Exploring the latest marine research discoveries: A deep dive into Saldanha Bay and Langebaan's marine, estuary, and coastal areas

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South African
NATIONAL PARKS

Seagrass and estuarine ecosystem

The Critically Endangered limpet Siphonaria compressa

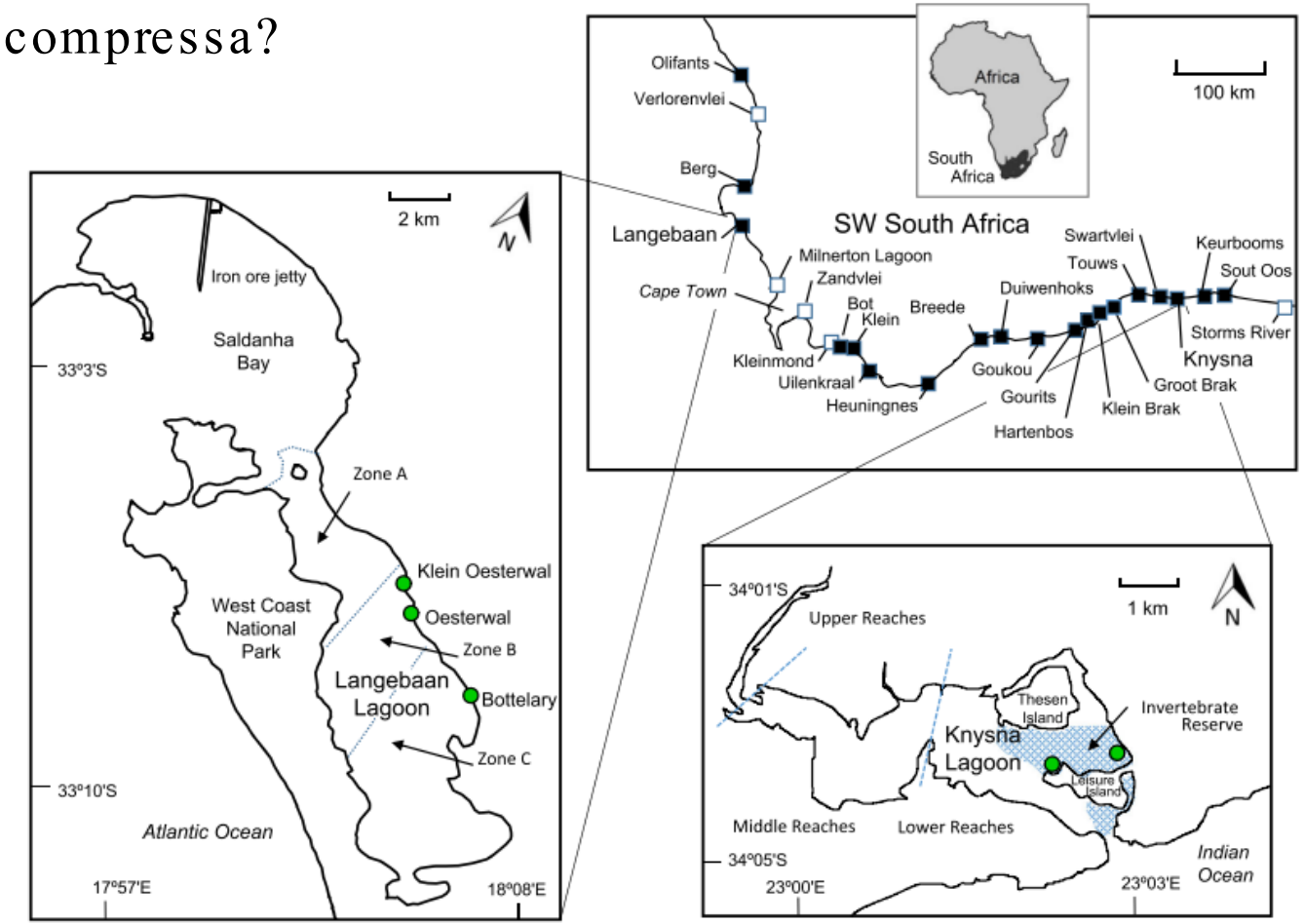
Problem: How many populations of Siphonaria compressa?

Approach: Genetic &morphological analyses assessed if the two populations of S. compressa are different

Key Findings:

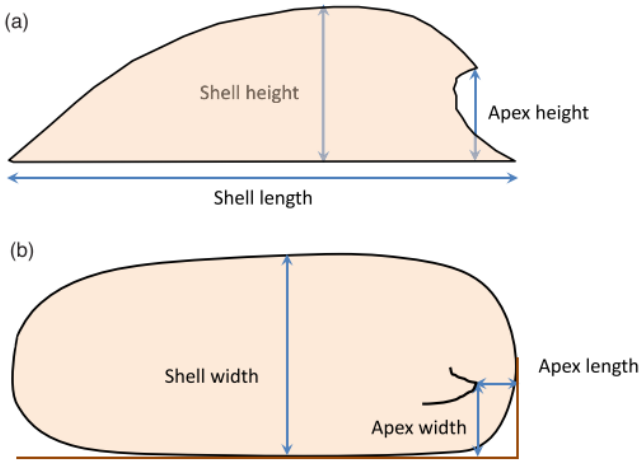
- Populations are genetically distinct & adapted to different environments
- Need separate management needs

