

# Habitats Directive

## NORTHUMBRIA COAST

### What's happening?

Laws have been introduced under the Habitats Directive to safeguard Europe's most endangered plants, animals and habitats.

As part of this, the Environment Agency has to review all the existing consents that we regulate to ensure there are no adverse effects on the nature conservation interests of designated sites such as Special Areas of Conservation (SAC) and Special Protection Areas (SPA).

We used a staged approach to do this:

- Stages One and Two – listed all consents and looked at those with the potential to have a significant effect.
- Stage Three – looked in detail at whether they have an adverse affect on special sites.
- Stage Four - those consents with no adverse effect will stand and those that do have been examined further to see what can be done about it.

### Location



### About this site

The Northumbria Coast is designated as a SPA for the following features:

- breeding population of little tern *Sterna albifrons*
- over wintering populations of purple sandpiper *Calidris maritima* and turnstone *Arenaria interpres*

The site consists of mainly discrete sections of rocky shore with associated boulder and cobble beaches. The SPA also includes parts of three artificial pier structures and a small section of sandy beach. In summer, the site supports important numbers of breeding little tern, whilst in winter the mixture of rocky and sandy shore supports large numbers of turnstone and purple sandpiper.



## Bird habitats

Bird populations can change to reflect national and international trends or events so the assessment looked at the potential adverse effects of activities regulated by the Environment Agency on the habitats that support the birds.

Little tern breed in small colonies on coastal sand or shingle beaches, they nest on the sandy beach adjacent to the Long Nanny at Low Newton. They feed on small surface dwelling marine fish, crustaceans and invertebrates in shallow inshore waters.

The key habitat used by purple sandpiper and turnstone are rocky shores. Purple sandpiper are almost entirely restricted to the rocky shore where their main food preference is for mussels, winkles and dog whelks. They roost on offshore reefs and mainland shore. Turnstone have a varied diet including winkles, shrimps and barnacles. They tend to feed on seaweed covered rocks, congregating at high tide to roost on the mainland shore or continuing to feed on the strandline. The River Tyne South Pier and Seaham Harbour Pier are used as high tide roost sites.

## Nutrient enrichment

Nutrient enrichment in the water environment refers to elevated levels of nitrogen and phosphorus. In the marine environment nitrogen is of most concern. Little tern, purple sandpiper and turnstone were all identified as being at risk from nutrient enrichment. The main mechanism for adverse effects was thought to be the cumulative contribution of nitrogen from sewage discharges and other sources that could lead to elevated nutrient concentrations affecting the habitats used by the birds and their food across relatively wide areas.

The assessment used a computer model to predict nutrient levels within the site. The levels of nitrogen were compared against a threshold concentration that was based on the highest concentration observed in pristine waters around the UK. The modelled nitrogen level was significantly higher than this threshold concentration in many areas. In some coastal areas near the SPA, regulated discharges contributed more than 10% of the nitrogen threshold so could not be regarded as trivial.

Nitrogen in excess of the threshold is not necessarily harmful to the marine environment so ecological evidence was used to support the assessment, this included detailed biotope mapping and quadrat/transect data to assess food availability.

## Final conclusions

The threshold concentration for nitrogen was significantly exceeded and the contribution from regulated inputs could not be regarded as trivial in some coastal areas. Nitrogen in excess of the threshold is not necessarily harmful to the marine environment; there was no evidence of an adverse ecological effect due to elevated nitrogen levels. It was concluded that the water quality discharges do not have an adverse effect on the integrity of the site alone or in combination.

Further information can be found at:  
[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

Guidance can be requested from [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)