The Unnatural History of Manx Seas: Visualising the past to provide a vision for a sustainable future

Dr Fiona Gell

Marine Conservation and Climate Policy Specialist and Writer

Ocean Climate Solutions and UCM Honorary Fellow

Corlett Bolton Research Award

Corlett Bolton & Co

Advocates, Notaries Public, Commissioners for Oaths

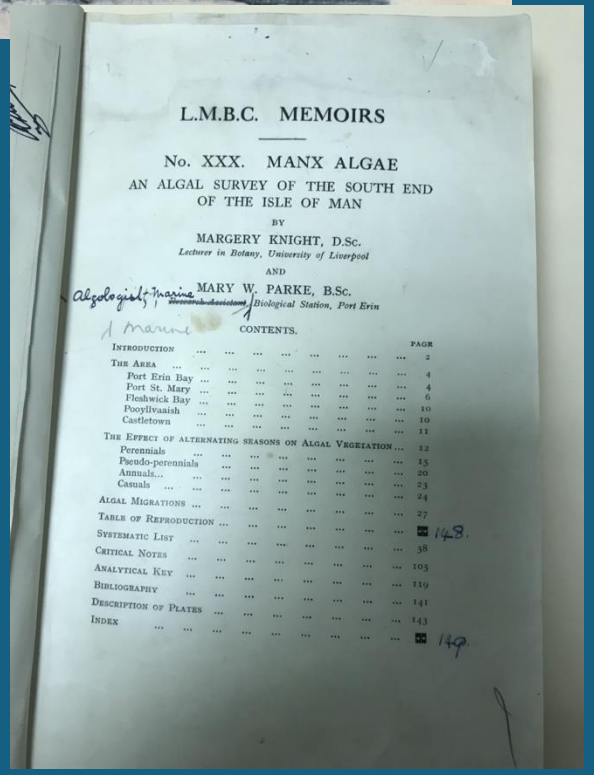
UCM University College Isle of Man

Colleish-Ollooscoill, Ellan Vannin

a College of Further & Higher Education

The Research

- Received the Corlett Bolton Research Award, in association with UCM last year to carry out research into the Manx marine environment of the past.
- A better insight into our marine environmental history can help inform better management.
- An initial exploration of some key habitats and species has become a much bigger study.
- This presentation briefly outlines some highlights but there is much more to explore!



L.M.B.C. MEMOIRS

No. XXX. MANX ALGAE

AN ALGAL SURVEY OF THE SOUTH END OF THE ISLE OF MAN

BY

MARGERY KNIGHT, D.Sc.
Lecturer in Botany, University of Liverpool

AND

MARY W. PARKE, B.Sc.
Algologist to Marine ~~Research Assistant~~ Biological Station, Port Erin

CONTENTS.

Marine Historical Ecology

- In recent years marine historical ecology has begun to inform policy.
- It helps avoid shifting baselines syndrome and reminds scientists and policy makers what we have lost and what could be achieved through conservation and restoration.
- It has always been important in understanding Manx seas but much more work is required.

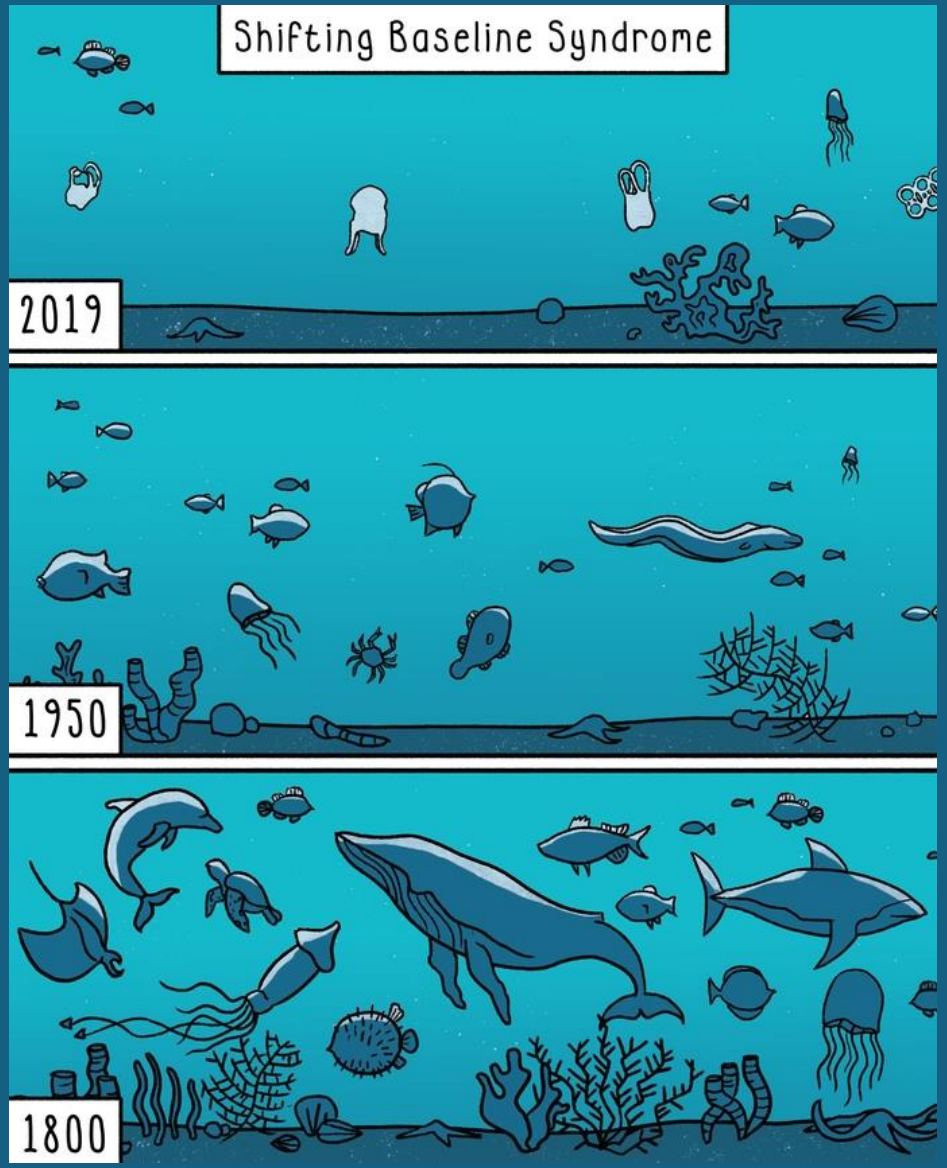
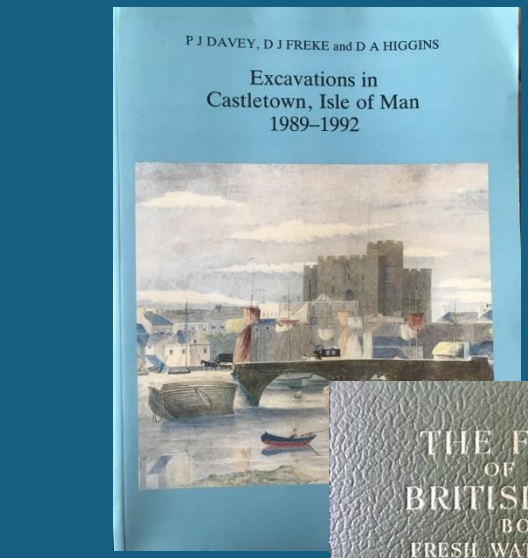


