

Appendix 1. Initial Schedule of Mitigation

The proposed mitigation measures for the DWS development is provided in Tables A1.1 & A1.2 for construction and operations respectively.

Table A 1.1 Initial Schedule of Mitigation for DWS Construction

Topic	Mitigation Measures	Reference
Air Quality	Dust Management Plan to be developed and implemented, including appropriate measures such as: <ul style="list-style-type: none"> • Appropriate planning to minimise the number of times dust-emitting material is moved; • Materials/surfaces with potential to generate dust will be kept moist; and • Finishing/covering of surfaces will be conducted as soon as practicable. 	Section 6
Water Quality	<p>The start of each activity that could give rise to increased sediment loading in the water column will be observed, to ensure that any plumes arising are localised and disperse quickly. If increases in sediments are not as predicted, the construction technique will be reviewed to identify areas for improvement to prevent reoccurrence.</p> <p>Temporary surface water management requirements will be identified in RAMS.</p> <p>Fuel storage on site will be under strict management controls, in compliance with the requirements of the relevant GBRs.</p> <p>Refuelling will be carried out in designated areas, by trained operatives following site refuelling procedures. The refuelling procedure will take into account best practice laid out in GPP2 and PPG6.</p> <p>Where practicable, bio-degradable hydraulic fluids will be utilised in machinery during construction.</p> <p>Appropriately bunded oil and chemical storage cabinets will be provided on site. These will be kept locked, with the key under management control to ensure appropriate use and accountability.</p> <p>All oils and chemicals will be subject to Control of Substances Hazardous to Health (COSHH) assessments under the COSHH Regulations 2002. All COSHH assessments will include a section on the environment to highlight any precaution or mitigation requirements.</p> <p>Appropriate spill plans aligned to the pollution control hierarchy and spill kits will be in place. Construction operatives will be trained in the plans and in the use of spill kits.</p> <p>Cement washings will be carried out in a dedicated area.</p> <p>Cement washing arisings will be collected for onsite treatment. This will include settlement and, if required, pH correction. If not suitable for reuse liquids will be appropriately disposed and solids will be reused or disposed of as solid waste.</p> <p>Contractors will be required to ensure all plant and equipment brought to site is properly cleaned prior to arrival.</p> <p>All equipment will be inspected prior to mobilisation on site; any equipment carrying excessive sediment deposits will be returned to the supplier.</p>	Section 8

Topic	Mitigation Measures	Reference
	<p>All works will be carried out in accordance with the Code of Practice on Non-Native Species, adopting a precautionary approach to minimise the risk of releasing non-native species. Risk assessments relevant to planned activities will be completed and advice sought on best practice as necessary. Presence of non-native species will be reported.</p> <p>All vessels visiting DWS during construction are expected to be compliant with the relevant requirements of the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 and where appropriate follow Guidelines for the Control and Management of Ships Biofouling to Minimize the Transfer of Invasive Aquatic Species (Marine Environment Protection Committee, 2011).</p>	
In-Air Noise & Vibration	<p>Rock blasting will take place 9am – 7pm Monday to Saturday, with blasting normally taking place prior to 5pm.</p> <p>A Construction Traffic Management Plan will be implemented via the CEMD and take into consideration timing and volume of HGV movements.</p> <p>Works will be appropriately sequenced in order to limit noise impacts.</p> <p>Construction and operations will be undertaken during defined working hours, unless otherwise agreed and communicated to local residents.</p> <p>A Section 61 will be applied for if necessary.</p> <p>Reasonable and practicable measures will be implemented to reduce noise at source.</p> <p>Plant and machinery will be modern and well maintained.</p> <p>Local residents will be notified of noise sensitive activities (blasting, dredging at night etc), or those outwith normal working hours.</p> <p>Blasts will be designed to maximise efficiency and reduce the transmission of noise/vibration.</p>	<p>Section 9 PAN1/2011 Noise and Vibration Control on Construction and Open Sites: BS 5228</p>
Biodiversity – Marine Mammals	<p>The impact piling marine mammal mitigation will provide the following measures:</p> <ul style="list-style-type: none"> • A 500m mitigation zone will be established around the piling rig for cetaceans and basking shark, whilst a 100m mitigation zone will be applied to seals and otters; • Trained marine mammal observers (MMO) will conduct a 20min pre-watch prior to the commencement of piling operations; <ul style="list-style-type: none"> ○ If the 500m mitigation zone for cetaceans and basking shark and 100m mitigation zone for seals and otters remains clear during the watch, permission will be given to commence piling; but ○ If a marine mammal/basking shark is sighted within the mitigation zone, piling will be delayed until the zone has been clear of marine mammals for at least 10min; and ○ A 30minute soft start-up is required to protect HF hearing receptor groups; 	<p>Section 12</p>

