

Advancing coastal cross-realm integration for planning and assessment



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Valuable national asset



Coastal protection



Subsistence harvesting



Health and well-being



National economy



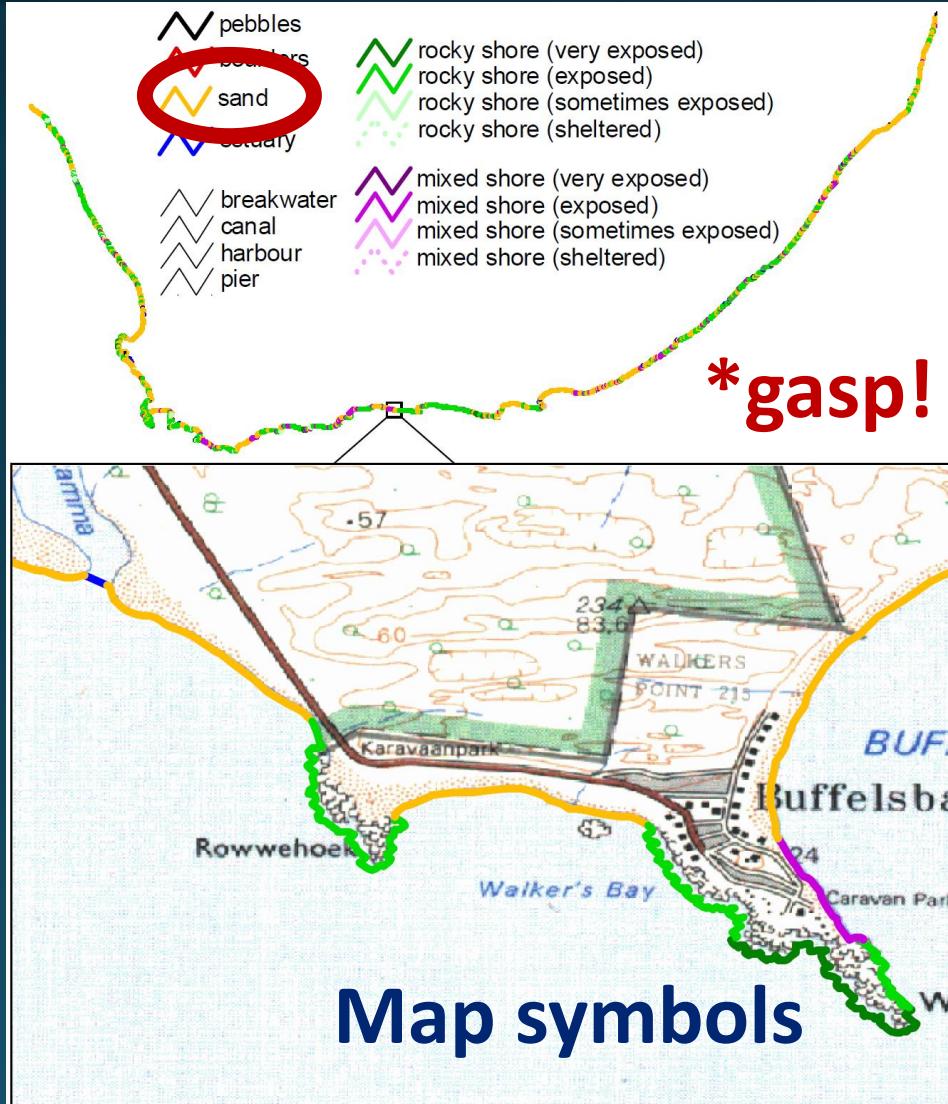
Supplementary livelihoods



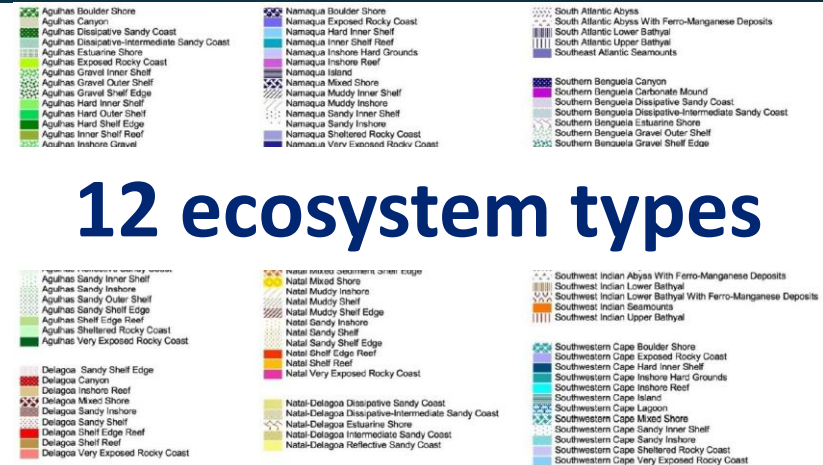
Unique biodiversity

Progress through the NBAs

NBA 2004



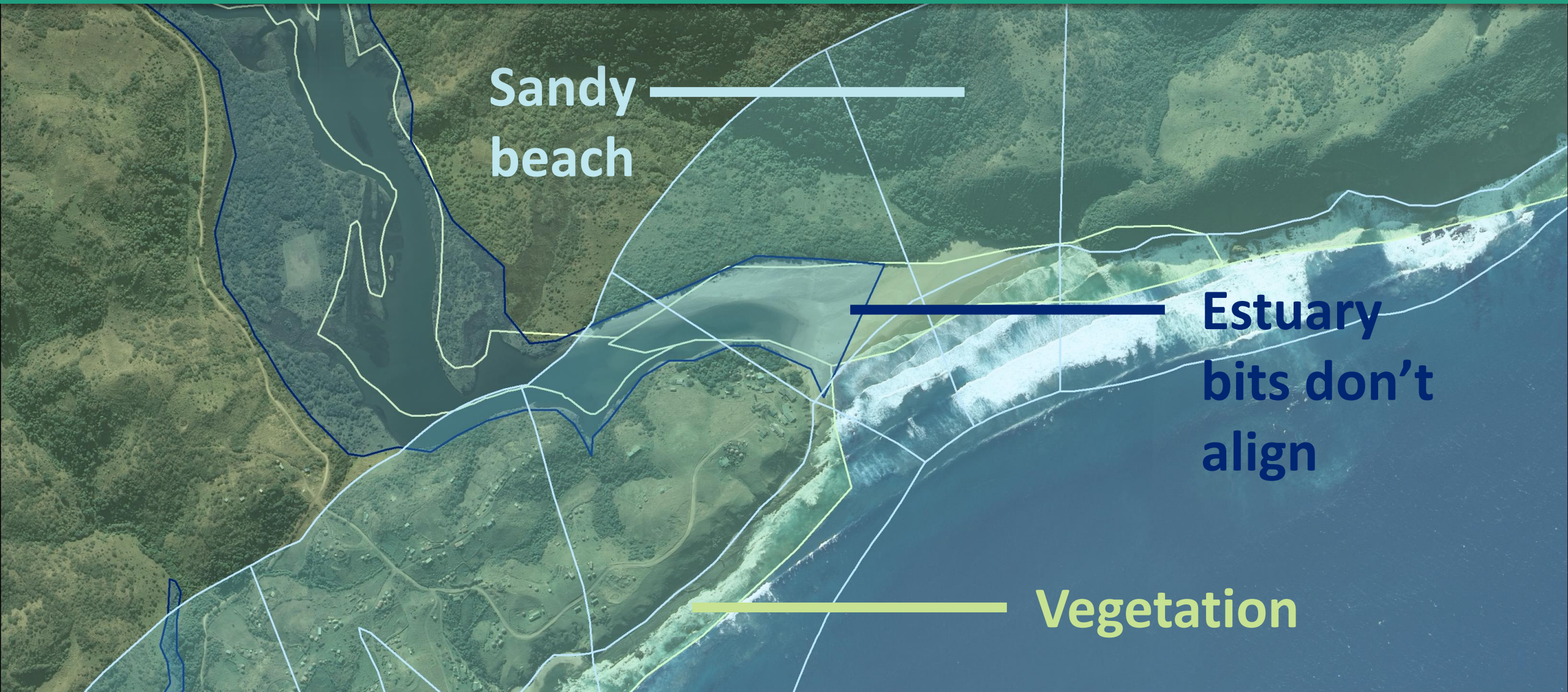
12 ecosystem types



Boundary Improvement (but still not perfect)

NBA 2011

The coast mapping mess



Does it matter?

