

ESTUARY

DEFINITION

Estuaries are partially enclosed coastal water bodies which are open to the sea. They usually have reduced salinity owing to inputs of freshwater from rivers and streams and have a salinity range which decreases towards the head of the estuary. For this Plan, estuaries will also include fringing habitats such as saltmarsh, mudflats and coastal & floodplain grazing marsh.

DISTRIBUTION

There are 12 estuaries in Devon, of which only the Taw Torridge Estuary is in north Devon. The estuary forms a large part of the 'buffer zone' of the Biosphere Reserve.

LOCATIONS

The mean high water tidal limit of the Taw Torridge Estuary:

- stretches up the River Torridge to Weare Giffard,
- along the coast and up Fremington Pill to Muddlebridge,
- up the River Taw just beyond Tawstock,
- up the Barnstaple Yeo into Raleigh, and
- along the coast and up the River Caen as far as Velator.

CHARACTERISTIC WILDLIFE

- Plants: filamentous algae, eel grass (*zostera*), various diatoms, sea purslane, sea aster, common sea lavender, scurvy grass, sea , common saltmarsh grass, sea couch grass, cord grass, sea spurrey, sea arrow grass, glassworts, annual sea blite, red fescue, sea club-rush, sea clover, wormwood, saltmarsh rush, sea rush, thrift, distant sedge, long bracted sedge, and common reed.
- Insects: sea lavender plume moth, bloody nose beetle, short-winged conehead and dolychopid flies.



Fish: bass, flat fish, flounder, mullet, salmon, sea trout, shad.
 Birds: bar-tailed godwit, cormorant, curlew, ringed plover, grey plover, heron, Brent geese, golden plover, dunlin, knot, common sandpiper, lapwing, redshank, shelduck, teal, wigeon, oystercatcher, grebes, terns, turnstone, gulls, snipe, sanderling, whimbrel, little egret.
 Molluscs: mud snail (*hydrobia*), sea snail, mussels, cockle, oyster and peppery furrow shell.
 Mammals: grey seal and otter.
 Crustaceans: shore crab, shrimps, and barnacle.
 Other invertebrates: lugworm, ragworm

THREATS

Estuaries being natural harbours have been the focus of development from the early ages of settlement and trading. They have always been subject to human activity of some sort, either through water front development, destroying estuary habitat by creating embankments (cutting off tidal influence), (directly or over time) not allowing the estuary to respond naturally to sea level rise (coastal squeeze), pollution directly into the water, pollution from diffuse sources within the freshwater catchment, fishing within the estuaries, on the open sea and on the rivers, recreational activity leading to disturbance of birds. Invasion by alien species such as cord grass.

SITE STATUS

Site of Special Scientific Interest:	Taw Torridge Estuary (part of the estuary is included in the Braunton Burrows Special Area of Conservation)
Local Nature Reserve:	Fremington LNR
RSPB Reserve:	Isley Marsh
Devon Birds Reserve	Pottington
County Wildlife Sites	Torridge Estuary (part proposed as Local Nature Reserve), Halfpenny Marsh, South Yeo Fields, Saltpill Duckpond, Fremington Pill (LNR), Anchorwood Bank, Bishop's Tawton Saltmarsh and Horsey Island.
Water Quality	The Estuary is designated as a Sensitive Area and a Polluted Water (eutrophic) under the UWWTR and Nitrates directive respectively. There are designated Shellfish Waters and Bathing Waters in and around the estuary (latter includes Woolacombe, Croyde Bay, Saunton Sands, Instow and Westward Ho).

CURRENT ACTION

The Taw Torridge Estuary Management Plan was prepared in 1993 and updated in 2010 by a partnership with Natural England, Environment Agency, Devon County Council, North Devon District Council and Torrington District Council and the Taw Torridge Estuary Forum. This plan sets out agreed actions to safeguard the well being of the estuary in conjunction with the economic and cultural activities that take part in the area. Actions include recreation management, recommended development control policies, actions for sustainable management of the fisheries, actions to help the estuary habitats keep pace with sea level rise, actions to improve water quality.

Management of estuaries is complex, with both broadly terrestrial (e.g. coastal grazing marsh) and entirely marine (estuary below mean low water springs MLWS). The accompanying 'Marine Environment Plan' provides a summary of the current legislation and initiatives relevant to the marine realm in the estuaries. The Marine and Coastal Access Act provides new opportunities for implementation during the life of this plan.

Natural England's Higher Level Stewardship (HLS) is designed to support the management of land in an environmentally sensitive and sustainable way. Theme 1 (South West: Higher Level Stewardship Theme Statement) is to improve the resilience of UK BAP habitats to climate change. This applies to SSSI, CWS or grazing marsh greater than 5 ha.

Braunton Marshes, near the mouth of the Taw Torridge Estuary, were reclaimed from the sea by a series of land reclamations in the 1800s and comprise Braunton Marsh and Horsey Island. The marshes, characterised by their landscape of flat fields interspersed with numerous slow-flowing freshwater channels, are inhabited by abundant wildlife and grazing cattle. Braunton Marshes continue to be strongly influenced by agriculture but are also of great importance for wildlife and many parts of the Marsh are designated County Wildlife Sites.

