

MPAs - do we need them?





**We all want healthy
oceans**



We all want healthy oceans

- Our Natural Heritage conserved for future generations





We all want healthy oceans



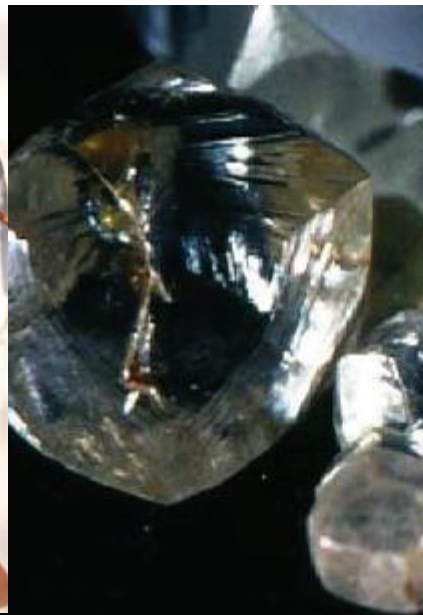
- To enjoy our sea and the economic benefits it provides





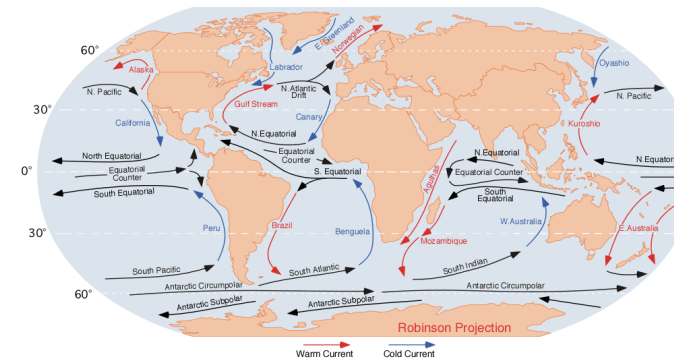
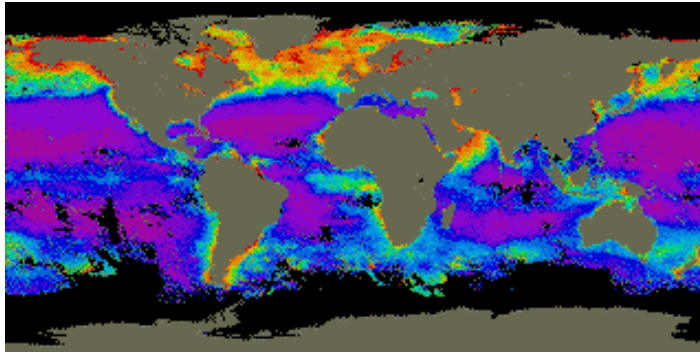
We all want healthy oceans

- To harvest the bounty of our seas



We all want healthy oceans

- For a habitable world for humankind





**We all want healthy
oceans**

UNITED NATIONS MILLENNIUM DEVELOPMENT GOAL 14 :

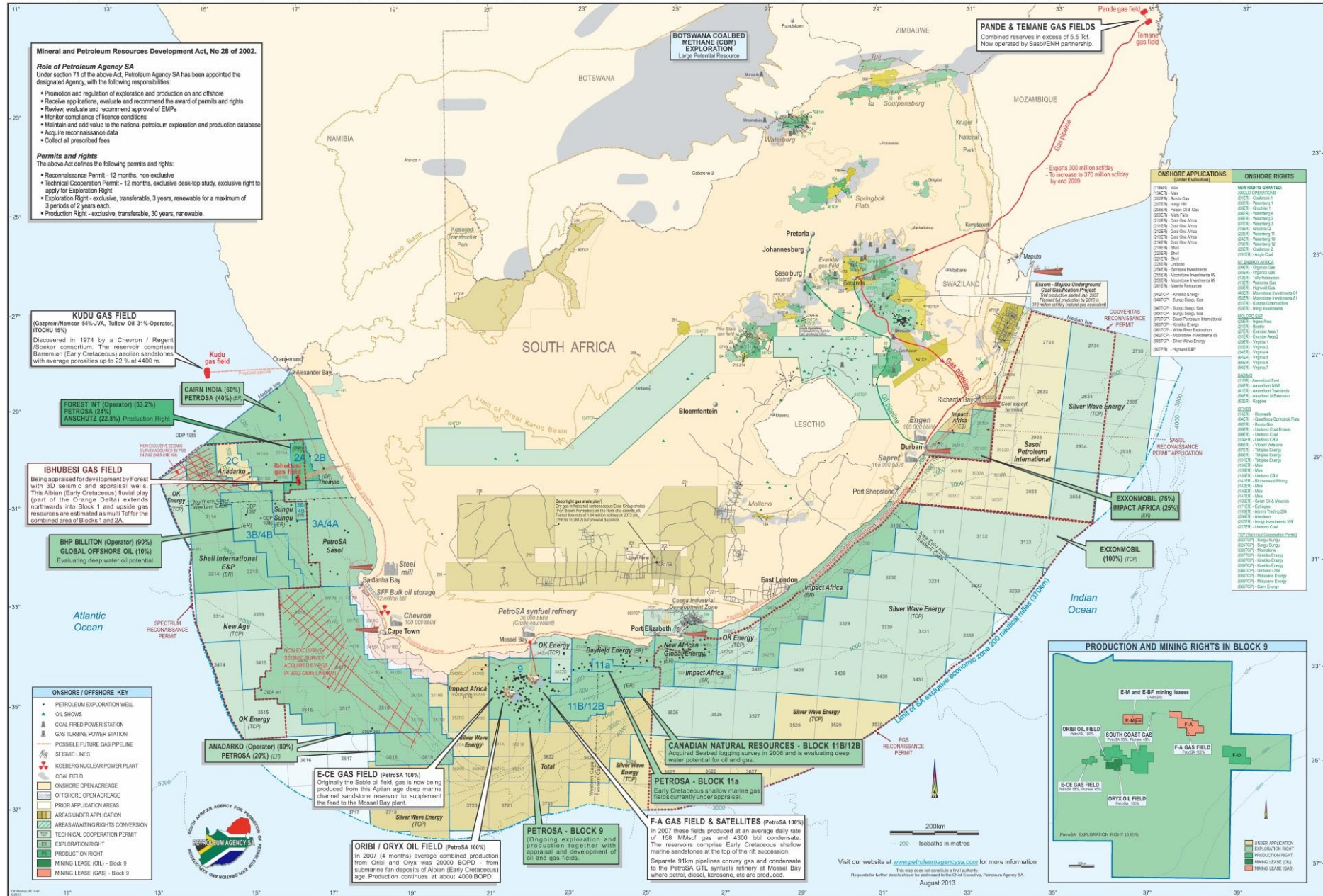
**To conserve and sustainably use the world's
oceans, seas and marine resources.**



