Dorset MSP Evidence Base

18th February 2011

Ness Smith – C-SCOPE Project Officer

c~scope
Combining Sea and Coastal Planning in Europe

2 Mers Seas Zeeën
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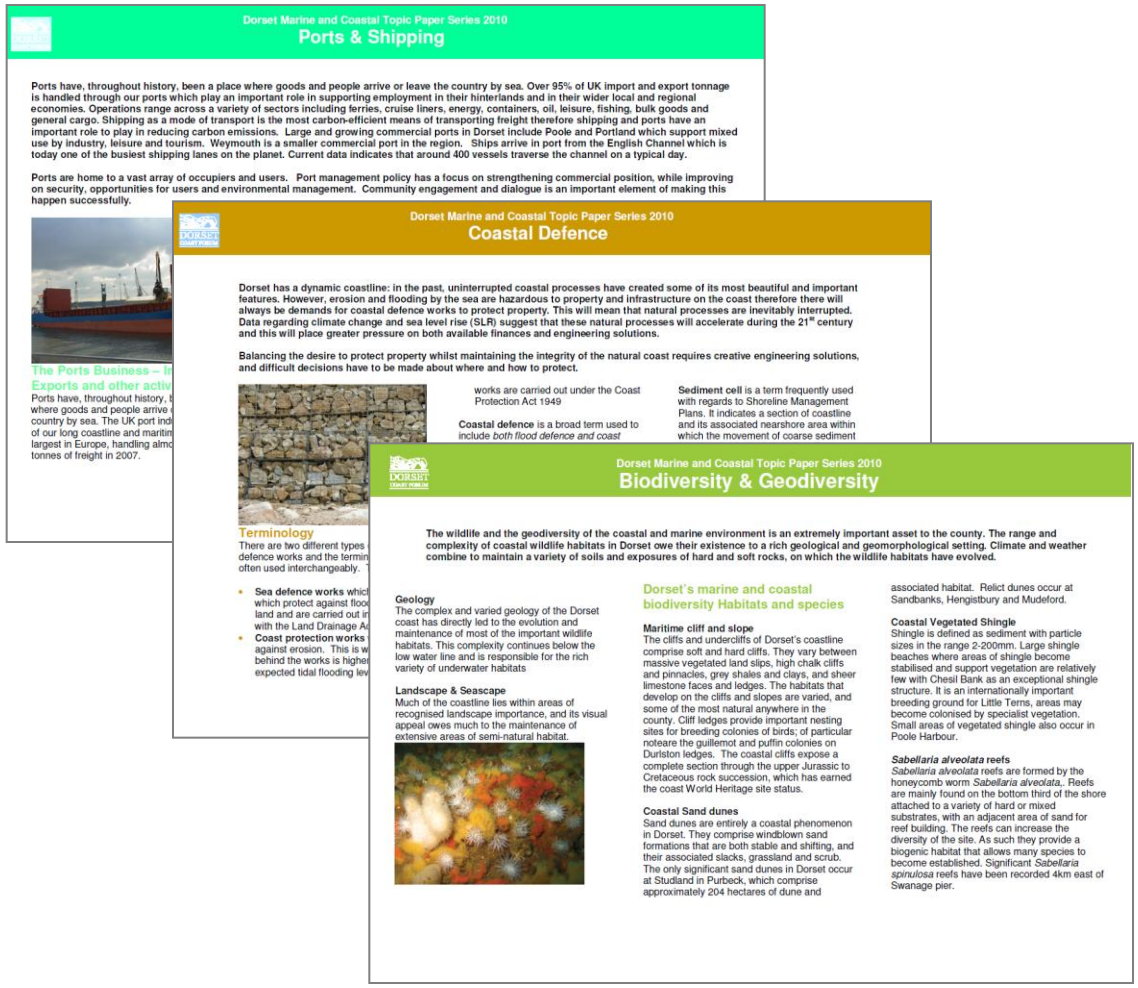
Sectoral Topic Papers

- MMA Description document gives an overview of the area, it's physical and human influences
- 20 Topic Papers cover whole of Dorset, giving a more in-depth description of each 'sector' – some of these are physical processes



Dorset Marine and Coastal Topic Paper Series 2010

Ports & Shipping

Ports have, throughout history, been a place where goods and people arrive or leave the country by sea. Over 95% of UK import and export tonnage is handled through our ports which play an important role in supporting employment in their hinterlands and in their wider local and regional economies. Operations range across a variety of sectors including ferries, cruise liners, energy, containers, oil, leisure, fishing, bulk goods and general cargo. Shipping as a mode of transport is the most carbon-efficient means of transporting freight therefore shipping and ports have an important role to play in reducing carbon emissions. Large and growing commercial ports in Dorset include Poole and Portland which support mixed use by industry, leisure and tourism. Weymouth is a smaller commercial port in the region. Ships arrive in port from the English Channel which is today one of the busiest shipping lanes on the planet. Current data indicates that around 400 vessels traverse the channel on a typical day.

Ports are home to a vast array of occupiers and users. Port management policy has a focus on strengthening commercial position, while improving on security, opportunities for users and environmental management. Community engagement and dialogue is an important element of making this happen successfully.

Dorset Marine and Coastal Topic Paper Series 2010

Coastal Defence

Dorset has a dynamic coastline: in the past, uninterrupted coastal processes have created some of its most beautiful and important features. However, erosion and flooding by the sea are hazardous to property and infrastructure on the coast therefore there will always be demands for coastal defence works to protect property. This will mean that natural processes are inevitably interrupted. Data regarding climate change and sea level rise (SLR) suggest that these natural processes will accelerate during the 21st century and this will place greater pressure on both available finances and engineering solutions.

Balancing the desire to protect property whilst maintaining the integrity of the natural coast requires creative engineering solutions, and difficult decisions have to be made about where and how to protect.

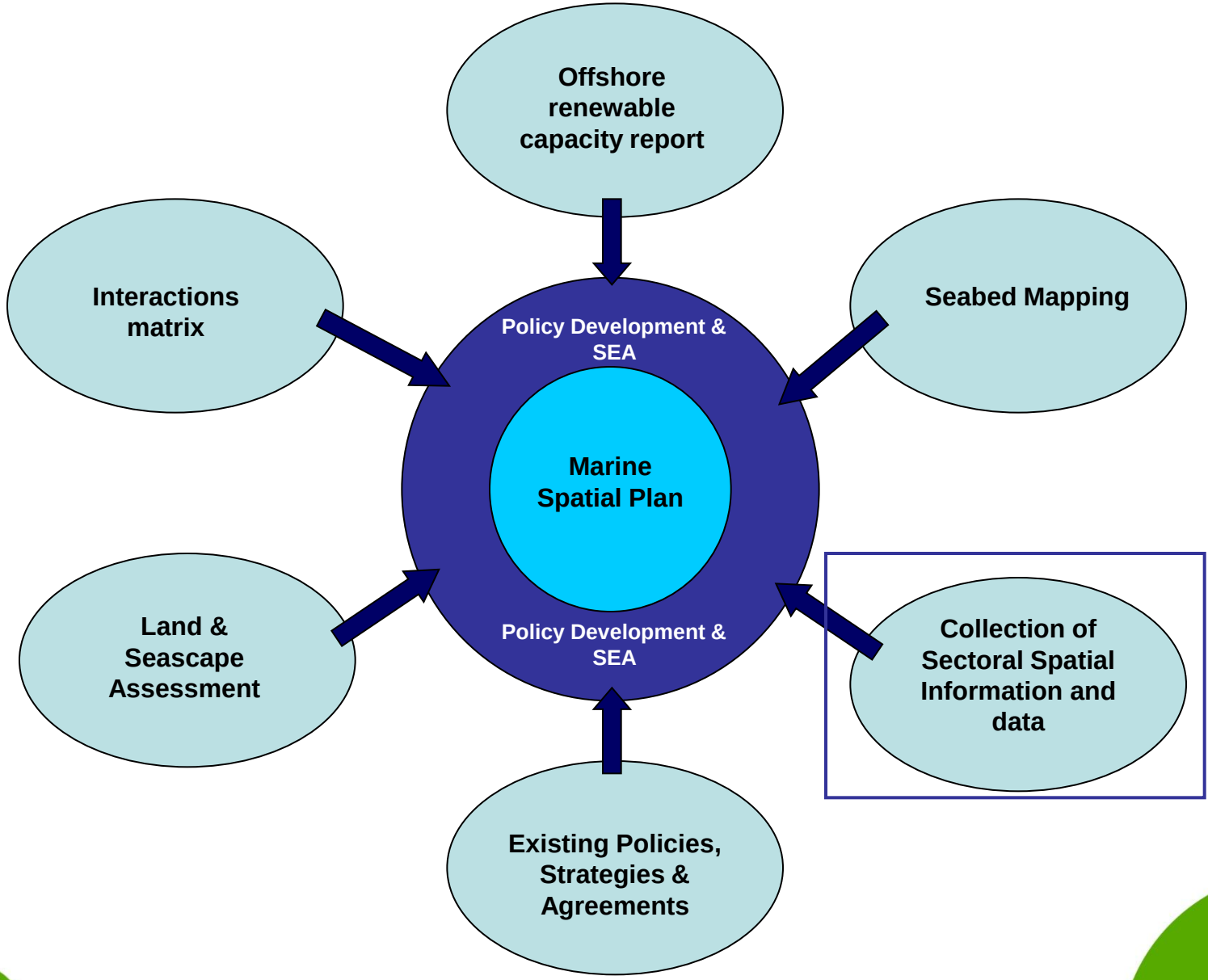
Terminology

Dorset Marine and Coastal Topic Paper Series 2010

Biodiversity & Geodiversity

The wildlife and the geodiversity of the coastal and marine environment is an extremely important asset to the county. The range and complexity of coastal wildlife habitats in Dorset owe their existence to a rich geological and geomorphological setting. Climate and weather combine to maintain a variety of soils and exposures of hard and soft rocks, on which the wildlife habitats have evolved.

Dorset's marine and coastal biodiversity Habitats and species



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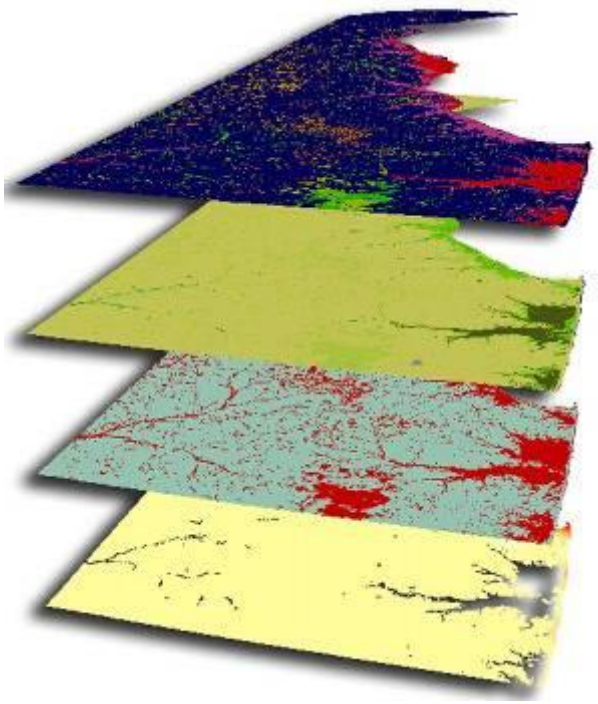
Collation of spatial and temporal maritime sector data

- Exchanged and discussed data with Cefas, Crown Estate and Seazone/MMO adviser
- Gap Analysis conducted.
- All data held on Coastal Explorer Planning tool



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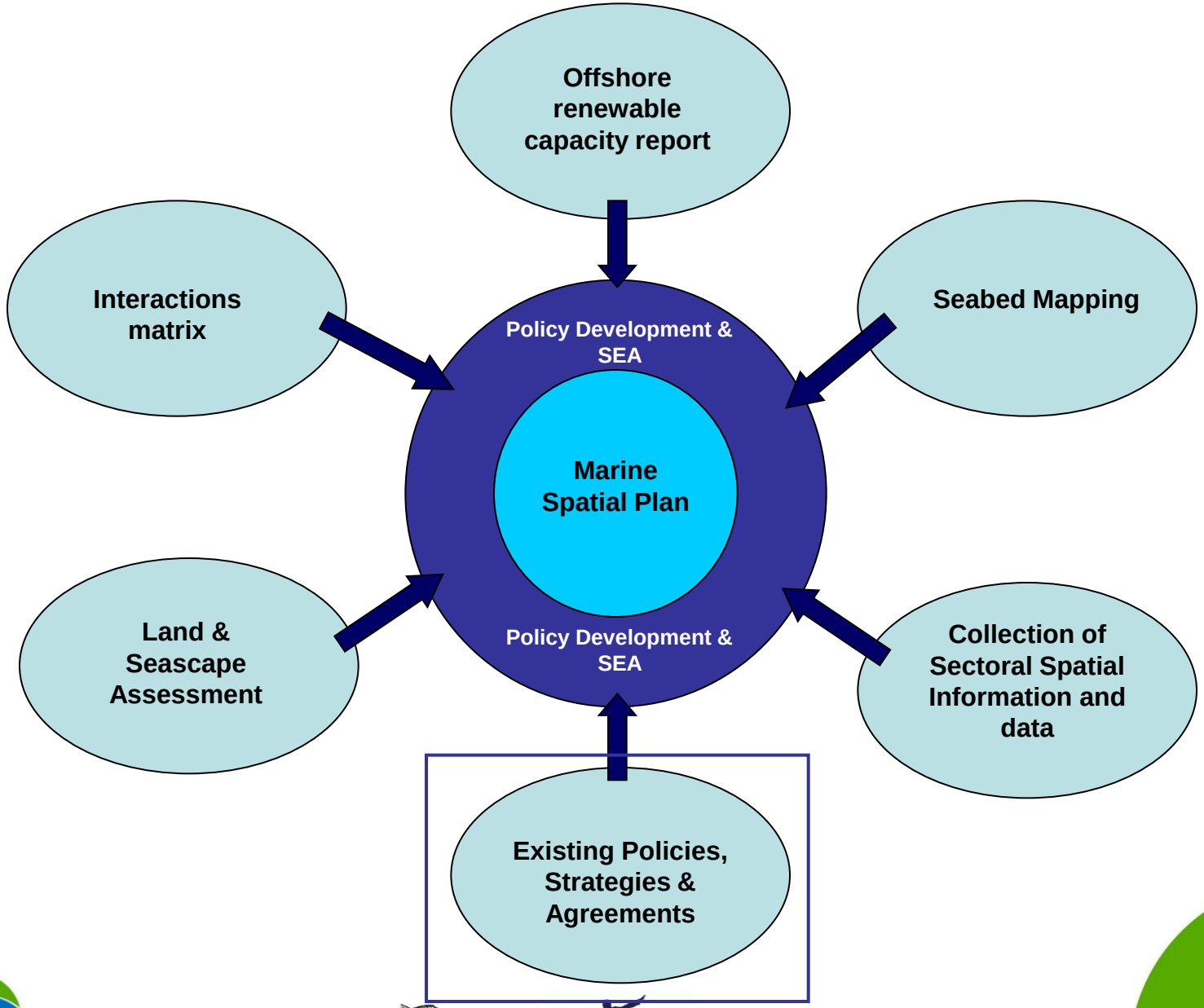

