

PORTRAIT OF THE RIVER DEBEN

September 2012



A collation of your view of our estuary and what matters for the future

A new way of planning for the future of an estuary is being pioneered by the Deben Estuary Partnership (DEP). With the support of the Environment Agency and Suffolk Coast and Heaths AONB Unit, the DEP are formulating a plan which gives the local community, parish councils, landowners and local businesses more involvement in the future of their estuary.

This document highlights everything that people value about the river.

Its purpose is to ensure that decisions, policies and actions under the future Deben Estuary Plan can take a broad view - to get maximum value from any actions or investment, and to minimise unintended consequences and conflict. We need to look after the river, its defences and our beautiful landscape.

The comments and views we have gathered in this document will be used to inform the Deben Estuary Plan which will inform statutory decision making. Thank you for taking part.

We have compiled local information about the estuary from a wide range of people. This is what they have said.

Scope of the document

This document looks at the tidal estuary of the River Deben, from the entrance at Felixstowe Ferry to the tidal limit at Ufford Mill. The estuary has been divided into five sections for the purposes of description and consultation, but they should not be seen in isolation.

Constraints

Estuary Processes

It is important to note that the tidal processes at work in the whole estuary are constrained by hard engineering sea defence works at the entrance, which acts as a bottleneck limiting the volume of water that enters and leaves the estuary on each tide. These defences are constantly under stress, and if they were to fail, the tidal range and velocities throughout the rest of the river could be radically altered.

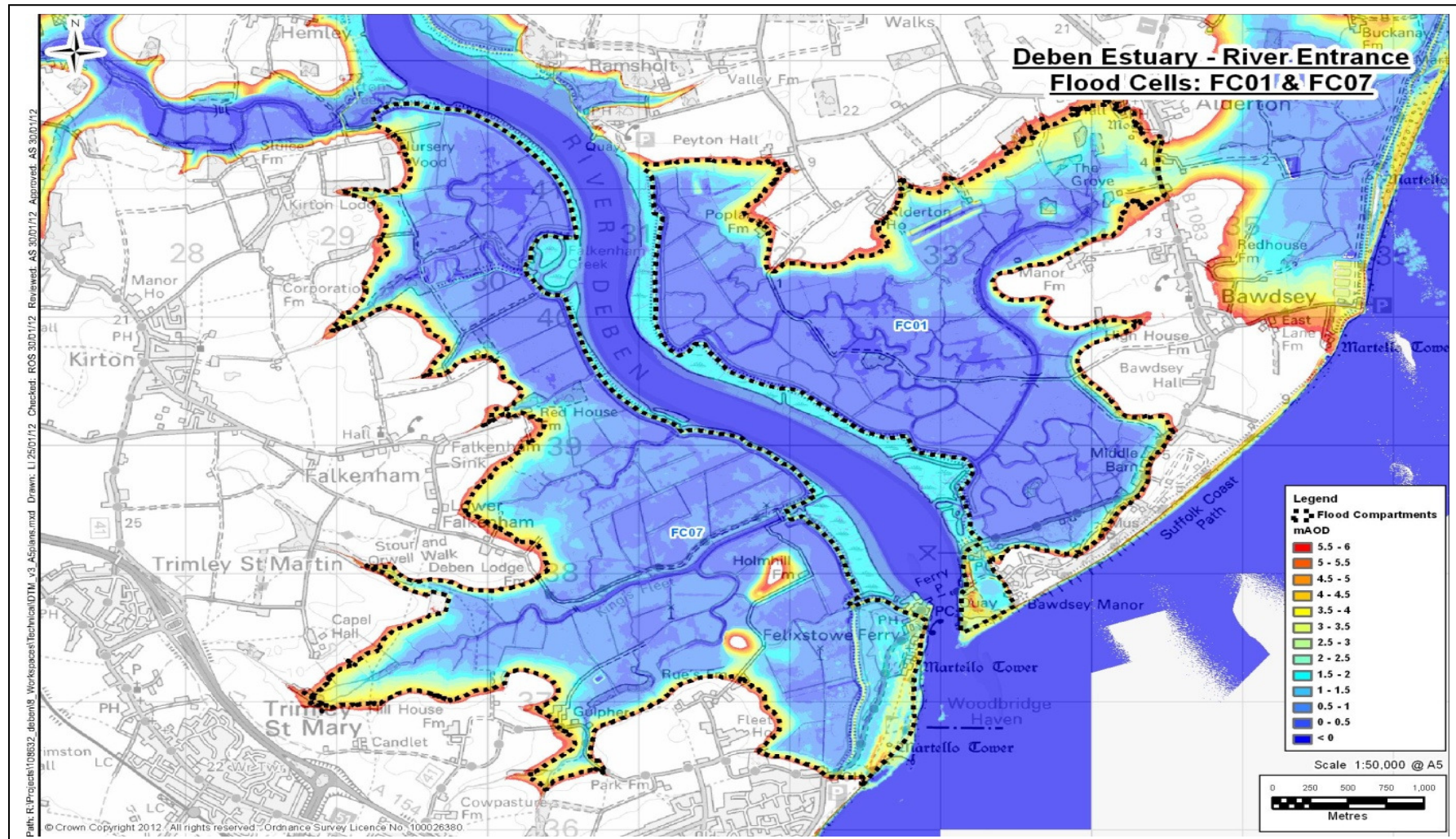
Environmental, landscape and heritage considerations

The area attracts environmental, landscape and heritage considerations and therefore there are statutory responsibilities associated with these. These need to be considered as a part of the plan making process. The plan will address these by working in partnership with statutory bodies.

Contents:

- River Entrance – Knolls to Felixstowe Ferry
- Lower Reaches – Felixstowe Ferry to The Rocks and Hemley
- Middle Reaches – The Rocks to Loder's Cut and Kyson Point
- Upper Reaches – Kyson Point to Wilford Bridge
- Highest Reaches – Wilford Bridge to Ufford Mill

RIVER ENTRANCE, THE KNOLLS TO FELIXSTOWE FERRY. FLOOD CELLS FC01, FC07



This is a LIDAR map, taken by air survey, showing ground levels around the estuary (see key for the level that each colour relates to). The study area in the estuary is divided into compartments called flood cells. Flood cells are discrete areas currently protected by a shared system of defences and extend inland approximately to the 5m contour. Flooding would only extend throughout the whole of a flood cell as a result of extremely large storms that would be expected to occur very infrequently (a 0.2% (1 in 500) annual probability of occurrence one hundred years from now and estimating future water levels based on current climate change predictions). Such a storm would be significantly greater than the largest event of recent times (that of 1953).

RIVER ENTRANCE, THE KNOLLS TO FELIXSTOWE FERRY. FLOOD CELLS FC01, FC07

E1 LANDSCAPE TYPE

Shingle beaches at Bawdsey and Felixstowe Ferry and at the river entrance bar (The Knolls).

Coralline Crag Cliffs faced by decorative Pulhamite structures at Bawdsey.

'The cliff section at Bawdsey provides one of the best exposures through the marine sediments of the Red Crag (and is notified as a site of special scientific interest). Deposited about 2-3 million years ago, the Red Crag contains many fossil shells, including types familiar today such as cockles, oysters and whelks. The presence of these shells indicates that climatic and environmental conditions were similar to those of modern-day England. The cliff exposures of the Red Crag at Bawdsey also demonstrate a number of structures that formed during the deposition of the sediments. These structures allow geologists to determine that the Red Crag was deposited in a shallow sea in which accumulations of shelly sand were swept by currents and waves over the seabed.' (Natural England website.)

Low lying reclaimed land at Felixstowe Ferry and surrounding area. Felixstowe Ferry is a settlement and a fishing community. Behind and to the south is Felixstowe Golf Course, to the north, agricultural land.

There is proportionately not a great deal of fresh water influence at the entrance, and the habitat therefore closely corresponds here to a coastal shoreline environment.

E2 LOCAL CHARACTER

"I think you will like Bawdsey, only about a dozen fishermen's houses built where our river runs into the sea over a foaming bar; on one side there is sand to Felixstowe and on the other, an orange-coloured cliff towards Orford Haven; not a single respectable house; no white cravats, an inn with scarce a table or chair and only bread and cheese to eat. I often lie there with my boat; I wish you would come and do so." Edward Fitzgerald 1863.

At Felixstowe Ferry there is a long-established fishing community that lends it a strong working atmosphere. The mixture of boatsheds, stored fishing gear, houseboats and bustle gives an attractive bohemian quality.

This is a busy place with a tremendous range of activity concentrated within a small area. There are two outlets to sell locally caught fish, a boatyard offering marine maintenance, boat building, storage and chandlery, sailing club, ferry service, a harbourmaster/pilot, two pubs, a cafe and a strong residential community. A visually stimulating environment, it has always been popular with artists, attracting at least one professional artist to set up studio and to offer classes in one of the fishermen's sheds.

Felixstowe Ferry is also a centre for the water-ski community who have a reach allocated for their use upstream of the Felixstowe moorings and below those at Ramsholt. This has also proved a magnet for users of personal water craft who launch at the Ferry and use the downstream section of the channel, just inside the entrance, as a playground. More recently the same area and immediately offshore has become popular with kite- surfers (from parking at Clifflands car park).

Part of Felixstowe Ferry is designated/registered Common Land.

The Felixstowe Ferry Foreshore Trust owns 3 acres of foreshore surrounding the boatyard, and manages it with a view to "maintain the essential character of the Felixstowe Ferry Foreshore, to maintain access to the river for recreation and business and to control commercial development".

RIVER ENTRANCE, THE KNOLLS TO FELIXSTOWE FERRY. FLOOD CELLS FC01, FC07

Bawdsey Manor, erected opposite Felixstowe Ferry by Sir Cuthbert Quilter in the 19th century, gives the entrance to the river a romantic appearance. The story goes that a fresh turret was added for every £1 million he made. Since then it has been an RAF base, where radar was developed during the Second World War. Although now an international school, it still has an archaic and mysterious atmosphere.

E3 HERITAGE

Two Martello Towers at Felixstowe Ferry and the remains of a further one at Bawdsey Manor.

E4 LEISURE

Felixstowe Ferry Sailing Club, yacht and dinghy racing including national championships and open meetings. Launch facility for tenders, speedboats_PWC and kite surfing at the entrance. Beaches. Rod fishing, walking (see E5 and E6 below), crabbing. Cycling: the road to the ferry is part of a county cycle route. Felixstowe Ferry Golf Club. Bawdsey Haven Yacht Club, Alexanders International School, Bawdsey Quay Watersports sailing school. Radar Museum, Bawdsey. Felixstowe Ferry Youth Sailing. Café and pub outlets at Felixstowe Ferry and Bawdsey.