The Ocean is getting crowded

Lease areas >90% in 2014

PETROLEUM EXPLORATION AND PRODUCTION ACTIVITIES IN SOUTH AFRICA



And many of these human activities impact marine ecosystems

- Fishing pressure

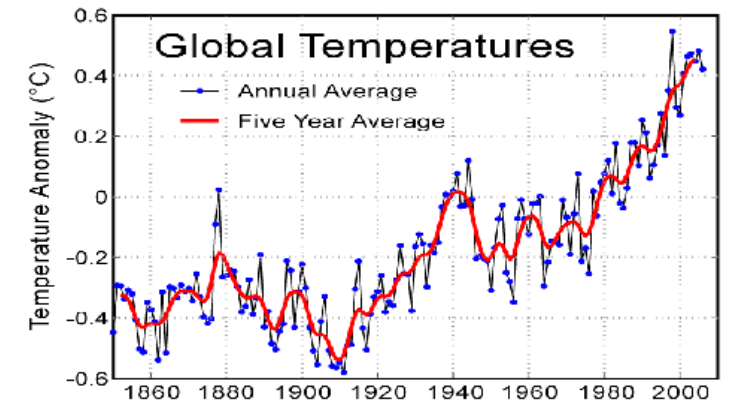


- Pollution



1950

- Ocean warming & acidification



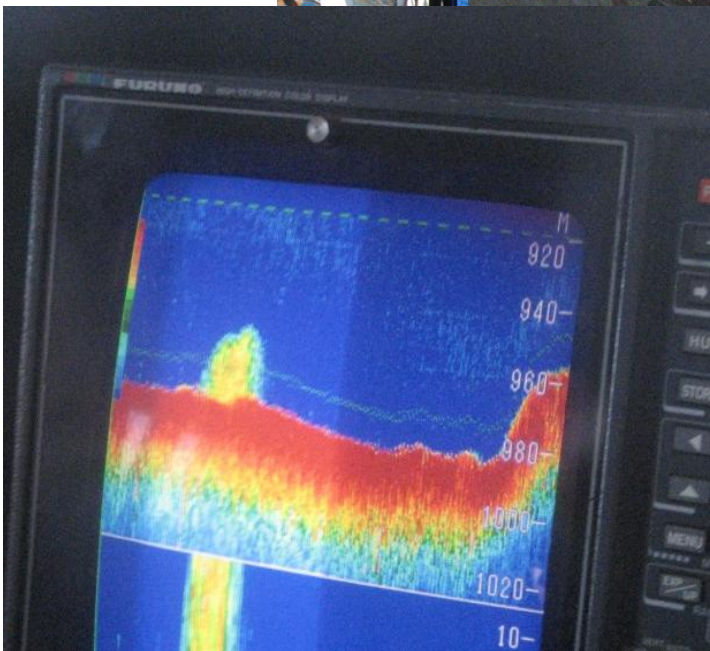


IMPACT ON HABITATS

THE DIFFERENCE A DREDGE MAKES

Georges Bank

(Photos by Dann Blackwood and courtesy of Dr. Page Valentine, USGS)

