



Scottish Natural Heritage

UPPER SOLWAY FLATS AND MARSHES Site of Special Scientific Interest

SITE MANAGEMENT STATEMENT

Site code: 1583

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Purpose



This is a public statement prepared by SNH for owners and occupiers of the SSSI. It outlines the reasons it is designated as an SSSI and provides guidance on how its special natural features should be conserved or enhanced. This Statement does not affect or form part of the statutory notification and does not remove the need to apply for consent for operations requiring consent.

We welcome your views on this statement.

Natural features of Upper Solway Flats and Marshes SSSI	Condition of feature (and date monitored)	Other relevant designations
Coastal Geomorphology of Scotland	Favourable, maintained (September 2002)	
Mineralogy of Scotland	Favourable, maintained (March 2007)	
Lower Carboniferous [Dinantian - Namurian (part)]	Favourable, maintained (March 2007)	
Quaternary of Scotland	Favourable, maintained (November 2009)	
Mudflat	Favourable, maintained (February 2006)	SAC
Saltmarsh	Unfavourable, no change (August 2002)	SAC
Sand dune	Unfavourable, declining (August 2002)	SAC
Shingle	Favourable, maintained (August 2002)	SAC
Vascular plant assemblage	Unfavourable, no change (June 2003)	

Svalbard Barnacle goose <i>Branta leucopsis</i>	Favourable, maintained (March 2007)	SPA
Bar-tailed godwit <i>Limosa lapponica</i>	Unfavourable, declining (March 2007)	SPA
Curlew <i>Numenius arquata</i>	Unfavourable, declining (March 2007)	SPA
Dunlin <i>Calidris alpina</i>	Favourable, maintained (March 2007)	SPA
Golden plover <i>Pluvialis apricaria</i>	Favourable, maintained (March 2007)	SPA
Goldeneye <i>Bucephala clangula</i>	Unfavourable, declining (March 2007)	SPA
Grey plover <i>Pluvialis squatarola</i>	Favourable, maintained (March 2007)	SPA
Knot <i>Calidris canutus</i>	Favourable, maintained (March 2007)	SPA
Oystercatcher <i>Haematopus ostralegus</i>	Favourable, maintained (March 2007)	SPA
Pintail <i>Anas acuta</i>	Favourable, maintained (March 2007)	SPA
Redshank <i>Tringa totanus</i>	Favourable, maintained (March 2007)	SPA
Ringed plover <i>Charadrius hiaticula</i>	Favourable, maintained (March 2007)	SPA
Sanderling <i>Calidris alba</i>	Favourable, recovered (June 2007)	
Scaup <i>Aythya marila</i>	Favourable, maintained (March 2007)	SPA
Shelduck <i>Tadorna tadorna</i>	Favourable, maintained (March 2007)	SPA
Breeding bird assemblage	Favourable, maintained (July 2003)	
Natterjack toad <i>Epidalea calamita</i>	Favourable, maintained (July 2009)	

Features of overlapping Natura sites that are not notified as SSSI natural features	Condition of feature (and date monitored)	SPA or SAC
Atlantic salt meadows	Unfavourable, no change (August 2002)	SAC
Estuaries	Favourable, maintained (February 2006)	SAC
Dune grassland	Unfavourable, declining (August 2002)	SAC
River lamprey	Not yet monitored	SAC
Intertidal mudflats and sandflats	Favourable, maintained (February 2006)	SAC

Coastal shingle vegetation outside the reach of waves	Favourable, maintained (August 2002)	SAC
Sea lamprey	Not yet monitored	SAC
Reefs	Favourable, maintained (February 2006)	SAC
Glasswort and other annuals colonising mud and sand	Favourable, maintained (August 2002)	SAC
Subtidal sandbanks	Favourable, maintained (July 2004)	SAC
Cormorant <i>Phalacrocorax carbo</i>	Favourable, maintained (June 2007)	SPA
Great crested grebe <i>Podiceps cristatus</i>	Favourable, maintained (March 2007)	SPA
Lapwing <i>Vanellus vanellus</i>	Favourable, maintained (March 2009)	SPA
Mallard <i>Anas platyrhynchos</i>	Unfavourable, declining (March 2007)	SPA
Pink-footed goose <i>Anser brachyrhynchus</i>	Favourable, maintained (March 2007)	SPA
Waterfowl assemblage	Favourable, maintained (June 2007)	SPA
Whooper swan <i>Cygnus cygnus</i>	Favourable, recovered (March 2007)	SPA

Description of the site

The site is one of the largest intertidal areas in Europe, and the third largest in the UK. Unlike most European estuaries, the sediments are predominantly sandy, whereas other systems are dominated by fine muds and silt. The lack of any significant flood defences has in the main allowed the natural coastal processes of erosion and accretion to continue unchecked. These processes are best shown in the continual shifting of the river channels, and the erosion and accretion of the saltmarsh (merse).