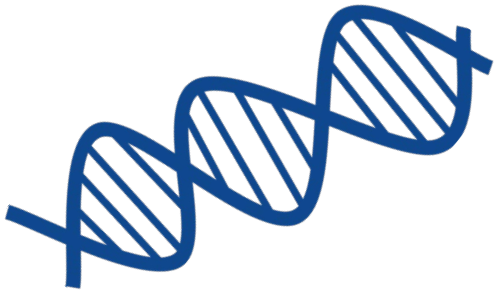
Impact: Translocations are discouraged. Focus on habitat protection &managing populations independently

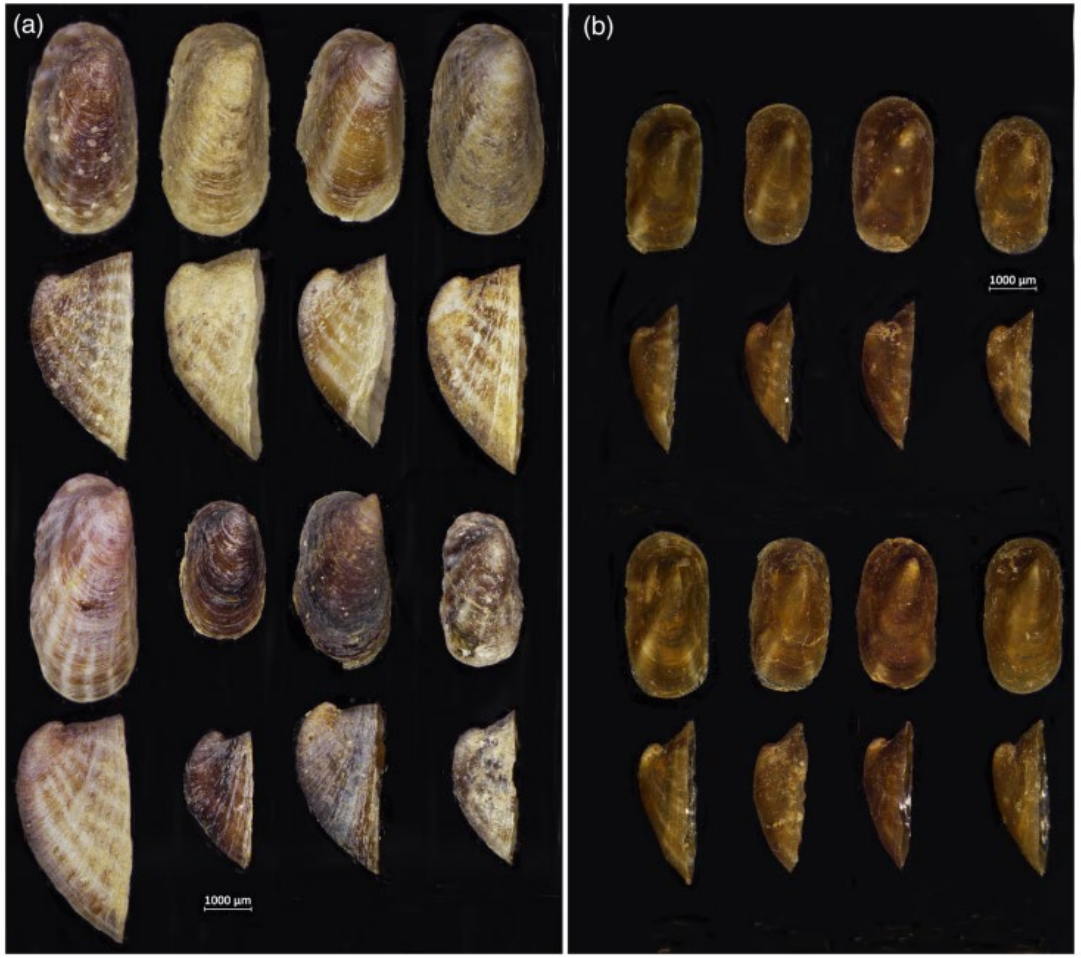


de Coito, P.M., Emami-Khoyi, A., Hedderson, T.A., Toonen, R.J., Teske, P.R. & Branch, G.M. (2023). A critically endangered estuarine limpet's only two populations are genomically and morphologically distinct. Aquatic Conservation: Marine and Freshwater Ecosystems, 33(9), 867–883. https://doi.org/10.1002/aqc.3993

Only one population of the Critically Endangered limpet Siphonaria compressa







Langebaan Knysna

de Coito, P.M., Emami-Khoyi, A., Hedderson, T.A., Toonen, R.J., Teske, P.R. & Branch, G.M. (2023). A critically endangered estuarine limpet's only two populations are genomically and morphologically distinct. Aquatic Conservation: Marine and Freshwater Ecosystems, 33(9), 867–883. https://doi.org/10.1002/aqc.3993

