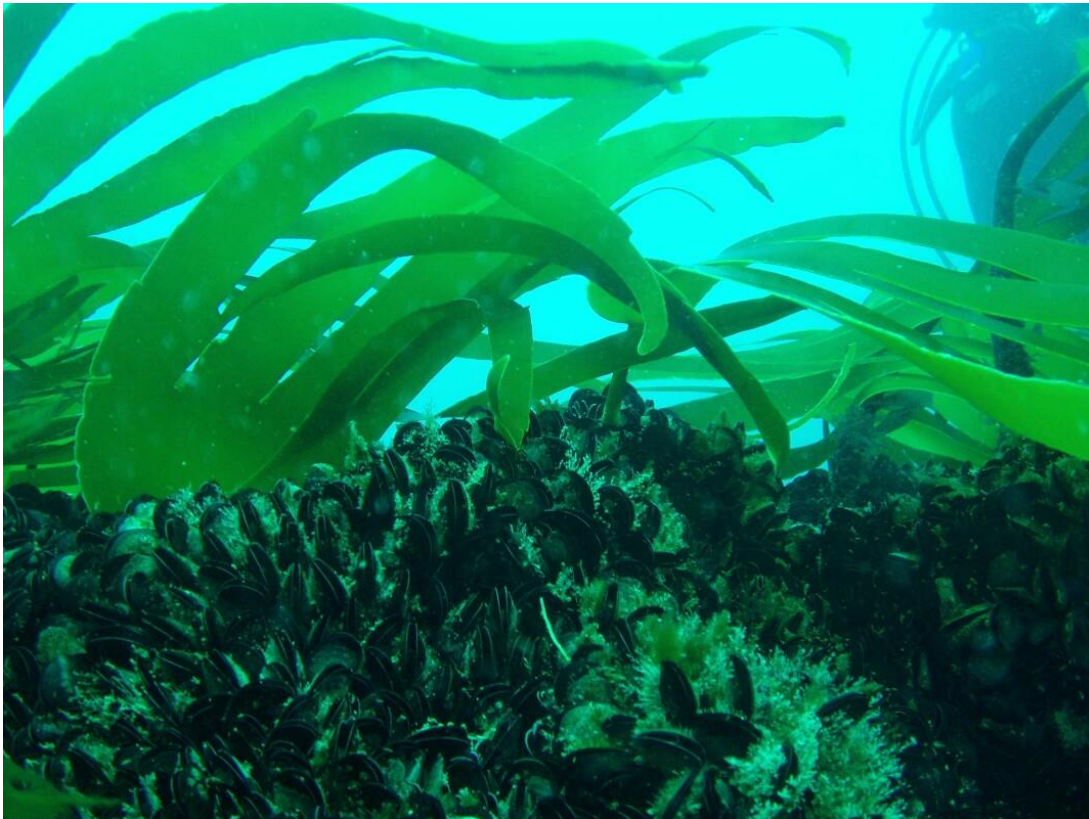




# Understanding principles and building evidence for Marine Net Gain

Emma-Jane Greenway  
Senior Marine Advisor  
27<sup>th</sup> September 2023





- Principles of Marine Net Gain
- Natural England and Marine Nature Recovery
- Our evidence work
- Next steps

