Carrowmore Point to Spanish Point and Islands SAC (site code 1021) Conservation objectives supporting document -coastal habitats

NPWS

Version 1

March 2014

Table of Contents

Please note that the opinions expressed in the site reports from the Coastal Monitoring Project (CMP) are those of the authors and do not necessarily reflect the opinion or policy of NPWS.

Please note that this document should be read in conjunction with the following report: NPWS (2014). Conservation Objectives: Carrowmore Point to Spanish Point and Islands SAC 001021. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

1 Introduction

Achieving Favourable Conservation Status (FCS) is the overall objective to be reached for all Annex I habitat types and Annex II species of European Community interest listed in the Habitats Directive 92/43/EEC (Commission of the European Communities, 2007). It is defined in positive terms, such that a habitat type or species must be prospering and have good prospects of continuing to do so.

Carrowmore Point to Spanish Point and Islands SAC site extends along the Clare coastline from Spanish Point (3km west of Milltown Malbay), in a south-south-westerly direction to Carrowmore Point. It comprises a strip of coastline, several offshore islands and rocks (notably Mutton Island), and the marine water of Mal Bay between the islands and the mainland. Lough Donnell is a lagoon found near Carrowmore Point at the southern end of the site. Underlying the site are Carboniferous grits which are bedded at a low angle. The headlands are highly exposed to the Atlantic Ocean.

Small sand dune systems are found near Spanish Point, about Lurga Point and further South. The northern dune system is somewhat degraded, while that near Lurga Point is less damaged and more stable, and includes areas of foredune and fixed dune. The Coastal Monitoring Project (CMP) surveyed the dunes at Spanish Point, Lurga Point and Lough Donnell (Ryle *et al.,* 2009)

Shingle banks are found at the base of cliffs and at the head of bays. Due to the exposed nature of their location these support a sparse vegetation cover.

Carrowmore Point to Spanish Point and Islands SAC (site code: 1021) is designated for a range of habitats including coastal lagoons, reefs, vegetated shingle and petrifying springs. The following habitat is included in the list of qualifying interests for the site:

- Perennial vegetation of stony banks (1220)

This backing document sets out the conservation objectives for the coastal habitat listed above in Carrowmore Point to Spanish Point and Islands, which is defined by a list of parameters, attributes and targets. The main parameters are (a) Range (b) Area and (c) Structure and Functions, the latter of which is broken down into a number of attributes, including physical structure, vegetation structure and vegetation composition.

The targets set for the **shingle** are based in part on the findings of the National Shingle Beach Survey (NSBS), which was carried out in 1999 on behalf of the National Parks and Wildlife Service (NPWS) (Moore & Wilson, 1999). The distribution of known shingle sites in Carrowmore Point to Spanish point and Islands SAC is presented in Appendix I.

The NSBS visited the following four sub-sites within Carrowmore Point to Spanish Point and Islands SAC:

1. Caherrush, Spanish Point and Travaun Bay (Site no.81)
2. Lough Donnell (Site no.82)
3. Carricknola/Tromcastle Strand (Site no.83)
4. Quilty (Site no.84)

During the NSBS, profiles and transects were recorded from each shingle beach and each site was assigned a crude High/Medium/Low interest ranking. A 'high interest' ranking denotes a site that is of high conservation value. The site may be of interest botanically or geomorphologically. A 'medium interest' ranking implies the site may be extensive but not of particular interest either botanically or geomorphologically. A 'low interest' ranking is reserved for small sites, highly damaged sites or sites that are of a very common classification. The vegetated shingle at Carricknola/Tromcastle was rated of medium interest owing to some interesting formations even though the overall vegetation is considered poor. The three other sub-sites were assigned a low ranking owing to the poor quality of the vegetation and to the construction of erosion protection structures in the case of Quilty (Moore & Wilson, 1999).

The habitat was not mapped at any of the sub-sites, but the vegetation was recorded, as were the human impacts and alterations at the site, which are useful tools for assessing the Structure and Functions of the site.

The CMP surveyed three sub-sites within the SAC, at Spanish Point, Lurga Point and Lough Donnell. Vegetated shingle was only recorded at the Lurga Point sub-site (site code 083) (Ryle *et al.,* 2009).