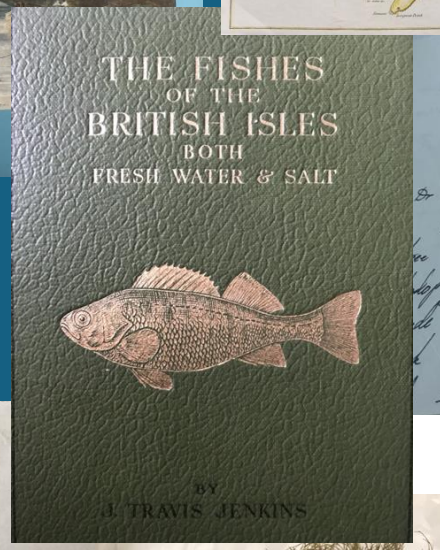
Illustration by Cameron Shepherd

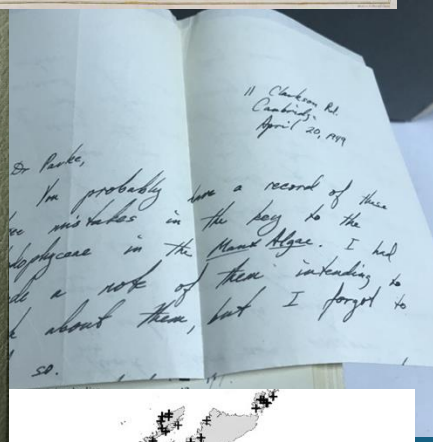
Engelhard, G. H., Thurstan, R. H., MacKenzie, B. R., Alleway, H. K., Bannister, R. C. A., Cardinale, M., ... & Handling editor: Emory Anderson. (2016). ICES meets marine historical ecology: placing the history of fish and fisheries in current policy context. *ICES Journal of Marine Science*, *73*(5), 1386-1403.

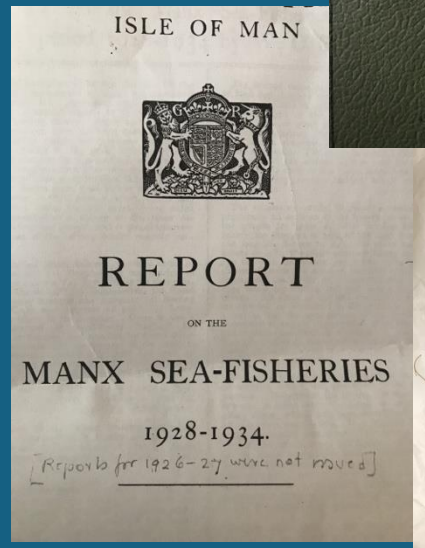
Sources of information

- Historical accounts
- Early scientific studies
- Fisheries reports
- Newspaper articles
- Maps
- Photographs
- Useful leads from media articles
- Angling publications
- Archaeological reports
- Recent research
- Manx National Heritage collections
- iMuseum

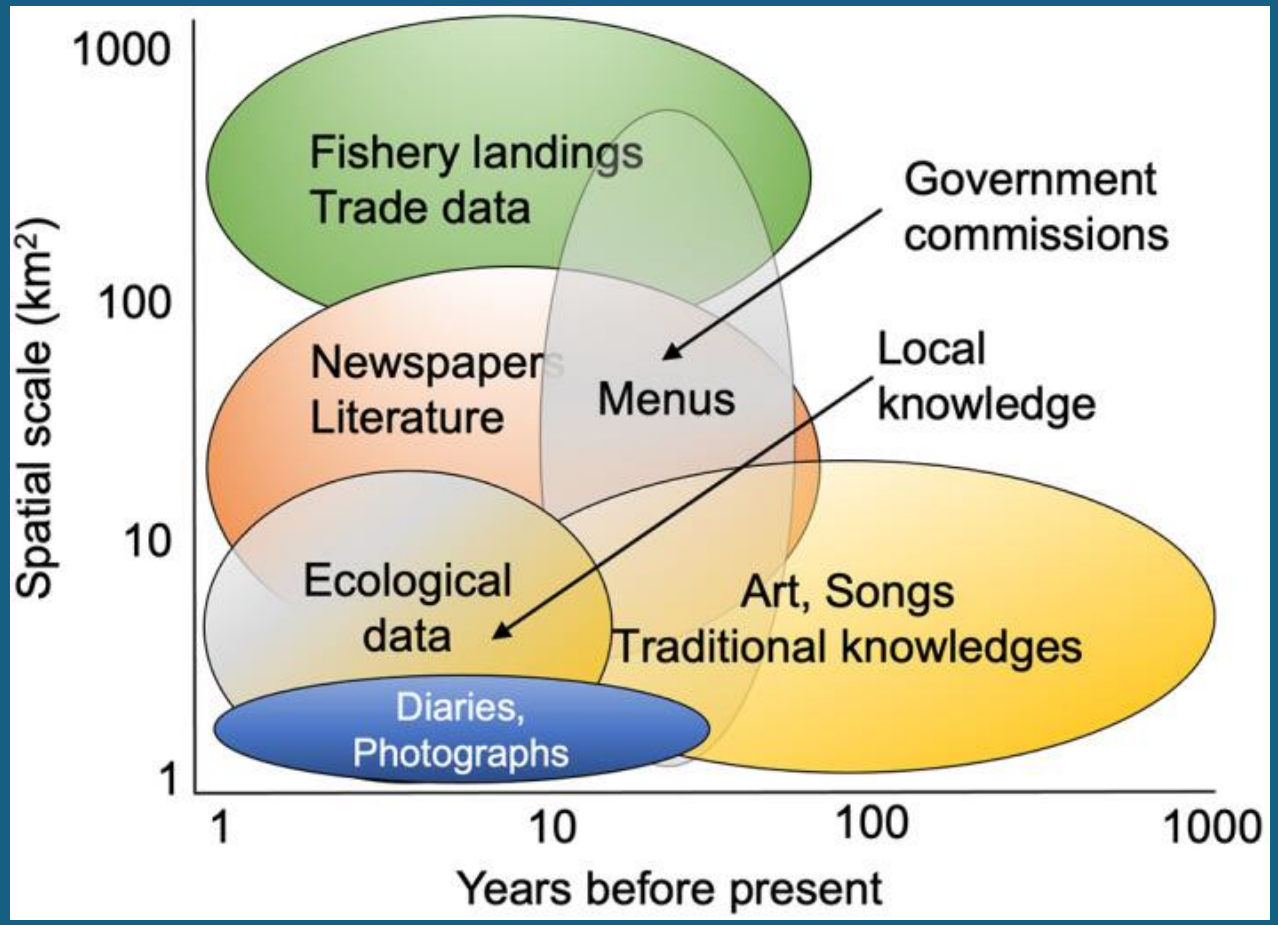








Sources of information



From Thurstan RH. The potential of historical ecology to aid understanding of human-ocean interactions throughout the Anthropocene. J Fish Biol. 2022 Aug;101(2):351-364. doi: 10.1111/jfb.15000.