Topic	Mitigation Measures	Reference
	<ul style="list-style-type: none"> • If conditions are unsuitable for visual observations (darkness, fog reducing visibility to <500m, or sea states >Beaufort 4); passive acoustic monitoring (PAM) will be utilised by a trained PAM operator to monitor the mitigation zone; <ul style="list-style-type: none"> ○ A PAM watch of the mitigation zone will have a minimum duration of 20min; • Once piling has commenced there will be no requirement to stop works if a marine mammal/basking shark enters the mitigation zone, as long as piling has been continuous, with no breaks exceeding 10min; • If a break in piling operations exceeds 10min the following conditions will apply: <ul style="list-style-type: none"> ○ During a break in piling operations, the noise generator will be utilised to produce sound at lower pressures to deter marine mammals away from the construction area and maintain a soft start procedure. Should the noise generator fail to be utilised for whatever reason, an MMO/PAM operator will be on watch during the break. The MMO/PAM operator will remain on watch during the break with or without the noise generator. ○ If an MMO/PAM operator has been on watch during the break, with or without the utilisation of the noise generator, if the mitigation zone remains clear of marine mammals, piling can recommence immediately; ○ If an MMO/PAM operator has been on watch during the break, with or without the noise generator running, and a marine mammal is observed within the mitigation, piling will not recommence until the zone has been clear of marine mammals for at least 10min; and ○ If no marine mammal observations have been conducted during a break exceeding 10min and without the noise generator running, a 20min pre-watch will be conducted before piling can recommence, as detailed above. • All MMO/PAM operations will be recorded using the JNCC marine mammal reporting forms template and submitted to Marine Directorate once the works are complete. 	

Topic	Mitigation Measures	Reference
	<p>The dredged spoil disposal marine mammal and basking shark mitigation will provide the following measures:</p> <ul style="list-style-type: none"> • A 200m mitigation zone will be established around the disposal vessel during disposal; • A mitigation zone is placed around the vessel as opposed to the disposal site as the vessel will be in transit during disposal; • Trained marine mammal observers (MMO) will conduct a 20min pre-watch prior to the commencement of spoil disposal, either on board the disposal vessel or from land: <ul style="list-style-type: none"> ○ If the 200m mitigation zone remains clear of marine mammals and basking shark during the watch, permission will be given to commence disposal; and ○ If a marine mammal or basking shark is sighted within the mitigation zone, disposal will be delayed until the zone has been clear for at least 5min. • If conditions are unsuitable for visual observations (darkness, fog reducing visibility to <300 on-board the vessel and <700m from the observation point on land, or sea states >Beaufort 4); passive acoustic monitoring (PAM) will be utilised by a trained PAM operator to monitor the mitigation zone: <ul style="list-style-type: none"> ○ A PAM watch of the mitigation zone will have a minimum duration of 20min: ○ If a marine mammal is detected within the mitigation zone during a PAM watch, disposal will be delayed until the zone has been clear of marine mammals for at least 10min. • All MMO/PAM operations will be recorded using the JNCC marine mammal reporting forms template and submitted to Marine Scotland once the works are complete. <p>All vessels to comply with the Scottish Marine Wildlife Watching Code.</p>	
Biodiversity – Fish Ecology	Basking shark will be included within the marine mammal impact piling and dredge disposal mitigation.	Section 13
Biodiversity – Terrestrial Ecology, Habitats	<p>Minimise the area of the habitats to be removed.</p> <p>Rock armour revetments will be installed, where practicable, replacing coastal habitats used by otter.</p> <p>Turves removed during soil stripping will be used to seal exposed peat where practicable, to prevent heathland and/or shrub habitats from drying out.</p>	Section 15
Biodiversity – Terrestrial Ecology, Otter	<p>Pre-construction survey.</p> <p>Development of Species Protection Plan (SPP). EPS Licence sought if required.</p> <p>Minimise area and duration of disturbance.</p> <p>Artificial lighting within the site should only be used where required to light works sites and for safety reasons and should be directional towards the required works area.</p> <p>Measures to prevent entrapment.</p>	Section 15

