

Alde Ore Estuary recommended MCZ

Seasearch Site Surveys 2012

This report summarises the results of subtidal surveys carried out in the recommended Marine Conservation Zone by Seasearch volunteers between August 2011 and August 2012. The aim of the surveys was to add detail of the habitats and species found within the area to support the designation process and inform management. Poor visibility and strong currents limited surveying to the mooring pontoons at Orfordness landing stage and a jetty at Crouch Hard.



Typical view on Orfordness

Physical Features of the Area

The recommended Marine Conservation Zone covers the entire estuary, from mean high water to the seaward end of Orfordness shingle spit..

The area is being recommended for the presence of estuarine rocky habitats and sheltered muddy gravels and for its ecological importance as a breeding and nursery estuary for smelt (*Omerus eperlanus*). The

Alde and Ore system is an example of a bar built estuary. Estuaries are ecologically important and protecting these productive, yet fragile ecosystems is vital.

Diverse and species rich intertidal sand and mudflat biotopes grade naturally along the length of the shore into vegetated or dynamic shingle habitat, saltmarsh, grassland and reedbed.

Muddy substrata at the head of the Alde are supported by typical upper estuarine communities and are dominated by polychaetes and amphipods. The brackish water polychaete *Alkmaria romijni* was recorded at two sites within the system and this polychaete is listed as a Schedule 5 species under the Wildlife and Countryside Act, 1981 .

The site is of importance for smelt (*Omerus eperlanus*) which spawns in the area. Estuaries are important for juvenile fish providing feeding and refuge habitat. Research suggests that the current strategy of protecting marine fish at sea but leaving them vulnerable in their nursery grounds only meets with limited success, a case for establishing MCZs in estuaries.

The estuary also supports sprat and herring nurseries throughout and nurseries for other marine species such as sole and dab are afforded in the lower reaches. Migratory species such as salmon, sea trout and eel are common in these estuaries.

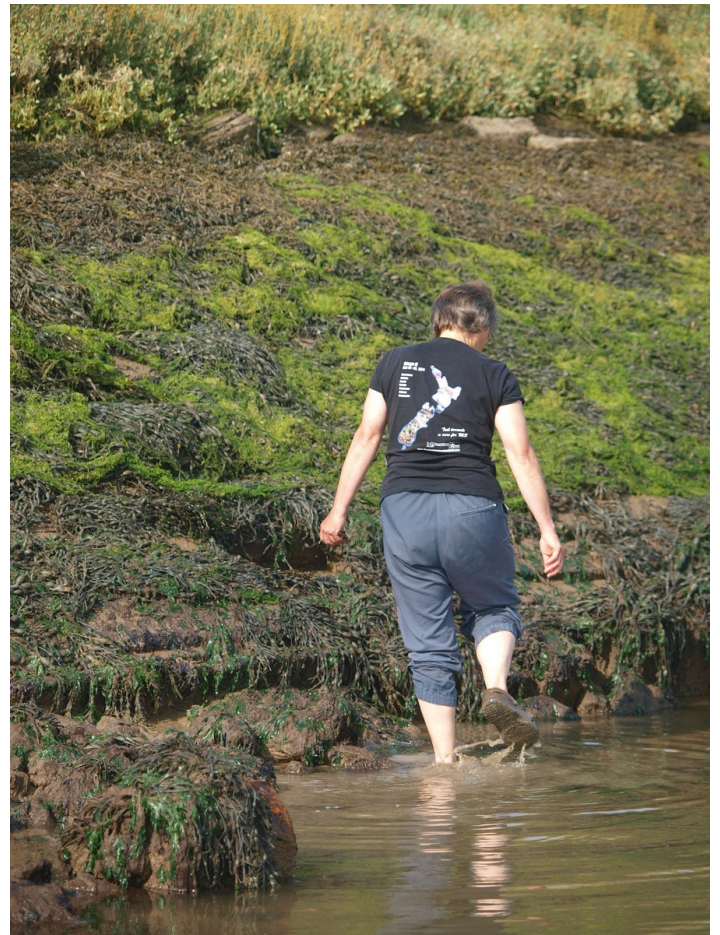


The vegetated shingle ridge which protects the Alde estuary

Features of the Marine Life

The dives on the landing pontoons and surrounding anoxic mud and boulders revealed a surprisingly high level of biodiversity – 34 algae species were identified during an in depth survey in 2011 as well as

numerous sponges, squirts, worms, crustaceans and molluscs.



