

***Regenerating the kelp forests  
Of Tai Tokerau***



# *Ecklonia radiata*

*Ocean Spirit*

Te Wairua O Te Moananui

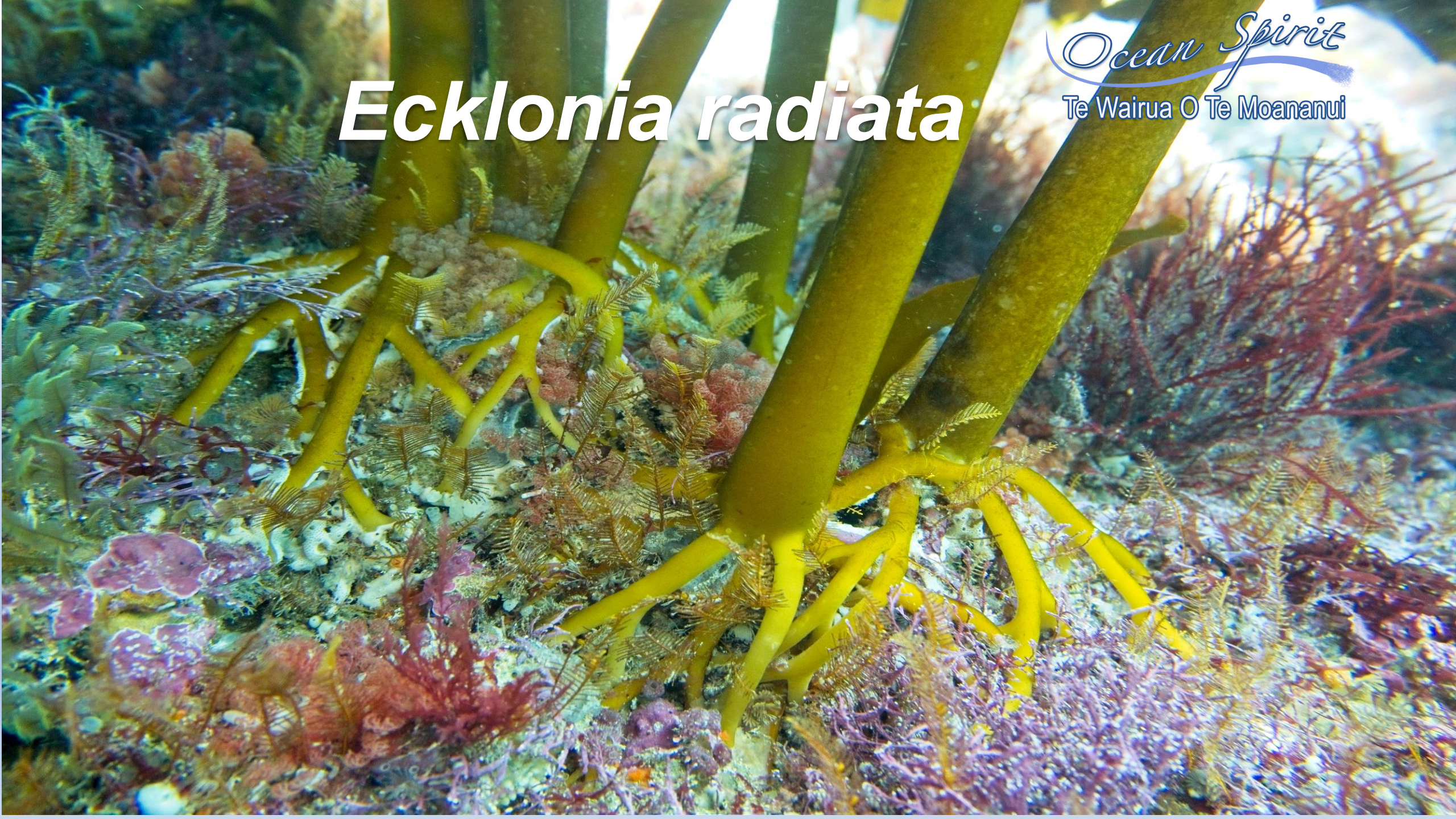
# *Ecklonia radiata*

*Ocean Spirit*  
Te Wairua O Te Moananui



# *Ecklonia radiata*

*Ocean Spirit*  
Te Wairua O Te Moananui



An underwater photograph showing a single fish swimming through a dense field of yellowish-green seaweed. The fish is positioned in the center-left of the frame, facing left. The seaweed consists of many long, flat, leaf-like blades that create a textured, layered background. The water is clear and blue-green, with light filtering through from above. In the top right corner, there is a logo for 'Ocean Spirit' in a cursive font, with 'Te Wairua O Te Moananui' written below it in a simpler font.