# Principles of Marine Net Gain

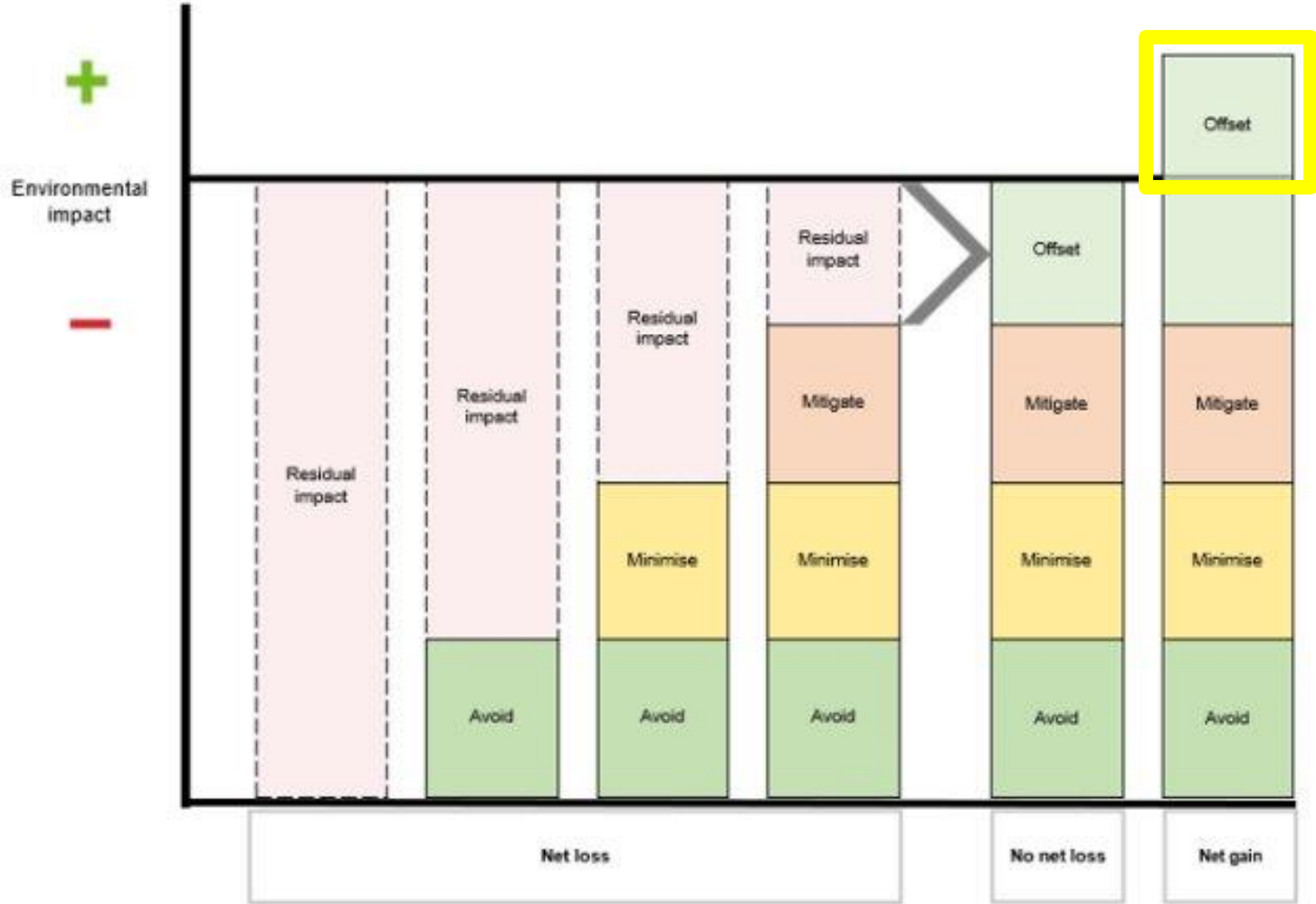
NATURAL  
ENGLAND

**Net gain** is an approach to **developments** which aims to leave the natural environment in a *measurably* better state than beforehand.

Dorset  
Coast Forum



# Principles of Marine Net Gain



# Principles of Marine Net Gain



**Net gain** is an approach to **developments** which aims to leave the natural environment in a *measurably* better state than before.

- **Biodiversity Net Gain (BNG)**
  - Town and Country Planning Act
- **Marine Net Gain (MNG)**
  - Policy development stage