A mixture of anoxic mud and small boulders and cobbles at the Orfordness landing pontoons, densely covered in mixed algae

One interesting aspect of the pontoon dives was the mix of species normally seen on deep wrecks, such as Christmas tree slugs and Orange anemones, with those commonly seen in the intertidal zone, such as barnacles and sea lettuce.



Nice bright yellow example of a Christmas tree slug on mixed animal turf

The Crouch Hard survey revealed only the commonly expected species, such as shore crabs, blue mussels and egg wrack seaweed.



Orange anemones – usually only seen on deep wrecks in East Anglia



The wooden parts of the jetty at Crouch Hard were packed with juvenile Blue mussels, a species which would not be protected by the rMCZ



A dense aggregation of barnacles, many species of which survive best in the intertidal zone.



Sea lettuce, another intertidal or very shallow subtidal species, seen with a Plumose anemone.



Shore crabs preparing to moult and breed

Human uses and impacts

The area is mostly used for recreational boat use and mooring, bird watching and walking. There is some recreational angling from boats and shore, but most head to the open coast.

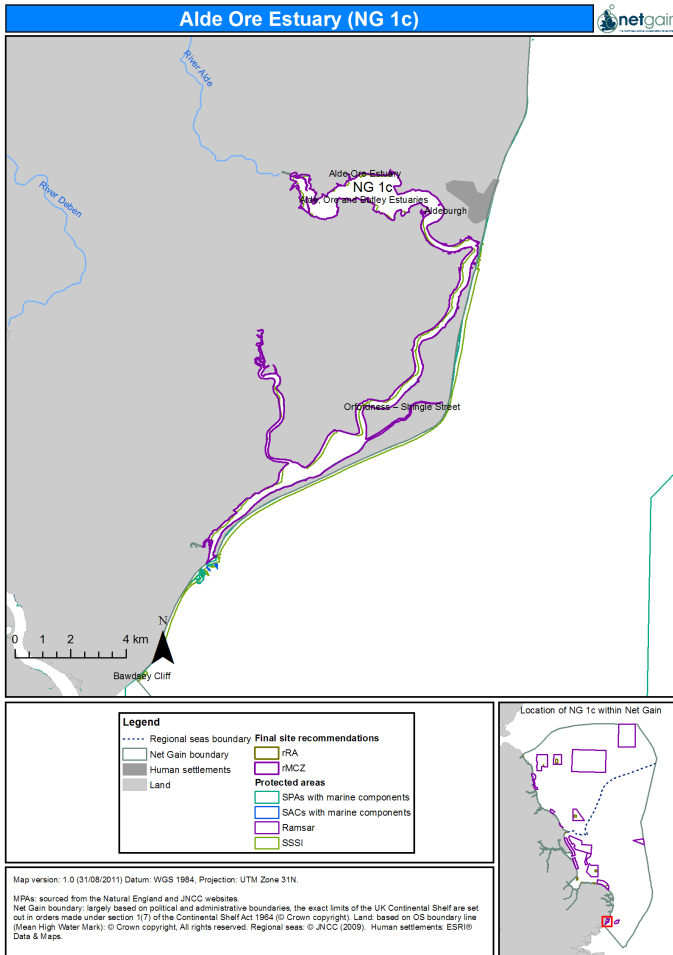
The Ness itself is under the control of the National trust as a nature reserve and museum, having been used in the past for intense weapons testing.

Almost no commercial fishing or crab potting now takes place within the rMCZ; local inshore sea fishing has also declined greatly in recent years.

