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OVERVIEW

Ocean Accounts Framework applicability in Algoa Bay.

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Community of Practice: Western Indian Ocean, Ocean Accounts Work Programme 2 Stakeholder Engagement Report (No.4): April 2022

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Team:

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1. Stakeholder Engagement Summary

The Algoa Bay Marine Spatial Planning Community of Practice held a stakeholder meeting on 2 March 2022 and as suggested, included the WP2 team to present and participate in this engagement in order to enhance alignment between the MSP CoP and the Ocean Accounts CoP as well as to reduce redundancy in stakeholder engagement processes within the Algoa Bay area.

Table 1. MSP Stakeholder Meeting Agenda.

Time Available:	Agenda Items:
10:00 – 10:15 am	Opening & Introductions Mandy Lombard and Bernadette Snow
10:15 – 10:25am	The Cultural Seascape of Algoa Bay Mia Strand & Nina Rivers
10:25 - 10:40 am	Applying a systems analysis approach to support MSP in Algoa Bay Estee Vermullen
10:40 – 10:50 am	An estimate of the economic value of the ecosystem services of Algoa Bay Matt Bentley
10:50 – 11:10 am	Questions/Feedback Mia Strand & Anne Lemahieu
11:10 – 11:30am	Algoa Bay's compatibility matrix: Stakeholders to contribute Anne Lemahieu
11:30 – 11:40 am	Sharing data, sharing the Bay Hannah Truter & Victoria Goodall
11:40 - 11:50 am	Ocean Accounts Framework progress and how it can support MSP Erika Brown
11:50 -12:20 pm	Questions/Reflections Mandy Lombard
12:20 – 12:30 pm	Close Hannah Truter

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The primary focus of the meeting was to bring the participants up to date on the current work and research in marine spatial planning taking place within the Bay area. Six presentations were given in addition to a participatory user conflict matrix and associated survey and two question and feedback sessions provided by the facilitators (Table 1.). There were 56 attendees in total and in general the engagement was a great success.

Presentation topics included six broad themes. The first was the cultural seascape in Algoa Bay, a project where discovery of the variety of ocean based cultures are being explored, documented and ideally mapped, culminating in a cultural layer, where the inclusion of recreational, spiritual, historical and educational aspects of culture will be considered in addition to traditional notions of heritage such as shipwrecks. Some challenges to this work include exclusion and lack of access to beaches and fishing areas, narrow definitions of what cultural heritage is, mapping abstract ideas (e.g. importance of a clean ocean), and the realm of ancestors is not necessarily a tangible place-based setting.

Next, a systems analysis approach to support Marine Spatial Planning where Systems Dynamic Modeling (SDMs) are being used to evaluate changing trends of human activities in the multitude of interconnections between humans and the marine environment in Algoa Bay. Additionally, cause and effect relationships among components in complex socio-ecological marine systems is being explored. Model formulation and verification was conducted via stakeholder engagement through the Algoa Bay Collaborative Dynamic Modelling pilot process. Twenty-six different organisations in the Bay area took part in this process representing six different sectors including, shipping, fishing, conservation, municipal infrastructure, mariculture and recreation and tourism. Ideally, this process and subsequent tool will provide a decision support framework to inform MSP in South Africa.

Following on, an estimate of the economic value of the ecosystem services of Algoa Bay for 2019-2020 was presented. The valuation methods, beneficiaries, and associated ecosystem services were explained and preliminary results provided. The key takeaways were that Algoa Bay ecosystem services are of local, national and global importance, benefits are derived across all ecosystem types and services, and the estimated value of the ecosystem services are 30-40% of local GDP. The drivers of these values according to

this study are broken down by ecosystem type (Table 2): Onshore- right of access, Coastal – recreation and tourism, Offshore - recreation and tourism, Coral Reefs - recreation and tourism, and Estuaries – recreation and tourism.

Table 2. Area extent (ha) of ecosystem categories determined by Algoa Bay MSP and Asset Research working group.

Ecosystems					
	On-shore	Coastal system (<60m)	Offshore (deep sea/open ocean: >60m)	Coral reefs	Estuaries
	On-land area bordering the coastal system, e.g. beaches & dunes (sandy shores), rocky & mixed shore	Shallow water (<60m) Shallow soft shelf & shallow rocky shelf	Deep water area (>60m) Deep soft shelf & deep rocky shelf	Underwater reefs, kelp forest & shallow reef	On-shore section of the estuaries
Island Proximity	-	-	-	-	-
Reefs				49 033	
Agulhas Bays East		101 001			
Agulhas Dissipative Intermediate Sandy Shore	3 287				
Agulhas Exposed-Stromatolite Rocky Shore	344				
Agulhas Exposed Rocky Shore	57				
Agulhas Inner Shelf Reef Sand Mosaic		9 190			
Agulhas Intermediate Sandy Shore	3				
Agulhas Island Shore		303			
Agulhas Mid Shelf Reef Complex			3 509		
Agulhas Mixed Shore	1 381				
Agulhas Outer Shelf Reef Coarse Sediment Mosaic			33 179		
Agulhas Sandy Inner Shelf		14 435			
Agulhas Sandy Mid Shelf			136 209		
Agulhas Sandy Outer Shelf			91 947		
Agulhas Sheltered Rocky Shore	2				
Agulhas Stromatolite Mixed Shore	390				
Warm temperate Algoa Estuaries					4246
Total (ha)	5 464	124 929	264 844	49 033	4246

The last two presentations centered on data acquisition, sharing, use and reuse. The Algoa Bay Project website is home to an opensource platform hosted by GeoNode that

makes available geospatial data and maps and resultant metadata, as well as associated and relevant policy documents and a reference literature database. Some of the key advantages besides providing this easily accessible service are to encourage stakeholder engagement, provide data input to the marine spatial planning process, as well as provide access to the Algoa Bay Project through various communication platforms.

