



# **An Ecological Survey of the old Anderson High School Campus, Lerwick, Shetland.**

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## **Executive Summary**

The site comprises a range of infrastructure, areas of heavily modified grassland and a few restricted areas of amenity plantings. No EPS (European Protected Species) were located during the survey or are known from the site, and no locally important species were recorded during the survey. Bats have never been recorded breeding in Shetland; currently one species occurs as a migrant in the islands and six others have been recorded as vagrants. The habitats present all show signs of significant modification, having been created during construction work and heavily managed as 'lawn grassland' since. These show a range of grass species – many of which are typical of 'introduced' grass seed, and a limited range of herbs. Significant management of these areas stopped in October 2017 and some smaller areas, particularly those away from the public gaze, have become rank and overgrown.

The only significant natural heritage constraint to development at this site would be breeding birds, which may mean demolition or construction work would need to be seasonal. The survey was undertaken too late in the season to establish whether any birds were breeding on site but it seems likely that Starlings and House Sparrows utilise the buildings, while a brood of fledged Swallows present during the survey was probably raised on site. The amenity plantings are of little value in themselves as they comprise introduced trees and shrubs but some – notably the Veronica, Lonicera and Fuchsia – are extremely attractive to invertebrates and were attracting numerous bumblebees on my visit.

Any future development certainly offers opportunities to enhance the biodiversity of this area. Planting native trees and the development of herb-rich meadows based on native Shetland flowering plants, are obvious possibilities.

## **1 Background**

Shetland Biological Records Centre was asked to provide an ecological survey of the old Anderson High School campus by Rankinfraser Landscape Architecture. The survey was to comprise a Phase 1 habitat survey, an assessment of the presence, or use of the area, by European Protected Species, and any possible environmental constraints on development. A search of the SBRC database was also conducted. The survey was undertaken by Paul Harvey on 14<sup>th</sup> September 2018.

## **2 Results**

### **2.1 Designated Sites.**

There is just one SSSI within 5km of the site, Easter Rova Head, a hard rock geology site lying over 4km to the north.

Three Local Nature Conservation Sites are found within 5km of the campus:

The Loch of Clickimin, selected on the basis of its freshwater macrophytes and wintering wildfowl, lies just 1km to the west. It also has significant amenity plantings along some of its shores.

The South Bight of Rova Head is a hard rock geology site lying about 4km to the north. It is contiguous with the Easter Rova Head SSSI mentioned above

The Lang Lochs was selected for its high quality blanket bog and lies 5km to the south west.

## **2.2 European Protected Species**

No EPS were located during this survey. It is possible that Otters cross the area from time to time but no signs were recorded during the survey and the area does not look suitable for holts with its heavily managed ground, distance from the sea and moderate levels of disturbance. Cetaceans occur offshore but are not relevant to this development and bats are only recorded in Shetland as scarce migrants (Nathusius' Pipistrelle) or vagrants (six other species). No other EPS animal species occur in Shetland and neither do those plants listed on Schedule 4 of the Habitats Regulations.

## **2.3 Nationally or Locally Important Species**

No locally important plants were located during the survey and there is no evidence that the site is used by locally important animals. A number of Northern White-tailed Bumblebees (*Bombus magnus*) and a single Buff-tailed Bumblebee (*B. terrestris*) were located during the survey, these being attracted to amenity plantings. Bumblebees were subject to a LBAP but there are multitudes of gardens in the vicinity of the AHS campus which provide them with pollen and nectar.

## **2.4 Habitat survey and associated flora**

An aerial photograph showing the location of target notes and photographs taken is presented in the Appendix.

In summary, the whole area has suffered severe modification, initially through the construction of the school and then through subsequent improvement etc. The grass appears to have been managed intensively quite probably with treatment by fertiliser and weed killers. The presence of grass species such as Cocksfoot (*Dactylis glomerata*), Italian Ryegrass (*Lolium perenne*) and Meadow Foxtail (*Alopecurus pratensis*) along with Red Fescue (*Festuca rubra*), meadow grasses (*Poa* sp) and bents (*Agrostis* sp) suggests that a seed mix has been utilised to reseed any areas post construction work. The vegetation is therefore described as Improved grassland. In a few areas where there are more forbs and these may approach semi-improved neutral grassland but given that the whole area has been extensively modified none of these areas are of conservation significance. The absence of any grassland fungi of the genus *Hygrocybe* (waxcaps), supports this conclusion.