Benefits of Protection

The main benefit of this rMCZ is to provide a link between currently existing protected areas

Not many harmful practices are currently undertaken within the estuaries, but MCZ status will help to control further expansion of boat mooring with associated damage, litter and pollution and will help to guide any local development.



Map of MPA and rMCZ sites neighbouring the Alde and Ore estuaries

The map above shows the range of protected areas already in place around the estuaries, as well as related proposed MCZ sites.



A small part of the equipment needed to carry out the surveys



Typical pontoon community of orange anemones, Sea lettuce, and various crustaceans



One of the rarer inhabitants of the landing pontoons – an *Idotea* sp isopod, rather like a marine centipede

Technical Appendix

This appendix contains more detailed information about the surveys undertaken and records made. It includes:

- Dive details
- Biotope list
- Species list

The data have been entered into Marine Recorder and are available as an MS Access 'snapshot' file on request from Seasearch. Data from surveys up to 2011 are publicly available on the NBN Gateway.

Current Proposal

The recommended MCZ boundary has been drawn to cover the entire estuary, from mean high water to the seaward end of Orfordness shingle spit.

The features proposed for designation are:

Broad scale habitats	None
Habitat FOCI	Estuarine rocky habitats Sheltered muddy gravels
Species FOCI	Smelt (<i>Osmerus eperlanus</i>)
Geological feature	Orfordness (subtidal)

Features within the area but NOT proposed for designation are:

Broad scale habitats	A1.3 Low energy intertidal rock
	A2.1 Intertidal coarse sediment
	A2.3 Intertidal mud
	A2.4 Intertidal mixed sediments
	A2.7 Intertidal biogenic reefs
	A5.2 Subtidal sand
	A5.4 Subtidal mixed sediments
Habitat FOCI	Blue mussel beds
Species FOCI	European eel (<i>Anguilla anguilla</i>) Tentacled lagoon worm (<i>Alkmaria romijni</i>)

Survey details

2011

Dive 1: 2nd August Orfordness landing pontoons. Shore dive Habitat, species and photographic records. Surveyors Dawn Watson, Rob Spray, Claire Goodwin, Simon Parker, Jon Chamberlain, Lin Baldock, Nick Owen, Charlotte Bolton, Fergus Drennan. 52 05.404N 01 32.567E. Survey form EA11/052.

2012

Dive 1: 10th August Orfordness landing pontoons. Shore dive Habitat, species and photographic records. Surveyors Dawn Watson, Rob Spray, Sarah Bowen, Jon Chamberlain, David Kipling, Simon Parker, Graham Jackson. 52 05.404N 01 32.567E. Survey form EA12/042.

Dive 2: 10th August Orfordness Crouch Hard. Shore dive Habitat, species and photographic records. Surveyors Dawn Watson, Rob Spray, Sarah Bowen, Jon Chamberlain, David Kipling, Simon Parker, Graham Jackson. 52 04.618N 01 32.392E. Survey form EA12/044.

Dive sites map



This map shows the dives sites for 2011 (pontoons) and 2012 (pontoons and Crouch Hard) within the rMCZ

Biotopes recorded

All sites	IR.FIR.IFou	Wrecks/concrete pilings/cable debris or other artificial substrata with dense seaweed covering on both vertical and upper faces.
Crouch Hard only	SS.SMu.SMuVS	Sublittoral mud in estuaries or other areas of variable salinity.

