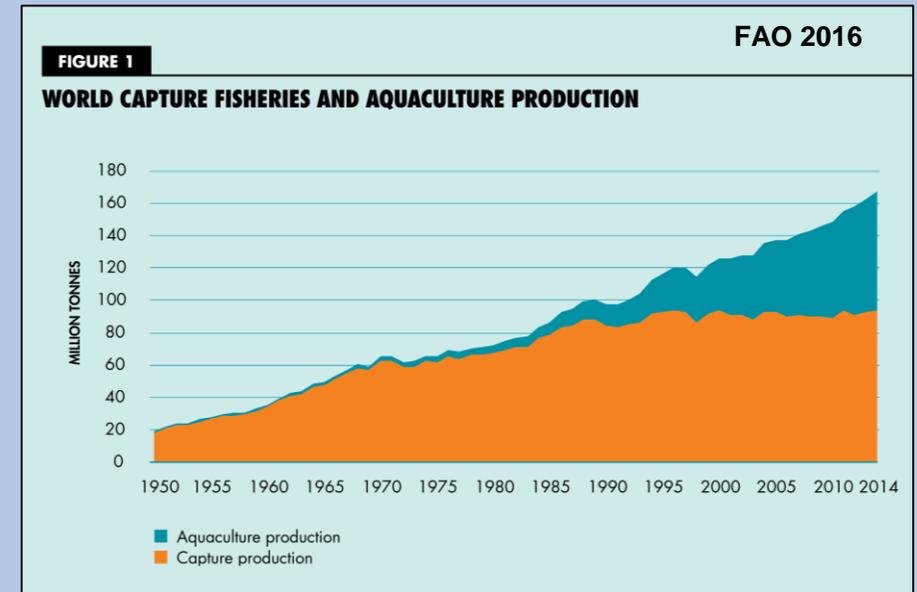
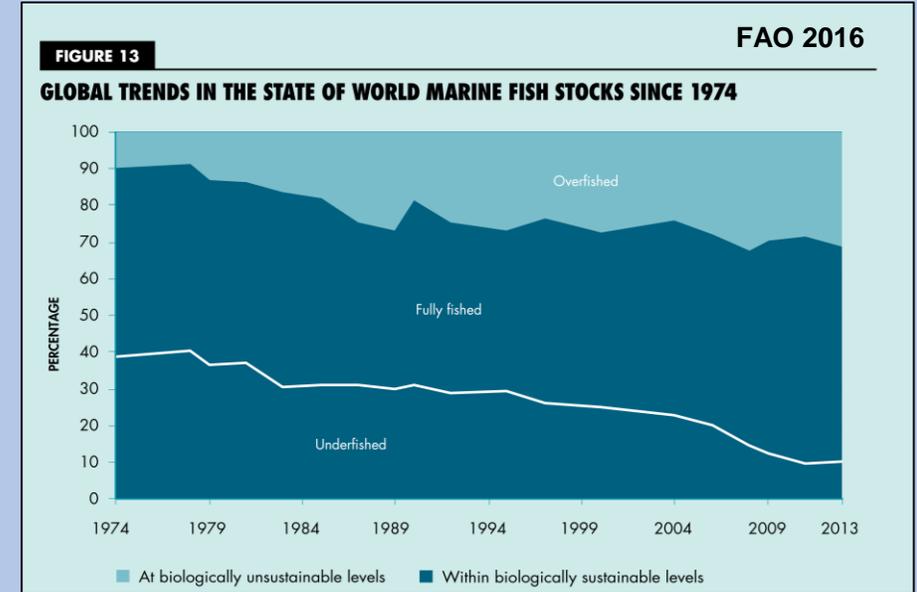


# Living resources & food security

SARChI Chair: Ocean science & food security

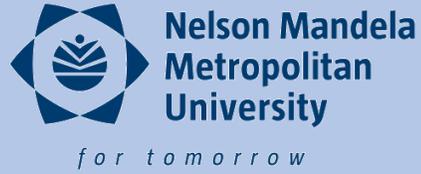
*Prof Mike Roberts*

- Coordinate research
- Networking
- Share opportunities
- Encourage multi-disciplinary research





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*Where leaders learn*



**University of Fort Hare**  
*Together in Excellence*

# Eastern Cape Abalone Ranching Project



Ulwandle Fishing



**agriculture,  
forestry & fisheries**

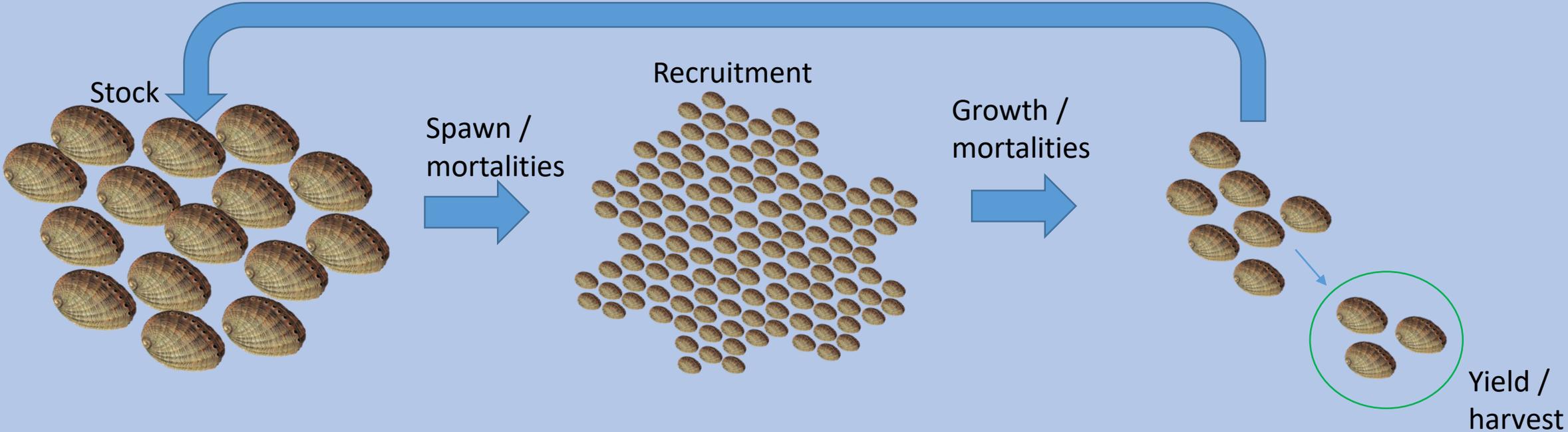
Department:  
Agriculture, Forestry and Fisheries  
REPUBLIC OF SOUTH AFRICA