Key findings – preliminary

- The seabed was more complex with more reefs, particularly biogenic reefs
- Oyster reefs, horse mussel reefs, maerl beds and seagrass meadows more widespread
- Habitats and seabed types important as spawning and nursery areas were more common
- There were more fish, of diverse species, and our fisheries depended much more on fish than shellfish
- There were more large species of fish, like the common skate (now flapper skate and blue skate) and fish could grow to larger sizes
- There is no evidence of higher numbers of basking sharks, so far

Key findings – preliminary

- The seabed was more complex with more reefs, particularly biogenic reefs
- Oyster reefs, horse mussel reefs, maerl beds and seagrass meadows more widespread
- Habitats and seabed types important as spawning and nursery areas were more common
- There were more fish, of diverse species, and our fisheries depended much more on fish than shellfish
- There were more large species of fish, like the common skate (now flapper skate and blue skate) and fish could grow to larger sizes
- There is no evidence of higher numbers of basking sharks, so far

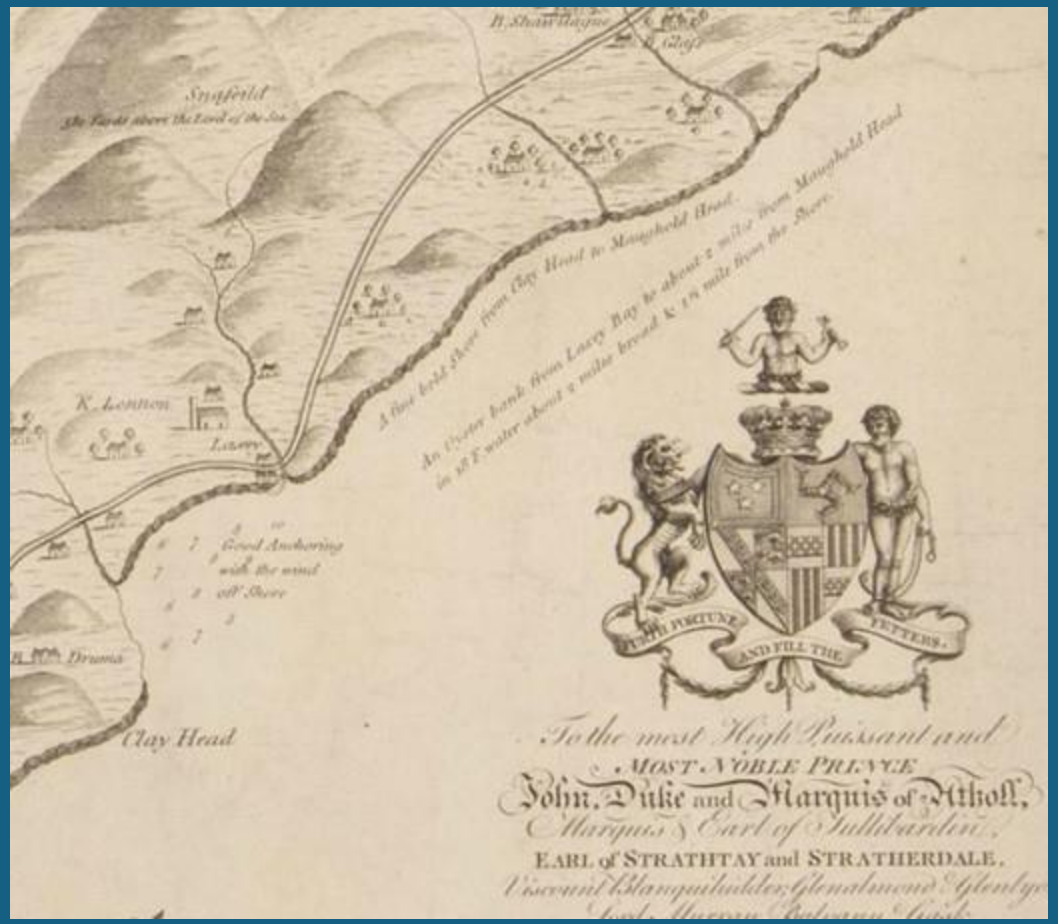
What we know – there were more reefs

- Before trawling and dredging, there were more reefs – particularly oyster reefs and other biogenic reefs.

Dredging for oysters

Oyster reef habitat – Marten Hanson

Oyster Reefs - 1789

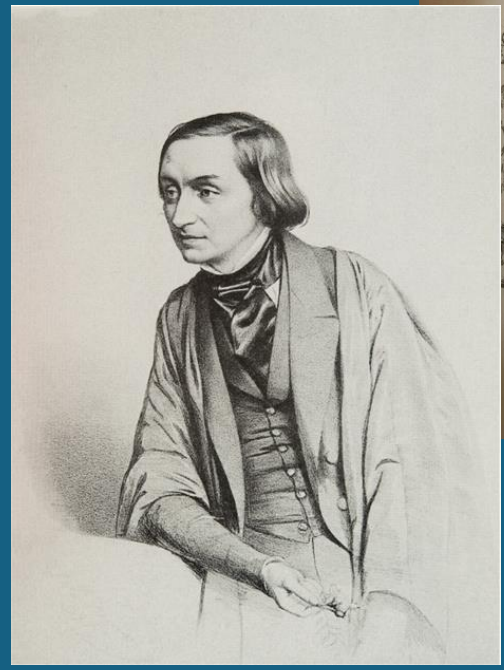


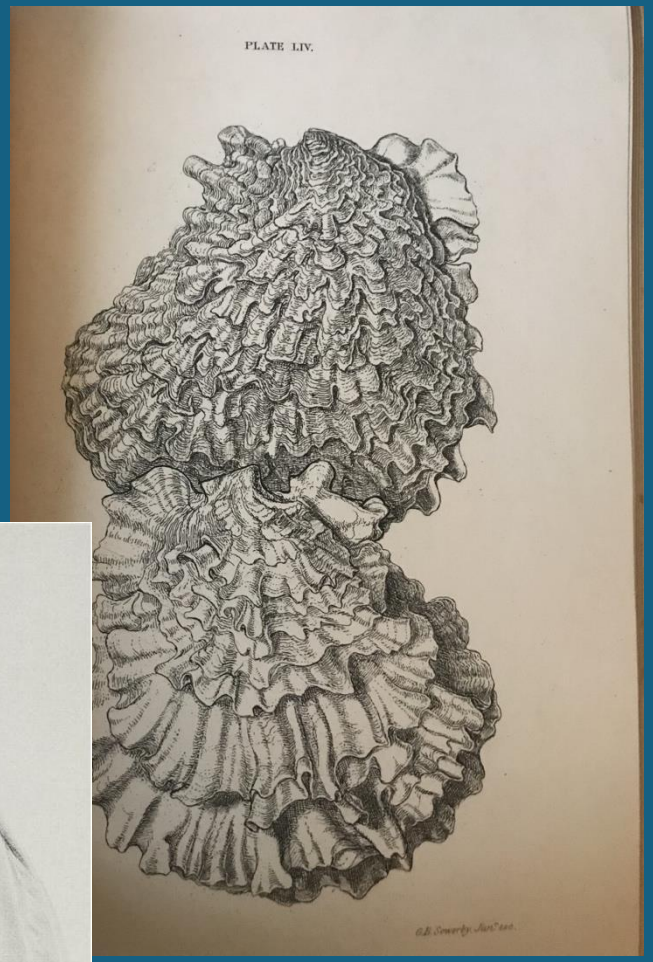
- ‘An oyster bank from Laxey to about 2 miles from Maughold Head in 18 Fathoms of water about 2 miles broad and 1.5 miles from the Shore.’

