

The National Coastal and Marine Spatial Biodiversity Plan

Map of Critical Biodiversity Areas and Ecological Support Areas (CBA Map) and Sea-Use Guidelines Version 1 (Beta 1)



Steve Benjamin

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Acknowledgements



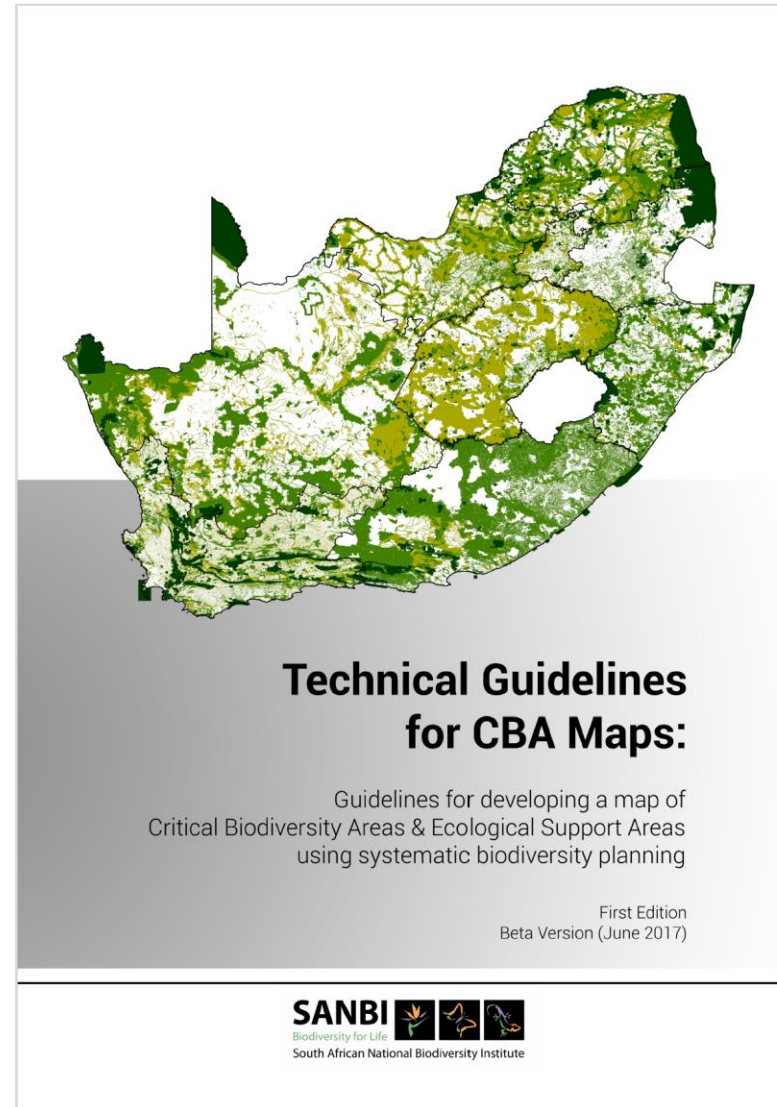
- **Biodiversity planners** of South Africa who have developed a strong community of practice over the last two decades
- **Scientists** who contribute the foundational research to inform spatial assessments and plans
- DEFF's **National Marine Biodiversity Scientific Working Group**
- **National EBSA Working Group**
- **Provincial and Metro Biodiversity Planning Working Group**
- Participants of the **Biodiversity Planning Forum**
- **Estuarine and inland water scientists** for initial discussions around advancing and integrating spatial biodiversity priorities across realms
- **Altogether, representatives from nearly 100 organisations have attended various presentations and discussions relating to this work**
- **International reviewers: Dr Hedley Grantham** (Wildlife Conservation Society) and **Dr Kira Gee** (Helmholtz-Zentrum Geesthacht)

What is a Spatial Biodiversity Plan?

- Spatial plan for the natural environment designed to **inform planning and decision-making** in support of **sustainable development**



What is a Spatial Biodiversity Plan?



Well established on land [Botts et al 2019 Cons. Biol.](#)

What are Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs)?

There are five categories of biodiversity priority areas

Category	Definition	Broad management objective
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CBA 1	Irreplaceable or near-irreplaceable sites where there are no other options to represent the features they contain in the landscape. Ideally these sites are natural or near-natural, but exceptions can be made if the only sites where a feature exists are degraded.	Must be kept in a natural or near-natural state
CBA 2	Sites that are the best option available for representing the features in a spatial prioritisation. Ideally these sites are natural or near-natural, but exceptions can be made if the only sites where a feature exists are degraded.	

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ESA 1	Sites that are not CBAs but are still important for meeting targets for biodiversity and ecological processes. These sites must be in natural, near-natural or moderately modified ecological condition.	Must be kept in at least a functional state (ideally at least in a moderately modified ecological condition)
ESA 2	Sites that are not CBAs but are still important for meeting targets for biodiversity and ecological processes. These sites are generally in severely modified ecological condition .	

Version 1 (Beta 1)

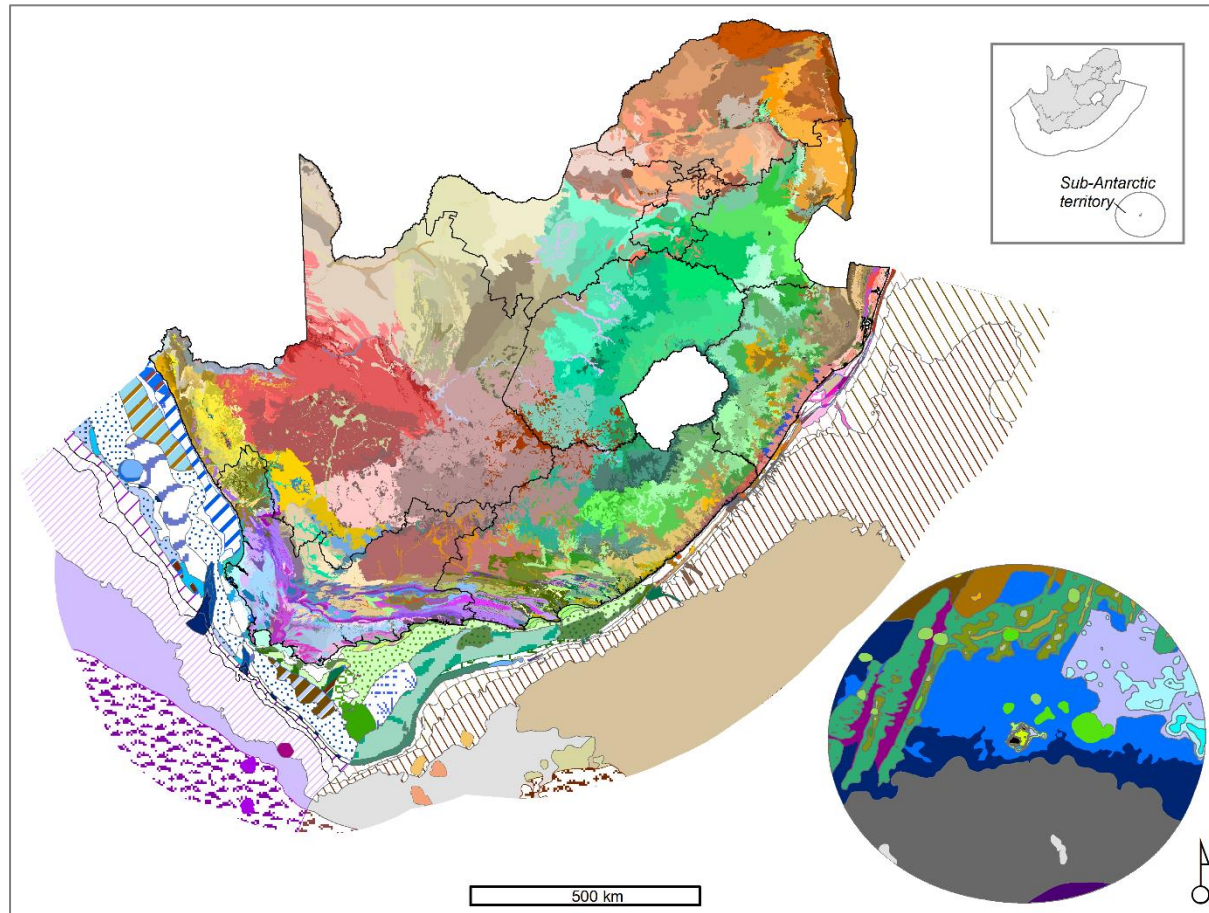
Beta version: a version that is made available for testing, typically by a limited number of users beyond the people developing it, before its general release.