Offshore renewable capacity report
Interactions matrix
Seabed Mapping
Policy Development & SEA
Marine Spatial Plan
Policy Development & SEA
Land & Seascape Assessment
Collection of Sectoral Spatial Information and data
Existing Policies, Strategies & Agreements

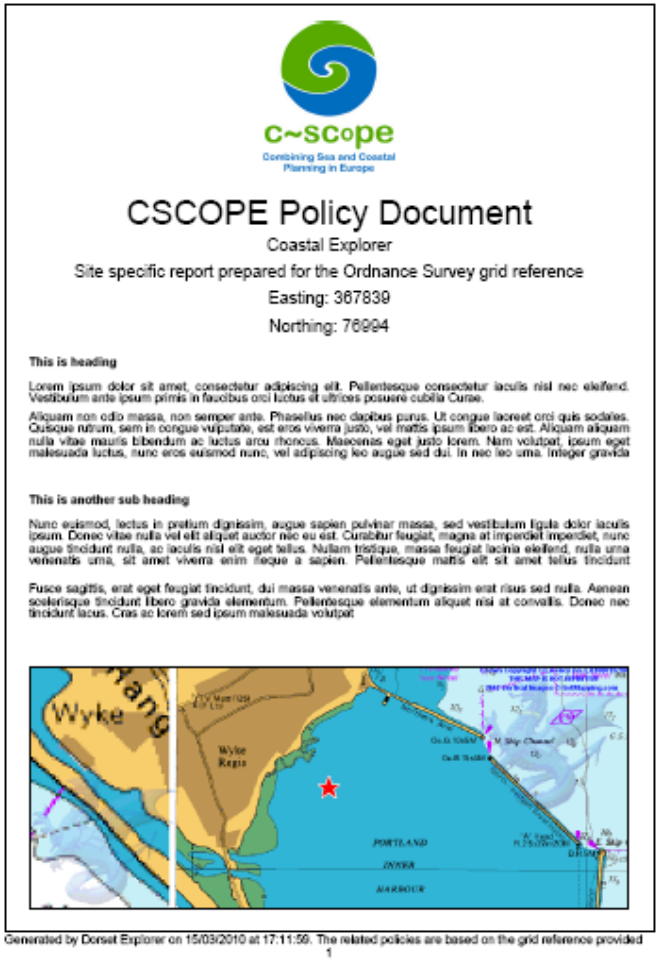
Existing Policies, Strategies & Agreements

- Policy Library: Over 200 policy documents – international, European, national and local/regional policies, strategies and agreements.
- SEA process identified those that will have an influence on the MSP
- Policy workshop used planning scenarios to identify key documents
- Will be available through the planning tool

Coastal Explorer Planning

- GIS-based tool for planning professionals, developers, consultants, statutory/non-statutory consultees, academics….
- Over 270 data sets on current uses, environment and policy
- Provides planning guidance, policy summaries for terrestrial and marine environments
- Will also hold marine plan policy and maps once complete

[Dorset Explorer - CSCOPE]



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CSCOPE Policy Document

Coastal Explorer

Site specific report prepared for the Ordnance Survey grid reference

Easting: 367839

Northing: 76994

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Generated by Dorset Explorer on 15/03/2010 at 17:11:59. The related policies are based on the grid reference provided

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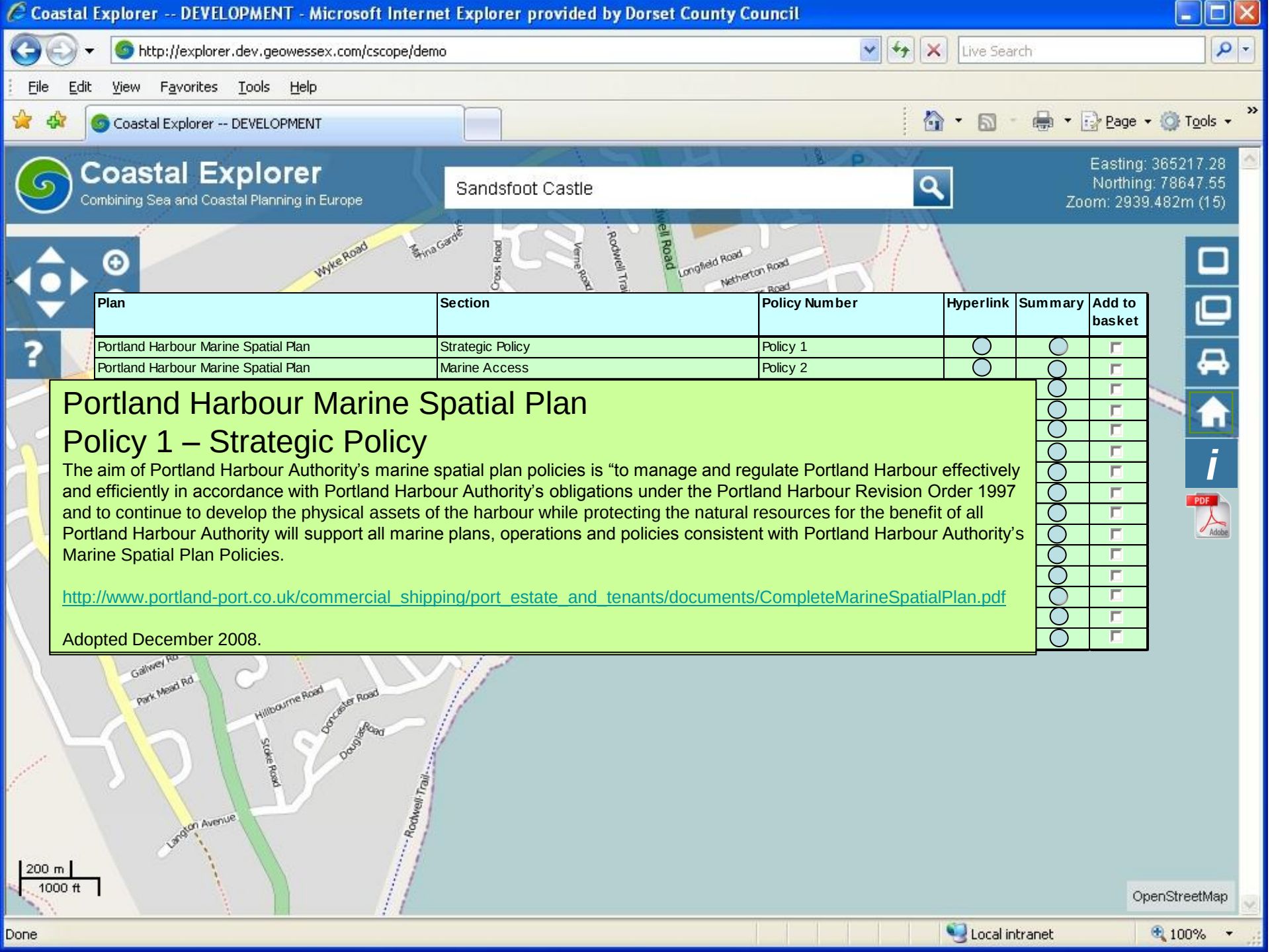


Plan	Section	Policy Number	Hyperlink	Summary	Add to basket
Portland Harbour Marine Spatial Plan	Strategic Policy	Policy 1			
Portland Harbour Marine Spatial Plan	Marine Access	Policy 2			

Portland Harbour Marine Spatial Plan

Policy 1 – Strategic Policy

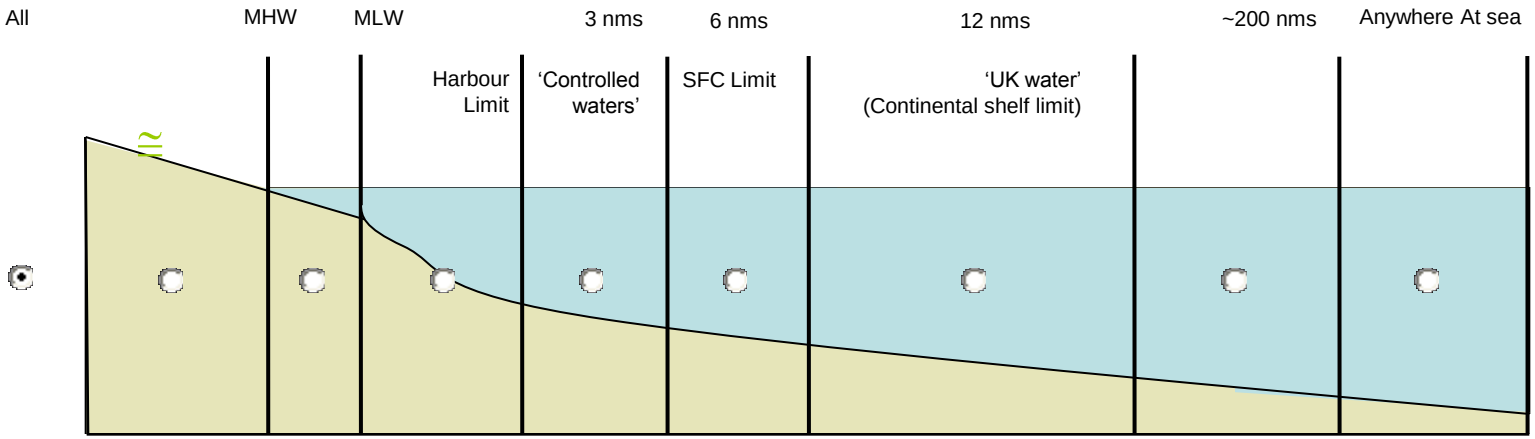
The aim of Portland Harbour Authority's marine spatial plan policies is "to manage and regulate Portland Harbour effectively and efficiently in accordance with Portland Harbour Authority's obligations under the Portland Harbour Revision Order 1997 and to continue to develop the physical assets of the harbour while protecting the natural resources for the benefit of all Portland Harbour Authority will support all marine plans, operations and policies consistent with Portland Harbour Authority's Marine Spatial Plan Policies.

http://www.portland-port.co.uk/commercial_shipping/port_estate_and_tenants/documents/CompleteMarineSpatialPlan.pdf

Adopted December 2008.