A correct plan of the Isle of Man by Peter Fannin Master in His Majesty's Royal Navy'
Date(s): 1789
Creator(s): Fannin, Peter
Source: Manx National Heritage Archive

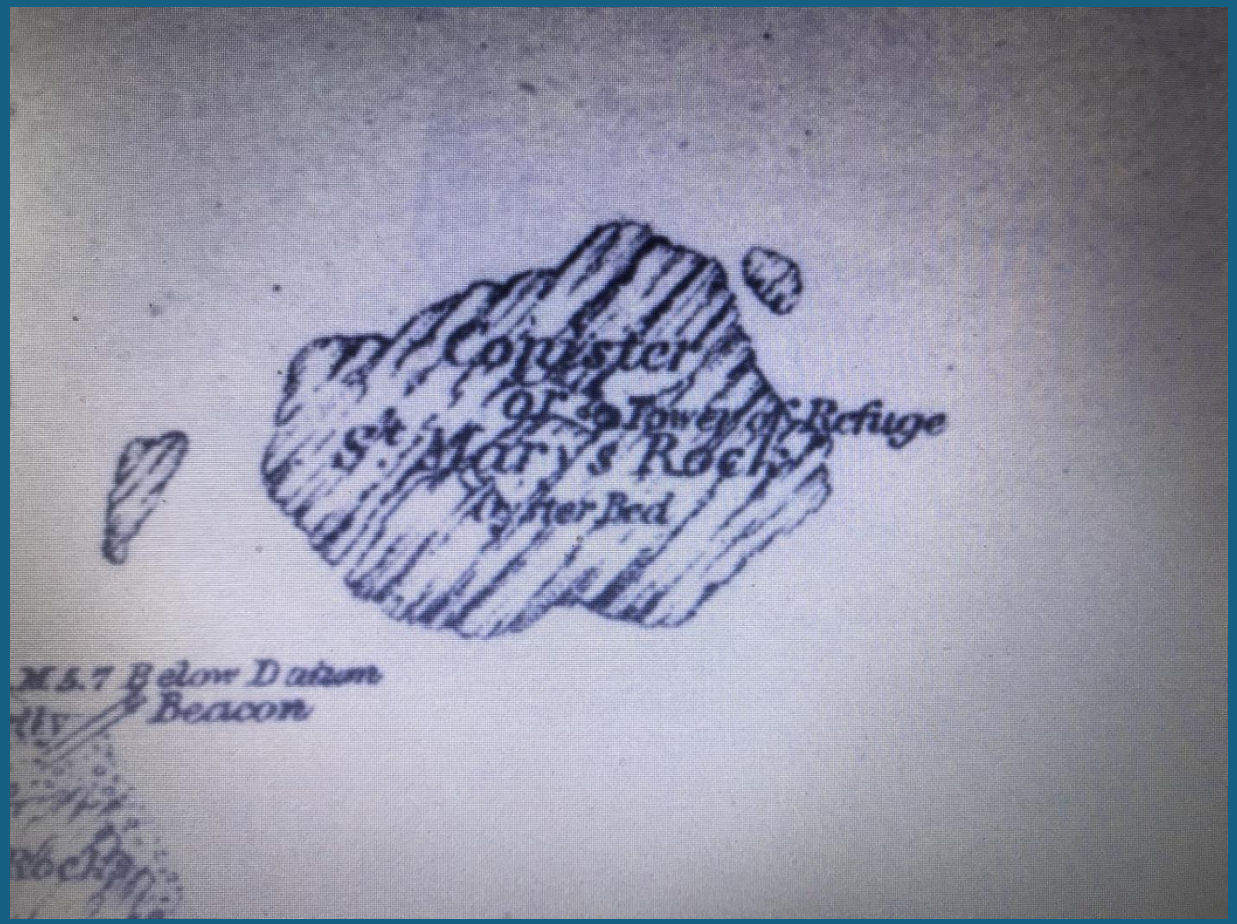
Oyster Reefs - 1838

Edward Forbes described extensive oyster banks of the native oyster, *Ostrea edulis*: “On the north and east coasts plentiful. The oysters on the north coast are extremely large and very coarse, but those on the east coast are esteemed and brought to market. The bank is situated off the village of Laxey.” (Forbes 1838).





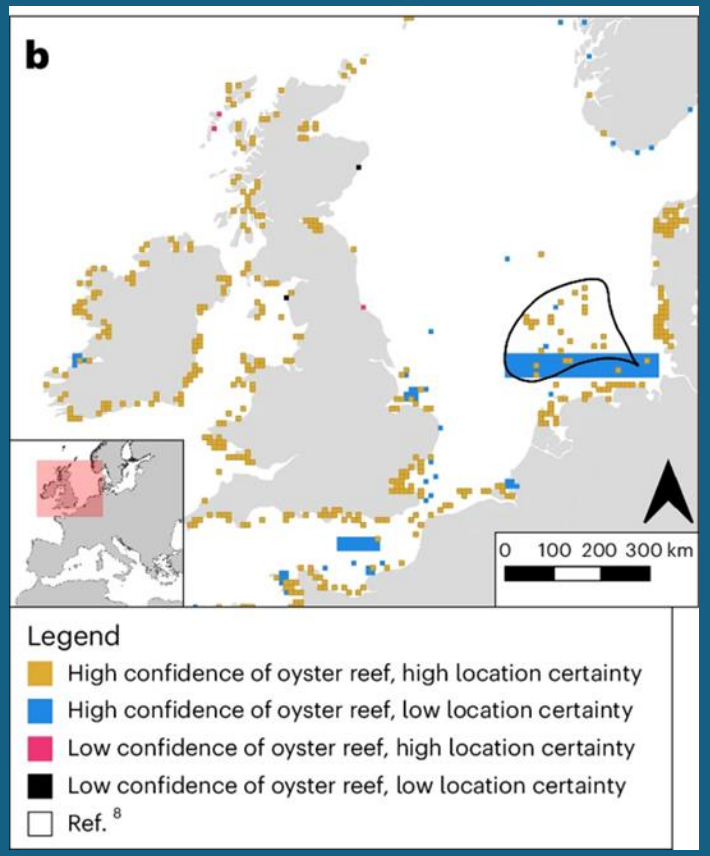
Oysters Reefs - 1867



An oyster bed next to the Tower of Refuge.

From the 1867-68 Ordnance Survey Map (thanks to David Bellamy MWT)