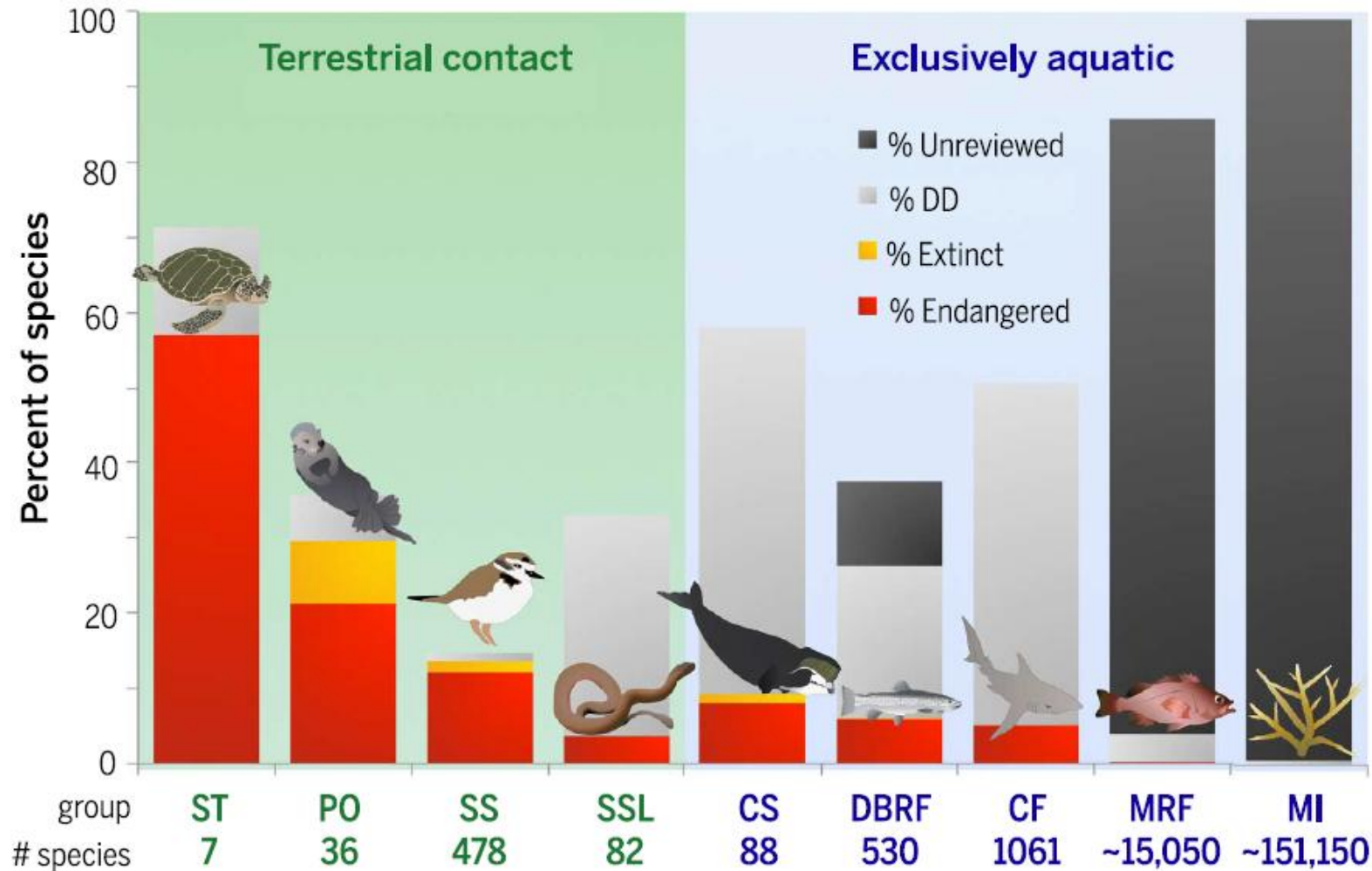


Trawl catch experiment by mistake took out ancient cold-water coral seen on the depth sounder – in SA!
South east Agulhas Bank shelf edge. 960-980 m depth

Bycatch - habitat and species damage



IUCN RED LIST



**ESCALATING
IMPACT OF HUMAN
ACTIVITIES ON
SPECIES**

McCauley et al 2015. Marine Defaunation: Animal loss in the global ocean. SCIENCE

And some marine activities threaten other activities

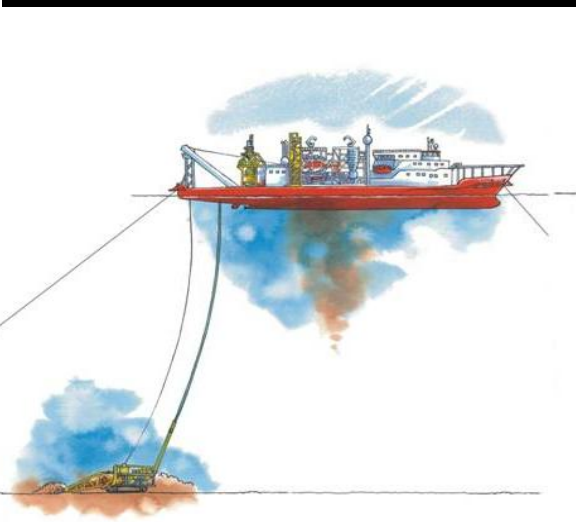


**SPATIAL
INCOMPATABILITY**

CONFLICT!



RISK TO



- **HUMAN HEALTH**
- **TOURISM**
- **FISHING**
- **FOOD SECURITY**

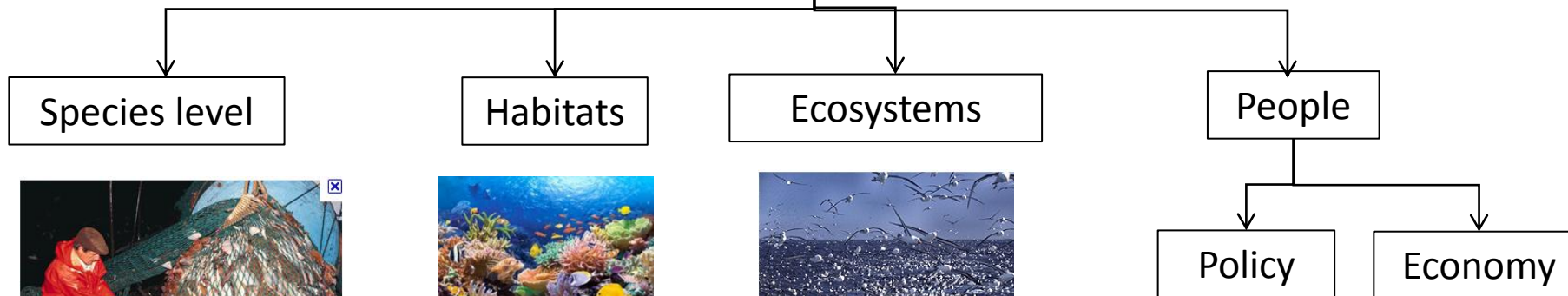


**We all want healthy
oceans**

**We all want to find ways
to fix this**



Integrated Ocean Management



Fisheries Management



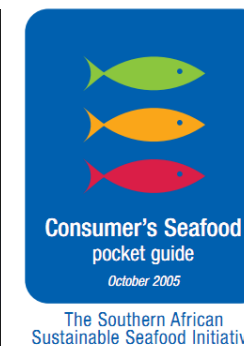
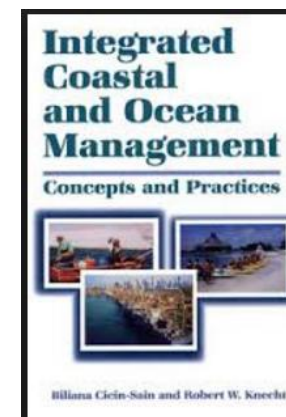
Habitat management