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E5 ACCESS EAST BANK

Suffolk Coast Path, from quay to beach then northwards (not within the flood cell). Erosion of the beach threatens the path on the coastal route. Parking: Bawdsey, car parking on quay and at picnic area. This area is reached by Ferry Rd, from Bawdsey (part of which is in FC01).

E6 ACCESS WEST BANK

1) Sea wall path (Stour & Orwell Walk) from Old Felixstowe northwards to Felixstowe Ferry then NW from Ferry, to join river wall path, then inland by Kingsfleet. 2) Paths on golf course. Also potentially affected if FC01 were flooded: 3) Path from river wall to Falkenham 4) Path from Falkenham Creek to Falkenham 5) Falkenham Creek to Corporation Farm Cottages. Permissive path on Tomline Wall.

Erosion of shore in river entrance threatens path on coastal route.

Good car access and some parking.

Roads within flood cells: 1) Road from Felixstowe to Felixstowe Ferry. 2) Part of Walton to F. Ferry rd. Flooding in FC07 would cut off Felixstowe Ferry.

E7 MARINE INDUSTRIES

Felixstowe Ferry Boatyard, boat repairs, storage, moorings, berths, chandlery, brokerage, marine maintenance contractor, towage, slipping and launching.

Ferryboat, harbourmaster, boat tours, fishing trips.

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RIVER ENTRANCE, THE KNOLLS TO FELIXSTOWE FERRY. FLOOD CELLS FC01, FC07

Professional inshore fishing, sold directly from outlets at Felixstowe Ferry.

E8 AGRICULTURE EAST BANK

Mann Farms, High House, Bawdsey. 620 hectares of which 400 irrigated, 200 arable marshland, 20 grazing marsh.

Mixed arable use: wheat, oilseed rape, sugar beet. Potatoes, carrots, onions, cabbage. Variable.

Licensed quantity of water abstraction: 342 thousand cubic metres.

E9 AGRICULTURE WEST BANK

P D Adams & Son, Laurel Farm, Falkenham.

280 hectares of which 240 arable marsh, 40 grazing marsh.

Mixed arable use: wheat, oilseed rape, sugar beet.

Grazing: sheep.

Licensed quantity of water abstraction: 100 thousand cubic metres.

E10 ESTUARY PROCESSES

The study area in the estuary is divided into compartments called flood cells. Flood cells are discrete areas currently protected by a shared system of defences and extend inland approximately to the 5m contour. Flooding would only extend throughout the whole of the flood cell as a result of extremely large storms that would be expected to occur very infrequently (a 0.2% (1 in 500) annual probability of occurrence one hundred years from now and estimating future water levels based on current climate change predictions). Such a storm would be significantly greater than the largest event of recent times (that of 1953).

The river entrance at The Knolls is subject to continuous change driven by coastal and estuarine processes forcing an apparently cyclic change of orientation to the channel that can vary according to circumstances and can be sudden and dramatic as a result of storm events. The navigable route into the river mouth over the shallow Deben Bar is constantly shifting, forcing frequent adjustment of the buoyage to mark the safe channel. This can be hazardous in adverse weather and sea conditions. For more information (Estuary Mouth Workshop report October 2011)

[http://www.suffolkcoastandheaths.org/uploads/Estuary%20Mouth%20Workshop%20Report%20Final\(1\).pdf](http://www.suffolkcoastandheaths.org/uploads/Estuary%20Mouth%20Workshop%20Report%20Final(1).pdf)

Local evidence suggests the drift of sediment on this area of coast is predominantly southerly depending on the prevailing conditions. The prevailing weather systems are south westerly, but in the winter especially, north easterly storms will have a profound effect upon beach levels and coastal erosion.

The trend of the river at present is towards the Felixstowe Ferry shore causing subsidence of the beach and the earth defences. This has been partially remedied by the use of rock armour revetment but is continuing to erode. The rock armour revetment slipped during the winter 2011/12. There are differing opinions as to the detailed explanation of these processes, however this appears to have stabilised for the present.

A shoal has built up in recent years directly off Felixstowe Ferry shore, constraining the channel to the Bawdsey side.

E11 FRESHWATER HABITAT

RIVER ENTRANCE, THE KNOLLS TO FELIXSTOWE FERRY. FLOOD CELLS FC01, FC07

Felixstowe Ferry: drained and managed grassland, golf club and domestic gardens, freshwater drains. Golf club has many ditches and pools/lakes, some fresh water, some brackish.

Flora: Phragmites, reed beds, bullrushes. Alder, Willow, Ash

Fauna: Heron, Little Egret, Cormorant, Little Grebe, Great Crested Grebe, Mallard, Kingfisher, Reed Bunting, Reed Warbler, Sedge Warbler, Willow Warbler, Marsh Harrier, swans, geese. 150 bird species have been recorded in or near the golf club. 5 County Wildlife Sites designated in area.

Otter, Water Vole.

E12 SALTWATER HABITAT

Vegetated shingle, both at Bawdsey and Felixstowe beach. The Knolls are covered by the sea at high water springs, otherwise this is a high water roost area. The shingle system is very active and includes areas where the rare habitat, saline lagoons, has recurrently been formed and washed away.

Flora: Sea Kale, Sea Vetch, Sea Pea. Upper beach: Sea Couch

Fauna: Common Gull, Herring Gull, Black Headed Gull, Little Tern, Common Tern, Scoter, Guillemot, Cormorant, Red Breasted Merganser, Goosander, Rock Pipit, Wheatear. Ringed Plover previously on beach, now departed because of disturbance. Black Redstart recorded 2008.

Common Seal, Harbour Porpoise, Herring, Cod, Whiting, Sole, Sea Trout, Sea Bass, Plaice, Turbot, Conger, Crab, Lobster, Mussels, Shrimps, Winkles.

E13 CURRENT MANAGEMENT

Felixstowe Ferry is protected by rock armour and timber groyne works, concrete and armourstone revetments, steel sheet piling and a wave reflector wall. Bawdsey has timber groyne works and a decaying sheet pile structure.

'Hold the line' at Felixstowe Ferry and at Bawdsey. The defences at Felixstowe Ferry have recently been reinforced by the EA between the Martello Towers using "rock armour". This is currently being reviewed (2011/12).

At Bawdsey the existing sheet pile defences are decaying.

Drainage and Coastal Protection: Wave return concrete seawall and sheet piling. Emergency rock armour revetment between the two Martello towers, and groyne work along the foreshore. Flood gate at Felixstowe Ferry and drop boards at Felixstowe Cross Wall

E14 FLOOD CELLS (see description below maps)

Land that has a 1:1000 probability of flooding up to 5 metres Ordnance Datum in the event of failure of flood defences.

Flood cells protected by defences partially in River Entrance reach:

FC01: East Bank, Bawdsey to Ramsholt. Bawdsey Marshes. (Mostly adjacent to 'Lower' reach). Wall length: 5537 metres.

Area: 636.9 hectares of which: agricultural land 580 hectares grade 3, 48 hectares grade 4.

Abstraction points: 2.

Land use: Public Quay, Bawdsey Manor, private property.

Defence: sheet piling in poor condition at the entrance, groyne works and concrete quay.

RIVER ENTRANCE, THE KNOLLS TO FELIXSTOWE FERRY. FLOOD CELLS FC01, FC07

FC07: West Bank, Felixstowe Ferry, Felixstowe Marshes, Falkenham Marshes. (Mostly adjacent to 'Lower' reach).

Wall length: 8676 metres.

Area: 845.3 hectares of which: agricultural land 214 hectares grade 2, 583 hectares grade 3.

Abstraction points: 0.

Land use: golf club, settlement, boatyard, fish quays, ferry quay.

Defence: piling and concrete sea defence wall at the entrance with further emergency rock armour defences and groyne works.

E15 INFRASTRUCTURE

Roads in flood cells: The road at Bawdsey to the Quay (flooding has occurred in recent years) and Ferry road at Felixstowe.

E16 KEY INDIVIDUALS AND ORGANISATIONS

John White, Harbour Master, Felixstowe Ferry. Andrew Moore, Felixstowe Ferry Boatyard.

Graham Henderson, Suffolk Coast Against Retreat. Leigh Belcham, River Deben Association.

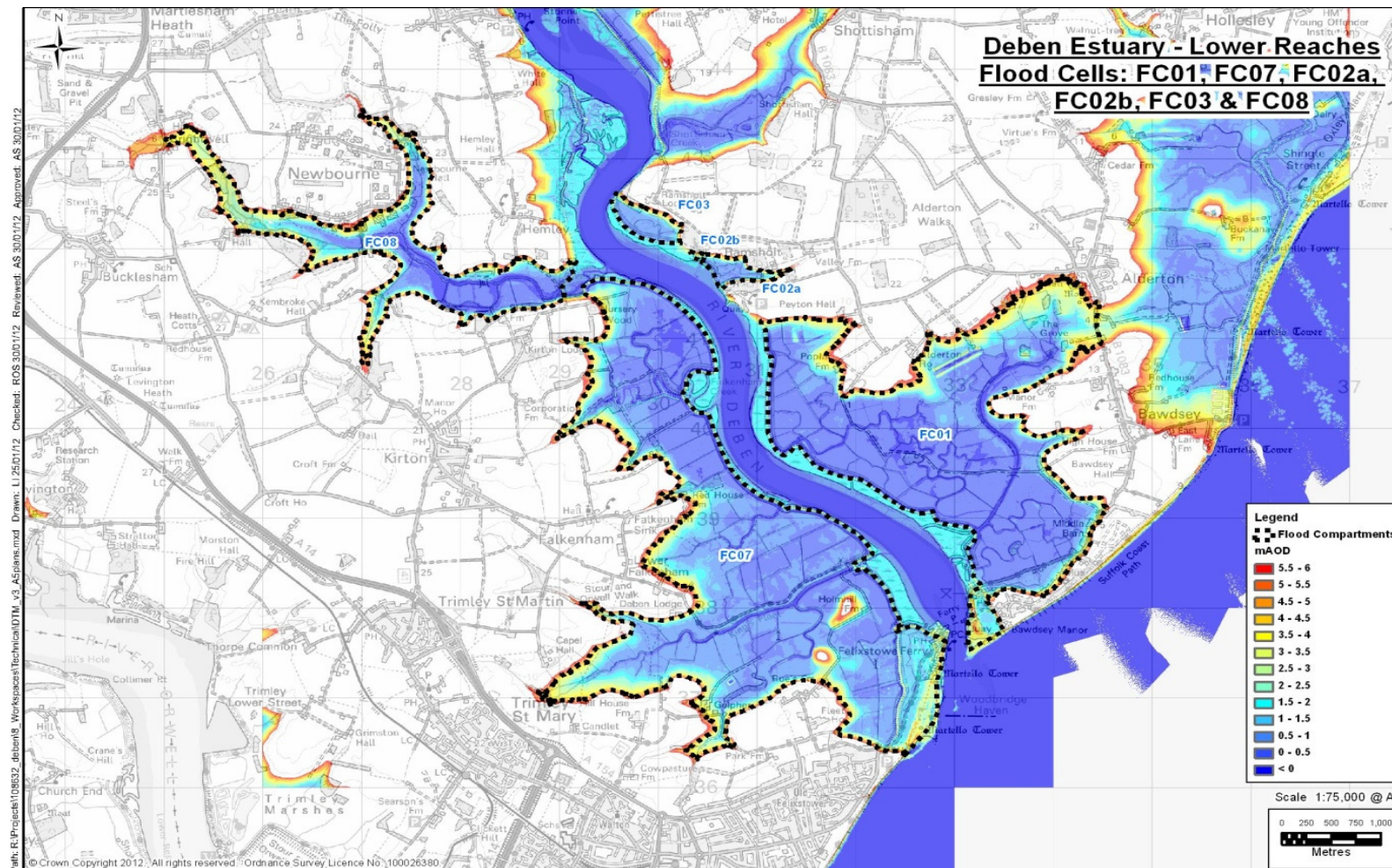
Felixstowe Ferry Forum, Deben Estuary Partnership, Suffolk Coast and Heaths AONB Unit.