YES: Assess headline indicators and for biodiversity planning



track the threat status of one of the most **vulnerable zones**



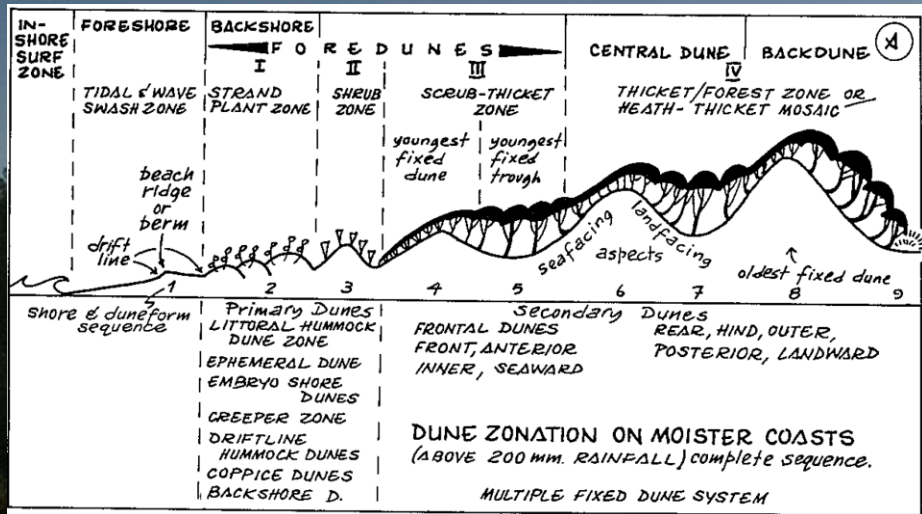
protect the zone with the highest contribution to **ecosystem services**