# Principles of Marine Net Gain

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ENGLAND



Department  
for Environment



Department  
for Environment  
Food & Rural Affairs

Consultation outcome

## Summary of responses

Updated 21 March 2023

Dorset  
Coast Forum

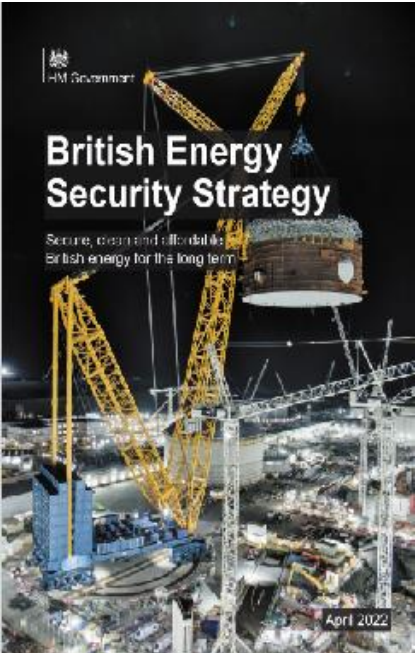




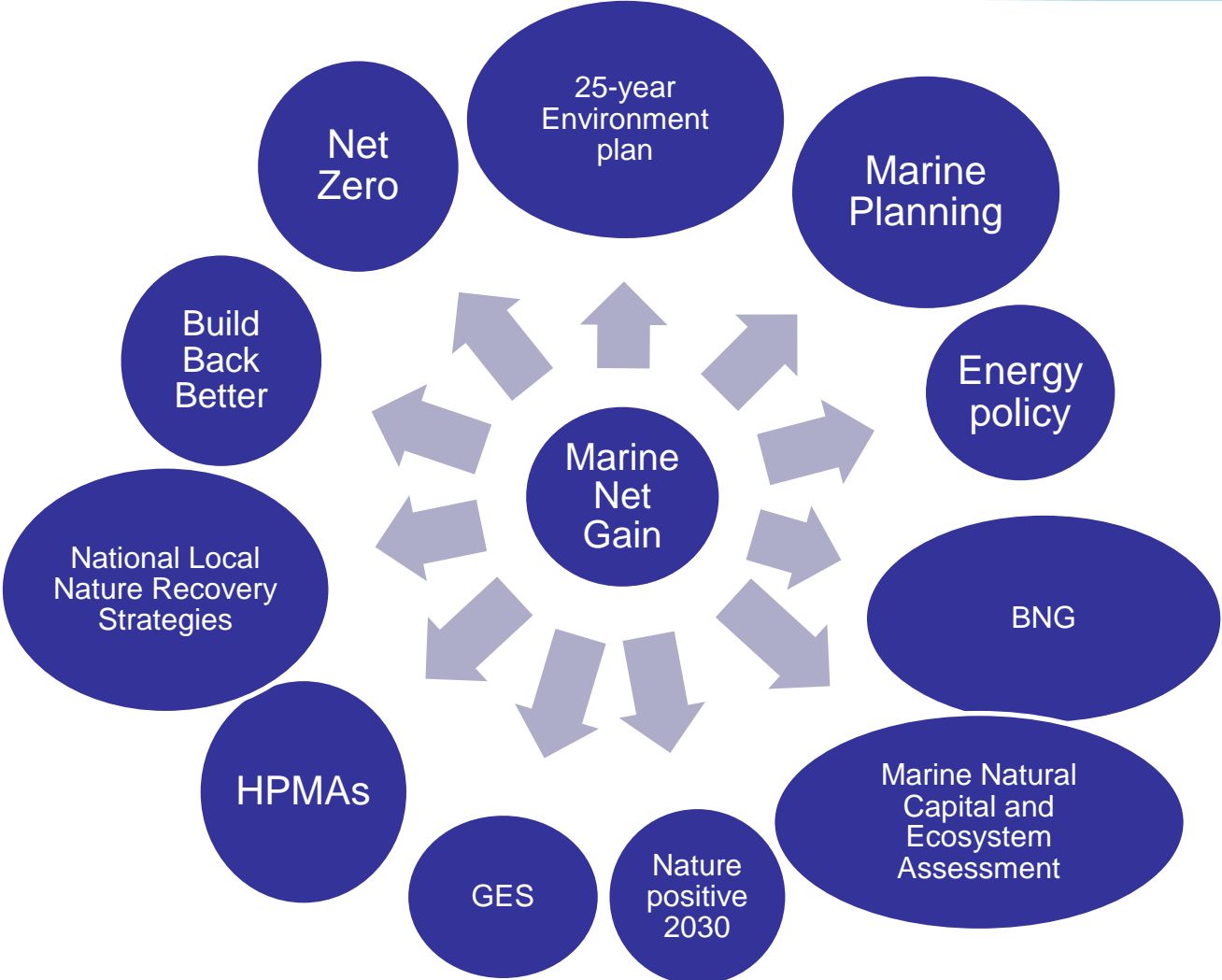
# Natural England & Marine Net Gain



A Green Future: Our 25 Year Plan to Improve the Environment



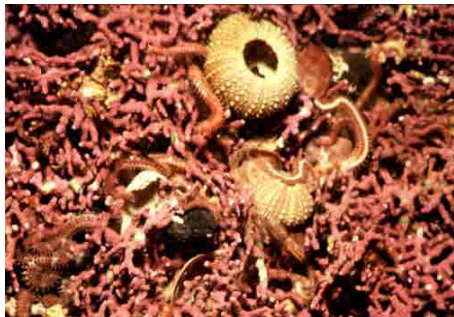
# Natural England & Marine Net Gain





# Our Evidence Work

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MaRePo