Policies

Legislation Level: International | Sector: All | Jurisdiction: All | Display



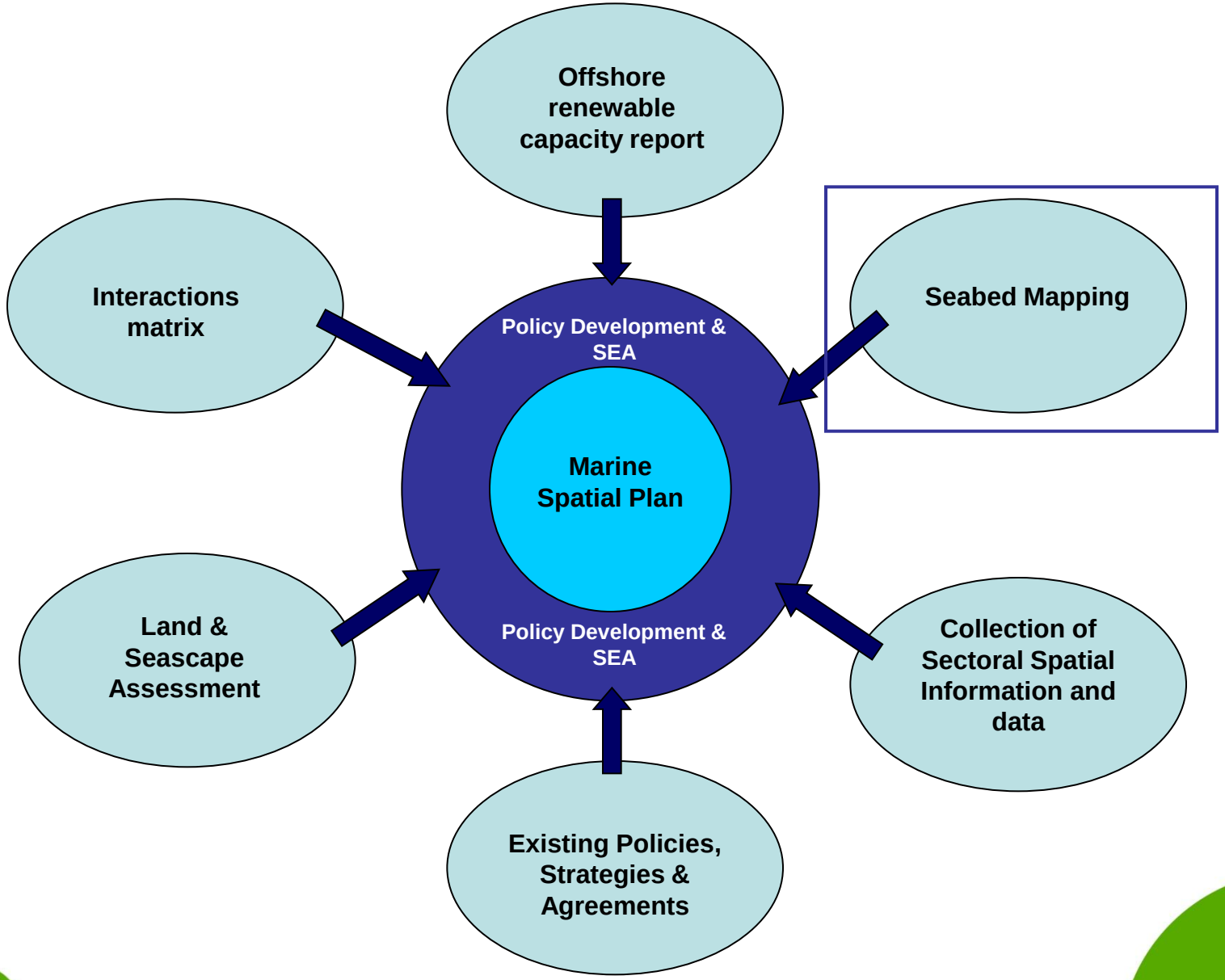
Nms Nautical Miles
SFC – Southern Fisheries Committee

Legislation Level	Sector	Jurisdiction	Policy name	Hyperlink	Summary	Add to basket
International	Shipping	Anywhere at sea	United Nations Convention on the Law of the Sea (UNCLOS)	○	○	☑
International						☐
International						☐
International						☐
International						☐
International						☐
International						☐
International						☐

United Nations Convention on the Law of the Sea (UNCLOS)

This establishes a framework for the exercise of various sovereign rights by coastal states, enabling exploitation of minerals and living resources within territorial seas, extending up to 12nm from agreed national baselines. UNCLOS provides an overarching framework for the marine environment. It sets national jurisdictions and establishes rights of navigation and the legal regime of the high sea. It provides the legal basis for the protection and sustainable development of the marine environment and addresses environmental control, scientific research economic activities and the settlement of disputes. UNCLOS introduced the concept of Exclusive Economic Zones (EEZ). UNCLOS covers virtually all uses of the sea including navigation and over-flight, resource exploration and exploitation, conservation and pollution fishing and shipping.

http://www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm



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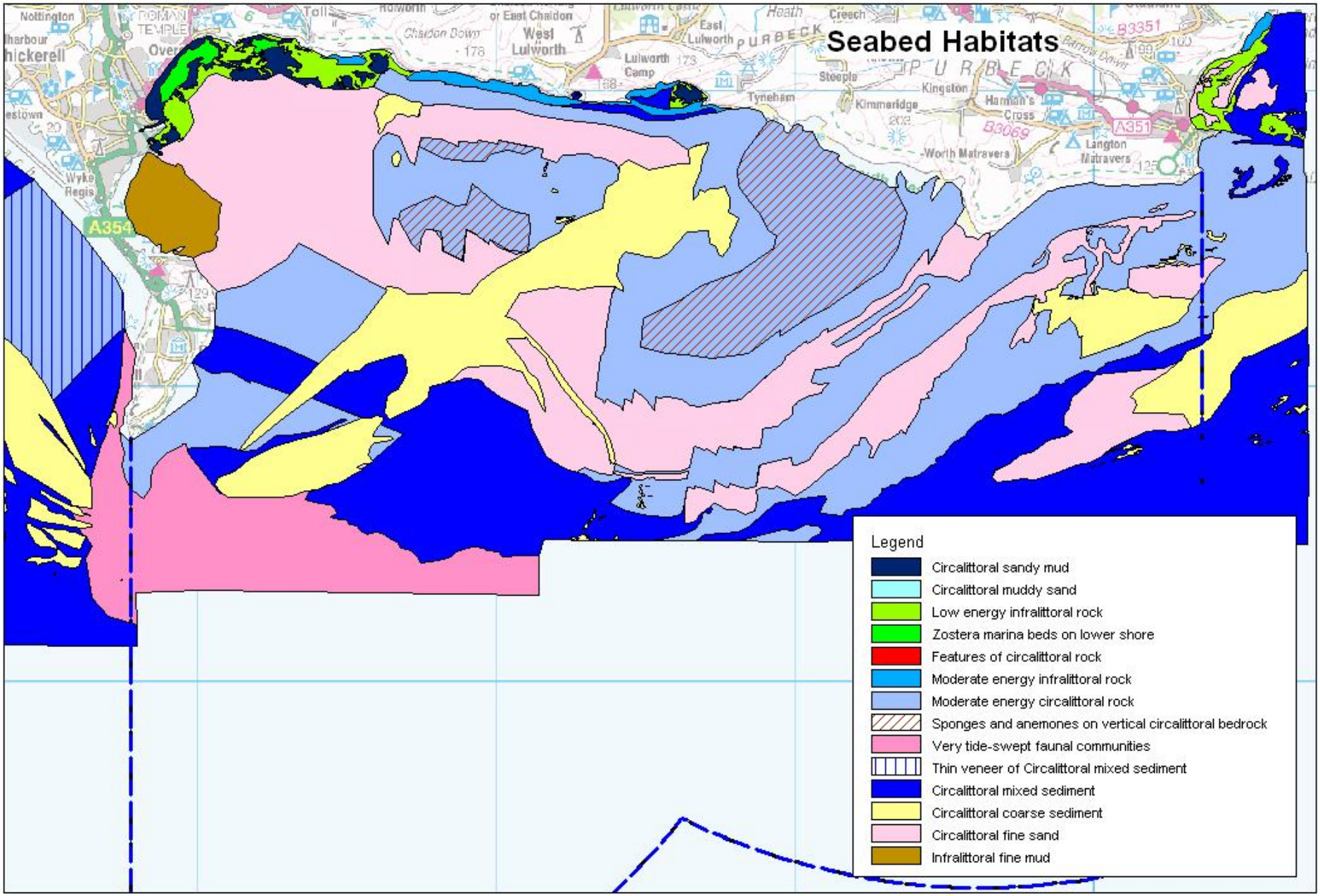
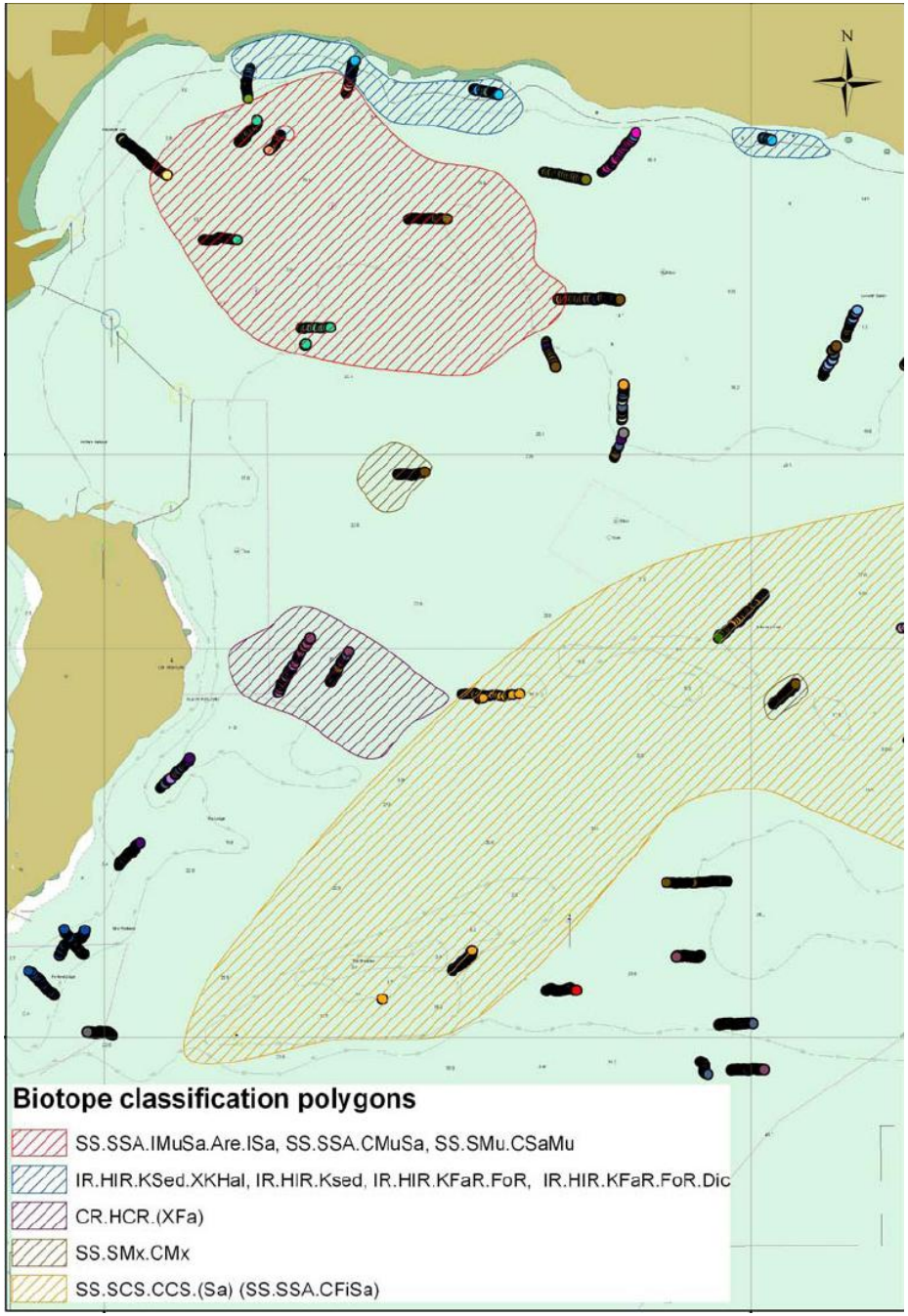
DORIS Seabed mapping

- MCA, CCO, DWT and Navy completed 800km^2 of multibeam survey to within 1m of chart datum
- Seamless MNCR habitat map (equivalent to EUNIS level 3) from the Southampton study.
- With the complexity of the seabed in this area, could not confidently produce seamless biotope map. Looking at ways to resolve this
- Biotopes defined in narrow zones around the drop-down video surveys. 36 biotope complexes / biotopes identified, Four new biotopes tentatively added
- Also have biological features of interest (e.g. maerl, mussel beds, pink sea fans, seagrass, sabellaria reefs)
- Will be using the Defra sensitivity matrix to map sensitive habitats, species and biotopes
- Also mapping ecosystem goods and services, using recent work by ABPmer/Bournemouth University for Natural England