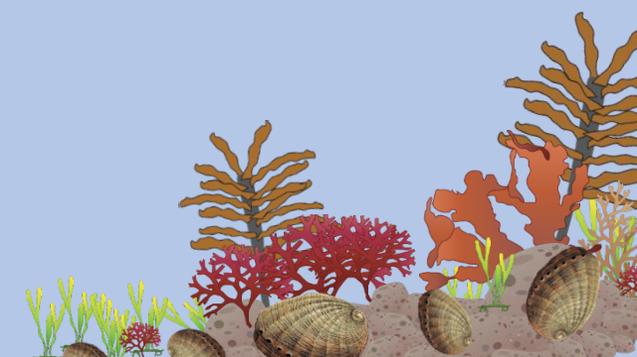
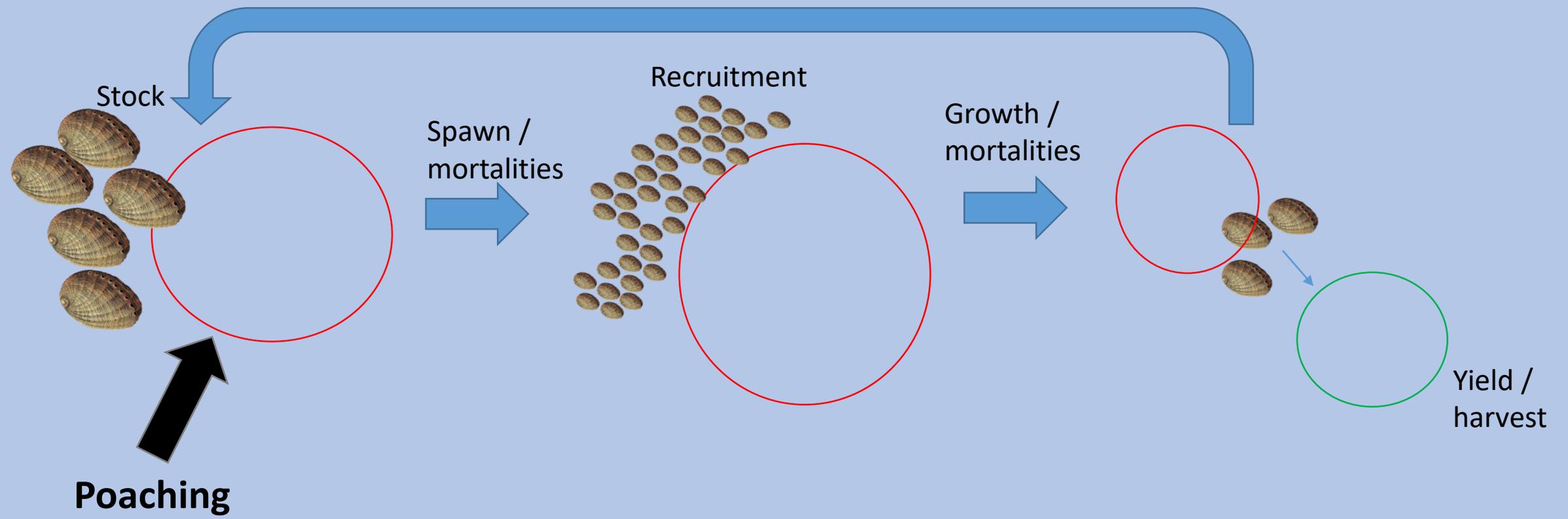
**Tactical Task Force**  
24 Hour Executive Protection Services



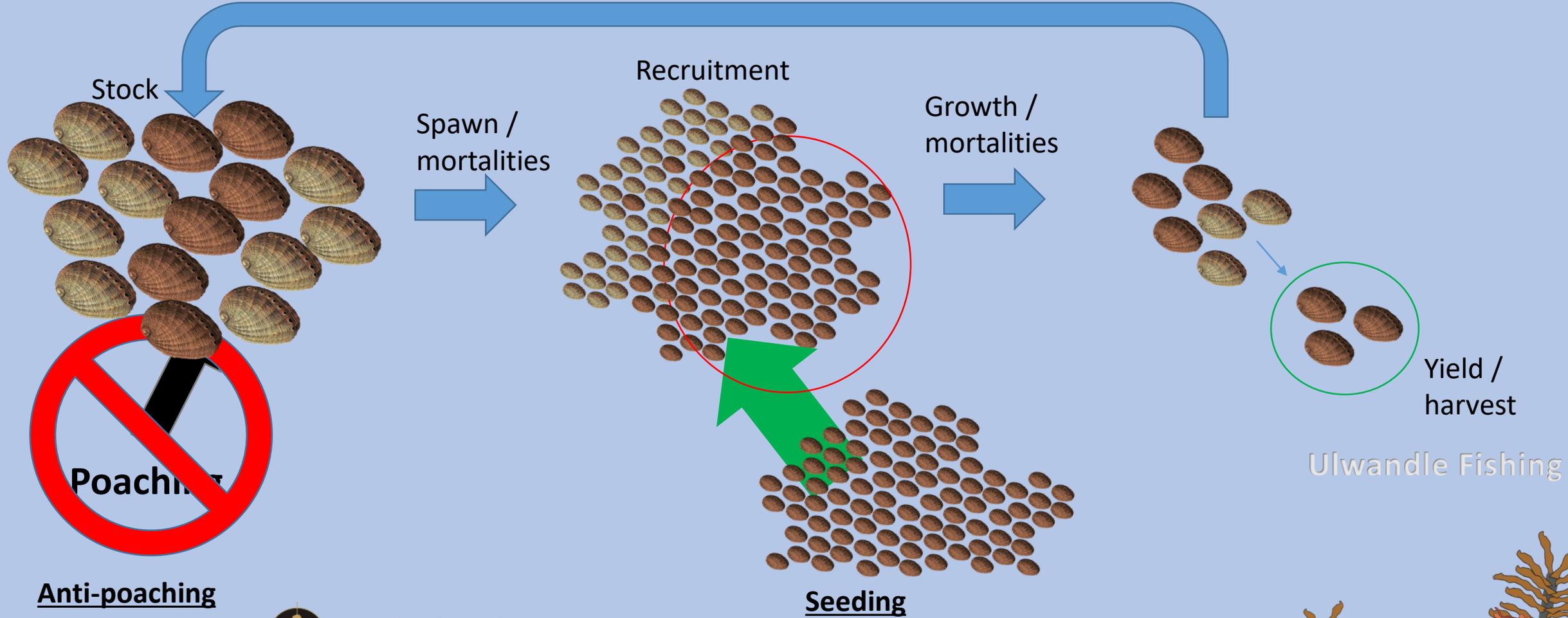
# Stable resource (without poaching)