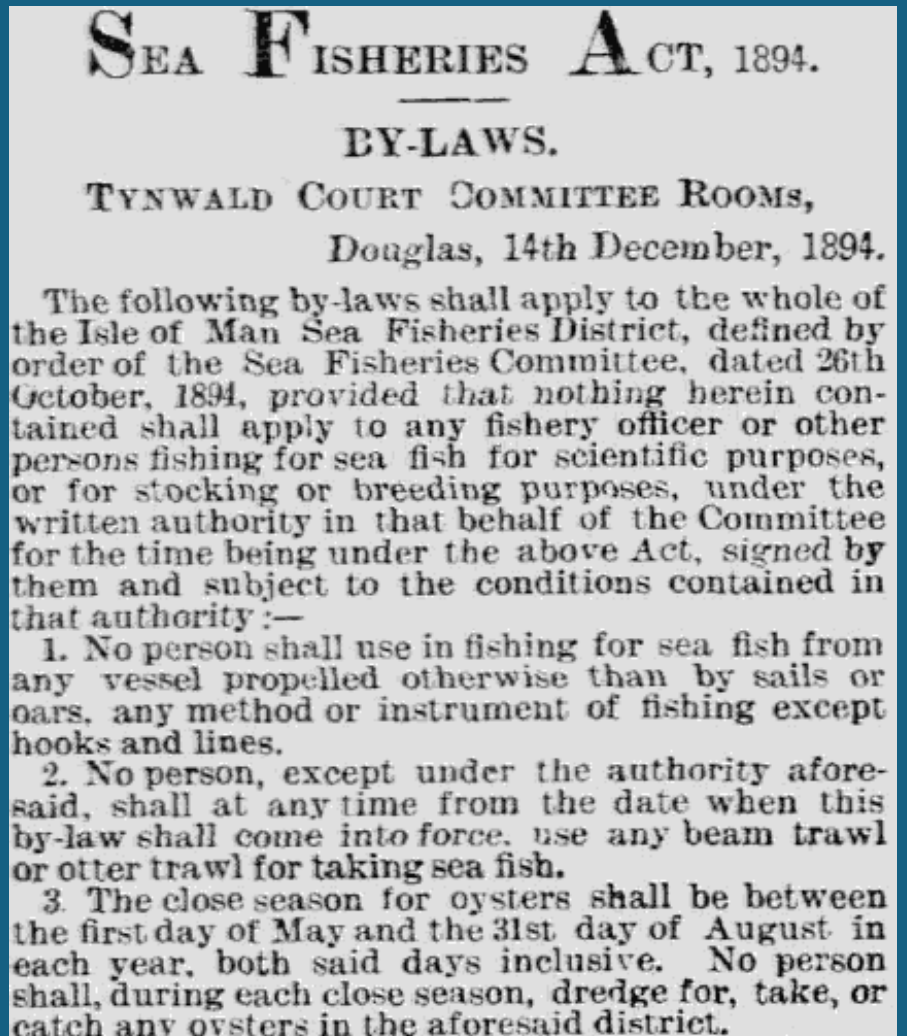
Oyster Reefs - 1879



"There was a great oyster bed in [Ramsey] Bay three miles from the pier. It took 20 boats seven years to dredge away these oysters. There is a fathom more water on the bed now than when they began to dredge. The oysters were thick on that bed and they used to spat... One boat has got 30,000 oysters in a week."
Buckland, F. T. & Walpole, S. Commissioners for Sea Fisheries on the Sea Fisheries of England and Wales (H. M. Stationery Office, 1879).

- Thurstan, R.H., McCormick, H., Preston, J. *et al.* Records reveal the vast historical extent of European oyster reef ecosystems. *Nat Sustain* (2024). https://doi.org/10.1038/s41893-024-01441-4

Oyster Reefs - 1894



SEA FISHERIES ACT, 1894.

BY-LAWS.

TYNWALD COURT COMMITTEE ROOMS,

Douglas, 14th December, 1894.

The following by-laws shall apply to the whole of the Isle of Man Sea Fisheries District, defined by order of the Sea Fisheries Committee, dated 26th October, 1894, *provided that nothing* herein contained shall apply to any fishery officer or other persons fishing for sea fish for scientific purposes, or for stocking or breeding purposes, under the written authority in that behalf of the Committee for the time being under the above Act, *signed* by them and subject to the conditions contained in that authority :—

1. No person shall use in fishing for sea fish from any vessel propelled otherwise than by sails or oars, any method or instrument of fishing except hooks and lines.

2. No person, except under the authority aforesaid, shall at any time from the date when this by-law shall *come into force*, use any beam trawl or otter trawl for taking sea fish.

3. The close season for oysters shall be between the first day of May and the 31st day of August in each year, both said days inclusive. No person shall, during each close season, dredge for, take, or catch any oysters in the aforesaid district.

- Under the Sea Fisheries Act of 1894 – trawling for fish is banned
- A summer closed season for oysters
- A minimum landing size of 2.5 inches
- A requirement to return broken shell and gravel to the fishing grounds

Maerl reefs

- Mackenzie's Old Chart of 1775 shows the old reefs and marks, eight of them in number, One east off Dhoon, in 15 fathoms; another a little N.E. off Laxey, in 15 fathoms; one in line with Ballabeg, in 7 fathoms; and another a bit further out in15fathoms; and 4 about Clay Head, 2 in 11 fathoms, one in 13, and another in 16 fathoms; extending from 3/8to 1¾ miles from the shore, all of them of lesser or greater dimension. Some other beds lie about 5 miles S.E. off Douglas Head. The fishermen called these spawning grounds "coral" reefs, banks, or beds indiscriminately, and they are of white and red colour.
- K. Roeder – Manx Notes and Queries - 1904

Maerl reefs

‘They are popularly called "coral" in consequence of their apparent similitude to them in their general appearance, but of course belong to the Red Sea weeds (Rhodophyceae) of the Corallina family, and refer more specially to the species of the *Lithothamnion*, perhaps *L. varians*, *investiens*, *orbioulatum*, *tophijõrme*.’

K. Roeder – Manx Notes and Queries - 1904

Maerl in Lamlash bay with juvenile fish – Community of Arran Seabed Trust

Maerl and herring

‘When they extend more between Laxey and Clay Head, a strip of coast line now particularly abundant in "coral banks." There is evidence that formerly Ramsey Bay* yielded good crops of herring. The Manks Advertiser, at the beginning of last century, informs us

- 1802 -August 7th: A great quantity of herring taken in Ramsey Bay.
  1805-November 23rd: Considerable quantities of herring continue to be taken at Ramsey.

Mackenzie's Hydrographical Survey of 1775 marks a " coral " bank off Port Lewaigue, at Tableland Point, in 5'4 and 6 fathoms water; and higher up, east off Kirk Bride, it delineates three "coral" banks in 3, 5, and 7 fathoms of water.’

Manx Notes and Queries – Karl Roeder - 1904

There were lots more fish

A snapshot of fisheries in 1934:

Fishery	Season	Amount	% of total catch
Cod	Oct-May	£2685	33%
Herring	May-Oct	£1591	20%
Crab and lobster	All year	£1197	15%
Plaice (seine net)	Apr-Dec	£1139	14%
Skate	Apr-Sept	£590	7%
Pollack and coalfish (handline)	All year	£148	
Mackerel (railing)	June-Sept	£127	11%
Trawling	Apr-Dec	£113	
Other long-lining	Summer	£477	

Report on the Manx Sea Fisheries 1928-1934 by W. C. Smith

FIG. 3.

ANNUAL VALUE OF THE CATCH BY EACH METHOD OF FISHING.

