruppia* flowers
MSW_20120925_03430	Laboratory		*Ruppia* flowers
MSW_20120925_03431	Laboratory		*Ruppia* flowers
MSW_20120925_03432	Laboratory		*Ruppia* flowers
MSW_20120925_03434	Laboratory		*Ruppia* flowers
MSW_20120925_03435	Laboratory		*Ruppia* flowers
MSW_20120925_03436	Laboratory		*Ruppia* flowers
MSW_20120925_03438	Laboratory		*Ruppia* flowers
MSW_20120925_03439	Laboratory		*Ruppia* flowers
MSW_20120925_03440	Laboratory		*Ruppia* flowers
MSW_20120925_03441	Laboratory		*Ruppia* flowers
MSW_20120925_03442	Laboratory		*Ruppia* flowers
MSW_20120925_03443	Laboratory		*Ruppia* flowers
MSW_20120925_03444	Laboratory		*Ruppia* flowers
MSW_20120925_03445	Laboratory		*Ruppia* flowers
MSW_20120925_03446	Laboratory		*Ruppia* flowers
MSW_20120925_03447	Laboratory		*Ruppia* flowers
MSW_20120925_03448	Laboratory		*Ruppia* flowers
MSW_20120925_03449	Laboratory		*Ruppia* flowers
MSW_20120925_03450	Laboratory		*Ruppia* flowers
MSW_20120925_03451	Laboratory		*Ruppia* flowers
MSW_20120925_03453	Laboratory		*Ruppia* flowers
MSW_20120925_03455	Laboratory		*Ruppia* flowers
MSW_20120925_03456	Laboratory		*Ruppia* flowers
MSW_20120925_03458	Laboratory		*Ruppia* flowers
MSW_20120925_03460	Laboratory		*Ruppia* flowers
MSW_20120925_03461	Laboratory		*Ruppia* flowers
MSW_20120925_03462	Laboratory		*Ruppia* flowers
MSW_20120925_03465	Laboratory		Blue Green algal balls
MSW_20120925_03466	Laboratory		Blue Green algal balls
MSW_20120925_03467	Laboratory		Blue Green algal balls
MSW_20120925_03468	Laboratory		Blue Green algal balls
MSW_20120925_03469	Laboratory		Blue Green algal balls
MSW_20120925_03470	Laboratory		Blue Green algal balls
MSW_20120925_03471	Laboratory		Blue Green algal balls
MSW_20120925_03476	Laboratory		Hydrobiid P.antipodarum
MSW_20120925_03477	Laboratory		Hydrobiid P.antipodarum
MSW_20120925_03478	Laboratory		Hydrobiid P.antipodarum
MSW_20120925_03481	Laboratory		Hydrobiid P.antipodarum
MSW_20120925_03483	Laboratory		Hydrobiid P.antipodarum
MSW_20120925_03485	Laboratory		Hydrobiid P.antipodarum
MSW_20120925_03490	Laboratory		Hydrobiid P.antipodarum
MSW_20120925_03491	Laboratory		Hydrobiid P.antipodarum
MSW_20120925_03494	Laboratory		Hydrobiid P.antipodarum
MSW_20120925_03495	Laboratory		Hydrobiid P.antipodarum
MSW_20120925_03496	Laboratory		Hydrobiid P.antipodarum

Photo Number	Site Name	Station code	Notes
MSW_20120925_03497	Laboratory		Hydrobiid P.antipodarum
MSW_20120925_03498	Laboratory		Hydrobiid P.antipodarum
MSW_20120926_03499	Laboratory		Hydrobiid P.ulvae
MSW_20120926_03502	Laboratory		Hydrobiid P.ulvae
MSW_20120926_03504	Laboratory		Hydrobiid P.ulvae
MSW_20120926_03505	Laboratory		Hydrobiid P.ulvae
MSW_20120926_03507	Laboratory		Hydrobiid P.ulvae
MSW_20120926_03508	Laboratory		Hydrobiid P.ulvae
MSW_20120926_03509	Laboratory		Hydrobiid P.ulvae
MSW_20120926_03510	Laboratory		Hydrobiid P.ulvae
MSW_20120926_03511	Laboratory		Hydrobiid P.ulvae
MSW_20120926_03512	Laboratory		Hydrobiid P.ulvae
MSW_20120926_03513	Laboratory		Hydrobiid P.ulvae
MSW_20120926_03562	Laboratory		*Eubranchus exiguus*
MSW_20120926_03563	Laboratory		*Eubranchus exiguus*
MSW_20120926_03564	Laboratory		*Eubranchus exiguus*
MSW_20120926_03569	Laboratory		*Eubranchus exiguus*
MSW_20120926_03570	Laboratory		*Eubranchus exiguus*
MSW_20120926_03571	Laboratory		*Eubranchus exiguus*
MSW_20120926_03577	Laboratory		*Eubranchus exiguus*

APPENDIX 7: LAGOON DESCRIPTIONS

LM01 Loch Portain Lagoons

Area Summary No. 22 in Thorpe *et al.* (1998) **Centre of site** NF 947 719

	LM01.2	LM01.1 & 01.3
Lagoon type	Isolated saline lagoon	Silled lagoon
Area	0.06 ha	?5 ha
Salinity ‰	6.7	LM01.1: 24.85, 29.60; LM01.3: 30.16
Photo nos.	CMH_2547, MSW_03801 - 03840	LM01.1: CMH_2461 - 2467; LM01.3: CMH_2548 – 2554, MSW_03841 - 03860
Date of survey	19/09/2012	17/09/2012; 19/09/2012

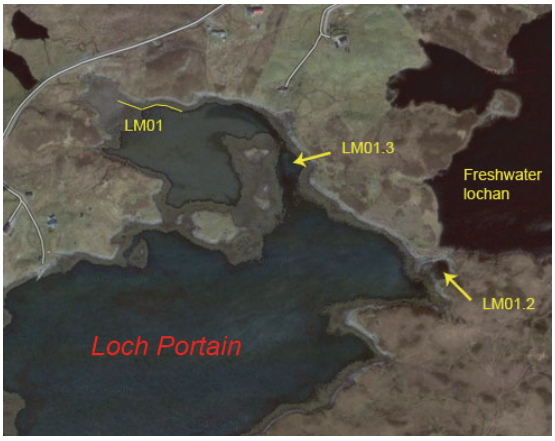

Figure 15a. Overview of lagoons at the head of Loch Portain

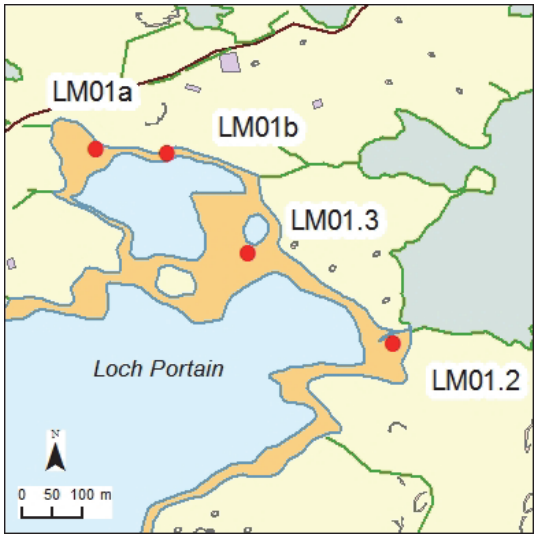

Figure 15b. Location of survey stations in Loch Portain. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 11. Boulder sill and intertidal mud at LM01. Photo no. CMH_20120917_2462

Plate 12. View across lagoon at Station LM01.2, looking towards fresh water inflow. Photo no. MSW_20120919_03801

Plate 13. Fucus ceranoides *at Station LM01.2. Photo no. MSW_20120919_03810*

Description

There are two lagoons at the head of Loch Portain. The more easterly (LM01.2) is a small isolated pool behind a boulder ridge at around mean high water level, lying between a fresh water lochan and Loch Portain. Fresh water from the lochan enters the pool via a small waterfall in the north eastern corner with seawater entering over the boulder ridge at high tide. At low water in Loch Portain, there was a constant flow from the pool down through the fucoids on the boulder ridge. The lagoon floor consists of boulders and coarse sand near the outer sill grading to very soft mud towards the inner waterfall. The brackish fucoid *Fucus ceranoides* and filamentous green algae were common but little else was found. This lagoon is described in Thorpe *et al*. (1998) and no significant changes were noted in 2012.

The westerly lagoon (LM01.1 and 01.3) consists of a basin at the head of Loch Portain with two boulder sills connecting it to the main loch. The northerly channel has a second pool in the centre (LM01.2). The main lagoon floor, which has a fresh water stream running through the centre, consists of intertidal mud dominated by lug worms *Arenicola marina* and amphipods *Corophium volutator* (LM01.1). The boulder barriers are covered with fucoids.

The second smaller basin (LM01.3), which reaches a depth of approximately 2.5 m, is connected to the inner basin (LM01.1) and Loch Portain by intertidal boulder rapids, dominated by fucoids, *Laminaria digitata* and *Laminaria hyperborea*. The basin contained the brown algae *Halidrys siliquosa* and *Chorda filum* in the areas of strong flow with *Arenicola marina* and *Trailiella* in the muddy central area and *Beggiatoa* on sediment out of the main stream. The salinity in both of these basins was slightly lower than in Loch Portain.

Species List

* = Specimen available
[S] = Scottish lagoon specialist, strongly indicative of lagoon conditions
[M] = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals		Plants	
Halichondria panicea	LM01.3	*Hildenbrandia rubra**	LM01.2
Actinia equina	LM01.1	Enc. Corallinaceae indet.	LM01.3
Tubificoides sp.*	LM01.1	*Cystoclonium purpureum**	LM01.3
?*Sabella* sp.	LM01.3	*Rhodophyllis divaricata**	LM01.3
Spirobranchus sp.	LM01.3	*Chondrus crispus**	LM01.3
Nereis sp.*	LM01.2	*Cryptopleura ramosa**	LM01.3
Arenicola marina	LM01.1, LM01.3	*Hypoglossum hypoglossoides*	LM01.3
*Ampithoe rubricata**	LM01.3	*Heterosiphonia japonica**	LM01.3
*Apohyale prevostii**	LM01.1	*Polysiphonia lanosa*	LM01.1
*Gammarus finmarchicus**	LM01.2	*Dictyota dichotoma**	LM01.3
*Eulimnogammarus obtusatus**	LM01.1	*Chorda filum*	LM01.3
*Corophium volutator**	LM01.1	*Laminaria hyperborea*	LM01.3
*Jaera albifrons**	LM01.1	*Laminaria saccharina*	LM01.3
*Jassa falcata**	LM01.3	*Halidrys siliquosa*	LM01.3
*Ligia oceanica**	LM01.2	*Ascophyllum nodosum*	LM01.1, LM01.3
Carcinus maenas	LM01.3	[M] *Fucus ceranoides**	LM01.2
*Littorina obtusata**	LM01.1	*Fucus serratus*	LM01.3
*Littorina saxatilis**	LM01.2	*Fucus spiralis*	LM01.1
Hydrobiidae indet.	LM01.1	*Fucus vesiculosus*	LM01.1, LM01.3
Archidoris pseudoargus	LM01.3	*Pelvetia canaliculata*	LM01.1, LM01.2
*Cerastoderma edule**	LM01.1	Chlorophycota filamentous indet.	LM01.2, LM01.3
Scrobicularia sp.	LM01.1	*Ulva clathrata**	LM01.2
Ciona intestinalis	LM01.3	*Ulva intestinalis**	LM01.2
Ascidiella scabra	LM01.3	*Ulva lactuca**	LM01.3
Botrylloides leachii	LM01.3	*Ulva rigida**	LM01.3
Pomatoschistus pictus	LM01.3	*Cladophora rupestris**	LM01.3
		Lichina pygmaea	LM01.2
		Verrucaria maura	LM01.2
		Beggiatoa sp.	LM01.3

LM02 **Greanacleit Lagoon**

Area Summary No. 23 in Thorpe *et al.* (1998) **Centre of site** NF 925 721

Lagoon type	Silled lagoon
Area	1 ha
Salinity ‰	7.15 (measured at low water)
Photo nos.	CMH_2468 – 2473, CMH_2478 - 2485
Date of survey	17/09/2012

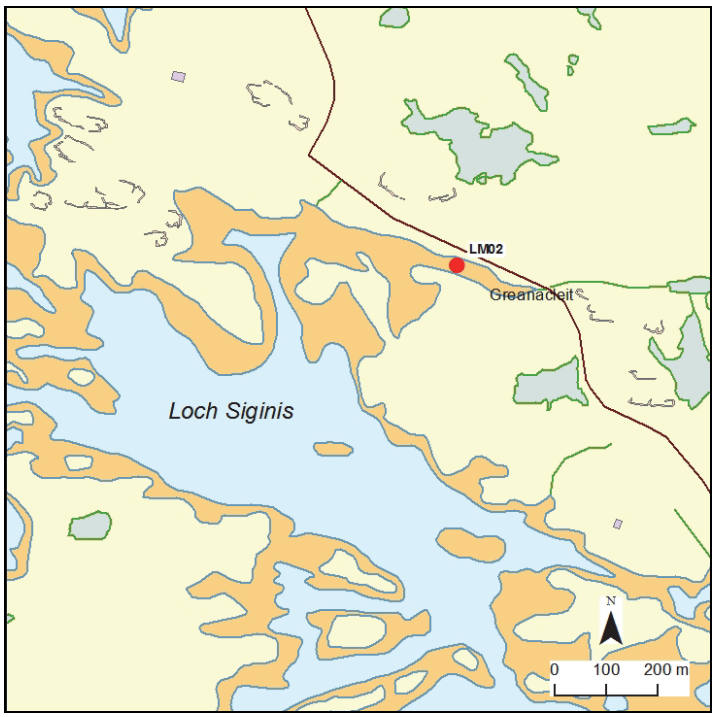

Figure 16. Location of survey station in Greanacleit Lagoon. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 14. Saltmarsh channel at the head of Greanacleit Lagoon. Photo no. CMH_20120917_2470

Plate 15. Man-made causeway forming sill at the entrance to Greanacleit Lagoon. Photo no. CMH_20120917_2484

Description

This lagoon is a very sheltered, elongate inlet behind an intertidal boulder sill with intertidal mud on the Loch nam Madadh side of the sill. The lagoon was dry at low water apart from a fresh water stream running down the centre from a small saltmarsh creek; there is marine influence apparent some distance into the creek, with *Fucus ceranoides* present on the banks. The salinity appears to fluctuate between almost fresh water at low tide to fully marine at high water. It was measured at 7.15 ‰ whereas Thorpe *et al*. (1998) data reported salinities of 30 to 35 ‰**.**

The inlet is fringed by boulders supporting marine fucoids and has a floor of mud mixed with gravel, pebbles, cobbles and containing *Corophium* sp. The gammarid amphipod *Gammarus finmarchicus* was frequent and the red algal crust *Hildenbrandia rubra* was superabundant on the sill.

The lagoon is described in detail in Thorpe *et al.* (1998) and no significant changes were noted.