# Marine Restoration Potential

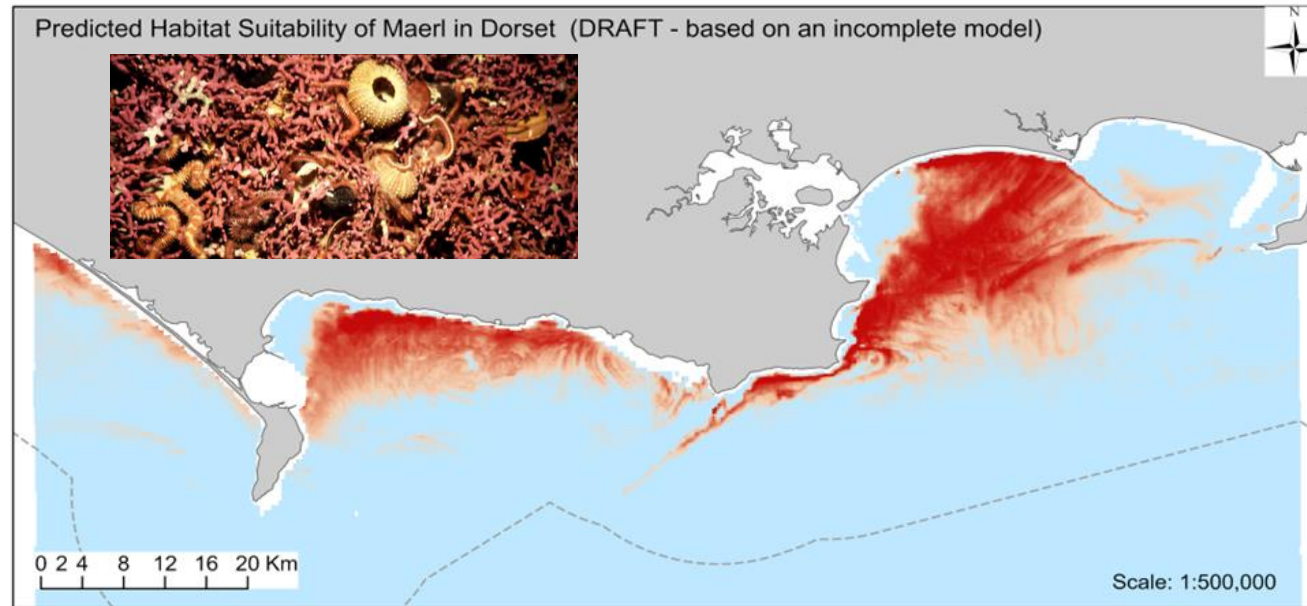
[JP054 Marine Restoration Potential MaRePo - JP054  
\(naturalengland.org.uk\)](https://naturalengland.org.uk)

- Proof of concept study to **map the restoration potential** of some of England's threatened and **declining marine habitats**.
- Supply evidence to support Natural England and Defra's work programmes on Marine Net Gain and **Offshore Wind Enabling Actions programme (OWEAP)**
- A partnership project funded by Natural England and **The Crown Estate's Offshore Wind Evidence and Change programme**



