

Commissioned by Transport and Technical Services

ECOLOGICAL ASSESSMENT

For

**THE PROPOSED BEAUMONT FLOOD
ALLEVIATION WORKS**

August 2015

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Evidence of Competence

This ecological survey and report has been undertaken by Nurture Ecology Ltd; a fully registered and insured Ecological Consultancy Company.

Nurture Ecology staff involved in the field-work, data input & analysis, mapping and report write-up include;

Jonathan Horn

- o Masters degree in Coastal Zone Management, 2002, (Bournemouth University, UK)
- o Bachelor of Science (Honours) in Geography and Geology, 1996 (University of Manchester, UK)
- o Full member of the Chartered Institute for Ecology and Environmental Management (CIEEM); therefore recognized as a fully qualified and experienced professional and subject to a Professional Code of Conduct.
- o 8 years as Countryside Manager for the National Trust for Jersey
- o 3 years as Countryside Ranger for the National Trust for Jersey
- o Director of Green Lizard Ecology Limited 2012-2013
- o Attended multiple ecological training courses including: Bats for building professionals (BCT 2011), Bat Sound Analysis and echolocation (Echoes Ecology 2015) Bat Surveying Techniques (Echoes Ecology 2015) Assessing Trees for Bats (Echoes Ecology 2015), Small Mammal trapping and handling (Soc. Jer. 2012); Reptile surveying and handling (JARG 2012); Heathland Management for Nature Conservation (Peak District 2005), Wetland Management for Nature Conservation (Peak District 2003), Meadow and coastal flora (Soc Jer. 2004 -2013), Grass Identification (Soc Jer. 2013) Farm and ecological management plan training (Black Sheep Ecology 2008)
- o Received a number of Licenses from the DoE to undertake surveys /trap /handle and relocate wildlife protected by the Conservation of Wildlife Law 2000 between 2012-13 including small mammals, reptiles and amphibians

SECTION 1 INTRODUCTION

1.1 This document presents the findings of an ecological assessment carried out by Jon Horn MCIEEM on 25th August 2015 along a 300m stretch of coastline located between the Gun site Café and Bel Royal (within the Beaumont area). Please refer to Figure 1 below.



Figure 1. Location plan showing the impacted area (in red).

- 1.2 The purpose of the assessment was to identify habitats and notable/protected species present and to assess the likely impact of the proposed seawall works upon these habitats/species.
- 1.3 The proposed works involve the undertaking of alterations to the existing seawall within the Gun site area, in order to enhance its capacity to withstand marine derived flood events in the future. This shall be achieved by raising the height of the seawall and also by altering the sea wall angle, so that it better refracts or absorbs wave impact in the future, therefore reducing overtopping of the seawall and the flooding of areas beyond.
- 1.4 In order to undertake these works, it will be necessary for machinery to be placed on the hard standing, situated immediately inland of the sea wall and also on the beach directly below the seawall. Machinery shall access the beach from the Gun site slipway.

SECTION 2 ECOLOGICAL ASSESSMENT

- 2.1 The site visit involved a walkover survey and assessment of habitats deemed to be within the influence of the proposal, are likely to be affected by the development and are considered to be of at least Local ecological importance. It is considered that no significant effect can occur to features of less than Local Importance.
- 2.2 The ecological features and habitats on site were evaluated in accordance with the Chartered Institute of Ecology and Environmental Management 'Guidelines for Ecological Impact Assessment' (2006). These guidelines provide a framework for the evaluation of features which takes into account the direct biodiversity value of the habitats and species; the indirect value of features which help support the ecological integrity of key features; legal protection (for sites & species); and evaluation against National and Local planning guidance and objectives. These guidelines have been modified to suit and reflect the bio-geographical context of Jersey. Table 1, overleaf, sets out the criteria used for assessment in this report.

Geographical Scale at which Ecological Feature / Habitat / Species is Important	Example of Feature
<u>International</u>	<ul style="list-style-type: none"> ○ Ramsar Sites (Wetlands of International Importance)
<u>State (Jersey)</u>	<ul style="list-style-type: none"> ○ Sites of Special Interest (SSIs); ○ Ecological features providing ecosystem services of significance to Jersey; ○ Populations of legally protected or BAP species exceeding 1% of Island population; ○ Areas of BAP* / key** habitat exceeding 1% of the local / Jersey resource.
<u>Parish</u>	<ul style="list-style-type: none"> ○ Proposed Sites of Special Interest (pSSI) ○ Wildlife areas supporting a parish significant area of key / BAP habitat; ○ Moderate to large populations of a legally protected / BAP species;
<u>Vingtaine</u>	<ul style="list-style-type: none"> ○ Small scale examples of BAP / key habitats; ○ Small populations of legally protected / BAP species;
<u>Site</u> (Of value within the context of the site / survey area or zone of influence of the scheme)	<ul style="list-style-type: none"> ○ Small areas of woodland plantations, species rich grassland, scrub etc. that is not listed as BAP key habitats in Jersey;
<u>Negligible</u>	<ul style="list-style-type: none"> ○ Areas of built development, hard-standing, mineral extraction or intensive agriculture with low interest for nature conservation; ○ Little / no ability to support legally protected / BAP species.