Felixstowe Ferry Fairways Committee; Felixstowe Ferry Sailing Club; Felixstowe Ferry Residents Association; Felixstowe Ferry Foreshore Trust; East Suffolk WaterSki Club. Felixstowe Ferry Golf Club. Bawdsey Manor.

Felixstowe Town Council.

Environment Agency, Natural England, Marine Management Organisation and The Crown Estate.

Lower Reaches – Felixstowe Ferry to The Rocks and Hemley. FLOOD CELLS FC01, FC02a, FC02b, FC03, FC07, FC08



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L1 LANDSCAPE TYPE

Extensive flood plains on both sides of the river give way to rising land and red crag cliffs at

Ramsholt continuing as undulating wood and farmland to Rocks Reach. The river is navigable at all states of the tide (tidal range 3-4 metres), and fringed by saltmarsh and turf river walls protecting substantial reclaimed arable land at Kingsfleet on the west bank and Queensfleet on the east bank. Kingsfleet is also a large drain that is pumped into the river above Felixstowe Ferry.

At low water there is a muddy foreshore and a large sandy shoal at Horse Sand, formed by material carried in on the flood tide, deposited inside the entrance and subsequently sculpted by estuary processes. There are moorings for yachts and commercial vessels, not all of which lie afloat through a tidal cycle.

Most of the early channel systems have been shut off by river walls, except some relics such as Falkenham Creek and Kirton Creek (exit of the Mill River).



©Suffolk Coast and Heaths AONB

Ramsholt is a small scattered settlement, significant for its pub and church, and as a yachting base.

The flow here is predominantly tidal and this is therefore mainly a saltwater dominated environment. Seasonally there will be increased localised freshwater influx from land drainage at sluices, notably at Kingsfleet.

Lower Reaches – Felixstowe Ferry to The Rocks and Hemley. FLOOD CELLS FC01, FC02a, FC02b, FC03, FC07, FC08

L2 LOCAL CHARACTER

This reach extends up-river from Felixstowe Ferry, a generous stretch of open water up to the Ramsholt moorings. It accommodates personal watercraft use, speedboats, and designated water-ski club area with pontoon, as well as offering clear water for sailing.

There is a substantial area of moorings upstream from Felixstowe Ferry.

The moorings at Ramsholt are extensive. Launching and landing facility is available at Ramsholt Quay, where the Ramsholt Arms, for both the waterborne and land-based visitor, is a popular destination.

The land rises at Ramsholt and there is a walk to Ramsholt Church as well as along the top of the sea wall to Ramsholt Cliff ("The Rocks") and beyond.

L3 HERITAGE

Ramsholt Church.

L4 LEISURE

Recreational sailing, fishing. Licensed waterski area between Horse Sand and Ramsholt moorings.

Ferry Landing at Felixstowe and at Bawdsey connecting to the Suffolk Coast Path.

L5 ACCESS EAST BANK

1) Footpath upstream from Ramsholt Arms (to the Rocks and beyond, past Stonner Point to eventually connect through the footpath network to Woodbridge via Wilford) 2) PRow across grazing marsh towards Pettistree Hall etc. 3) Several paths in/around Shottisham.

Vehicle access at Ramsholt Arms for river wall paths. No public car park facility.

By boat: The Rocks, Ramsholt.

Roads, east bank: 1) Ferry Rd, from Bawdsey to Quay. Approx 2km lies within FC01. Flooding would affect access to Bawdsey Manor and Quay. 2) B1083 Alderton to Bawdsey follows eastern edge of FC01 for a short distance.

L6 ACCESS WEST BANK

Footpaths in FC08: 1) River wall path around head of Kirton Creek, towards Waldringfield. 2) several footpaths crossing narrow westernmost end of valley, between Bucklesham, Newbourne, Brightwell. 3) Path from Hemley to Newbourne (Village Hall). 4) Newbourne/Kirton path crosses southern finger of FC08. Stour and Orwell Walk, Footpath, Felixstowe Ferry to Newbourne.

In FC07, footpath from Falkenham to Corporation Farm (includes permissive paths) NB out of bounds in shooting season. Stour and Orwell Walk crosses FC07. Walk from Sheepsgate Lane well maintained, parking by reservoir.

Lots of opportunities for access to paths. River wall - several paths lead across FC07, and 08; no car access, but Hemley is close by.

L7 MARINE INDUSTRIES

Extensive swinging moorings above Felixstowe Ferry and at Ramsholt, managed by fairway committees and the harbour master, maintained by Deben Trojan, Felixstowe Ferry Boatyard,

Lower Reaches – Felixstowe Ferry to The Rocks and Hemley. FLOOD CELLS FC01, FC02a, FC02b, FC03, FC07, FC08

and Tam Grundy, Melton. Fishing trips and river trips from Ramsholt, operated by Richard Clarke on Will Laud.

L8 AGRICULTURE EAST BANK

Mann Farms, High House, Bawdsey.

620 hectares of which 400 irrigated, 200 arable marshland, 20 grazing marsh.

Mixed arable use: wheat, oilseed rape, sugar beet. Potatoes, carrots, onions, cabbage. Variable.

Licensed quantity of water abstraction: 342,000 cubic metres.

Adeane Estates, James Adeane, Alderton House.

976 hectares of which 626 irrigated, 350 arable marshland.

Mixed arable use: wheat, oil seed rape, sugar beet. Potatoes, carrots, onions, cabbage. Variable.

Licensed quantity of water abstraction: 367,000 cubic metres

Simper Farms.

70 hectares of which 40 irrigated, 30 grazing marsh.

Mixed arable use: potatoes, carrots, onions, cabbage. Variable.

Grazing let to grazier.

L9 AGRICULTURE WEST BANK

P D Adams & Son, Laurel Farm, Falkenham.

280 hectares of which 240 arable marsh, 40 grazing marsh.

Mixed arable use: wheat, oilseed rape, sugar beet.

Grazing: sheep.

Licensed quantity of water abstraction: 100,000 cubic metres.

Prettyman Trustees: small section of river frontage only on the Hollingsworth Estate.

J Hollingsworth & Sons, Russells Farm, Falkenham.

306 hectares of which 196 irrigated, 100 arable marshland, 10 grazing marsh.

Mixed arable use: wheat, oilseed rape, sugar beet. Potatoes, carrots, onions, cabbage. Variable.

Licensed quantity of water abstraction: 68,200 cubic metres

GH & JG Paul, Kirton Lodge, Kirton.

870 hectares of which 650 irrigated, 140 arable marshland, 90 grazing marsh.

Mixed arable use: cereals. Oilseed rape, sugar beet, potatoes, onions, organic vegetables.

Licensed quantity of water abstraction: 193,000 cubic metre

Moncrieff Trust

L10 ESTUARY PROCESSES

Deep water channel held back by the throttle effect of the river entrance. The lower reaches are flood dominant, meaning that sediment drawn in by the flooding tide is deposited as Horse Sand immediately inside the entrance and that the fringing saltmarsh areas are relatively stable. For more information (Estuary Mouth Workshop report October 2011) [http://www.suffolkcoastandheaths.org/uploads/Estuary%20Mouth%20Workshop%20Report%20Final\(1\).pdf](http://www.suffolkcoastandheaths.org/uploads/Estuary%20Mouth%20Workshop%20Report%20Final(1).pdf)

Lower Reaches – Felixstowe Ferry to The Rocks and Hemley. FLOOD CELLS FC01, FC02a, FC02b, FC03, FC07, FC08

Local information suggests saltmarsh between Felixstowe Ferry and Kings Fleet Drain is prone to erosion, particularly in the channel that separates the fringing saltmarsh from the flood wall. This is under consideration for a maintenance project by the DEP.

Falkenham Creek is losing saltmarsh from within its channels and across its front edge.

Kirton Creek is silting up, apart from the drainage channel. The downstream corner of the entrance to Kirton Creek is prone to erosion due to the trend of the river at that point, and parts of the river wall downstream are subsiding.

L11 FRESHWATER HABITAT

Drained arable farmland and some grazing marsh. Kings Fleet and its environs, the area to the west of Falkenham Creek, and parts of the grazing marsh area at Newbourne, Flood Cell 8 are all County Wildlife Sites, and Newbourne Springs is a Wildlife Habitat SSSI. The marshes in Flood Cells 2a Ramsholt, 2b Keepers Cottage and 3 Ramsholt Lodge Marsh are also County Wildlife Sites.

Flora: Phragmites reed beds, bullrushes. Alder, Willow Ash, scrub, bramble.

Fauna: Heron, Little Egret, Dabchick, Great Crested Grebe, Mallard, Tufted Duck, Pintail, Teal, Pochard, Wigeon, Moorhen, Coot, Swan, Brent Goose, Greylag Goose, Canada Goose, Reed Bunting, Reed Warbler, Sedge, Warbler, Willow Warbler, Nightingale. Fieldfare, Redwing, Mistle Thrush, Song Thrush, Dunnock, House Sparrow, Linnet, Greenfinch, Bullfinch, Goldfinch, Snipe, Woodcock, Barn Owl, Tawny Owl, Little Owl, Kestrel, Marsh Harrier, Bittern, Peregrine Falcon, Hen Harrier in winter. Hare; Great Crested Newt; Otter; Vole; Chinese Water Deer, Red Deer. Lapwing, Corn Bunting, Skylark, Shelduck, Golden Plover.

L12 SALTWATER HABITAT

Saltmarsh and tidal mudflat. Saltmarsh provides a high roost area. The entire estuary is a Site of Special Scientific Interest, a RAMSAR site and a Special Protection Areas for birds.