We will have **two beta versions** before releasing Version 1 in Feb/March 2021



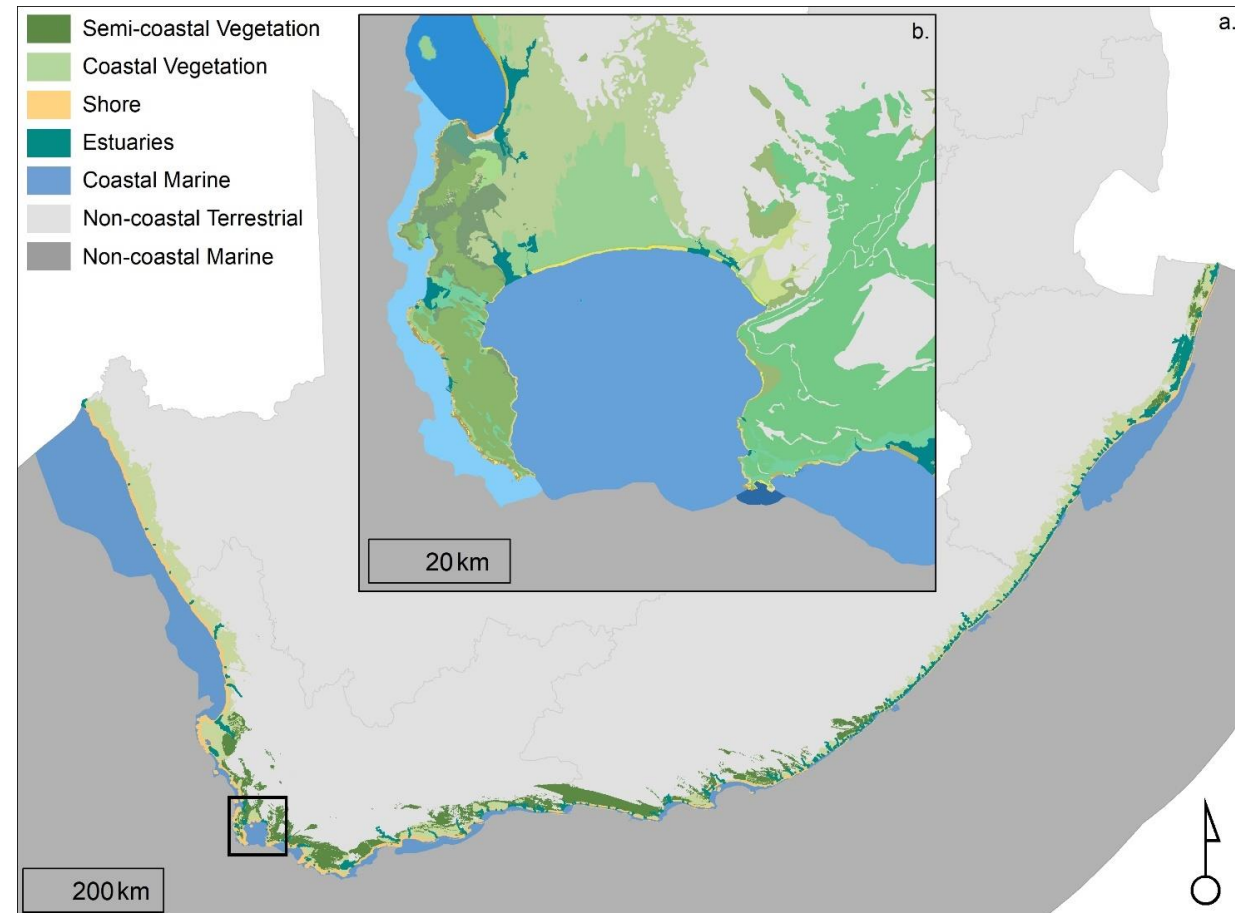
Unprecedented opportunity to do proper planning across the land-sea interface