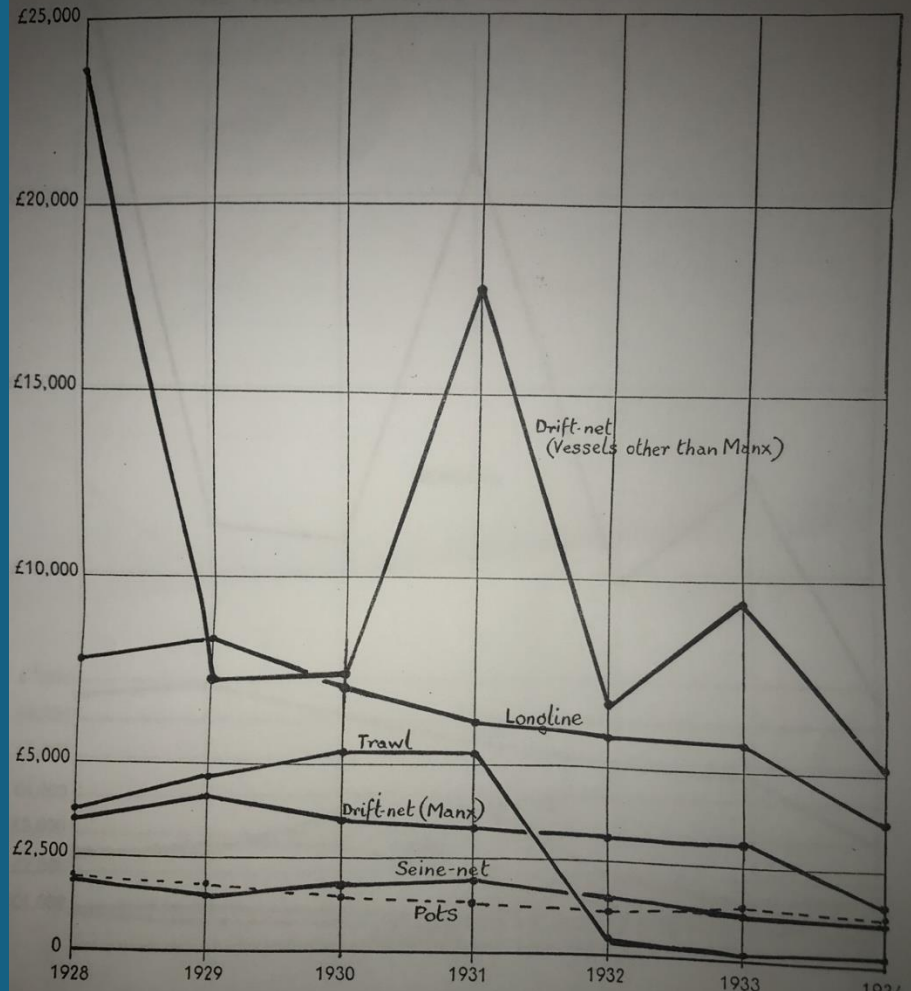
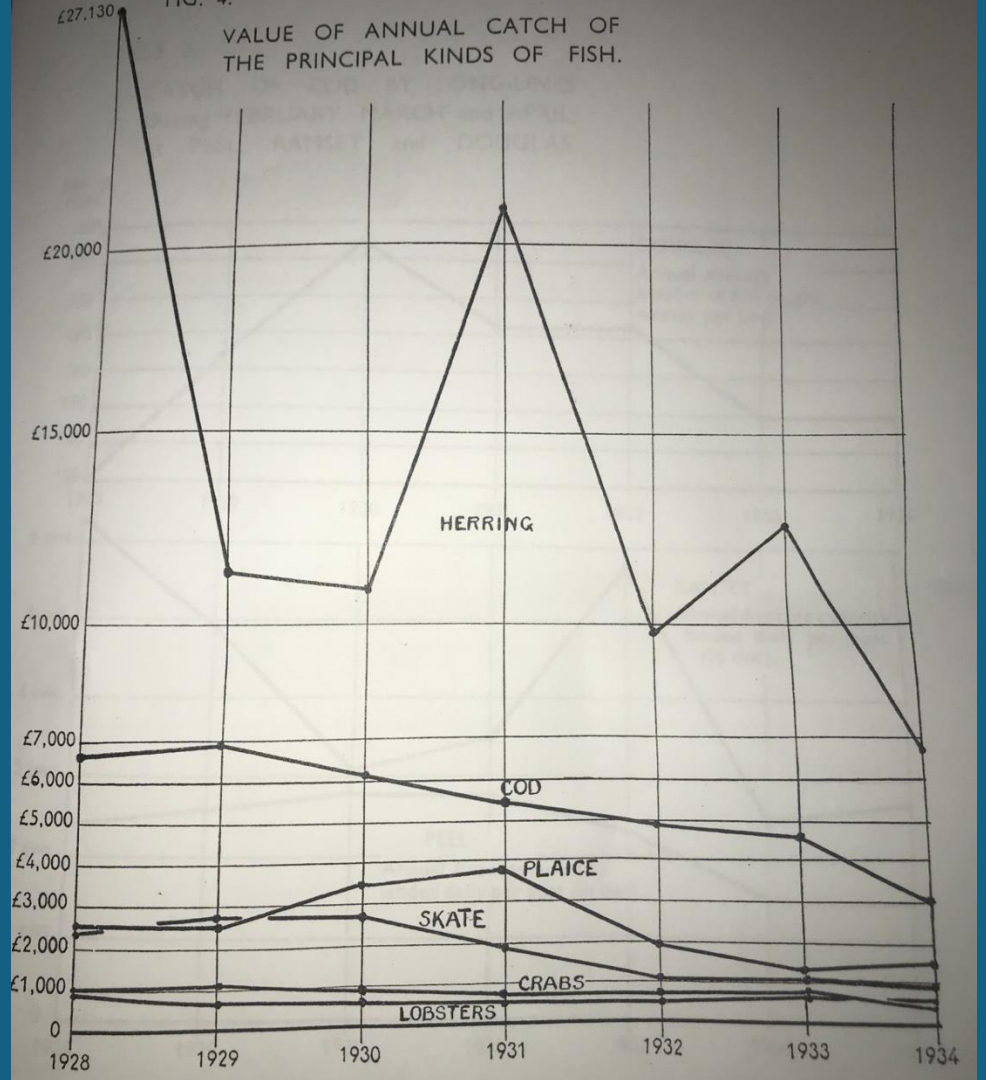


FIG. 4.

VALUE OF ANNUAL CATCH OF THE PRINCIPAL KINDS OF FISH.



Report on the Manx Sea Fisheries 1928-1934 by W. C. Smith

Fish laid out in Market Place, Ramsey 1914-1918 – Photo from MNH Archives

But fish populations were variable

‘The fishermen complained much at my being there, for of late years they have not taken half the quantity of herrings which they used to take in former times, and, more over, yet within the memory of some of them until of late they failed not to have great fishing for cods, of which they were accustomed to take in such plentiful abundance, as yet they were enforced to cut off their heads, and to cast them away upon the shore, either for the poor or for any y^{t} would take them up, which they did, least their boat should be overloaden and sink; but now it is otherwise.’

William Blundell in his History of the Isle of Man, based on his visit thought to have been in 1648.

The Common Skate

- ‘Common skate are taken by the trawlers and long-liners in large quantities, and though the larger specimens are generally considered to be rather coarse, the smaller are of excellent taste. Fishermen, who are often good judges in these matters, consider the flesh of the skate to be superior to any of the other rays.’

J Travis Jenkins – The Fishes of the British Isles both Fresh Water and Salt (First published 1925)

Angling and commercial fishing for fish were both important

Basking sharks

‘A four foot dorsal fin, cutting through the water at express speed, was the first intimation received that the basking sharks were once again paying their yearly visit to the Southern waters of the Island.

Their presence was first noted by a resident who was fishing from a small boat near the Sound on Saturday. His attention was first attracted by the fin, and as the monster came nearer he could see the powerful tail thrashing through the water, one flick of which, would have been sufficient to have capsized his frail boat. He watched petrified while the shark made a complete circle of his boat before making off.’