Flora: Samphire, Spartina Grass. Sea Couch, Sea Purslane, Sea Aster, Sea Lavender.

Fauna: Black Headed Gull, waders seasonally and resident: Curlew, Black Tailed Godwit, Avocet, Redshank, Lapwing, Dunlin, Turnstone, Cormorant, Heron, Egret, several species of goose,

Common Seal, Herring, Cod, Sole, Sea Trout, Sea Bass, Shore Crab.

L13 CURRENT MANAGEMENT

Policy to 'hold the line' at present.

There has been a recent protocol (introduced 2009) by DEFRA to ease the process of achieving licenses by landowners to manage their own river defences. This can result in partnership agreements between the Environment Agency and the landowner. Wall maintenance was carried out by the Environment Agency at Blackstakes Reach in 2009. Revetment repairs near Kirton Creek 2009. Revetment renewed and replaced at the lower end of The Rocks through a partnership between the landowner, local authority and Environment Agency, 2011.

Drainage managed through landowners, local authority. Overseen by the Inland Drainage Board.

L14 FLOOD CELLS (see description below maps)

Lower Reaches – Felixstowe Ferry to The Rocks and Hemley. FLOOD CELLS FC01, FC02a, FC02b, FC03, FC07, FC08

Land that has a 1:1000 probability of flooding up to 5 metres Ordnance Datum in the event of failure of flood defences.

Flood cells protected by defences in this reach:

FC01: East Bank, Bawdsey to Ramsholt.

Wall length: 5537 metres.

Area: 636.9 hectares of which: agricultural land 508 hectares grade 3, 14 hectares grade 4.

Abstraction points: 2.

Land use: agricultural.

Defence: upstream of Bawdsey, clay wall defence with some paved revetment work.

FFC02a, FC02b, FC03: East Bank, Ramsholt Keepers Cottage, Ramsholt Lodge Marsh.

FC02a

Wall length: 365 metres.

Area: 14.6 hectares of which: agricultural land 11 hectares grade 4.

Abstraction points: 1.

FC02b

Wall length: 202 metres.

Area: 0.88 hectares of which: agricultural land 1 hectare grade 4.

Abstraction points: 0.

FC03

Wall length: 932 metres.

Area: 20.5 hectares of which: agricultural land 13 hectares grade 4.

Abstraction points: 0

Land use, agricultural. Flood walls are all clay with some paved revetment work.

Some improvement work has been carried out at the upstream end of FC03.

FC07: West Bank, Felixstowe Ferry, Felixstowe Marshes, Falkenham Marshes.

Wall length: 8676 metres.

Area: 845.3 hectares of which: agricultural land 214 hectares grade 2, 583 hectares grade 3.

Abstraction points: 2.

Land use: agricultural.

Defence: flood walls are clay with paved revetment work. Some improvement work has been carried out near Holm Hill Farm, at Blackstakes Reach and on the downstream corner of Kirton Creek.

FC08: West Bank, Newbourne.

Wall length: 536 metres.

Area: 205.8 hectares of which: agricultural land 4 hectares grade 3, 182 hectares grade 4.

Abstraction points: 3.

Land use: agriculture, reservoir.

Defence: flood walls are clay.

L15 INFRASTRUCTURE

Roads in flood cells, west bank: 1) Newbourne to Kirton 2) Newbourne to Waldringfield.

East bank: 1) Ferry Rd, from Bawdsey to Quay. Approx 2km lies within FC01. Flooding would affect access to Bawdsey Manor and Quay. 2) B1083 Alderton to Bawdsey follows eastern edge of FC01 for a short distance.

Lower Reaches – Felixstowe Ferry to The Rocks and Hemley. FLOOD CELLS FC01, FC02a, FC02b, FC03, FC07, FC08

Land drains, pumping stations at Kingsfleet, Falkenham, Bawdsey. River walls. Irrigation.

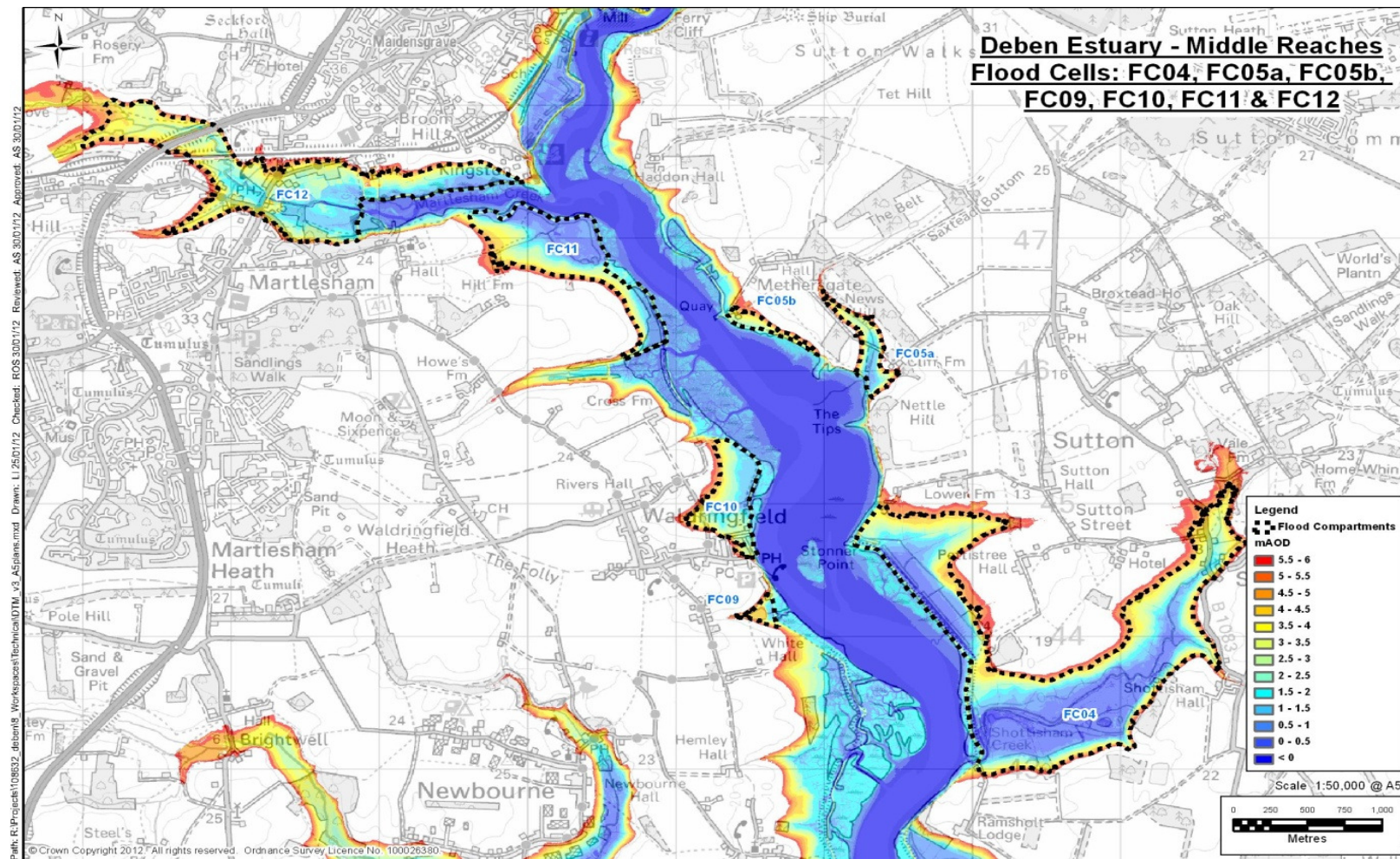
L16 KEY INDIVIDUALS AND ORGANISATIONS

George Collins, Harbour Master, Ramsholt. Ramsholt Fairways Committee, River Deben Association, Deben Estuary Partnership, Suffolk Coast and Heaths AONB, Suffolk Coast Against Retreat.

Bawdsey Parish Council, Alderton Parish Council. Trimley St Mary Parish Council, Trimley St Martin Parish Council, Kirton Parish Council, Falkenham Parish Council, Newbourne Parish Council. Hemley Parish Council.

Environment Agency, Natural England, Marine Management Organisation and The Crown Estate.

Middle Reaches – The Rocks to Loder’s Cut and Kyson Point. FLOOD CELLS FC04, FC05a, FC05b, FC09, FC10, FC11, FC12.



This a LIDAR map, taken by air survey, showing ground levels around the estuary (see key for the level that each colour relates to). The study area in the estuary is divided into compartments called flood cells. Flood cells are discrete areas currently protected by a shared system of defences and extend inland approximately to the 5m contour. Flooding would only extend throughout the whole of a flood cell as a result of extremely large storms that would be expected to occur very infrequently (a 0.2% (1 in 500) annual probability of occurrence one hundred years from now and estimating future water levels based on current climate change predictions). Such a storm would be significantly greater than the largest event of recent times (that of 1953).

Middle Reaches – The Rocks to Loder’s Cut and Kyson Point. FLOOD CELLS FC04, FC05a, FC05b, FC09, FC10, FC11, FC12.

M1 LANDSCAPE TYPE

In this reach, the river is still navigable at all states of the tide. Land begins to rise from the river, and this is cut into by the river in its valley, at Ramsholt Cliff, The Hams and The Tips, and Waldringfield, where sandy cliffs erode and recharge the beaches. Elsewhere, the landscape is saltings and turf walls.

Ramsholt Cliff is an SSSI, the most southerly exposure of Coralline Crag in Britain, and is of historic importance as one of the major sites in British palaeontology. The popular beach and anchorage at its foot is generally referred to as The Rocks.

Above The Rocks, there is a fresh water grazing marsh, Shottisham Marsh. There is a low lying island of mud flat and saltmarsh opposite Waldringfield, at Stonner Point. Above this the land rises to meet the river at two sandy points: The Hams and The Tips, the first is a natural landform, the second was a thwarted reclamation project.

From The Tips the land is bounded by a wall as far as Methersgate Quay, a private landing serving a small settlement and mooring holders. Beyond here is a complex of failed defences and saltmarsh that gives way to higher land - a wooded hill with a large house, Little Haddon Hall.

An area of saltmarsh projects from the east bank towards Kyson Point. An artificial cut (Loder’s Cut) has been made through this to ease navigation.

On the west bank above Hemley, the land rises to Waldringfield where it meets the river as a wooded cliff and beach. Opposite Waldringfield is a salting that fronts Stonner Point, and between the salting and the point is a channel, navigable at high water. Between Waldringfield and Loder’s Cut large mudflat areas are exposed at low water, constraining navigation to the buoyed channel.

Upstream of Waldringfield is a large area of saltings backed by a river wall, which protects a small grazing marsh and some low lying residences. This gives way to another salt marsh created by a failed wall, after which there is rising land, bounded by a defence.