New integrated map of ecosystem types



Skowno et al. 2019 NBA Synthesis Book

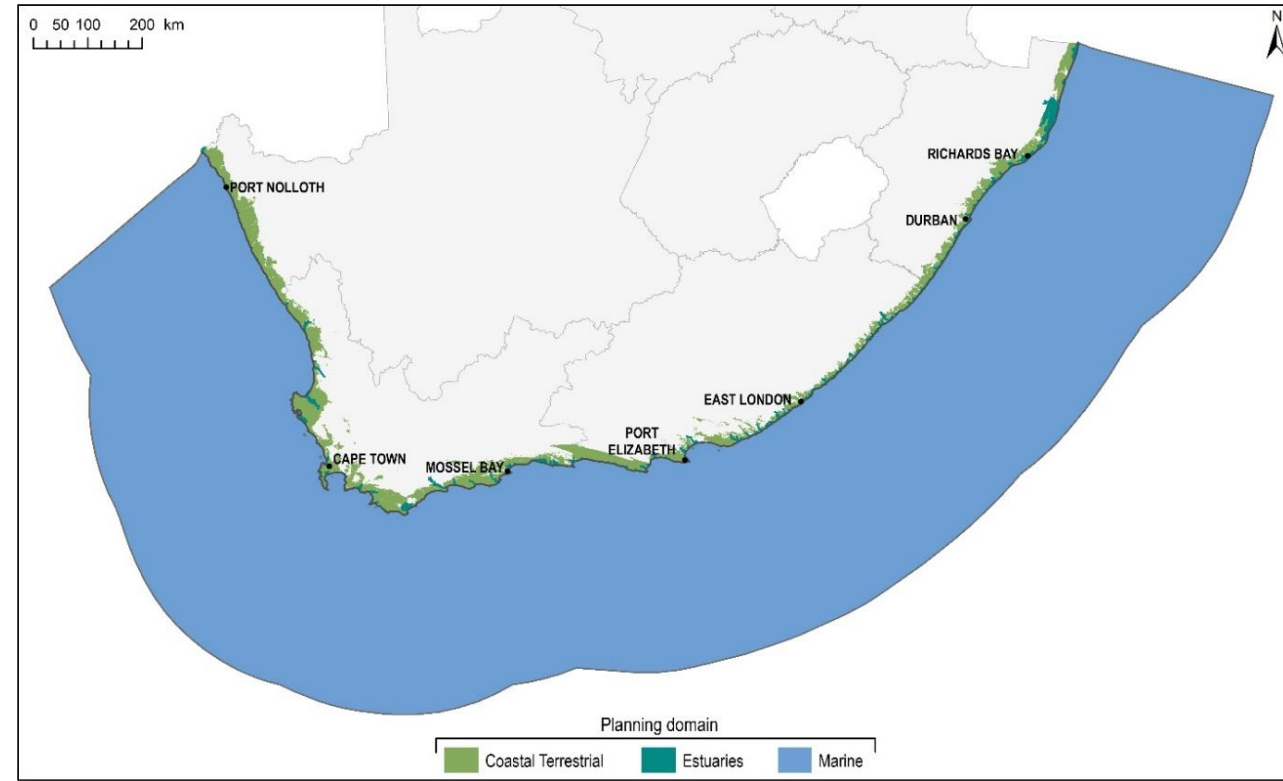
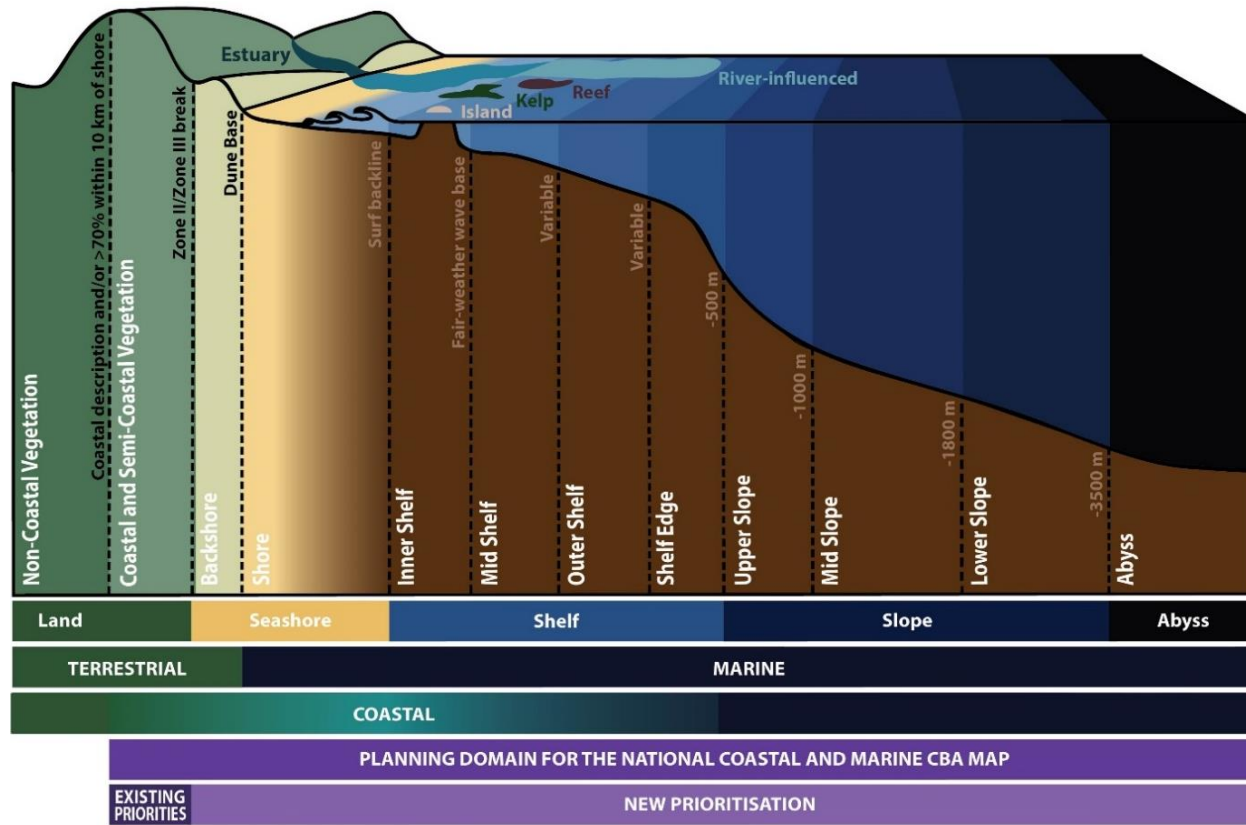
Ecologically determined coastal zone



Harris et al. 2019 Biol. Cons., Harris et al. 2019 NBA Coast

Planning domain

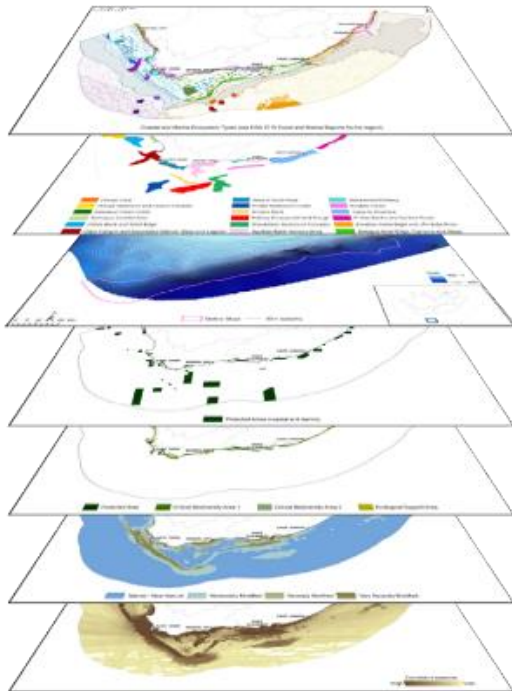
Coastal land: existing priorities included
Ocean: new prioritisation