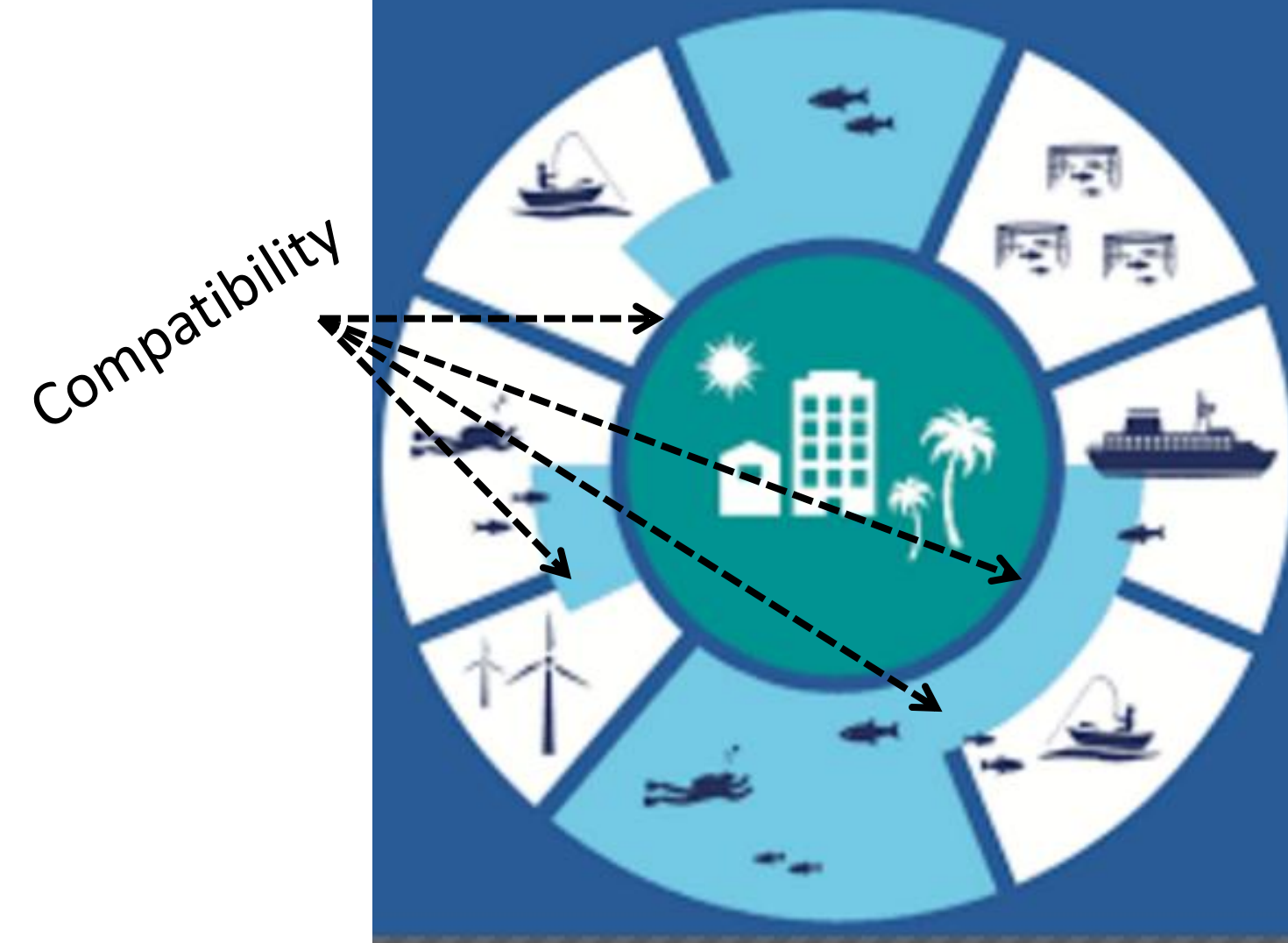
Ecosystem based management

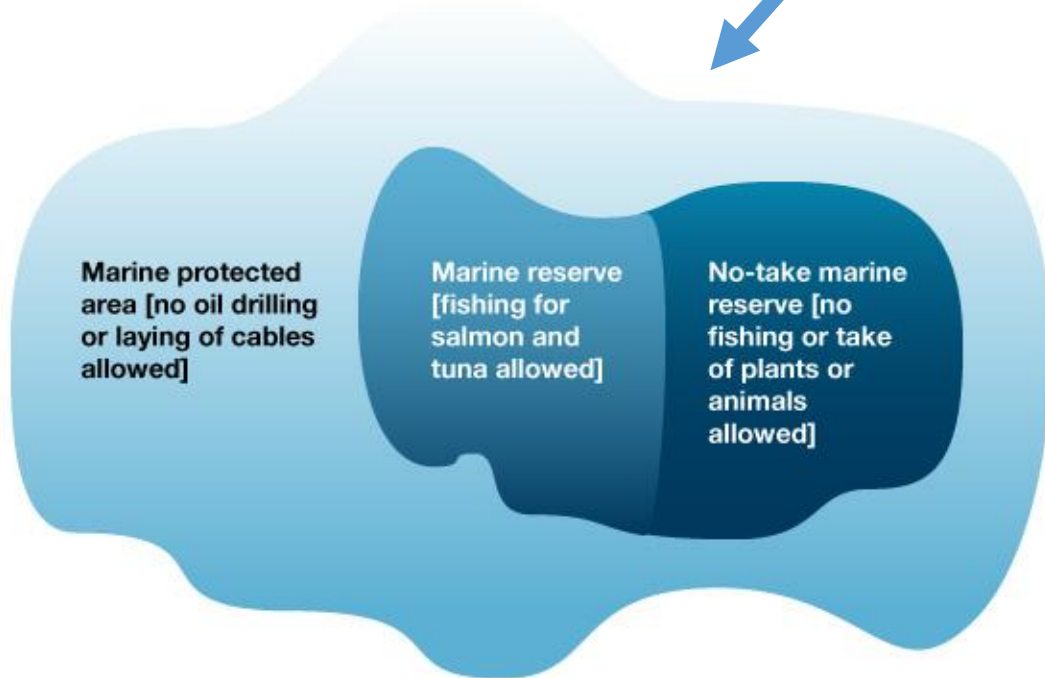
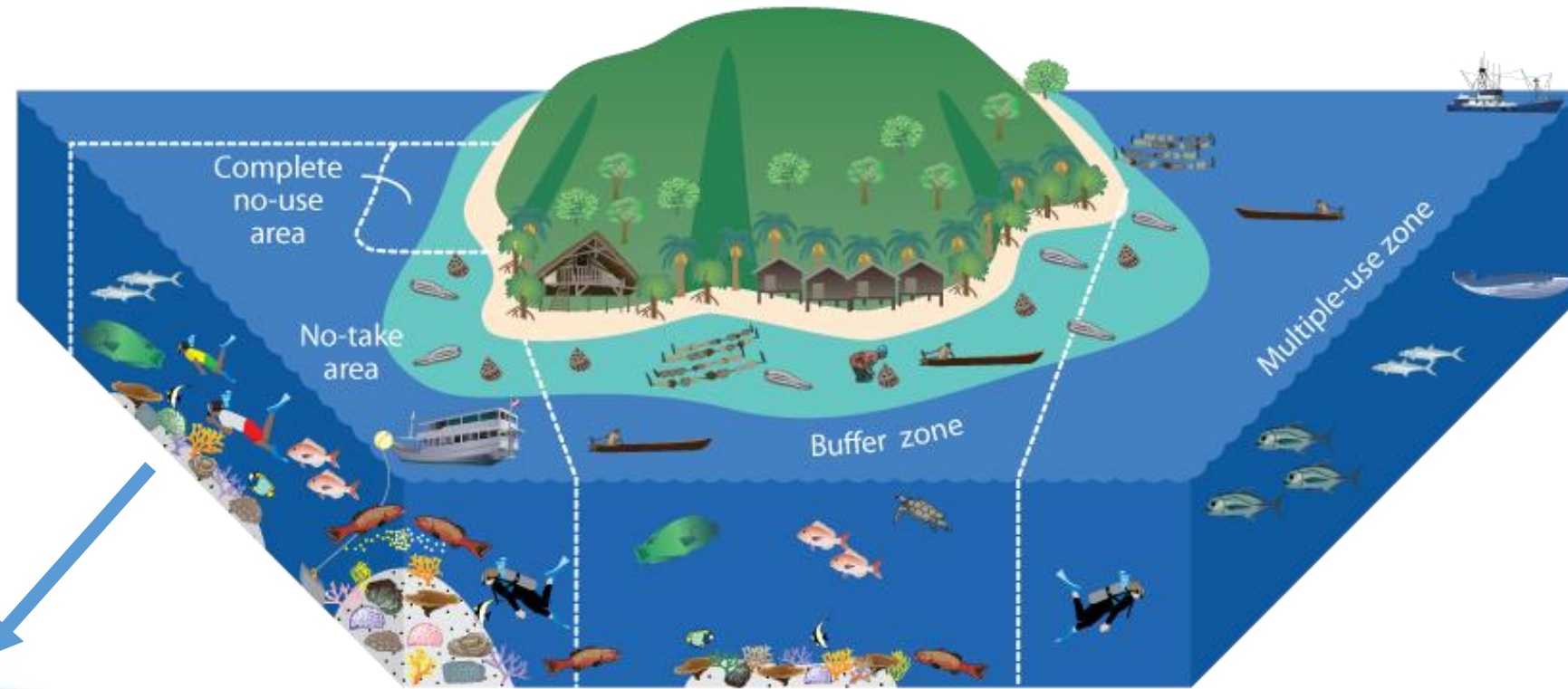


Spatial management



OCEAN ZONING





Marine Protected Areas are a critical component of the seascape for all kinds of good reasons

MPAs have MULTIPLE objectives



- **Protect ecosystems, habitats and species**
- **Provide & secure ecosystem services**
- **Support fisheries sustainability**
- **Provide for sustainable use**
- **Can help address bycatch problems**
- **Conservation of genetic diversity**
- **Undisturbed reference/ benchmark areas**
- **Promote and facilitate tourism**
- **Provide sites for education and training**
- **Conflict Resolution**

MPA EFFECTIVENESS

Edgar et al 2014 (2014)