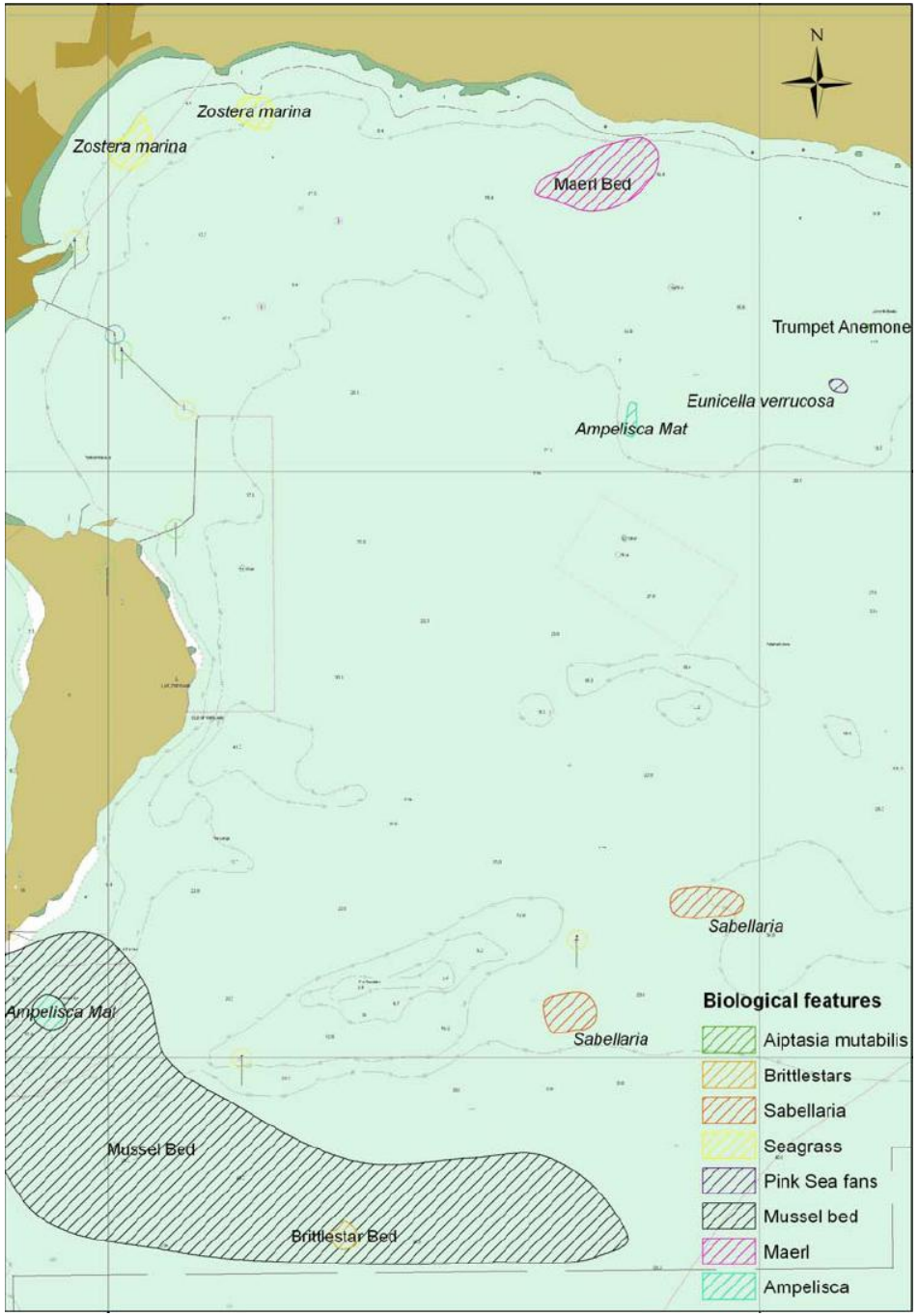
Pressure theme	Climate change							Hydrological changes (inshore/lo				
Pressure **Broadscale Habitats**	Atmospheric climate change	pH changes	Temperature changes - regional/ national	Salinity changes - regional/ national	Water flow (tidal&ocean current) changes - regional/ national	Emergence regime changes (sea level) - regional/ national	Wave exposure changes - regional/ national	Temperature changes - local	Salinity changes - local	Water flow (tidal current) changes - local	Emergence regime changes - local	W ch
Pressure Benchmarks	Increases of 3.5-4.6 °C (winter-summer) by 2050s	Mean 0.2 pH decrease by 2050	1.5-4 °C increase by 2100	0.2 psu decrease by 2100	Peak mean spring tide flow change between 0.1m/s to 0.2m/s over an area >1km2 or 50% of width of water body for > 1 year	Increased ASL of 21 cm by 2050 in London	A change in nearshore significant wave height >3% but <5%.	A 5 °C change in temp for a one month period, or 2° C for one year	Increase from 35 to 38 units for one year or Decrease in salinity by 4-10 units for a year	Peak mean spring tide flow change between 0.1m/s to 0.2m/s over an area >1km2 or 50% of width of water body for > 1 year	**Intertidal species (and habitats not uniquely defined by intertidal zone)** A 1 hour change in the time covered or not covered by the sea for a period of 1 year.**Habitats and landscapes defined by intertidal zone** An increase in relative sea level or decrease in high water level of 1 mm for one year over a shoreline.	A ne sig he <1
High energy intertidal rock	M (L)	NA (L)	M (L)	NS (L)	NS (L)	NS (L)	NS (L)	H* (L)	H* (L)	NS (L)	M* (L)	
Moderate energy intertidal rock	M (L)	NA (L)	M (L)	NS (L)	M* (L)	NS (L)	M* (L)	L (L)	L* (L)	M* (L)	M* (L)	
Low energy intertidal rock	M (L)	NA (L)	M (L)	NS (L)	H* (L)	NS (L)	H* (L)	H* (L)	L* (L)	H* (L)	M (L)	
Intertidal coarse sediment	M (L)	NA (L)	M (L)	NS (L)	NS (L)	NS (L)	NS (L)	H* (L)	M* (L)	NS (L)	NS (L)	
Intertidal sand and muddy sand	M (L)	NA (L)	M (L)	NS (L)	NS (L)	H (L)	M (L)	L (L)	L (L)	NS (L)	M (L)	
Intertidal mud	M (L)	NA (L)	M (L)	NS (L)	NS (L)	H (L)	M (L)	L (H)	L (H)	NS (H)	M (L)	
Intertidal mixed sediments	M (L)	NA (L)	M (L)	NS (L)	NS (L)	NS (L)	M (L)	NA (L)	NS (L)	NS (L)	NS (L)	
Coastal saltmarshes and saline reedbeds	M (L)	NA (L)	M (L)	NS (L)	NE (L)	M (L)	M (L)	NA (L)	NS (L)	M (L)	M (L)	
Intertidal sediments dominated by aquatic angiosperms	M (M)	NA (L)	M (M)	NS (L)	M* (H)	H (M)	M (L)	NS (M)	NS (M)	M* (H)	M* (M)	

Cover | **Broadscale Feature Matrix** | Habitat Feature Matrix | Species Feature Matrix

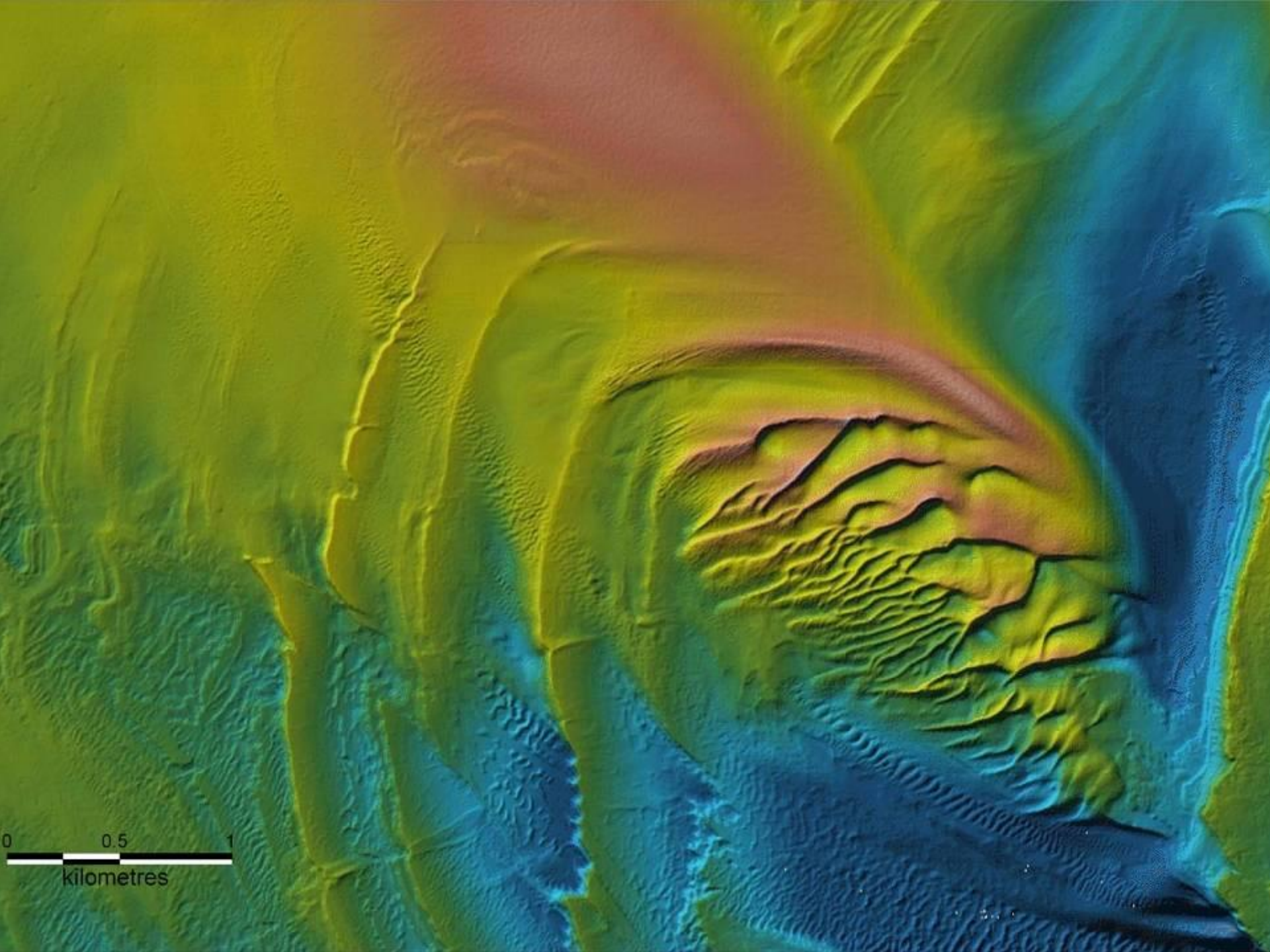

Seabed Habitats
Legend
Circalittoral sandy mud
Circalittoral muddy sand
Low energy infralittoral rock
Zostera marina beds on lower shore
Features of circalittoral rock
Moderate energy infralittoral rock
Moderate energy circalittoral rock
Sponges and anemones on vertical circalittoral bedrock
Very tide-swept faunal communities
Thin veneer of Circalittoral mixed sediment
Circalittoral mixed sediment
Circalittoral coarse sediment
Circalittoral fine sand
Infralittoral fine mud
Wyke Regis
A354
West Lulworth
East Lulworth
Lulworth Camp
Tyneham
Kimmeridge
Kingston
Steeple
Worth Matravers
Langton Matravers
Harman's Cross
A351
B3069
B3351
PURBECK


N
Biotope classification polygons
SS.SSA.IMuSa.Are.ISa, SS.SSA.CMuSa, SS.SMu.CSaMu
IR.HIR.KSed.XKHal, IR.HIR.Ksed, IR.HIR.KFaR.FoR, IR.HIR.KFaR.FoR.Dic
CR.HCR.(XFa)
SS.SMx.CMx
SS.SCS.CCS.(Sa) (SS.SSA.CFiSa)

Biotopes



Biological features of interest (equate closely to MCZ FOCI)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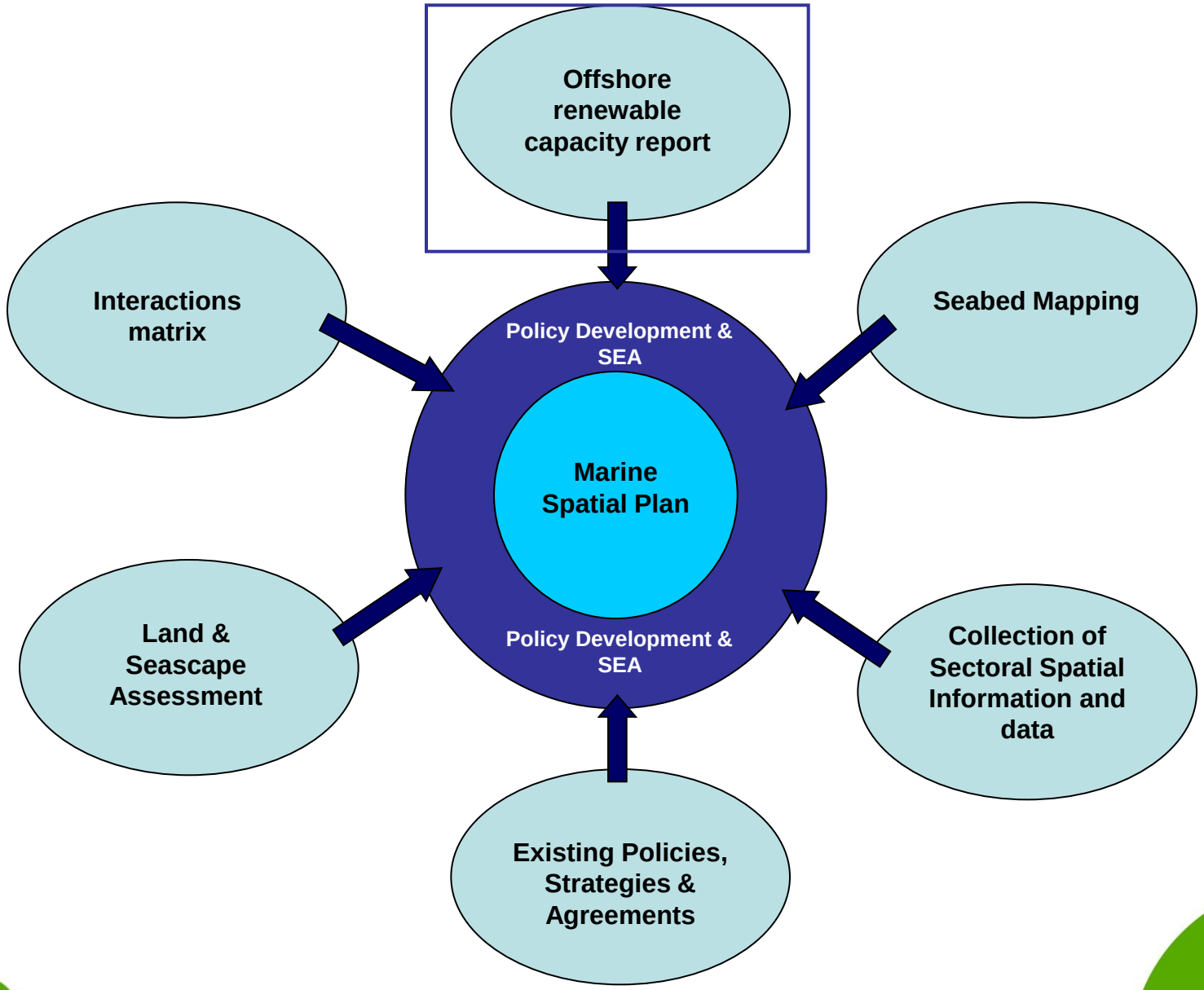