How to develop a CBA Map

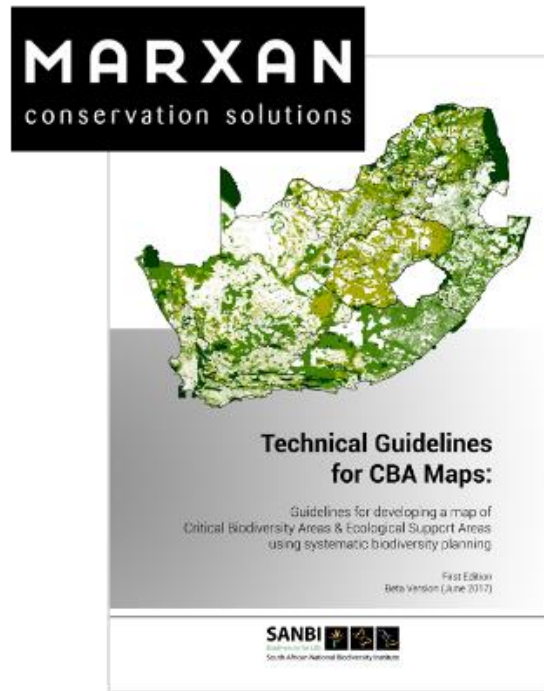
Input layers

Biodiversity features and design elements



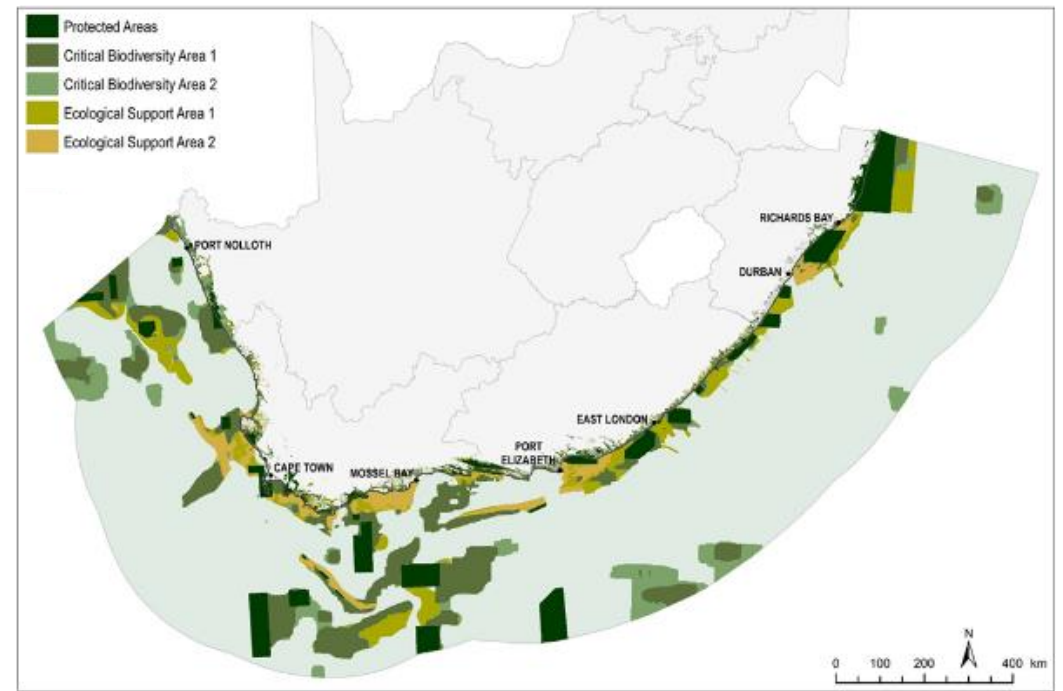
Spatial Prioritisation

Marxan analysis, criteria from the Technical Guidelines



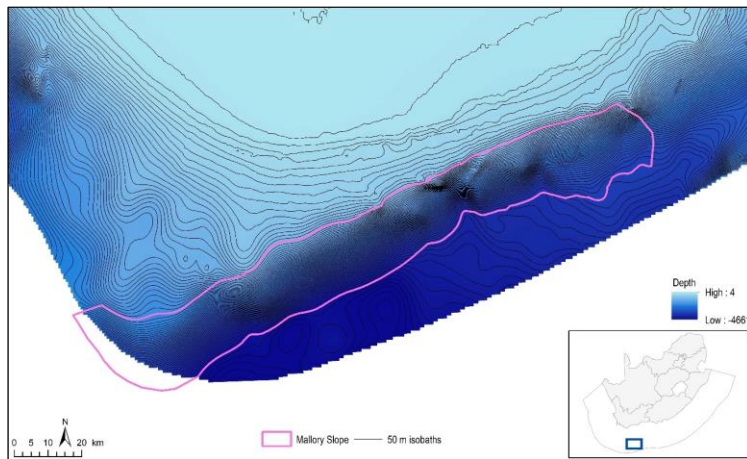
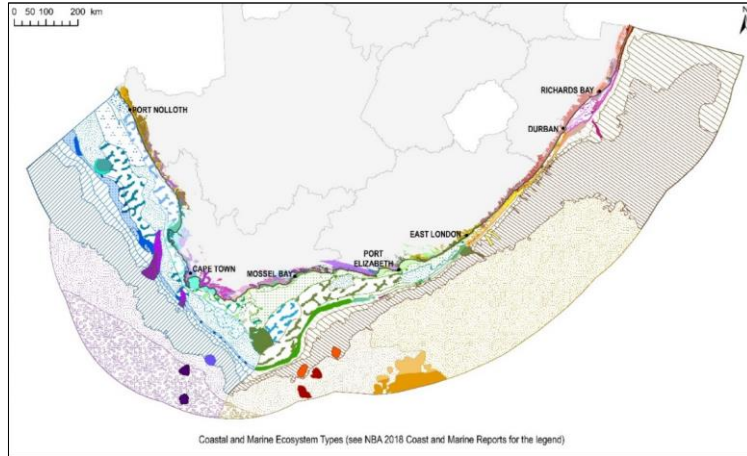
CBA Map

Compiled spatial biodiversity priorities including protected areas, critical biodiversity areas, and ecological support areas



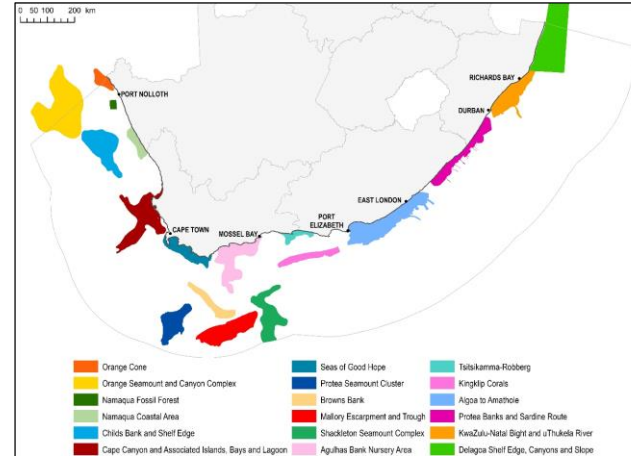
Input layers: biodiversity features and design elements