Topic	Mitigation Measures	Reference
Biodiversity – Terrestrial Ecology, Herptiles	Pre-construction survey.	Section 15
	Development of Species Protection Plan (SPP).	
	Seasonal considerations when timing works where practicable.	
	Translocation of reptiles to suitable receptor site if required.	
	Minimise area and duration of disturbance.	
	Avoidance of hibernacula outwith active season where practicable. Watching brief.	
Biodiversity – Terrestrial Ecology, Ornithology	Pre-construction survey.	Section 15
	Development of Species Protection Plan (SPP).	
	Exclusion zones implemented around nest sites where applicable.	
	HPAI control measures in line with NatureScot guidance will be included within the Ontological SPP.	
Biodiversity – Terrestrial Ecology, Bats	If tree works to be undertaken, potential roosting features to be inspected by an appropriately experienced ecologist prior to the commencement of works	Section 15 Guidance Note 8: Bats and Artificial Lighting
	Development of Species Protection Plan (SPP).	
	Artificial lighting within the site should only be used where required to light works sites and for safety reasons and should be directional towards the required works area.	
Biodiversity – Terrestrial Ecology, INNS	Pre-construction survey will be undertaken to identify any invasive non-native species in the onshore construction area.	Section 15
	Exclusion zones around rhododendron found in or adjacent to the construction site.	
	Removal of rhododendron if required, following appropriate methodology.	
	All equipment will arrive clean to site.	
Resource Use & Waste	Use of local materials where available.	Section 16
	Waste hierarchy to be implemented.	
	All relevant waste legislation to be followed.	
Shipping & Navigation	Appropriate Notice to Mariners placed.	Section 22
	Compliance with the Port Marine Safety Management System.	
	Good communications with the Harbour Master.	
	Navigational aids agreed with Northern Lighthouse Board prior to installation. Development of protocol for safe operations at DWS, agreed with aviation stakeholders.	

Table A1.2: Operational Mitigation for DWS

Topic	Mitigation Measures	Reference
Shipping & Navigation	Update of SPA navigational risk assessment and MSMS to include DWS.	Section 22
	Operations in accordance with SPA’s Port Marine Safety Code-compliant MSMS.	
	Navigational aids maintained in line with Northern Lighthouse Board requirements.	

Appendix 2. Breeding Bird Survey Report

Stornoway Deep Water South

Bird Survey Report

November 2023

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Introduction

This report presents the results of a breeding bird survey of the site of the proposed Deep Water South development at Glumaig Bay, Stornoway, Isle of Lewis. The survey was commissioned by Affric Limited (Affric) to provide baseline information on the numbers, status and distribution of birds to inform the Scoping for Ecological Impact Assessment of the proposed development. The survey was undertaken between May and June 2023.

Survey Aims

To determine the abundance and locations of breeding birds across the survey area, and to determine the abundance and locations of non-breeding/foraging birds using the area.

Survey Area

The survey area comprised of the footprint of the proposed development, plus a 300m surrounding buffer area.

Methodology

The survey was carried out by Alison Tyler, an experienced ornithologist who is familiar with the area and the breeding birds of the Isle of Lewis.

Three visits were carried out to the site on the 30th May, 14th June and 28th June 2023.

All habitat was covered by the walkover survey. A route was walked such that all parts of the survey area were approached to within at least 100m and 20 minutes were spent in each 500m x 500m quadrant.

Results

Bird species accounts in systematic order.

Greylag goose *Anser anser*

No evidence of active nests within the survey area. Two family groups recorded on surveys in June, probably from nests in the Loch Arnish area. Seen foraging on shoreline around Glumaig Bay.

Mallard *Anas platyrhynchos*

A single male, and a pair recorded by shore. No evidence of breeding in the survey area.