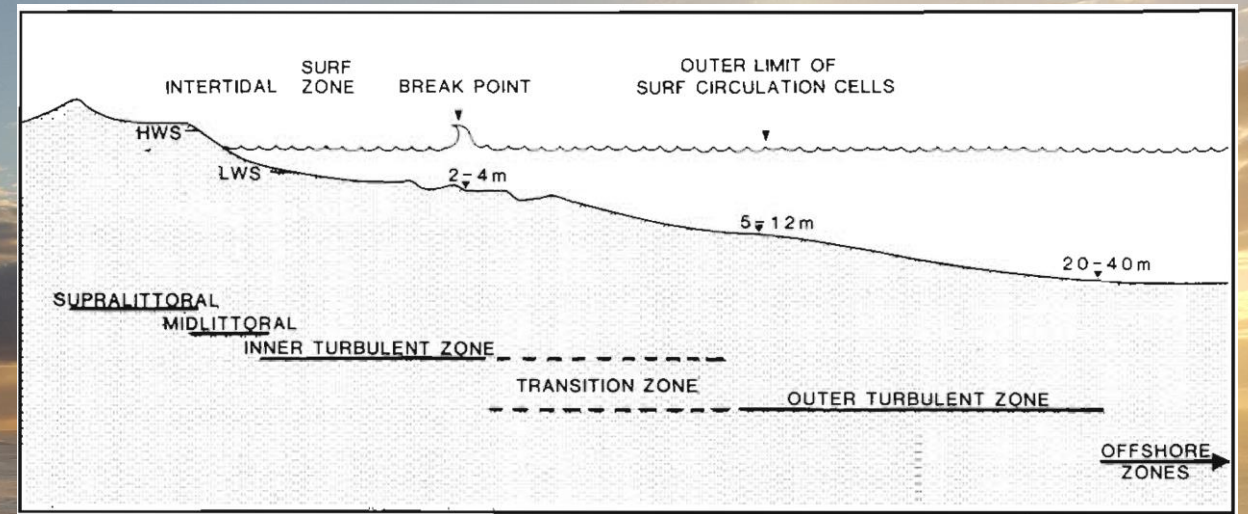
conserve biodiversity

Need a fine-scale coastal ecosystem-type map that is seamless among realms

Zippering up the coast



Tinley 1985 Coastal dunes of SA

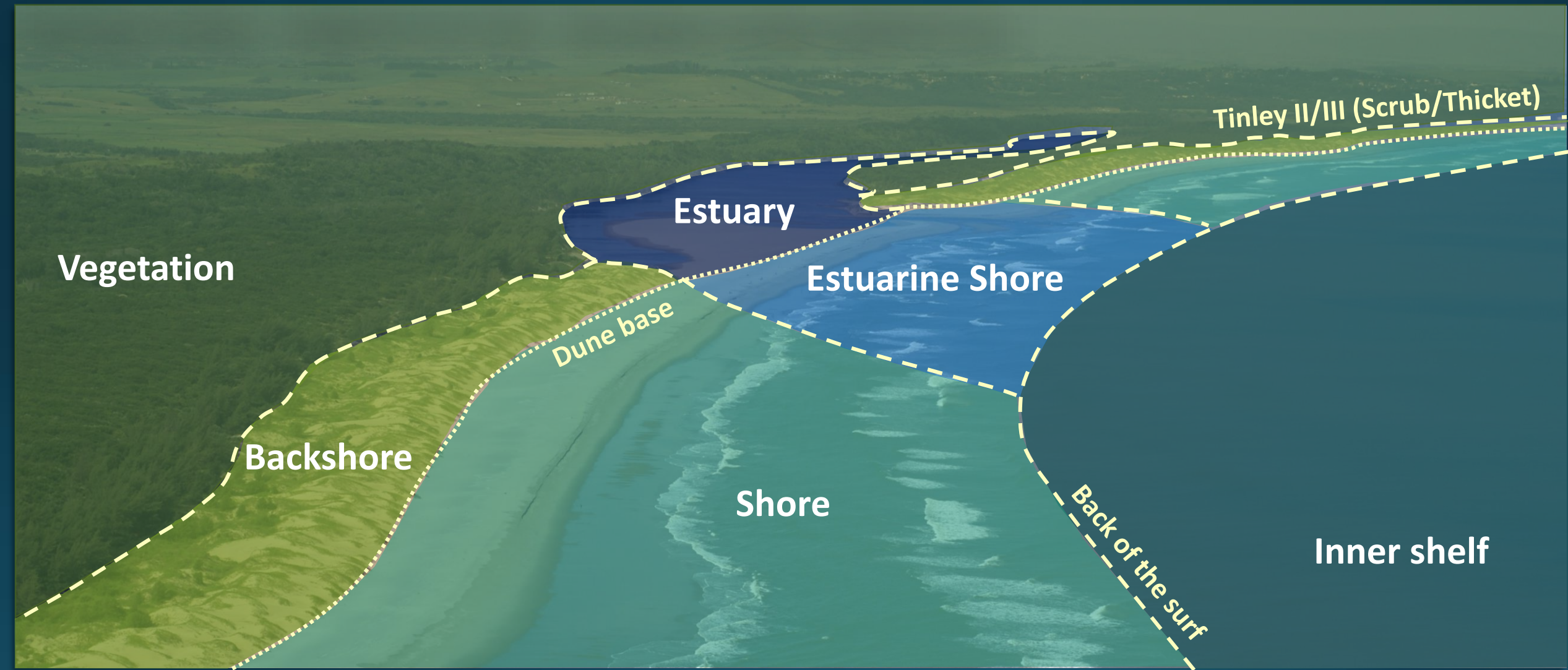


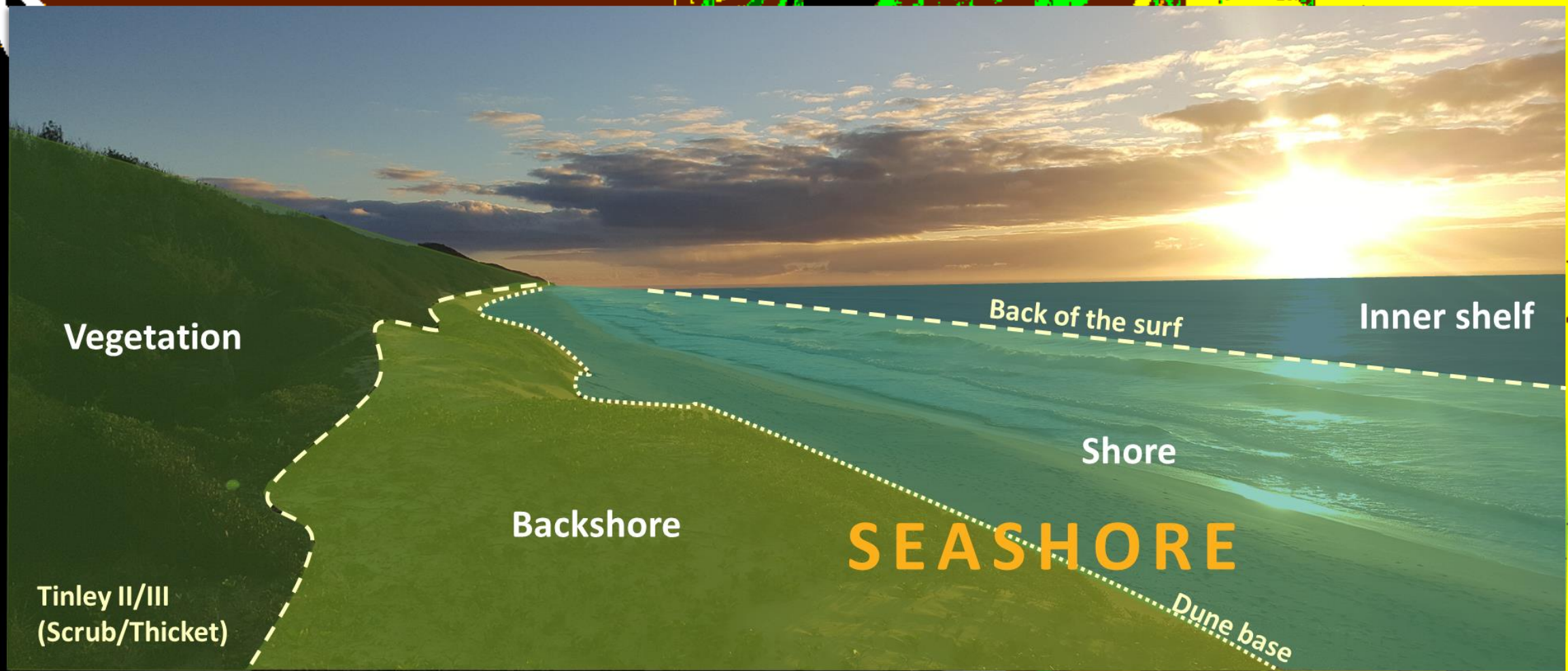
McLachlan et al 1984 MEPS 16: 51-63

Zippering up the coast



What about estuaries?





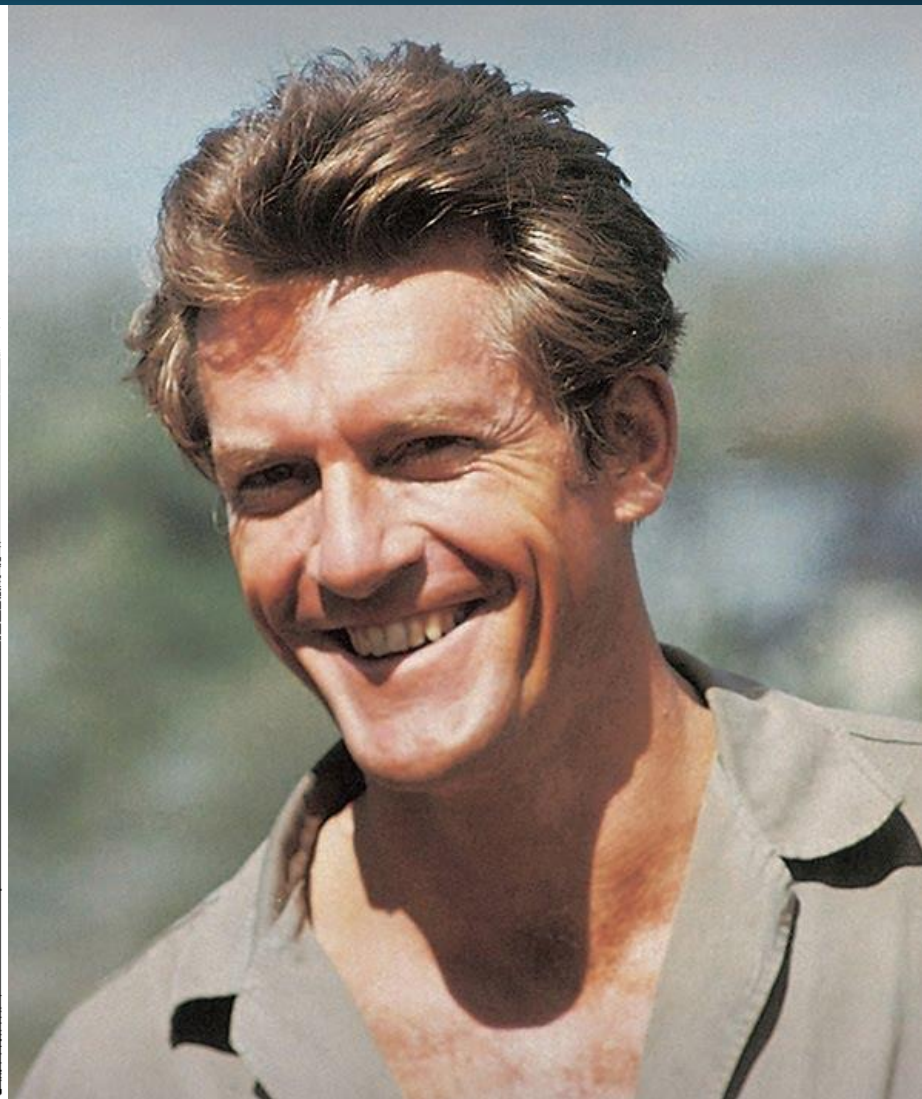
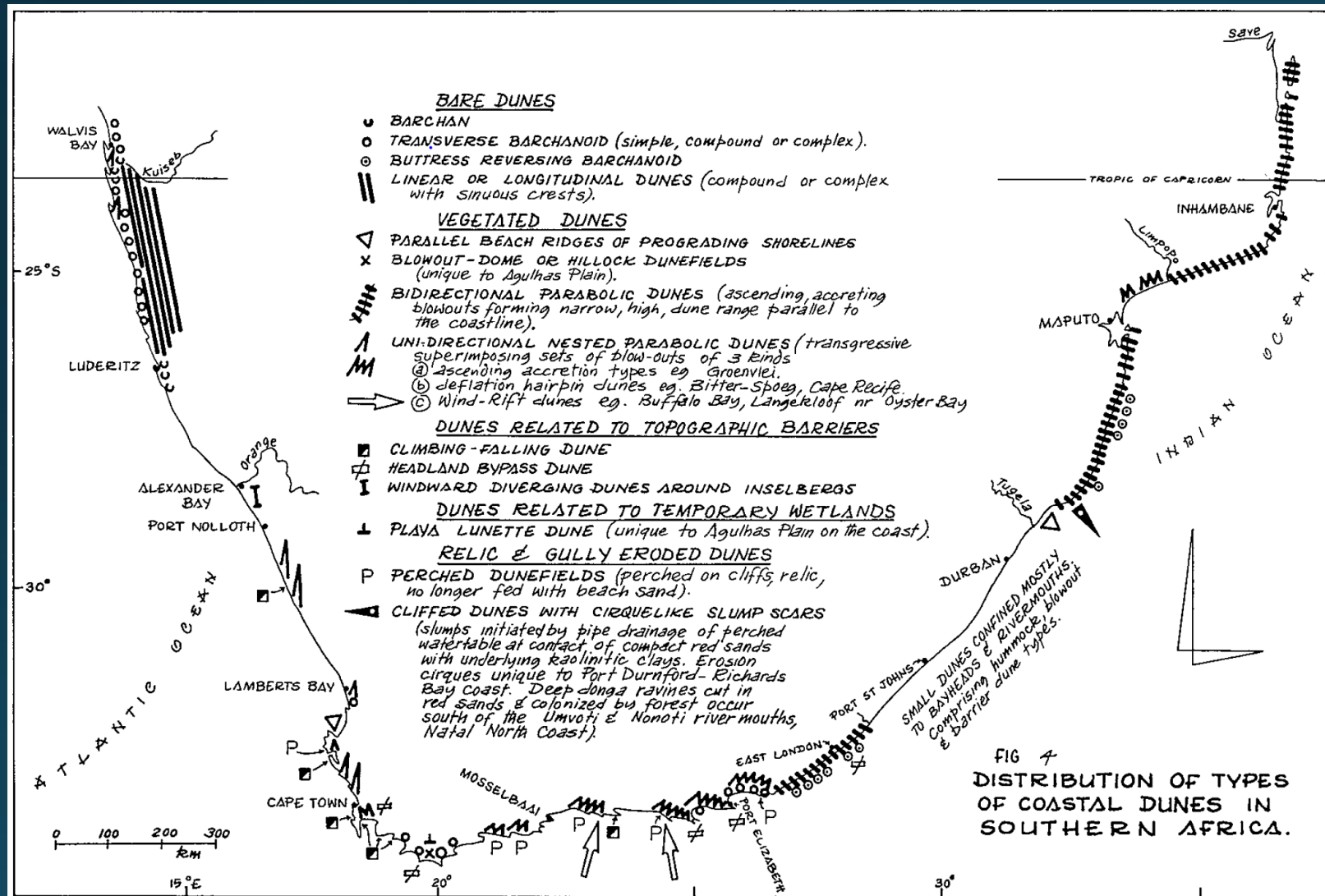
South Africa 50cm Colour Imagery