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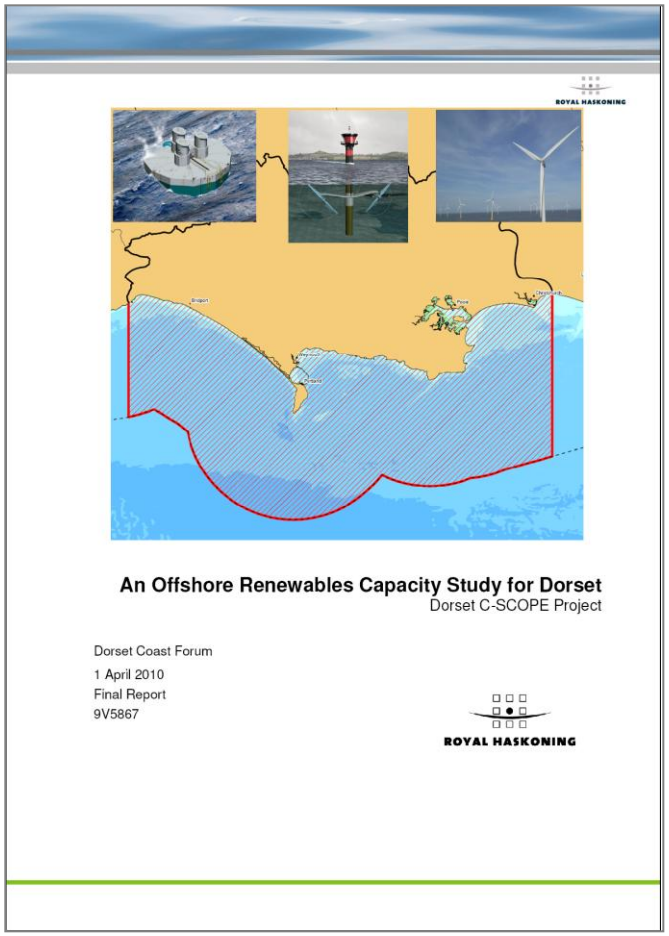
Offshore renewable capacity report



- Royal Haskoning report focused on:
- Current and emerging marine renewable energy technologies and their potential operating conditions
- Constraints mapping to identify potential areas for further offshore renewable energy development in Dorset waters
- Different approach to report for The Offshore Valuation Group; fewer hard constraints, no weighting. 'Development Considerations' are discussed in the report for each potential development area identified.

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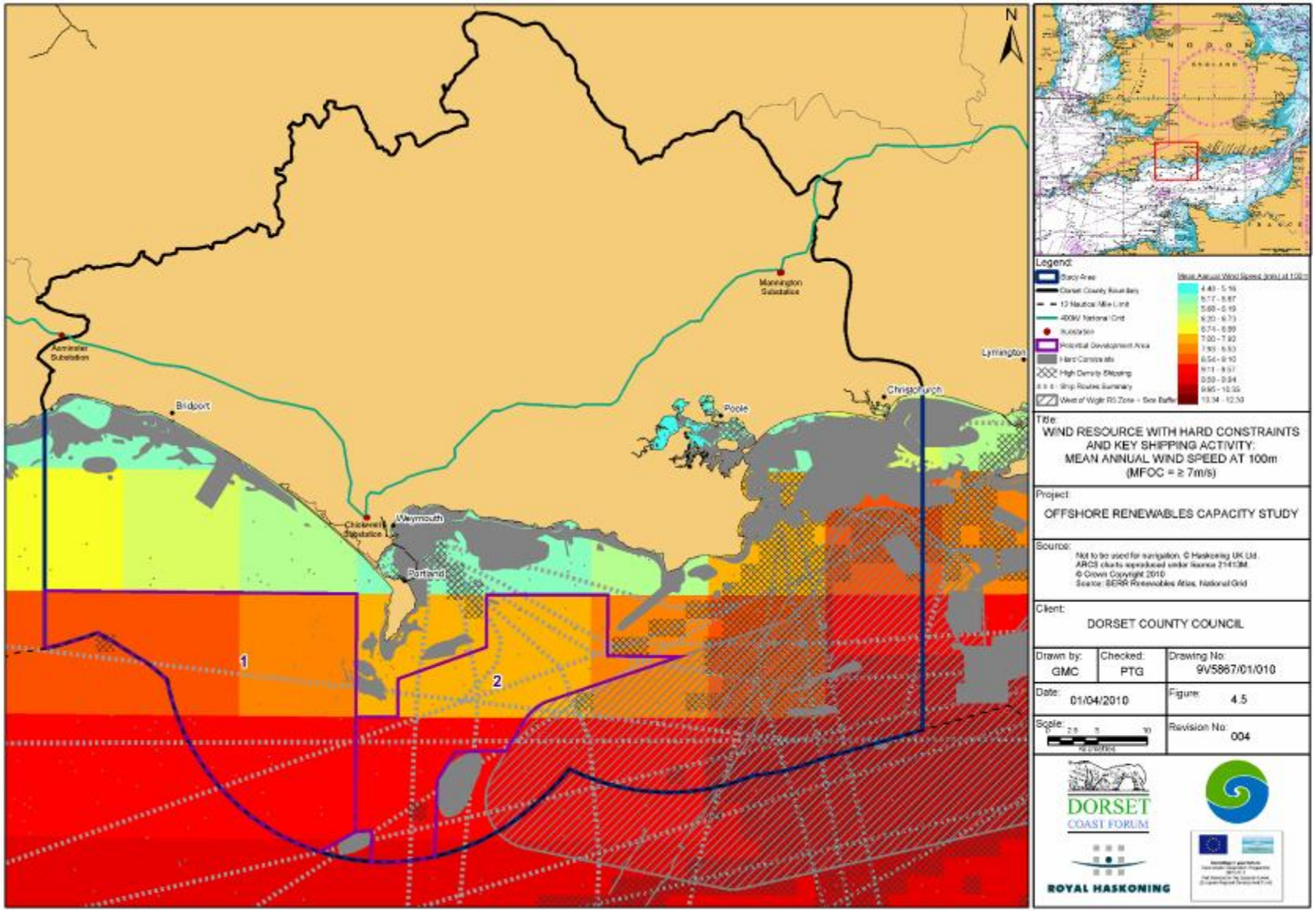
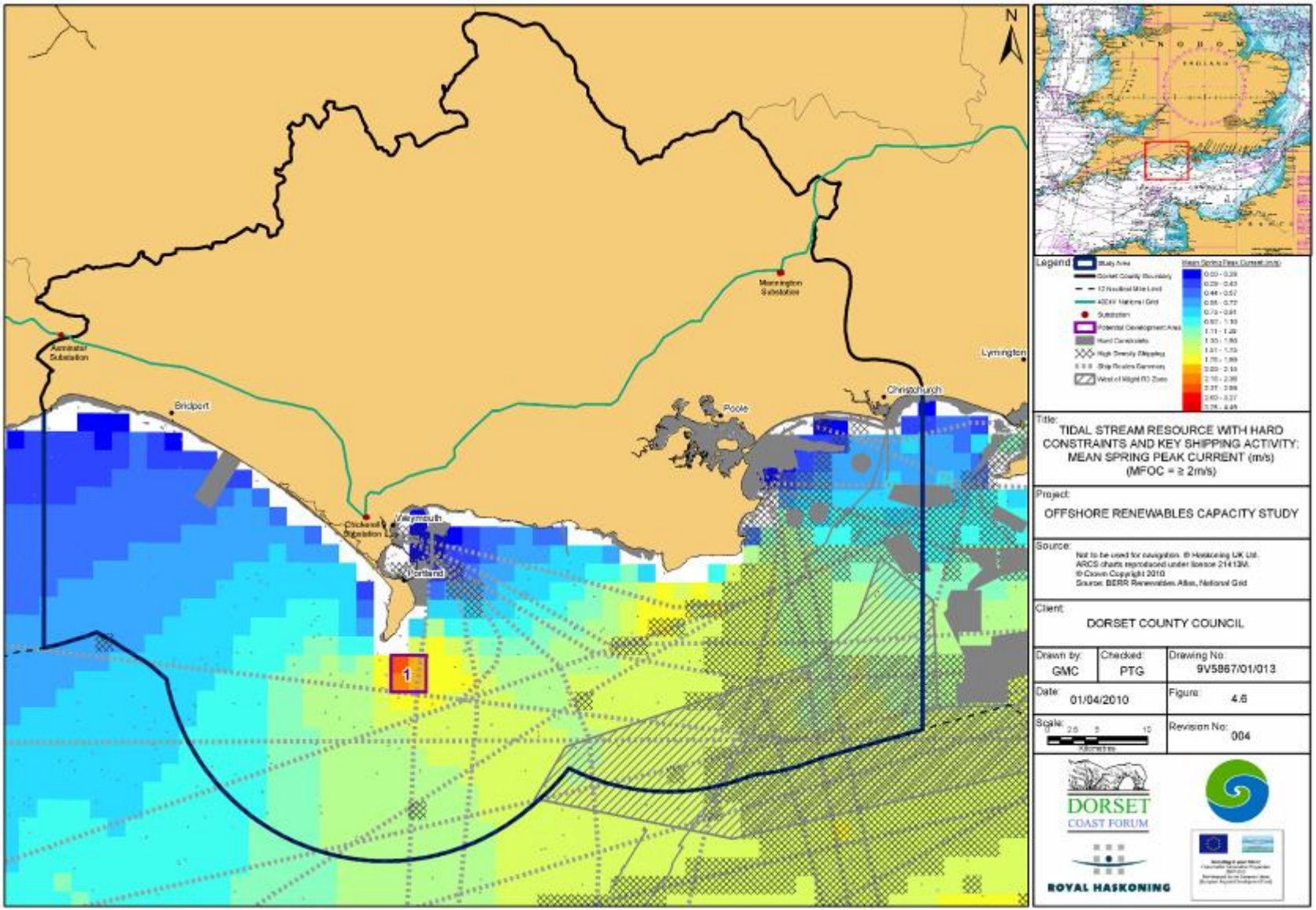
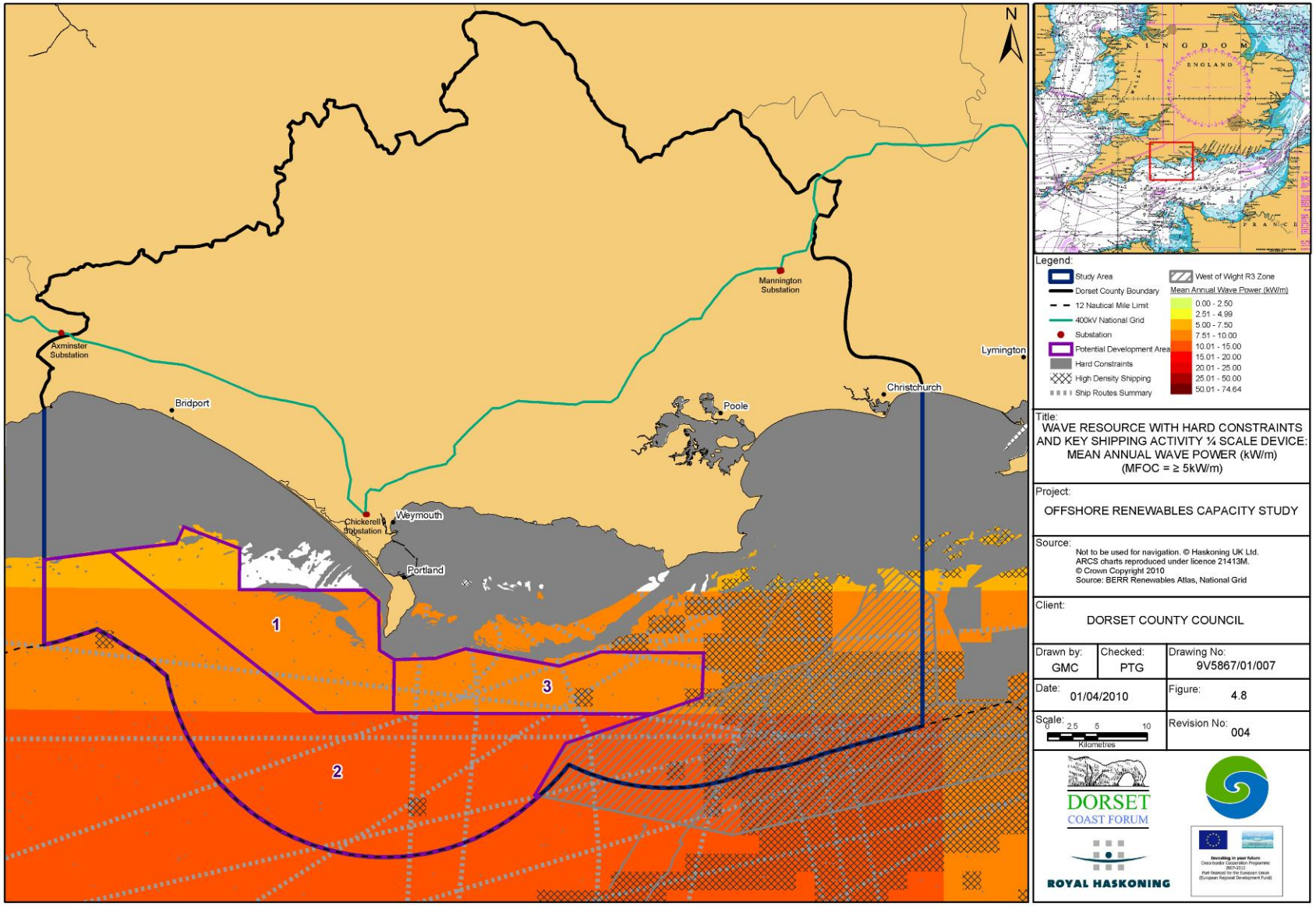
Offshore renewable capacity report - wind