And finally, a brief overview of Ocean Accounts was provided, an update on Work Programme 2s project progress and how Ocean Accounts can support MSP.

At the end of last year a paper was published emphasizing the potential for synergy between marine spatial planning and the ocean accounts framework. Gacutan et al. 2021, articulate how this could work in an ideal setting. From local to international scales, decision-makers are increasingly required to deliver on a wide range of social, economic, and environmental objectives with respect to the marine and coastal space. Domestic ocean policy, informed by international commitments including UN conventions and Sustainable Development Goals, shapes a nation's strategic vision of the ocean. Achievement of this vision, however, relies on the ability to inform and implement management action and evaluate its effectiveness in progress towards objectives. Thus, there is a need to support the integration of data from a range of knowledge domains, towards a structured and standardised 'data foundation'. The two ocean governance frameworks, Ocean Accounts and Marine Spatial Planning, can complement each other as a 'data foundation' and 'implementation mechanism' in achieving policy goals, that can be reviewed and adapted at regular intervals.

Ocean Accounts as a part of the System of National Accounts and the System of Economic and Environmental Accounting can underpin and help support MSP as an evidence based foundation for information that informs stakeholders, sectors and policies about changes in the ocean environment over time.

Some specific challenges to expanding the reach of Ocean Accounts were highlighted as follows:

1. Implementation of OA – Is there National level interest? Do we have an ideal setting?
2. What would it take to shift thinking and approach to planning and policy frameworks based on an OAF model?
3. More cross disciplinary collaboration required – marine scientist, social scientists, statistician's, data scientists, etc. working together.
4. Need for a multidisciplinary, multiorganisation data standardization committee/working group?
5. Streamlining end product platforms across organisations
6. Developing a national level agreed upon ecosystem assessment of condition and agreed upon indicators
7. Further identification of data deficiencies and needs for the data development approaches required for spatially based Oceans Accounting.
8. AND how much information is too much? Or not relevant?

In closing, in response to points 4 and 5 above, a data discussion group meeting was initiated and scheduled where representatives from NMU, SAEON and DFFE attended to discuss streamlining data harvesting, curation, use and reuse as well as preliminary discussions concerning host platforms for MSP going forward.

CoP Stakeholder meeting participants

Hannah Truter	Malcom Kinghorn
Tara Bonesse	Maria Manes
Mandy Lombard	Matt Bentley
Anne Lemmehieu	Mia Strand
Paul Twekye	Nicole du Plessis
Estee Miltz	Nina River
Victoria Goodall	Nomtha Hadi
Erika Brown	Potlako Khati
Bernadette Snow	Rosa Blaauw
Cloverly Lawrence	Ronelle Friend
Jacques Malher-Coetzee	Research NMBBC
Andy (Radford?)	Rose Boswell
Belinda Clark	Ruan Brand
Denning Metuge	Shaun Deysel
Dylan Bailey	Tim Parker-Nance
Dylan McGarry	Sfestile
Gary Koekemoer	Bulewa Zikizela
Gilbert Siko	Andrea von Holdt
James Blignaut	Johan vd Westhuizen
Janet Cherry	Inondaka
Johan Du Plessis	Moses Ramkulukusha
Katta (SANCCOB)	Tommy Bornman
Ken Findlay	Johan Spamer
Lesa Le Grange	Malwande Nkalitshana
Louis Cilliers	Meredith Fernandes
Jessica du Toit	Juliet Hermes
Lauren Williams	Franco (NMBM)
Luciene Human	

List of Acronyms

CoP	Community of Practice
CPUT	Cape Peninsula University Technicon
EA	Ecosystem Accounting
GDP	Gross Domestic Product
GIS	Geographic Information System
GOAP	Global Oceans Accounts Partnership
IORA	Indian Ocean Rim Association
MSP	Marine Spatial Planning
MMU	Nelson Mandela Metropolitan University
NBA	National Biodiversity Assessment
NCA	Natural Capital Accounting
NRF	National Research Foundation
OAF	Ocean Accounts Framework
OCIMS	National Oceans and Coastal Information Management System
SEEA	System of Environmental Economic Accounting
SAEON	South African Environmental Observation Network
SAIAB	South African Institute for Aquatic Biodiversity
SAMREF	South African Marine Research and Exploration Forum
SANBI	South African National Biodiversity Institute
UN	United Nations
WIO	Western Indian Ocean
WP	Work Programme

References

Gacutan J, Glaparsoro I, Pinarbasi K, Murillas A, Adewumi I J, Praphotjanaporn T, Johnston E L, Findlay K P, Milligan B M. 2022 Marine Spatial planning and ocean accounting: Synergistic tolls enhancing integration in ocean governance. *Marine Policy* 136, 104936 p 1 – 12, <https://doi.org/10.1016/j.marpol.2021.104936>