Table 1. The Bio-geographical scale at which features (habitats and species) are assessed against for their nature conservation value in Jersey

2.3 The likely impacts of the proposed development and its operations and the potential ecological effects arising from them are identified and characterised, taking into account the following parameters:

- Positive or negative – whether the impact will result in the net loss or degradation of the habitat/species population or whether it will enhance it;
- Magnitude – the size and intensity of the impact measured in relevant terms, e.g. number of individuals lost or gained, area of habitat loss or created. Magnitude shall be assessed based upon IEM guidelines;
- Extent – the spatial scope of the impact, e.g. the physical area affected by the proposed works;
- Duration – the length of time over which the impact occurs;
- Reversibility – the extent to which impacts are reversible either spontaneously or through the implementation of species and/or habitat action plan;
- Timing and frequency – consideration of timing of events in relation to ecological change, e.g. greater ecological impacts could occur during the breeding and/or hibernation season.

2.4 The significance of the predicted effects on habitats/species arising from the identified impacts of the proposed development is assessed. Significance is addressed as Adverse, Beneficial or Not Significant.

2.5 When considering significance, the key considerations are:

- Will any habitat/ecosystem, notable species be removed, lost or disturbed as a result of the proposed works;
- What will the effect of the impact be upon the extent, structure, continuity of habitat be as a result of the proposed works;
- What will the effect of the population size and viability of notable species be, as a result of the likely impact of the proposed works.

Baseline

Relevant legislation and policy

2.6.1 The interpretations of the findings of the ecological assessment and the subsequent mitigation/compensation recommendations have been produced in accordance with relevant legislation, policies and best practice guidance.

2.6.2 The key pieces of local (and International) Legislation and Policy used to undertake this ecological assessment include:

- The Conservation of Wildlife (Jersey) Law 2000;
- Revised Island Plan 2011;
- Biodiversity: A Strategy for Jersey 2000;
- Bern Convention on the conservation of European Wildlife & Natural Habitat;
- Bonn Convention on the Conservation of Migratory Species of Wild Animals;
- Ramsar Convention on Wetlands of International Importance;
- The Convention on Biological Diversity.

2.6.3 The Conservation of Wildlife (Jersey) Law 2000 is the main legislation that covers protected plants, animals and birds, and makes it an offence to knowingly and without appropriate licence to:

- under Article 5(1), for any person to knowingly kill, injure or take any species of reptile, amphibian, bat, shrew, red squirrel or bird (apart from feral and wood pigeon, magpie or crow) or the egg of such bird;
- under Article 6 (1), for any person to knowingly damage or destroy the den or nest of the above protected species, obstruct access to a den or nest in use or to disturb any protected species occupying a den or nest;
- Under Article 13 to pick, uproot or to collect seed of certain species of plants listed in the schedule of the Law.

2.6.4 The States of Jersey Island Plan 2011 contains policies for nature conservation within Section 2, The Natural Environment. The following policies are relevant to the consented development:

- **Policy NE1 Conservation and Enhancement of Biological Diversity** presumes in favour of the conservation and enhancement of biological diversity.
- **Policy NE2 Species Protection** states that planning permission will only be granted for development that would not cause significant harm to animal and plant species protected by the law or their habitats.

2.6.5 The Strategic Plan (2015-18) sets as one of its goals the need to protect and enhance the island's natural and built environment.

2.6.6 The Planning & Building Law (Jersey) 2002, Article 2 sets the purpose of the law which is to conserve, protect and improve Jersey's natural beauty, natural resources and general amenities, its character and its physical and natural environments. It defines the natural resources of Jersey as including its biodiversity.

2.7 Desk-based Study

Designated sites

2.7.1 No ecological Sites of Special Interest (SSI) are located within 2km of the proposed working area. The St Peter's Valley Proposed Site of Special Interest (pSSI) is located within 2km of the site. This site is a woodland site and is not considered to be within the zone of influence of the proposed working area.

2.7.2 No records for protected species exist for the site, however it should be noted that the lack of records does not signify that protected species do not exist on site, merely it reflects that there is a lack of ecological recording within the locality.

2.7.3 The following protected species have been recorded within 1km of the site: Wall Lizard, Green Lizard, Common Toad, Palmate Newt, Red Squirrels, Lesser White Toothed Shrew, Millet's Shrew and Jersey Bank Vole. Furthermore several protected bat and bird species have been recorded within 1km of the site.