Ecosystem Types



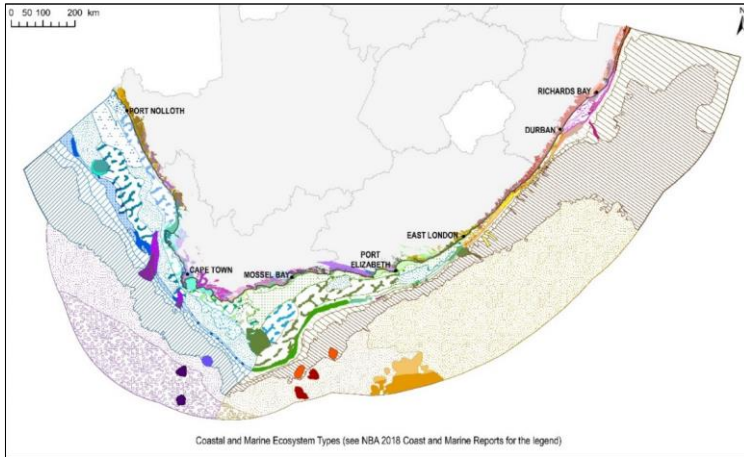
Unique features

EBSAs

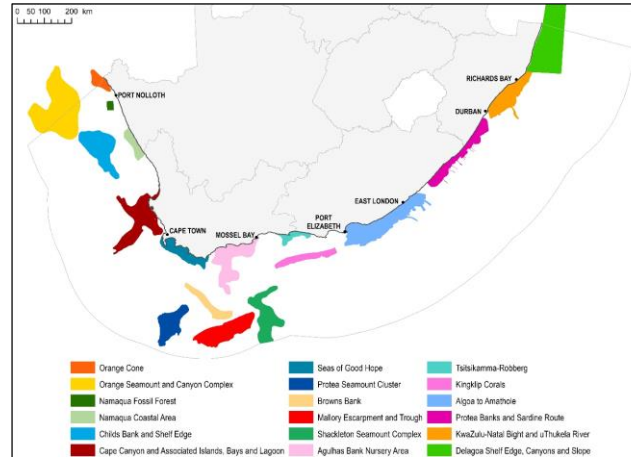


Input layers: biodiversity features and design elements

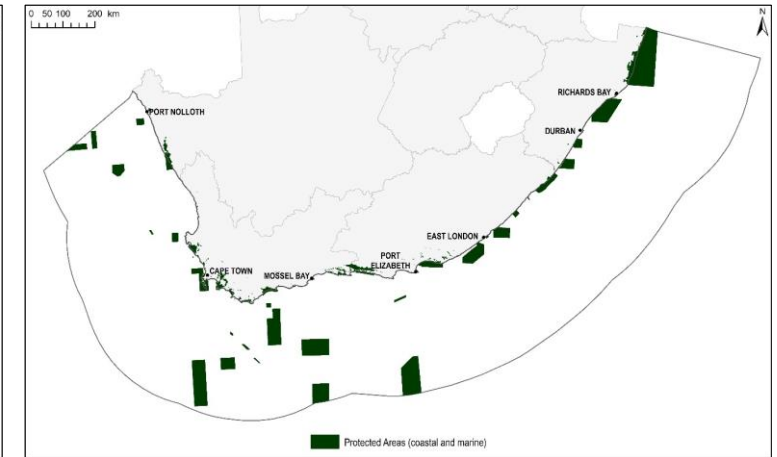
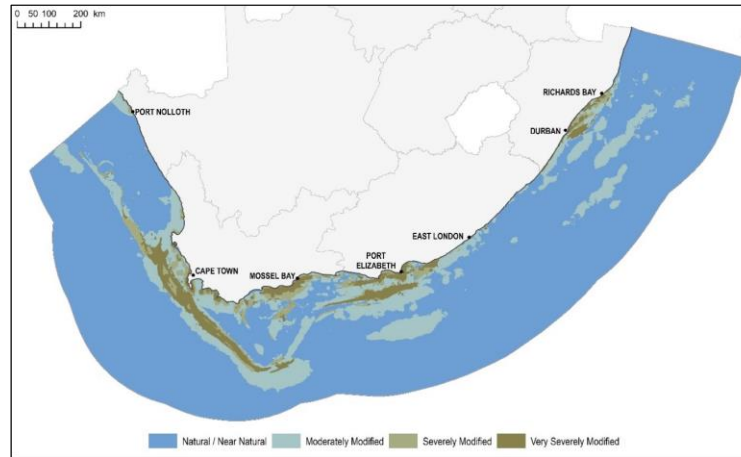
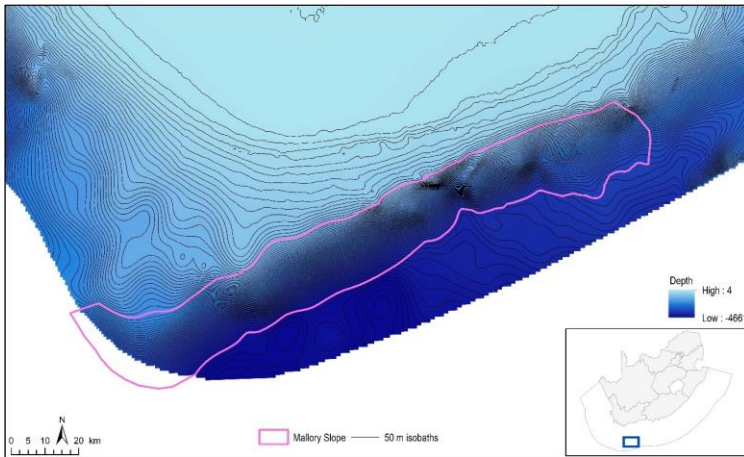
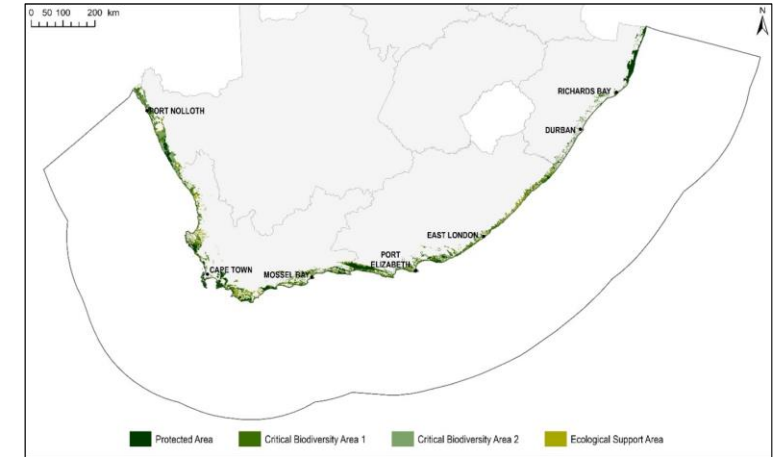
Ecosystem Types