# With poaching



# Ranching



## Anti-poaching



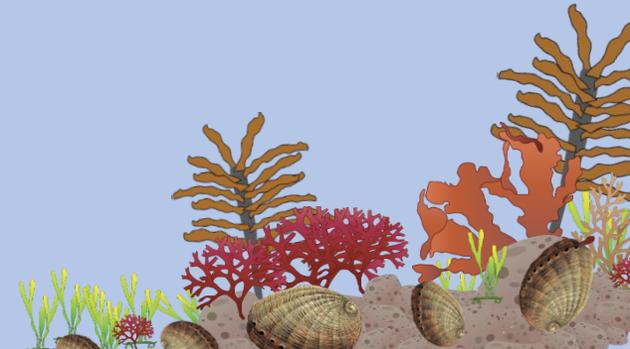
agriculture,  
forestry & fisheries

Department:  
Agriculture, Forestry and Fisheries  
REPUBLIC OF SOUTH AFRICA

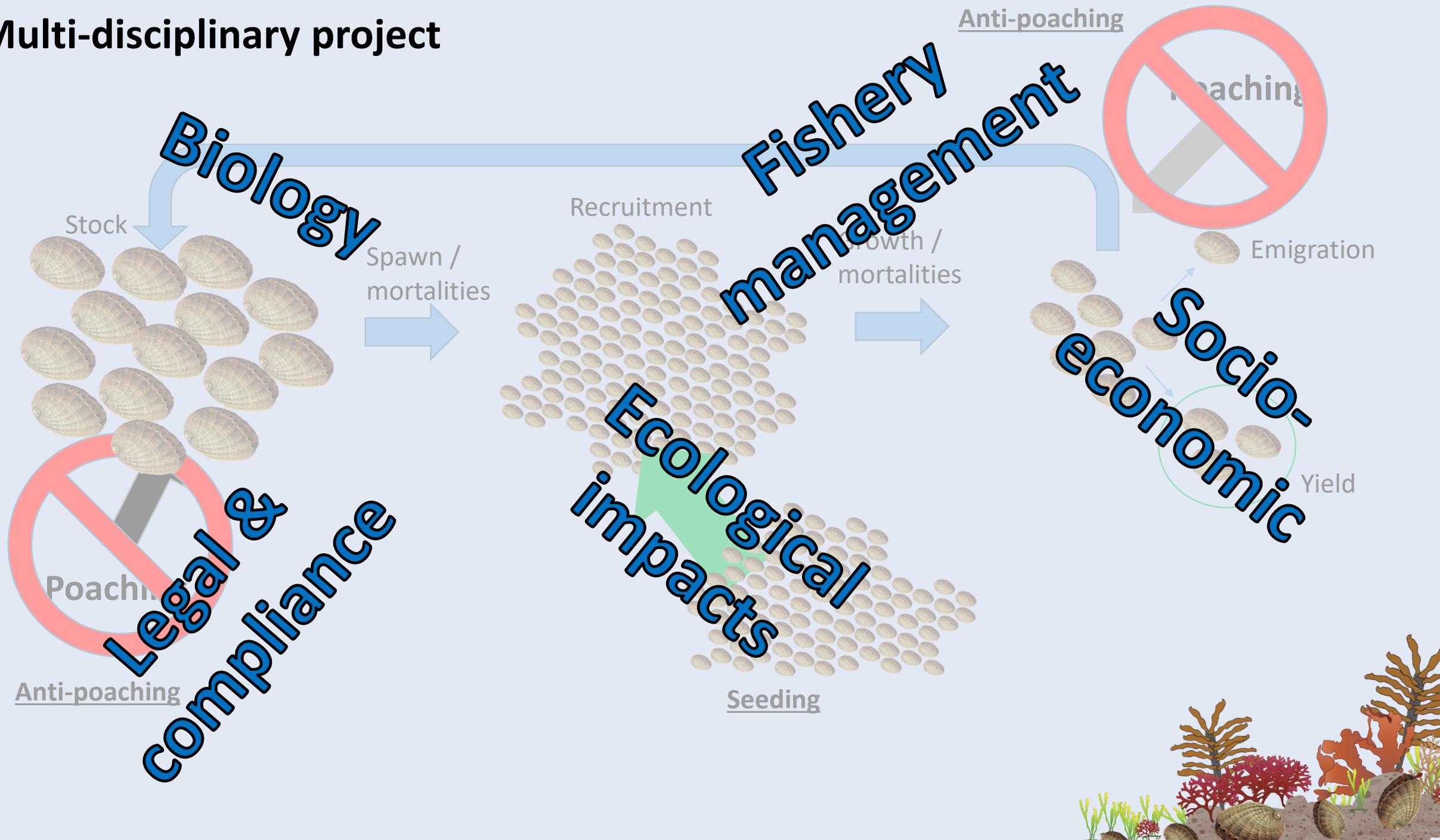


**Tactical Task Force**

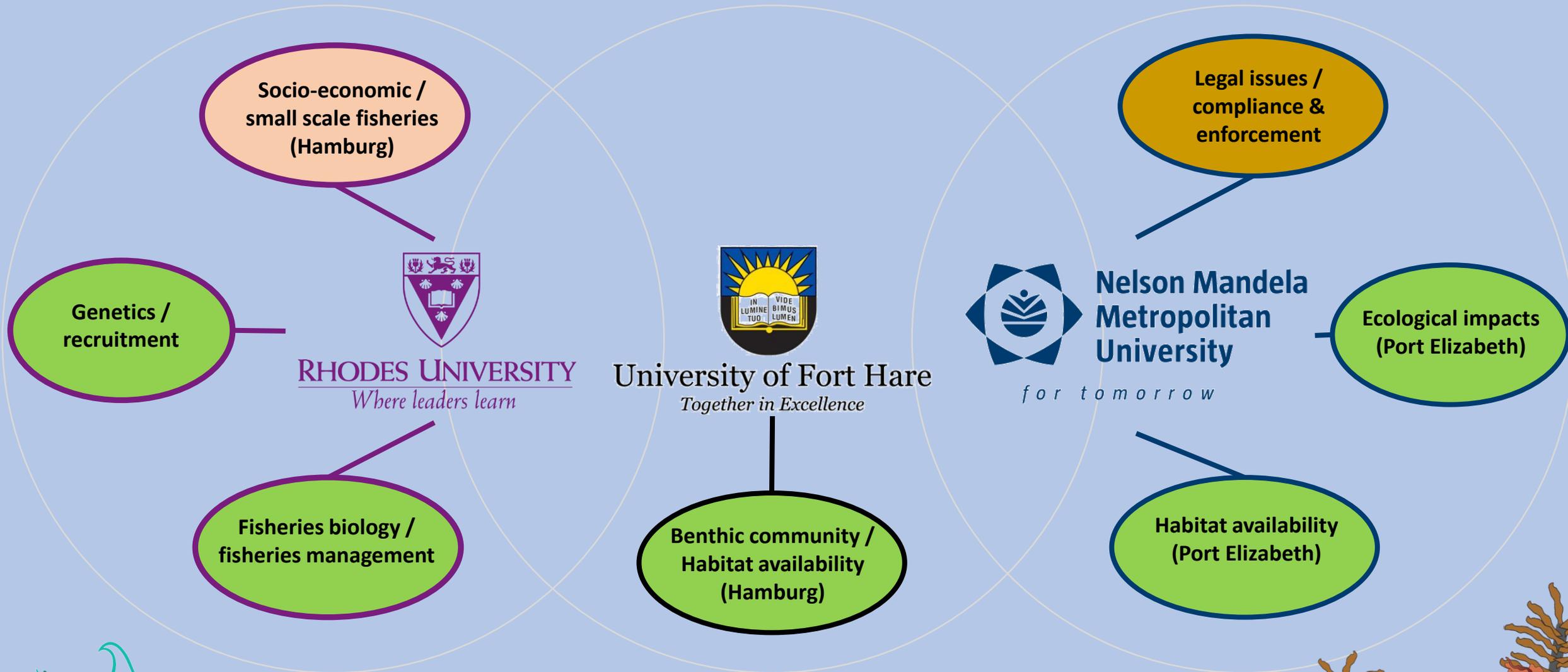
24 Hour Executive Protection Services



# Multi-disciplinary project