Martlesham Creek is the outlet of the River Fynn. It is bounded by rising land with a river wall to the south and low freshwater marsh protected by a wall to the north. It terminates in a wall, with sluice. It is not navigable at all states of the tide.

Downstream from Loder’s Cut, the greatest effect upon the water salinity is still tidal processes. Freshwater inflow from the River Fynn at the head of Martlesham Creek has an influence, particularly in the immediate locality.

M2 LOCAL CHARACTER

"The Rocks" is popular with boat owners; it affords a safe and sheltered anchorage with a sandy beach and wooded cliff that can be landed upon at all states of the tide. It is in constant use in the summer months but almost exclusively by boat owners, since there is no direct public vehicular access. This can give a sense of remoteness to the site but only when it is not crowded with anchored vessels.

At Hemley, below Waldringfield, there is an extensive saltmarsh area, the result of a failure of a flood defence in 1937. This gives a remote and wild quality to the landscape that guarantees a rich habitat as a direct result of its inaccessibility. It is overlooked at its lower end by the tiny farming village of Hemley, and at its upper end by Waldringfield.

Middle Reaches – The Rocks to Loder’s Cut and Kyson Point. FLOOD CELLS FC04, FC05a, FC05b, FC09, FC10, FC11, FC12.

The village of Waldringfield rises above the river, beyond a wooded cliff with a clutter of beach huts at one end and the Maybush pub at the other. The cliff provides just enough sand to keep the top of the beach nourished and to make it popular for families with young children to play and to bathe. In the summer, the beach is packed with tethered tenders for the yachts moored off. This same cliff provides protection to the dense moorings in the channel close beneath it. Within this tight corner there is also a very active sailing club and at the upstream end is Waldringfield Boatyard that runs daily river trips on MV Jahan. All these uses harmonise at present if in a rather eccentric manner.

The Hams and the Tips, are two spurs of land that jut into the river on the bank opposite Waldringfield. Like The Rocks, these are more easily accessible from the water than the land, giving them a remote and romantic feel, and with their high water sandy beaches they are frequently used as picnic and camping destinations.

The river footpath has been cleared through this area and now it is possible to walk through a varied and stimulating landscape within the river valley but not continually along the river wall, from Ramsholt to Sutton Hoo and via Wilford Bridge to Woodbridge.

Upstream of Waldringfield, the landscape is rolling farmland and very picturesque. Apart from sections of designated footpaths on both sides, access is predominantly private. At Methersgate, the channel is fringed with moorings again, up to Woodbridge and beyond. There is a small slip and quay with an ancient white cottage that to all the world looks unchanged in appearance from the 18th century.

Loder’s Cut was commissioned by a local benefactor in the 19th century to help avoid the difficulty of taking ungainly sailing vessels around "Troublesome Reach" where the wooded height of Kyson Point would generally steal their wind and force an arduous journey.

At this point a stupendous view of Woodbridge comes into sight, with its churches, warehouses, and Tidemill. This is a sight that, although now much more developed, would still just about be recognisable to a visitor from a century ago.

M3 HERITAGE

Hemley Church, Waldringfield Church, Martlesham Church.

M4 LEISURE

The Rocks and Waldringfield are popular destinations for visiting boats. Waldringfield Sailing Club: dinghy sailing all year round. Swinging moorings at Waldringfield and from Methersgate to Loder's Cut. River trips.

Waldringfield is a magnet for visitors, who come for the birdwatching, walking and water-based activities.

Maybush Inn at Waldringfield.

M5 ACCESS EAST BANK

Footpath from the Rocks past Stonner Point to Woodbridge via Methersgate Hall, Sutton Hoo and Wilford Bridge (not all along the river wall).

Methersgate Marsh: 1) Path along river wall. 2) Path following track between Cliff Farm and Methersgate, 150m in FC05a. 3) Path from Methersgate Quay on river wall downstream to Hams (mixed access rights).

Middle Reaches – The Rocks to Loder’s Cut and Kyson Point. FLOOD CELLS FC04, FC05a, FC05b, FC09, FC10, FC11, FC12.

No car access. Footpath links to river from inland.

Footpath network accessible by boat at Stonner Point, and at Hams and Tips.

M6 ACCESS WEST BANK

1) South of Waldringfield, there is a river wall footpath out to Hemley saltmarsh, interrupted by a breach, popular with dog walkers. 2) North of Waldringfield, there is a river wall walk to a breach at Cross Farm. This however can be continued as a circular walk which returns to Waldringfield Village via Sandy Lane 3) Footpath continues from the other side of the breach upriver, around Martlesham Creek to Woodbridge via Kyson Point, and linking paths from river wall across flood cell. 4) Start of Fynn Valley footpath at head of Creek.

Car and boat access to footpaths at Waldringfield. Martlesham Creek walks close to road access.

M7 MARINE INDUSTRIES

Waldringfield Boatyard, swinging moorings managed by harbour master, and Tam Grundy. Tour boat, Jahan, run by Waldringfield Boatyard. Marine layup and maintenance at boatyard.

Martlesham Boatyard, tidal and residential moorings, layup. Proprietor: Mike Ingham.

Classic Marine: Specialist yacht fittings and chandlery.

Seapower Marine Electronics.

M8 AGRICULTURE EAST BANK

Quilter Estates, Sutton Hall, Sutton.

630 hectares of which 600 irrigated, 30 grazing marsh.

Mixed arable: potatoes, carrots, onions, cabbage. Variable.

Licensed quantity of water abstraction: 218,100 cubic metres.

Sovereign Turf, Peter Waring.

R Riggs, Little Haddon Hall.
Garden.

M9 AGRICULTURE WEST BANK

Richard Hayward, Hemley Hall.

Arable marsh and grazing marsh. Sheep.

D E Parken, New Oak Tree Farm, Waldringfield.

400 hectares irrigated land.

Licensed quantity of water abstraction: 165,000 cubic metres.

D E Parken and Son, Cross Farm

Jimmy Docherty Farm

136 acres of Cross Farm, owned by D E Parken and Son

John Symes, Hill Farm, Martlesham.

146 hectares of which 140 irrigated, 6 arable marshland.

Mixed arable: potatoes, carrots, onions, cabbage. Variable. Grazing: sheep.

Licensed quantity of water abstraction: 40,900 cubic metres.

Middle Reaches – The Rocks to Loder’s Cut and Kyson Point. FLOOD CELLS FC04, FC05a, FC05b, FC09, FC10, FC11, FC12.

Johnson, Sandy Lane.
Arable and pig farm, grazing marsh.

Nottcutts, Martlesham Creek.
Irrigated nursery and grazing marsh.

M10 ESTUARY PROCESSES

Anecdotal information suggests saltmarsh is showing greater signs of decay than further downstream. Hemley saltmarsh is beginning to wash out, proportionate to the increase of tidal action inside the site and the further loss of the sea walls to tidal action. The same is occurring in the marsh created by the breaching of the wall above Waldringfield. The saltmarsh at Loder's Cut is breaking down rapidly.

The wall upstream at Waldringfield is subsiding due to erosion, footfall and lack of maintenance.



©Environment Agency

The wall at the downstream corner of Martlesham Creek underwent extensive restoration during 2011 by the DEP and the Environment Agency.

A sewage works on the north side of Martlesham Creek discharges into the creek.

Siltation is particularly noticeable in this area. Extensive mud banks are exposed at low water.

M11 FRESHWATER HABITAT

Mixture of arable farmland, sheep grazing, grazing marsh, and freshwater marsh. Shottisham Marsh, Flood Cell 04 and a small area in the lower Fynn Valley are County Wildlife Sites.

Flora: Reed beds, Bullrushes, Alder, Willow, Ash, Bog Oak, scrub, bramble.

Fauna: Heron, Moorhen, Coot, Mallard, Swan, Canada Goose, Dabchick, Reed Bunting, Reed Warbler, Sedge Warbler, Nightingale, Fieldfare, Redwing, Mistle Thrush, Song Thrush, Dunnock, House Sparrow, Linnet, Greenfinch, Bullfinch, Goldfinch, Tawny Owl, Barn Owl, Short Eared Owl, Woodcock, Snipe, Kestrel, Marsh Harrier, Buzzard, Peregrine Falcon, Egret.

Otter, Water Vole.

Narrow Mouthed Whorl Snail-Vertigo Angustior, behind the river wall in Martlesham Creek.

M12 SALTWATER HABITAT

Tidal mudflat and saltmarsh, flooded fields reverted to saltmarsh in 1940s, now starting to degrade. The entire estuary is a Site of Special Scientific Interest, a Ramsar Site and a Special Protection Area for birds. Additionally, Ramsholt Cliff (The Rocks) is a Geological SSSI.

Flora: Samphire, Cord Grass, Sea Couch, Sea Purslane, Sea Aster, Sea Lavender. Shrubby Sea Blite (rare).

Middle Reaches – The Rocks to Loder's Cut and Kyson Point. FLOOD CELLS FC04, FC05a, FC05b, FC09, FC10, FC11, FC12.

Fauna: Large flocks of waders due to the more extensive LW mudflats. Black Headed Gull, Herring Gull, Black Tailed Godwit, Avocet, Redshank, Curlew, Lapwing, Dunlin, Ringed Plover, Grey Plover, Turnstone, Cormorant, Egret. There is a heronry at The Tips.

Common Seal, Herring, Cod, Mullet, Sea Bass.

M13 CURRENT MANAGEMENT

'Hold the line'

Wall maintenance work carried out at Shottisham through a partnership between the Landowner, Local Authority and the Environment Agency. Maintenance work carried out on the river wall at the south corner of Martlesham Creek, a partnership of the landowner, DEP, Suffolk County Council and Environment Agency.

M14 FLOOD CELLS (see description below maps)

Land that has a 1:1000 probability of flooding up to 5 metres Ordnance Datum in the event of failure of flood defences.

FC04: East Bank, Shottisham Marsh.

Wall length: 2436 metres.

Area: 177.2 hectares of which: agricultural land, 80 hectares grade 3, 67 hectares grade 4.

Abstraction points: 5

Land use: agricultural, arable and grazing marsh.

Defence: flood walls are clay with concrete slab revetment work. Repair works carried out downstream of Stonner Point.

FC05a, FC05b: East Bank, Methersgate Marsh, Methersgate Quay.

Methersgate Marsh, FC05a:

Wall length: 242 metres.

Area: 10 hectares of which: agricultural land 7 hectares grade 4.

Abstraction points: 2.

Methersgate Quay, FC05b:

Wall length: 1188 metres.

Area: 3.9 hectares of which: agricultural land 3.9 hectares grade 4.

Abstraction points: 0.

Land use: agricultural and private garden and plantation. Private Quay.

Defence: flood walls are clay with concrete slab revetment work. Concrete quay and slip.