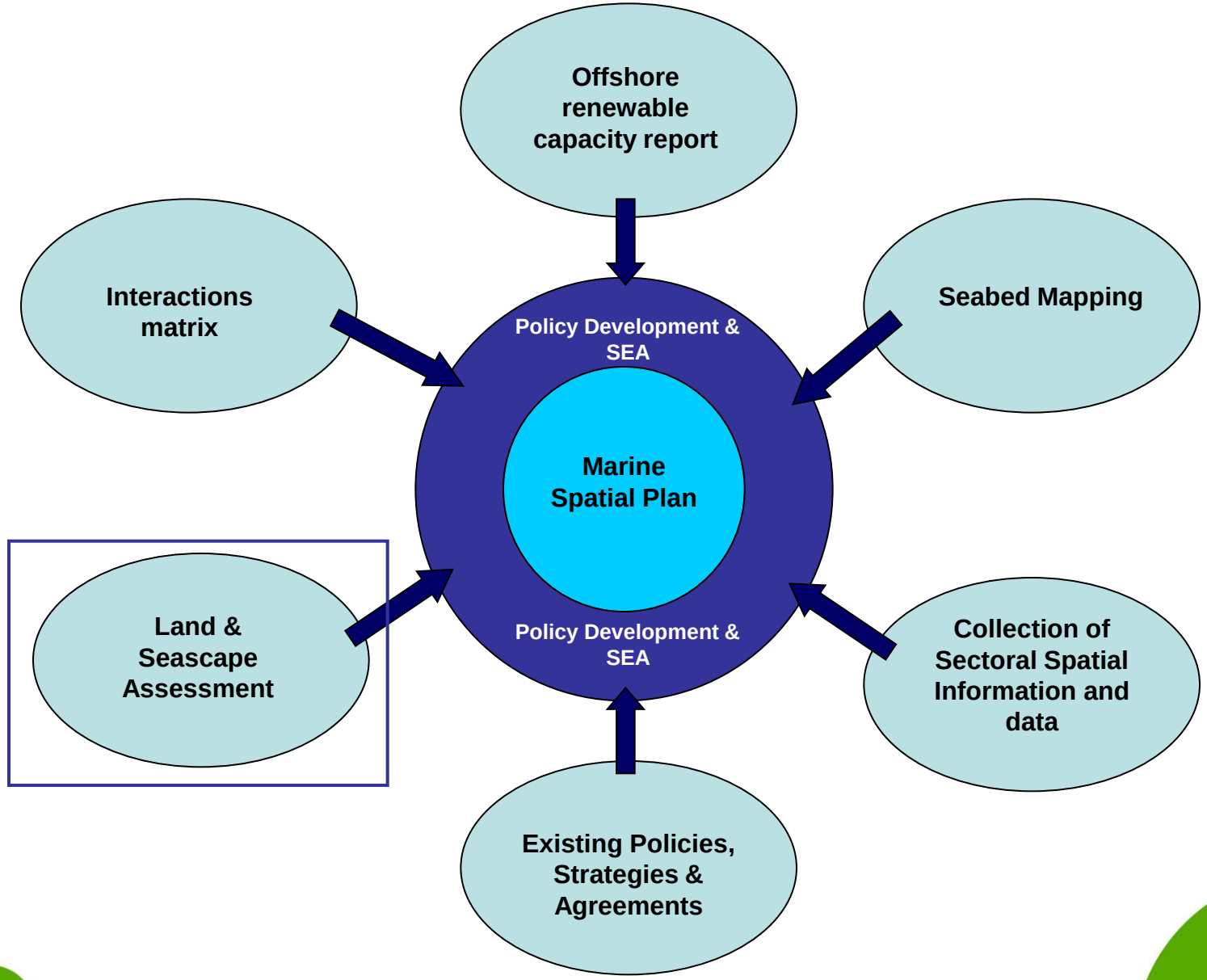


Offshore renewable capacity report - tidal



Offshore renewable capacity report – ¼ scale wave





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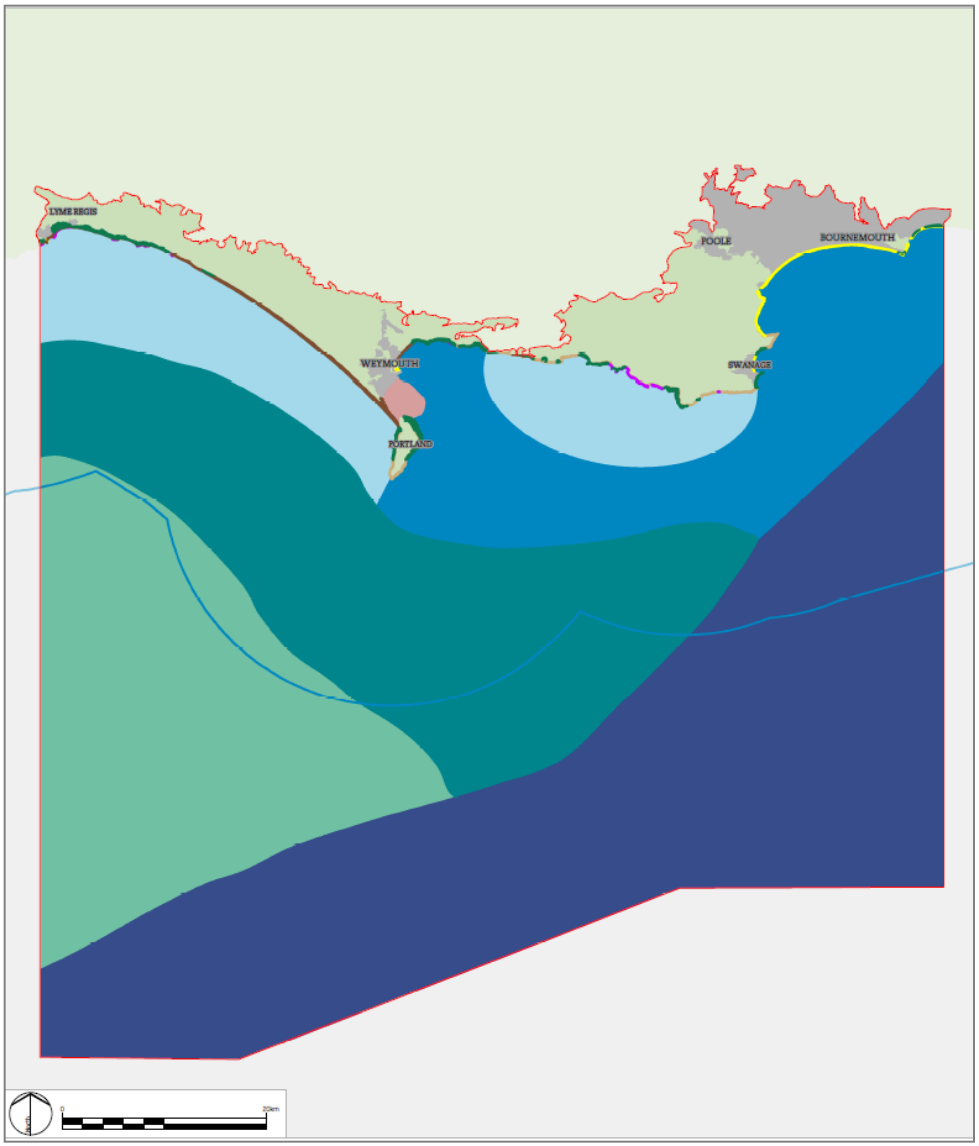

There are five Seascape Character Areas within the MMA

- Man-Made Harbour
- Coastal Waters
- Active Coastal Waters
- Inshore Waters
- Deep Water Offshore Fishing

N.B. Boundaries are ***transitional***

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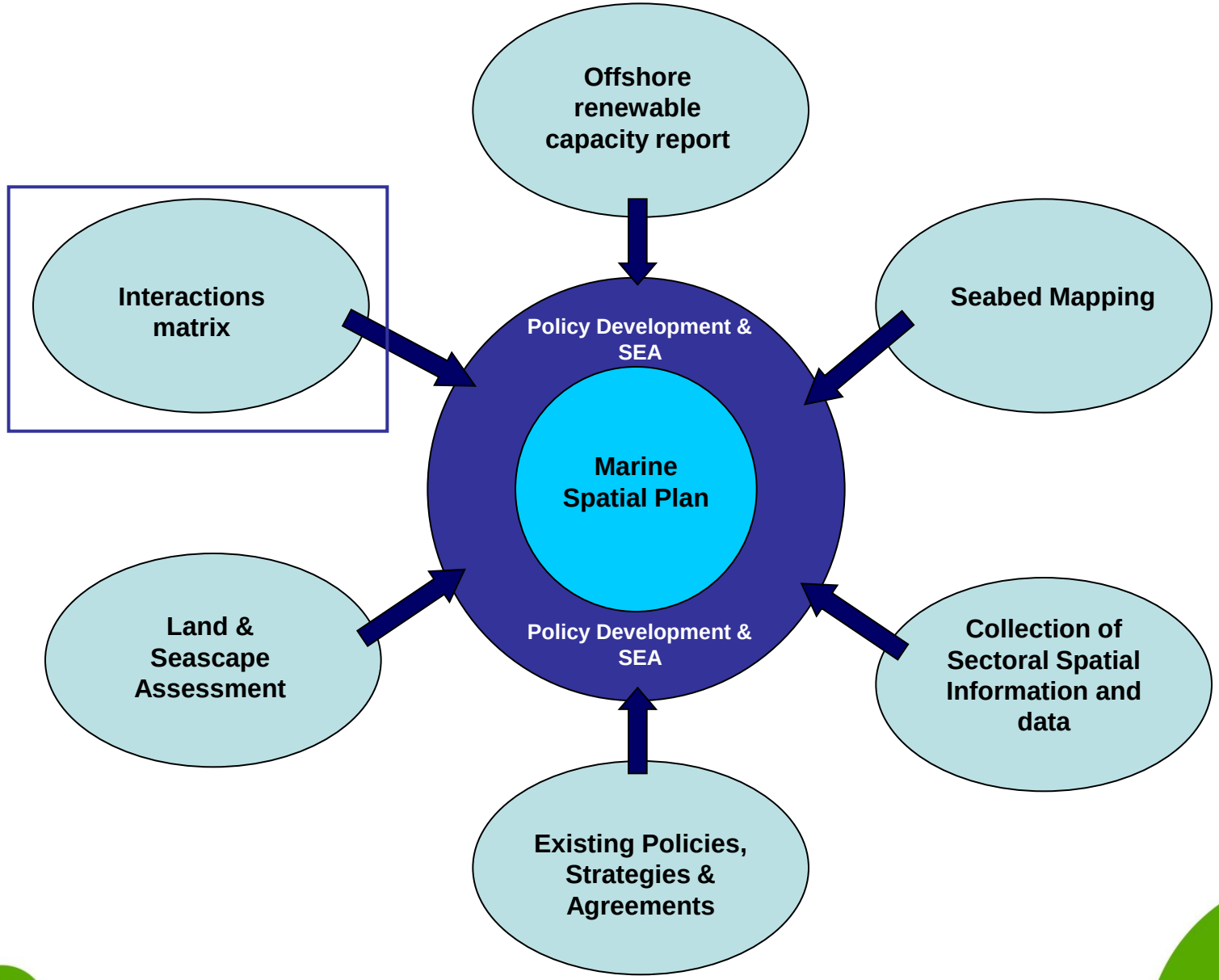