Experimental seagrass restoration

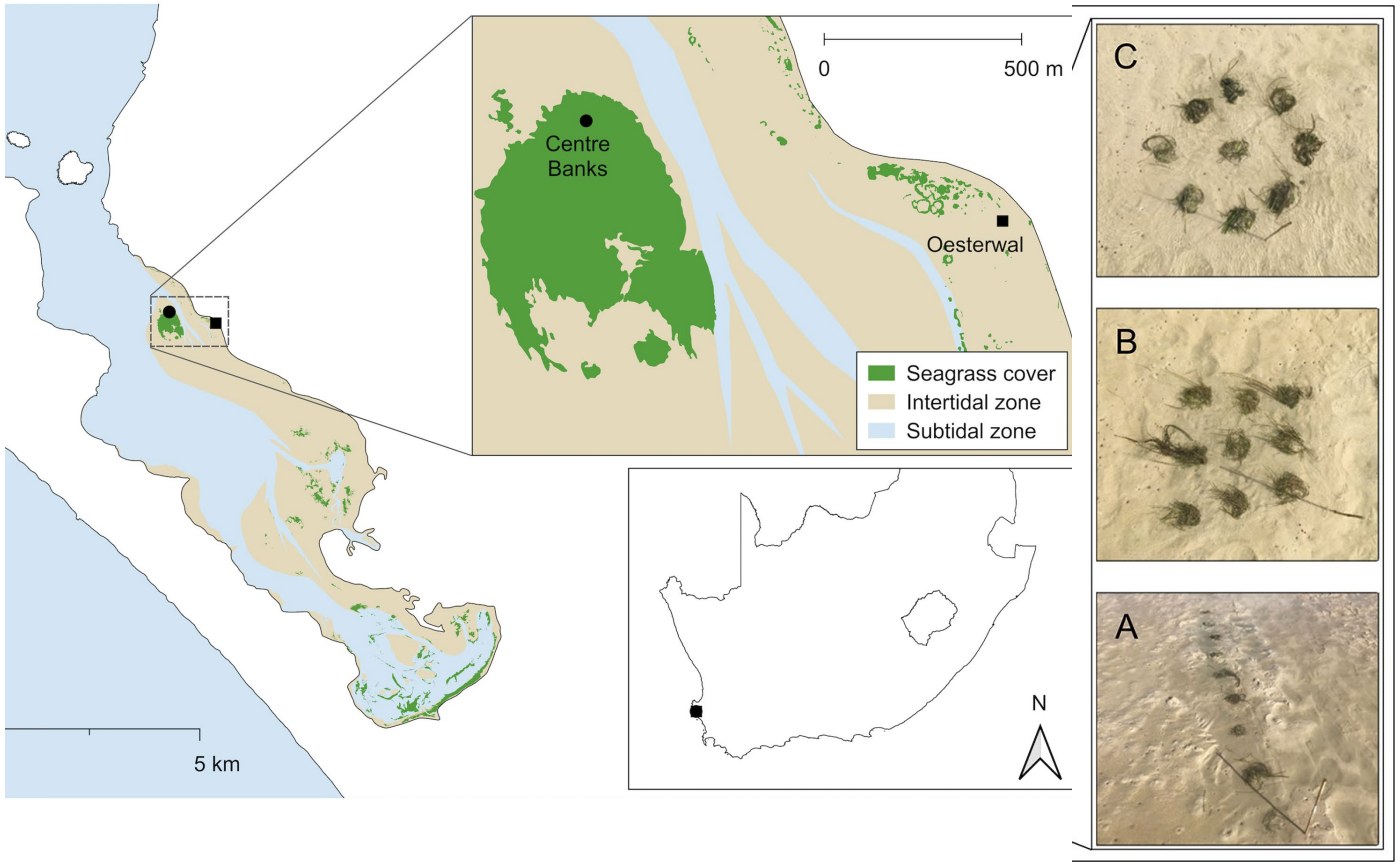
Problem: Seagrasses, vital for marine life, are declining due to environmental &human pressures

Approach: Tested various planting methods for Zostera capensis over 18 months

Key Findings:

- Initial decline in growth, but followed by recovery &expansion in some patches
- Core transplants showed the best long-term success but require more resources &could impact donor sites
- Plots attracted diverse marine life, including the endangered limpet

Impact: Shows us its possible &informs best practices for sustainable seagrass restoration



Watson KM, Pillay D, von der Heyden S. 2023. Using transplantation to restore seagrass meadows in a protected South African lagoon. PeerJ 11:e16500 DOI 10.7717/peerj.16500

New marine alien species discovery

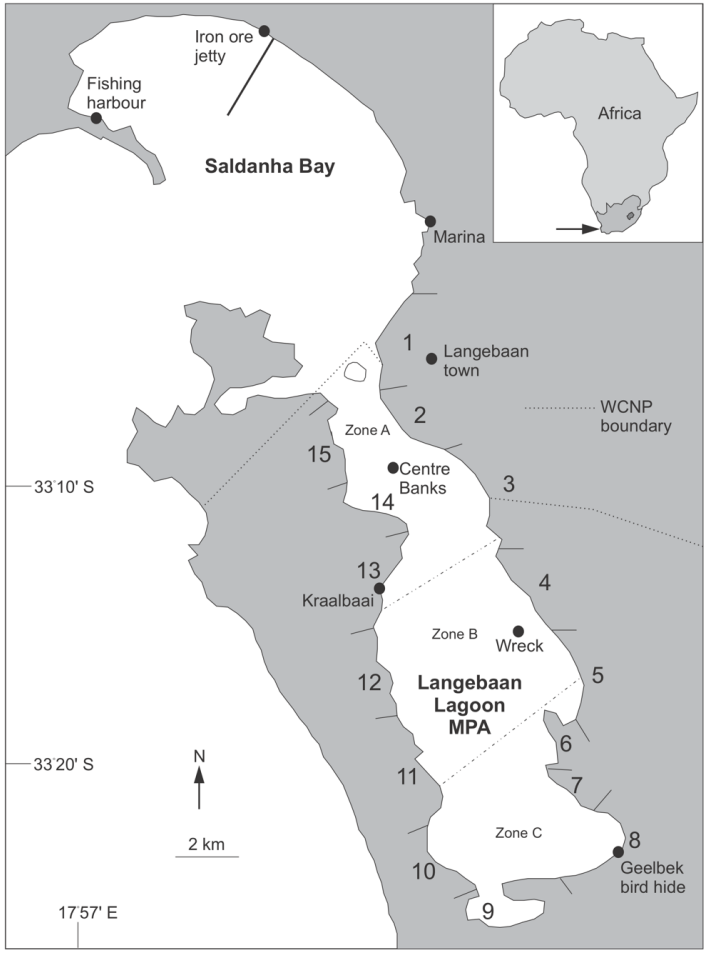
Problem: An invasive marine species, Amathia verticillata, was discovered in Langebaan Lagoon