Red-breasted merganser *Mergus serrator*

Pair recorded foraging in Glumag Bay and on Loch Arnish. No evidence of breeding within the survey area.

Cuckoo *cuculus canorus*

Calling bird mobbed by meadow pipit within the survey area, on survey visits in June.

Oystercatcher *Haemotopus ostralegus*

Birds recorded on all survey visits, minimum count of 3 individuals. A pair has bred in the area on previous years, but there was no indication from the behavior of the birds of nesting within the survey area. A concentrated effort was made to establish if the birds were breeding, but no nests were found, and there was no alarm calling to indicate an active nest. The birds present were feeding along the shore.

Ringed Plover *Charadrius hiaticula*

One pair were seen with young (less than one week old) within the survey area. The probable nest site was 100m from the buffer zone.

Snipe *Gallinago gallinago*

A single bird recorded in the buffer zone to the west of the development footprint. No evidence of breeding.

Herring Gull *Larus argentatus*

Recorded on all three survey visits. There are large colonies within 5km of the site, and birds fly over the area to forage in the bay. All suitable nest sites were checked and there was no breeding behavior. It is possible that some early breeding birds had already fledged before the first survey visit, as immature birds were seen foraging on the shore.

Lesser Black-backed gull *Larus fuscus*

One breeding pair on the shore to the north of the development. At least 4 birds seen on each survey visit. Possible breeding location on steep cliffs above the development area.

Red-throated diver *Gavia stellata*

Adult birds recorded flying over survey area, calling and foraging in Glumaig Bay. No possibility of breeding within the survey area. An active nest was recorded within 1km of the survey area, and the adult birds from this site had flight lines between the nest and the foraging area in the bay directly over the development site.

Hooded crow *Corvus cornix*

Birds recorded flying over site, and a single individual seen foraging with gulls on one survey visit. No evidence of breeding.

Raven *Corvus corax*

Pair seen on all survey visits, mobbing raptors and gulls. There was a potential nest on the crags above the development site, however no adults were seen taking food into this nest and there was no evidence of successful breeding.

Wren *Troglodytes troglodytes*

One breeding pair within survey area.

Stonechat *Saxicola rubicola*

One pair breeding just outwith the survey area, and recorded foraging in the buffer zone.

Pied wagtail *Motacilla alba*

One breeding pair within survey area.

Meadow pipit *Anthus pratensis*

Minimum of one breeding pair within survey area. Seen mobbing cuckoo.

Hen harrier *Circus cyaneus*

No breeding birds in survey area. At least one active nest within 1.5km of the development site, and a male bird recorded hunting on shore within the survey area.

White-tailed eagle *Haliaeetus albicilla*

Adult seen flying over survey area, mobbed by gulls and raven. Not breeding within the survey area.

Buzzard *Buteo buteo*

Pair seen hunting in survey area. An old disused nest on the crag above the development site, and an adult bird seen flying around this area in May. No evidence of nesting at this location and the adult pair recorded hunting are likely to be the birds from a nesting location 1km to the west of the site.

Assessment

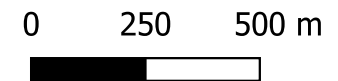
Although the breeding bird assemblage within the proposed development site was not of national significance, all wild birds are protected under the Wildlife and Countryside Act 1981 (as amended in Scotland) and appropriate mitigation methods should be implemented during the construction process through the construction environmental management documentation.

No Schedule 1, Schedule 1A or Schedule A1 birds were nesting within the survey area. However, Schedule 1 birds were breeding within 1km of the site, and the survey area lies within a regular flightline. Hence, the proposed mitigation should account for the potential for nests to be present within possible species-specific disturbance distances from the proposed works.