FC09: West Bank, Waldringfield South.

Wall length: 267 metres.

Area: 2.8 hectares of which: agricultural land 2 hectares grade 3.

Abstraction points: 1.

Land use: agricultural.

Defence: flood walls are clay.

FC10, FC11: West Bank, Waldringfield to South Bank Martlesham Creek.

FC10

Middle Reaches – The Rocks to Loder’s Cut and Kyson Point. FLOOD CELLS FC04, FC05a, FC05b, FC09, FC10, FC11, FC12.

Wall length: 1253 metres.

Area: 22.3 hectares of which: agricultural land 19 hectares grade 3.

Abstraction points: 0.

Private residences on the river bank and behind the river wall, upstream of Waldringfield boatyard.

FC11

Wall length: 2893 metres.

Area: 44.7 hectares of which: agricultural land 2 hectares grade 3, 39 hectares grade 4.

Abstraction points: 0.

Land use: agricultural.

Defence: flood walls are clay with some concrete slab revetment work. Downstream end of FC10 is badly worn down due to footfall and subsidence.

FC11: Substantial improvement works undertaken at the upstream end, Autumn 2011.

FC12: West Bank, Martlesham Marsh. The top of wall is very uneven, due to footfall, and lack of maintenance.

Wall length: 1396 metres.

Area: 94.3 hectares of which: agricultural land 1 hectare grade 3, 77 hectares grade 4.

Abstraction points: 2.

Land use: fresh water marsh, nursery gardens, sewage works, agricultural, light industrial.

Defence: flood walls are clay, prone to subsidence, some recent maintenance work conducted including cutting away tree growth.

M15 INFRASTRUCTURE

Drainage, river walls, irrigation, sewage works. Important sluice at the head of Martlesham Creek.

Roads in flood cells:

B1083 Woodbridge – Shottisham – Bawdsey: section by Shottisham bridge in FC04 can be cut off by flooding.

Roads, east bank: Short section of road in Waldringfield in FC10. Important intersection of roads in Martlesham village, by Red Lion, in FC12.

Roads, west bank: at Martlesham, A12 and railway cross FC12 on embankment. 2) Sandy Lane: c500m in FC12. 3) The Street: c500m in FC12. 4) Bealings Rd c 400m. 5) School Lane c 300m. Flooding could affect the important junction of these roads in Martlesham Village.

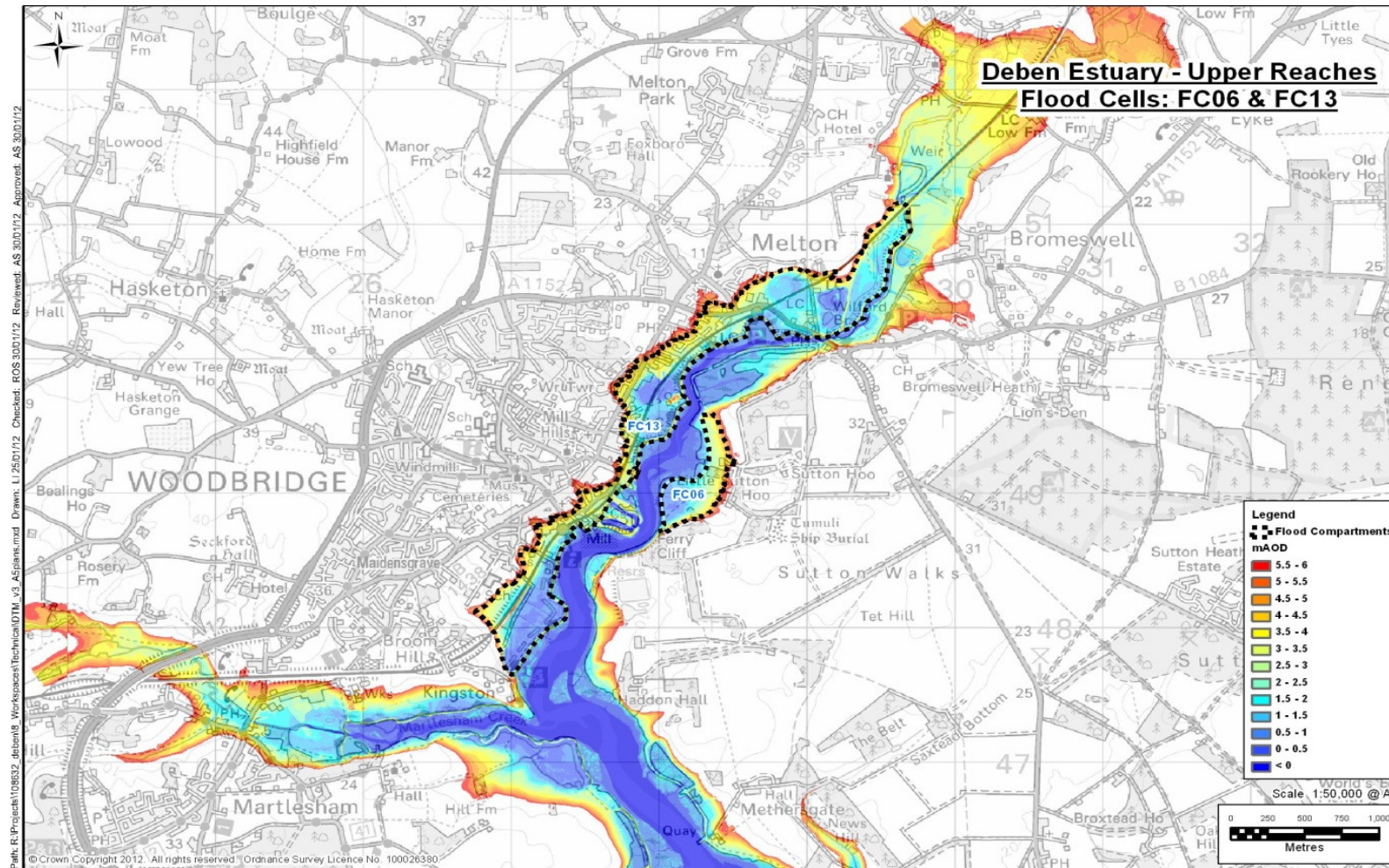
M16 KEY INDIVIDUALS AND ORGANISATIONS

Robert Simper, Andrew Brown, Waldringfield Boatyard, Waldringfield Sailing Club, River Deben Association, Deben Estuary Partnership, Suffolk Coast Against Retreat, Suffolk Coast and Heaths AONB Unit. Waldringfield Fairways Committee, Kyson Fairways Committee, Mike Ingham, Martlesham Creek Boatyard. Maybush Inn.

Shottisham Parish Council, Sutton Parish Council, Hemley Parish meetings, Waldringfield Parish Council, Martlesham Parish Council.

Environment Agency, Natural England, Marine Management Organisation and The Crown Estate.

UPPER REACHES, LODER'S CUT TO WILFORD BRIDGE. FLOOD CELLS FC06, FC13.



This is a LIDAR map, taken by air survey, showing ground levels around the estuary (see key for the level that each colour relates to). The study area in the estuary is divided into compartments called flood cells. Flood cells are discrete areas currently protected by a shared system of defences and extend inland approximately to the 5m contour. Flooding would only extend throughout the whole of a flood cell as a result of extremely large storms that would be expected to occur very infrequently (a 0.2% (1 in 500) annual probability of occurrence one hundred years from now and estimating future water levels based on current climate change predictions). Such a storm would be significantly greater than the largest event of recent times (that of 1953)

UPPER REACHES, LODER'S CUT TO WILFORD BRIDGE. FLOOD CELLS FC06, FC13.

U1 LANDSCAPE TYPE

River navigable only with the tide; at low water, moored boats dry out. To the east, high land drops to the river, except at one area below Sutton Hoo protected by a river wall. Ferry Cliff, Sutton, opposite the Tide Mill, is an SSSI, a site of geological interest because rocks of Palaeocene age here yield an important mammalian fauna. This locality and Belgian sites (of approximately the same age) have yielded the earliest artiodactyls and Hyracotherium (ancestral horse) in Europe and probably worldwide. Ferry Cliff was also used for target practice by the local militia during the 19th century, as a consequence, it also yields musket balls.

To the west above Kyson Point there is a grazing marsh protected by a flood defence wall. Between Deben Yacht Club and Wilford Bridge, the defences are varieties of sheet pile and concrete, providing protection to the developed areas of Woodbridge and Melton.

At low water the Deben is a small brackish channel surrounded by extensive mudflats flanked by fringing saltmarsh and backed by substantial defence works, on the Woodbridge side. On the opposite side, the defences are turf walls. At high water, the river is filled to the defence works, making Woodbridge a popular destination for visiting yachtsmen. The Woodbridge landscape appears to be almost continuous wharfage and dock facilities. Opposite, there is arable land, a low area of managed parkland, and Ferry Cliff. Upriver at Melton, a field that was breached in the 1940's, and reverted to saltmarsh, is now the subject of a stabilisation project by the DEP.

U2 LOCAL CHARACTER

Approaching from Loder's Cut, the more substantial flood defences emphasise the importance of Woodbridge. It is a busy place - the water front is a cluster of activities from sailing club to watersport, from sculling to seascouts - and here, people value their river. It is walked and used by bird watchers to such an intensity that there is scarcely passing space on the river wall for promenaders on a hot weekend. The impression of Woodbridge is that its inhabitants like their town and are justifiably proud and intensely protective of it. The river has all shades of life from the high-end motor cruisers and yachts that make the pilgrimage to the marina, the only place they can lie afloat in comfort, to the traditional vessels that take the mud and settle at odd angles, or the houseboats - some grungy, others not. All go to make a rich society and engrossing spectacle for local inhabitant and visitor alike.

The Sutton Bank opposite Woodbridge presents a completely different aspect; it is emphatically rural; woodland, meadow and arable farmland slope down to modest turf river walls. Opposite the Marina, there is Ferry Cliff: sandy and used for target practice by the local militia in the 19th century, it is now wooded and home to year-round crows and summer nightingales. This is now owned by the National Trust, which also owns the adjacent Sutton Hoo Anglo Saxon Burial Site. It appears that very little changes on the Sutton Bank, but this like the rest of the river is subject to subtle and understated management that aims to protect the habitat whilst safeguarding access for people. Marshes. Woodland - forms backdrop and skyline to eastbank.

From Woodbridge to Wilford Bridge, the high tide river opens out to a wide mere that is extensive mudflat at low water and feeding ground to extensive flocks of wildfowl and waders. This is a landscape where the diurnal changes are dramatic between tides. The estuary can be brim full and overflowing on a high spring flood, full of activity for that period before it all drains away again, when all the birds that have slept through it at high roost areas wake up and fill the mudflats, calling to each other in another kind of busyness.