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
*Nereis sp.**	*Hildenbrandia rubra**
Corophium sp.	M *Fucus ceranoides**
*Gammarus finmarchicus**	*Pelvetia canaliculata*
*Ligia oceanica**	*Ulva clathrata**
*Littorina saxatilis**	*Ulva intestinalis**
	Lichina pygmaea
	Verrucaria maura

LM03 **Loch Dheoir**

Area Summary No. 24 in Thorpe *et al.* (1998) **Centre of site** NF 910 730

Lagoon type	Lagoon inlet
Area	90 ha
Salinity ‰	LM03.1a: 10.60 (HW); LM03.1b: 6.06 (LW); LM03.1c: 26.82 (pool in saltmarsh); LM03.2: 18.85; LM03.3: 23.38; LM03.4: 28.76; LM03.6: 25.93; LM03.7: 25.37; LM03.10: 29.74
Photo nos.	**LM03.1:** MSW_03008 – 03009, MSW_03014 – 03015, MSW_03027 – 03030, MSW_03032 – 03033, MSW_03055 – 03063, MSW_03065 – 03069, MSW_03589 – 03605, MSW_03687 – 03690, MSW_03692 - 03727; **LM03.2:** MSW_03606 – 03622; **LM03.3:** MSW_03623 – 03643; **LM03.4:** MSW_03644 – 03666; **LM03.6/7:** MSW_3667 – 3686; **LM03.10:** MSW_03072, MSW_03075 – 03078, MSW_03080, MSW_03085, MSW_03087, MSW_03089 – 03102, MSW_03104 – 03111, MSW_2, MSW_15 - 28
Date of survey	17 & 18/09/2012

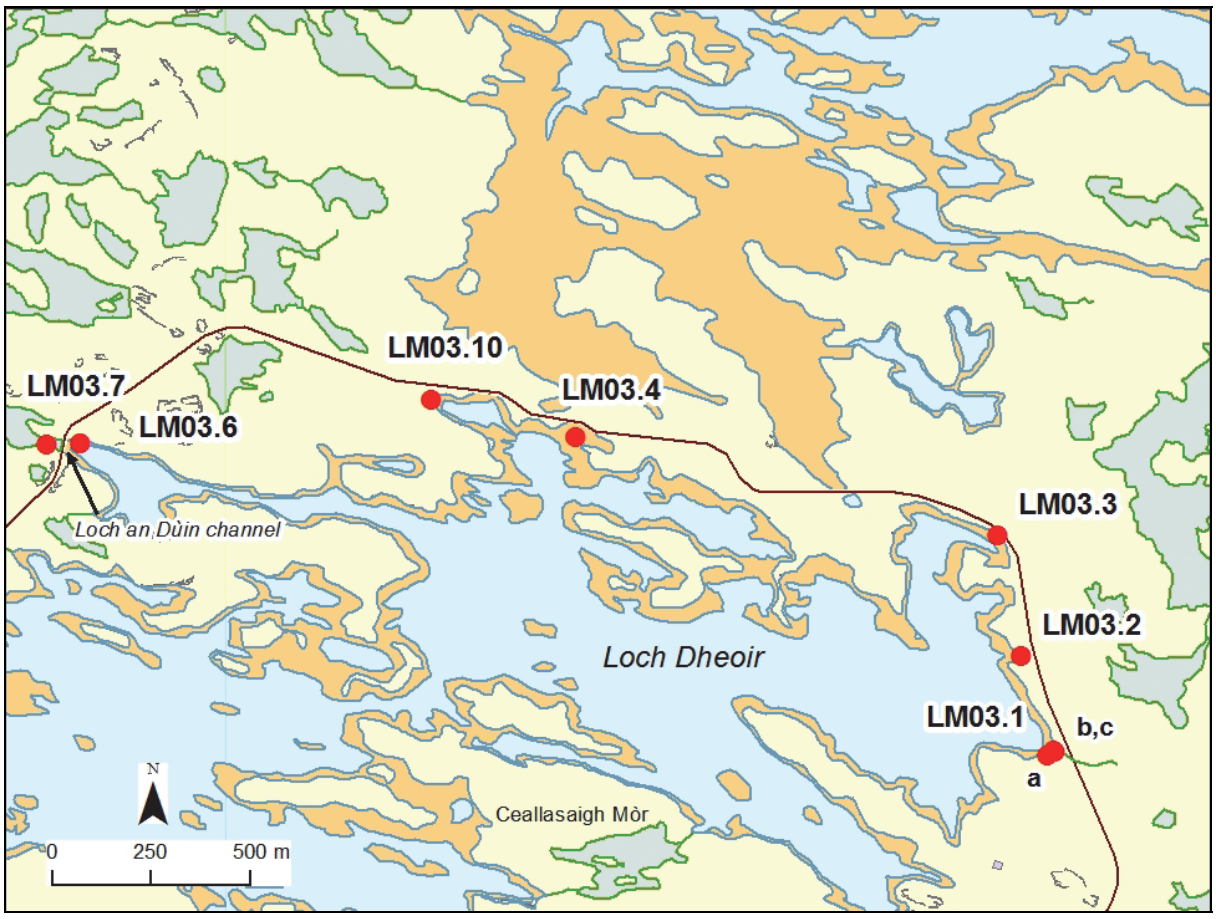

Figure 17. Location of survey stations in Loch Dheoir. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 16. View over Loch Dheoir from Station LM03.4. Photo no. MSW_20120917_03648

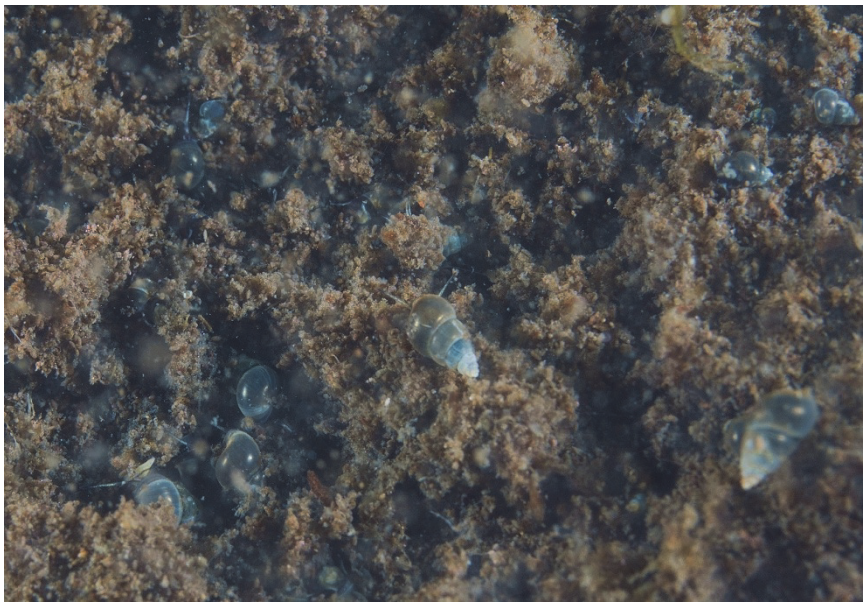

Plate 17. Hydrobiids on flocculent algae in Loch Dheoir (LM03.1). Photo no. MSW_20120917_03076?

Description

Loch Dheoir is a microtidal lagoon complex with a system of inlets, basins and sills which is described in detail in Thorpe *et al*. (1998). The main brackish or fresh water input is via a concrete culvert from Loch an Dùin at Station LM03.6 on Figure 17, with a number of smaller streams entering around the loch basin. Seawater inflow from Loch nam Madadh is over rocky sills connecting Lochs Voiskinish and Siginish to Dheoir. A stream at LM03.1 reduced the salinity to 6 to 10 ‰ whereas the salinity in the rest of the system was measured at 18 to 29 ‰ (Appendix 3.3).

The majority of Loch Dheoir is surrounded by peat bog and saltmarsh with boulders and occasional patches of bedrock in the intertidal zone. These hard substrata support fucoids (*Pelvetia canaliculata*, *Fucus spiralis*, *Fucus vesiculosus*) with lichens in the supralittoral.

Fine mud at LM03.10 was typical of Loch Dheoir and was colonised by occasional *Arenicola marina*, *Hydrobia acuta neglecta*, *Praunus flexuosus, Idotea chelipes, Corophium arenarium* and *Ruppia cirrhosa* with littorinids under stones. The filamentous green algae *Cladophora vagabunda* and *Chaetomorpha ligustica* were both present. Station LM03.1 was similar, with *R. cirrhosa*, green algae including *Ulva clathrata* and a number of sediment-tolerant red algae, notably *Gracilaria gracilis*, *Furcellaria lumbricalis* and *Cystoclonium purpureum*.

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals		Plants	
?Sipuncula indet.*	LM03.10	*Cystoclonium purpureum**	LM03.1
Tubificoides sp.*	LM03.10	*Furcellaria lumbricalis**	LM03.1
Arenicola marina	LM03.10	*Gracilaria gracilis**	LM03.1
*Praunus flexuosus**	LM03.1, LM03.10	*Polysiphonia fucoides**	LM03.1
Amphipoda	LM03.2, LM03.3	*Ascophyllum nodosum*	LM03.4
*Gammarus ?zaddachi**	LM03.1	*Fucus spiralis*	LM03.6
*Corophium arenarium**	LM03.10	*Fucus vesiculosus*	LM03.4, LM03.6, LM03.7
S *Idotea chelipes**	LM03.1, LM03.10	*Pelvetia canaliculata*	LM03.4, LM03.6, LM03.10
Ligia oceanica	LM03.1	*Ulothrix flacca**	LM03.1
*Littorina saxatilis**	LM03.1, LM03.10	*Urospora penicilliformis**	LM03.10
*Skeneopsis planorbis**	LM03.1	*Ulva clathrata**	LM03.1
S *Hydrobia acuta neglecta**	LM03.1, LM03.10	*Cladophora vagabunda/glomerata**	LM03.10
*Turtonia minuta**	LM03.1	*Cladophora vagabunda**	LM03.10
*Walkeria uva**	LM03.1	*Chaetomorpha ligustica**	LM03.10
		Verrucaria spp.	LM03.3
		S *Ruppia cirrhosa**	LM03.1, LM03.10
		Zostera marina	LM03.10

LD Loch an Dùin

Area Summary No. 25 in Thorpe *et al.* (1998) **Centre of site** NF893 733

Lagoon type	Sluiced lagoon
Area surveyed	0.4 ha
Salinity ‰	LD01: 21.39
Photo nos.	**LD01:** MSW_2, MSW_2_2 – 24, MSW_03117 – 03119, MSW_03123 – 03126, MSW_03128 – 03131
Date of survey	LD01: 18/09/2012; LD02: 28/09/2012

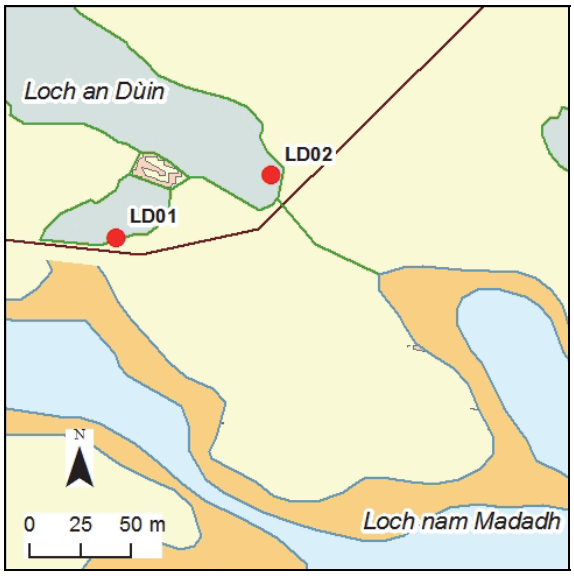

Figure 18. Location of survey stations in Loch an Dùin. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 18. Looking north-east from culvert towards Loch an Dùin (LD01). Photo no. MSW_20120918_2_22

Two stations were surveyed in the south-east corner of Loch an Dùin, where this large brackish lagoon joins Loch nam Madadh. The first (LD01) was in a small pool which is joined

to Loch an Dùin by a rocky rapids and to Loch nam Madadh through a concrete culvert beneath the road. The second station (LD02) also joins Loch nam Madadh through a culvert. The salinity was measured at LD01 as 21 ‰. The loch is surrounded by peat bog in this area, with steep banks of peat mixed, with a small amount of rock, along the shore. The road passes close to the southern shore.

The pool contained a scattered bed of *Ruppia* sp. with large numbers of mysids, including *Neomysis integer* and *Praunus flexuosus*. There were amphipods *Corophium volutator* in the sediment and isopods, including *Jaera albifrons*, a species tolerant of brackish conditions, and the lagoon indicator *Idotea chelipes*.

A detailed description of Loch an Dùin is given in Thorpe *et al*. (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
*Neomysis integer**	M *Ruppia* sp.
*Praunus flexuosus**	
*Corophium volutator**	S *Lamprothamnium papulosum*
*Jaera albifrons**	
S *Idotea chelipes**	
Carcinus maenas	
Hydrobiidae indet.	
Opheliidae indet.*	

LM04 **Aileodair Lagoon**

Area Summary No. 26 in Thorpe *et al.* (1998) **Centre of site** NF 887 724

Lagoon type	Sluiced lagoon
Area	15 ha
Salinity ‰	25.42 (Surface); 25.64 (Bottom); 25.61 (Loch nam Madadh side of culvert)
Photo nos.	CMH_2486 - 2489
Date of survey	17/09/2012

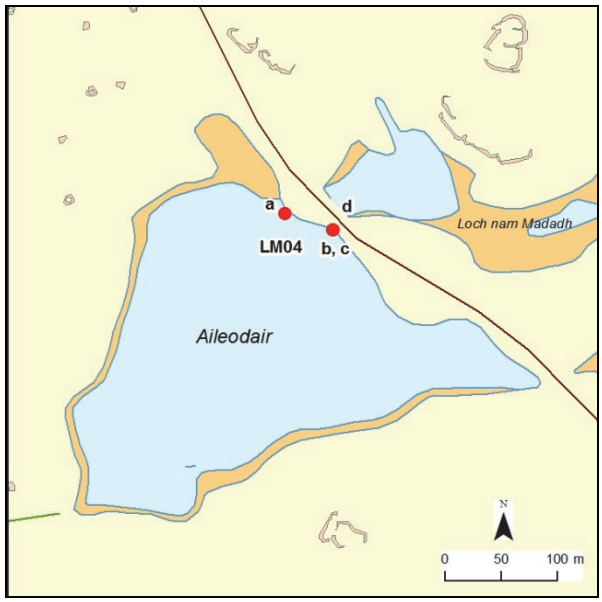

Figure 19. Location of survey stations in Aileodair Lagoon. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 19. View south-east along shoreline (LM04a). Photo no. CMH_20120917_2486

Description

Aileodair Lagoon is a microtidal basin on the north-east corner of Loch nam Madadh, connected to Loch Blasheval by a 1.5 m diameter culvert beneath the A865 road. Freshwater enters the lagoon via a stream in the south-west corner whilst sea water can pass through the culvert at most states of the tide. The salinity, measured on the northern side of the lagoon, was around 25 ‰ in the lagoon and channel with a similar reading obtained in Loch Blashaval. The majority of the lagoon was about 0.5 m deep but it reached 1.5 m in the channel leading to the culvert.

The north-east shore of the lagoon was fringed by boulders, cobbles and sand, with muddier sediment and pebbles in shallow water and becoming increasingly muddy towards the centre of the basin. The sea bed was carpeted with the filamentous green algae *Chaetomorpha linum* and *Chaetomorpha ligustica*, with tasselweed *Ruppia cirrhosa* and eel grass *Zostera marina* forming a mixed bed of grasses. The rare foxtail stonewort *Lamphothamnium papulosum* was present around the edge of this bed. Small gastropods *Hydrobia acuta neglecta* and *Skeneopsis planorbis*, the bivalve *Turtonia minuta* and the hydroid *Laomedea flexuosa* were abundant on the grasses and the snakelocks anemone *Anemonia viridis* was present. Red algae were found on bedrock in the channel leading to the culvert, where the currents were stronger.

Aileodair Lagoon is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
*Laomedea flexuosa**	*Furcellaria lumbricalis**
Actinia equina	*Chondrus crispus*
*Anemonia viridis**	*Phyllophora pseudoceranoides**
Arenicola marina	*Gracilaria gracilis**
*Praunus flexuosus**	*Ceramium secundatum**
S *Idotea chelipes**	*Ascophyllum nodosum*
Carcinus maenas	*Fucus serratus*
*Littorina obtusata**	M *Chaetomorpha linum**
*Littorina saxatilis**	*Chaetomorpha ligustica**
*Skeneopsis planorbis**	*Cladophora* sp. *
S *Hydrobia acuta neglecta**	*Rhizoclonium riparium**
Opisthobranchia indet.*	
*Turtonia minuta**	S *Ruppia cirrhosa**
*Alcyonidium hirsutum**	*Zostera marina**
*Flustrellidra hispida**	
Ascidiella scabra	S *Lamprothamnium papulosum**
*Gasterosteus aculeatus**	
Gobiusculus flavescens	

LM05 **Bac-a-Stoc Lagoon**

Area Summary No. 27 in Thorpe *et al.* (1998) **Centre of site** NF 898 723

Lagoon type	Silled lagoon
Area	2 ha
Salinity ‰	25.58 (mid tide)
Photo nos.	MSW_02, MSW_02_2, MSW_07 – 12, MSW_27 - 52
Date of survey	18/09/2012

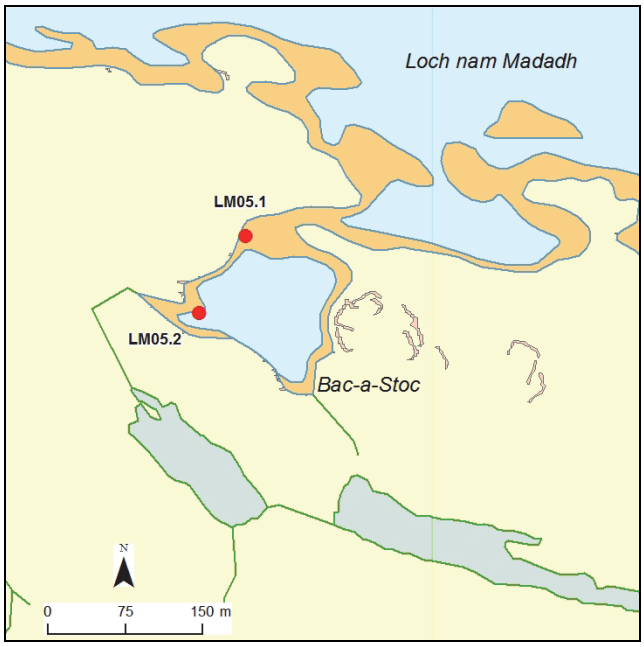

Figure 20. Location of survey stations in Bac-a-Stoc. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 20. View over Loch nam Madadh with fresh water lochan and Bac-a-Stoc in central foreground. Photo no. MSW_20120918_2

Plate 21. View of narrows at LM05.1. Photo no. MSW_20120918_45

Description

Bac-a-Stoc Lagoon is described by Thorpe *et al*. (1998) as a two-basin system; only the western, landward basin was surveyed during the present survey (Fig 20). This basin is surrounded by peat moorland and has fresh water input from streams in the western and south-eastern corners fed by lochans to the south. An intertidal bedrock and boulder sill on the northern side provides the connection to the sea. The salinity in the basin was measured at approximately 25 ‰.

The basin was fringed by boulders with lichens and *Pelvetia canaliculata,* which led to a fine mud plain in 0.5 m. The mud supported the lugworm *Arenicola marina*, *Corophium volutator* and prawns with mysids occasional in the water column. The eel grass *Zostera noltei* was abundant and there were shoals of three-spine sticklebacks.