Marine Plan Area		North East		East		South East	South		South West		North West	
Habitat		Inshore	Offshore	Inshore	Offshore	Inshore	Inshore	Offshore	Inshore	Offshore	Inshore	Offshore
Kelp (km <sup>2</sup> )	<i>Laminaria hyperborea</i>	393	0	5	0	3	345	0	525	0	<1	0
	<i>Saccharina latissima</i>	<1	0	0	0	0	<1	0	2	0	0	0
Maerl	General habitat suitability	N/A	N/A	N/A	N/A	N/A	Some potential	N/A	Some potential	N/A	N/A	N/A
Native oyster (km <sup>2</sup> )		383	0	104	10	193	1093	0	73	0	100	
<i>Modiolus</i> beds	General habitat suitability	Low	Low	Low	Low	Low	Some potential	Low	Low	Low	Low	Some potential
Sea pens & burrowing megafauna (% of marine plan area)	<i>Pennatula phosphorea</i>	51%	99%	3%	17%	0%	0%	0%	9%	15%	0%	0%
	<i>Virgularia mirabilis</i>	72%	99%	6%	15%	0%	4%	0%	9%	15%	30%	
	<i>Funiculina quadrangularis</i> (combined)	30%	92%	1%	11%	0%	0%	0%	3%	6%	2%	0%

## Maerl - Dorset



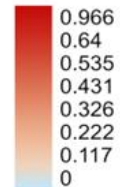
6nm sea limit

--- 6nm sea limit

OS\_Basemap\_WGS84

ENGLAND

Current Probability of Maerl in Dorset



- i. Model used data derived in part from material obtained from the UK Hydrographic Office with the permission of the Controller of Her Majesty's Stationary Office and UK Hydrographic Office ([www.ukho.gov.uk](http://www.ukho.gov.uk)).
- ii. Contains information from the Ordnance Survey © Crown Copyright and database right 2023. Ordnance Survey 100022021.
- iii. Model used data from CEFAS, using public sector information licensed under the Open Government Licence v3.0.
- iv. Model used data from EMODnet, Licensed under CC-BY 4.0 from the European Marine Observation and Data Network (EMODnet) Seabed Habitats initiative ([www.emodnet-seabedhabitats.eu](http://www.emodnet-seabedhabitats.eu)), funded by the European Commission.

Map Produced on 30 January 2023 by M303801, Natural England.

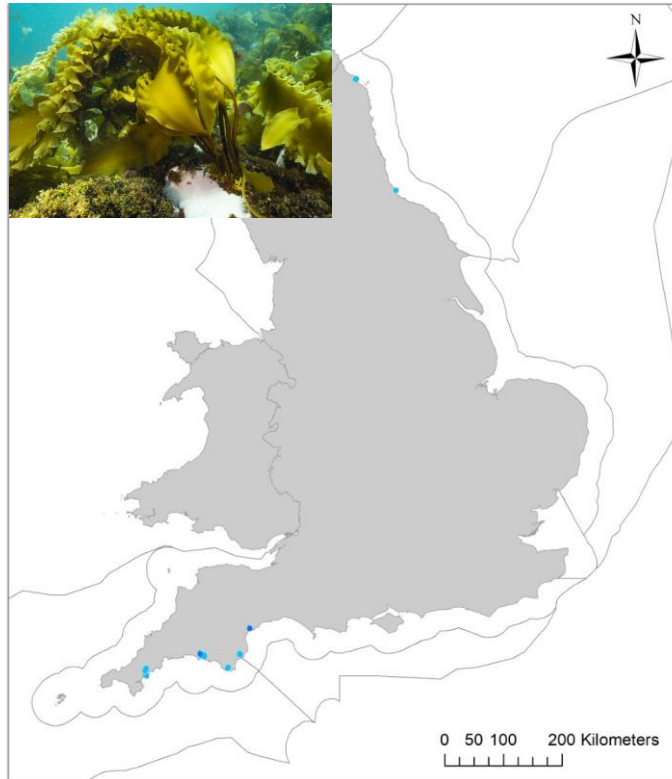
NOT TO BE USED FOR NAVIGATION. Map Copyright @ Natural England 2023

Spatial Reference

Name: WGS 1984 Web Mercator Auxiliary Sphere



## Kelp



### Restoration potential

- Saccharina latissima potential restoration areas (model 1)
- Saccharina latissima potential restoration areas (model 2)
- MMO Marine Plan Areas
- Land