Stornoway Deep Water South Map 1 Oystercatcher



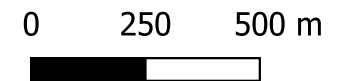
● Oystercatcher



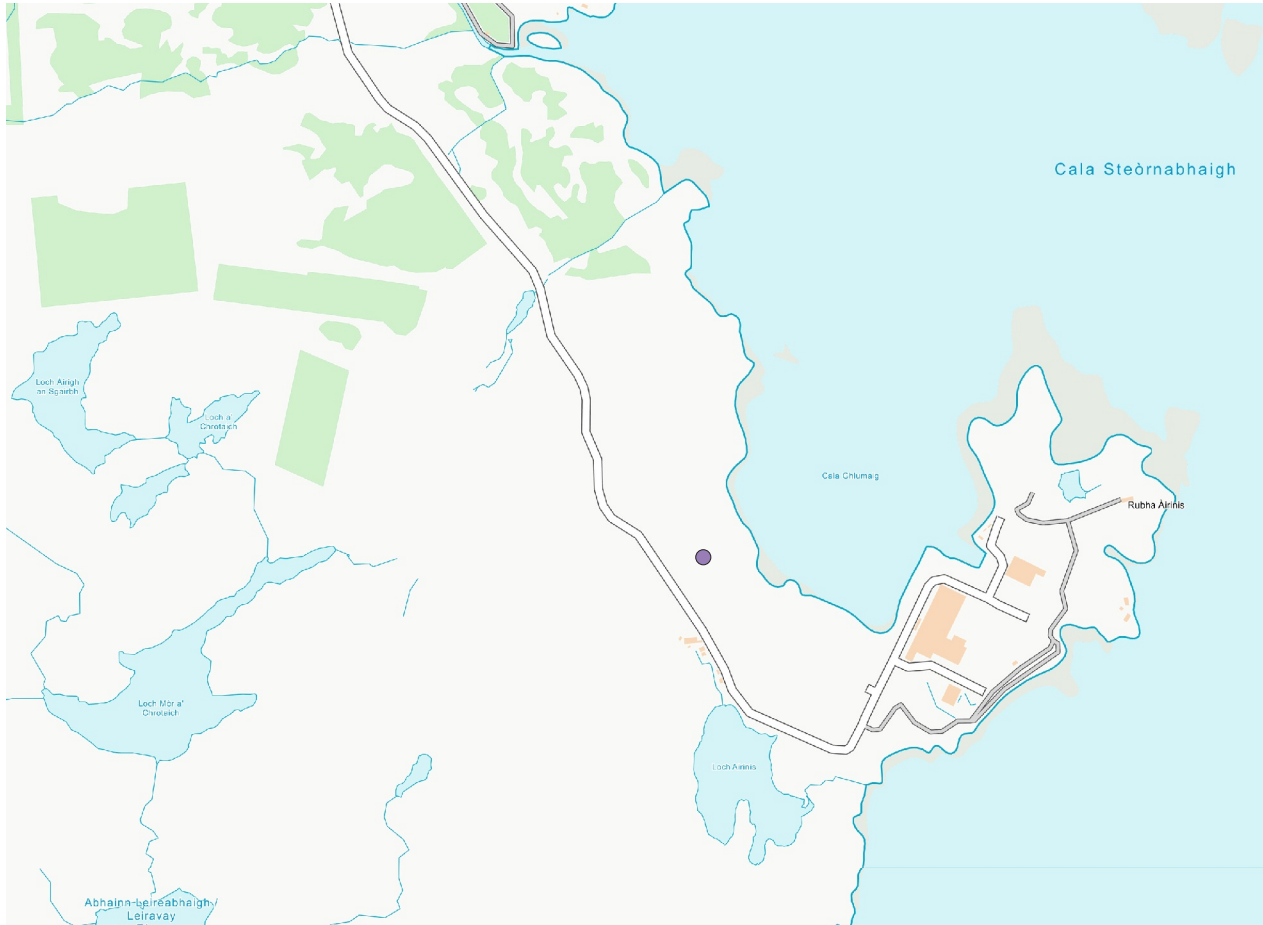
Stornoway Deep Water South Map 2 Ringed Plover