National aerial imagery of South Africa from 2008 to 2012.

Image Service by [data_esriza](#) 2015/11/23 [Details](#) [Add](#)

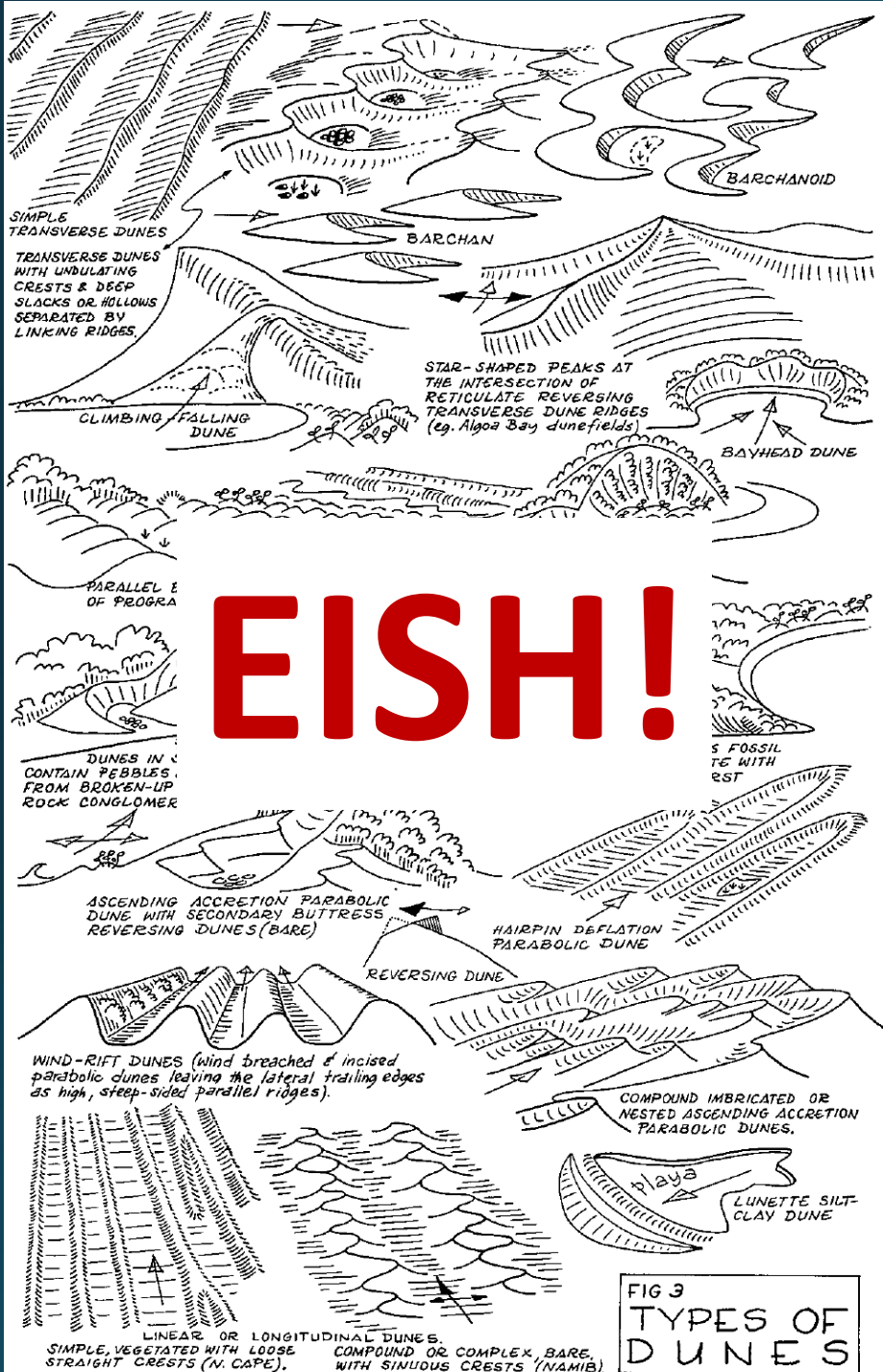
Mapped at 1:3000

Tinley 1985



Backshore

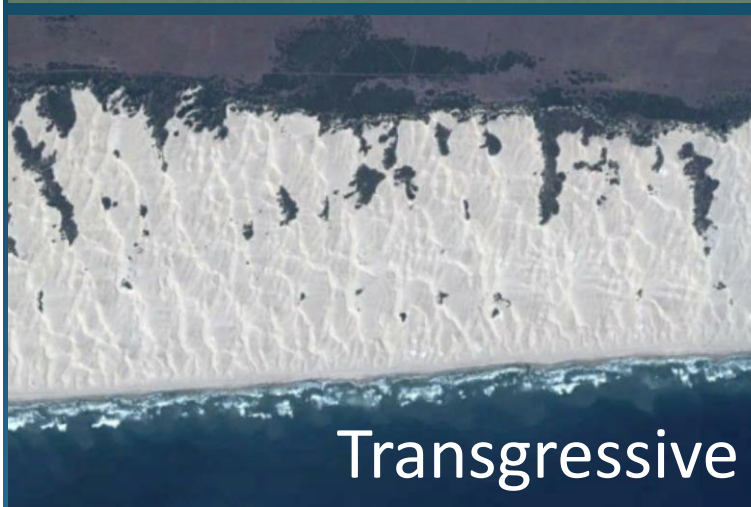
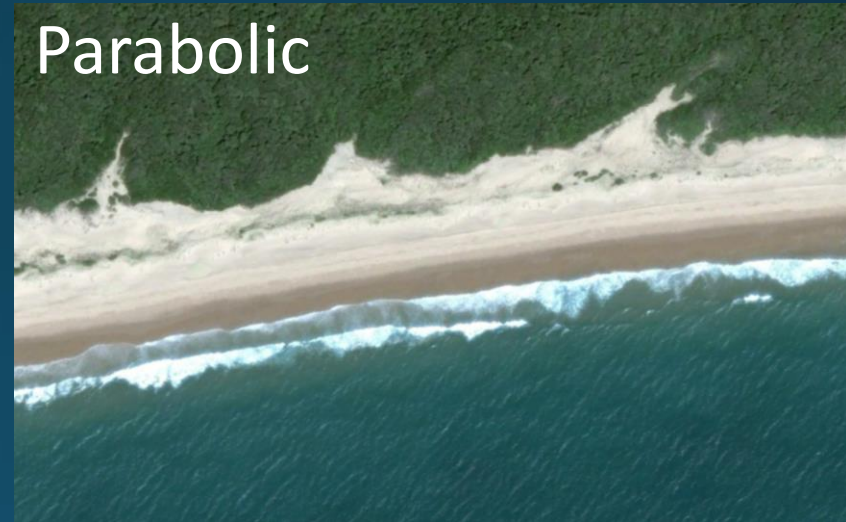
Replaces shapes for the
4 seashore veg types