EBSAs



Land-based CBAs and ESAs



Unique features

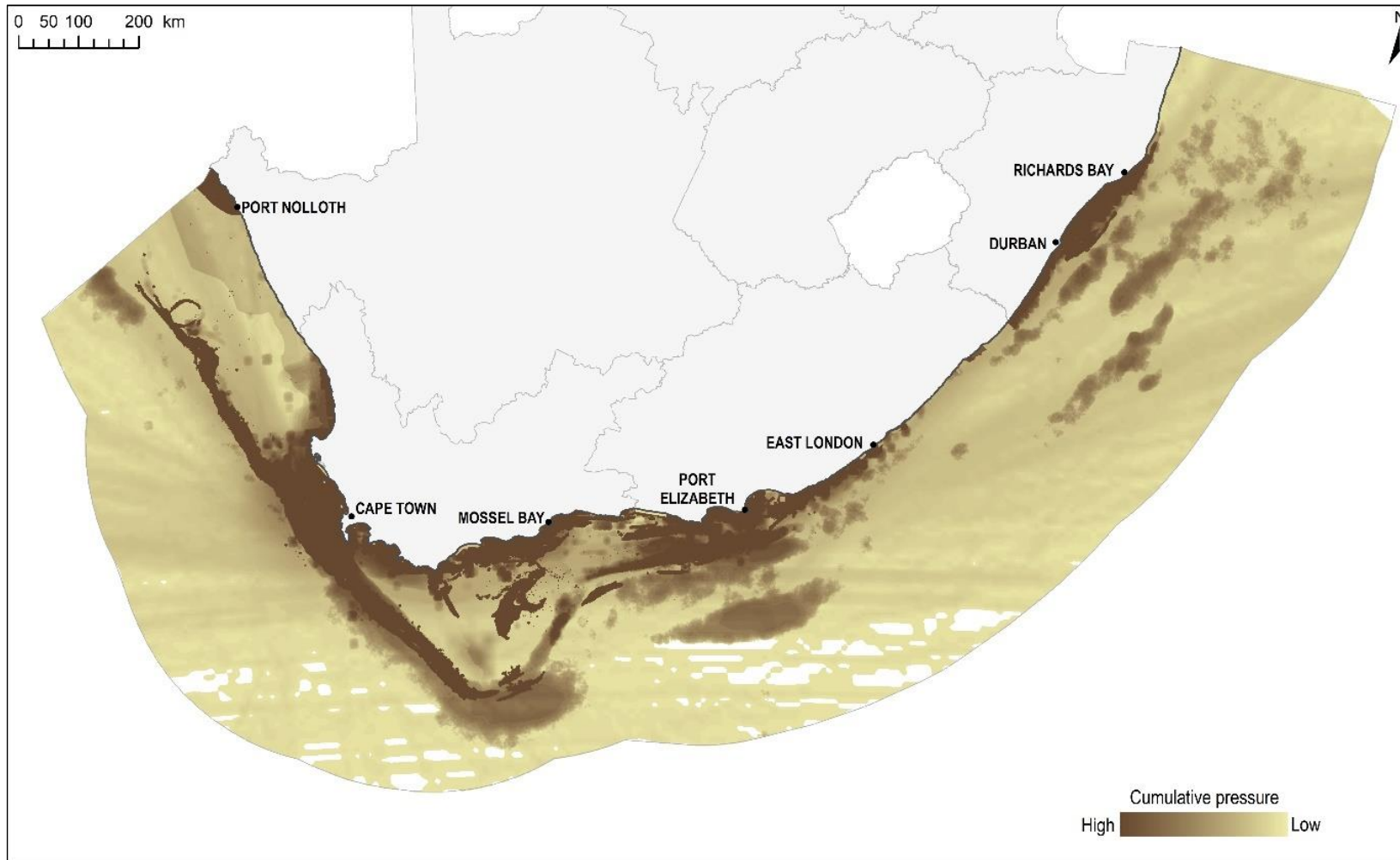
Ecological condition

Protected areas

Biodiversity inputs to be expanded to include more features, species, processes, ecological infrastructure

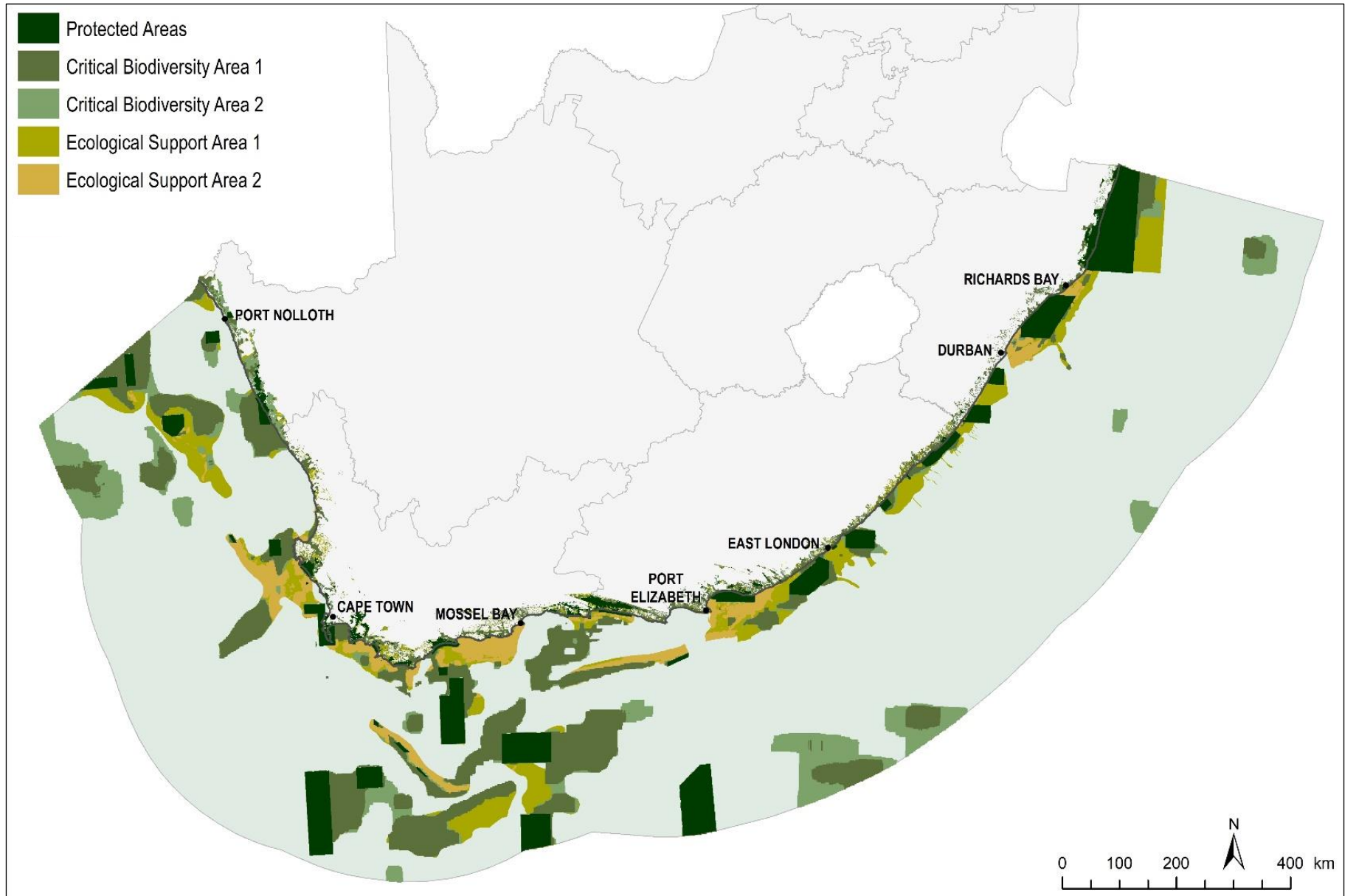
Input layers: cost

NBA 2018 cumulative pressure map: combined (current and historical) intensity of all activities at sea