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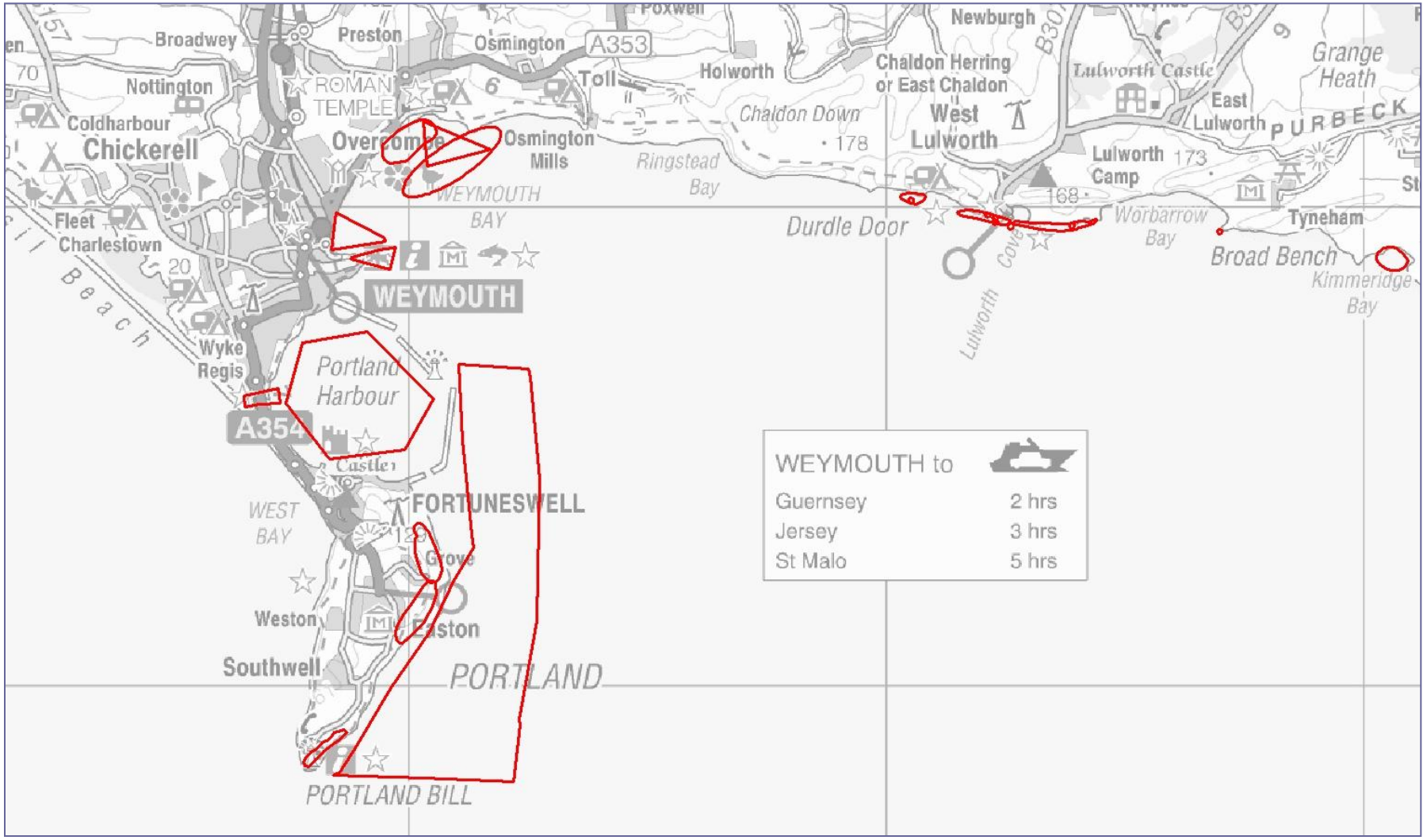
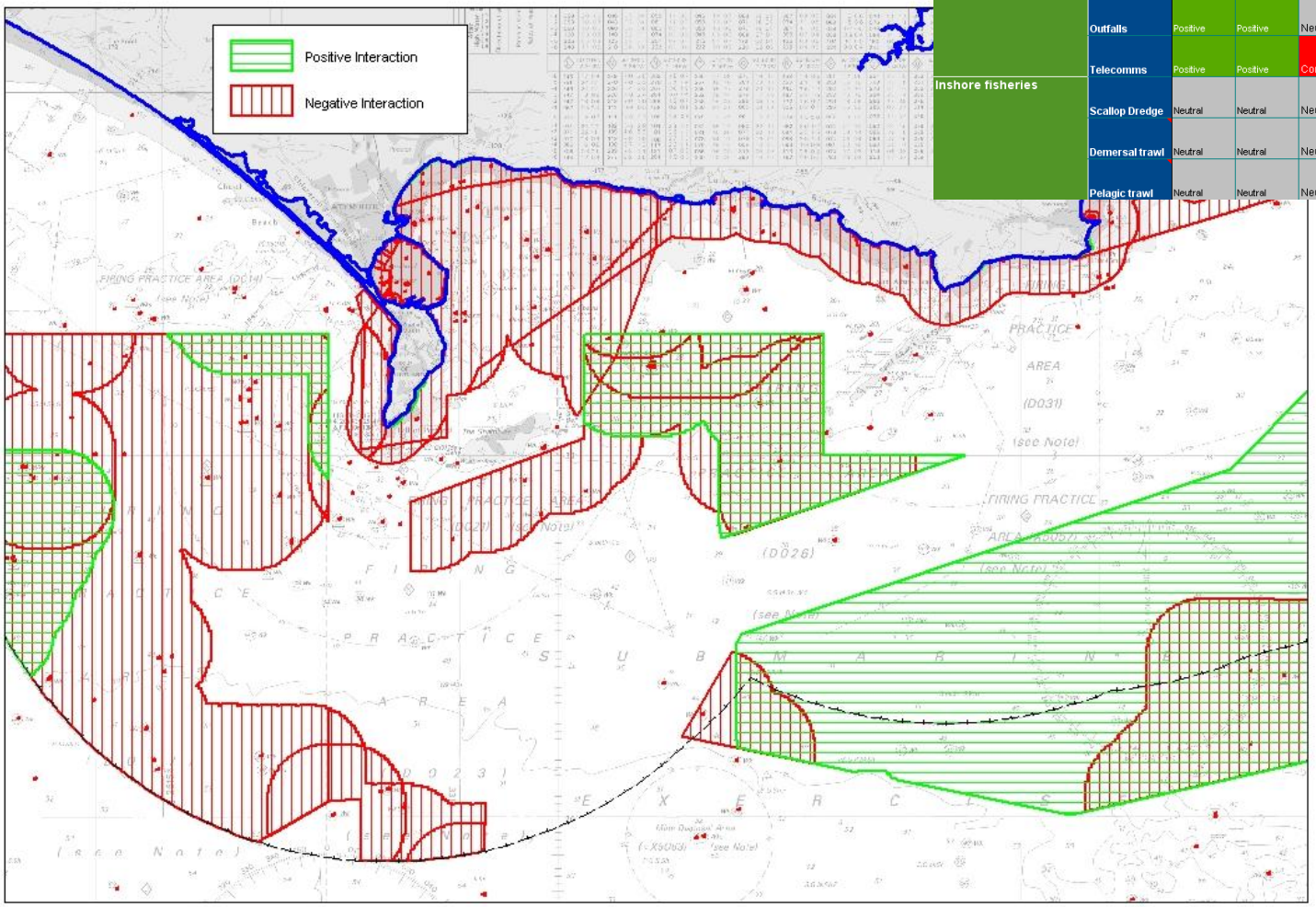

Broadwey
Preston
Osmington
A353
Poxwell
Newburgh
Nottington
ROMAN TEMPLE
Toll
Holworth
Chaldon Herring or East Chaldon
Lulworth Castle
Grange Heath
Coldharbour
Chickerell
Overcombe
Osmington Mills
Chaldon Down
West Lulworth
East Lulworth
PURBECK
Ringstead Bay
Lulworth Camp
WEYMOUTH BAY
Durdle Door
Worbarrow Bay
Tyneham
Fleet
Charlestown
Broad Bench
Kimmeridge Bay
WEYMOUTH
Wyke Regis
Portland Harbour
A354
Lulworth Cove
FORTUNESWELL
WEST BAY
Grove
Weston
Easton
Southwell
PORTLAND
PORTLAND BILL
WEYMOUTH to
Guernsey 2 hrs
Jersey 3 hrs
St Malo 5 hrs

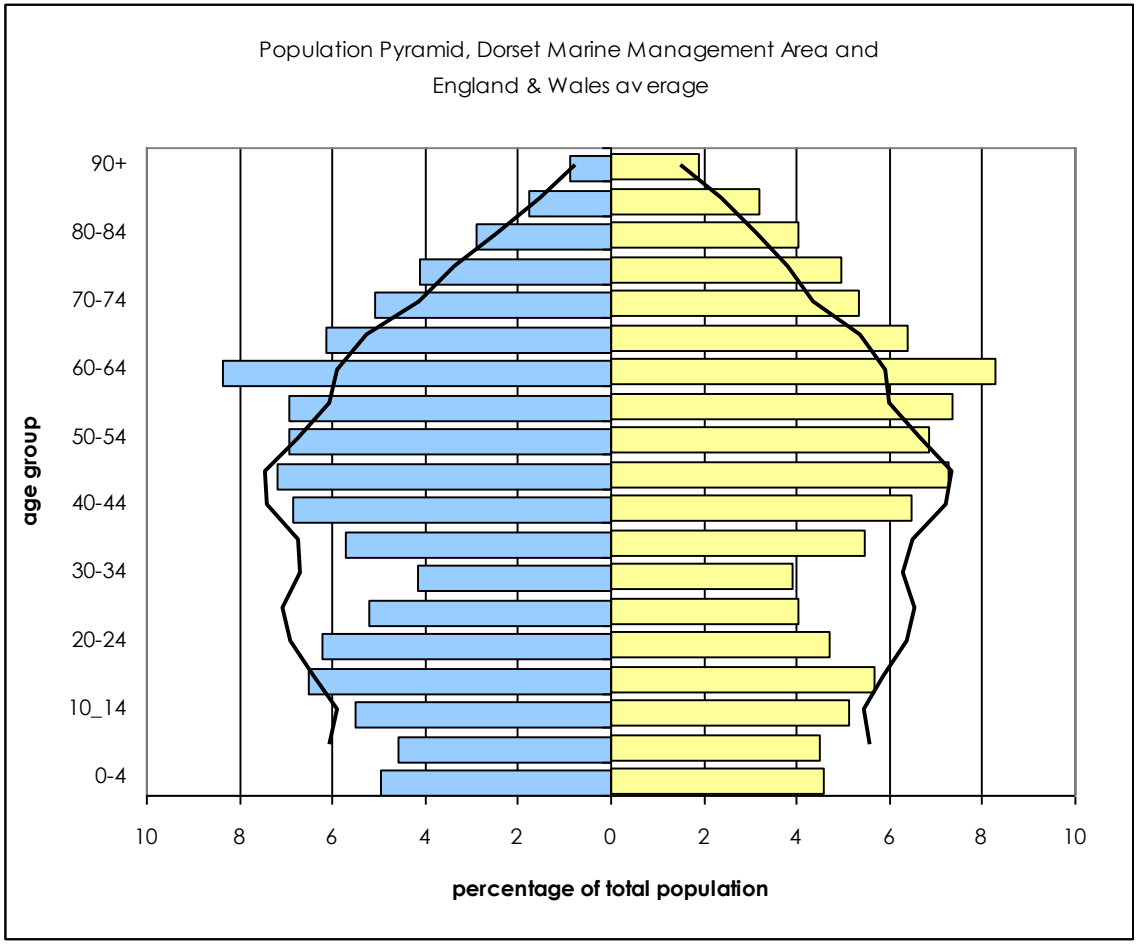
		Ports and harbours				Maritime Safety		
		Ports and harbours	Piers and Jetties	Maintenance dredging	Dredging Disposal	Lifeboat service	HM Coastguard	Navigation aids
Renewable Energy	Offshore Wind	Positive	Positive	Neutral	Neutral		Competition	Competition
	Wave	Positive	Positive	Neutral	Neutral		Competition	Competition
	Tidal	Positive	Positive	Neutral	Neutral		Competition	Competition
Subsea cables and pipelines	Electricity	Positive	Positive	Conflict	Neutral		Competition	Competition
	Oil/Gas Pipelines	Positive	Positive	Neutral	Neutral		Competition	Competition
	Outfalls	Positive	Positive	Neutral	Neutral		Competition	Competition
	Telecomms	Positive	Positive	Conflict	Neutral		Competition	Competition
Inshore fisheries	Scallop Dredge	Neutral	Neutral	Neutral	Neutral		Competition	Competition
	Demersal trawl	Neutral	Neutral	Neutral	Neutral		Competition	Competition
	Pelagic trawl	Neutral	Neutral	Neutral	Neutral		Competition	Competition



Socio-economic review

Dorset Marine Management Area - Index of Multiple Deprivation
National Ranking 2007

Demographics



Economic Impact Assessment

- Conducted as part of a much wider socio-economic report – important to have context
- Used Econ-i software which analyses 'ripple effect' of adding or taking away jobs in the marine sector
- Weighted by distribution of FTEs in sub-sectors (apportioned by relative strength)
- Multiplier is allocated,
- Three iterations take into account;
  - Immediate suppliers
  - Their suppliers
  - effect through household spending of their employees

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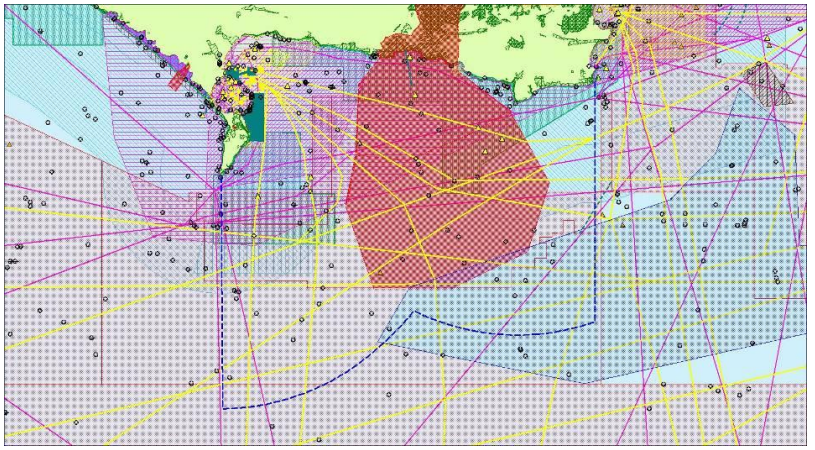
Forecasting Document

Looking at past, current and future trends in marine sectors in Dorset including:

- Oil & Gas
- Offshore renewables & CCS
- Aggregates
- Fisheries & Aquaculture
- Tourism & Leisure
- Ports & Shipping