UPPER REACHES, LODER'S CUT TO WILFORD BRIDGE. FLOOD CELLS FC06, FC13.

U3 HERITAGE

Woodbridge Tide Mill, Sutton Hoo,
Woodbridge Town.

U4 LEISURE

Deben Yacht Club: dinghy sailing and racing.

Woodbridge Cruising Club. Woodbridge
Rowing Club, sculling. Suffolk Water Sports,
canoeing and water safety instruction.
Woodbridge Sea Scouts.

Woodbridge Town, visitor attraction.

Woodbridge Tide Mill – improvements
recently completed.

Woodbridge Art Club (on Tide Mill Quay)

Tide Mill Yacht Harbour.

Moorings, both swinging and drying, from Methersgate Quay to Tide Mill Yacht Harbour.

Walking: Kyson Hill and Point; Sutton Hoo; river wall walks.

Woodbridge Information Centre at Woodbridge Station.



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U5 ACCESS EAST BANK

No river wall path. Link from Methersgate Hall to Sutton Hoo via Sutton Hoo Circular Walk and then to Wilford Bridge via B1083 road.

U6 ACCESS WEST BANK

1) River wall path along entire flood wall, from Kyson Point, continuing a short distance above Wilford Bridge on west bank. Joins Fynn Valley Walk, along Martlesham Creek, to Tuddenham St Martin. 2) Footpaths joining river wall.

Several alternative access points close to car parking. Also by boat at Kyson Point and other landing points on Woodbridge waterfront.

U7 MARINE INDUSTRIES

Several boatyards:

The Woodbridge Boatyard (previously Eversons): boatyard with pontoon and swinging moorings, winter layup, maintenance facilities.

Bass Dock (or Ferry Quay): the main quay

at Woodbridge, with quayside and swinging moorings, and a colony of residential moorings, offering engineering and general maintenance. Andy Seedhouse, Boat Sales. Yachtmaster: insurance



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UPPER REACHES, LODER'S CUT TO WILFORD BRIDGE. FLOOD CELLS FC06, FC13.

Whisstocks Boatyard: currently standing unused its development is under consideration.

Woodbridge Town Quay: facility to tie up near Tide Mill, when sufficient water.

Tide Mill Marina: jetty and pontoon berths, lying afloat at all states of the tide. Winter layup facility. Yacht broker.

Robertsons of Woodbridge: boatbuilders and repairs. Slip capable of taking large vessels, travel hoist, jetty and quayside moorings, some swinging moorings, and residential moorings.

Melton Boat Club: quayside and jetty berths, slip available, some winter layup.

Granary Yacht Harbour: with small marina facility, lying afloat at all states of the tide, plus swinging moorings, winter layup, maintenance facility, and heavy lift travel hoist.

Dick Larkman: winter layup specialist and general repairs and maintenance.

Suffolk Coastal District Council Quay, Wilford Bridge: berths for two large vessels, leasehold.

The yards provide employment, but also both support and depend upon an invisible raft of associated local businesses - from marine electronics, insurance brokerage, engineering, dredging etc.

Tam Grundy, Marine Contractor: towage, dredging, piling, mooring maintenance. Yacht Brokerage: David East; Howard Ford ,Boathouse, Granary Yacht Harbour. Small Craft Deliveries and regional Admiralty Chart Agency. Suffolk Rivers, surveying services. Yacht and boat surveys, Adrian Overbury. Marine Electronics: Deben Marine, Art Butler. Marine engineering: Peter Norris, N&A Metalwork and Engineering. Yacht maintenance, painting, fitting out, designing, crewing. Suffolk Sails.

U8 AGRICULTURE EAST BANK

Nigel Lewis, Ferry Farm.

Sovereign Turf, Peter Waring.

270 hectares of which 260 irrigated, 10 grazing marsh.

Mixed arable: turf, potatoes, sugar beet, carrots cabbage.

Pheasant rearing.

Licensed quantity of water abstraction: 226,800 cubic metres

John Coles.

Set aside, Willow and Poplar plantation, Goats and Alpaca grazing.

Peter Freeman.

Private House and garden

Conifer Plantation.

National Trust.

Ferry Cliff Plantation, conservation.

U9 AGRICULTURE WEST BANK

Grazing marsh, Kingston Fields.

U10 ESTUARY PROCESSES

UPPER REACHES, LODER'S CUT TO WILFORD BRIDGE. FLOOD CELLS FC06, FC13.

Local information suggests the fringing saltmarshes on the upper reaches are all subject to stress with the strong likelihood that they will be lost completely. The combined effects of being squeezed back against the defence works, tidal erosion, boat wash and sea level rise are likely to be the cause. Other factors such as the effects of burrowing crabs are also being considered.

Existing saltmarsh in the flooded field below Sutton Hoo is being rapidly lost to tidal erosion due to the continuing disintegration of the derelict river walls. This was a subject for a restoration project carried out in 2010-2011 by the Deben Estuary Partnership.

The entire upper reaches of the river are subject to siltation. This poses a problem for the marine facilities and demands frequent dredging. At the Tide Mill Marina, this is carried out as a rolling programme.

Sedimentation has accelerated on the upper reaches over the last twenty years. This is consistent with all East Anglian estuaries: sediment is carried upstream on the flood tide and settles out as the tide slows and ebbs. This could account for an incremental increase in silt on the upper reaches. However, there is also a strong suggestion that modern farming practices, large open fields and extensive irrigation cause increased run-off into the water courses. The causes of sedimentation are under debate, but have not so far been the subject of an in-depth study.

The River Deben Association constructed a Tidal Attenuation Barrier on the Sutton shore in 2008.

The water between Loder's Cut and Wilford Bridge varies in salinity according to the state of the tide, weather and time of year. At low water springs, it is predominantly fresh. Generally it is more brackish with a great deal of influence from run-off from farmland, both neighbouring and upstream. There is a sewage works and storm water drains that can influence the quality and composition of the water on the upper reaches.

U11 FRESHWATER HABITAT

Mixture of arable farming, grazing marsh and freshwater marshland. Some semi-urban marshland. There is a small County Wildlife Site in the fresh water marsh area downstream of Wilford Bridge and beside Melton Station.

Flora: Reedbeds, bullrush, unimproved grassland, highly managed arable farmland. Alder, Willow, Oak, Birch, Fir, Sycamore. Wood and Coppice.

Fauna: Heron, Moorhen, Coot, Mallard, Mute Swan, Canada Goose, Reed Warbler, Sedge Warbler, Willow Warbler, Nightingale, Dunnock, House Sparrow, Chaffinch, Bullfinch, Goldfinch, Linnet, Brambling, Yellowhammer, Reed Bunting, Fieldfare, Redwing, Mistle Thrush, Song Thrush, Greenfinch, Woodpecker, Great Spotted Woodpecker, Tawny Owl, Barn Owl, Kestrel, Hobby, Sparrow Hawk, Common Buzzard.

Great Crested Newt, Frog, Toad, Grass Snake, Lizard, Water Vole.

U12 SALTWATER HABITAT

Saltmarsh and mudflat (intertidal habitat) attract large flocks of wading birds, where the remaining saltmarsh provides high tide roost areas. The entire estuary is a Site of Special Scientific Interest, a Ramsar Site and Special Protection Area for birds.

Flora: Samphire, Cord Grass, Sea Aster, Sea Purslane, Sea Lavender, Sea Couch, Phragmites.

UPPER REACHES, LODER'S CUT TO WILFORD BRIDGE. FLOOD CELLS FC06, FC13.

Fauna: Large flocks of waders including Redshank, Greenshank, Dunlin, Turnstone, Ringed Plover, Black Tailed Godwit, Oystercatcher, Curlew, Lapwing, Cormorant, Mallard, Widgeon, Pochard, Teal, Mute Swan, Moorhen, Coot, Heron, Egret, Kingfisher, Gull.

Common Seal, Sea Bass, Flounder, Dab, Mullet, Goby, Herring, Eel, Shore Crab.

U13 CURRENT MANAGEMENT

'Hold the line' on the Woodbridge bank. 'Hold the line' on the east bank but in partnership with the landowners. River wall maintenance carried out by the Environment Agency above Ferry Cliff in 2009, continued southwards to the same level by the landowner 2010. River wall repairs carried out by the Environment Agency below Deben Yacht Club, 2011.

Saltmarsh regeneration projects carried out by community organisations in partnership with the Environment Agency and Suffolk Coast and Heaths AONB Unit. At Sutton, project managed by the River Deben Association; Sutton Hoo project managed by the Deben Estuary Partnership and landowner National Trust.

Regular dredging operations through the entire area: suction dredging at Granary Yacht Harbour and at Tide Mill Yacht Harbour. Plough dredging at other sites. More recent use of dredging solid material and depositing as saltmarsh recharge under licence.

U14 FLOOD CELLS (see description below maps)

Land that has a 1:1000 probability of flooding up to 5 metres Ordnance Datum in the event of failure of flood defences.

FC06: East Bank, Sutton Hoo Marsh.

Wall length: 1029 metres.

Area: 18 hectares of which: agricultural land 8 hectares grade 4.

Abstraction points: 2.

Land use: agricultural, set aside, private garden.

Defence: flood walls are clay with some concrete slab revetment work. Some levelling and reinforcement work carried out at the downstream end. Upper end has slumped and therefore vulnerable to overtopping.

FC13: West Bank, Woodbridge.

Wall length: 5781 metres.

Area: 127 hectares of which: agricultural land, 20 hectares grade 2, 32 hectares grade 4.

Abstraction points: 0.

Land use: agriculture, grazing marsh at lower end but the rest for the greater part light industrial boatyard/marina, leisure use, urban, residential, fresh water marsh upstream of Woodbridge, sewage works, nature reserve at Melton. Railway infrastructure.

Defence: lower end, new clay wall. From Deben Yacht Club upstream all the defences are a variety of hard structures, a mixture of concrete and sheet piling. All carried out to a high specification.

U15 INFRASTRUCTURE

River defences, sewage works, flood relief drains, irrigation plant and reservoir. Flood gates at The Woodbridge Boatyard (formerly Eversons), Bass Dock, Whisstocks Boatyard, Tide Mill Way, Robertsons Boatyard, Melton Boat Club, Granary Yacht Harbour, Woodbridge Cruising Club.

UPPER REACHES, LODER'S CUT TO WILFORD BRIDGE. FLOOD CELLS FC06, FC13.

Several public roads and railway. Flooding would interrupt access to riverside businesses, sports and boating facilities, and routes crossing at Wilford Bridge. Railway line and Woodbridge and Melton stations are in FC13.