# Multi-institutional



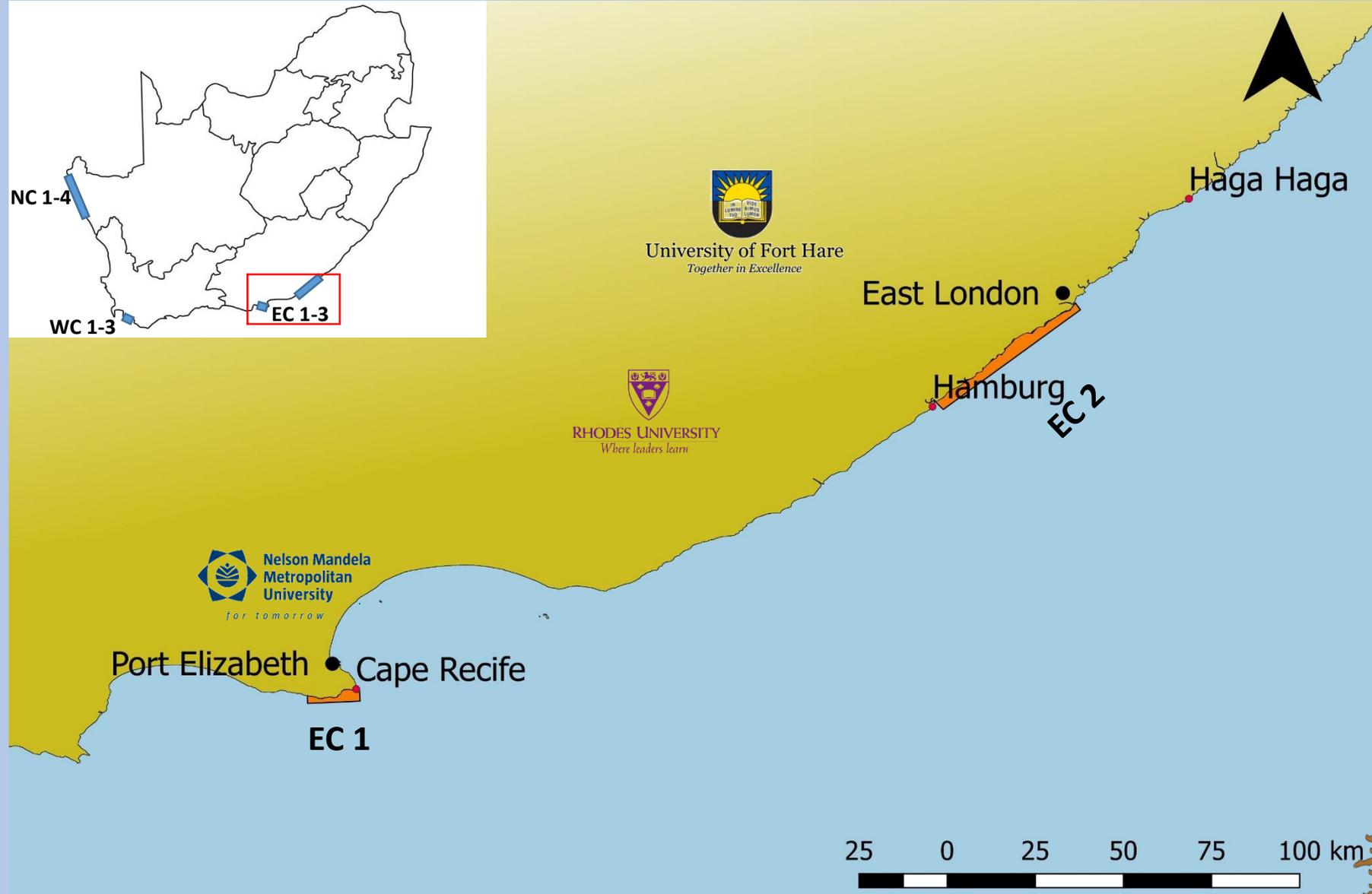
Ulwandle Fishing

Lidomix Investments

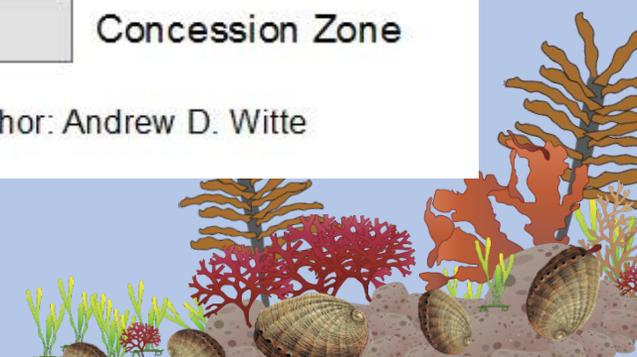
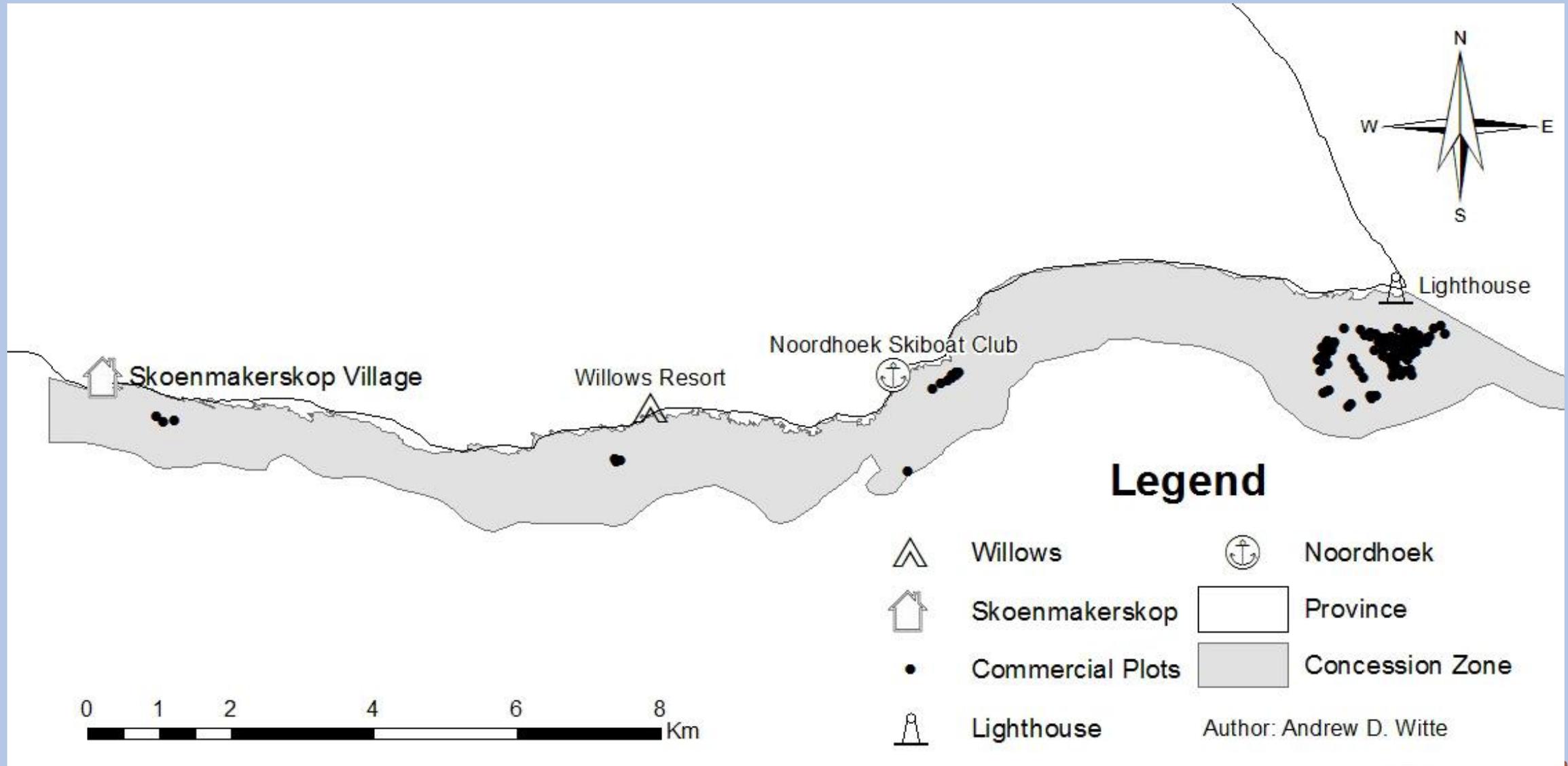
Dti / THRIP