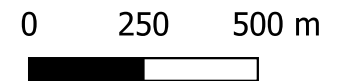
● Ringed plover



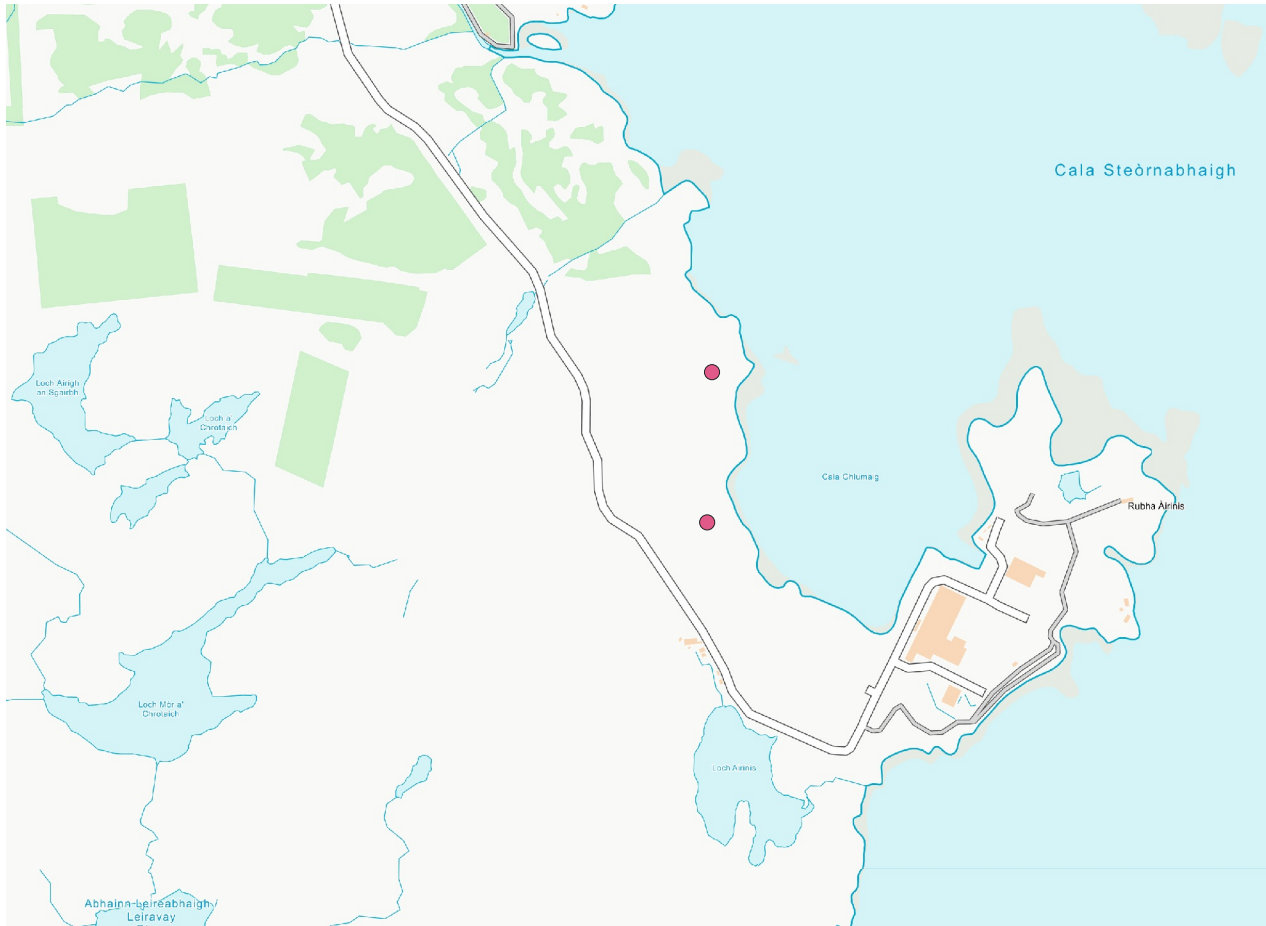
Stornoway Deep Water South Map 3 Lesser black-backed gull