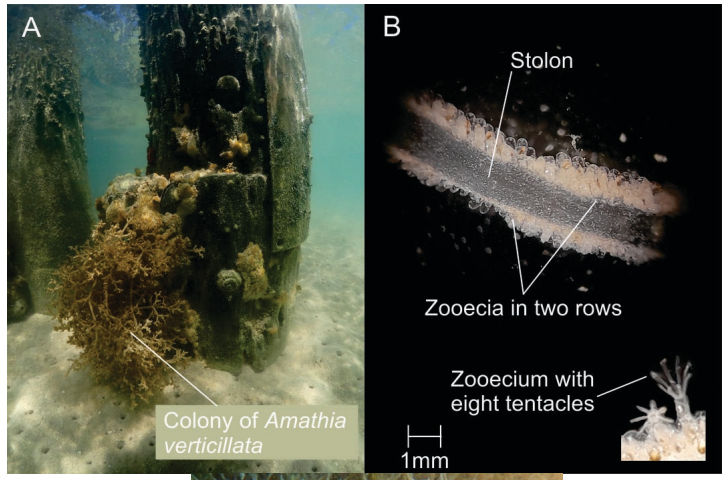
Approach: Surveyed 15 areas in the lagoon to assess the spread &impact of this species.

Key Findings:

- Found in 60% of areas, with 2,333 colonies recorded
- Growing within endangered seagrass beds
- Supports other non-native species, increasing ecological risk

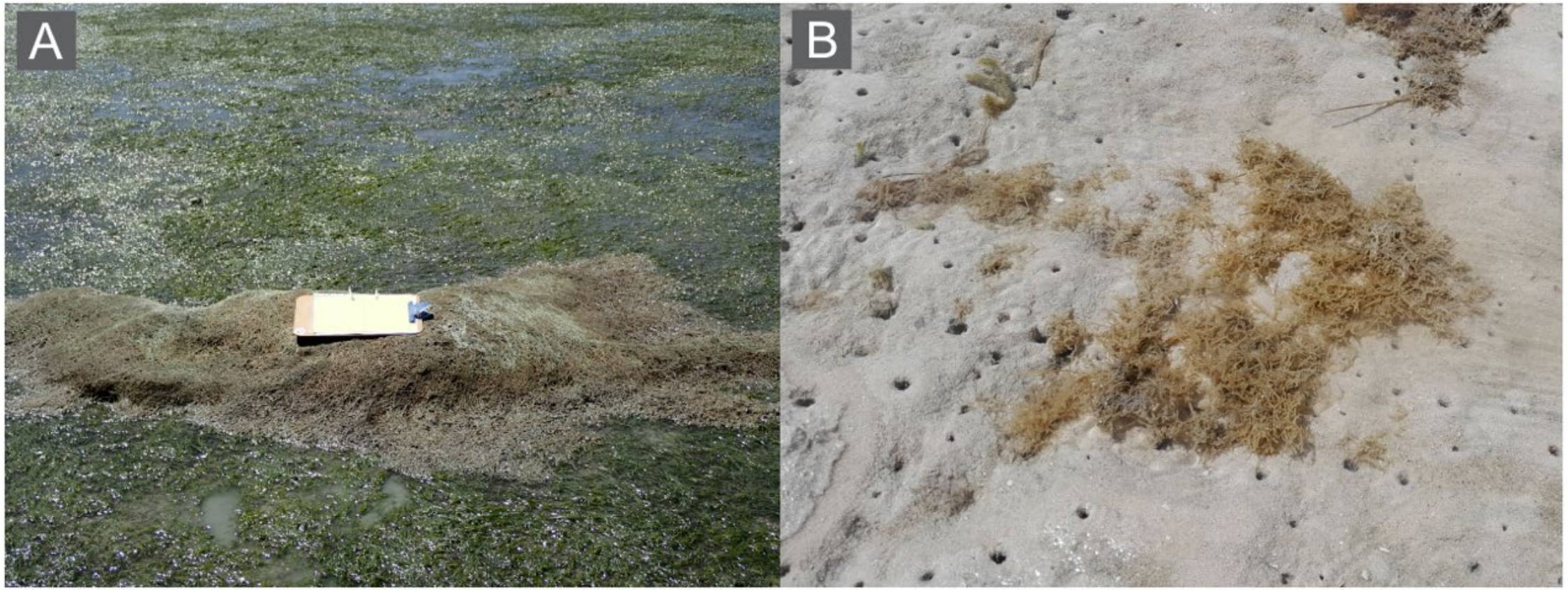
Impact: Impact on seagrass needs to be monitored. Watch lists &training for early identification needed





Sarah Jane Ackland, Miranda Nicole Andersen, Alison Kock, Daniel van Blerk, Rushdi Ariefdien, Tamara Bridgett Robinson. First record of the marine alien bryozoan Amathia verticillata (delle Chiaje, 1822) in South Africa. In press

New marine alien species discovery



Credit: Alison Kock (SANParks)