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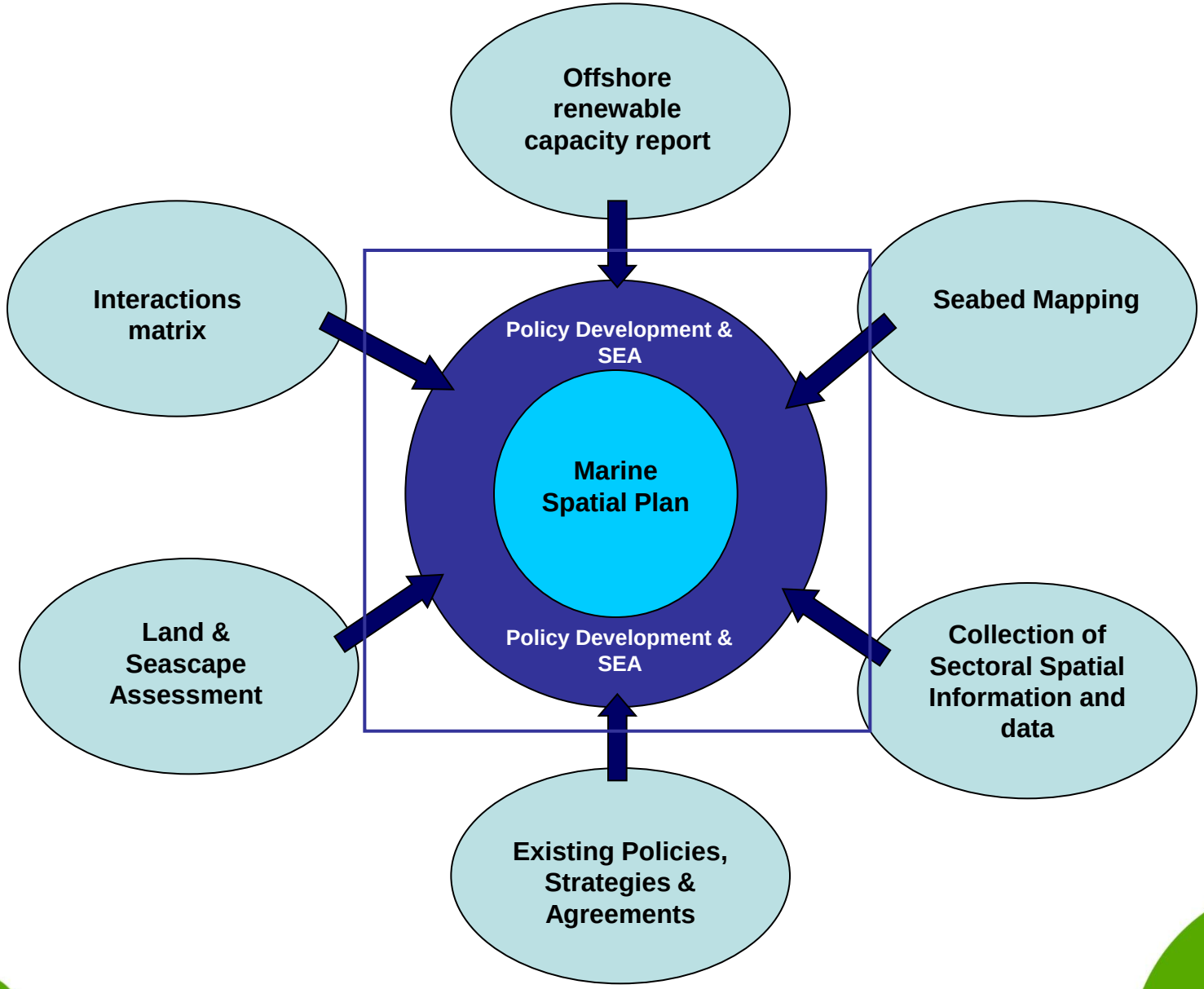

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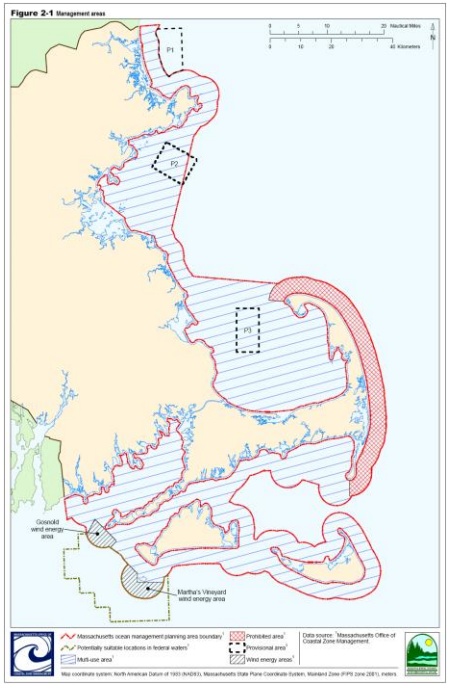
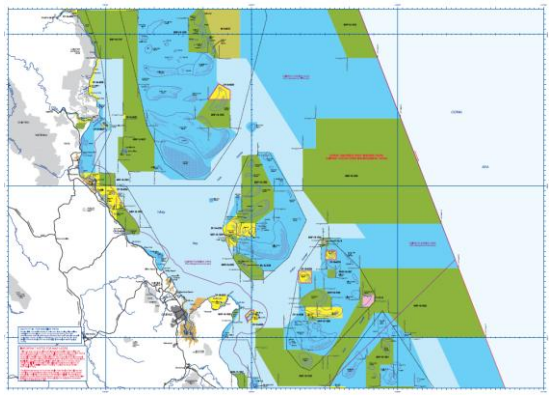
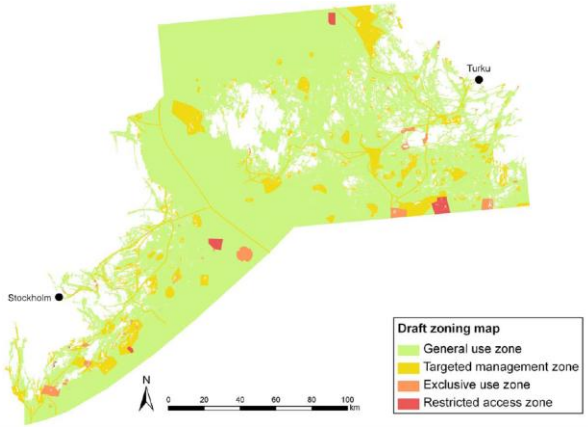
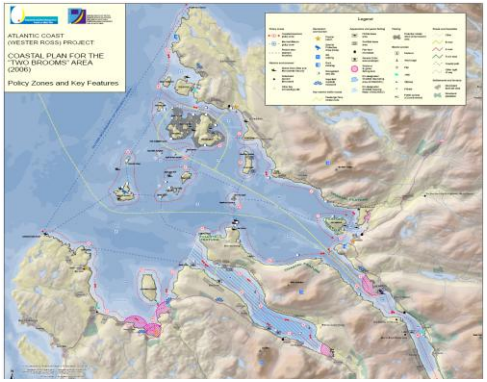
Marine plan development

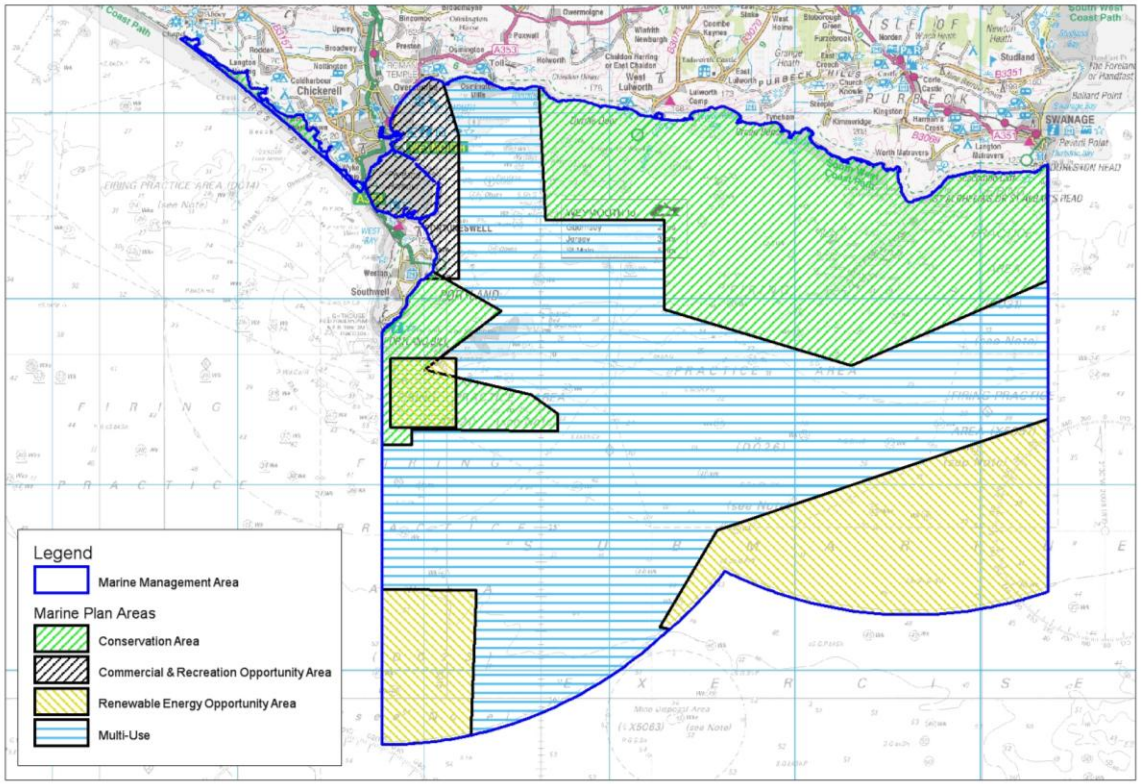
- Eight objectives derived from T&F Group 'wish-list' and Defra's HLMOs
- Have explored various ways of expressing policy spatially
- Should we identify 'zones' (e.g. Baltic Sea, GBRMR) and develop policy for those 'zones'?...
- If so, how do you identify those 'zones'? Marxan? Constraints mapping? Existing uses? Seascape Character?
- … or do we develop a policy framework and express those policies spatially where possible? Opportunity areas?
- Presented various options to the T&F Group



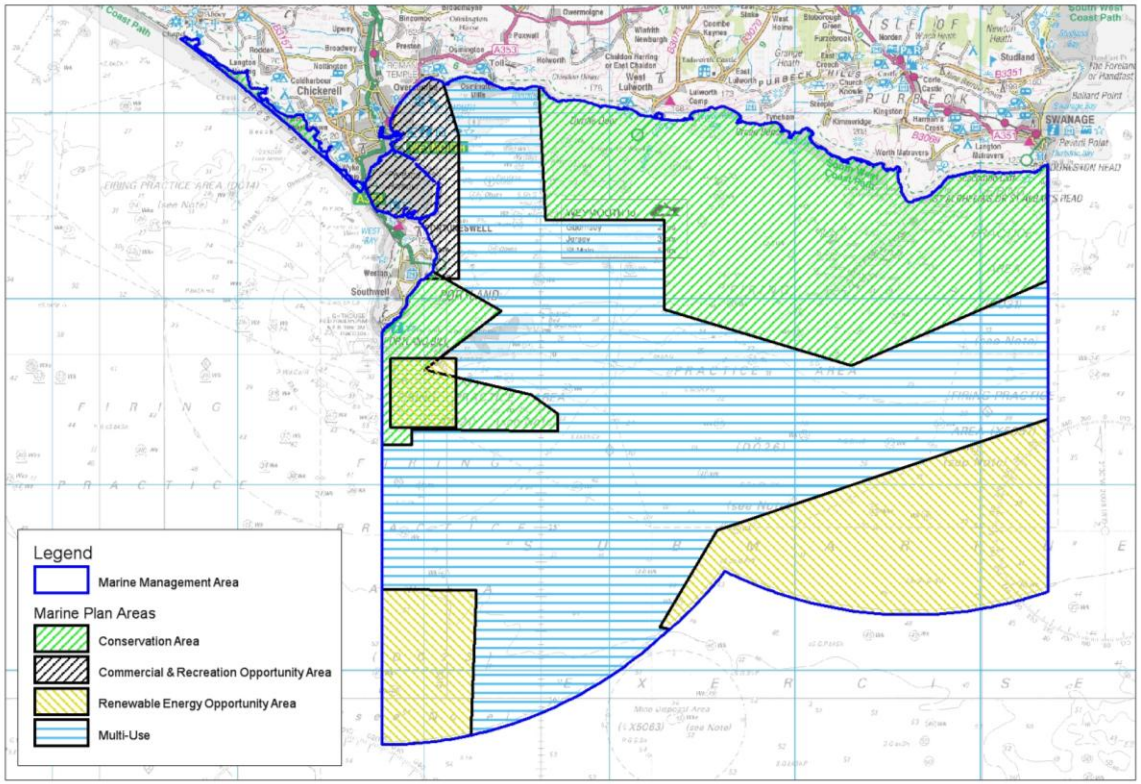








- **Conservation; used existing boundaries for the dSAC; aware this could change, and we will also need to include any MCZs in due course**
- **Renewables; used West of Wight zone, and areas from the Capacity Report. Used an 8nm cut-off point for acceptable development of south-west area.**
- **Commercial & Recreation – used jurisdiction of Weymouth & Portland Harbours.**
- **Multi-use; everywhere else!**



- **No area is 'exclusive', these are merely indicative of opportunities, which could take priority. Any other compatible use should be considered.**
- **Multi-use area would be open to all uses and activities (e.g. aquaculture, cables, extraction) provided they do not impact on listed sensitive areas (environmental, seascape and heritage) and go through due process.**

Marine Plan Development

T&F Group concluded policy should be:

- **Hierarchical where necessary**
- **Expressed spatially where possible (including opportunity areas)**
- **Criteria-based for specific development where appropriate**

- **Now developing that policy**
- **First draft – May**
- **Marine Plan for consultation August**

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Thank you

With special thanks to our funding partners

and all our coastal stakeholders