Frontal



Parabolic



Transgressive

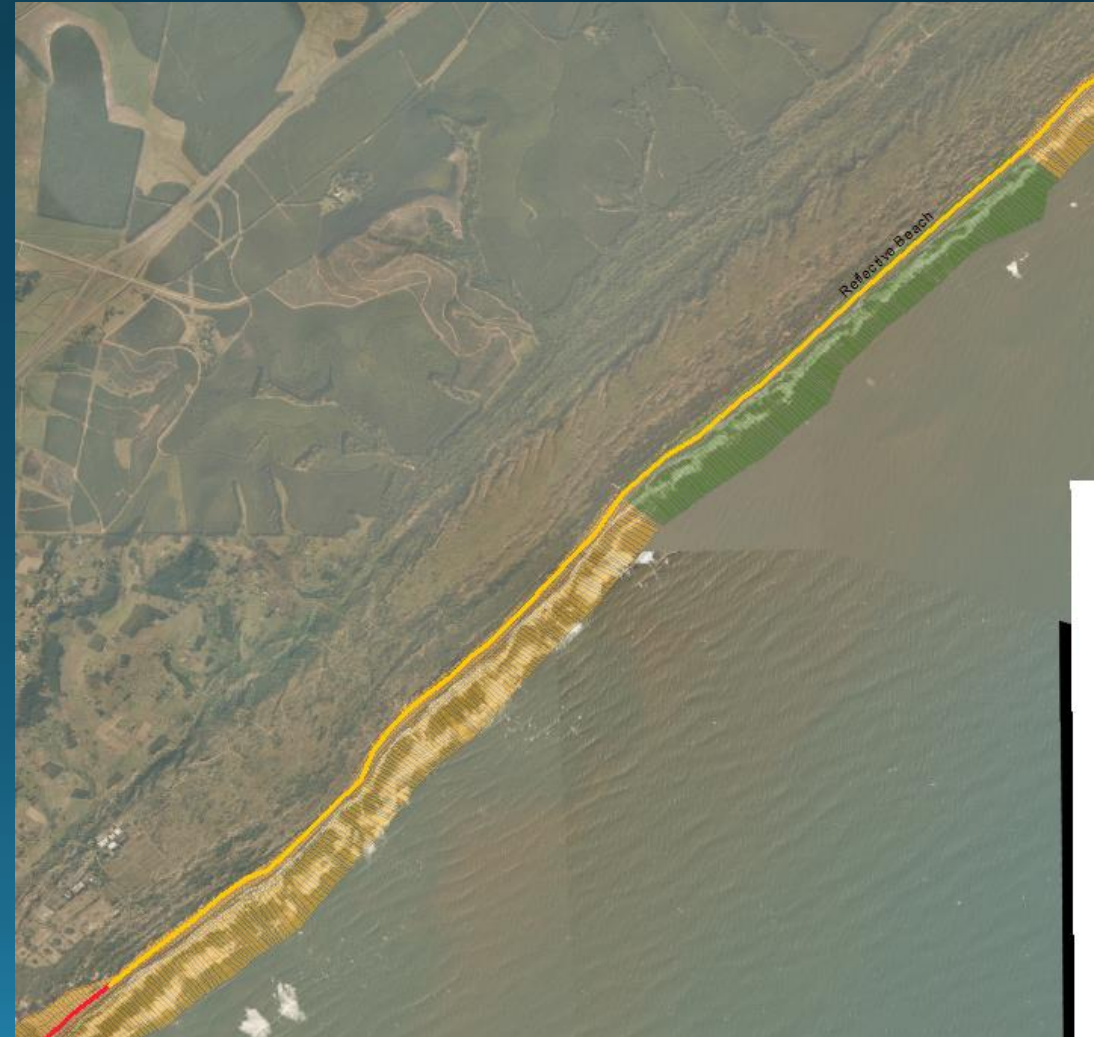


Barrier

Provincial-National Integration

Changes to shore types

1. If there is evidence from provincial map or imagery (Google, SPOT, etc) that a portion of the shore has rocks that are temporally exposed, and the shore habitat type is classed as sandy, it is changed to mixed.
 - a. EXCEPTION: if rocks exist alongshore for not longer than what the beach is wide, then the sandy shore habitat type is retained.
 - b. EXCEPTION: Provincial broken and scattered rocks in the low shore, with no supporting image for rocks otherwise, becomes sandy
 - c. EXCEPTION: No supporting imagery for Provincial classification, and local knowledge confirms a different category (e.g., the rocks at Black Rock)
2. The shore opposite the estuary mouth (as per the floodplain shapefile) becomes "Estuarine Shore", and overrides national and provincial classifications. (**Biogeography** sensu estuarine realm?)
3. In cases where there is a beach morphodynamics type conflict between provincial and national maps, the beach morphodynamic type will be reassessed by Linda.
4. Provincial needs to add in national rocky shore types into their classification.
5. Features must be mapped as the pre-transformed state, and we report on *impacts