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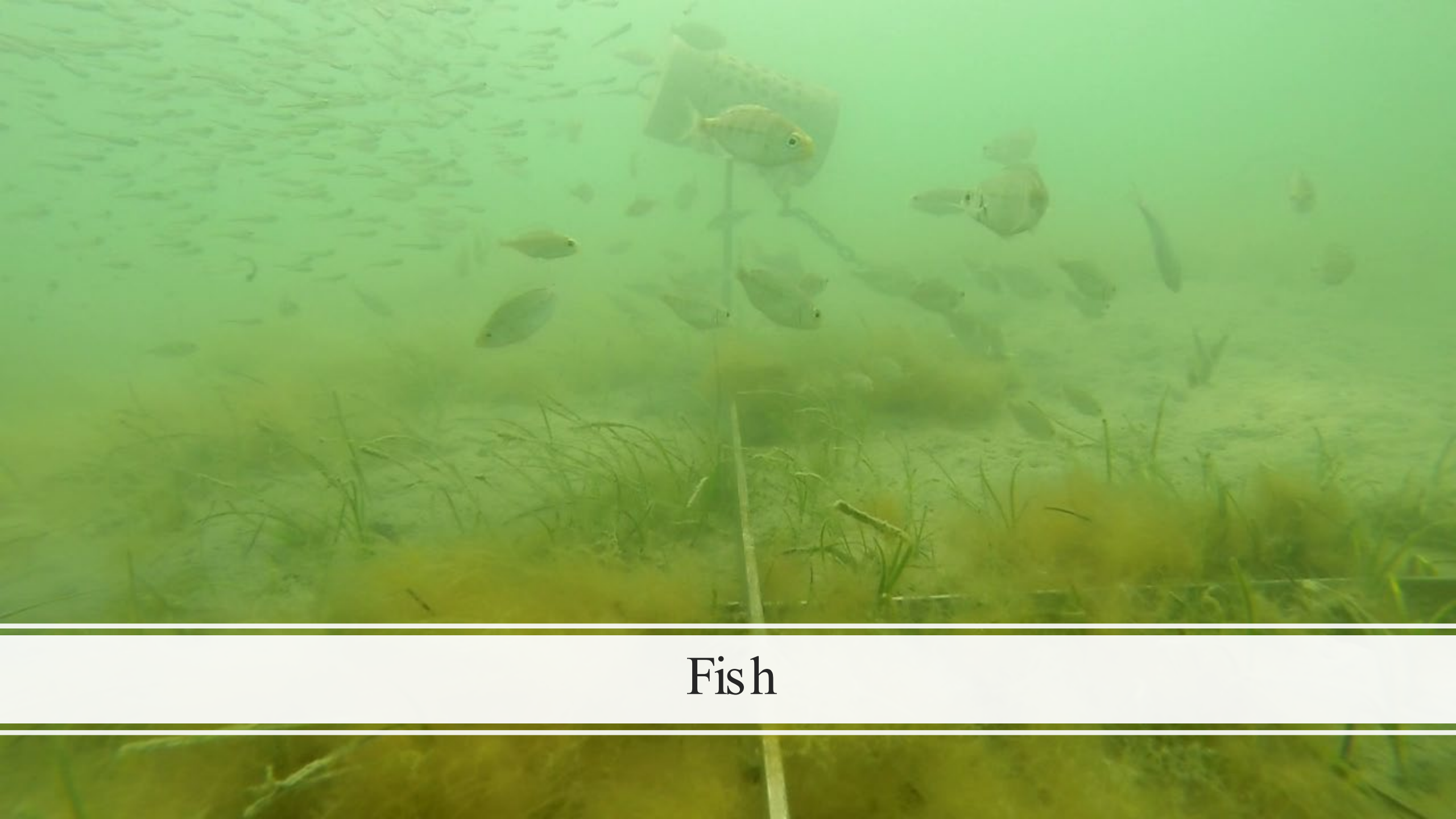