2 Conservation Objectives

The conservation objective aims to define the favourable conservation condition of a habitat or species at a particular site. Implementation of these objectives will help to ensure that the habitat or species achieves favourable conservation status at a national level.

3 Perennial vegetation of stony banks

Perennial vegetation of stony banks is vegetation that is found at or above the mean high water spring tide mark on shingle beaches (i.e., beaches composed of cobbles and pebbles). It is dominated by perennial species (i.e. plants that continue to grow from year to year). The first species to colonise are annuals or short-lived perennials that are tolerant of periodic displacement or overtopping by high tides and storms. Level, or gently-sloping, high-level mobile beaches, with limited human disturbance, supports the best examples of this vegetation. More permanent ridges are formed by storm waves. Several of these storm beaches may be piled against each other to form extensive structures.

3.1 Overall Objective

The overall objective for 'perennial vegetation of stony banks' in Carrowmore Point to Spanish Point and Islands SAC is to 'maintain the favourable conservation condition'. This objective is based on an assessment of the recorded condition of the habitat under a range of attributes and targets. The assessment is divided into three main headings (a) Range, (b) Area and (c) Structure and Functions.

3.2 Area

3.2.1 Habitat extent

Habitat extent is a basic attribute to be assessed when determining the condition of a particular habitat. The target for favourable condition is *'no decrease in extent from the established baseline'*. Bearing in mind that coastal systems are naturally dynamic and subject to change even within a season, this target is assessed subject to natural processes, including erosion and succession.

The exact current extent of this habitat in Carrowmore Point to Spanish Point and Islands SAC is unknown. The National Shingle Beach Survey (NSBS) recorded vegetated shingle ridge from four sub-sites: Caherrush, Spanish Point and Travaun Bay (Site no.81), Lough Donnell (Site no.82), Carricknola/Tromcastle Strand (Site no.83) and Quilty (site no.84), but did not map the extent (Moore & Wilson, 1999).

The CMP surveyed and mapped the vegetated shingle at Lurga Point and recorded 0.18ha of this habitat (Ryle *et al*. 2009).

The target is that the area should be stable or increasing, subject to natural processes, including erosion and succession.

3.3 Range

3.3.1 Habitat distribution

The County Clare coastline has some interesting stretches of shingle. There is a cobble lagoon barrier formation consisting of limestone cobbles and boulders separating Lough Donnell from the sea (Moore & Wilson, 1999). There is a vegetated shingle ridge with an unvegetated fringing beach at Caherrush, Spanish Point and Travaun Bay (Moore & Wilson, 1999). The vegetated shingle ridge at Carricknola/Tromcastle Strand is composed of limestone cobbles and pebbles (Moore & Wilson, 1999). The fringing beach of shingle at Quilty is backed by erosion protection measures terminating in a vegetated shingle ridge (Moore & Wilson, 1999).

The target is that there should be no decline or change in the distribution of this habitat, unless it is the result of natural processes, including erosion and succession.

3.4 Structure and Functions

A fundamental aim of shingle conservation is to facilitate natural mobility. Shingle beaches are naturally dynamic systems, making them of geomorphological interest as well as of ecological interest. They are constantly changing and shingle features are rarely stable in the long term.

3.4.1 Functionality and sediment supply

The health and on-going development of this habitat relies on a continuing supply of shingle sediment. This may occur sporadically as a response to storm events rather than continuously. Interference with the natural coastal processes, through offshore extraction or coastal defence structures in particular, can interrupt the supply of sediment and lead to beach starvation.

Moore & Wilson (1999) recorded the presence of erosion protection measures at Quilty in the form of rock armour, concrete pilings under construction and boulders dumped on the beach.

The target is to maintain and restore where possible the natural circulation of sediment and organic matter, without any physical obstructions.

3.4.2 Vegetation structure: zonation

Ecological variation in this habitat type depends on stability; the amount of fine material accumulating between the pebbles; climatic conditions; width of the foreshore and past management of the site. The ridges and lows also influence the vegetation patterns, resulting in characteristic zonations of vegetated and bare shingle. In the frontal less stable areas of shingle, the vegetation tends to be dominated by annuals and short-lived salt-tolerant perennials. Where the shingle is more stable the vegetation becomes more perennial in nature and may include grassland, heathland and scrub, depending on the exact nature of the site. The presence of lichens indicates long term stability of the shingle structure. Transitions to intertidal shingle, lagoon, rocky shore and cliff habitats occur at this site. At the Caherrush, Spanish Point and Travaun Bay site there are actively eroding cliffs and sand dunes behind the vegetated shingle ridge (Moore & Wilson, 1999).