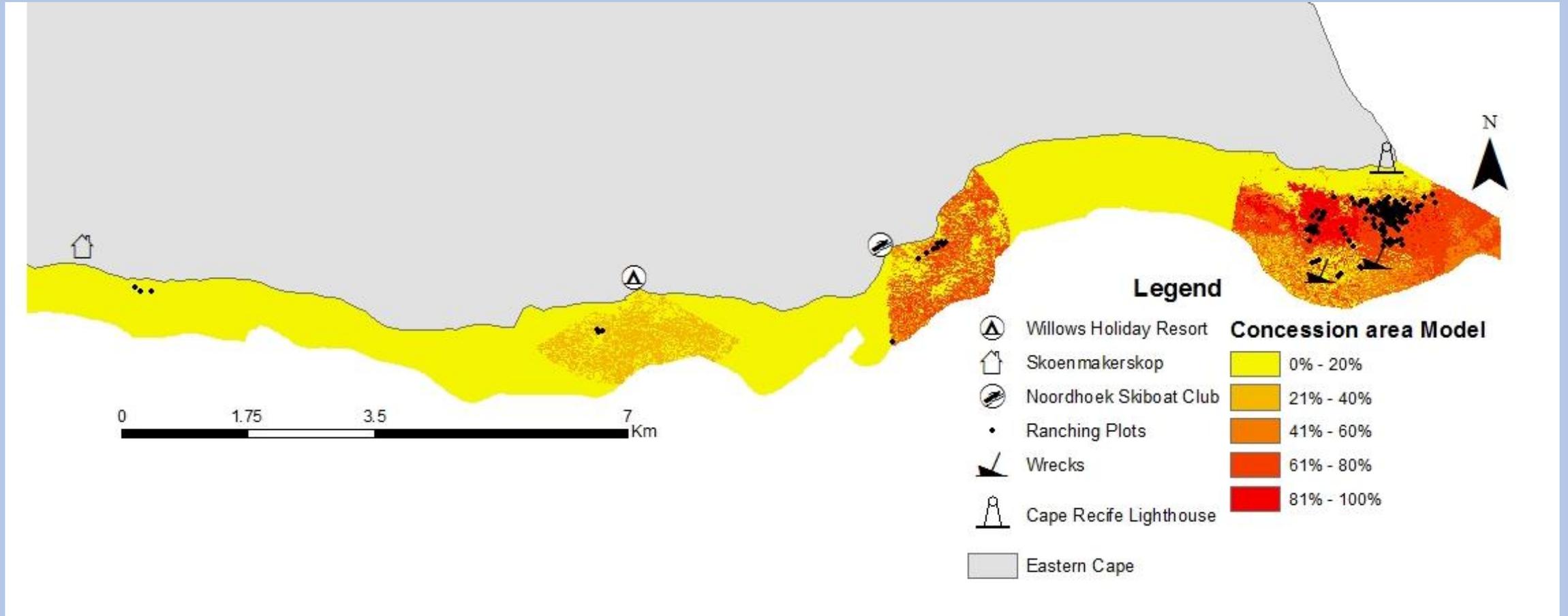
# Project study area



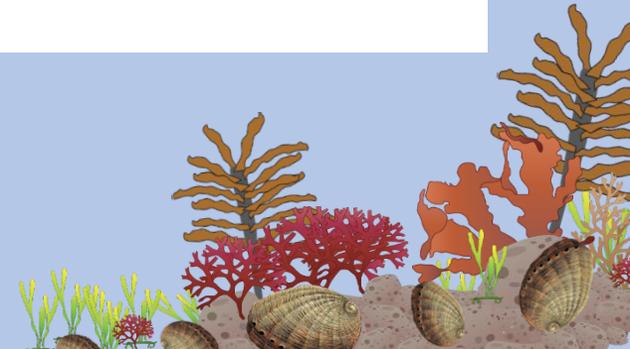
# NMMU focus area – EC1



# Identification & mapping of seeding sites

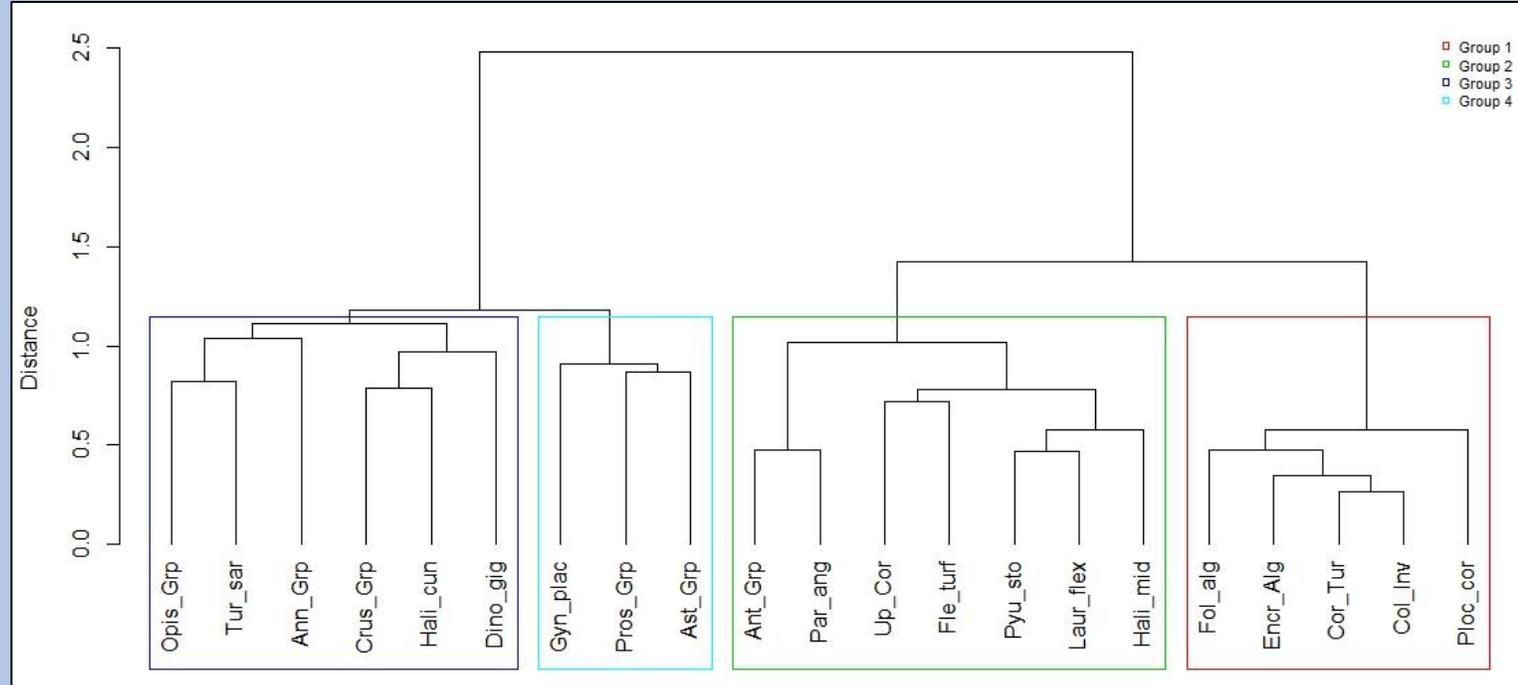


Fuzzy logic: Surveillance, launch access, depth, geology, wave action, existing seeded plots.