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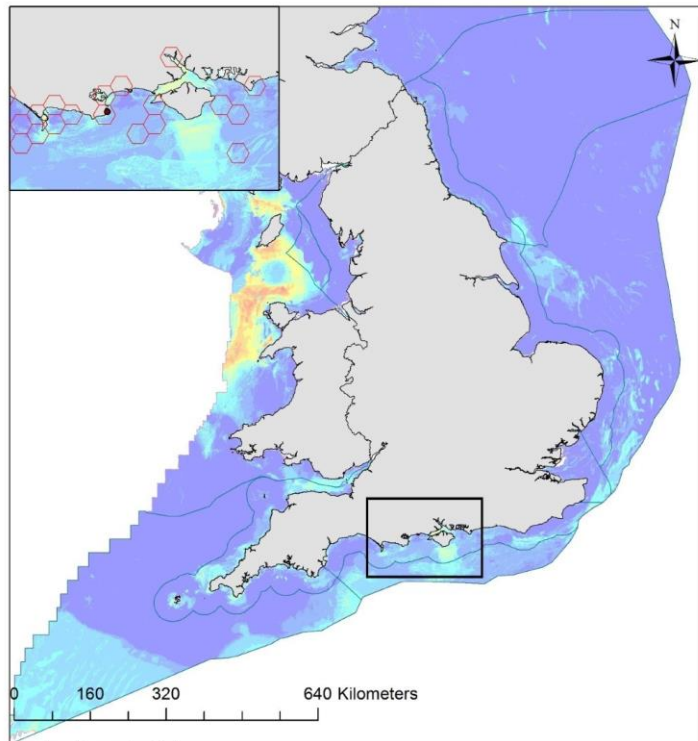


### Restoration potential

- Laminaria hyperborea potential restoration areas (model 1)
- Laminaria hyperborea potential restoration areas (model 2)
- MMO Marine Plan Areas
- Land

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## Modiolus beds



**Restoration potential**

- Land
- Marine Plan Areas

**M. modiolus species data**

- Historical (1960 - 2009) presence
- Current records

**Probability of suitable habitat**

0 - 0.1	0.5 - 0.6
0.1 - 0.2	0.6 - 0.7
0.2 - 0.3	0.7 - 0.8
0.3 - 0.4	0.8 - 0.9
0.4 - 0.5	0.9 - 1

© JNCC 2023. Marine Plan Areas: © MMO 2017. Coastline: contains © 2017 Oil & Gas Authority data. M. modiolus data extracted from Marine Recorder v52: contains © Devon Biodiversity Record Centre/English Nature/Environment Agency/IECS/JNCC/NatureScot/Porcupine Marine Natural History Society/Seasearch data. Also contains data extracted from the National Biodiversity Network: © Conchological Society of Great Britain & Ireland/Kent Wildlife Trust/JNCC/Norfolk Biodiversity Information Service data/Marine Biological Association/Porcupine Natural History Society/Seasearch/National Trust. Also contains data extracted from from DASSH. © DEFRA/Centre for Environment Fisheries & Aquaculture Science/Fisheries Research Services/Marine Biological Association/Natural England/Seasearch. Not to be used for navigation. Map projection: Web Mercator (EPSG:3857)








## Native Oyster



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### Restoration potential

-  Oyster potential restoration areas
-  MMO Marine Plan Areas
-  Land





# Marine Irreplaceable Habitats



**Marine  
Biological  
Association**

[Defining Irreplaceable Marine Habitats -  
NECR474 \(naturalengland.org.uk\)](#)



## Draft Definition

*“Marine Irreplaceable habitats are those which cannot be successfully restored **or created** based on one or more of the following factors:*

*They are **very difficult to restore** or **very slow to recover**”*

They may be nationally rare (based on extent, range and distribution) and/or have an unusual or rare environmental context.”





## High irreplaceability scores







## Project summary

Created a definition of marine habitat irreplaceability.

Assessed irreplaceability of 32 UK Level 3 broad-scale habitats, 79 Level 4 biotope complexes and 225 Level 5 biotopes and a small number of Level 6 sub-biotopes.

Marine irreplaceability varied between habitats and constituent biotopes of broadscale habitats.

Most of the high scoring irreplaceable habitats already recognized **under other initiatives**.

The work is intended to be a starting point (not an end-point) in irreplaceability assessments. The assessments do not superseded other aspects of licensing or permitting work.

# Marine Irreplaceable Habitats



Next phase: mapping these habitats for English waters





# MNG Assessment Framework



Building evidence to answer questions surrounding the following:

- How can losses and gains be measured in the marine environment?
- How can we ensure overarching gains demonstrated?

