

Lincolnshire:

Working with dog walkers to develop an access management plan for Saltfleetby-Theddlethorpe

NNR: The reserve provides an important green space for people to enjoy the outdoors, for their health and wellbeing, however, disturbance caused by walkers with their dogs is a big problem for local wildlife. Natural England would like to develop an access management plan using zoned and least restrictive principles to help rectify these issues.

A detailed survey of *Bryum warneum* distribution at Saltfleetby-Theddlethorpe NNR: Saltfleetby dunes support a small number of notable bryophytes, including vulnerable *Bryum warneum*. In 2017, fruiting *B. warneum* was discovered >180m from the population recorded in 2003 / 2005, and since areas of suitable habitat have been found in between, this species may have a larger population than previously thought. This study will assess the extent of *B. warneum* population, between and around known locations.

Assessing the impacts of Dynamic Dunescapes management interventions on flora / fauna at Saltfleetby-Theddlethorpe: What species colonise the new dune ridge? Have we seen an increase in biodiversity / or the return of rare plants / invertebrates as a result of turf stripping? What happens after scrub removal? Has the new grazing regime improved dune grassland?

Has Covid-19 affected the number of people visiting Gibraltar Point NNR and what people do / where people go on the reserve?

Where do visitors walk at Gibraltar Point and does this cause a depression in breeding bird density? If so, we will need to change visitor access and flows (Heat maps & GPS data loggers)

A Study on Saltfleetby's contribution to the dramatic and on-going coastal change along the north Lincolnshire coast: Nationally significant additions of saltmarsh and sand dune have occurred over the last 50 years, on an open coast rather than within a sheltered estuary. Although plenty of aerial photos are available, this expansion is not well documented and is a major 'evidence gap'. Elements of interest and/or significance include: the expansion not being driven by *Spartina anglica* colonisation, substantial development of sea lavender and thrift saltmarsh, and the appearance of strip saltings.

Dorset:

Specific mapping of foredune and embryo dune specialist plant species: Recording the distribution and abundance of priority species. Plant species of interest include: saltwort (*Salsola kali*), sea rocket (*Cakile maritima*), frosted orache (*Atriplex laciniata*).

Baseline survey of specific plant dependant invertebrates: Two associations of interest include: leaf beetle (*Chrysomela populi*) & creeping willow (*Salix repens*) or hoverfly (*Eumerus sabulonum*) & sheep's bit (*Jasione montana*).

Extended surveillance of dune and heath invertebrates: Invertebrate species of interest include: heath tiger beetle (*Cicindela sylvatica*), parasitic bee fly (*Bombylius minor*), bee fly (*Thyridanthrax fenestratus*).

Determining the utilization of new dry scrapes by sand lizards: The creation of new bare ground scrapes will occur from 2020-2022, this title involves looking for signs of sand lizards re-colonising these new habitats. This would involve training from the Citizen Science Officer of the National Trust.

Dune Buggies: monitoring insect locomotor activity in a dune ecosystem Monitor the running movements of dune insects, looking at top speeds, averages, direction changes and angles of change. Researching whether these factors alter with territory size and in turn dune succession.

Cornwall:

How quickly are successional changes taking place on the dunes? To guide/target site management - especially scrub removal

How do dune slack plant communities respond to scraping interventions? To inform future decisions on dune slack interventions

At what rate do areas of bare sand become vegetated? To inform future decisions on turf removal interventions

How best to estimate rabbit populations in the dunes? Or, What are the rabbit population estimates for Penhale Dunes/The Towans? Or, How does rabbit population size relate to short turf areas/scrub encroachment? Rabbits play an important role in arresting succession, which has implications for site management. A better understanding of the pros and cons of making rabbit population estimates will allow the most appropriate method to be used. Precise estimates of rabbit populations will lead to better informed decision making. Results could give a better understanding of the relationship between rabbit numbers and scrub encroachment.

At what rate do patches of scrub spread on the dunes? To guide/target site management - especially scrub removal

How does (variable x) vary between locations? Linked to citizen science data, variables could be sward height, plant species diversity, percentage bare sand. Using Citizen Science data to increase the understanding of management (e.g. grazing) impacts.

What are local people's perceptions of dog fouling/behavioural issues? Or, How does dog fouling affect dune soil characteristics? Or, Where is the most dog fouling occurring? An understanding of where dog-related issues (including fouling) are greatest will better inform future decision-making with regards to infrastructure and engagement with dog-walking community. Soil characteristics can be compared to plant/invertebrate communities, increasing understanding of dog fouling impacts at local sites.

How important is dune aspect to invertebrate abundance? Or, How important is dune aspect to silver studded blue abundance? This will guide future site management.

What is the abundance and distribution of scrambled egg lichen at Penhale Dunes? This will establish a population estimate, from which future comparisons can be made.

Which species of ants are silver studded blue symbionts? Or, Behaviour of ants 'farming' silver studded blue caterpillars? This could include placing a camera into a nest. This study will increase our understanding of studded blue butterfly ecology.

North Devon:

Impact of specialised grazing animals on invasive species: For example, sea buckthorn

Impact of grazing on sand dunes: For example, rabbits, sheep, cattle

Insect diversity and abundance in relation to grazing. Or, Insect diversity and abundance in relation to scrape / scrub / habitat management

Effectiveness of choice of machinery for habitat management

Impacts of dog walking / commercial dog walkers: May include changes to soil chemistry, sheep behaviour, visitor numbers, bird abundance, nesting bird and nest density, and the visual impact of faeces and bags.

Effects on visitor health and wellbeing.

Impacts of signage and interpretation.

Impact of MOD use of the site.

Historical Research on Braunton Burrows: The cataloguing and digitalising of historical records

The effects of Engagement and Social Media: Research into and the development of effective communication strategies for delivering sand dune conservation messages in North Devon.

Sand Lizard Reintroduction at Woolacombe Sand Dunes.