The boulder and bedrock sill had a more diverse flora and fauna. Angular boulders and cobbles in the shallows were covered in *Fucus vesiculosus* and *Fucus spiralis* and there was a mat of mussels *Mytilus edulis* on cobbles at the base of the boulders with *Actinia equina* in the interstices. Other species included *Carcinus maenas*, *Ascidiella scabra*, *Arenicola marina* and *Littorina littorea*. A peat channel near the sill had the beadlet anemone *Actinia equina*, fucoids and the red alga *Furcellaria lumbricalis*.

Bac-a-Stoc Lagoon is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
[S] = Scottish lagoon specialist, strongly indicative of lagoon conditions
[M] = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
*Laomedea flexuosa**	*Furcellaria lumbricalis**
Obelia dichotoma	*Ceramium botryocarpum**
Actiniaria indet. *	*Pelvetia canaliculata*
Actinia equina	*Fucus serratus*
Sagartiogeton laceratus? *	*Fucus spiralis*
Tubificoides sp.*	*Fucus vesiculosus*
Arenicola marina	
*Spirorbis spirorbis**	*Zostera noltei**
*Neomysis integer**	
*Praunus flexuosus**	
*Corophium volutator**	
*Ligia oceanica**	
Carcinus maenas	
Polyplacophora indet.*	
Littorina littorea	
*Littorina saxatilis**	
*Skeneopsis planorbis**	
[S] *Hydrobia acuta neglecta**	
*Mytilus edulis**	
Musculus sp. juv (prob *M. discors)* *	
*Turtonia minuta**	
Ascidiella scabra	
Gasterosteus aculeata	

LM06 **Loch Collastrome**

Area Summary No. 38 in Thorpe *et al.* (1998) **Centre of site** NF 902 702

Lagoon type	Silled lagoon
Area	1 ha
Salinity ‰	LM06.1: 18.05; LM06.2: 16.69; LM06.3: 31.44 (outside culvert at mid tide)
Photo nos.	**LM06.1:** CMH_2490 – 2495, CMH_2504 – 2506; **LM06.2:** CMH_2496 – 2498; **LM06.3:** CMH_2499 – 2503
Date of survey	18/09/2012

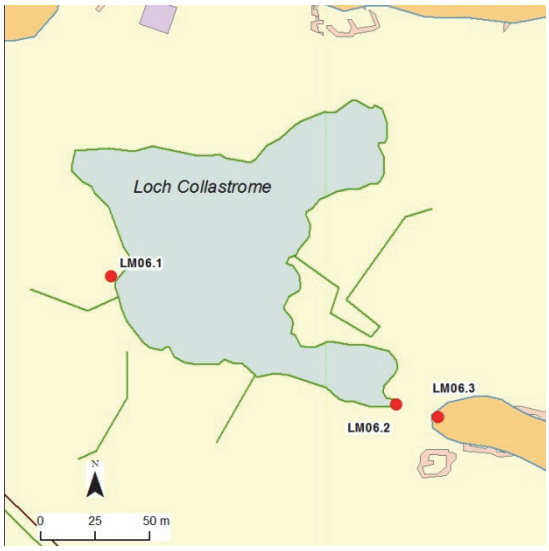

Figure 21. Location of survey stations in Loch Collastrome Lagoon. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 22. View over Loch Collastrome from Station LM06.1. Photo no. CMH_20120918_2490

Description

Loch Collastrome is a small rocky basin surrounded by grazed grassland. It is connected to Loch Mhidhinis via a shallow gravel and cobble sill which becomes a rocky slope running down into the loch. The sill is culverted beneath a track and as the lagoon is elevated above the level of the main loch, seawater ingress is only possible at high water. Fresh water enters the lagoon from a number of small streams. Salinity in the basin was measured at 16 to 18 ‰ whereas the salinity seaward of the sill was recorded at 31 ‰. There is no perceptible tide.

The lagoon floor close to the bank consisted of mixed stony and sandy gravel which graded to soft flocculent mud in the centre. A short green algal turf with more substantial clumps of filamentous green algae covered the floor around the edges; this consisted of a mixture of *Cladophora* species, *C. glomerata*, *C. coelothrix* and *C. sericea*. A mixed bed of tasselweed *Ruppia cirrhosa* and *R. maritima* dominated the softer sediments and there was a bed of an emergent reed towards the culvert. Mysids and three-spined sticklebacks were present in the water column.

Loch Collastrome is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
Arenicola marina	*Ascophyllum nodosum*
*Neomysis integer**	Chlorophycota filamentous indet
Gammarus sp*	*Percusaria percursa**
*Corophium volutator**	*Cladophora glomerata**
Jaera "albifrons" group*	*Cladophora coelothrix**
*Potamopyrgus antipodarum**	*Cladophora sericea**
*Gasterosteus aculeatus**	*Rhizoclonium riparium**
	S *Ruppia cirrhosa**
	M *Ruppia maritima**

LM07 **Loch Houram Lagoon**

Area Summary No. 30 in Thorpe *et al.* (1998) **Centre of site** NF 915 696

Lagoon type	Silled lagoon
Area	37 ha (only part surveyed)
Salinity ‰	LM07.1a: 30.72; LM07.1b: 24.57 LM07.2a: 27.16; LM07.2b: 28.65; LM07.2c/d: 28.64 (outer), 28.61 (inner)
Photo nos.	**LM07.1:** CMH_2507 – 2529; **LM07.2:** CMH_2530 – 2546, CMH_2661 - 2668
Date of survey	18/09/2012

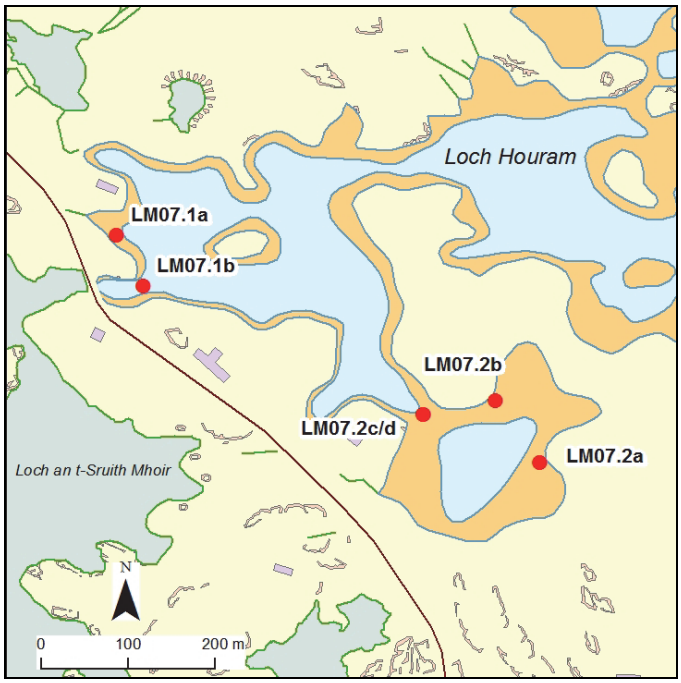

Figure 22. Location of survey stations in Loch Houram. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 23. Looking across Loch Houram at LM07.1a. Photo no. CMH_20120918_2507

Plate 24. Fucoids on intertidal sediment in Loch Houram at LM07.1a. Photo no. CMH_20120918_2535

Description

Loch Houram is a large tidal lagoon that lies between the brackish Loch an t-Sruith Mhoir and the marine Loch nam Madadh. It is predominantly marine, with salinities measured in the range 24 – 30 ‰. There is a significant brackish water inflow through the large rapids connecting Houram with an t-Sruith Mhoir but there is no major fresh water input. A tidal channel, Sponish rapids, connects Loch Houram to Loch nam Madadh and there are shallow channels connecting the inner basins to the main body of Loch Houram. Site LM07.2 has intertidal boulder rapids at its entrance whilst there is a narrow rocky channel between LM07.1 and the outer basin.

The north-western arm at LM07.1 is fringed by boulders and saltmarsh with the fucoids *Pelvetia canaliculata*, *Fucus vesiculosus* and *Ascophyllum nodosum* on the boulders. There is soft mud and gravel with a thin layer of peat debris on the sediment surface in shallow water. *Fucus cottoni* was present on the peat banks around the edge of the channel.

The south-eastern basin is by grass patches, small to medium boulders and sand, with small intertidal areas of cobbles on mud with fucoids on the cobbles. A rock wall on the west side supported fucoids, *Littorina littorea* and a few *Semibalanus balanoides*. At Station LM07.2b soft mud at the base of the rock wall supported a bed of the tasselweed *Ruppia cirrhosa* with very silty plants, and a population of the polychaete *Ampharete ?acutifrons*. The sill (LM07.2c/d) consisted of boulders dominated by the fucoids *Ascophyllum nodosum* and *Fucus vesiculosus*. This area was very shallow with a fast tidal flow. The loch bed just inside the sill consisted of cobbles with abundant shell debris, grading to mud within a short distance from the sill; *Cerastoderma edule* was present in the sediment here.

Loch Houram Lagoon is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
[S] = Scottish lagoon specialist, strongly indicative of lagoon conditions
[M] = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals		Plants	
*Halichondria panicea**	LM07.2	*Catenella caespitosa**	LM07.1
Dynamena pumila	LM07.2	*Gracilaria gracilis**	LM07.2
Actiniaria indet. *	LM07.2	*Ceramium deslongchampii**	LM07.2
*Hediste diversicolor**	LM07.2	*Ceramium pallidum**	LM07.2
Tubificoides sp.*	LM07.2	*Ceramium secundatum**	LM07.2
Arenicola marina	LM07.1, LM07.2	Chromophycota indet.*	LM07.2
*Ampharete ?acutifrons**	LM07.2	*Ascophyllum nodosum*	LM07.1, LM07.2
Semibalanus balanoides	LM07.1, LM07.2	*Fucus cottoni*	LM07.1
*Praunus flexuosus**	LM07.1, LM07.2	[M] *Fucus ceranoides*	LM07.1
Amphipoda indet.	LM07.2	*Fucus serratus*	LM07.2
*Calliopius laeviusculus**	LM07.2	*Fucus spiralis*	LM07.1, LM07.2
*Apohyale prevostii**	LM07.2	*Fucus vesiculosus*	LM07.2
*Echinogammarus marinus**	LM07.2	*Pelvetia canaliculata*	LM07.1, LM07.2
*Echinogammarus stoerensis**	LM07.2	*Ulva* sp.	LM07.2
*Eulimnogammarus obtusatus**	LM07.1, LM07.2	*Ulothrix sp. **	LM07.1
[S] *Idotea chelipes**	LM07.2	*Cladophora rupestris**	LM07.2
*Crangon crangon**	LM07.2		
*Carcinus maenas**	LM07.1	*Verrucaria* spp.	LM07.1, LM07.2
Polyplacophora indet.*	LM07.2		
*Littorina littorea**	LM07.1, LM07.2	[S] *Ruppia cirrhosa*	LM07.2
*Littorina obtusata**	LM07.2		
*Littorina saxatilis**	LM07.1, LM07.2	*Armeria maritima*	LM07.2
*Peringia ulvae**	LM07.1, LM07.2		
*Mytilus edulis**	LM07.2		
*Cerastoderma edule**	LM07.2		
Ascidiella scabra	LM07.2		
Syngnathus sp.*	LM07.2		
Taurulus bubalis	LM07.2		
?Platichthys sp.*	LM07.1		

LM09 **Ob nan Stearnain**

Area Summary No. 32 in Thorpe *et al.* (1998) **Centre of site** NF 912 687

Lagoon type	Silled lagoon
Area	10 ha
Salinity ‰	LM09.1: 30.91; LM09.2: 31.02; LM09.3: 30.39
Photo nos.	**LM09.1:** NH_26 – 28**; LM09.2:** NH_29 – 34; **LM09.3:** NH_35 – 37
Date of survey	19/09/2012

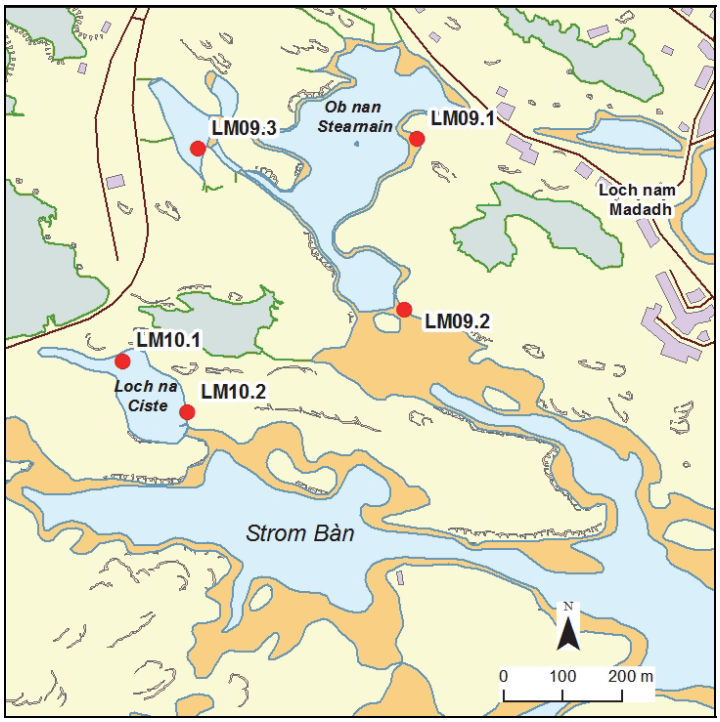

Figure 23. Location of survey stations in Ob nan Stearnain. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 25. Looking north-west across boulder sill at Station LM09.2. Photo no. 20120919_NH_0029

Plate 26. Grassland surrounding the lagoon basin (LM09.3). Photo no. 20120919_NH_0035

Description

Ob nan Stearnain is a microtidal silled lagoon with a boulder sill at mean high water level connecting the main basin to Strom Ban. There are further boulder sills leading to two small basins on the western side of the lagoon. There is a small fresh water input from streams and Ob nan Stearnain is almost fully marine with salinities measured at about 30 ‰.

The main lagoon basin is surrounded by grassland which extends to the lagoon edges with water flooding onto the land at high water. The water's edge is fringed with small lichen-covered boulders. A mixed bed of tasselweed *Ruppia cirrhosa* and eelgrass *Zostera noltei* in shallow water progressed to continuous grasses towards the centre of the lagoon. The foxtail stonewort *Lamprothamnium papulosum* and the filamentous green algae *Cladophora glomerata* and *Chaetomorpha linum* were mixed with the grasses around the lagoon edge. The substratum of fine gravelly sand with boulders and pebbles changes gradually to muddy sand in the centre, with occasional boulder fields in the seagrass.

The north-western basin (LM09.3) was floored with soft flocculent mud supporting the amphipod *Corophium volutator*, the isopod *Idotea chelipes*, mysids *Praunus flexuosus* and sparse *Ruppia cirrhosa*; the tasselweed became denser towards the centre of the lagoon area of this station. There were some boulders present towards the sill but the site was generally boggy with peat debris left in the sieves.

The sill connecting the main northern basin to Strom Ban consisted of boulders and cobbles with fringing bedrock. The rock surfaces were covered with *Pelvetia canaliculata*, *Fucus vesiculosus*, *Fucus serratus* and *Ascophyllum nodosum*. Littorinids and *Peringia ulvae* were common and mussels *Mytilus edulis* was occasional.

Ob nan Stearnain is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
*Laomedea flexuosa**	*Furcellaria lumbricalis**
Actinia equina	*Rhodomela confervoides**
*Hediste diversicolor**	*Ascophyllum nodosum*
Tubificoides sp.*	*Fucus serratus**
*Spirobranchus triqueter**	*Fucus vesiculosus**
Ostracoda indet.*	*Pelvetia canaliculata**
*Praunus flexuosus**	M *Chaetomorpha linum**
Amphipoda indet.*	*Cladophora glomerata**
Gammarus sp.*	*Cladophora* sp. *
*Ampithoe rubricata**	*Cladophora albida**
*Corophium volutator**	
*Jaera forsmani**	S *Ruppia cirrhosa**
S *Idotea chelipes**	*Zostera noltei**
*Ligia oceanica**	
*Carcinus maenas**	S *Lamprothamnium papulosum**
*Littorina littorea**	
*Littorina obtusata**	
*Littorina saxatilis**	
S *Hydrobia acuta neglecta**	
*Peringia ulvae**	
*Mytilus edulis**	
*Flustrellidra hispida**	
*Electra pilosa**	

LM10 **Loch na Ciste**

Area Summary No. 33 in Thorpe *et al.* (1998) **Centre of site** NF 918 683

Lagoon type	Silled lagoon
Area	10 ha
Salinity ‰	LM10.1: 8.09; LM10.2: 8.40
Photo nos.	**LM10.1:** MSW_03933 – 03938, MSW_03941 – 03948; **LM10.2:** NH_2050 - 2063
Date of survey	20/09/2012

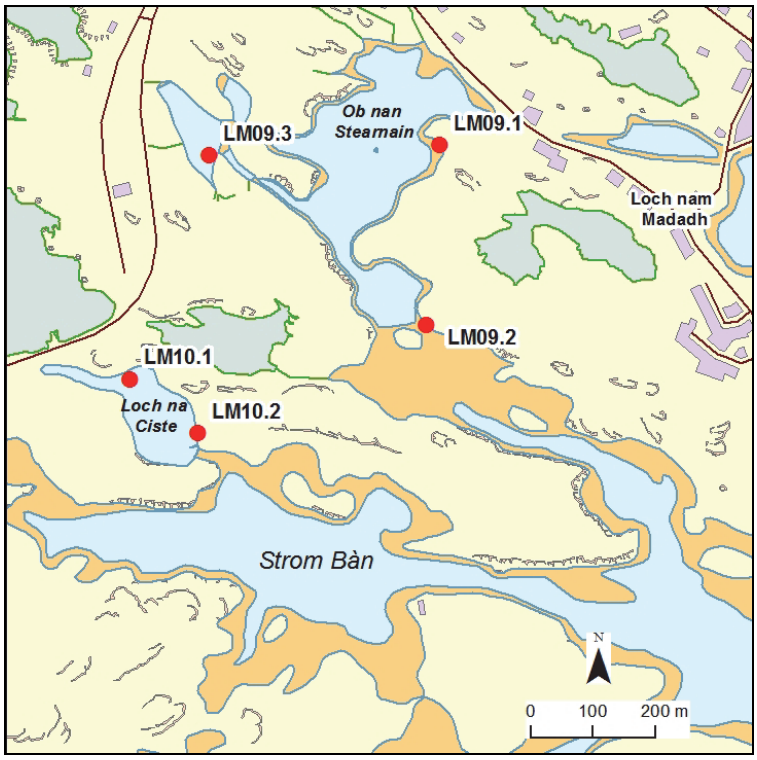

Figure 24. Location of survey stations in Loch na Ciste. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 27. View across Loch na Ciste from Station LM10.1. Photo no. MSW_20120920_03942

Plate 28. View of the caissoned stone wall and remains of salmon grid across the tidal rapids (LM10.2). Photo no. 20120920_NH_2051

Plate 29. View across Loch na Ciste from Station LM10.1. Photo no. MSW_20120920_03934

Description

Loch na Ciste is a small, microtidal lagoon approximately 3 m higher than Strom Bàn with a salinity measured at around 8 ‰. Freshwater enters the lagoon from a lochan near the road edge at LM10.1 whilst there is a sea water connection to Strom Bàn in the south east corner. This is an intertidal boulder rapids which allows ingress of sea water only at high tide. A caissoned stone wall has been built across the rapids with a central opening, the remains of a salmon ranching project (Thorpe *et al.*, 1998). At one time this would have had a grille across the opening but at the time of survey this was lying to one side (Plate 28).