# Indicators of suitable abalone habitat

n>1000



Sea urchin



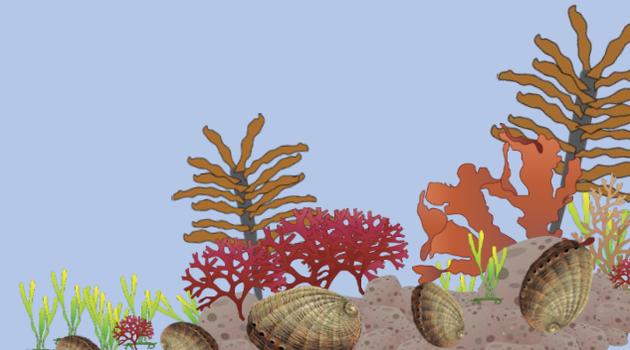
Upright coralline



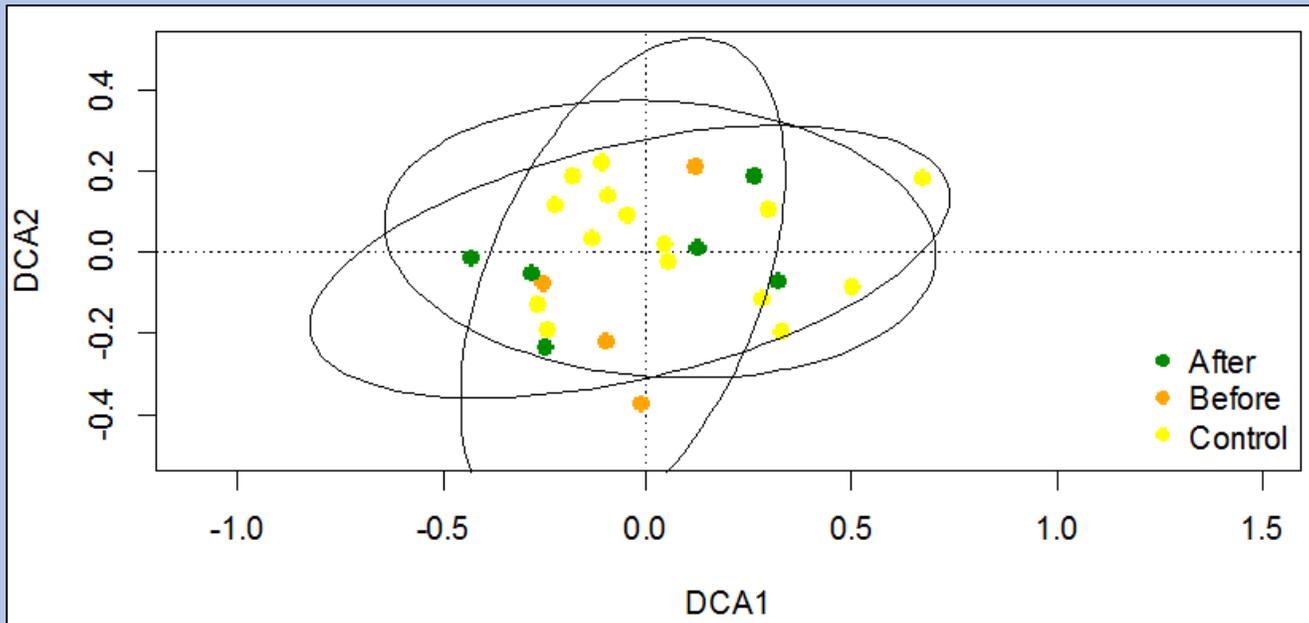
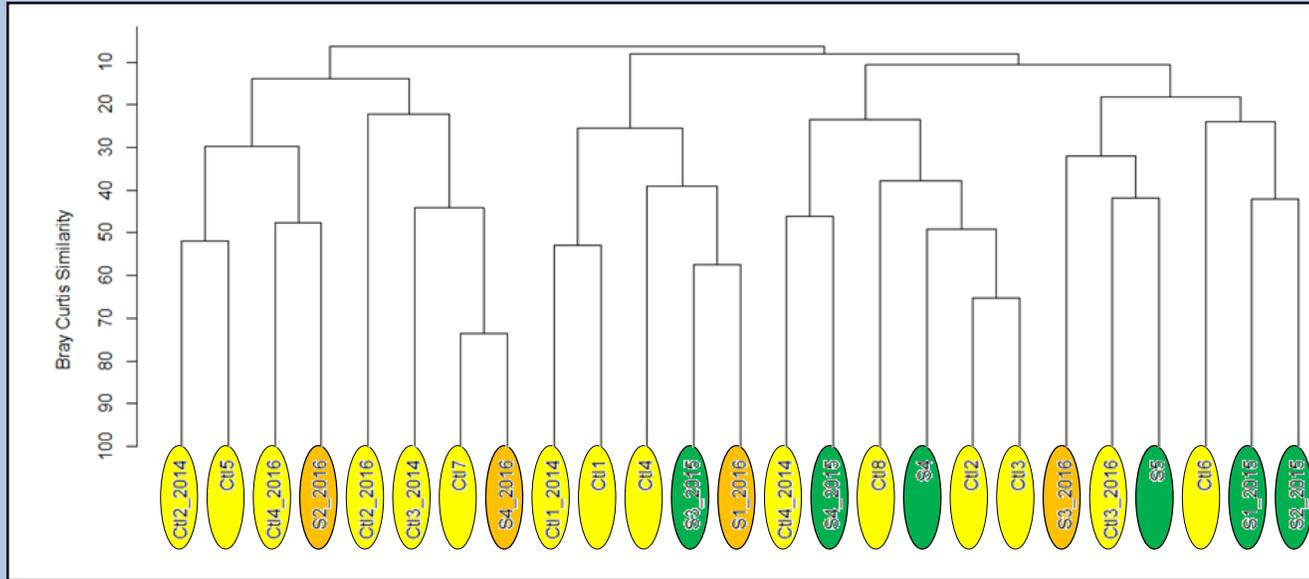
Red bait



Foliose algae



# Monitoring impact on benthic community



## Benthic community composition

Diving surveys & cover estimates.

No difference between seeded & non-seeded sites.

No difference between sites before & after seeding.



# Watch this space

- Game changer for the industry?
- Low impact / Acceptable mortalities.
- Scope to roll out to Hamburg -> Mazeppa Bay?
- Still many questions to answer.