The South West River Basin Management Plan (2009) has been written by the Environment Agency under the Water Framework Directive (WFD). The plan sets assesses the current status and sets out what will be required to achieve good ecological status or potential.

The estuary is covered by the Shoreline Management Plan (SMP), which is a large-scale assessment of the risks associated with coastal processes. It helps reduce these risks to people and to the developed, historic and natural environments. Coastal processes include tidal patterns, wave height, wave direction and the movement of beach and seabed materials.

The Southwest Nature Map sets out restoration and recreation targets for the entire region:
50 ha coastal saltmarsh and mudflats by 2010
3140 ha coastal and floodplain grazing marsh by 2010.

Estuary

LINKS TO OTHER BIODIVERSITY ACTION PLANS

	UK BAP	SW BAP	Devon BAP	Exmoor BAP
Habitat Action Plans	Estuaries Coastal Saltmarsh Coastal & Floodplain Grazing Marsh Mudflats	Estuaries Coastal & Floodplain Grazing Marsh	Estuaries Coastal & Floodplain Grazing Marsh	
Species Action Plans	Otter Greater Horseshoe Bat		Atlantic salmon Curlew Greater Horseshoe Bat Otter	

OBJECTIVES

- 1 To ensure that the existing area of estuary is not lost to other land uses.
- 2 To ensure that area of estuary is increased to compensate for loss due to relative sea level rise.
- 3 To ensure that water quality is at the optimum standards for the uses of the estuary.
- 4 To ensure that the estuary is managed to enhance its wildlife value.
- 5 To encourage and support physical processes for natural evolution of the estuary.
- 6 To foster greater public understanding, involvement and enjoyment of estuary wildlife and its management.
- 7 To explore opportunities to increase the extent of the habitat but not at the expense of other important wildlife habitats
- 8 To encourage local producers and industries to support and sustainably exploit the environmental value of the estuary.

ACTION		TARGET	LEAD DELIVERER	PARTNERS	Obj. No.
A	Policy and Legislation				
1	Ensure LDF planning policies protect estuary habitats from inappropriate development by linking to the Taw Torridge Estuary Strategy, Strategic Nature Areas, UK & Devon BAPs.	No net loss of intertidal habitat from any type of development.	NDC, TDC, DCC	EA, NE.	1
2	Integrate Marine Act duties as they emerge from legislative process into this plan and other local strategies.	Marine Act duties incorporated in this plan	MMO	NE, EA, DCC, NDC, TDC, NDABS	1, 7
3	Maximise use of Section 106 Agreements to create new estuary fringing habitats through planning gains.	4 new agreements in place by 2012.	NDC, TDC	DCC, EA, NE.	2,7
4	Designate new LNRs around the estuary.	2 new LNRs by 2012: Ford Woods LNR & Anchor Wood LNR	NDABS	NDC, TDC	4

ACTION		TARGET	LEAD DELIVERER	PARTNERS	Obj. No.
5	<p>Where there are specific water quality designations applicable to the Estuary waters, the Environment Agency's role is to ensure that these waters meet the standards required of each designation.</p> <p>The Estuary is designated as a sensitive Area and a Polluted Water (Eutrophic) under the UWWTR and Nitrates directive respectively. There are designated Shellfish Waters and Bathing Waters in and around the estuary.</p>	WFD actions completed as set out in the SW River Basin Management Plan.	EA	SWW	3
6	Ensure that fisheries policies reflect the requirements of species using the estuary.	Shellfish regulatory order	DEFRA	EA	4, 5,8
7	Engage with DSFC (IFCA) in order to minimise impacts of commercial fishing activities on estuary habitats and species.	Improved links with DSFC (IFCA)	NDABS	EA, IFCA	4, 5, 7
B Site Safeguard and Management					
1	Promote & instigate management programmes on associated habitats and catchments using Agri-Environment Schemes.	Uptake of agri-environment schemes maximised.	NE	NDABS, DWT, Landowners and Managers.	4, 5,7

ACTION		TARGET	LEAD DELIVERER	PARTNERS	Obj. No.
2	Seek to create new intertidal and wetland habitats adjacent to the Taw Torridge Estuary to compensate for relative sea level rise, and secure its future management.	15 additional Ha by 2015	NE	NDABS, EA, Landowners and Managers.	2,7
3	Evaluate the recreation craft management scheme to reduce disturbance to birds	Review by 2011	NDABS	NDC, TDC, TTEF	4
C Advisory					
1	Offer advisory service to estuary-side owners and managers on management techniques which promote sustainable use and which benefit the characteristic estuary wildlife.	Advice available to all landowners and managers who request it.	NDABS	NE, NDC, TDC, DCC, EA, DWT. RSPB	4, 5,8
D Research and Monitoring					
1	Monitor extent and types of estuarine habitats, fish populations and bird populations.	Annually	DBWPS, DWT, RSPB	EA	5
2	Ensure estuarine morphology and evolution is fully considered as part of flood and coastal risk management.	Produce Taw-Torridge Flood Risk Management Study by 2012.	EA	SMP Group, NE.	2, 5
E Communication and Publicity					
1	Work with schools around the estuary to raise awareness of its importance.	2 additional schools by 2012	NDABS	DWT, NE, EA, MOD.	4,5,6