Design element to be improved to strengthen conflict avoidance

CBA Map Version 1 (Beta 1)



Activity compatibility with the management objective of CBAs and ESAs



Type of activity	Critical Biodiversity Areas <i>Compatibility with the management objective to: keep the site in a natural / near-natural state</i>	Ecological Support Areas <i>Compatibility with the management objective to: keep the site in at least a functional state</i>
Activities that would (or could) result in Severe or Very Severe degradation over broad areas	<p style="text-align: center;">Not compatible</p> <p><u>Management recommendations:</u> The activity should not be permitted to occur in this area because it is not compatible with the management objective. If it is considered to be permitted as part of compromises in MSP negotiations, it would require alternative CBAs and/or offsets to be identified. However, if this is not possible, it is recommended that the activity remains prohibited within the CBA.</p>	<p style="text-align: center;">Conditionally compatible</p> <p><u>Management recommendations:</u> Careful regulations and controls over and above the current general rules and legislation would be required to be put in place to avoid unacceptable impacts on biodiversity features. Examples of such regulations and controls include: avoiding intensification or expansion of current impact footprints; exclusions of activities in portions of the zone; additional gear restrictions; temporal closures of activities during sensitive periods for biodiversity features; etc.</p>
Activities that would (or could) result in Severe or Very Severe degradation of localised sites	<p style="text-align: center;">Conditionally compatible</p> <p><u>Management recommendations:</u> Careful regulations and controls over and above the current general rules and legislation would be required to be put in place to avoid unacceptable impacts on biodiversity features. Examples of such regulations and controls include: avoiding intensification or expansion of current impact footprints; exclusions of activities in portions of the zone; additional gear restrictions; temporal closures of activities during sensitive periods for biodiversity features; etc.</p>	<p style="text-align: center;">Conditionally compatible</p> <p><u>Management recommendations:</u> Careful regulations and controls over and above the current general rules and legislation would be required to be put in place to avoid unacceptable impacts on biodiversity features. Examples of such regulations and controls include: avoiding intensification or expansion of current impact footprints; exclusions of activities in portions of the zone; additional gear restrictions; temporal closures of activities during sensitive periods for biodiversity features; etc.</p>
Activities that would (or could) result in or contribute to Moderate degradation	<p style="text-align: center;">Conditionally compatible</p> <p><u>Management recommendations:</u> Careful regulations and controls over and above the current general rules and legislation would be required to be put in place to avoid unacceptable impacts on biodiversity features. Examples of such regulations and controls include: avoiding intensification or expansion of current impact footprints; exclusions of activities in portions of the zone; additional gear restrictions; temporal closures of activities during sensitive periods for biodiversity features; etc.</p>	<p style="text-align: center;">Compatible</p> <p><u>Management recommendations:</u> Activities should be allowed and regulated by current general rules. Notwithstanding, there should still be duty of care, possibly requiring monitoring and evaluation programmes, to avoid unintended cumulative impacts to the biodiversity features for which this area is recognised.</p>
Activities that would (or could) result in low to very low degradation and/or are not managed by biodiversity zones	<p style="text-align: center;">Compatible</p> <p><u>Management recommendations:</u> Activities should be allowed and regulated by current general rules. Notwithstanding, there should still be duty of care, possibly requiring monitoring and evaluation programmes, to avoid unintended cumulative impacts to the biodiversity features for which this area is recognised.</p>	<p style="text-align: center;">Compatible</p> <p><u>Management recommendations:</u> Activities should be allowed and regulated by current general rules. Notwithstanding, there should still be duty of care, possibly requiring monitoring and evaluation programmes, to avoid unintended cumulative impacts to the biodiversity features for which this area is recognised.</p>

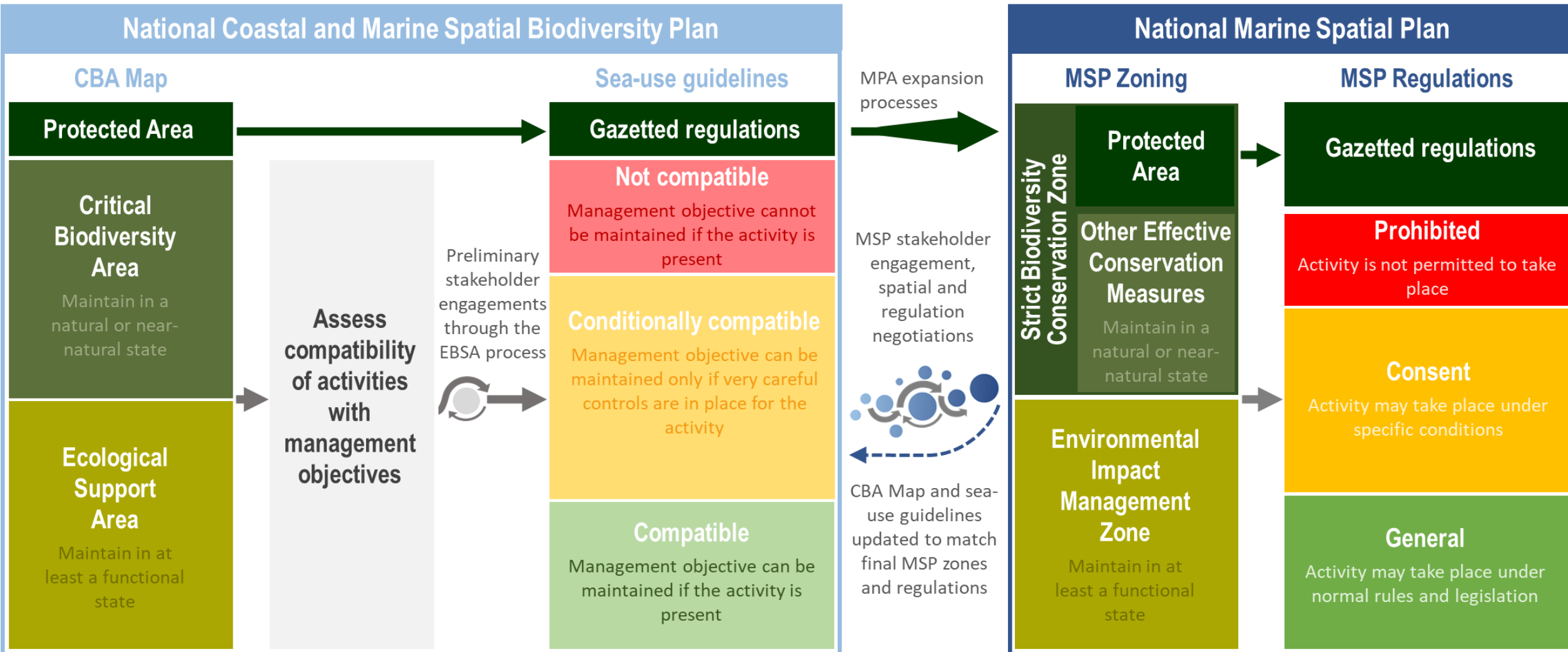
Sea-use guidelines: compatibility with the CBA or ESA management objective