Fish

Monitoring fish & sharks using BRUVs

Problem: Commercially important fish & shark species are declining

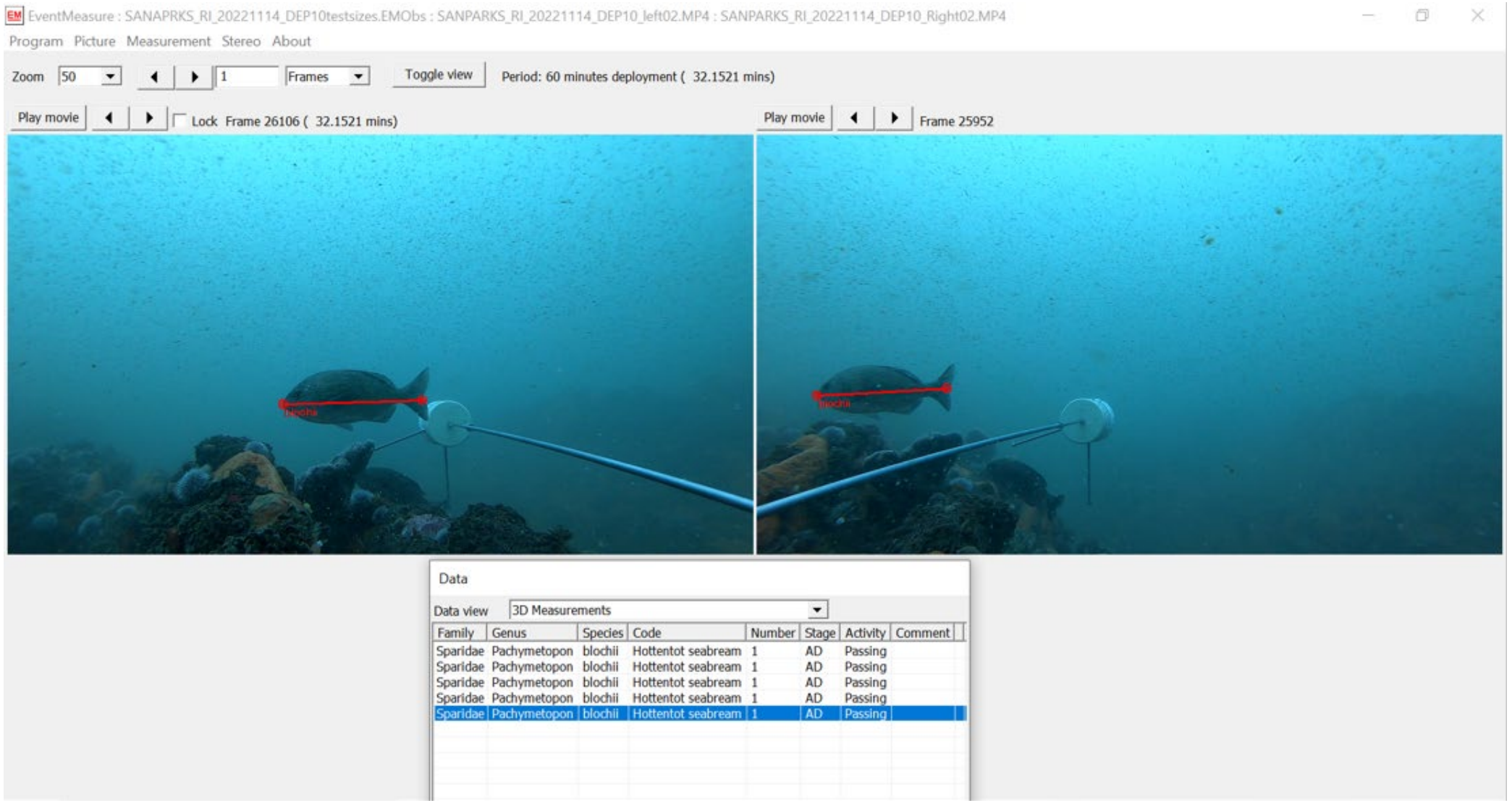
Approach: Used BRUVs (deploying 209 BRUVs) across all MPA zones to assess species diversity & abundance.

Key Findings:

- 19 species recorded, including white stumpnose, elf, steentjie, blacktail, skates & sharks
- Summer had higher diversity & abundance than winter, likely due to warmer water temperatures.
- Zone C showed highest diversity & abundance of key species, especially juveniles

Impact: Guide MPA management & conservation, with future data expected to reveal the effects of protection on species diversity & abundance

Monitoring using BRUVs – now with size



Cape fur seals

Rabies outbreak in Cape fur seals

Problem: Increased reports of unusually aggressive behaviour in Cape fur seals towards people

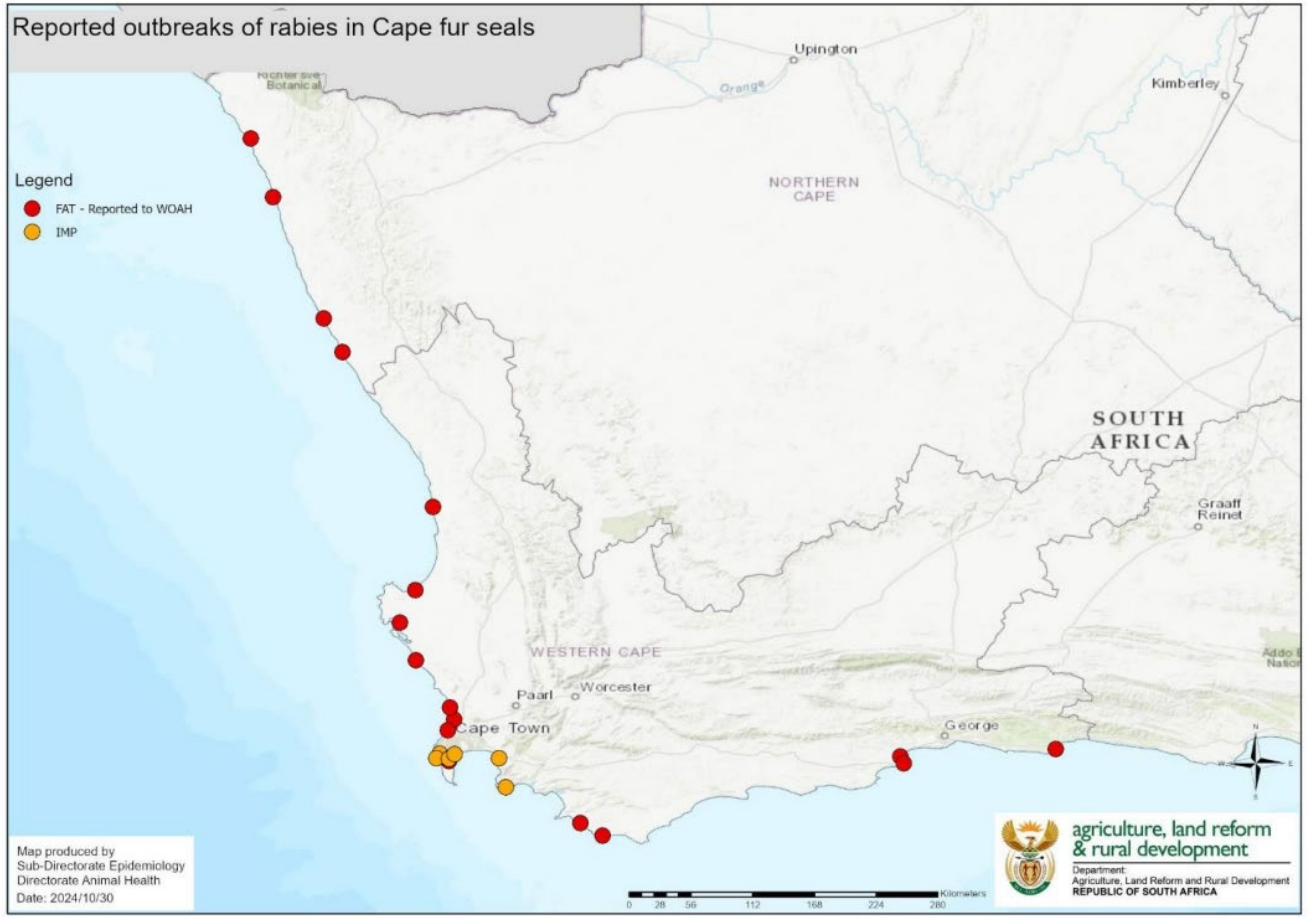
Approach: Tested for rabies even though never occurred in seals before