The lagoon is surrounded by grassland with the water body fringed by lichen-covered angular boulders. Gravelly sand near the water's edge grades to fine mud further out into the basin, supporting *Ruppia maritima*, filamentous green algae and abundant gastropods (*Potamopyrgus antipodarum* and *Peringia ulvae*). Gobies *Pomatoschistus* sp., sticklebacks *Gasterosteus aculeatus*, brown shrimp*Crangon crangon* and the shore crab *Carcinus maenas* were all present.

Loch na Ciste is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
*Gammarus finmarchicus**	*Chromophycota* indet.*
Crangon crangon	*Chlorophycota* filamentous indet.*
Carcinus maenas	*Ulva intestinalis**
Cerastoderma sp.*	*Percusaria percursa**
*Peringia ulvae**	
*Potamopyrgus antipodarum**	M *Ruppia maritima**
*Gasterosteus aculeatus**	
Pomatoschistus sp.	
Chironomid larvae*	

LM11 **Bàgh Leireabhagh**

Area Summary No. 34 in Thorpe *et al.* (1998) **Centre of site** NF 910677

Lagoon type	Lagoon inlet
Area	9 ha
Salinity ‰	LM11.1a: 6.86(s), 30.83(b); 1b: 13.78(s), 22.20(b); 1c: 30.81(s), 31.83(b); LM11.2: 31.84(s), 31.86(b); LM11.3: 31.95(s)
Photo nos.	**LM11.1:** MSW_03891 – 03906; **LM11.2:** MSW_03907 – 03932
Date of survey	20/09/2012

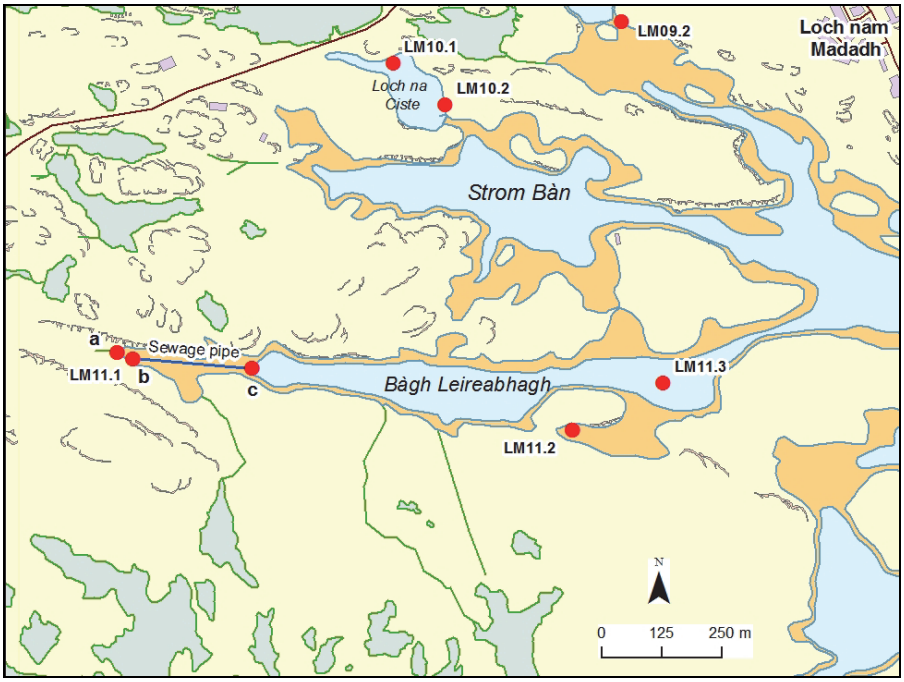

Figure 25. Location of survey stations in Bàgh Leireabhagh. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 30. Looking east from Station LM11.1c. Photo no. MSW 20120920_03894

Plate 31. Freshwater inlet at the head of the system (LM11.1). Photo no. MSW 20120920_03905

Plate 32. View across sill looking north-east towards LM11.3. Photo no. MSW 20120920_03922

Plate 33. Unpleasant brown scum on water surface at LM11.1. Photo no. MSW 20120920_03902

Description

Bàgh Leireabhagh is a long narrow inlet in the south-west corner of the Loch nam Madadh system. Fresh water enters the loch through burns at the head of the system (LM11.1) and along the south side. There is a seawater connection to Loch nam Madadh via a tidal narrows at the entrance. This is approximately 1 m deep at low water and so there is a seawater connection at all states of the tide. The majority of the basin is fully marine, with salinities measured at 30 to 31 ‰, but there was fresh water on the surface at the very head of the loch with surface salinities measured at 6.86 ‰ (1a), 3.78 ‰ (1b) and 30.81 ‰ (1c).

A sewage pipe runs down the centre of the intertidal area at the head of the loch, discharging into the lagoon, and the surface water was covered with an unpleasant brown scum at the time of survey.

The head of the lagoon was surrounded by grassland and fringed with angular boulders and cobbles with the black lichen *Verrucaria maura* and the fucoids *Fucus spiralis* and *Pelvetia canaliculata*. There was poorly sorted gravel at the water's edge mixed with highly silted cobbles. Littorinids and the amphipod *Eulimnogammarus obtusatus* were present.

The small embayment on the south side of the lagoon is separated from the main basin by a boulder sill which was approximately 1.4 m deep. The basin floor consisted of small angular boulders, cobbles, and pebbles over muddy gravel with an anoxic layer at about 2 cm. The boulders were covered by the fucoids *Ascophyllum nodosum*, *Fucus spiralis* and *Pelvetia canaliculata* and there were lugworms *Arenicola marina* and amphipods *Corophium volutator* in the sediment.

Bàgh Leireabhagh is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
Arenicola marina	*Ascophyllum nodosum*
Semibalanus balanoides	*Fucus spiralis*
*Eulimnogammarus obtusatus**	*Pelvetia canaliculata*
*Corophium volutator**	
Jaera "*albifrons*" group*	*Lichina pygmaea*
Crangon sp. [juv] *	*Verrucaria maura*
*Carcinus maenas**	
Littorina littorea	*Beggiatoa* sp.
*Littorina obtusata**	
*Littorina saxatilis**	
Pomatoschistus sp.	
?Platichthys sp.	

C01 Loch Leòdasaigh

Area Summary No. 43 in Thorpe *et al.* (1998) **Centre of site** NF 810630

Lagoon type	Silled lagoon
Area	30 ha
Salinity ‰	C01.1: 7.77; C01.2: 7.67; C01.3: 8.65;
Photo nos.	C01.1: NH_2174 - 2177; C01.2: NH_2178 - 2180; C01.3: SA_214 - 234
Date of survey	26/09/2012

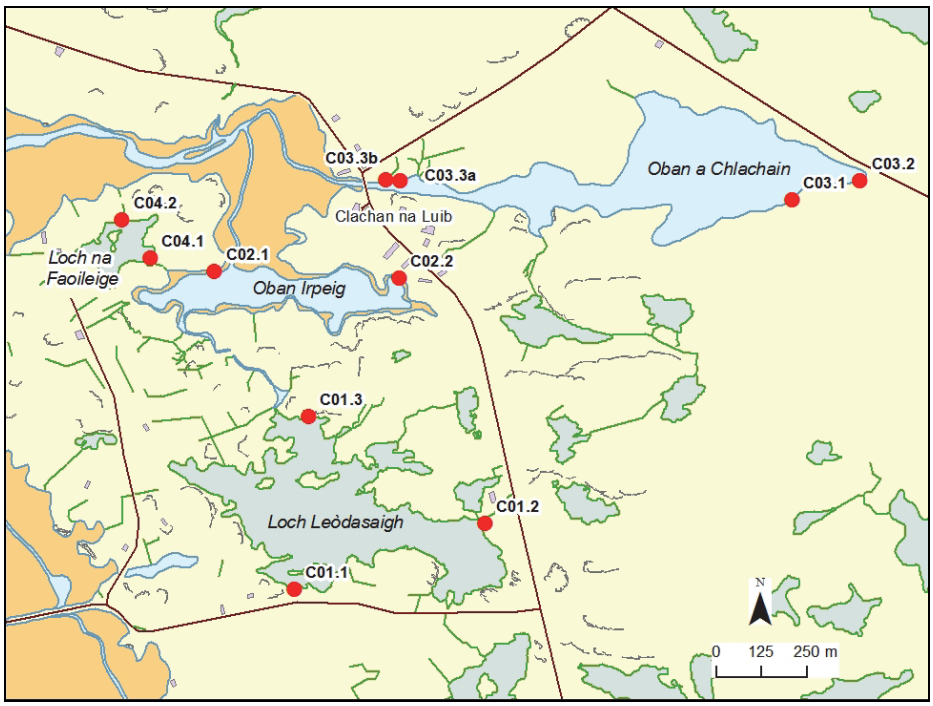

Figure 26. Location of survey stations in Loch Leòdasaigh. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 34. Channel connecting Loch Leòdasaigh with Oban Irpeig, looking south-east towards Loch Leòdasaigh. Photo no. 20120926_SA_215

Plate 35. View south over Loch Leòdasaigh from Station C01.3. Photo no. 20120926_SA_227

Description

Loch Leòdasaigh is part of the Clachan system of lochs, connected to the sea through Oban Irpeig via a long twisting channel with a series of boulders sills and basins. A small road with a culvert crosses the channel about half way along. Freshwater enters the loch from several burns which drain nearby lochans. The salinity in the loch at the time of survey was very low, at 7 to 8 ‰.

The loch is surrounded by boggy grassland and heather moor with lichen-covered boulders and some bedrock fringing the waterline. The sediment floor consisted of gravelly muddy sand with cobbles and pebbles, colonised by fresh water plants including water milfoil *Myriophyllum* sp. A few species of brackish water green algae were found, including *Urospora penicilliformis*, *Ulva intestinalis*, *Cladophora* sp. and *Rhizoclonium riparium*. The hydrobiid *Potamopyrgus antipodarum* was common on stones and the amphipod *Gammarus finmarchicus* and isopods *Lekanesphaera hookeri* and *Jaera nordmanni* were frequent. Sticklebacks *Gasterosteus aculeatus* were present.

Loch Leòdasaigh is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
Copepoda indet.	Chromophycota indet.
Gammarus sp.*	*Urospora penicilliformis**
*Gammarus finmarchicus**	*Ulva intestinalis**
S*Lekanesphaera hookeri**	*Cladophora* sp.*
*Jaera nordmanni**	*Rhizoclonium riparium**
*Potamopyrgus antipodarum**	Fresh water plants
*Gasterosteus aculeatus**	

C02 Oban Irpeig

Area Summary No. 44 in Thorpe *et al.* (1998) **Centre of site** NF 808 637

Lagoon type	Lagoon inlet
Area	16 ha
Salinity ‰	C02.1: 25.07; C02.2: 21.45
Photo nos.	C02.1: NH_2163 – 2169; C02.2: NH_2170 - 2173
Date of survey	26/09/2012

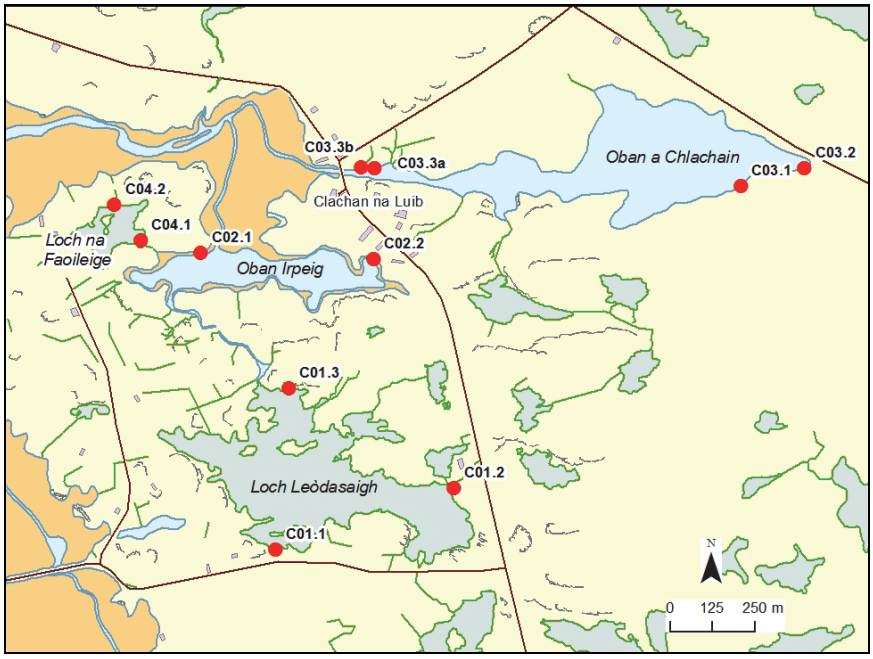

Figure 27. Location of survey stations in Oban Irpeig. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 36. Looking east across boulder sill at Station C02.1. Lagoon on right of photograph. Photo no. 20120926_NH_2164

Plate 37. View over Oban Irpeig from Station C02.2. Photo no. 20120926_NH_2172

Description

Oban Irpeig is part of the Clachan system of lochs and is a single basin connected to the sea on the west of North Uist by a submerged boulder sill on its northern side. On the southern side, a long, twisting channel joins Oban Irpeig to Loch Leòdasaigh which is almost fresh water. Salinity was measured at 21 ‰ in the eastern part of the basin and at 25 ‰ near the sill. This compares with values of 30 to 34 ‰ reported by Thorpe *et al*. (1998).

The loch is surrounded by grazing land and has a shoreline of large and medium boulders covered with grey and white lichens. The sublittoral sediment is muddy with scattered pebbles and gravel. The flora was marine in nature, with the fucoids *Pelvetia canaliculata*, *Fucus spiralis, Fucus vesiculosus* and *Fucus serratus* on the shoreline, and the large brown algae *Chorda filum* and *Halidrys siliquosa* in the sublittoral. The green *Codium fragile* was also found. The animals recorded included the mysids *Neomysis integer* and *Praunus flexuosus* and the isopod *Idotea chelipes*, which were generally common in brackish habitats in the Uists, along with the estuarine sand goby *Pomatoschistus microps.* Thorpe *et al*. (1998) reported beds of *Ruppia maritima* and *Zostera* spp.; these were not recorded in 2012 and, with different sampling stations, may have been overlooked.