The Upper Solway hosts internationally important numbers of wintering wildfowl and wading birds and is an important staging post for other migratory birds. The site also supports virtually the entire Svalbard population of barnacle goose over the winter, arriving from their Arctic breeding grounds in late September. The internationally important populations of certain bird species and assemblages led to the site being classified as a Special Protection Area (SPA) under the EC Birds Directive in 1992. The extensive open sand banks are used for roosting, whilst wildfowl such as barnacle goose and wigeon graze on the saltmarsh fringing the estuary. The sediments support a diverse range of invertebrates, such as the small pink-shelled Baltic tellin, cockle, and the spire shell snail. These, along with burrowing worms, such as lugworm and ragworm, provide an abundant supply of food for birds such as the pintail, dunlin, and oystercatcher. The site, in particular areas like Kirkconnell Merse, is of value for breeding birds such as redshank.

The extensive saltmarshes show the full succession of plants from pioneer species such as glasswort, on areas most frequently flooded by the tide, to common saltmarsh grass and rush communities, red fescue grassland, to reed beds which are influenced by freshwater run-off from adjacent agricultural land. The merse between Powfoot and Caerlaverock support important colonies of natterjack toads.

A characteristic feature of the Upper Solway is the numerous rocky scars which are raised above the surrounding sediment. They support a range of rocky shore species, such as bladder wrack, sea anemones and sponges which would otherwise be absent. They are also notable for supporting extensive mussel beds and support the reef building honeycomb worm in a few places.

The European importance of the estuary and associated habitats and species, including, for example, intertidal mudflats and sandflats, subtidal sandbanks, Atlantic salt meadows, sea and river lamprey, was recognised in 2005, when the Solway Firth was designated a Special Area of Conservation (SAC).



Past and present management

Historically the site supported a range of fishing interests. White fish were caught by both fixed and boat-based nets. Fixed nets and haaf nets took migratory trout and salmon, whilst shellfish were taken by hand, boat-based and tractor-drawn dredgers. Commercial harvesting of wildfowl and wading birds took place during the late 19th and early 20th centuries using nets and punt guns.

Large scale engineering projects took place at Annan and Glencaple/Kirkconnell, to both ease navigation and provide enclosed land for agriculture. Saltmarshes have traditionally been grazed during the summer by cattle and in some places sheep. During the Second World War, attempts were made to cultivate a number of areas of saltmarsh, such as east of Brow Well. These were generally unsuccessful, however during the 1970's and 1980's further attempts were made to improve areas of merse for agriculture. Small scale cutting of saltmarsh turf has been carried out in the past. Areas around Caerlaverock and Southwick were used during the 1940's as military firing ranges.

An integrated management strategy has been developed for the entire Solway Firth and was launched in July 1998. This guides the overall management of the area and

provides advice on resolving conflicts.

Within the site, fishing for salmon and migratory trout continues. Shellfish harvesting has now recommenced following a period of 5 years when the fishery was closed to all forms of mechanical harvesting due to the depletion of stocks. Fishing for cockles can once again be undertaken by hand gathering, and boat or tractor dredging through a Regulated fishery that is licensed. Mussels can only be hand collected. Recreational fishing for white fish, such as plaice and flounder, takes place at convenient locations. The shellfish fishery is controlled through the use of stock assessments carried out on an annual basis which is used to inform an Appropriate Assessment carried out by the Solway Shellfish Management Association (SSMA) for setting quotas.

Wildfowling occurs along most sections of shore, with punt guns occasionally being used on the main channel and the River Nith. Grazing continues on most saltmarshes. There are no proposals to enclose areas of saltmarsh for subsequent agricultural improvement. Although the area is used for some low-level military flying, an exclusion zone around the Caerlaverock area limits the impact to less sensitive areas.