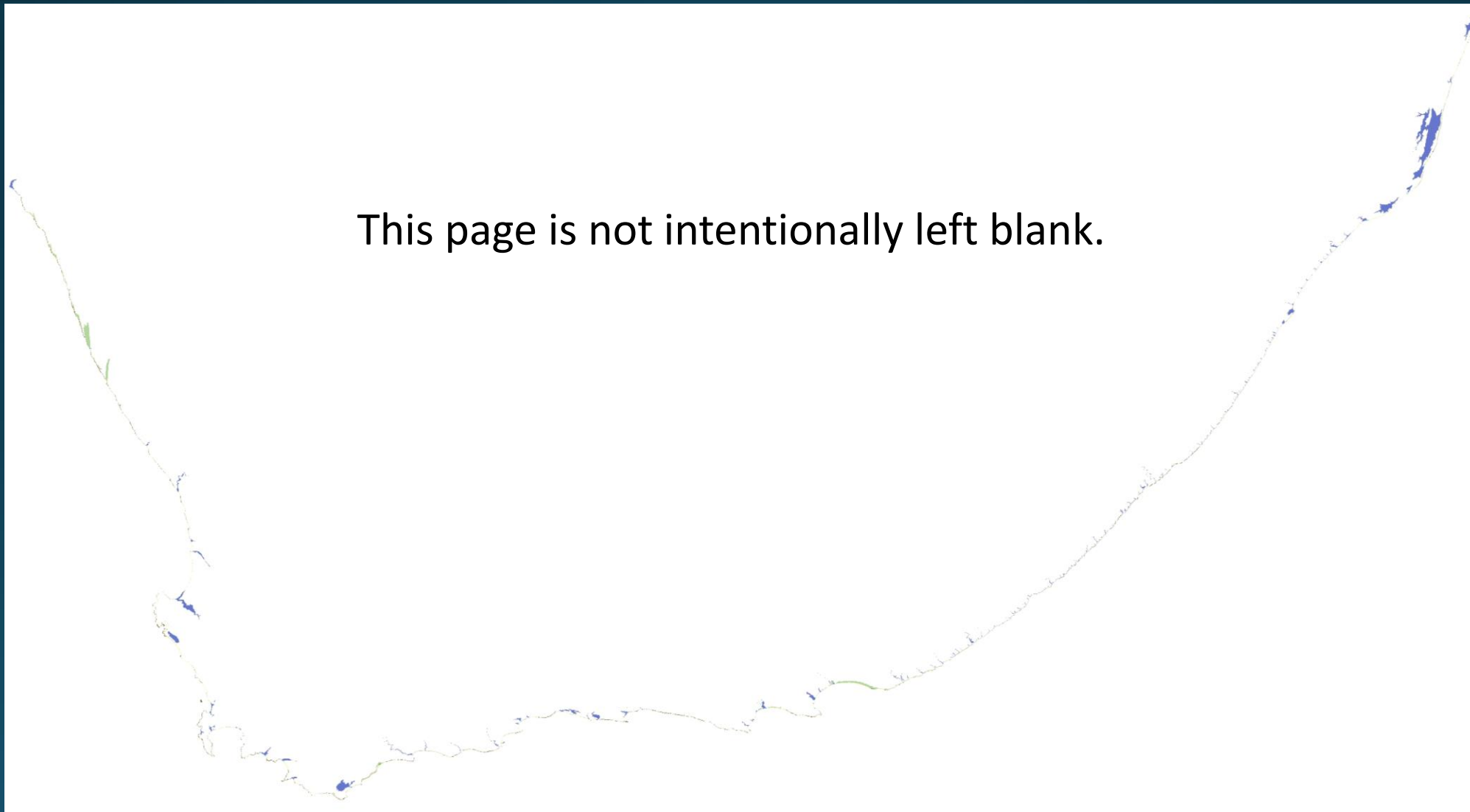


Dynamic ecosystem types

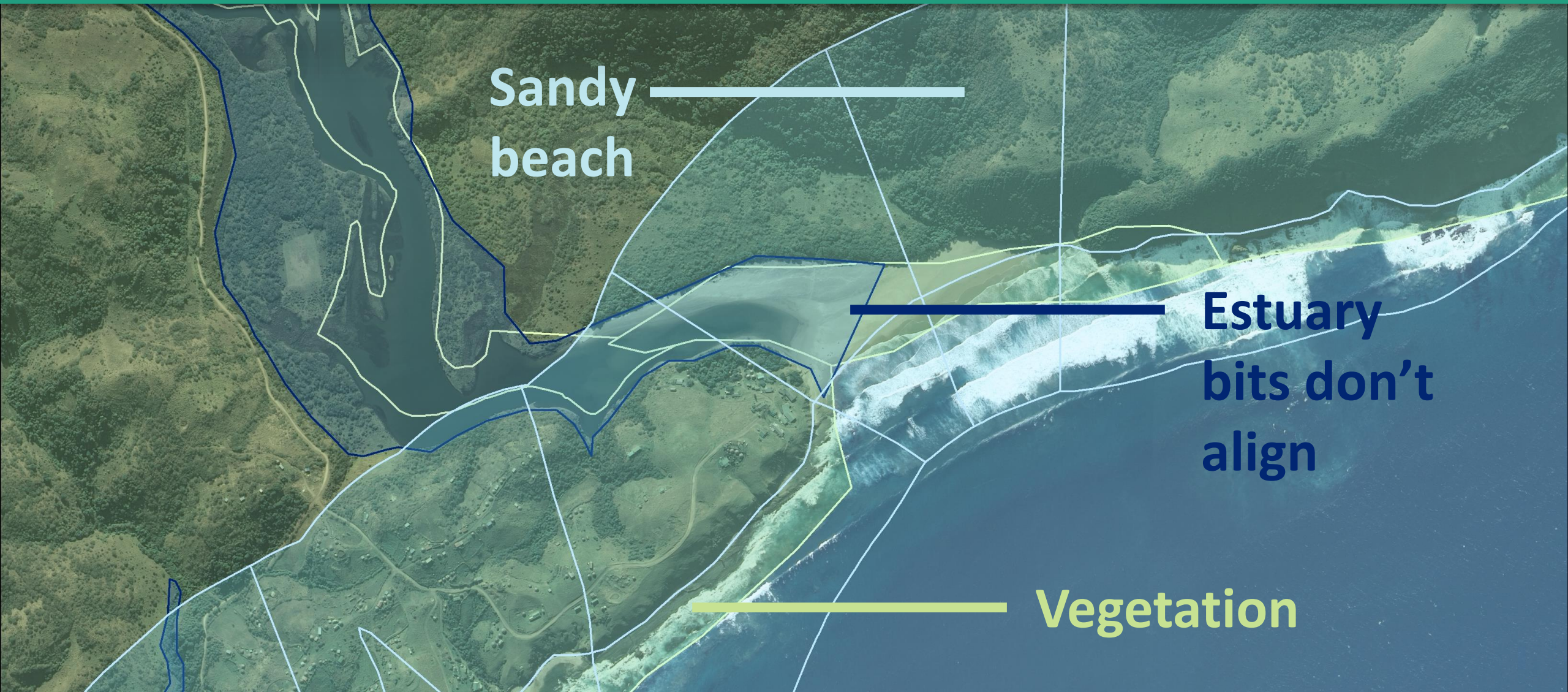


The big reveal...