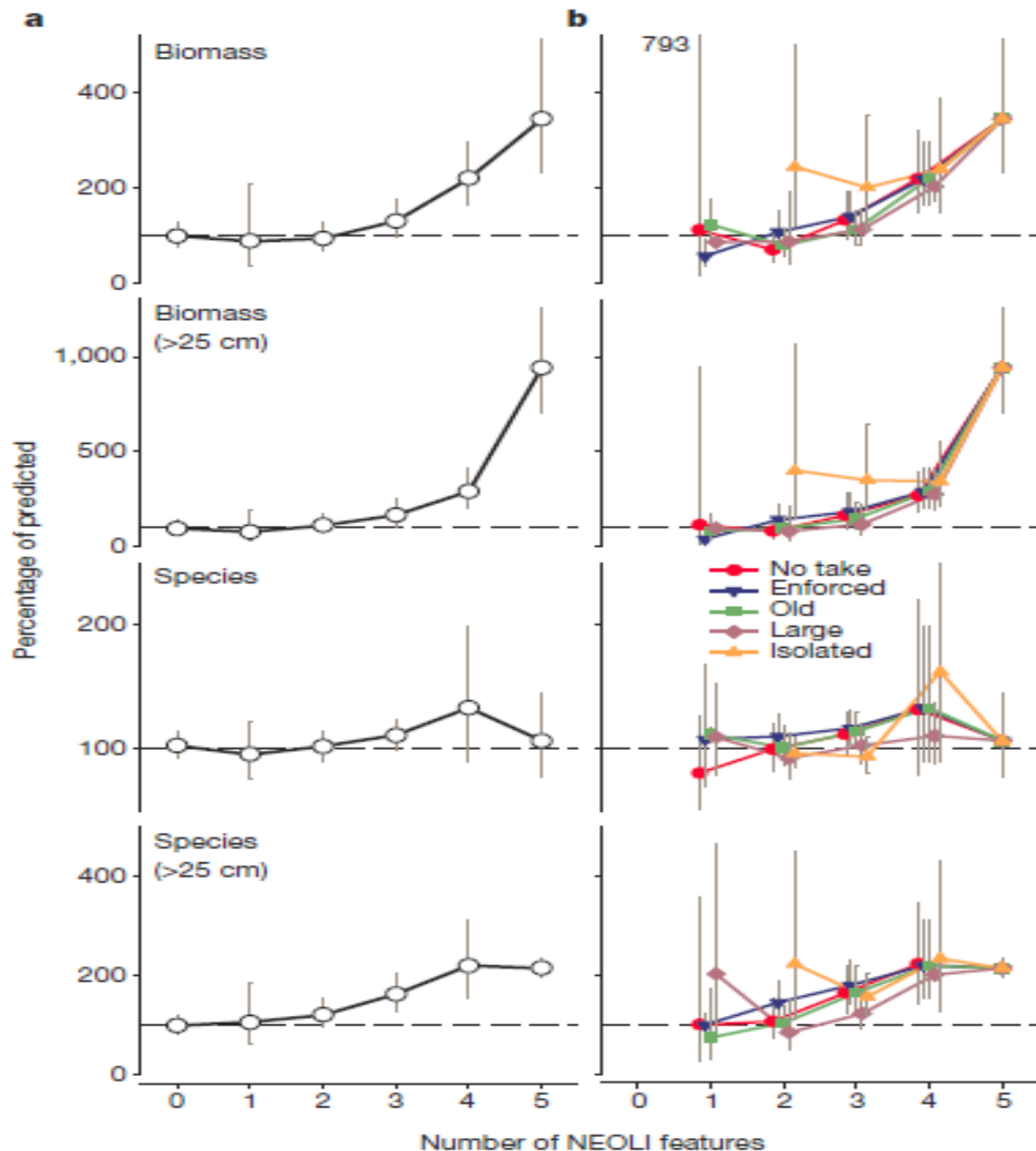
87 MPAs – 41 % measurable positive outcomes for conservation.

Global conservation outcomes - key features for success

George Branch 2016 (pers comm)

36 studies of 11 different South African MPAs, and about 25 studies of multiple sites for East African MPAs. Only on one case did the studies fail to detect gains.

“The upshot is that there is an incontrovertible conservation gain from MPAs.”





**We all want healthy
oceans**

We need MPAs !

MPAs - do we need them?

South Africa's MPA expansion strategy

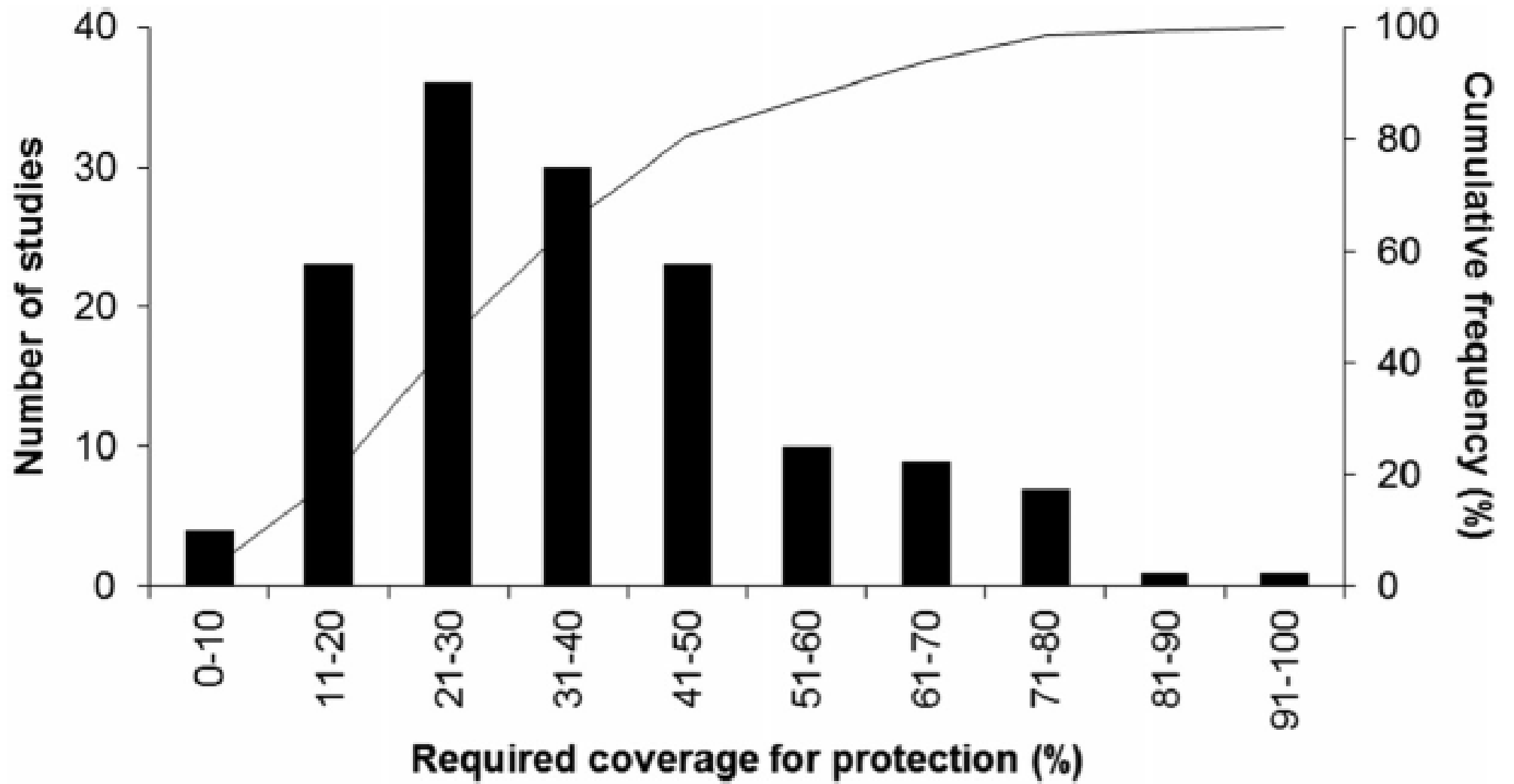
– do we need additional MPAs?