A number of areas are managed as nature reserves. At Caerlaverock National Nature Reserve (Scottish Natural Heritage), byelaws are in place to manage vehicle access and wildfowling. Eastpark Farm at Caerlaverock (Wildfowl and Wetlands Trust) and Mersehead Farm at Southwick (RSPB) are both managed as wildfowl refuges and visitor attractions. Drum-Mains Reedbed and a section of the Southwick Coast are also wildlife reserves (Scottish Wildlife Trust).

SNH operates a number of schemes to support positive management of the site and its interests. At present approximately 615ha of the site is managed to conserve the saltmarsh interest. This provides not only benefits for this valuable habitat but also the bird interests which use these areas. Additionally, SNH co-ordinates, on behalf of the Solway Goose Management Group, payments to farmers owning land further inland to maintain goose feeding areas. Management of the SSSI is therefore compatible with the conservation objectives for both the SAC and SPA.

Objectives for Management (and key factors influencing the condition of natural features)

We wish to work with the owners and occupiers to protect the site and to maintain and where necessary enhance its features of special interest. SNH aims to carry out site survey, monitoring and research as appropriate to increase our knowledge and understanding of the site and its natural features and monitor the effectiveness of the management agreements.

The EU Habitats and Birds Directives oblige Government to avoid, in SACs and SPAs, the deterioration of natural habitats and the habitats of species, as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of these Directives. The objectives below have been assessed against these requirements. All authorities proposing to carry out or permit to be carried out operations likely to have a significant effect on the European interests of this SSSI must assess those operations against the relevant Natura conservation objectives (which are listed on our website through the SNHi -

SiteLink facility).

1. To maintain the estuary system in a natural state and minimise impacts on within-site movement of sediments.

Landforms, such as mudflats and sandbanks, should be retained in their entirety as far as natural processes will allow. The majority of the upper Solway is bounded by agricultural land. This has retained a more natural progression from bare mud and sand to enclosed grasslands, and allowed erosion and accretion processes to take place naturally, without being influenced by coastal defences. Recent increases in demand for recreational facilities and flood defences for individual properties may adversely affect these processes and consequently the habitats and the wildlife they support. Management should allow the natural movements of sediments within the site, through erosion and accretion. The Dumfries and Galloway Shoreline Management Plan, Phase 1 details the priorities for coastal defence management, taking into account public safety, protection of property, infrastructure and the environment. It should be used to help coordinate the maintenance of flood defences, where these are necessary, and reduce the impacts of natural erosion and accretion on key habitats and species.

2. To maintain the current extent and range of successional communities of saltmarsh, from pioneer to improved grassland.

Appropriate management of the saltmarsh is important in maintaining the traditional diversity of the Solway merse. Removal of grazing from the merse would encourage the sward to become longer and coarser, dominated by a smaller number of vigorous plant species. The resulting sward would be less attractive to grazing wildfowl and specialist animals like natterjack toads. The mid and upper saltmarsh should be managed as unimproved summer grazing for cattle and sheep wherever possible.

3. To maintain wintering, migratory and breeding populations of nationally and internationally important birds.

Although there is currently no evidence that there is undue disturbance to overwintering and breeding waterfowl, increases in the intensity of activities such as winter shooting, fishing or recreational and general access may have impacts on the more sensitive species. Any changes in the intensity of such activities should therefore be managed appropriately. Particular disturbance can arise where for example dogs are allowed to run freely through areas being used by feeding or roosting birds at certain times of the year.

4. To maintain sustainable fisheries management.

The cockle fishery is managed through the Solway Shellfish Management Association (SSMA) who were granted a Regulating Order in 2006 for the maintenance and regulation of the cockle fishery on the Scottish Solway Firth. This approach is a result of historic over fishing and the depletion of stocks. Now with stocks recovering, a return to fishing can be carefully controlled. Any future harvesting will be sustainable and cause minimal disturbance to the features of interest. Harvesting of shellfish is managed to prevent undue disruption to the natural erosion and accretion processes, minimise the impact on the associated wildlife and operate within sustainable levels.

5. To maintain populations of other key plant and animal species.

Maintain and enhance the existing water quality to prevent the loss of key plants and animals through sympathetic habitat management and maintenance. Maintain and manage freshwater and brackish pools for natterjack toad and other amphibian interest.

Other factors affecting the natural features of the site

Climate change and potential sea level rise are factors which may affect the site on a long term basis. Coastal development and off-shore renewable and energy related projects, water storage and transport developments may be potential sources of impact on the site in future.

Date last reviewed: 24 June 2010