



ESTUARINE HABITATS

Introduction

Estuarine habitats in Bristol are those that are dominated by, or heavily influenced by, the tidal influence of the Severn Estuary and the tidal stretch of the Avon from Cumberland Basin to the mouth of the river. Habitats range from open water through inter-tidal mudflats to saltmarshes. The estuary is of particular importance for migratory birds and fish and for saltmarsh plants, which include several scarce species.

Estuarine habitats that occur in Bristol include three UK priority habitat types – mudflats, saltmarsh and *Sabellaria* reef, which is present in the section of open estuary that falls within Bristol. Three UK BAP priority species – skylark, linnet and reed bunting – occur on the saltmarshes.

This plan is largely concerned with the saltmarshes and inter-tidal mudflats along the stretch of the Severn Estuary from Avonmouth to the city boundary on Chittening Wharf and the Avon, most of which – including the mudflats on the western shore of the river – falls within Bristol.

The city boundary also includes a large area of open water with some inter-tidal mud and sand banks stretching approximately four kilometres out into the estuary and as far downstream as Steep Holm and Flat Holm, which form the western corners of the area. There are few objectives that can be linked to this area. It should be noted, however, that Bristol includes part of Denny Island, the mudflats at Portbury Wharf and *Sabellaria* reefs.

The estuarine habitats within Bristol are currently unmanaged. Large areas of saltmarsh and some intertidal mudflat has been lost to infilling and development, particularly in and around Avonmouth Docks.

Current Status

The Severn Estuary, including its associated saltmarshes, is a Site of Special Scientific Interest (SSSI), Special Protection Area (SPA), Ramsar Site, candidate Special Area of Conservation (cSAC) and Site of Nature Conservation Interest (SNCI). These designations, around the Avonmouth catchment, extend up the river Avon to a point approximately 400 metres upstream of the M5 motorway bridge. The remainder of the River Avon is an SNCI.

Inter-tidal areas are dominated by soft silts and muds, with smaller areas of gravel and rock. The mudflats support dense populations of invertebrates, including worms such as the lug worm *Arenicola marina* and the molluscs Laver Spire Shell *Hydrobia ulvae* and Baltic Tellin *Macoma baltica*. These invertebrates provide a food supply for large populations of migratory birds, for several of which the Severn Estuary is of international importance.

These birds are mostly present outside the breeding season, with spring migrants visiting in April and May, autumn migrants between August and October and winter visitors between November and March. At low tide the mudflats along Chittening Wharf are used by large numbers of these birds. Dunlin are the most numerous, with flocks of 2,000 frequently feeding here. Other wader species present in significant numbers include curlew, oystercatcher, redshank and whimbrel, whilst shelduck also feed on the exposed mud.

Birds are less numerous on the Avon, but redshank occur throughout and the species mentioned above – with the exception of turnstone and whimbrel – all occur in small numbers as far up the river as Sea Mills.

Small reefs of *Sabellaria* and patches of eel-grass have been found just outside the city boundary in South Gloucestershire and may be present in Bristol. Steep rocky banks on the Avon support large growths of bladder wrack and other seaweeds.

The estuary is important for fish, most of which are also migratory. There is little information on their use of Bristol's waters, but it is likely that species such as Atlantic salmon, common eel and river lamprey are present seasonally. Cormorants feed on flounders and eels along the Avon and a notable number of grey herons congregate at Shirehampton.

The saltmarshes along both the Severn and the Avon are all unmanaged. The lower saltmarsh is dominated by common cordgrass, a narrow zone of middle saltmarsh is dominated by common saltmarsh grass and a much wider zone of upper saltmarsh is dominated by sea couch, with patches of common reed and sea club-rush on Chittening Wharf. Thrift and common sea lavender are notably frequent in the middle saltmarsh here. Sea rush and long-bracted sedge have spread to the wharf in recent years, as has sea purslane to the mouth of the river Avon. The Severn Estuary saltmarshes are rich in Nationally Scarce plants, and slender hare's-ear, sea barley, stiff saltmarsh-grass, bulbous foxtail and long-stalked orache all occur in Bristol. The large estuarine sub-species of curled dock (*ssp. uliginosus*), which is nationally rare, is notably frequent along the upper parts of the Avon.



Photography: Bladderwrack, Oystercatcher: Darin Smith

The lower fringe of the saltmarsh provides a habitat for dabbling duck in the winter, with a notable concentration of gadwall around Hole's Mouth and smaller numbers of shoveler and teal. Wintering birds higher on the saltmarsh include rock and water pipits, stonechat, skylark and seed-eaters such as linnet. Large populations of field vole attract short-eared owls to Chittening Wharf in some winters. Invertebrate diversity on the saltmarsh is low but several rare specialist species are present.

A locally notable feature of Avonmouth Docks is the presence of breeding ringed plover and oystercatcher, and more intermittently little ringed plover, which benefit from the absence of disturbance and the presence of artificial stony substrates.

Natural England have assessed the Bristol part of the Severn Estuary to be in favourable condition, although adjacent areas of saltmarsh in South Gloucestershire are judged to be unfavourable due to coastal squeeze and under/over grazing.

Current Threats

- I Pressure from development

- I Lack of management

- I Potential threat from Severn Barrage

- I Climate change leading to coastal squeeze (coastal squeeze occurs as the salt marsh and mudflats become trapped between flood defences such as sea walls and the rising sea. Unable to move inland these habitats become reduced in extent and can eventually disappear)

- I Disturbance of birds, particularly of waders at high tide roosts

- I Pollution (although this has declined)

- I Lack of knowledge of resource

- I Lack of awareness of value

Objective 1: Improve knowledge of saltmarshes along River Avon

Target:

- I Survey and assess the River Avon saltmarshes to provide baseline information on quality and extent of resource

Objective 2: Seek to maintain the features for which the estuary is of international, national and local interest

Target:

- I Ensure that estuarine habitats are protected through the planning system in line with relevant international and national legislation

Objective 3: Ensure that saltmarsh habitat at Chittening Wharf is in favourable condition

Target:

- I Reinststate short turf, suitable for roosting waders and saltmarsh plants, to parts of Chittening Wharf in partnership with South Gloucestershire Council

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Objective 4: Increase awareness of special features of estuarine habitats

Target:

- Run an annual training event for planners and other decision makers, to highlight statutory designations and wildlife interest
- Run an annual public awareness raising event in conjunction with South Gloucestershire Council
- Provide interpretive material at one location on the Severn Estuary and one location on the River Avon

| ESTUARINE HABITAT ACTIONS | OBJECTIVE | DATE | IMPLEMENTORS |
|---|-----------|----------------|---------------------------------|
| Survey River Avon saltmarsh | 1 | 2010 | BCC |
| Ensure that no developments have an adverse impact on the special features of the estuary | 2 | 2008 – 2013 | BCC, NE |
| Commission grazing feasibility study at Chittening Wharf | 3 | 2009 | BCC, South Glos Council, NE |
| Implement recommendations of feasibility study | 3 | 2010 – ongoing | BCC, South Glos Council, NE |
| Run annual training event for professionals | 2, 4 | 2008 – 2013 | BCC, Severn Estuary Partnership |
| Run annual public awareness raising event | 4 | 2008 – 2013 | BCC, South Glos Council, AWT |
| Investigate provision of viewing platform overlooking Chittening Wharf, with canopy and interpretive material | 4 | 2011 | BCC, South Glos Council |
| Seek to provide interpretive panels at Sea Mills | 4 | 2012 | BCC |



Photography: Dunlin, Short-eared owl: Paul Bowerman. Greenshank: Nuria Prat