Oban Irpeig is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
Laomedea flexuosa	*Ceramium nodulosum**
*Hediste diversicolor**	Chromophycota indet.
Tubificoides sp.*	Ectocarpaceae indet.*
*Spirorbis spirorbis**	*Chorda filum*
Ostracoda indet.*	*Halidrys siliquosa*
Neomysis integer	*Fucus serratus*
*Praunus flexuosus**	*Fucus spiralis*
*Gammarus ?locusta**	
	Fucus vesiculosus
*Idotea chelipes**	*Pelvetia canaliculata*
*Carcinus maenas**	Chlorophycota filamentous indet.
*Littorina saxatilis**	*Cladophora sericea**
Ascidiella scabra	*Codium fragile fragile**
*Pomatoschistus microps**	

C03 **Oban a' Chlachain**

Area Summary No. 45 in Thorpe *et al.* (1998) **Centre of site** NF 820 640

Lagoon type	Sluiced lagoon
Area	19 ha
Salinity ‰	C03.1: 26.81; C03.2: 26.50; C03.3: 27.17
Photo nos.	C03.1: SA_141 – 169; C03.2: SA_170 – 198; C03.3: SA_199 – 213
Date of survey	26/09/2012

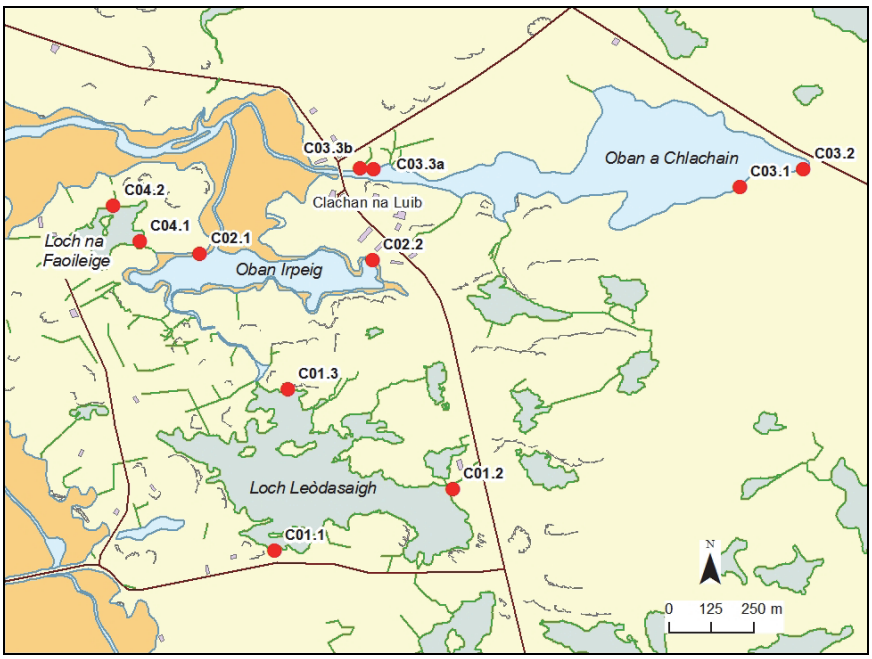

Figure 28. Location of survey stations in Oban a' Chlachain. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 38. View over Oban a' Chlachain from Station C03.1. Photo no. 20120926_SA_163

Plate 39. Causeway with culverts at Station C03.3. Photo no. 20120926_SA_213

Plate 40. Underboulder fauna with Dendrodoa grossularia*,* bryozoan *and sponge crusts (C03.1). Photo no. 20120926_SA_154*

Plate 41. Underboulder fauna with juvenile Cerastoderma *sp. and* Mytilus edulis *(C03.2). Photo no. 20120926_SA_187*

Description

Oban a' Chlachain is part of the Clachan system of lochs and lies close to the junction of the A865 and A867 roads. It is connected to the sea on its western side via a channel that passes through a culvert beneath the A865 road. The channel has a maximum depth of 3 m and so seawater can enter at all states of the tide. The lagoon itself has a maximum depth of 6 m and is microtidal. The main input of fresh water is from a burn on the southern side of the loch. The salinity was high, measured at 26 to 27 ‰ at the time of survey, values which are similar to those reported by Thorpe *et al*. (1998).

The shoreline in the eastern part of the loch was steeply sloping, with large lichen-covered boulders at the water's edge. The fucoids *Fucus serratus, Fucus vesiculosus* and *Ascophyllum nodosum* were present on the shallow boulders. In the sublittoral the lagoon floor graded from muddy sand to soft mud and supported a bed of mixed eel grass *Zostera marina* and tasselweed *Ruppia cirrhosa*. *Cerastoderma* sp. was present in the sediment and the green algae *Chaetomorpha linum*, *Ulva intestinalis* and *Ulva ?flexuosa* were frequent.

Mysids *Praunus flexuosus* and *Praunus inermis* and the isopods *Lekanesphaera hookeri*, *Jaera forsmani* and *Idotea chelipes* were collected.

The channel at the western end of the loch was formed of silty bedrock and boulders. The fucoids *Fucus spiralis*, *Fucus vesiculosus* and *Fucus serratus* were all present. The fauna included the sponge *Halichondria panicea* and the ascidians *Ciona intestinalis*, *Ascidiella scabra* and, under boulders, *Dendrodoa grossularia.*

A major storm in January 2005 caused widespread flooding in the Uists, with the water level reaching 4.7 m OD at the Oban a' Chlachain causeway (Angus & Rennie, 2014). A large volume of seawater was trapped in Oban a' Chlachain for up to three days and there was concern that this might have affected the long term distribution of lagoon specialist species within the loch. The causeway and culverts were reconstructed in 2006 when the salinity regime is thought to have reverted to pre-storm levels. The only records of hydrobiids from the lagoon prior to the storm were those of Smith (1987) who reported *Peringia ulvae* and *Ecrobia ventrosa*, but kept no specimens for verification. Subsequent studies have only found *Hydrobia acuta neglecta* (Chevalier *et al.*, 2014, and the present study); it is not known whether the storm is the cause of this apparent shift in species distribution.

Oban a' Chlachain is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
Enc. Porifera indet.	*Ascophyllum nodosum*
*Halichondria panicea**	*Fucus serratus*
*Aurelia aurita**	*Fucus spiralis*
Actiniaria indet.	*Fucus vesiculosus*
*Micrura ?fasciolata**	*Ulva ?flexuosa**
Nereis sp. *	*Ulva intestinalis**
*Spirorbis spirorbis**	M*Chaetomorpha linum**
*Praunus flexuosus**	
*Praunus inermis**	S*Ruppia cirrhosa**
?Dexaminidae indet.*	*Zostera marina**
Gammarus sp.*	
*Gammarus finmarchicus**	
*Melita palmata**	
*Ampithoe rubricata**	
S*Lekanesphaera hookeri**	
Jaera "albifrons" group*	
*Jaera forsmani**	
S*Idotea chelipes**	
*Littorina littorea**	
*Littorina obtusata**	
*Littorina saxatilis**	
*Skeneopsis planorbis**	
*Rissoa interrupta**	
M*Onoba aculeus**	
*Pusillina ?inconspicua**	
*Pusillina sarsi**	
Hydrobiidae indet.	
S*Hydrobia acuta neglecta**	
Mytilus edulis	
Musculus sp. juv. (prob *M. discors)* *	
*Musculus discors**	
Cerastoderma sp. * juvs.	
Enc. Bryozoa indet.	
*Ciona intestinalis**	
Ascidiella scabra	
*Dendrodoa grossularia**	

C04 **Loch na Faoileige**

Not reported in Thorpe *et al.* (1998) **Centre of site** NF 820 640

Lagoon type	Silled lagoon
Area	2.2 ha
Salinity ‰	C04.1: 17.70; C04.2: 17.76
Photo nos.	C04.1: NH_2150 – 2154; C04.2: NH_2155 - 2162
Date of survey	26/09/2012

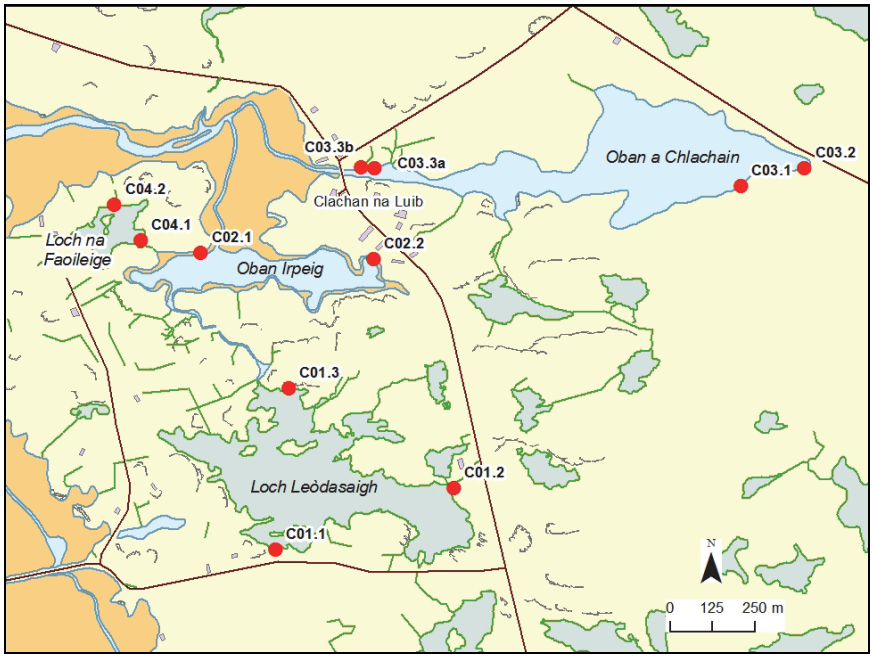

Figure 29. Location of survey stations in Loch na Faoileige. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 42. View over Loch na Faoileige from Station C04.1. Photo no. 20120926_NH_2153

Plate 43. Connection between Loch na Faoileige and saltmarsh at Station C04.2. Photo no. 20120926_NH_2156

Description

Loch na Faoileige is a small microtidal lagoon on the west side of the Clachan system. It is marked as fresh water on the Ordnance Survey maps and was not included in the lagoon summary prepared by Thorpe *et al*. (1998). Although it is part of the Clachan system, it is not included in the Clachan Lochs SSSI. It is connected to the sea through Oban Irpeig via a sill on its east side whilst fresh water enters from the surrounding moorland. Some seawater also enters through a small pipe at Station C04.2. The sill was dry at the time of survey and so probably only allows seawater ingress at high tide. Salinities were measured at around 17 ‰ on both sides of the basin.

The main basin is fringed by boulders leading to cobbles, pebbles and muddy gravelly sand. This supported a bed of *Ruppia* sp*. w*ith the green algae *Chaetomorpha linum* and *Ulva intestinalis* with the gastropod *Potamopyrgus antipodarum* and the isopod *Idotea chelipes* on the algae and grass. The polychaete *Hediste diversicolor* was found in the sediment and there were mysids *Praunus flexuosus* in the water column. The shore crab *Carcinus maenas* was also present.

The sill was formed of gravelly sand with cobbles and pebbles. *Ruppia* sp. and *Ulva intestinalis* were present and there were isopods *Jaera nordmanni* and *Idotea chelipes*, gastropods *Potamopyrgus antipodarum* and the stickleback *Gasterosteus aculeatus*.

Species List

* = Specimen available
[S] = Scottish lagoon specialist, strongly indicative of lagoon conditions
[M] = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
*Hediste diversicolor**	Chromophycota indet.
*Praunus flexuosus**	*Ulva intestinalis**
*Gammarus sp.**	[M] *Chaetomorpha linum*
*Jaera nordmanni**	[M] *Ruppia* sp.
[S] *Idotea chelipes**	
Carcinus maenas	
*Potamopyrgus antipodarum**	
*Gasterosteus aculeatus**	

LE01 **Oban Spònis**

Area Summary No. 35 in Thorpe *et al.* (1998) **Centre of site** NF 880 646

Lagoon type	Silled lagoon
Area	15 ha
Salinity ‰	LE01.1: 27.57; LE01.2: 27.13; LE01.3: 28.67
Photo nos.	LE01.1: NH_2064 – 2066, NH_2068 – 2070, CMH_2555 – 2562, CMH_2571 – 2574, MSW_03949 – 03958, MSW_03967 - 03972; LE01.2: MSW_03132, MSW_03134 – 03141, MSW_03144 – 03145, MSW_03153 – 03156, MSW_03166, MSW_03168 – 03169, MSW_03171, MSW_03173 – 03175, MSW_03177, MSW_03179 – 03180, MSW_03183 – 03192, MSW_03194 – 03199, MSW_03201 – 03202, MSW_03959 – 03966; LE01.3: CMH_2563 - 2570
Date of survey	21/09/2012

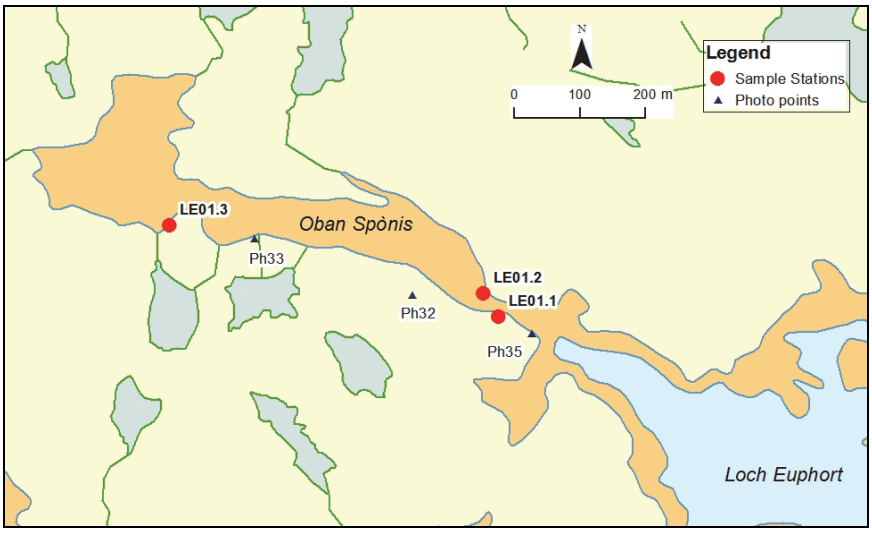

Figure 30. Location of survey stations in Oban Spònis. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 44. Looking north-west into tidal rapids at Station LE01.1 from Loch Euphort. Photo no. MSW_20120921_03969

Plate 45. View south-east towards Loch Euphort from Ph32. Photo no. CMH_20120921_2556

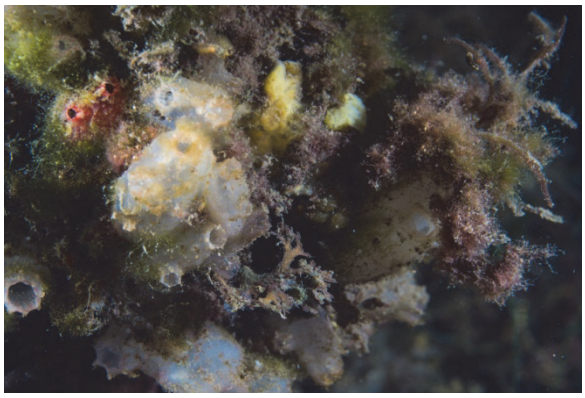

Plate 46. Ascidiella scabra *at Station LE01.2. Photo no. MSW_20120921_03140*

Plate 47. Anemonia viridis *at Station LE01.2. Photo no. MSW_20120921_03153*

Plate 48. View north over inner basin from hillside above Station LE01.3. Photo no. CMH_20120921_25

Description

Oban Spònis is a remote inlet surrounded by steep hills on the north shore of Loch Euphort. It has two basins, with an intertidal boulder sill at the junction between Loch Euphort and the eastern basin. Freshwater enters via a number of burns that drain lochans in the surrounding hillside. The salinity was measured during this survey at 27 to 29 ‰ throughout the system, although Thorpe *et al*. (1998) commented that the western basin was less saline than the eastern. However, the fauna and flora recorded suggested that the inner basin was normally less saline than the entrance.

The sill at the lagoon entrance (LE01.1) consists of bedrock and boulders covered in coralline algal crusts and barnacles *Semibalanus balanoides* with boulders extending into the eastern basin around the lagoon fringe. There was coarse, shelly sand between the boulders. The sill was dominated by fucoids, particularly *Fucus serratus* and mussels *Mytilus edulis*, with *Pelvetia canaliculata*, littorinids *Littorina littorea* and the amphipod *Ampithoe rubricata* all frequent.

Inside the sill in the eastern basin (LE01.2), boulders around the shoreline were covered with encrusting coralline algae. These boulders gave way to muddy gravel and sand with a mixture of marine species which are tolerant of reduced or fluctuating salinity. These included the tasselweed *Ruppia* sp., the brown bootlace weed *Chorda filum,* the red alga *Furcellaria lumbricalis*, the snakelocks anemone *Anemonia viridis*, shore crab *Carcinus maenas*, the winkle *Littorina littorea*, and ascidians *Ascidiella scabra* and *Clavelina lepadiformis*.

The western basin had boulders around the edge with gravelly sediment in shallow water grading to soft mud in several metres depth towards the centre of the basin. The flora and fauna was typical of a lower salinity than in the outer basin. The fucoids *Fucus vesiculosus, Fucus spiralis* and *Pelvetia canaliculata* were present on the boulders at the edge with a bed of tassleweed *Ruppia cirrhosa* in the inshore shallow water changing to eel grass *Zostera marina* further out. The red algae *Furcellaria lumbricalis* and *Gracilaria gracilis* were present and green algae were conspicuous. These included *Cladophora ?coelothrix*, *Codium fragile fragile* and three species of *Ulva, Ulva clathrata*, *Ulva lactuca* and *Ulva pseudocurvata.*

An opisthobranch *Akera bullata* was common amongst the filamentous algae and the gastropods *Hydrobia acuta neglecta* and *Peringia ulvae* were numerous on the grasses and algae. The anemones *Actinia equina* and *Anemonia viridis* and the isopod *Idotea chelipes* were both found and there were sticklebacks and mysids *Praunus flexuosus* in the water column.

The flora and fauna recorded in 2012 were very similar to those described in Thorpe *et al.* (1998), where a more detailed description is given.