Key Findings:

- Rabies confirmed in June 2024 &cases from Northern – Eastern Cape
- 29 confirmed cases (back tested samples – August 2022 earliest case)
- Genetic analysis - single source of rabies infection -evidence that it may have spread from black-backed jackals in Namibia

What is being done:

Ongoing testing, public health risk management, surveillance, euthanasia of suspect seals, communication



Rabies outbreak in Cape fur seals

agriculture, land reform & rural development
Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

- Key Messages:
- Avoid interacting with Cape fur seals—they are wild animals and can be dangerous.
- If bitten, scratched, or licked by an animal suspected of having rabies, wash the wound with soap &water for 10 minutes &seek medical help immediately.
- Report any unusual behaviour or aggression in Cape fur seals or other animals to the local state veterinary office
- Keep pets on a leash near seal haul-out sites, such as beaches
- Ensure dogs &cats are fully vaccinated against rabies to protect them &the community

Figure 2: A rabid seal attacking a rope (Photo: D. Coulson)

Figure 3: Repetitive retroflexion of the head and neck in a seal with rabies (Photo: J. Barnard)

Seabirds

Avian influenza epidemic in South African seabirds

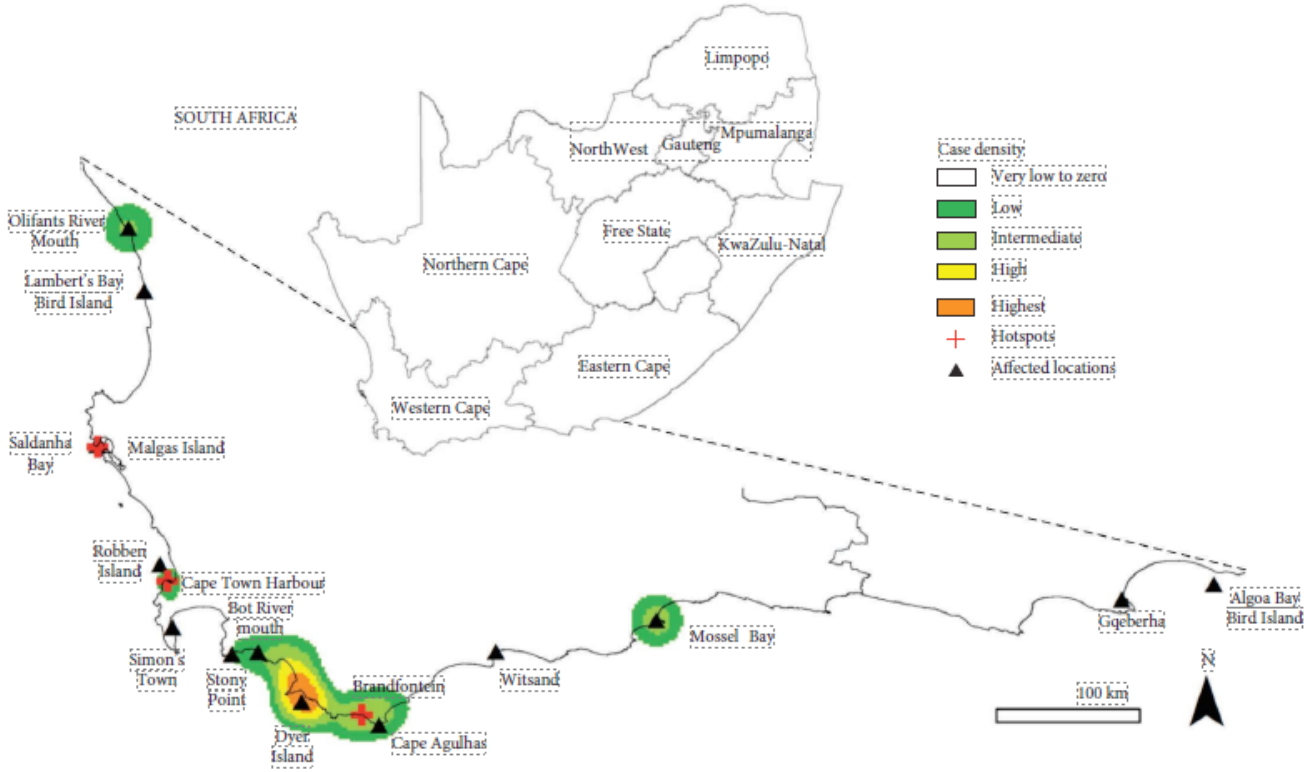
Problem: Avian influenza (bird flu) caused mass mortality in South African coastal seabirds

Approach: Multi-stakeholder effort for resource allocation, risk mitigation, and outbreak management

Key Findings:

- Impacted 15 species, including African penguins, Cape cormorants &Cape gannets.
- Over 7,500 cases reported with high mortality
- Exposed gaps in resource &response readiness.