Isle of Man Times – 10/06/1939

Seabirds

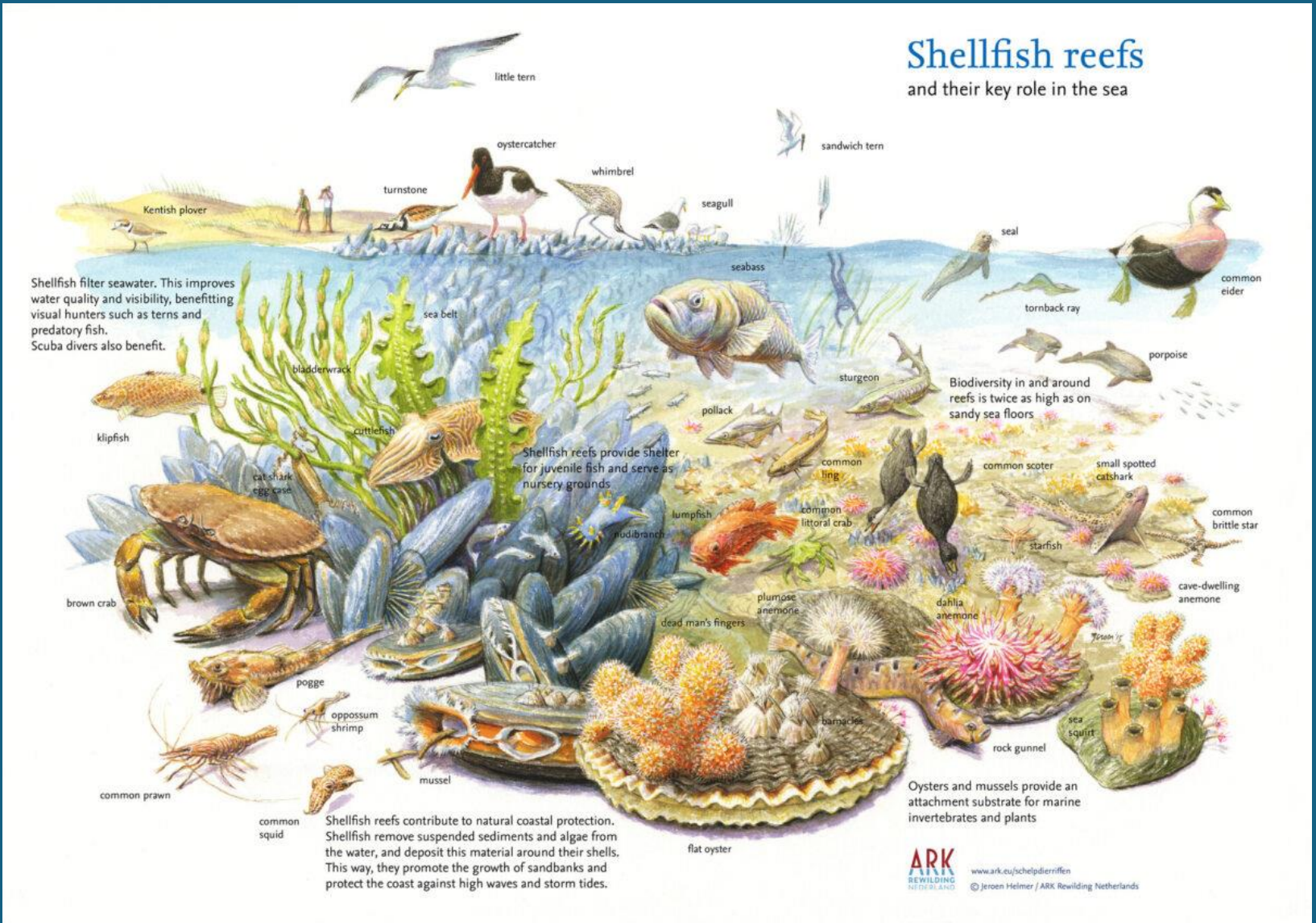
‘We got a second refreshment from our stores, to which was added, by the very civil old lady, a dish of cold parrots, with an assurances from her that they were excellent food, and that they afforded a broth, or soop, that was uncommonly good and nourishing. I tasted one of the birds, and found it savoury, not ungrateful to the palate, and was therefore induced to purchase the new taken ones…’

Corroborated by evidence from archaeological digs at Castle Rushen, revealing the bones of shearwaters and puffins.

Townley – 1791 – A Journal Kept in the Isle of Man. Volumes I and II. J Ware and Son, Whitehaven.

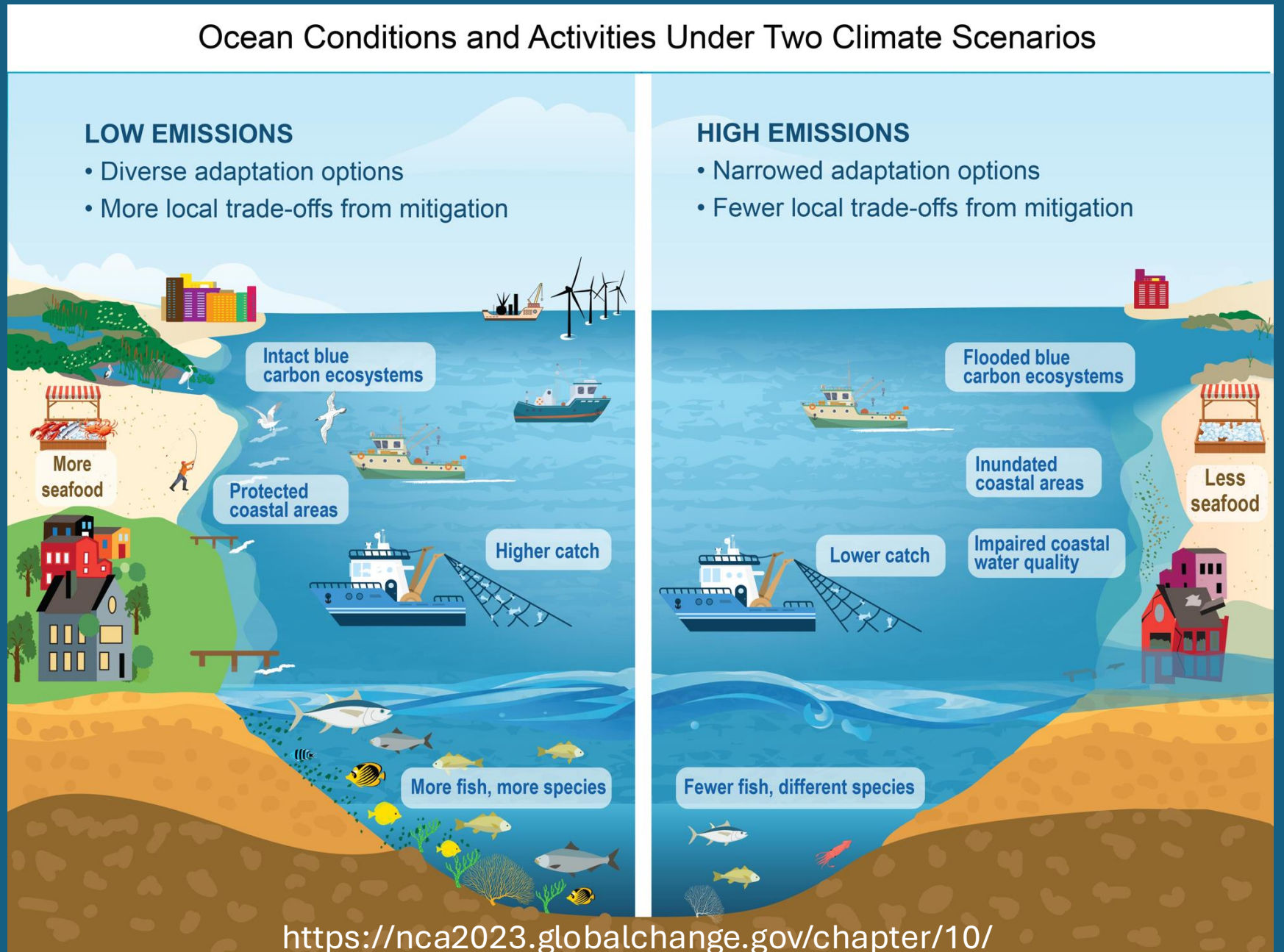
From: Davey, Freke & Higgins. 1996. Excavations in Castletown, Isle of Man 1989-1992. Liverpool University Press.