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
Hydractinia echinata	Enc. Corallinaceae indet.
*Laomedea flexuosa**	*Furcellaria lumbricalis*
Actinia equina	*Gracilaria gracilis/longissima**
*Anemonia viridis**	*Gracilaria gracilis**
*Harmothoe extenuata**	*Plocamium cartilagineum*
*Harmothoe imbricata**	Chromophycota indet.*
*Pholoe synophthalmica**	*Chorda filum*
*Platynereis dumerilii**	*Fucus serratus*
Tubificoides sp.*	*Fucus spiralis*
Arenicola marina	*Fucus vesiculosus*
*Polyophthalmus pictus**	*Pelvetia canaliculata*
*Eupolymnia nebulosa**	*Ulva clathrata**
*Spirorbis spirorbis**	*Ulva lactuca**
Semibalanus balanoides	*Ulva pseudocurvata**
Ostracoda indet.*	*Cladophora rupestris/dalmatica**
*Praunus flexuosus**	*Cladophora* sp. *
*Calliopius laevisculus**	*Cladophora coelothrix**
?Dexaminidae*	*Rhizoclonium riparium**
*Dexamine spinosa**	*Codium fragile fragile**
Gammarus sp.*	
*Ampithoe rubricata**	*Ruppia* sp.
Jaera "albifrons" group*	S *Ruppia cirrhosa**
S *Idotea chelipes**	*Zostera marina**
*Idotea granulosa**	
Pagurus bernhardus	
Carcinus maenas	
Polyplacophora indet.*	
*Littorina littorea**	
*Littorina obtusata**	
*Littorina saxatilis**	
*Skeneopsis planorbis**	
M *Onoba aculeus**	
S *Hydrobia acuta neglecta**	
*Peringia ulvae**	
*Akera bullata**	
*Mytilus edulis**	
Musculus sp. juv. (prob *M. discors*) *	
Cerastoderma sp. *	
*Cerastoderma edule**	
*Turtonia minuta**	
Clavelina lepadiformis	
*Ciona intestinalis**	
*Ascidiella scabra**	
Pollachius virens	
Gasterosteus aculeatus	
Pomatoschistus sp.	
Pleuronectes platessa	

LE03 **Oban na Curra**

Area Summary No. 37 in Thorpe *et al.* (1998) **Centre of site** NF 830 635

Lagoon type	Sluiced lagoon
Area	8 ha
Salinity ‰	LE03.1: 29.24; LE03.2: 29.35
Photo nos.	LE03.1: NH_043 - 052; LE03.2: NH_053 - 054
Date of survey	20/09/2012

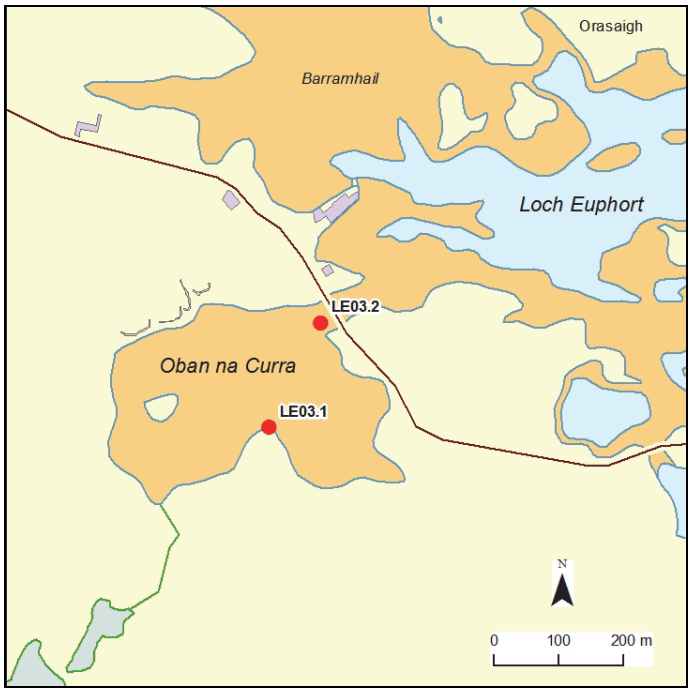

Figure 31. Location of survey stations in Oban na Curra. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 49. View over Oban na Curra from Station LE03.1. Photo no. 20120920_NH_046

Plate 50. Snorkelling in Oban na Curra. Photo no. 20120920_NH_053

Description

Oban na Curra is a culverted lagoon with a single basin on the south-west corner of Loch Euphort. The lagoon is surrounded by grazing land and heather with lichen-covered boulders fringing the water's edge. The B894 road runs over the entrance to the lagoon with a culvert through this allowing water exchange with the main loch. Freshwater enters from a burn in the south-west corner. The salinity at the time of survey was high, measured at 29 ‰.

The sill by the causeway was a mixture of bedrock, boulders, cobbles and pebbles dominated by the fucoids *Ascophyllum nodosum* and *Fucus serratus* and with encrusting coralline algae. There was a fast flow over the boulders which supported the sponge *Halichondria panicea*, mussels *Mytilus edulis*, snakelocks anemones *Anemonia viridis*, littorinid molluscs and the red alga *Chondrus crispus.*

Further into the lagoon, the floor consisted of muddy sand with cobbles and pebbles. There was *Ascophyllum nodosum* and *Chondrus crispus* on boulders at the edge whilst the sediment supported a bed of eel grass *Zostera marina* and the scarce foxtail stonewort *Lamprothamnium papulosum*. The eel grass and stonewort were covered with gastropods S*keneopsis planorbis*, *Rissoa membranacea* and *Onoba aculeus*. *Carcinus maenas* and *Arenicola marina* were both present in the sediment with sticklebacks *Gasterosteus aculeatus* and mysids *Praunus flexuosus* in the water column. The ascidian *Ascidiella scabra* was found attached to the algae and sea grass.

Oban na Curra is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
Halichondria panicea	Rhodophycota indet.
*Anemonia viridis**	Enc. Corallinaceae indet.
Arenicola marina	*Chondrus crispus**
Spirobranchus sp.	*Ascophyllum nodosum*
*Praunus flexuosus**	*Fucus serratus*
*Calliopius laevisculus**	*Pelvetia canaliculata*
*Eulimnogammarus obtusatus**	Chlorophycota filamentous indet.
*Gammarus ?oceanicus**	*Zostera marina**
*Melita palmata**	S *Lamprothamnium papulosum**
Jaera "albifrons" group*	
S *Idotea chelipes**	
*Carcinus maenas**	
*Littorina littorea**	
*Littorina obtusata**	
*Littorina saxatilis**	
*Skeneopsis planorbis**	
*Rissoa membranacea**	
M *Onoba aculeus**	
*Mytilus edulis**	
Musculus sp. juv. (prob *M. discors)* *	
Cerastoderma sp. *	
*Turtonia minuta**	
*Ascidiella scabra**	
*Gasterosteus aculeatus**	

LE04 **Oban nam Fiadh**

Area Summary No. 38 in Thorpe *et al.* (1998) **Centre of site** NF 847 629

Lagoon type	Sluiced lagoon
Area	141 ha
Salinity ‰	LE04.1: 3.12; LE04.2: 4.87; LE04.3: 13.51; LE04.4: 17.45
Photo nos.	**LE04**: CMH_2580 – 2583, CMH_2585 - 2587, MSW_03983 – 03988, MSW_04052 - 04059; **LE04_1**: MSW_03989 – 03995, MSW_03997 – 04007, CMH_2584; **LE04.2**: MSW_04008 – 04040; **LE04.3**: MSW_04041 – 04046, MSW_04048 - 04051; **LE04.4**: MSW_04060 – 04069
Date of survey	22/09/2012

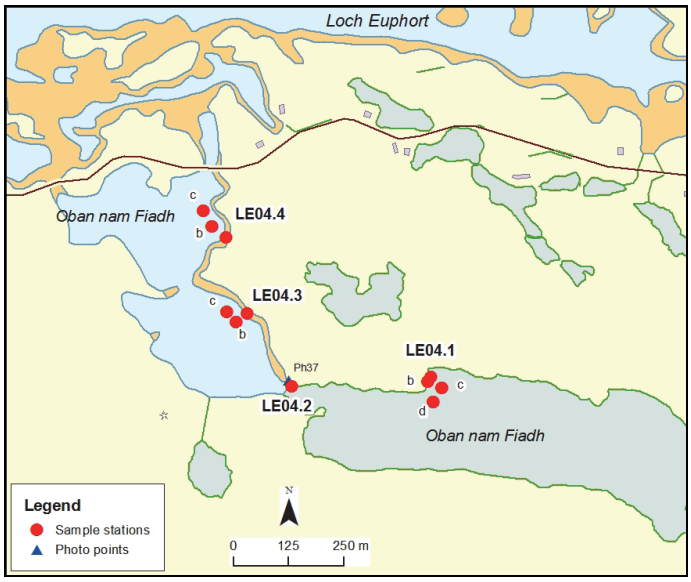

Figure 32. Location of survey stations in Oban nam Fiadh. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 51. View east from sill at Station LE04.2. Photo no. MSW_20120922_04032

Plate 52. View south-east over outer basin from road. Photo no. MSW_20120922_03985

Plate 53. Shoreline in inner basin (LE04.1). Photo no. MSW_20120922_04004

Plate 54. Shoreline in outer basin (LE04.4). Photo no. MSW_20120922_04063

Plate 55. Sill between basins two and three (LE04.2). Photo no. MSW_20120922_04027

Plate 56. Sill with man made wall between basins one and two (LE04.3/4). Photo no. MSW_20120922_04052

Plate 57. Fucus ceranoides *collected from sill (LE04.2) Photo no. MSW_20120922_04039*

Description

Oban nam Fiadh is an elongate, complex lagoon with a series of five basins and sills, on the south side of Loch Euphort. It is connected to the main loch by two culverted channels which run beneath the B894 causeway. These allow ingress of sea water at high tide. There is a significant fresh water input from Loch Caravat at the head of the system and the landward basins are almost fresh, with the salinity gradually increasing towards the sea water culverts. Only the three seaward basins were surveyed in September 2012, with salinities measured at 3 ‰ in the central basin (LE04.1), 13.5 ‰ in the second basin (LE04.3) and 17 ‰ in the outer basin close to the culverts. This contrasts markedly with salinities reported in Thorpe *et al*. (1998) who recorded 21 to 29 ‰ in the central basin and 30 to 34 ‰ in the two outer basins.

The brackish regime is reflected in the flora and fauna recorded. The central basin was fringed with lichen-covered boulders with sandy sediment in the sublittoral. *Fucus ceranoides* dominated the shallows with balls of the fine green filamentous alga *Cladophora glomerata*, *Cladophora ?coelothrix* and *Cladophora albida* mixed with larger *Cladophora sericea* on the rocks. Further from the shoreline there was a dense bed of tassleweed *Ruppia cirrhosa* and mixed eel grass *Zostera marina* and *Z. noltei*, together with the foxtail stonewort *Lamprothamnium papulosum*. The green algae extended across the bay, mixed with the stoneworts, and contained the opisthobranch *Akera bullata*, the bivalve *Turtonia minuta* and the gastropods *Potamopyrgus antipodarum*, the tenebrosa form of *Littorina saxatilis* and *Barleeia unifasciata*. Dead *Mya* shells were seen although no live individuals were found; it is likely that this bivalve is present in the sediments in the basin.

The second basin was similar to the central one, with a floor of peaty mud and a fringe of boulders. There was a bed of eelgrass *Zostera noltei* and tassleweed *Ruppia* sp. mixed with foxtail stonewort *Lamprothamnium papulosum* on the sediment and *Fucus ceranoides, Cladophora battersii* and *Cladophora rupestris* on the rocks. *Mya arenaria* was found in the sediment at this station (LE04.3). The outer, and most saline, basin had a floor of fine sand with abundant *Arenicola marina* and a bed of eelgrass *Zostera noltei* whilst boulders around the shoreline had the fucoids *Fucus serratus* and *Fucus vesiculosus*. Gastropods in these outer basins included *Potamopyrgus antipodarum*, the *tenebrosa* form of *Littorina saxatilis*, *Peringia ulvae* and *Ecrobia ventrosa*.

The sills between the outer and second basin and between the second and central basins both consisted of boulders and bedrock with gravel in between the boulders. Large parts of these sills were exposed although certainly the central basin was microtidal and thus they present a considerable barrier to water exchange. The outer of the two sills had a man made causeway of stepping stones across its centre. The boulders were covered with *Fucus ceranoides, Fucus vesiculosus* and *Cladophora rupestris* with the red crust *Hildenbrandia rubra* common. The littorinid *Littorina saxatilis* and the gastropod *Potamopyrgus antipodarum* were frequent and there were numerous dead *Mya* shells.

Oban nam Fiadh is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
*Hediste diversicolor**	Blue green algal balls*
Arenicola marina	Algal crusts*
*Neomysis integer**	Filamentous alga indet. *
	Hildenbrandia rubra
*Praunus flexuosus**	*Polysiphonia brodiae**
Gammarus sp.*	*Polysiphonia fucoides**
*Gammarus finmarchicus**	M *Fucus ceranoides**
*Corophium volutator**	*Fucus serratus*
Jaera sp. *	*Fucus spiralis*
Jaera "albifrons" group*	*Fucus vesiculosus*
*Jaera ischiosetosa**	*Pelvetia canaliculata*
*Jaera nordmanni**	*Ulva intestinalis**
Idotea sp. *	*Cladophora vagabunda/glomerata**
S *Idotea chelipes**	*Cladophora glomerata**
Carcinus maenas	*Cladophora albida**
Polyplacophora indet.*	*Cladophora battersii**
*Littorina saxatilis**	*Cladophora coelothrix**
*Barleeia unifasciata**	*Cladophora rupestris*
S *Hydrobia acuta neglecta**	*Cladophora sericea**
*Peringia ulvae**	
S *Ecrobia ventrosa**	S *Ruppia cirrhosa**
Akera bullata	*Zostera marina**
*Mytilus edulis**	
M *Mya arenaria**	*Zostera noltei**
Turtonia minuta	
*Potamopyrgus antipodarum**	S *Lamprothamnium papulosum**
*Walkeria uva**	

LE05 **Bàgh Uaine**

Area Summary No. 39 in Thorpe *et al.* (1998) **Centre of site** NF 852 636

Lagoon type	Silled lagoon
Area	2 ha
Salinity ‰	28.80
Photo nos.	MSW_03973 – 03975, MSW_03977 - 03982
Date of survey	21/09/2012

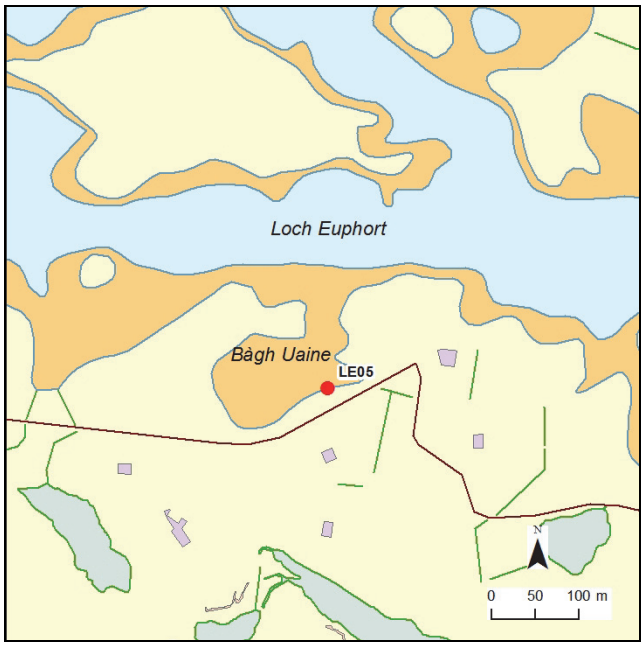

Figure 33. Location of survey stations in Bàgh Uaine. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 58. Fucoids on shoreline. Photo no. MSW_20120921_03973

Plate 59. Looking east along shoreline. Photo no. MSW_20120921_03982

Plate 60. Fucoids on boulder sill. Photo no. MSW_20120921_03980

Description

Bàgh Uaine is a small, shallow silled lagoon with a single basin on the south side of Loch Euphort. The lagoon is surrounded by grassland, peat bog and saltmarsh with the road running behind the southern edge of the basin. There is a boulder sill separating Bàgh Uaine from Loch Euphort which is overtopped at high water and relatively little fresh water input. The salinity was measured at 29 ‰ which compares well with the 30 to 35 ‰ reported by Thorpe *et al*. (1998).

Boulders in the sill were dominated by fucoids including *Ascophyllum nodosum*, *Fucus serratus*, *Fucus vesiculosus*, *Fucus spiralis* and *Pelvetia canaliculata*, and mussels *Mytilus edulis*, a typically marine zonation. The lagoon basin reached a maximum depth of 0.5 m and was floored with a mixture of gravelly mud, pebbles, cobbles and a few boulders; there was an anoxic layer very close to the sediment surface. This sediment was covered with a bed of the tasselweed *Ruppia maritima* and contained lugworms *Arenicola marina*, the

cockle *Cerastoderma edule* and amphipods *Corophium volutator*. Gastropods *Skeneopsis planorbis*, *Rissoa membranacea*, *Rissoa parva* and *Hydrobia acuta neglecta* and the bivalve *Turtonia minuta* were common on the tasselweed *Ruppia*. *Ascidiella scabra* and the isopod *Idotea chelipes* was frequent and sticklebacks *Gasterosteus aculeatus* and mysids *Praunus flexuosus* were present in the water column.

Bàgh Uaine is described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	Plants
Porifera indet.	Chromophycota indet.*
*Actinia equina**	*Ascophyllum nodosum*
Sagartia sp.	*Fucus serratus*
*Harmothoe imbricata**	*Fucus spiralis*
Arenicola marina	*Fucus vesiculosus*
Spirobranchus sp.	*Pelvetia canaliculata*
*Praunus flexuosus**	Chlorophycota filamentous indet.*
*Gammarus sp.**	*Ulva* sp.
*Corophium volutator**	
S *Idotea chelipes**	M *Ruppia maritima**
*Carcinus maenas**	
Polyplacophora indet.	
Littorina littorea	
*Littorina obtusata**	
*Skeneopsis planorbis**	
*Rissoa membranacea**	
*Rissoa parva**	
S *Hydrobia acuta neglecta**	
Mytilus edulis	
*Cerastoderma edule**	
*Turtonia minuta**	
Ascidiella scabra	
*Gasterosteus aculeatus**	
Pomatoschistus sp.	