# Multi-disciplinary project



**RHODES UNIVERSITY**  
*Where leaders learn*

**Prof Peter Britz** (Overall primary researcher & Rhodes lead investigator)

Doctoral student – recruitment, growth rates, movement

Doctoral student – population genetics

Masters student – community based fishing

Masters student – seeding methods

Honours student – seeding methods



**Nelson Mandela  
Metropolitan  
University**

*for tomorrow*

**Dr Paul-Pierre Steyn (NMMU) & Prof Hennie Van As (NMMU)**

Masters student – habitat description

Masters student – law enforcement

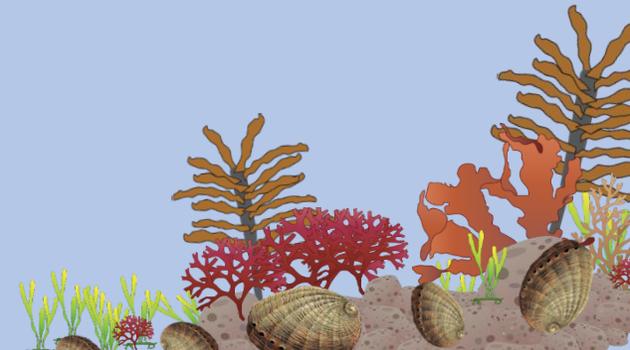
Honours student – site selection



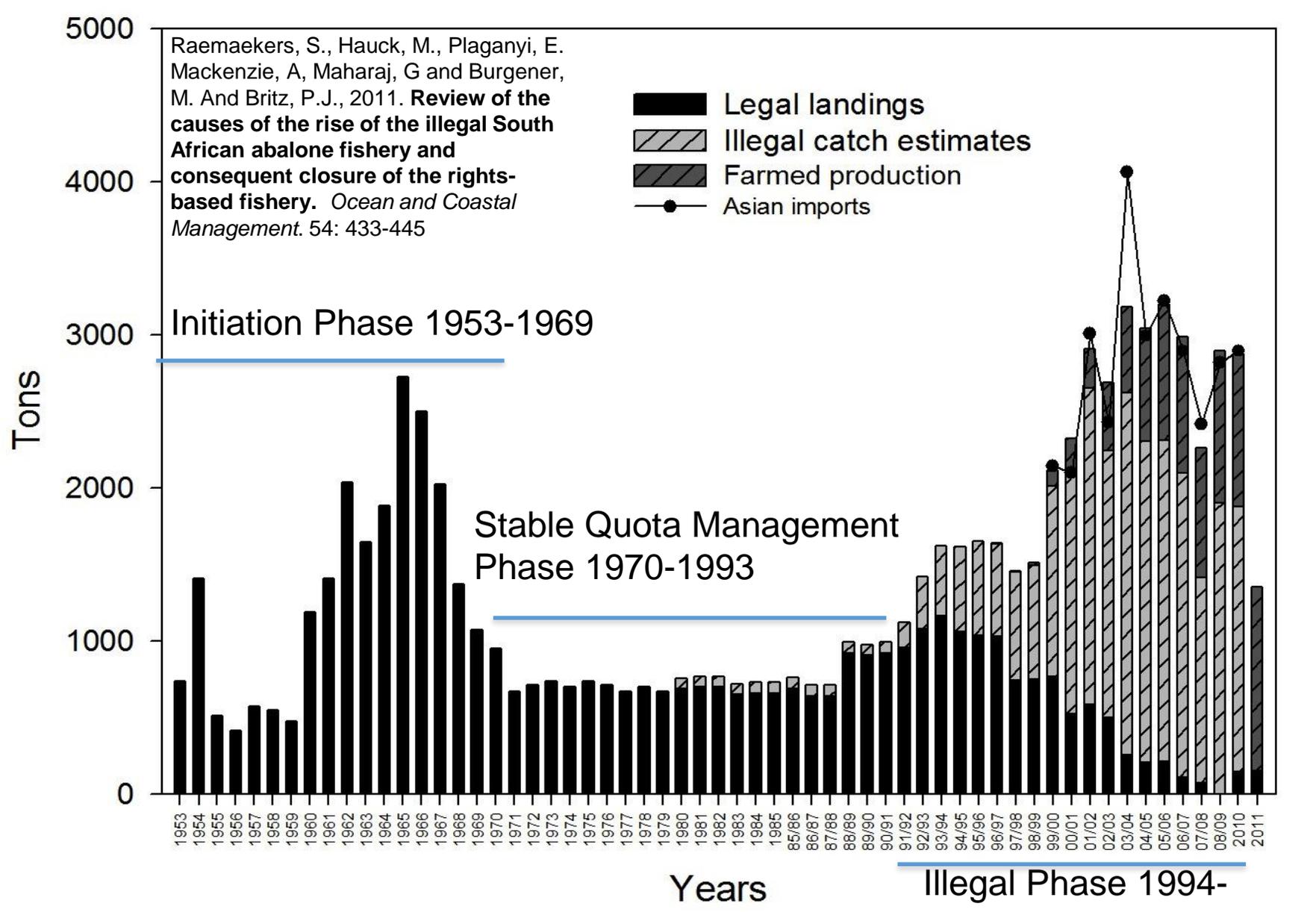
**University of Fort Hare**  
*Together in Excellence*

**Dr Niall Vine** (Fort Hare lead investigator)

Honours student – ranching



# Background



# Background

8 No. 33470

GOVERNMENT GAZETTE, 20 AUGUST 2010

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No. 729

20 August 2010

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES  
MARINE LIVING RESOURCES ACT, 1998 (ACT NO. 18 OF 1998)

PUBLICATION OF THE GENERAL GUIDELINES FOR MARINE RANCHING AND STOCK  
ENHANCEMENT IN SOUTH AFRICA

and

PUBLICATION OF THE GUIDELINES AND POTENTIAL AREAS FOR MARINE RANCHING  
AND STOCK ENHANCEMENT OF ABALONE (*Haliotis midae*) IN SOUTH AFRICA

I, Tina Joemat-Pettersson, Minister of Agriculture, Forestry and Fisheries, hereby, under the Marine Living Resources Act, 1998 (Act No. 18 of 1998) ("MLRA") publish The General Guidelines for Marine Ranching and Stock

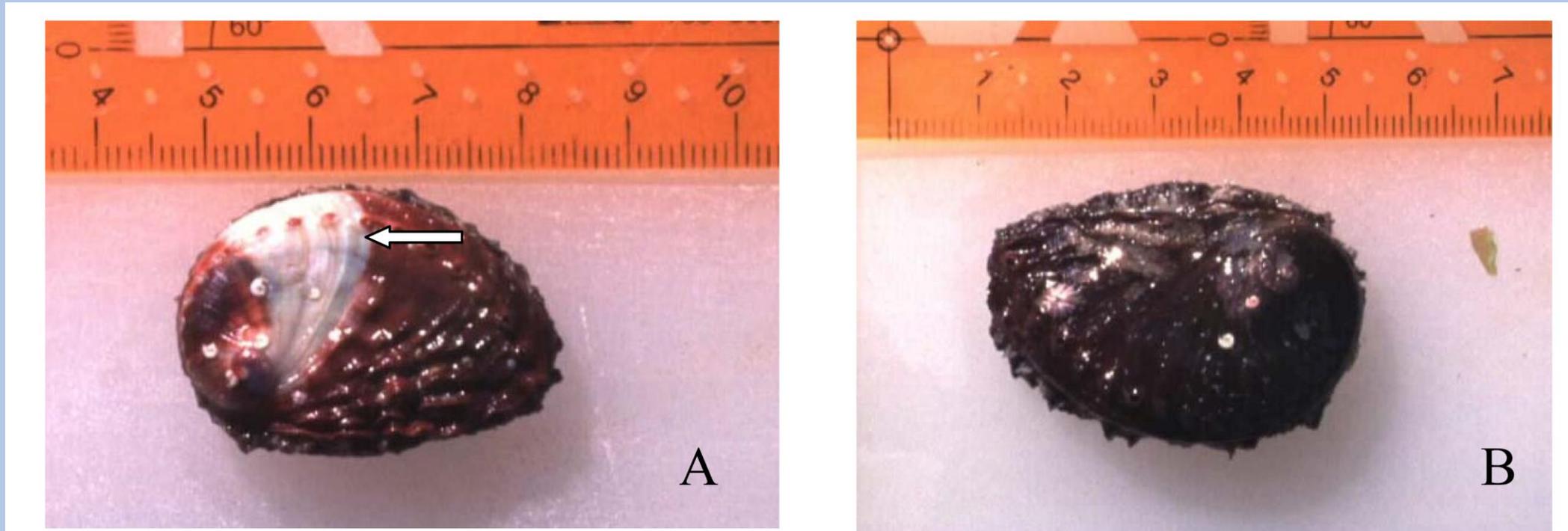
# Role of NMMU Research Diving Unit

Managed by Anton Cloete.

- Equipment and technical support.
- Experienced skippers & dive supervisors.
- Training & management of divers.
- Surface support & swimmers.
- *Ca.* 150 days per year diving on the project.



# Seeded vs natural



**Figure 3.4** Contrast in shell colouration between cultured (A) and wild (B) juvenile *H. midae*. Note the marked change in shell colour (arrow) in the seed abalone after being introduced into the natural environment.