Tamar Estuary Sites (rMCZ27) Evidence Review

Region	Finding Sanctuary	
Site Name/number	Tamar Estuary Sites rMCZ FS27	
ENG Features present and proposed for inclusion within MCZ designation	BSH	• Intertidal coarse sediment • Intertidal biogenic reefs.
	Habitat FOCI	• Blue Mussel beds (including intertidal beds on mixed and sandy sediments).
	Species FOCI	• *Ostrea edulis* • *Osmerus eperlanus* • *Anguilla anguilla.*
ENG Features present but not proposed for inclusion within MCZ designation	BSH	• Low energy intertidal rock • Intertidal mud • Coastal saltmarshes and saline reed beds • Low energy infralittoral rock • Subtidal coarse sediment • Subtidal mud • Subtidal mixed sediments.
	Habitat FOCI	• Estuarine rocky habitats • Seagrass beds.
	Species FOCI	-
Non-ENG Features (Geological/geomorphological)		-

Evidence Summary – data provided by Regional MCZ Projects

Feature	Evidence Summary	Key Sources
Intertidal coarse sediment	Aerial photography from CCO	CCO
Intertidal biogenic reefs	Presence and extent based on predicted modelled polygon data from MB0102/MESH and one data point from MESH. Aerial photography from CCO	MB0102/MESH CCO
Blue Mussel beds (including intertidal beds on mixed and sandy sediments)	Presence and extent based on predicted modelled polygon data from MESH/MB0102 and data points from MB0102/MESH.	MB0102 and MESH
Ostrea edulis	Presence and extent based on data points from Regional projects – FS	Regional projects – FS
Osmerus eperlanus	No data available.	No data available.

Anguilla anguilla	No data available.	No data available.

Description of New Evidence Identified by MB0116 project

Anecdotal evidence supplied by NE to MB0116 project

Evidence Description	Source	Feature
Presence and extent based on data points from the Environment Agency Smelt and European eel data	Environment Agency	*Osmerus eperlanus* *Anguilla anguilla*
(South_West_Devon_legend_Apr_16_2010_MCZ), (County_Cornwall_Scilly_MCZ and County_Devon_All_MCZ)	SW_Habitat_Mapping	Intertidal coarse sediment
Data points	Marine Recorder - MBA	*Ostrea edulis*
Bland, S. et al. (1982). "Heavy Metal Content of Oysters From the Lynher Estuary, U.K	Science of the Total Environment 22(3): 235-241	*Ostrea edulis*
Bayne, B. L., A. J. S. Hawkins, et al. (1987). "Feeding and digestion by the mussel Mytilus edulis L. (Bivalvia: Mollusca) in mixtures of silt and algal cells at low concentrations."	Journal of Experimental Marine Biology and Ecology 111(1): 1-22.	Blue Mussel beds (including intertidal beds on mixed and sandy sediments)
Langston, W. J. et al. (2002). "Metallothionein in liver of eels Anguilla anguilla from the Thames Estuary: indicator of environmental quality?"	Marine Environmental Research 53(3): 263-293.	*Anguilla anguilla*

Evidence That Could Not Be Acquired by MB0116 project

Evidence Description	Source	Feature
Distribution and abundance of young fish.	CEFAS. The distribution and abundance of young fish on the east and south coast of England (1981 to 1997).	*Anguilla anguilla* *Osmerus eperlanus*
Compilation of all survey data carried out in the area. Exact content unknown.	ERCCIS (Cornwall Wildlife Trust)	*Padina pavonica* and other unknown features
Littoral Biotope Survey and Condition Assessment of the Lynher Estuary SSSI 2010	NE contractor (Ecospan)	*Ostrea edulis*
Littoral Biotope Survey and Condition	NE contractor (Ecospan)	*Ostrea edulis*

Assessment of the Tamar Tavy & St John's Lake SSSIs 2010		

Confidence Assessment undertaken by MB0116 project

Feature	Presence	Extent	Condition	Boundaries (site)
Intertidal coarse sediment	Low	Low	Low	Low
Intertidal biogenic reefs	Low	Low	Low	
Blue Mussel beds (including intertidal beds on mixed and sandy sediments)	Low	Low	Low	
Ostrea edulis	Low	Low	Low	
Osmerus eperlanus	Moderate	Moderate	Low	
Anguilla anguilla	Moderate	Low	Low	

The confidence assessment of 'Intertidal coarse sediment' and 'Intertidal biogenic reefs' were based on recent survey data (SW Habitat Mapping) but without known ground truthed records or validation points the resultant confidence is 'low' for both presence and extent

The presence of 'Blue mussel beds' was based on polygon data with no validation points and 2 ground-truthed data points. Therefore, the confidence in presence and extent is 'low'. Additional records from Bayne and Hawkins (1987) corroborate the presence of the blue mussel but not of beds (defined by biotope). Bland & Ackroyd (1982) reported that oysters of commercial size and sediment samples were collected by diver in August 1980 from positions between Henn Point and Wearde Quay but the records are over 12 years old. .

The confidence assessment for *Ostrea edulis* resulted in 'low' for presence and extent since there are only four data points all of which are older than 12 years and the anecdotal evidence confirms the presence but is reported in 1981.

The data from the Environment Agency provides a single point record from 2003 for *Anguilla anguilla* and anecdotal evidence confirms the presence of the feature therefore the confidence in their presence is considered as 'moderate' and extent is 'low'. However four records from 2003 for *Osmerus eperlanus* bring the confidence for both presence and extent up to 'moderate'. This is confirmed with the anecdotal evidence.

The condition assessment for all the features was based on a Vulnerability Assessment and could not be improved beyond a 'low' confidence score. The confidence assessment in the boundary of the site was classified as 'low' primarily because the overall confidence in the extent of the respective BSH and Habitat FOCI was determined as low.