HE1, LR1 and LF1 Howmore Estuary, Loch Ròg and Loch Fada

Area Summary No. 68 in Thorpe *et al*.(1998) **Centre of site** NF 753 352

Lagoon type	Howmore: Silled saline lagoon; Ròg: Sluiced saline lagoon; Fada: Sluiced fresh water
Area	Howmore: 6 ha; Fada: 31 ha; Ròg: 17 ha
Salinity ‰	HE01: 6.27; HE02: 6.32; HE03: 6.32; HE04: 5.85 LR01: 5.13; LR02: 6.71 LF01: 5.11; LF02: 5.10
Photo nos.	**HE01:** CMH_2613 – 2616; **HE02:** CMH_2617 - 2621; **HE03:** CMH_2623 – 2633, CMH_2641 – 2642; **HE04:** CMH_2634 - 2640 **LR01:** CMH_2602 – 2604; **LR02:** CMH_2605 - 2612 **LF01:** CMH_2588 - 2594; **LF02:** CMH_2595 - 2601
Date of survey	23/09/2012

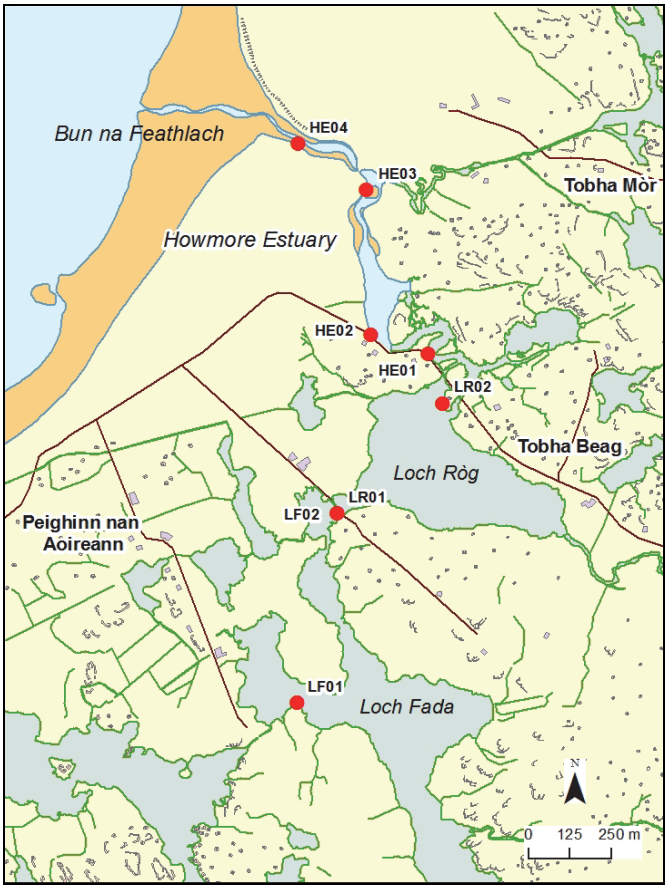

Figure 34. Location of survey stations in the Howmore system. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 61. Water's edge, Loch Fada (LF01). Photo no. CMH_20120923_2588

Plate 62. Sluice gate on Loch Fada / Loch Ròg causeway (LR01). Photo no. CMH_20120923_2600

Plate 63. Culverts in Loch Ròg (LR02). Photo no. CMH_20120923_2610

Plate 64. Station HE01 in Howmore Estuary. Photo no. CMH_20120923_2613

Description

Loch Fada, Loch Ròg and the Howmore Estuary form an elongate lagoon system on the west coast of South Uist. Loch Fada is a large fresh water loch connected at its northern end to Loch Ròg by a Victorian sluice gate in the causeway that crosses the junction between the two lochs. Loch Ròg, which has a brackish flora and fauna, joins the Howmore Estuary via two stone culverts that pass beneath a road at the loch's north-east corner. The Howmore River follows a meandering channel through marshland and connects Loch Ròg to the sea. There was a steady flow down the channel towards the sea at the time of survey and, just to the east of a bridge at the estuary entrance, the channel is joined by another draining a second loch or lagoon system to the north-east. This second system was not surveyed.

The salinity was measured at a number of points in the system and ranged from 5 ‰ in Loch Fada to around 7 ‰ near the culverts in Loch Ròg. The salinity in the Howmore part of the system was 5 to 6 ‰, reflecting the considerable fresh water input from the surrounding lochans.

Loch Fada is surrounded by boggy grassland and has a fringe of boulders with grey and white lichens around the water's edge. The loch floor near the shoreline consisted of coarse muddy gravel with cobbles and pebbles. Freshwater plants were the most significant element of the biota, with a reed bed surrounding the causeway at the Fada-Ròg junction. Brackish species found included the gastropod *Potamopyrgus antipodarum*, the stickleback *Gasterosteus aculeatus* and the filamentous green alga *Cladophora glomerata*. Gammarid amphipods and a fresh water mollusc *Radix peregra* were also present.

Close to the sluice gates, Loch Ròg was very similar to Loch Fada with low salinities and reed beds. On the other side of the loch near the culverts and inflow from Howmore, a brackish flora and fauna was more apparent. The loch floor consisted of gravelly mud with boulders supporting the fucoid *Fucus ceranoides*. A bed of the charophyte *Chara aspera v. aspera* was found inshore in this area with several species of fresh water plant. Filamentous algae were common with species including *?Rosenvingiella* sp. (possibly *R. polyrhiza)*, *Gayralia oxysperma*, *?Blidingia minima*, *Ulva intestinalis*, *Cladophora glomerata* and *Rhizoclonium riparium*. The fauna included the isopods *Lekanesphaera hookeri* and *Jaera nordmanni*, the amphipod *Gammarus finmarchicus*, the hydrobiid *Potamopyrgus antipodarum* and sticklebacks *Gasterosteus aculeatus.*

Near the junction with Loch Ròg, the Howmore estuary was a peaty mud channel through reed beds and peat bog. The sediment became progressively sandier towards the sea and drift marine algae were found at the confluence with the stream draining Loch an Eilein (HE03). Apart from these, the only species found were the amphipod *Gammarus finmarchicus*, the isopods *Lekanesphaera hookeri* and sticklebacks *Gasterosteus aculeatus.*

Loch Roag and the Howmore Lagoon are described in detail in Thorpe *et al.* (1998).

Species List

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals		**Plants**	
Ostracoda indet.		Filamentous alga indet.	LR
Gammarus sp.	LF, LR, HE	Chromophycota indet.	LR
Gammarus finmarchicus	LR, HE	M *Fucus ceranoides*	LR
S *Lekanesphaera hookeri*	LR, HE	Chlorophycota filamentous indet.	LR
Jaera nordmanni	LR	*?Rosenvingiella* sp.	LR
Potamopyrgus antipodarum	LF, LR	*Gayralia oxysperma*	LR
*Radix peregra**	LF	*?Blidingia minima*	LR
Gasterosteus aculeatus	LF, LR, HE	*Ulva intestinalis*	LR
Chironomid larvae	LR	*Ulva* sp.	LR
		Cladophora glomerata	LF, LR
		Rhizoclonium riparium	LR
		Chara aspera v. aspera	LR

LB **Loch Bì**

Area Summary No. 57 in Thorpe *et al.* (1998) **Centre of site** NF 770 440

Lagoon type	Sluiced lagoon
Area	850 ha
Salinity ‰ s = surface b = bottom	**LB North** LB01: 29.51, 29.82, 30.61; LB02: 20.73, 26.56, 26.85, 26.68 **LB West** LB04:22.24; LB05: 22.22; LB06: 21.72; LB16: 23.70; LB17: 23.60 **LB East** LB03: 15.97; LB11: 17.69; LB12: 17.69(s), 18.52(b); LB13: 17.87; LB14: 19.08(s), 19.19(b); LB15: 20.56(s), 21.66(b); LB18: 15.34; LB19: 18.35(s), 17.72(b) **LB Southeast** LB07: 25.00; LB08: 26.00; LB09: 26.00; LB10: 25.00
Photo nos.	**LB01:** MSW_03520 – 03553, MSW_03555 - 03560; **LB02:** MSW_03561 – 03588; **LB03:** NH_2116 – 2121; **LB04:** NH_2109 – 2114; **LB05:** SNM_78 - 92, MSW_04079 – 04090; **LB06:** NH_2122 – 2127, SNM_095 – 101; **LB07:** CMH_2643 – 2650, MSW_04091 – 04094, MSW_04096 - 04129; **LB08:** MSW_04130 – 04137; **LB09:** MSW_04138 – 04145; **LB10:** MSW_03514, MSW_03521, MSW_03524 – 03527, MSW_03529, MSW_03531, MSW_03533, MSW_03541, MSW_03543 – 03545, MSW_03547, MSW_03549, MSW_03552, MSW_03557 – 03558, MSW_03560, MSW_04146 – 04152; **LB11:** MSW_04153 – 04170, MSW_04172; **LB13:** MSW_04173 – 04182; **LB16:** NH_113 – 120; **LB17:** NH_121 – 122; **LB18:** NH_123 – 129, MSW_04183 – 04186; MSW_04190 - 04192
Date of survey	16/09/2012 – 27/09/2012

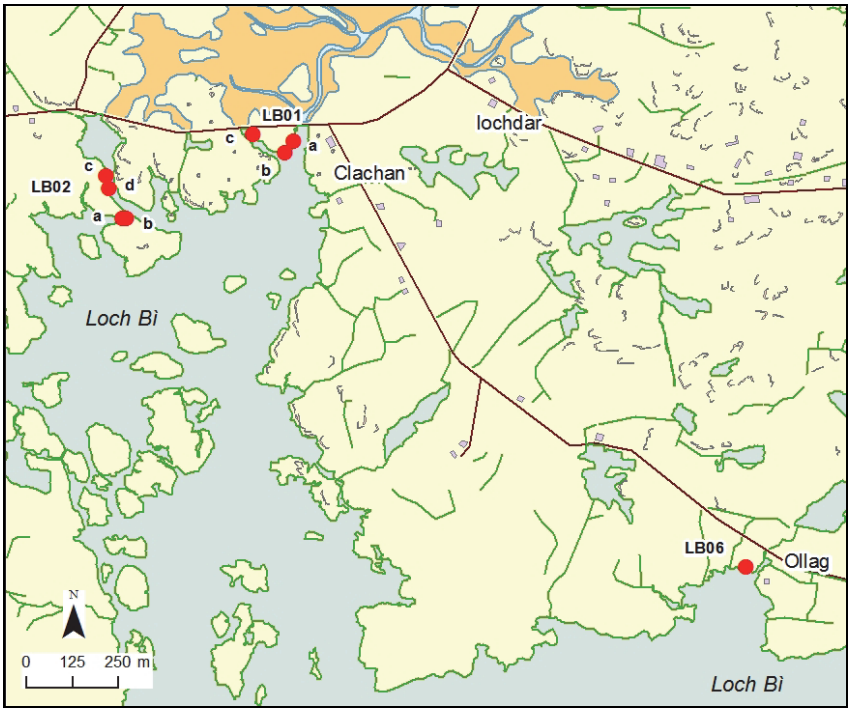

Figure 35. Location of survey stations LB01, LB02 and LB06 in northern Loch Bì. © Crown copyright and database rights 2014 Ordnance Survey 100017908

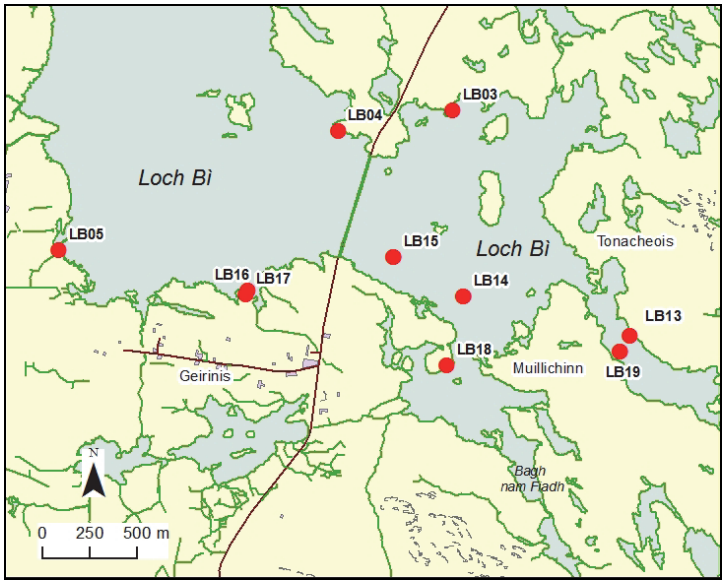

Figure 36. Location of survey stations in central Loch Bì. © Crown copyright and database rights 2014 Ordnance Survey 100017908

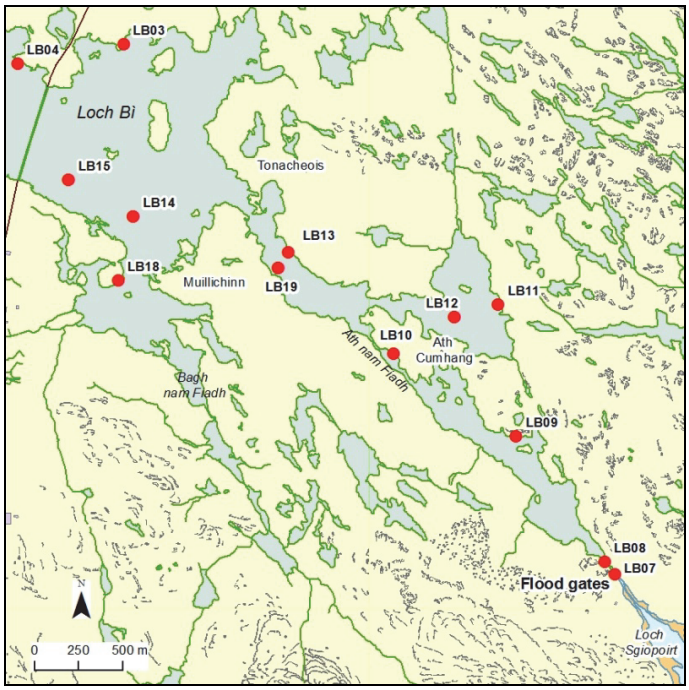

Figure 37. Location of survey stations in eastern Loch Bì. © Crown copyright and database rights 2014 Ordnance Survey 100017908

Plate 65. Entrance to southern floodgate channel (on left of photo) from Station LB08. Photo no. MSW_20120916_04137

Plate 66. Causeway with submerged stone culverts providing connection to sea, Station LB01. Photo no. MSW_20120916_03539

Plate 67. Drift Sargassum muticum *at Station LB01. Photo no. MSW_20120916_03529*

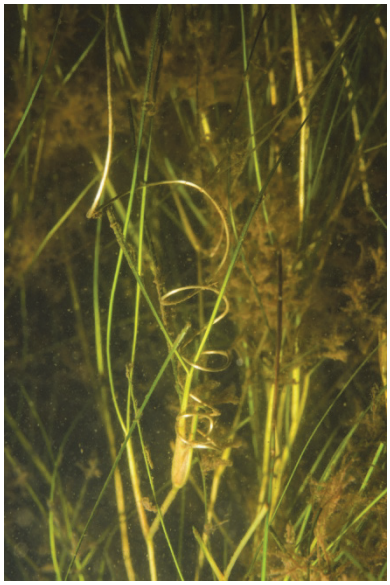

Plate 68. Ruppia cirrhosa *flower (LB10). Photo no. MSW_20120916_03526*

Plate 69. Eubranchus exiguus *on* Laomedea flexuosa *and* Ruppia *sp. (LB10). Photo no. MSW_20120916_03549*

Plate 70. Looking north west up channel leading to southern floodgates (LB07). Photo no. MSW_20120916_04113

Plate 71. Southern floodgates from seaward side (LB07). Photo no. MSW_20120916_04099

Description

Loch Bì lies at the north end of South Uist. It is the largest lagoon in the Outer Hebrides and second largest in the UK after the Loch of Stenness, Orkney. It is a shallow, microtidal and highly indented lagoon, connected to the sea at both its north-west and south-east corners. Freshwater enters from a number of burns and lochans around the perimeter.

A number of salinity measurements were taken around the loch and the salinity decreased from the north-west corner towards the south-east, with the exception of the floodgate arm where the salinity rose again. Near the northern culverts (LB01 and LB02) the water was almost full seawater with measurements in the range of 26 to 31 ‰; the stone culverts provided a connection to the sea at most states of the tide. A pool behind a wall in this area had a lower salinity of 21 ‰. The south-eastern arm leading to the flood gates connecting Loch Bì and Loch Sgioport had salinities in the range of 25 to 26 ‰, considerably higher than the 16 to 17 ‰ reported by Thorpe *et al*. (1998). The floodgate, which was originally designed only to allow water out of the loch and was repaired in the 1970s, appeared to be broken and jammed open, allowing seawater to flow into this south-east corner.

The A865 road crosses Loch Bì on a causeway with culverts and effectively divides the lagoon into a west and east basin. Salinity measurements in these basins indicated that both

are brackish but that the western basin has a higher salinity than the eastern, with 21 to 24 ‰ measured to the west of the causeway and 16 to 21 ‰ to the east.