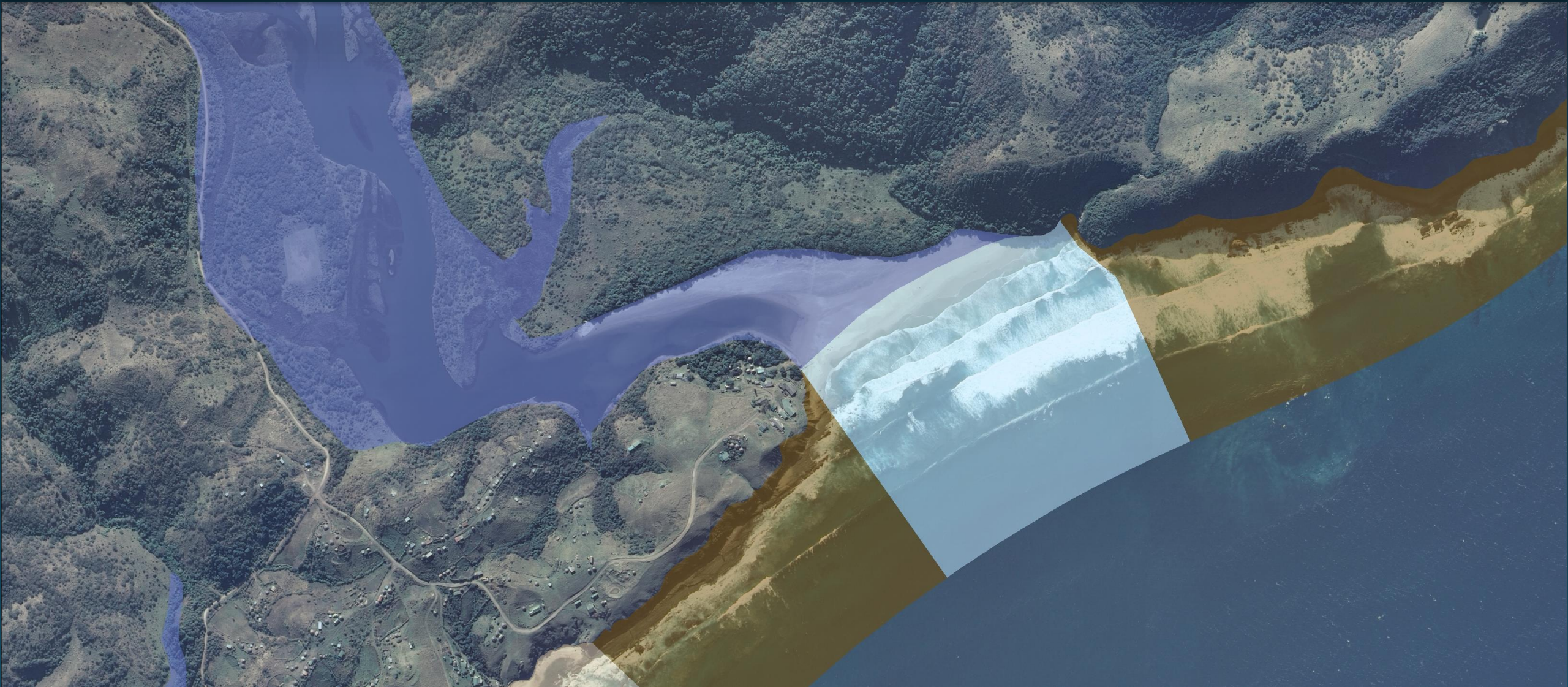
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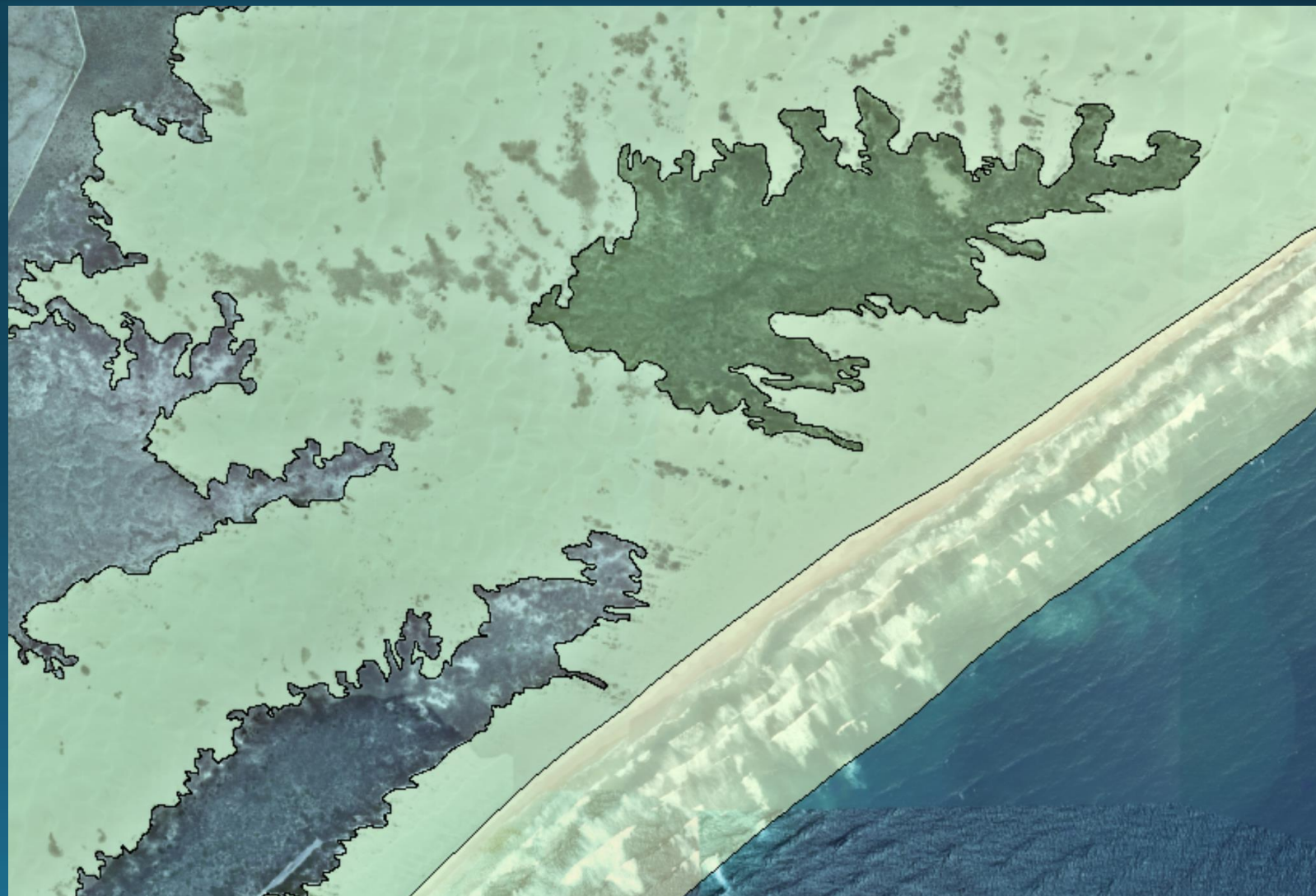
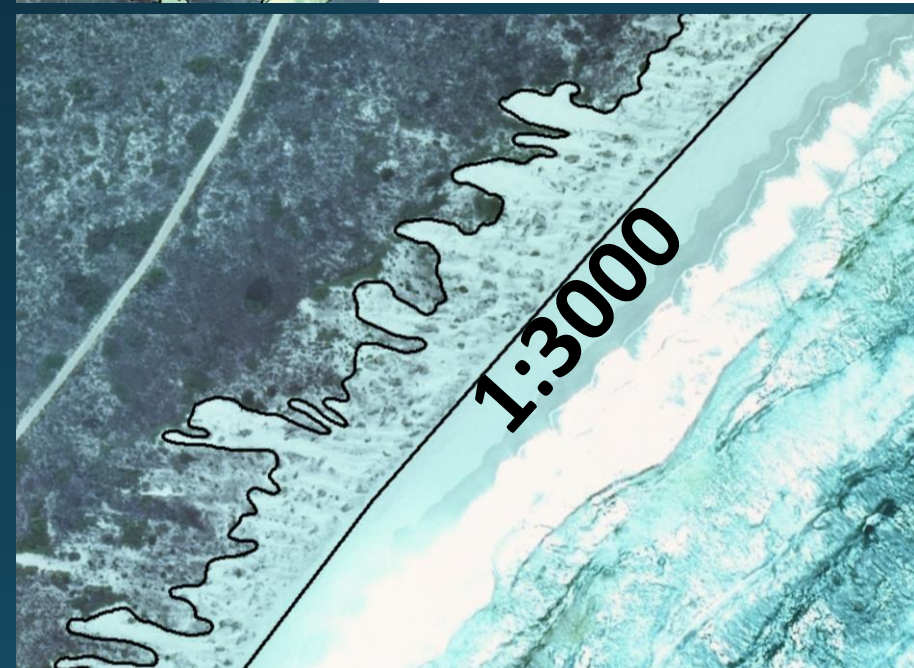
The coast mapping mess

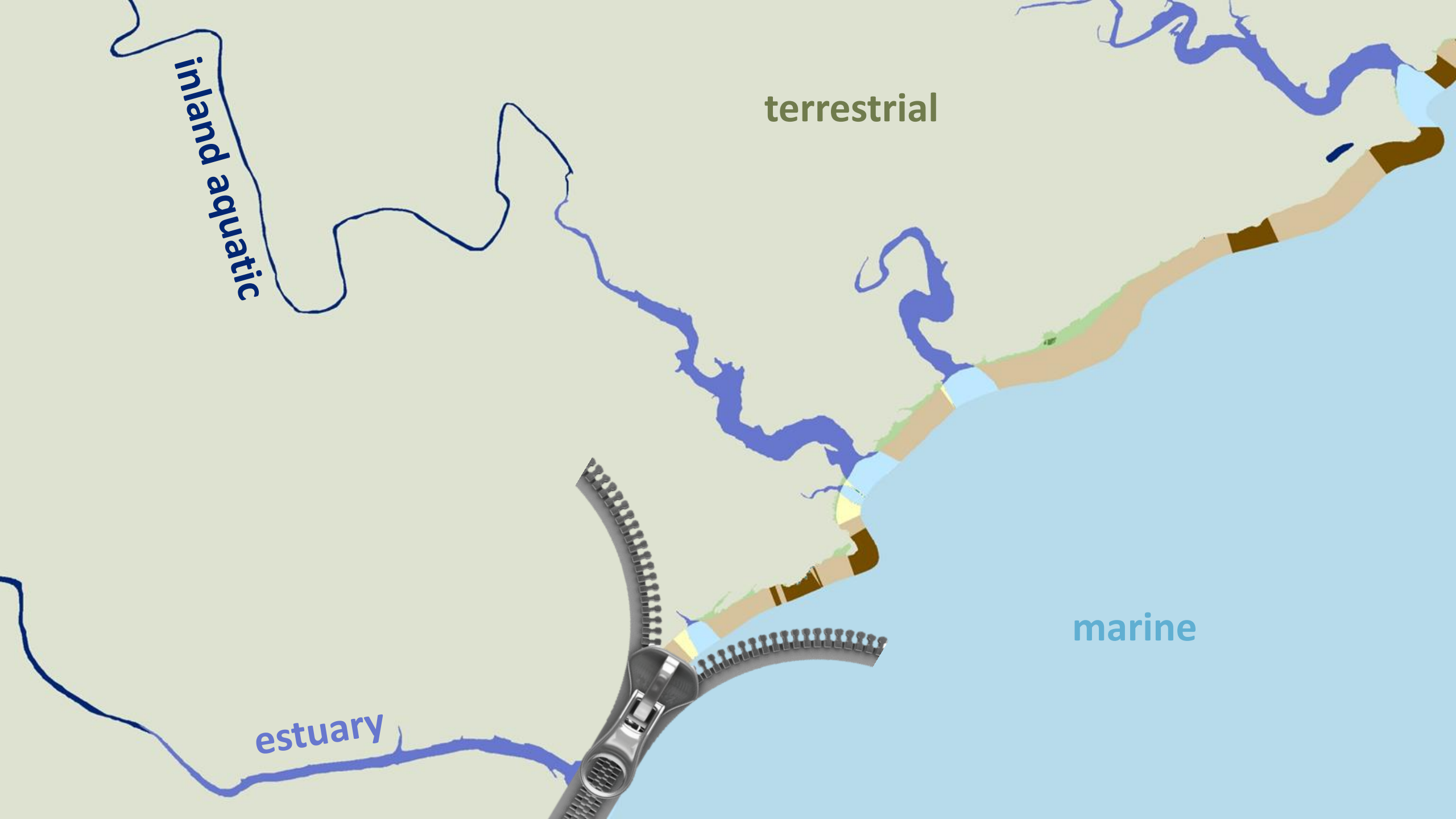


The seashore zip



Let's zoom in...