Broad sea use	Associated MSP Zones	Associated sea-use activities	CBA	ESA	
Conservation	Strict Biodiversity Conservation Zone I: Marine Protected Area	Sea-use activities as per gazetted MPA regulations	N/A	N/A	
	Strict Biodiversity Conservation Zone II: Other Effective Conservation Measures	Critical Biodiversity Area (CBA)	Y	N/A	
	Environmental Impact Management Zone	Ecological Support Area (ESA)	N/A	Y	
Recreation and tourism	Marine Tourism Zone	Beach visiting, recreation, non-motorised water sports	Y	Y	
		SCUBA diving	Y	Y	
		Shark cage diving	Y	Y	
		Whale watching	Y	Y	
		Motorised water sports (e.g., jet skis)	C	Y	
		Recreational boat-based linefishing	C	Y	
		Recreational shore-based linefishing	C	Y	
		Spearfishing	C	Y	
		Shark control	C	Y	
Heritage	Heritage Conservation Zone	Shipwrecks	Y	Y	
		Sites of historic importance	Y	Y	
		Sites of land- or seascape value	Y	Y	
Fisheries	Priority Fishing Zone	Crustacean trawling	N	C	
		Demersal inshore trawling	N	C	
		Demersal offshore trawling	N	C	
		Abalone harvesting	C	Y	
		Commercial linefishing	C	Y	
		Demersal hake longlining	C	Y	
		Kelp harvesting	C	Y	
		Midwater trawling	C	Y	
		Beach seining	C	Y	
		Gillnetting	C	Y	
		Oyster harvesting	C	Y	
		Pelagic longlining	C	Y	
		Small pelagics fishing	C	Y	
		South coast rock lobster harvesting	C	Y	
		Squid fishing	C	Y	
		Tuna pole fishing	C	Y	
	West coast rock lobster harvesting	C	Y		
	Small Scale/Subsistence Fishing Zone	Subsistence fishing	C	Y	
	Fisheries Resource Protection Zone	Resource protection	Y	Y	
Aquaculture	Priority Mariculture Zone	Sea-based aquaculture	C	Y	
Mining	Mining Zone	Mining: prospecting (non-destructive)	C	Y	
		Mining: prospecting (destructive, localised impact, e.g., bulk sampling)	C	C	
		Mining: mining construction and operations	N	C	
Petroleum	Petroleum Zone	Petroleum: exploration (non-destructive)	C	Y	
		Petroleum: exploration (destructive, localised impact, e.g., exploration wells)	C	C	
		Petroleum: production	N	C	
Renewable Energy	Renewable Energy Zone	Renewable energy installations	C	Y	
Defence	Military Practice Zone	Missile testing grounds	C	Y	
	Training and practice areas	Training and practice areas	Y	Y	
Transport	Maritime Transport Zone	Disused Ammunition Dumping Areas	Ammunition dumping site (*disused)	N*	N*
		Shipping lanes (including port approach zones)	Shipping lanes (including port approach zones)	Y	Y
		Ports and harbours	Ports and harbours	N	C
		Anchorage areas	Anchorage areas	C	Y
		Bunkering	Bunkering	C	Y
Infrastructure	Underwater Infrastructure Zone	Undersea cables	C	Y	
		Seawater inlets	C	Y	
		Pipelines	C	Y	
	Land-based Infrastructure Zone	Coastal development (including piers, breakwaters and seawalls)	N	C	
Disposal	Disposal Zone	Waste-water	C	Y	
		Dumping of dredged material	N	C	



The process towards MSP

The envisaged process



Next steps for the CBA Map and sea-use guidelines

Unmapped areas of high conflict



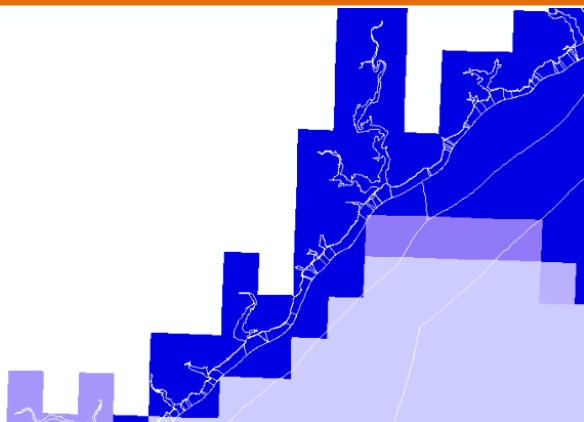
Species data



Ecological corridors



Ecological infrastructure



Planning-unit size and coastal integration



Estuary priorities

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Sea-use guidelines

Technical Guidelines for CBA Maps:

Guidelines for developing a map of Critical Biodiversity Areas & Ecological Support Areas using systematic biodiversity planning

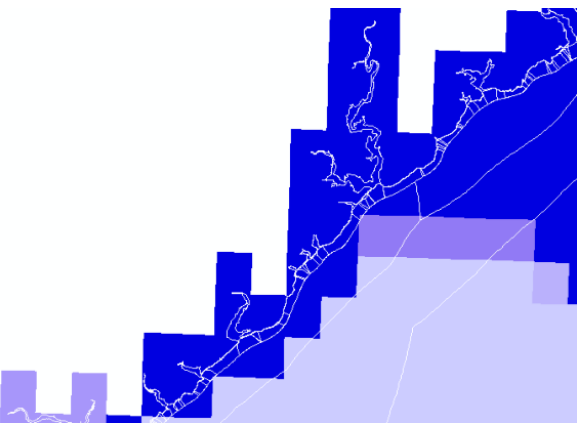
Beta Version (June 2017) First Edition (June 2017)

Second Edition

Revisions to the Technical Guidelines

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Beta Version (First Edition June 2017)

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Timelines and opportunities to contribute

22 October 2020	National Coastal and Marine Spatial Biodiversity Plan Version 1 (Beta 1) released
15 November 2020	Deadline for data
early December 2020	National Coastal and Marine Spatial Biodiversity Plan Version 1 (Beta 2) released
31 January 2021	Deadline for data
End February/early March 2021	National Coastal and Marine Spatial Biodiversity Plan Version 1 released
March 2021	Initial input from the biodiversity sector into MSP
During MSP process	Iterative updates and revisions: CBA Map and MSP processes
December 2022	National Coastal and Marine Spatial Biodiversity Plan Version 2

<https://cmr.mandela.ac.za/EBSA-Portal/South-Africa>

Marine Spatial Biodiversity Priorities: Feedback forms

1. Comments and questions
2. Data submission
3. EBSA zoning and management (sea-use guidelines)



Content on the EBSA Portal (including this meeting's page) is being updated: 22 October – 2 November 2020



Thank you

Steve Benjamin

<https://cmr.mandela.ac.za/EBSA-Portal/South-Africa>