What we have lost



https://rewildingeurope.com/news/oyster-restoration-initiative-receives-loan-from-rewilding-europe/

Imagining a better future for our seas

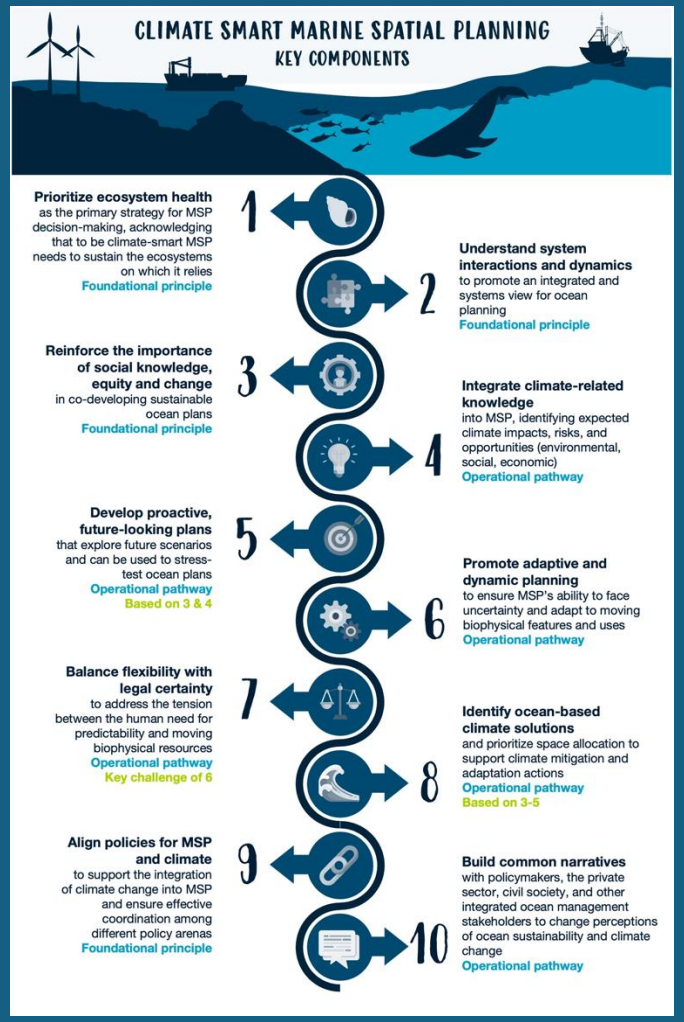


https://nca2023.globalchange.gov/chapter/10/

Current challenges to a sustainable future

- Climate change – rising sea temperatures, sea level rise, increased storminess, changing ocean chemistry
- Coastal and marine development – no new oil and gas – make space for renewables
- Poor practices on land – agricultural run-off, bad planning decisions, pollution, sewage, plastics.
- Habitat loss – from multiple sources
- Over-exploitation and damaging fishing methods – much improved but still a challenge
- Ignorance of decision-makers about the vital role of nature and our marine environment – conservation and restoration are not luxuries, they are essential for our survival.

Climate smart marine spatial planning



1.Prioritize ecosystem health
2. Understand system interactions and dynamics
3. Reinforce the importance of social knowledge, equity and change
4. Integrate climate-related knowledge
5. Develop proactive, future-looking plans
6. Promote adaptive and dynamic planning
7. Balance flexibility with legal certainty
8. Identify ocean-based climate solutions
9. Align policies for MSP and climate
10. Build common narratives.

- Frazão Santos, C., Agardy, T., Crowder, L.B. *et al.* Key components of sustainable climate-smart ocean planning. *npj Ocean Sustain* **3**, 10 (2024). https://doi.org/10.1038/s44183-024-00045-x

How to build a beautiful blue future!

- Really put nature at the heart of all decisions
- Manage our Marine Protected Areas effectively – they are a precious resource
- Protect more of our seas and achieve the global target of 30% by 2030
- Protect our saltmarshes, floodplains and coastal habitats
- Prioritise climate action and nature conservation
- Make the right decisions for the sea
- Understand the real value of our seas
- Be ambitious for a better future – we could be real leaders
- Listen to the real experts
- Really think about future generations

My vision for a blue future – from exploring the past

- Actively protect what we have – be proud of our Marine Nature Reserve network and implement ambitious plans for recovery
- Work towards ambitious restoration – we could bring back our oyster reefs and we could have thriving fish populations once more
- Really live the Biosphere designation – innovation, community involvement and international, world-leading research and action
- Real leadership on the difficult decisions – no new fossil fuels, climate action a top priority, real sustainability informing important decisions
- Involve everyone – we all love the sea and we can all play a part and enjoy it!

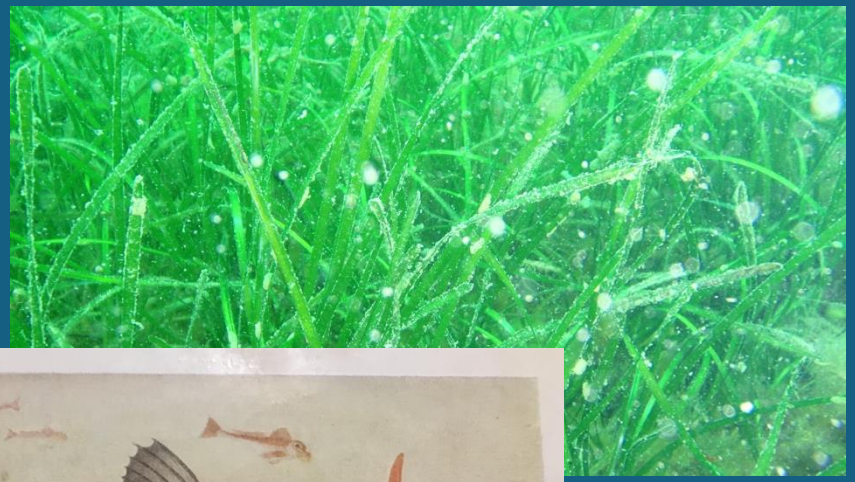
Really think about future generations…

“EVEN IF YOU NEVER HAVE THE CHANCE TO SEE OR TOUCH THE OCEAN, THE OCEAN TOUCHES YOU WITH EVERY BREATH YOU TAKE, EVERY DROP OF WATER YOU DRINK, EVERY BITE YOU CONSUME. EVERYONE, EVERYWHERE IS INEXTRICABLY CONNECTED TO AND UTTERLY DEPENDENT UPON THE EXISTENCE OF THE SEA.”

Dr Sylvia Earle – ocean conservationist and explorer

Next steps

- Completing the preliminary report
- Continuing with research – so much more to explore
- Developing the policy implications
- Working with others to visualize the marine ecosystems of the past and create a common vision for the future



With thanks…

- Sally Bolton and her colleagues at Corlett Bolton for the Research Award
- Gail Corrin and UCM for their research support
- Laura McCoy at the Manx Museum
- The staff of the Manx Museum Library
- Richard Slee for publicising the work
- Many individuals who got in touch with information
- Dr Ruth Thurstan at the University of Exeter and colleagues
- The iMuseum and associated online resources
- Many others who have gathered information and made it accessible.

Blue Shark, the type of a group which often ruins man's nets and hooks, and defies his influence.

[*Frontispiece.*