There was one small damp area at HU 48086 40917 which showed a more natural vegetation including Jointed Rush (*Juncus articulatus*), Yellow Sedge (*Carex viridula* agg), Eyebright (*Euphrasia officinale*), Autumn Hawkbit (*Leontodon autumnalis*) and several bryophyte species. The damp nature of this area is presumably why it has maintained a more semi-natural vegetation. It wasn't large enough to map but is indicated with a target note.

A number of flowering herbs were located during the survey, with some areas appearing richer than others. The most commonly recorded herbs were those that are most tolerant of the application of fertilisers and herbicides and typical of improved grassland, along with several well-established aliens typical of altered habitats. The most frequent forbs were White Clover (*Trifolium repens*), Ribwort Plantain (*Plantago lanceolata*), Creeping Buttercup (*Ranunculus repens*), Common Sorrel (*Rumex acetosa*) and Daisy (*Bellis perennis*). Greater Plantain (*Plantago major*), Hogweed (*Heracleum sphondylium*), Cat's ear (*Hypochaeris radicata*), ragwort (*Senecio* sp.) and Broad-leaved Dock (*Rumex obtusifolius*) were recorded less frequently.

More interesting herbs that indicate less intense treatment, or possibly some reversion back since the withdrawal of more intensive management, included Red Clover (*Trifolium pratense*), Meadow Vetchling (*Lathyrus pratensis*), Bush Vetch (*Vicia sepium*), Meadow Buttercup (*Ranunculus acris*), Common Mouse-ear (*Cerastium fontanum*), Self Heal (*Prunella vulgaris*), Red Campion (*Silene dioica*), Autumn Hawkbit and Bird's-foot Trefoil (*Lotus corniculatus*) although several of these were only recorded at one location.

A number of gravel or paved areas are becoming vegetated as maintenance has been ceased or reduced. Colonists here include willowherb spp (*Epilobium* spp), sow thistle spp (*Sonchus* sp), Procumbent Pearlwort (*Sagina procumbens*), Groundsel (*Senecio vulgaris*), Pineappleweed (*Matricaria discoidea*), Dandelion (*Taraxacum officinale*) and Lady's Mantle (*Alchemilla glabra/mollis*)

## **2.5 Other Fauna**

A number of House Sparrows, Starlings and a family part of Swallows were recorded during the visit. Several Meadow Pipits and White Wagtails were almost certainly migrants utilising the open concrete areas and short grassland.

A number of White-tailed Bumblebees (*Bombus magnus*) and a single Buff-tailed Bumblebee (*B. terrestris*), and a migrant Red Admiral were noted. These were all nectaring at planted non-native shrubs.



1 & 2 Showing improved grassland typical of most of site with scattered herbs – White Clover, Ribwort Plantain, Common Sorrel, Hogweed, Daisy, Autumn Hawkbit, Dandelion.



3. Showing slightly more herb rich area with Red Clover.



4. Showing large patch of dockans – too young to identify but probably Northern Dock



5. One of less intensively managed areas with White Clover, Groundsel, Hogweed, Common Mouse-ear, Meadow Buttercup, Creeping Buttercup, Red Clover, Self Heal, Cat's-ear, Common Sorrel, Northern Dock and Red Campion, although grass species still indicate probably originated from seeding after construction. Beyond grassland lies a bank of amenity plantings including Fuchsia and Veronica. Bumblebees nectaring on these.



6. Area that has not been mown since October with similar species composition to 5.





7. Bird's-foot Trefoil, climbing over kerb in lower middle of photo (HU 47968 40820).



8. Improved grassland typical of more open maintained areas, with a few scattered herbs.



9. Rank grassland found in several areas between buildings, presumably as they are out of the public eye. They show a similar species composition to the other areas of grassland but with more 'weed' species e.g. Northern Dock. These areas appear not to have been maintained since last year.



10. Improved grassland at school entrance.



11. Many gravel and paved areas are becoming vegetated now that maintenance has been reduced/stopped.



12. Area of amenity planting – Fuchsia, Honeysuckle and Veronica. Large numbers of bumblebees and a Red Admiral nectaring here.



13. Further amenity planting including whitebeam, sycamore and lupin, Geranium, montbretia understorey.



14. Well manicured grassland typical of much of campus.



15. Damp or flushed area of grassland at HU 48086 40917 showing a much more semi-natural appearance with a bryophyte layer and wetland indicators – Jointed Rush (*Juncus articulatus*) and Yellow Sedge (*Carex viridula* agg.) as well as Autumn Hawkbit, Self-heal and Eyebright sp (*Euphrasia* sp). Presumably the dampness has meant that more rigorous species have not been able to out-compete these species.



16. Planted, wooded area in corner with birch, sitka alder and shrubs and understory.



17. Steep slope above trees, looking less intensively managed with more bryophytes among grass and a few herbs.



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