

# ZONING THE OCEAN: A COMPLICATED TASK

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The ocean is a busy place. Apart from the sea life inhabiting its countless ecosystems, it plays host to commercial fisheries, ship traffic, gas exploration and seabed-mining companies, fish farms, marine tourism, marine protected areas and much more.

Dividing the ocean into “zones” for its various uses – which are likely to increase with the government’s push to develop the country’s blue economy through Operation Phakisa – is the work of marine spatial planners. They are essentially the town planners of the sea.

“Trying to zone any human activity in the sea is very complicated,” said Prof Mandy Lombard, 54, who holds a Research Chair in Marine Spatial Planning at Nelson Mandela Metropolitan University.

Marine spatial planning is a highly specialised field, because it has to take into account all the ecosystem activities that take place in three-dimensional ocean space, from the bottom of the ocean through the water column to the surface.

In addition, different areas of the sea – from the high water mark on the shore to the deep blue yonder – fall under the jurisdiction of different legislation, national closer to the shore and international, the further out one goes – adding complicated legalities to the zoning process.

For this, Lombard, who has a C1 research rating through the National Research Foundation, and a long background in marine conservation planning, works closely with Prof Patrick Vrancken, NMMU’s Chair in the Law of the Sea.

For Lombard and her team of nine postgraduate students, healthy ecosystems are a key priority – and underpin their research, which is used to inform policy makers and management, particularly with regard to marine conservation strategies and adaptive management approaches, for the proposed Marine Spatial Planning Bill.

Lombard said marine spatial planning had two essential flavours: one was economy-driven, and the other was ecosystem-driven.

“The latter is the view I take, and that most scientists take. One of my principle roles in this Chair is to demonstrate that ecosystem security underpins everything we get from the ocean. All our research is based on healthy functioning ecosystems ... Let’s take care of ecosystems first, and then see if we can do all the other things.”

Lombard said the management of South Africa’s coastline was currently a divided field, with different specialists and stakeholders concentrating on their own respective areas of interest, rather than how they fit into the bigger picture.

“There is lots of disconnect. What we are pushing for is integrated ocean management, where all the different stakeholders – from those involved in marine spatial planning to fisheries management to policy makers – can sit around the same table and talk about their different interests, to make the best decisions about managing South Africa’s ocean space.”

She said the different research and legislation could then feed into an Integrated Oceans Act, similar in purpose to the existing Integrated Coastal Management Act. For many years, Lombard and other researchers have been working hard to design strategically-placed marine protected areas for South Africa. With the arrival of Operation Phakisa, many of these protected areas have been gazetted for comment.

“The good thing is that Phakisa has allowed us to take a lot of steps forward. However, at the same time, government is pushing to unlock the ocean’s economy – the ‘blue’ economy – and we need proper legal instruments in place to guide this process, and help us understand the trade-offs involved in allocating ocean space to one activity versus another.”

Lombard, who has a PhD in animal physiology (specialising in sea birds) from the University of Cape Town, has been working on systematic conservation planning since 1991, initially focusing on land and shifting to marine in 2004. She completed post-doctoral work in the United States and Australia, and also worked for UCT’s Fitzpatrick Institute of African Ornithology.

She has been an independent research consultant in conservation planning since moving from Cape Town to Sedgelyield in 1998, and has published papers through NMMU. She took up the Chair this year. What drives her research is “a longstanding and deep love for the ocean”.

Lombard has published 50 peer-reviewed articles in high impact journals, two book chapters and countless consultancy reports. In 2013, the Thompson ratings rated her as one of the six most cited ecologists in Africa.