*Ocean Spirit*  
Te Wairua O Te Moananui

# *Anthropogenic Threats*



# ***Te Whanga Hauora o Tutukaka***

*Ocean Spirit*  
Te Wairua O Te Moananui

## ***Ki Uta Ki Tai Vision 2030***

**Restoring the mauri of Tutukaka Harbour to a vibrant and healthy state where kelp forests flourish, marine life abounds and our communities thrive.**

**A Community-based, collaborative regeneration and research project**

Photo courtesy of Scott Gundersen

# *Regenerating the Kelp Forests of Tutukaka*

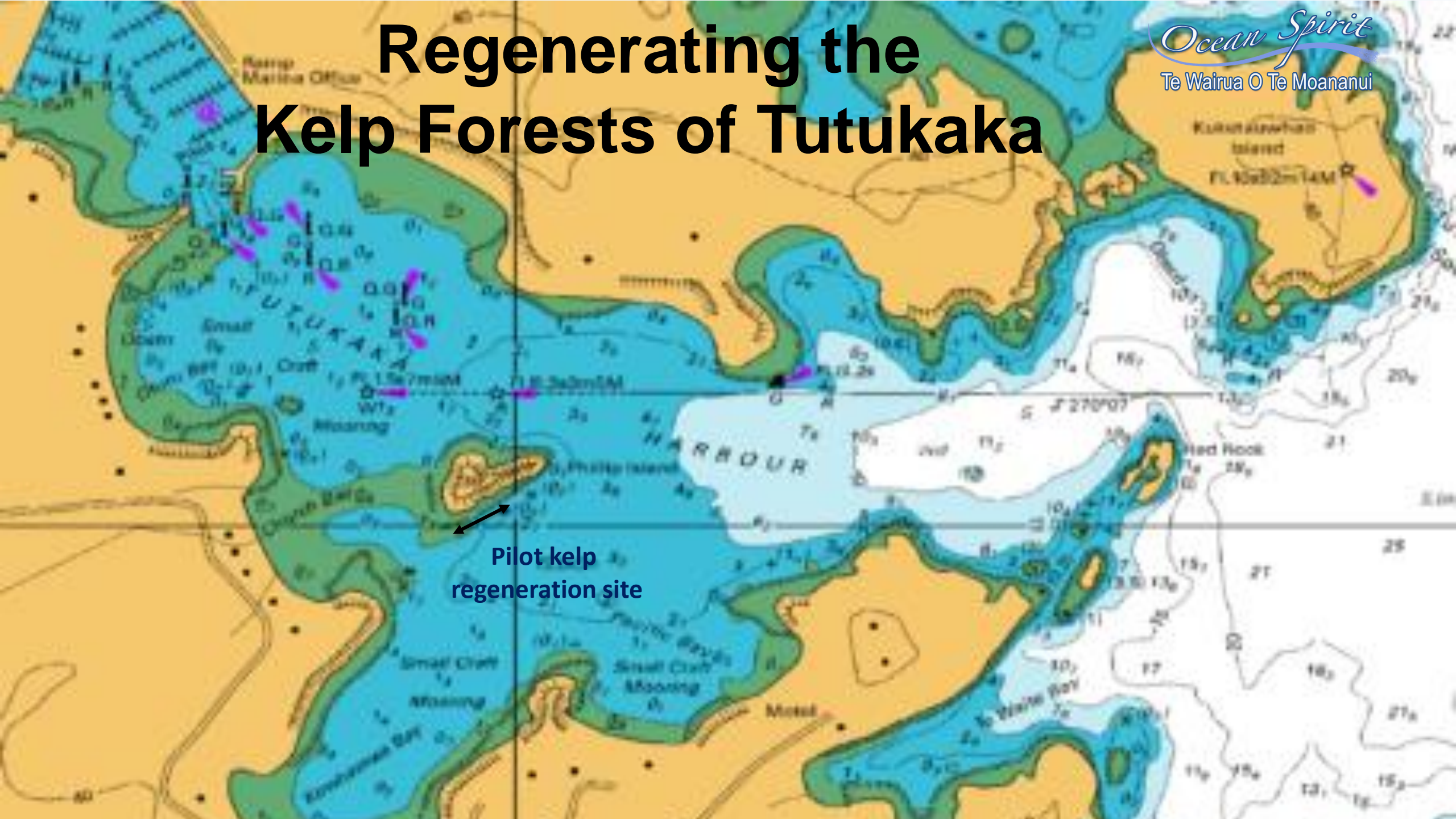
*Ocean Spirit*  
Te Wairua O Te Moananui

Goals of the regeneration project include:

- Contribute to the restoration of the mauri of Te Whanga o Tutukaka.
- Train community members in the collection of ecklonia reproductive tissue and propagation methods.
- Support the kaitiakitanga of mana whenua/mana moana.
- Develop appropriate tikanga to carry out this research and kelp regeneration mahi.
- Develop a Moana education center and laboratory in Church Bay
- Develop a regenerative kelp restoration process that can be shared with other communities around the motu.
- Foster cross-cultural cooperation and understanding in relation to the moana.