Test, review, pilot and explore what models and approaches would be best to develop further.

Ambition for:

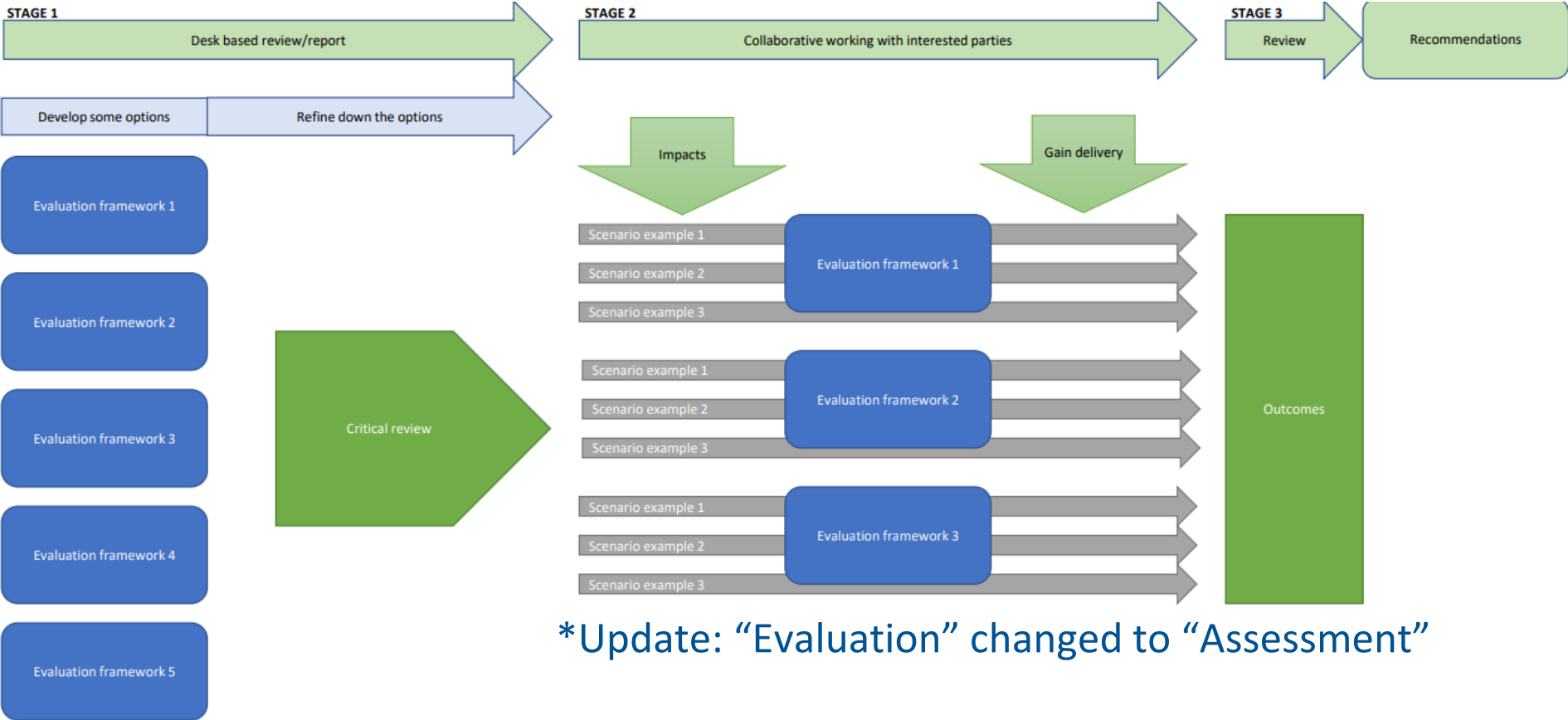
- Simple and straightforward
- Inclusive and collaborative



# MNG Assessment Framework



## Pilot studies and scenario-based testing:



\*Update: "Evaluation" changed to "Assessment"



# Next steps



- **Coming soon: Government's response to the MNG Principles**
- MaRePo +
- Mapping MIH
- MNG assessment framework pilot studies
- Working with Defra on Policy Advisory Group
- Working with industry
- Working steering groups feeding into evidence projects



# Thank you

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