Species List

Scientific name	Common name	2011	2012 1	2012 2
Porifera		Sponges		
<i>Halichondria panicea</i>	Breadcrumb sponge	R	F	
<i>Haliclona oculata</i>	Mermaids glove	O	O	
<i>Porifera crust</i>	Yellow crust	O		
Cnidaria		Hydroids and anemones		
<i>Tubularia larynx</i>	Oaten pipes	F	F	
<i>Tubularia indivisa</i>	Oaten pipes	R	O	
<i>Diadumene cincta</i>	Orange anemone	C	F	
<i>Pleurobrachia pileus</i>	Sea Gooseberry	F	O	
<i>Aurelia aurita</i>	Moon Jelly	F		R
<i>Beroe cucumis</i>	Comb jelly	O		
<i>Metridium senile</i>	Plumose anemone		R	
Annelida		Segmented worms		
<i>Sabella pavonina</i>	Peacock fanworm	O		
<i>Polynoidae</i>	Scale worm	R		
Crustacea		Barnacles, crabs, shrimp and lobsters		
<i>Cirripedia sp</i>	Barnacle	C	A	A
<i>Caprella sp</i>	Skeleton shrimp	O	R	
<i>Carcinus maenas</i>	Shore crab	O	F	O
<i>Idotea sp</i>	Isopod	F	O	
<i>Palaemon elegans</i>	Rock pool prawn	O		
<i>Jassa falcata</i>	Amphipod	C		
<i>Amphipoda</i>	Unknown amphipod	O		
<i>Ligia oceanica</i>	Sea slater		O	
<i>Gammarid sp</i>	Shrimp		C	
Mollusca		Molluscs		
<i>Mytillus edulis</i>	Blue mussel	A	C	F
<i>Dendronotus frondosus</i>	Christmas tree slug	O		
<i>Coryphella sp</i>	Sea slug	O		
Tunicata		Sea squirts		
<i>Styella clava</i>	Leathery sea squirt	O	R	
<i>Tunicata</i>	Unknown solitary	O		
<i>Molgula sp</i>	Solitary sandy		R	
Pisces		Fishes		
<i>Lipophrys pholis</i>	Shanny	O		
Algae		Seaweeds		
<i>Ulva linza</i>	Gut weed	F		
<i>Ulva lactuca</i>	Sea lettuce	F	C	C
<i>Ulva clathrata</i>	Sea lettuce relative	O		
<i>Ulva sp</i>	Sea lettuce relative	O		
<i>Catanelia caespitosa</i>	Creeping chain weed	O		
<i>Ceramium sp</i>	Pincer weed	F		F
<i>Chondrus crispus</i>	Irish moss	F	C	
<i>Cystoclonium purpureum</i>	Purple claw weed	F		
<i>Phylophora pseudoceranoides</i>	Stalked leaf bearer	O		
<i>Polysiphonia lanosa</i>	Siphon weed	F		

Scientific name	Common name	2011	2012 1	2012 2
<i>Polysiphonia nigra</i>	Twisted siphon weed	O		
<i>Polysiphonia fucoides</i>	Black siphon weed		F	C
<i>Polysiphonia stricta</i>	Pitcher siphon weed		O	
<i>Ascophyllum nodosum</i>	Egg wrack	F	F	A
<i>Chorda filum</i>	Bootlace weed	O		
<i>Filamentous brown sp</i>	Filamentous brown	O		
<i>Fucus spiralis</i>	Twisted wrack	F		
<i>Fucus vesiculosus</i>	Bladder wrack	F	C	
<i>Laminaria digitata</i>	Oar weed	F		
<i>Pelvetia caniculata</i>	Channel wrack	O		
<i>Saccharina latissima</i>	Sugar kelp	F	F	
<i>Bryopsis plumosa</i>	Mossy feather weed	O		
<i>Cladophora spl</i>	Green branched weed	F		
<i>Cladophora spll</i>	Green branched weed	O		
<i>Aglaothamnion byssoides</i>	Red seaweed	O		
<i>Pterothamnion plumula</i>	Bushy feather weed		O	
Others				
<i>Pycnogonid</i>	Sea spider	O		

Acknowledgements

This report has been written by Dawn Watson based on Seasearch Survey records made by Dawn Watson, Rob Spray, Jon Chamberlain, Simon Parker, Graham Jackson, Sarah Bowen and David Kipling. All photographs in this report were taken by Rob Spray and Dawn Watson in and around the Alde and Ore dMCZ.

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