The majority of Loch Bì is surrounded by grazed grassland and peat bog, with outcrops of bedrock and boulders. There are a number of rocky channels and islands and there is often a boulder and cobble fringe along the shoreline. Depths are generally very shallow, most of the loch being less than 2 m deep, and the floor consists predominantly of firm fine sand.

A number of species were found throughout the loch. These included the mysid *Praunus flexuosus*, the isopods *Lekanesphaera hookeri*, *Jaera "albifrons"* group, *Jaera ischiosetosa* and *Idotea chelipes*, the filamentous green alga *Chaetomorpha linum* and the hydroid *Laomedea flexuosa*. Both species of tasselweed, *Ruppia cirrhosa* and *Ruppia maritima*, were recorded along with several records of *Ruppia* sp. and the eelgrass *Zostera noltei* was found in an embayment in the floodgate arm. *Cerastoderma glaucum* was recorded from two stations with several records of *Cerastoderma* sp. from across the loch.

Northern Loch Bì

At the northern end of the loch, near the culverts (LB01), there was a channel with fine grey sand with abundant organic debris and some stones buried deeper in sediment. There were occasional boulders on the sediment surface. The lagoon in this area was fringed by saltmarsh with samphire. There were thick banks of drift marine algae on sandbanks south of the culvert, much of which was freshly dead and included the non-native wire weed *Sargassum muticum*. *Arenicola marina* was present in the sediment and the estuarine goby *Pomatoschistus microps* was frequent.

Further west at Station LB02, although the salinity was still high, the sediment was peatier and the water was brown. The tasselweed *Ruppia cirrhosa* was abundant and there were mats of the yellow-green alga *Vaucheria sp.* on firm mud around the water's edge. Filamentous green algae were common at these stations and several species were recorded, including the lagoon indicator *Chaetomorpha linum* and *Chaetomorpha ligustica*. Crustaceans and gastropods were common amongst the tasselweed and algae and, despite the relatively high salinity, included several typically brackish species such as the isopods *Lekanesphaera hookeri*, *Jaera ischiosetosa* and *Idotea chelipes*, the *tenebrosa* form of the winkle *Littorina saxatilis* and an unidentified hydrobiid (*Peringia ulvae/Hydrobia acuta neglecta*).

Western basin

The western basin is fringed with grassland and occasional boulders, with the causeway with culverts forming the eastern boundary. There were drainage pipes across a sill connecting Loch Bì to the fresh water Loch an Os at LB06. The loch floor consisted of firm muddy sand with some areas of coarser sand and gravel. Beds of the tasselweed *Ruppia cirrhosa* and eelgrass *Zostera* sp. were found at two stations on the northern side (LB04 and 06); these were probably more widespread in the embayments around the loch. The rare lagoon sea slug *Tenellia adspersa* was found feeding on the hydroid *Laomedea flexuosa* on the *R. cirrhosa* at LB04.

Species that were found throughout this basin included the *tenebrosa* form of *Littorina saxatilis*, the mysids *Neomysis integer* and *Praunus flexuosus,* the isopod *Lekanesphaera hookeri*, the amphipod *Corophium volutator* and the brackish water snail *Ecrobia ventrosa*. The red alga *Furcellaria lumbricalis*, which can tolerate reduced salinity, was found at three stations close to the causeway. The alga was growing both as attached plants and, unusually, as free-living balls; this growth form has been found in Oban Sponish (Thorpe *et*

al. 1989) and has been reported from the Baltic (Nielsen *et al*.,1995). The brown alga *Fucus serratus* was also found at the southern end of this basin (LB16).

Eastern basin

Tasselweed *Ruppia* sp. was found at all the stations sampled in the eastern part of the loch, with *Ruppia maritima* identified from two stations. The hydroids *Laomedea flexuosa*, ?*Dicoryne* sp. and *Hydractinia ?borealis* were epiphytic on the *Ruppia*, together with a nudibranch *Eubranchus exiguus* and gastropods including *Hydrobia acuta neglecta* and *Ecrobia ventrosa.* A bed of the charophyte *Chara aspera v. aspera* was found in the south west corner of this basin (LB18) with the green algae *Chaetomorpha linum* and *Cladophora glomerata* mixed in with the *Chara*.

Several stations were sampled by grab in the eastern section of the loch; these had fine anoxic mud rather than sand. The sediment contained the bivalves *Mya arenaria* and *Cerastoderma* sp., the amphipod *Corophium volutator*, the polychaete *Hediste diversicolor* and the gastropod *Ecrobia ventrosa*.

South-eastern arm (Floodgate arm)

The south-eastern arm leading to the floodgates is connected to the rest of the loch by a narrow rocky channel at Ath nam Fiadh. This is one of the few places in the loch where there is significant water flow. The loch broadens to the south-east of this channel and then narrows again at the canalized channel leading to the floodgates. There was a strong current, estimated at 2 to 3 knots, flowing down this channel towards the floodgates.

A station sampled in the first narrows (LB10) was located in a small bay with boulders in shallow water, rapidly changing to peaty mud with very dense *Ruppia cirrhosa*. There were clumps of the mussel *Mytilus edulis* and the algae *Fucus ceranoides* and *Chaetomorpha linum* were frequent. Moving out of the bay towards the channel, the current increased and the seabed became flocculent mud with large numbers of dead *Cerastoderma* and *Mya* shells along channel edge; live *Cerastoderma glaucum* was present in the sediment.

The channel at the floodgates is about 3 to 4 m wide with rock walls 2 to 3 m high. The depth of the channel at this point was measured at about 6 m deep in the centre. There is a stone wall across the channel with the floodgate underwater and a strong flow outwards. The rock walls at water level to about 0.2 m were covered with mussels *Mytilus edulis*, the fucoids *Ascophyllum nodosum* and *Fucus vesiculosus* and sparse barnacles *Semibalanus balanoides* and the non-native *Austrominius modestus*.

Loch Bì is described in detail in Thorpe *et al.* (1998).

Species List

N = Stations LB01, 02
W = Stations LB04, 05, 06, 16, 17
E = Stations LB03, 11, 12, 13, 14, 15, 18, 19
SE = Stations LB07, 08, 09, 10

* = Specimen available
S = Scottish lagoon specialist, strongly indicative of lagoon conditions
M = Scottish lagoon specialist, moderately indicative of lagoon conditions

Animals	N	W	E	SE	Plants	N	W	E	SE
Hydractinia ?borealis		P*	P*		*Hildenbrandia rubra*				P
?Dicoryne sp.			P*		*Furcellaria lumbricalis* Free living balls		P*		
Dynamena pumila	P*				*Furcellaria lumbricalis*		P*		
Laomedea flexuosa	P*	O	P*	A*	*Ceramium botryocarpum*		P*		O*
Obelia dichotoma				P*	*Ceramium nodulosum*				P*
Hediste diversicolor		P*	P*	P*	*Polysiphonia fucoides*		P*		P*
Malacoceros fuliginosus				P*	Chromophycota indet.		O	A	P*
Pygospio elegans		P*			*Chorda filum*				F
Tubificoides sp.	P*	P*	P*		*Ascophyllum nodosum*				F
Arenicola marina	P*			O	M *Fucus ceranoides*			O*	F*
Spirobranchus sp.				P*	*Fucus serratus*		P*		O
Spirorbis spirorbis	P*				*Fucus spiralis*		O		O
Austrominius modestus				P*	*Fucus vesiculosus*				O
Semibalanus balanoides				R	Chlorophycota fil. indet.			P*	P*
Neomysis integer		A*	P*	P*	*?Rosenvingiella polyrhiza*	P*			
Praunus flexuosus	P*	P*	P*	P*	*Ulothrix sp.*			P*	
Apherusa jurinei	P*				*Ulothrix flacca*	P*			
Apohyale prevostii	P*				*Ulothrix subflaccida*				P*
Eulimnogammarus obtusatus	P*				*Ulothrix speciosa*	P*			
Gammarus sp.	P*	P*	P*		*Blidingia marginata*	P*			
Gammarus duebeni		P*			*Capsosiphon fulvescens*	P*			
Gammarus finmarchicus		P*	P*	P*	*Ulva intestinalis*	P*		F*	O*
Gammarus ?locusta	P*			P*	*Ulva prolifera*	P*			
Melita palmata			P*	P*	*Ulva* sp.			P*	F
Ampithoe rubricata			P*	P*	*Ulva californica/linza*	P*			
Corophium volutator		P*	P*	P*	M *Chaetomorpha linum*	P*	A*	C*	C*
S *Lekanesphaera hookeri*	P*	R*	P*	P*	*Chaetomorpha ligustica*	P*			
Jaera sp.			P*		*Cladophora* sp.	P*		P*	
Jaera "albifrons" group	P*	P*		P*	*Cladophora glomerata*			P*	
Jaera ischiosetosa	P*	P*	P*	P*	*Cladophora albida*			P*	
Jaera nordmanni			P*		*Cladophora laetevirens*	P*	P*	P*	
Idotea sp.		R*	P*		*Cladophora rupestris*				C*
S *Idotea chelipes*	P*	P*	P*	P*	*Cladophora sericea*	P*			
Crangon sp. [juv]				P					
Carcinus maenas	P*	R*		F	Blue green algal balls		P*	P*	P*
Lacuna vincta	P*				Blue green algal crust			P*	
Littorina littorea				F*	*Vaucheria* sp.	P			
Littorina obtusata			P*		*Verrucaria* spp.			P	P
Littorina saxatilis	P*	P*	P*						
Rissoa parva	P*		P*		S *Ruppia cirrhosa*	A*	A*		
Hydrobiidae indet.		A			M *Ruppia maritima*			S*	
S *Hydrobia acuta neglecta*		P*	P*		*Zostera* sp		A	P*	
Peringia ulvae			P*	P*	*Zostera noltei*				S*
Hydrobiidae *ulvae/neglecta?*	P*								
S *Ecrobia ventrosa*		R*	P*		*Chara aspera v. aspera*			S*	

Animals	N	W	E	SE	**Plants**	N	W	E	SE
Potamopyrgus antipodarum		P*	O*	P*					
Tenellia adspersa		R*							
Eubranchus ?exiguus				P*					
Mytilus edulis			R*	F*					
Musculus sp. juv. (prob *M. discors)*			P*						
Cerastoderma sp.	P*	A*	P*						
[S] *Cerastoderma glaucum*		P*	P*	P*					
Mya sp.			P*						
Mya ?truncata			P*						
[M] *Mya arenaria*			P*						
Crisia eburnea	P*								
Gasterosteus aculeatus		O*		P					
Pomatoschistus microps	F*	P*							
Chironomid larvae	P*	P*	P						

The following marine algae were recorded as fresh drift specimens south of the culverts at the north end of the loch (LB01):

Chondrus crispus
Sphaerococcus coronopifolius
Plocamium cartilagineum
Cordylecladia erecta
Ptilota plumosa
Delesseria sanguinea
Odonthalia dentata
Laminaria digitata
Fucus serratus
Sargassum muticum

APPENDIX 8: SPECIES RECORDED FROM LOCH BÌ BY BIOLOGISTS SINCE NICOL (1936)

TAXON	Nicol 1936a	Waterston & Lyster 1979	Smith 1987	MNCR Lagoon survey & SNH 2002	2012 Survey
Ruppia sp.	P	P		P	
Ruppia maritima					P
Ruppia cirrhosa (=*spiralis*)					P
Zosteria noltei	P			P	P
Chara aspersa v aspera		P			P
Hildenbrandia indet.				P	P
Furcellaria lumbricalis				P	P
?*Furcellaria lumbricalis* (free-living balls)					P
Mastocarpus stellatus				P	
Ceramium flaccidum				P	P
Ceramium botryocarpum					P
Ceramium nodulosum					P
Polysiphonia indet.				P	P
Polysiphonia lanosa				P	
Polysiphonia fucoides					P
Chromophycota indet.				P	P
Chlorophycota (filamentous) indet.	**P**			P	P
Striaria attenuata				P	
Chorda filum		P		P	P
Ascophyllum nodosum	P	P		P	P
Fucus ceranoides	P	P		P	P
Fucus serratus		P		P	P
Fucus spiralis				P	P
Fucus vesiculosus	P	P		P	P
Ulothrix sp.					P
Ulothrix flacca					P
Ulothrix implexa (=subflaccida)					P
Ulothrix speciosa					P
Blidingia marginata					P
Capsosiphon fulvescens					P
Ulva sp.		P		P	P
Ulva lactuca		P		P	
Ulva intestinalis				P	P
Ulva prolifera					P
Ulva californica/linza					P
Chaetomorpha ligustica					P
Chaetomorpha linum				P	P
Cladophora sp.				P	P
Cladophora glomerata		P			P
Cladophora albida					P
Cladophora laetevirens				P	P
Cladophora rupestris		P		P	P
Cladophora sericea					P
Derbesia marina				P	
Clava multicornis	P	P			
Gonothyraea loveni	P	P			
Laomedea flexuosa				P	P
Aurelia aurita					P
?Dicoryne sp.					P
Hydractinia ?borealis					P
Dynamena pumila					P
Laomedea flexuosa					P

TAXON	Nicol 1936a	Waterston & Lyster 1979	Smith 1987	MNCR Lagoon survey & SNH 2002	2012 Survey
Obelia dichotoma					P
Procerodes sp.	P				
Procerodes litoralis		P			
Eteone longa				P	
Nephtys hombergii				P	
Nereis diversicolor	P	P		P	P
Malacoceros fuliginosus				P	P
Pygospio elegans				P	P
Capitella capitata				P	
Arenicola marina		P		P	P
Manayunkia aestuarina		P			
Spirobranchus indet.					P
Spirorbis sp.		P			
Spirorbis spirorbis				P	P
Paranais litoralis				P	
Heterochaeta costata				P	
Tubificoides sp.					P
Enchytraeidae				P	
Austrominius modestus					P
Semibalanus balanoides		P		P	P
Balanus balanus				P	
Balanus crenatus				P	
Daphnia longispina	P				
Acartia clausii		P			
Thersitina gasterostei		P			
Cytherura gibba		P			
Semicytherura nigrescens		P			
Leptocythere macallana		P			
Hirschmannia viridis		P			
Paradoxostoma variabile		P			
Mysidae					P
Neomysis sp.	P				
Neomysis integer		P			P
Praunus flexuosus	P	P			P
Amphipoda					P
Apherusa jurinei					P
Apohyale prevostii					P
Orchestia gammarellus		P			
Bathyporeia pilosa				P	
Gammaroidea					P
Echinogammarus obtusatus					P
Gammarus sp.					P
Gammarus duebeni	P	P			P
Gammarus finmarchicus		P			P
Gammarus locusta		P		P	P
Ampithoe rubricata					P
Melita palmata		P			P
Microdeutopus anomolous				P	
Corophium bonnelli				P	
Corophium volutator	P	P		P	P
Lekanesphaera hookeri	P	P			P
Jaera sp.					P
Jaera "albifrons" group					P
Jaera marina	P				
Jaera ischiosetosa					P

TAXON	Nicol 1936a	Waterston & Lyster 1979	Smith 1987	MNCR Lagoon survey & SNH 2002	2012 Survey
Jaera nordmanni		P			P
Idotea sp.					P
Idotea balthica				P	
Idotea chelipes (=viridis)	P	P			P
Crangon sp.					P
Carcinus maenas		P		P	P
Radix peregra	P				
Lacuna vincta					P
Littorina littorea		P	P		P
Littorina fabalis (=mariae)			P	P	
Littorina obtusata syn var *aestuarii* Smith and Heppell		P		P	P
Littorina saxatilis		P	P	P	P
Rissoa indet.				P	
Rissoa parva			P		P
Onoba semicostata			P		
Hydrobia sp.					P
Hydrobia neglecta (=acuta neglecta)		P	P	P	P
Hydrobia ulvae/neglecta					P
Peringia ulvae		P	P	P	P
Ecrobia ventrosa	P	P	P	P	P
Potamopyrgus antipodarum (=jenkinsi)	P	P		P	P
Buccinum undatum			P		
Omaloygyra atomus			P		
Odostomia turrita			P		
Brachystomia scalaris			P		
Elysia viridis		P			
Alderia modesta			P		
Limapontia capitata			P		
Limapontia senestra			P		
Cadlina laevis			P		
Archidoris pseudoargus			P		P
Tergipes tergipes		P			
Tenellia adspersa					P
Eubranchus exiguus					P
Mytilus edulis	P	P	P	P	P
Modiolus modiolus			P		
Musculus sp. [juv]					P
Parvicardium exiguum			P		
Cerastoderma sp. [juv]					P
Cerastoderma edule		P	P	P	P
Cerastoderma glaucum		P	P	P	P
Macoma balthica		P	P	P	
Venerupis senegalensis				P	
Turtonia minuta			P		
Mya sp.					P
Mya truncata?					P
Mya arenaria			P	P	P
Crisia eburnea					P
Alcyonidium sp.		P	P		
Venerupis senegalensis				P	
Bowerbankia gracilis		P			
Bowerbankia imbricata	P				
Salmo trutta (=S. fario)	P	P			
Anguilla anguilla (=A. vulgaris)	P	P			
Pollachius virens	P	P			

TAXON	Nicol 1936a	Waterston & Lyster 1979	Smith 1987	MNCR Lagoon survey & SNH 2002	2012 Survey
Atherina presbyter		P			
Gasterosteus aculeatus	P	P		P	P
Pungitius pungitius		P			
Spinachia spinachia		P			
Pomatoschistus microps	P	P		P	P
Pomotoschistus minutus				P	
Platichthys flesus	P	P			
Blue-green algae				P	P
Ectocarpaceae				P	
Total species recorded	**29**	**62**	**26**	**68**	**105**

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