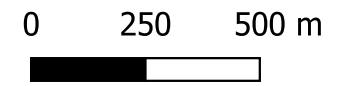
Lesser black-backed gull ●



Stornoway Deep Water South Map 4 Raven



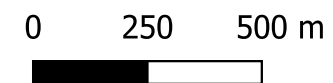
Raven ●



Stornoway Deep Water South Map 5 Wren



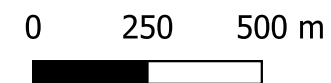
Wren ●



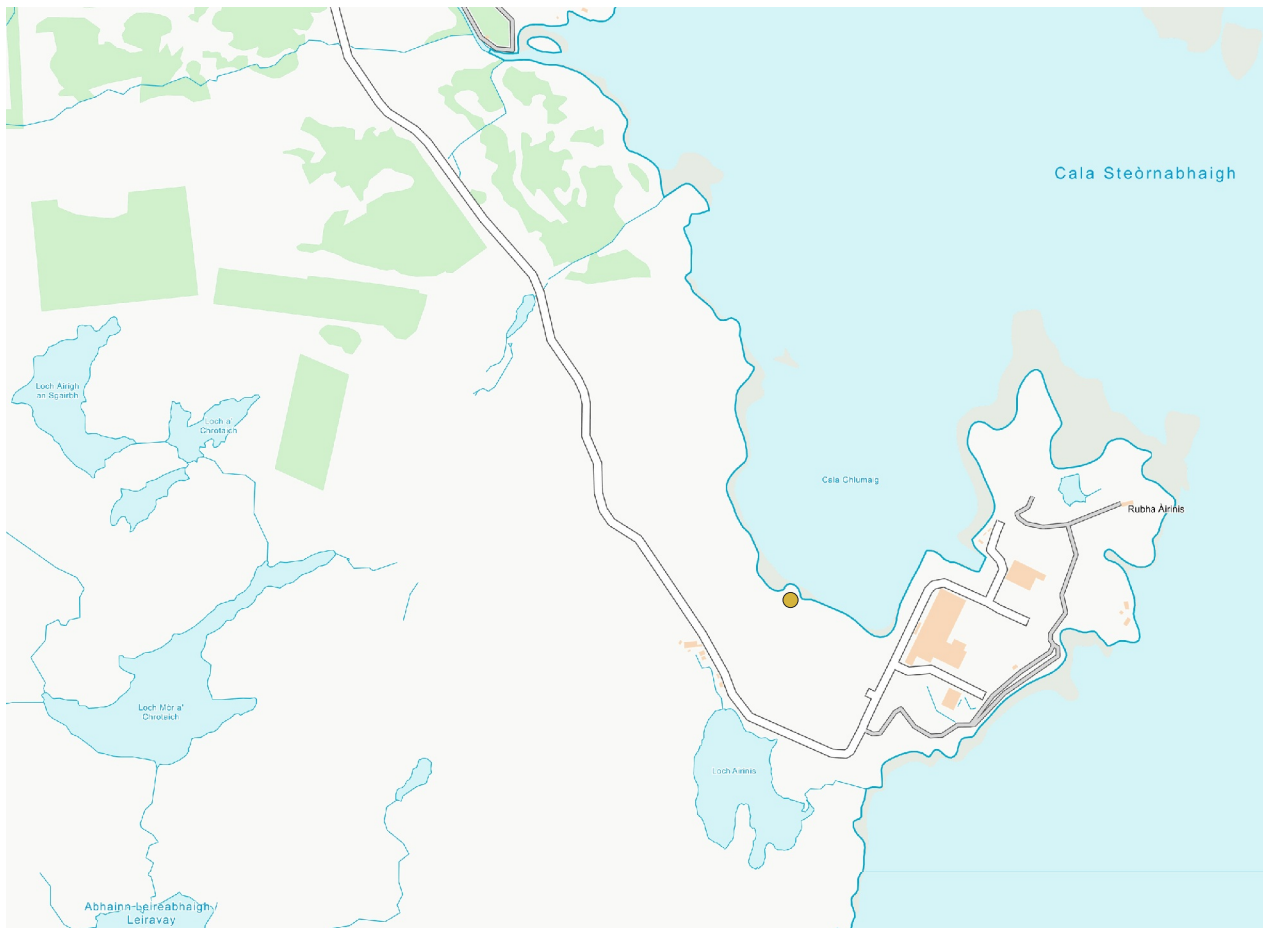
Stornoway Deep Water South Map 6 Stonechat