Do we need **additional** MPAs?

2014 World Parks Congress - at least 30%

protecting 10% of the sea by 2020 - UN (CBD)

What does the science say?

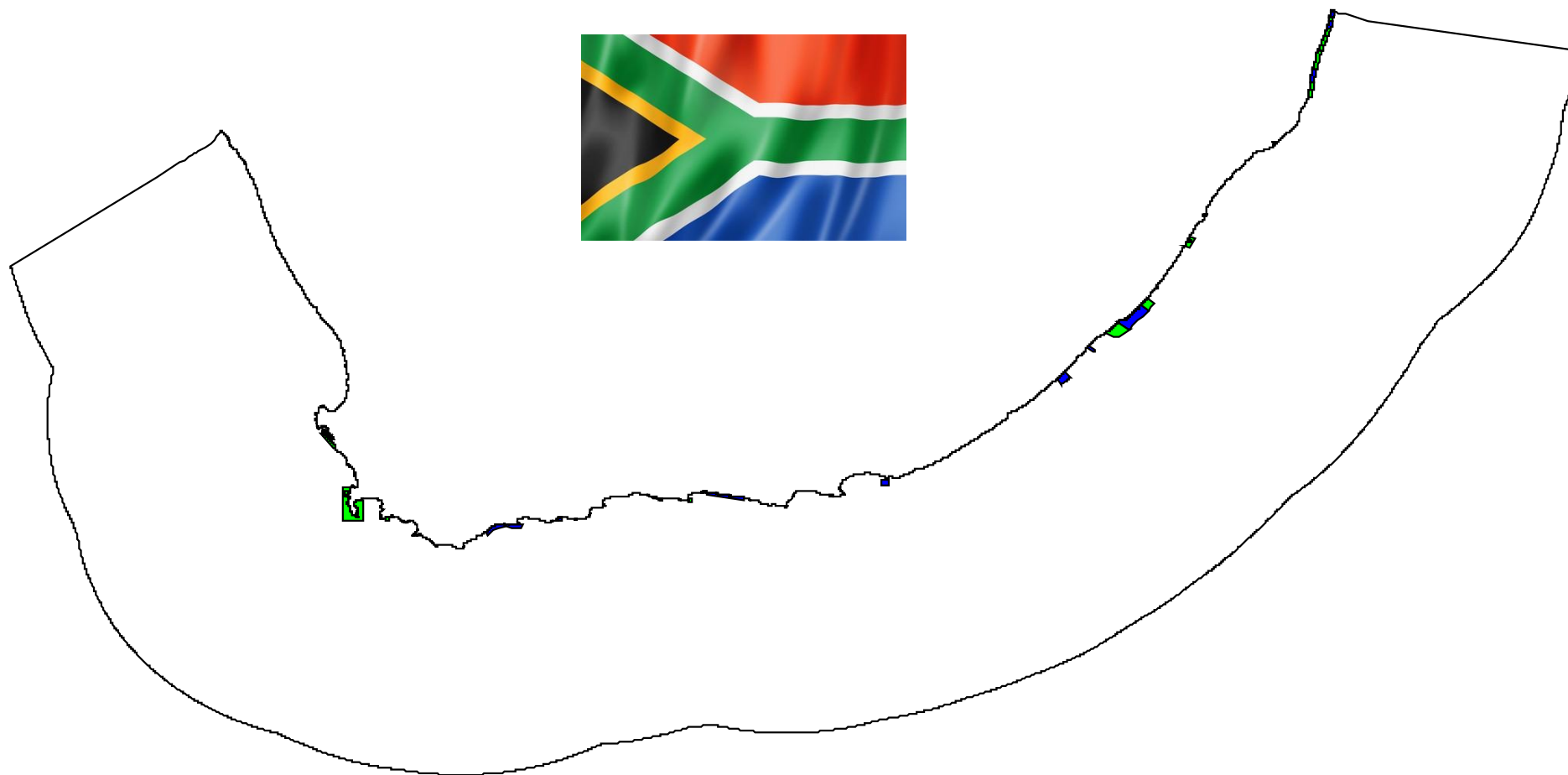




**Economic Exclusion Zone
EEZ**

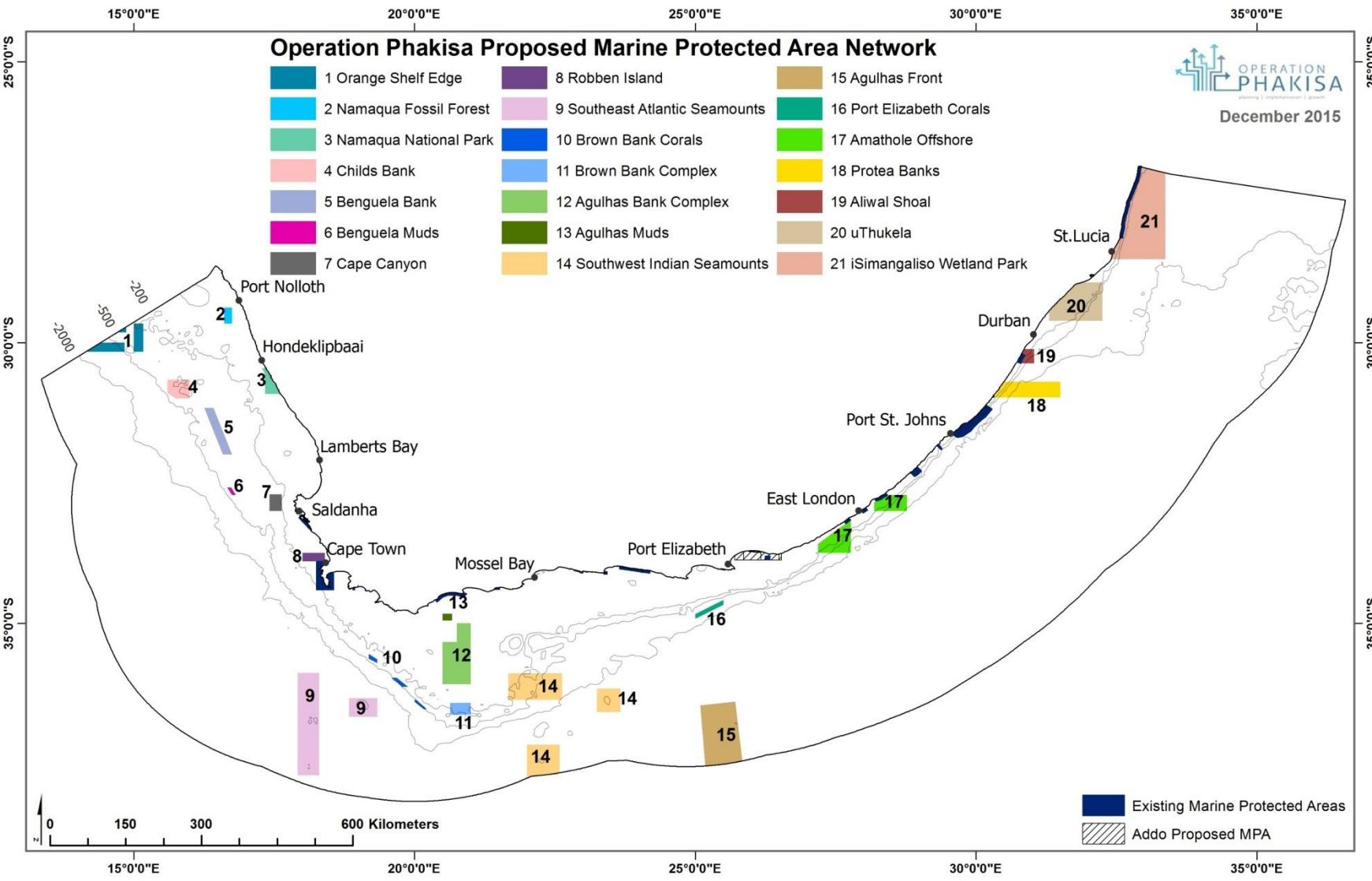


0.4 % of our waters are protected



PROPOSED PHAKISA MPA NETWORK

0.4% to approximately 5%



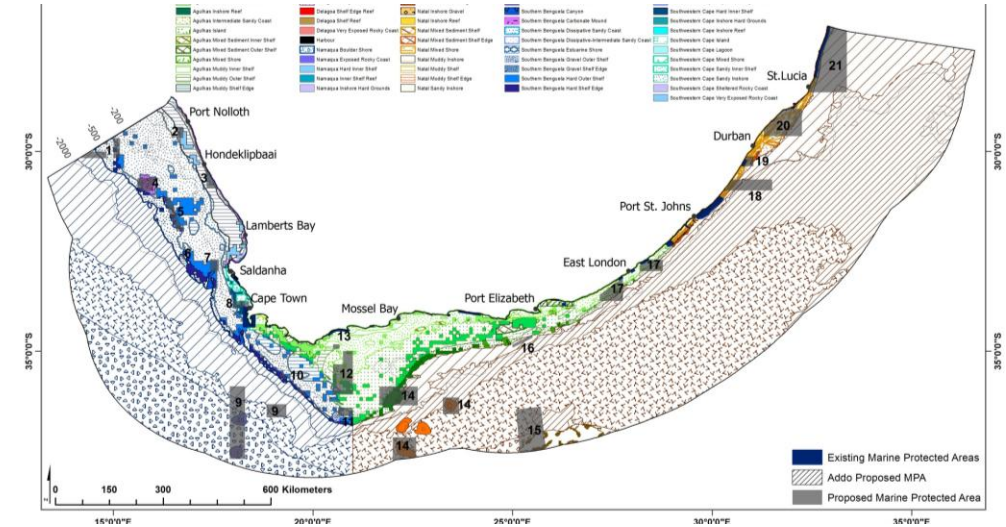
NOTE FOR FISHERIES SCIENTISTS

OBJECTIVES, BENEFITS & IMPACT FOR FISHERIES

- None of the MPAs are declare for the sole goal of sustaining fisheries
- 10 of 21 MPAs have one of at least 5 objectives that supports fisheries management
- 10 of 21 have no objectives relating to fisheries management
- 1 MPA has a research goal relating to fisheries. Childs Bank
- No fishery is impacted by more than 5% of its catch effort
- No fishery is impacted by more than 5% of its catch effort

Habitat conservation gains

- habitat representation from 60% - 94%.
(includes 46 of the 54 habitat types that currently have no spatial protection)
- Includes 10 of 13 critically endangered habitats



Habitat management in developing countries...SA Hake Trawl as an example

- 24 habitat types in the footprint
- 3 are entirely completely within trawl footprint
- Cold water coral continues to be trawled
- No coral or sponge grounds protected - vulnerable to fishing impacts
- “Effort should go to identifying and protecting these habitats” (Hilborn - yesterday)



- Note for fisheries scientist
- Phakisa MPAs displace 1.2% of effort & 3% grounds



"And I dream of the vast deserts, the forests, and all of the wilderness of our continent, wild places that we should protect as a precious heritage for our children and for our children's children. We must never forget that it is our duty to protect this environment,"

~ Nelson Mandela