2.8 Field Study

2.8.1 A site walkover survey was conducted by Jon Horn MCIEEM on 25th August 2015. The following habitat, as categorised by the JNCC Phase One Handbook for Habitat Survey were recorded within the influence of the proposed working area:

Intertidal - Sand

2.8.2 The upper beach situated immediately beside the sea wall (within the proposed working area) consists of loose coarse-grained sand. This habitat forms a continuous band of habitat from the sea wall to approximately 80m seawards. Two freshwater streams breach this sandy strip and these are channelled within groin like structures for the first 10m or so, from the wall before they spill onto the beach.

2.8.3 It is considered that the upper beach levels and profiles are likely to experience considerable fluctuations throughout the year. Consequently due to the unstable environment, faunal diversity is considered to be low, probably only consisting of a few non-protected invertebrate species e.g. sand fleas or flies. Due to the widespread nature of this habitat and also because of its low biodiversity, it was considered to be of Negligible conservation value.

Hard standing

2.8.5 A linear stretch of hard standing habitat approximately 5m wide is present immediately above the sea wall. This habitat will form the main working area for the proposed works. Due to the anthropogenic nature of this habitat and due to its low species diversity, this habitat type is considered to be of Negligible conservation value.

Neutral/coastal grassland

2.8.6 A narrow strip of neutral/coastal grassland (1m wide) is located to the other side of the hard standing from the sea wall. This habitat is not within the immediate working area, but is considered to be within the zone of influence of works. Floral diversity was observed to be low and to consist of common/widespread species such as dandelion, cat's ear, sweet Allison and sea beat. As this habitat is widespread, is represented by common species and due to its modest biodiversity, this habitat is considered to be of Negligible conservation value.

Sand dune.

2.8.7 A small remnant of mature sand dune, dominated by Marram grass is present on the northern side of the hard standing. The sand dune is not located within the proposed

working area, but is considered to be within the influence of the working zone. This habitat is listed as a key habitat under the Biodiversity Strategy for Jersey (2000) and therefore is considered to be of Local - Vingtaine Value.

2.9 Protected and Notable Species Potential

Bats

2.9.1 Habitats located within the zone of influence are considered to be of limited value to bats, although some species of bats may occasionally forage along the beach strand line. Overall it is assessed that the proposed impact of works on bats will be Negligible and therefore bats are not significant to this site.

Small Mammals

2.9.2 Due to the nature of habitats within the locale, primarily hard standing and sandy beach, it is considered that habitats present on site have a low potential to support small mammals. The only place where small mammals may be present (in low numbers) is within the small area of sand dune habitat, which does not fall within the proposed working area. Consequently small mammals are considered to be of Negligible conservation value in relation to this site.

Birds

2.9.3 Habitats situated within the proposed working area are considered to be of limited value to birds. Saying this, large flocks of Brent geese over winter in St Aubin's Bay. These birds tend to favour the tidal mudflat habitats situated over 80m away from the seawall. Although this is a considerable distance away from the working zone, there is a direct line of sight between where the birds usually tend to inhabit and the working area. Therefore site works may cause disturbance to the behaviour of the Brent geese within the bay and so consequently these birds fall within the zone of influence of site works. The population of Brent Geese within the bay are considered to be local – Vingtaine Value. All other birds are of Negligible conservation value for this site.

Amphibians

2.9.4 Due to the nature of habitats within the locale, primarily hard standing and sandy beach and due to the lack of standing freshwater within 250m, it is considered that habitats present on site have a low potential to support amphibians. The only place where amphibians may be present (in low numbers) is within the small area of sand dune habitat, which does not fall within the proposed working area. Consequently amphibians are considered to be of Negligible conservation value in relation to this site.

Reptiles

2.9.5 Due to the nature of habitats within the locale, primarily hard standing and sandy beach, it is considered that habitats present on site have a low potential to support reptiles. The only place where reptiles may be present (in low numbers) is within the small area of sand dune habitat, which does not fall within the proposed working area. Consequently reptiles are considered to be of Negligible conservation value in relation to this site.

Invertebrates

2.9.6 Habitats within the zone of influence of the proposed working area are likely to support only common and widespread invertebrates species. No Invertebrates with Biodiversity Action Plans are considered to be present within this area. Consequently Invertebrates are considered to be of Negligible conservation value in relation to this site.

Summary of Ecological Assessment

2.9.7 Each habitat and species group has been assigned an ecological value according to the geographical scale at which it is considered to be important, in accordance within IEM guidelines (as modified for use in Jersey). Those of local value or higher are shown in Table 2 below:

Site/habitat/species	Value
Brent Geese	Local - Vingtaine
Sand Dune	Local - Vingtaine

Table 2. Valuable ecological components at the Beaumont Flood Alleviation Scheme site

- 2.9.8 All other species/habitats are not considered to be of ecological value for this site, however some mitigation/compensation considerations may need to be applied in relation to their legal protection.