Impact: Highlighted need for contingency plans. Lessons have informed future outbreak responses



Roberts, L. C. et al. (2023). Descriptive epidemiology of and response to the high pathogenicity avian influenza (h5n8) epidemic in South African coastal seabirds, 2018. Transboundary and Emerging Diseases, 2708458. https://doi.org/10.1155/2023/2708458

Dance of the Cape gannets

Problem: How do Cape gannets share foraging info?

Approach: Tracked with GPS &dance ceremonies upon return to the nest were video-recorded to assess links between dance & foraging trip characteristics

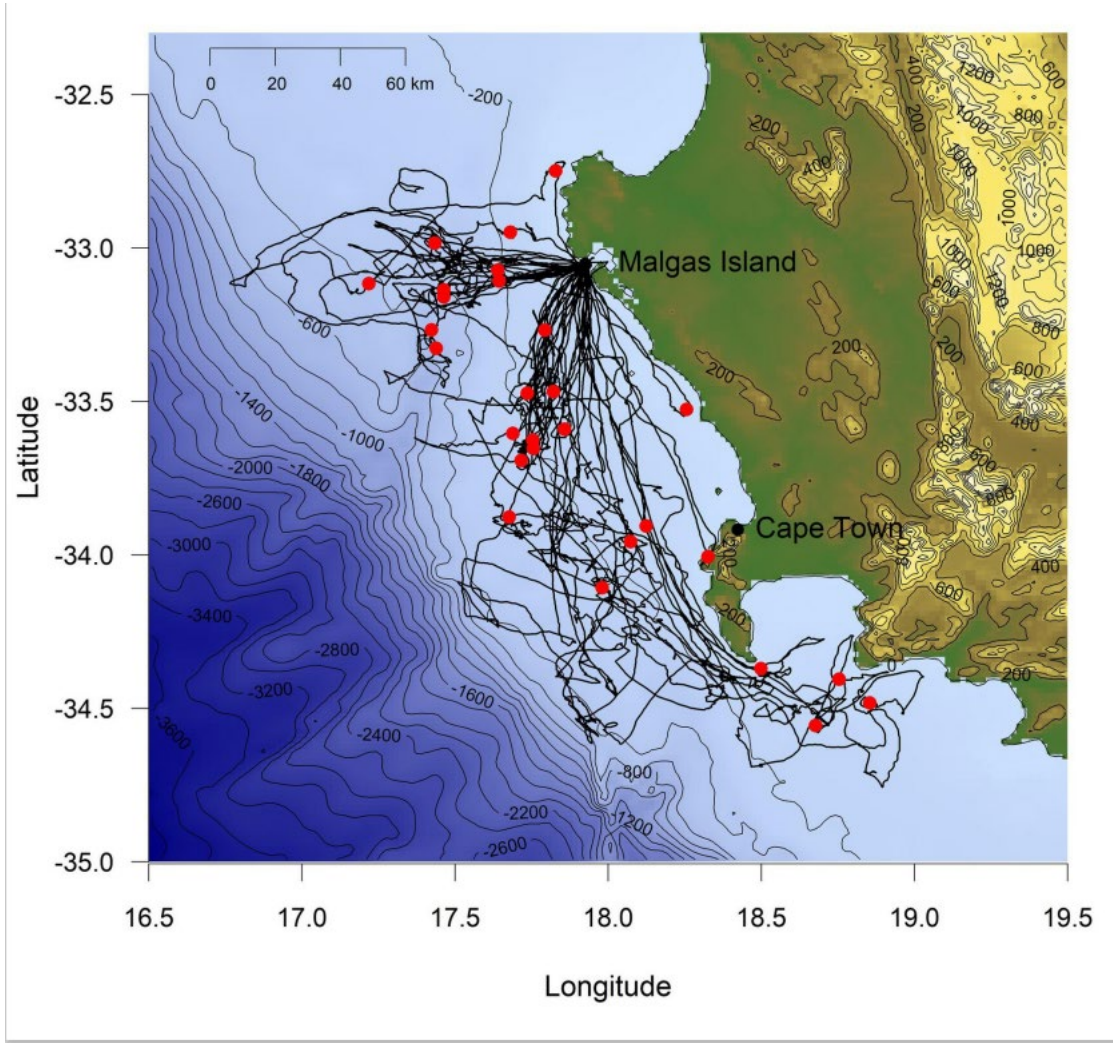
Key Findings:

- 14 different ceremonial dance displays
- Specific dance behaviors correlated with foraging location data

Impact: Findings highlight how social behaviors may share foraging information in colonies

Courbin N, Chinho T, Pichegru L, Verma-Grémillet A, Péron C, Ryan PG, Grémillet D. The dance of the Cape gannet may contain social information on foraging behaviour. Animal Behaviour. 2020 Aug 1;166:95-108.

Look how far the fly to find food!



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