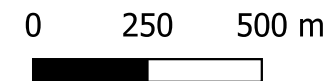
Stonechat ●



Stornoway Deep Water South Map 7 Pied Wagtail



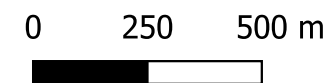
Pied Wagtail ●



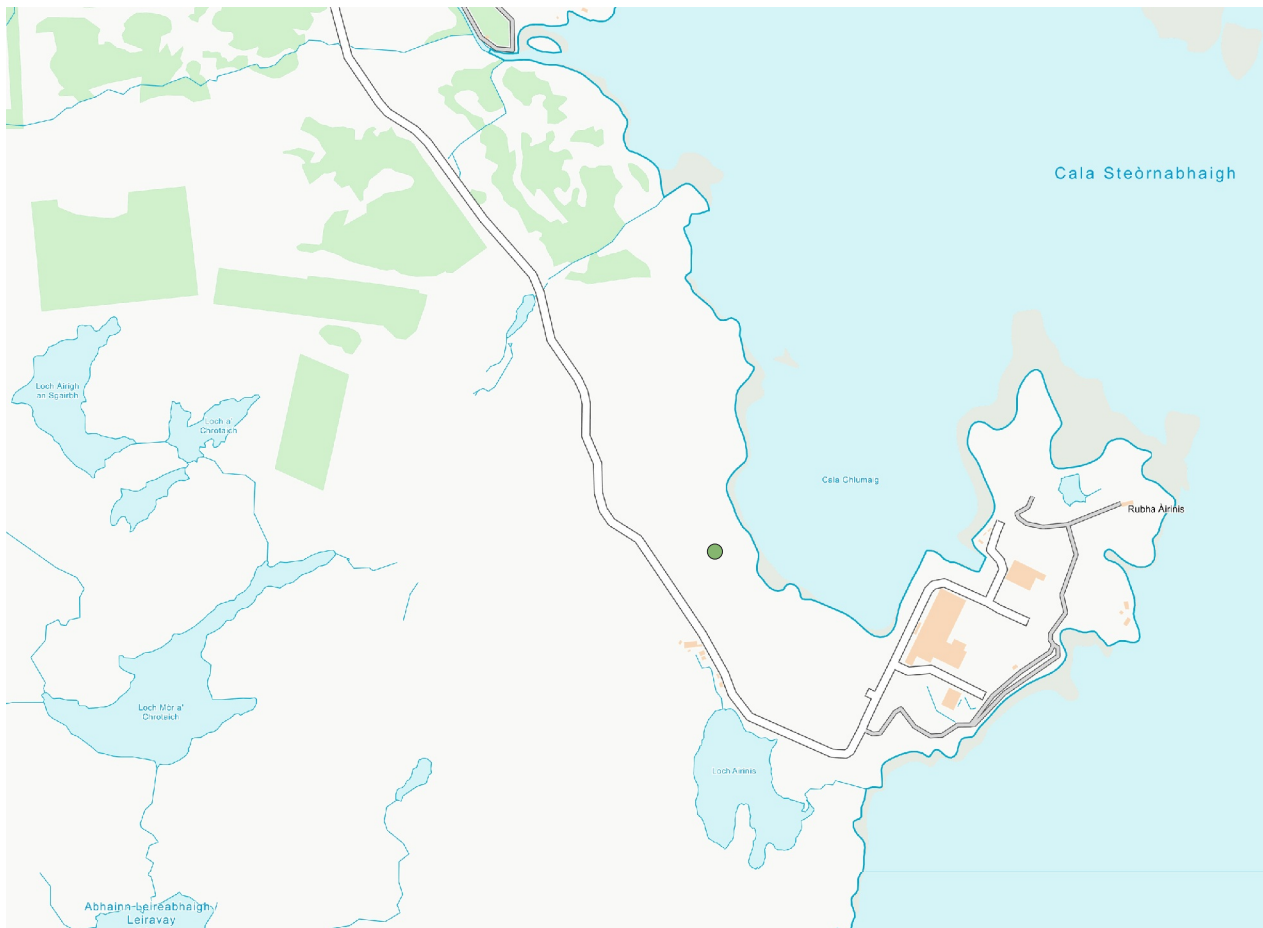
Stornoway Deep Water South Map 8 Meadow pipit



Meadow pipit ●



Stornoway Deep Water South Map 9 Buzzard



Buzzard ●