SECTION 3 PREDICTION OF IMPACTS AND ASSESSMENT OF EFFECTS

- 3.1 No significant changes to baseline conditions are expected between the present time and the proposed commencement of works.
- 3.2 The impact of the proposed development works upon the ecological baseline is assessed in the following sections in order to determine their magnitude, duration and significance.

Marine Habitats

- 3.3 The Bay of St Aubin contains valued marine ecosystems including offshore reefs and mud/sand flats that support a rich and varied ecology. Intertidal marine habitats are listed as a Key habitat under the Biodiversity Strategy for Jersey 2000 and therefore afforded special protection under Island legislation and policy. The Bay also supports important populations of over wintering migrants, particularly significant numbers of Brent geese, which reside within the bay between November and April.

Perceived Impacts

- 3.4 Potential short-term impacts from the proposed demolition/construction works include the accidental release of pollutants/contaminants into the marine environment. This may result in nutrient enrichment and toxic effects to marine ecosystems and their associated organisms. In the absence of mitigation, this impact could result in an adverse effect of up to a low magnitude (IEM categorisation), which would be significant at a Local level.
- 3.5 Over wintering bird species do not use the upper beach habitats, instead favouring lower intertidal mud habitats, consequently they are likely to be at least 80m away from the proposed working area at low tide. The anticipated impacts of works (noise/light/general disturbance) are considered to only minimally impact upon valued wading bird populations, therefore no significant effects are anticipated.

- 3.6 Overall, due to the potential risk of the accidental release of pollutants into marine environment, the adverse effects of the proposed works (in the absence of mitigation) is considered to be of a low magnitude, significant at local level.

Sand Dune

- 3.7 Sand dunes are listed as key habitat under the Biodiversity Strategy for Jersey (2000), as they provide a valuable habitat for a wide range of protected species. The remnant of sand dune present within close proximity to the working area is considered to be in poor condition and fragmented from other habitats, however it is feasible that it may support low numbers of amphibians, reptiles or small mammals.

Perceived Impacts

- 3.8 Potential impacts of the proposed works may result in the disturbance to or mortality of protected fauna, if site works were to overspill from the proposed working area. Due to the extent of the sand dune habitat and its isolation from other habitats, it is anticipated that it is likely to support only a small number of protected species. The predicted magnitude of an adverse event is low and is only considered in relevance to the context of the zone of influence of the proposals. As such the adverse effects are expected to be not significant.
- 3.9 The disturbance of small mammals, amphibians and reptiles, should they be present within the sand dune habitat, from the construction activities (noise, light and vibration) is considered likely to have an adverse effect at low magnitude and therefore is considered not significant.

SECTION 4 MITIGATION

- 4.1 Within the context of an Ecological Impact Assessment, mitigation is one of the measures that is undertaken to prevent or reduce adverse impacts as follows:

Avoidance/prevention: Consider options that avoid harm to environmental resources or natural processes.

Reduction/mitigation: Where adverse effects are unavoidable, then these should be mitigated either through design of the project or through measures that can be subsequently guaranteed.

Compensation: Where, despite the mitigation proposed, there are significant residual adverse environmental effects. These must be offset by appropriate compensatory measures nearby/elsewhere.

- 4.2 This section proposes specific mitigation measures for all perceived ecological impacts upon habitats/species considered to be of at least Local conservation value i.e. impacts to overwintering Brent geese, the marine environment and to the Sand Dune habitat.

Marine Environment

- 4.3 In order to mitigate any impacts to marine ecosystems from the construction works, a good practice statement within the design statement should be implemented. This should provide details as to the containment of the working area, regarding beach access and should also include a pollution prevention plan.
- 4.4 Furthermore the good practice management statement should include measures to ensure that the generation of litter, dust, noise and vibration are minimised.
- 4.7 A tool box talk should be carried out prior to the commencement of site works informing workers as to the details of the good practice method statement and also informing them that extra care should be undertaken when working adjacent to marine environments.
- 4.8 With implementation of the above mitigation measures as set out, the potential impacts of the proposed works are expected to be reduced, such that residual effects are not significant.

Sand Dune

- 4.8 As the works are not planned to directly impact upon the sand dune habitat, the potential to impact upon protected fauna is expected to be low. However there is a small potential that tools, machinery etc could be stored adjacent to or on the sand dune, which may cause unnecessary disturbance to resident fauna.

- 4.9 In order to avoid this scenario the appointed contractor site manager is to inform all site workers that no items or machinery are to be placed within 2m of the sand dune habitat.
- 4.10 On the basis that the above mitigation is implemented, it is envisaged that the potential to cause harm to protected fauna would be avoided, therefore there would be no effect on wildlife.