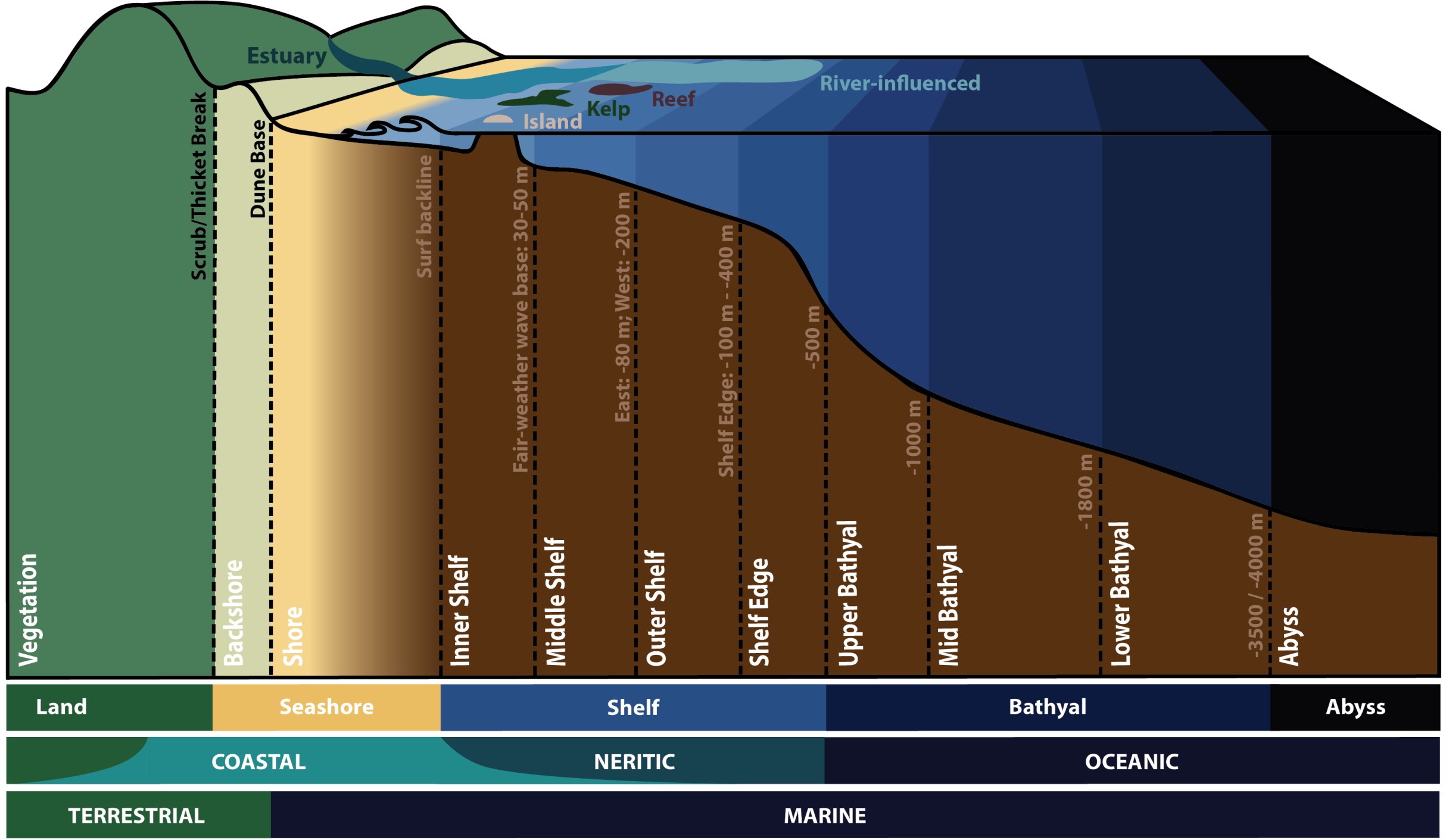


inland aquatic

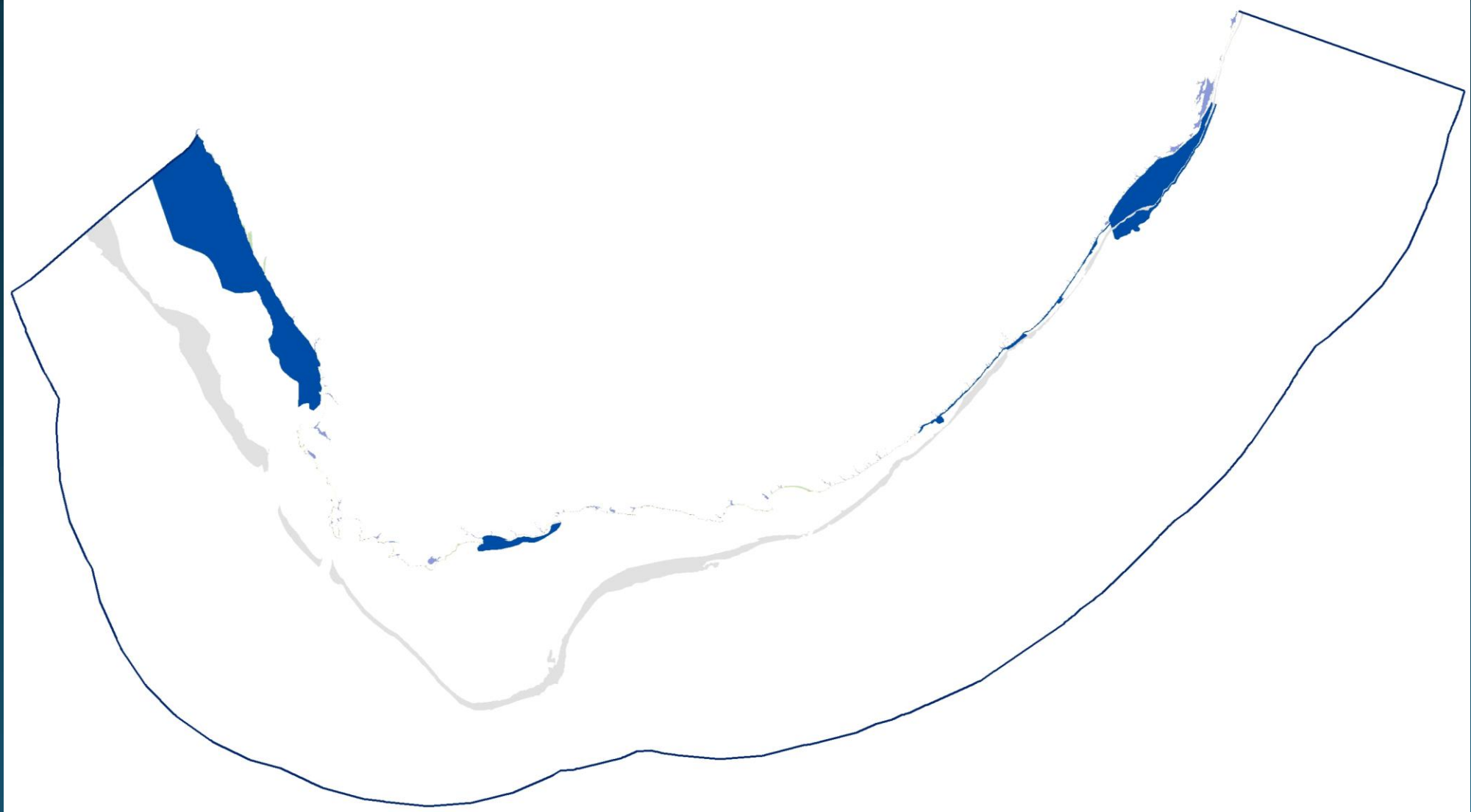
terrestrial

marine

estuary



The Coast



What does this unlock for us?

- Coastal ecological infrastructure
- Integrated, cross-realm planning
- Coastal and marine CBA map





our future through science



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



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Thank you

Dr Linda Harris

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