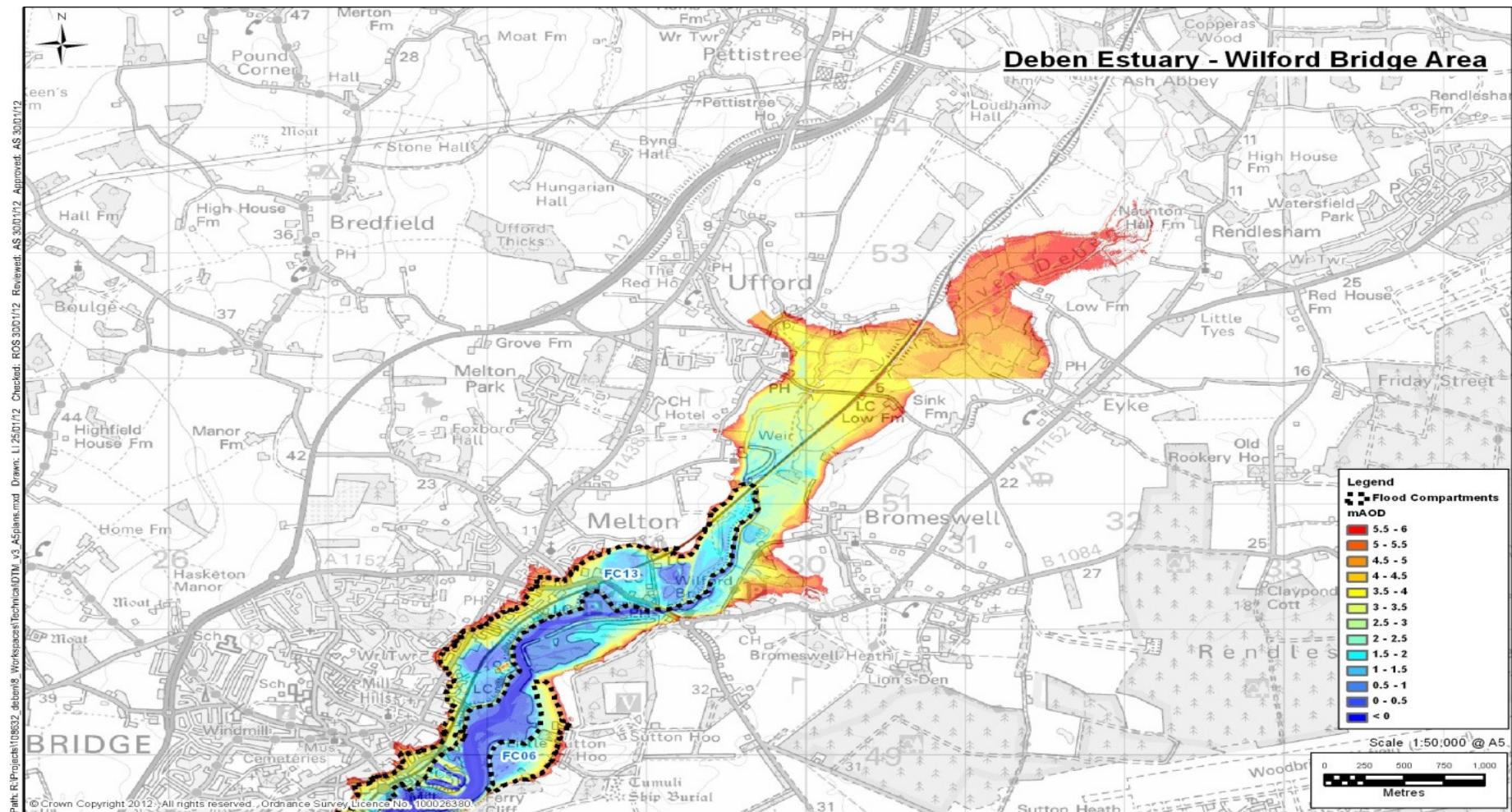
U16 KEY INDIVIDUALS AND ORGANISATIONS

James Foskett, Deben Estuary Partnership. Simon Read, River Deben Association. Trazar Astley-Reid, Estuaries Officer, Suffolk Coast and Heaths AONB Unit. National Trust, Grant Lohar.. Suffolk Coast Against Retreat. Woodbridge and Melton Riverside Action Group, Peter Clay. Woodbridge Riverside Trust, John Gibbins. Woodbridge Tide Mill Trust. Kyson Fairways Committee, Peter Taylor. Knoll Fairways Committee, Sonia Pollock. Richard Kimber, Tide Mill Yacht Harbour. Woodbridge Quay Company. Eversons Boatyard. Mike Illingworth, Robertsons of Woodbridge. Melton Boat Club. Mel Skeet, Granary Yacht Harbour. Dick Larkman, Larkman's Boatyard. Network Rail.

Bealings Parish Council, Woodbridge Town Council, Melton Parish Council, Suffolk Coastal District Council, Sutton Parish Council.

Environment Agency, Natural England, Marine Management Organisation and The Crown Estate.

Highest Reaches – Wilford Bridge to Ufford Mill, FLOOD CELL FC13



This is a LIDAR map, taken by air survey, showing ground levels around the estuary (see key for the level that each colour relates to). The study area in the estuary is divided into compartments called flood cells. Flood cells are discrete areas currently protected by a shared system of defences and extend inland approximately to the 5m contour. Flooding would only extend throughout the whole of a flood cell as a result of extremely large storms that would be expected to occur very infrequently (a 0.2% (1 in 500) annual probability of occurrence one hundred years from now and estimating future water levels based on current climate change predictions). Such a storm would be significantly greater than the largest event of recent times (that of 1953).

Highest Reaches – Wilford Bridge to Ufford Mill, FLOOD CELL FC13

U2 1 LANDSCAPE TYPE

Above Wilford Bridge, the landscape goes through a profound change. The river, although still bounded by a turf wall, tends to meander through reedbeds and small islands. It feels immediately more intimate. It is still navigable by a small boat on the tide.

There is a small common giving public access to the river on the Bromeswell side.

As the river passes further inland, it begins to lose its estuary identity as it passes through grazing meadows and willow plantations. However it is still bounded by substantial flood walls.

The river is tidal and therefore saline up to Ufford Mill, however, the fresh water influence increases above Wilford Bridge.

The area has SSSIs and Ramsar designations, and is an SPA.

U2 2 LOCAL CHARACTER

Wilford Bridge is a threshold to a completely different world; extensive saltmarsh immediately gives way to dense fringing reedbeds. Although still tidal, the landscape is suddenly docile and hints at the increasing influence of the fresh water river.

U2 3 HERITAGE

Bromeswell Church (grade 1 listed), Melton Old Church - not in the flood cell, but part of the valley scene.

U2 4 LEISURE

Fishing lakes at Wilford Bridge. Wilford Bridge Pub. Ufford Park Golf Club. Bromeswell fishing lakes (two) to east of river. Woodbridge Golf Club. Ufford White Lion pub.

U2 5 ACCESS EAST BANK

Wilford Bridge to Bromeswell (duckboard walk through reedbeds), becoming The Sandlings Walk via Chapel St Andrew and beyond. The upper reaches of the Deben are very popular with ramblers and cyclists.

Footpath from Bromeswell through willow plantation, crossing railway, and passing over meadows to Ufford Bridges.

U2 6 ACCESS WEST BANK

Short path from Wilford Bridge northwards to railway, on river wall.

U2 7 MARINE INDUSTRIES

U2 8 AGRICULTURE EAST BANK

Foskett Farms – vegetables.

U2 9 AGRICULTURE WEST BANK

Foskett Farms, Low Farm, Bromeswell.

140 hectares of which 120 irrigated.

Mixed arable: potatoes, carrots, sugar beet, cabbage, onions, lettuce.

Cricket Bat Willow, Reed beds.

Licensed amount of water abstraction: 93,000 cubic metres.

Highest Reaches – Wilford Bridge to Ufford Mill, FLOOD CELL FC13

J Fleming, Church Farm, Eyke
40 hectares grazing marsh, used to fatten cattle.

U2 10 ESTUARY PROCESSES

Local information suggests the reedbeds are beginning to degrade but are still extensive. Sedimentation here is not an issue so far as navigation is concerned but could impact on flood risk issues and drainage of the valley floor.

U2 11 FRESHWATER HABITAT

Arable farming, water meadow, Cricket Bat Willow plantation. Fishing lakes.

Flora: Reedbeds, Bullrush, unimproved grassland, arable farmland. Alder, Willow, Ash, Hazel, Bog Oak, Birch, Sycamore, bramble. Black Poplar.

Fauna: Heron, Moorhen, Coot, Mallard, Swan, Canada Goose, Reed Bunting, Reed Warbler, Sedge Warbler, Willow Warbler, Nightingale, Dunnock, Chaffinch, Bullfinch, Goldfinch, Linnet, Brambling, Fieldfare, Redwing, Mistle Thrush, Song Thrush, Greenfinch, White Egret, Greylag Goose, Teal, Skylark, Turtle Dove, Snipe, Buzzard, Lapwing, Kingfisher, Great Crested Grebe.



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Otter, Water Vole, Great Crested Newt, Frog, Toad, Lizard, Grass Snake, Adder.

U2 12 SALTWATER HABITAT

Some saltmarsh but reedbeds most characteristic here.

Flora: Phragmites, Sea Couch, Saltmarsh Grass. Sea Purslane.

Fauna: Waders, Dunlin, Turnstone, Redshank, Curlew, Oystercatcher, Lapwing, Black Tailed Godwit, Greenshank, Moorhen, Coot, Heron, Egret, Kingfisher, Cormorant, Dabchick, Mute Swan, Mallard, Teal, Pochard, Widgeon, Reed Bunting, Reed Warbler, Sedge Warbler. Bearded Tit, Tufted Duck, Greylag Goose, Snipe, Barn Owl.

Otter, Water Vole.

U2 13 CURRENT MANAGEMENT

'Hold the Line'.

U2 14 FLOOD CELLS (see description below maps)

Land that has a 1:1000 probability of flooding up to 5 metres Ordnance Datum in the event of failure of flood defences.

The salt water on a normal tide goes all the way to Ufford Mill. A very high tide combined with a fresh water flood can back up to Bridge Road and flood the valley from behind the river wall.

U2 15 INFRASTRUCTURE

River defences, drainage works, three irrigation reservoirs.

Highest Reaches – Wilford Bridge to Ufford Mill, FLOOD CELL FC13

Railway line is in FC13 almost all of the way from Kyson to Bromeswell.

Wilford Bridge is an important crossing point for road access to the Peninsula.

U2 16 KEY INDIVIDUALS AND ORGANISATIONS

James Foskett Farms. River Deben Association. Suffolk Coast Against Retreat. Suffolk Coast and Heaths AONB Unit. Bromeswell Parish Council, Ufford Parish Council, Melton Parish Council.

Network Rail.

Woodbridge Golf Club; Willowbank Fishing Club.

Environment Agency, Natural England, Marine Management Organisation and The Crown Estate.