The target is to maintain the range of coastal habitats, including transitional zones, subject to natural processes including erosion and succession.

3.4.3 Vegetation composition: typical species & sub-communities

The degree of exposure, as well as the coarseness and stability of the substrate determines species diversity. The shingle habitat in Carrowmore Point to Spanish Point and Islands SAC is known to support a typical flora for this habitat type, albeit a species poor one owing to the high levels of exposure.

The dominant vegetation of the shingle beaches within the site is that of a mosaic of *Annual vegetation of driftlines* (1210) and *Perennial vegetation of stony banks* (1220). The more stable areas of shingle support characteristic species of both these EU habitat types such as sea beet (*Beta vulgaris* ssp. *maritima*), sea mayweed (*Tripleurospermum maritimum*), sea campion (*Silene uniflora*), curled dock (*Rumex crispus)*, orache species (*Atriplex* species), sea sandwort (*Honckenya peploides*) and silverweed (*Potentilla anserina*).

At the Caherrush to Spanish Point site, vegetation recorded includes thistles (*Cirsium* species), spear-leaved orache (*Atriplex prostrata*), beet (*Beta vulgaris*), common scurvygrass (*Cochlearia officinalis*), common cleavers (*Galium aparine*) and curled dock (*Rumex crispus*) (Moore & Wilson, 1999).

At Lough Donnell, vegetation is only found at the back of the ridge and is composed of thistles (*Cirsium* species), common scurvygrass (*Cochlearia officinalis*), sea-milkwort (*Glaux maritima*), buck's-horn plantain (*Plantago coronopus*), silverweed (*Potentilla anserina*) and curled dock (*Rumex crispus*) (Moore & Wilson, 1999).

At Carricknola/Tromcastle strand, the vegetated shingle supports spear-leaved orache (*Atriplex prostrata*), beet (*Beta vulgaris*), common scurvygrass (*Cochlearia officinalis*), sea-milkwort (*Glaux maritima*) and sea mayweed (*Tripleurospermum maritimum*) (Moore & Wilson, 1999).

At Quilty, the vegetated shingle ridge supports the following species: spear-leaved orache (*Atriplex prostrata*), beet (*Beta vulgaris*), common scurvygrass (*Cochlearia officinalis*), common cleavers (*Galium aparine*), sea milk-wort (*Glaux maritima*) and tree mallow (*Lavatera arborea*) (Moore & Wilson, 1999).

Lichens were recorded at the Lough Donnell site only (Moore & Wilson, 1999).
The target for this attribute is to ensure that the typical flora of vegetated shingle is maintained, as are the range of sub-communities within the different zones.

3.4.4 Vegetation composition: negative indicator species

Where the shingle becomes more stabilised, negative indicator species can become an issue. Negative indicator species can include non-native species (e.g. *Centranthus ruber, Lupinus arboreus*); species indicative of changes in nutrient status (e.g. *Urtica dioica*) and species not considered characteristic of the habitat.

The NSBS recorded thistle (*Cirsium* sp.) at both the Caherrush to Spanish Point site and Lough Donnell (Moore & Wilson, 1999).

The target for this attribute is that negative indicator species (including non-native species) should make up less than 5% of the vegetation cover.

4 References

Commission of the European Communities (2007). *Interpretation Manual of European Union Habitats – EUR 27*. DG Environment-Nature and Biodiversity, Brussels.

Moore D. and Wilson, F. (1999) *National Shingle Beach Survey of Ireland 1999.* Unpublished report to NPWS, Dublin.

Ryle, T., Murray, A., Connolly, K. and Swann, M. (2009). *Coastal Monitoring Project 2004-2006*. Unpublished report to the National Parks and Wildlife Service, Dublin.

Appendix I: Distribution map of known shingle sites within Carrowmore Point to Spanish Point and Islands SAC