# Regenerating the Kelp Forests of Tutukaka



Pilot kelp  
regeneration site



# Regenerating the Kelp Forests of Tutukaka

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Te Wairua O Te Moananui

## Green Gravel

<https://www.greengravel.org>





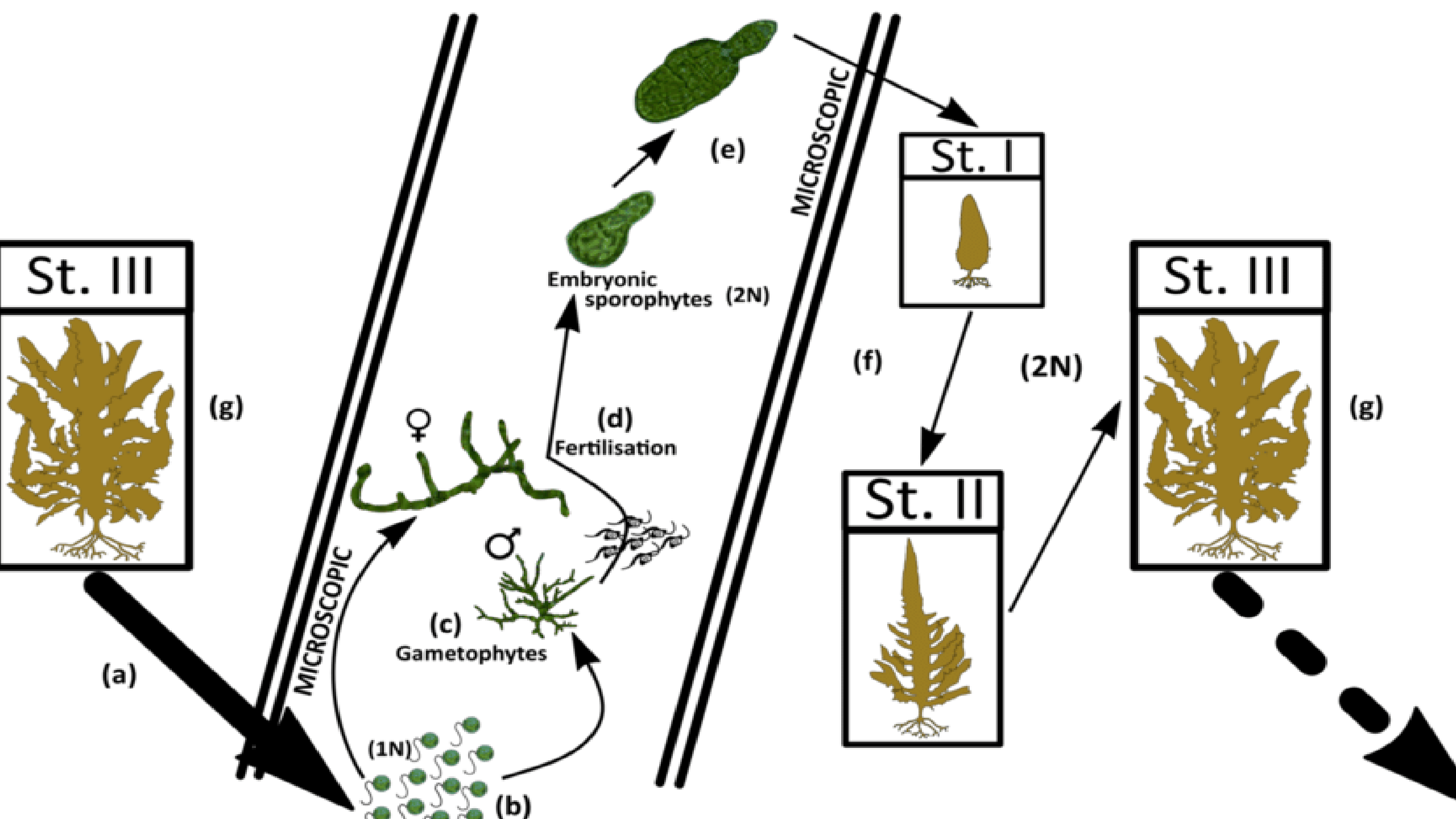
Beau Masters  
Research Officer

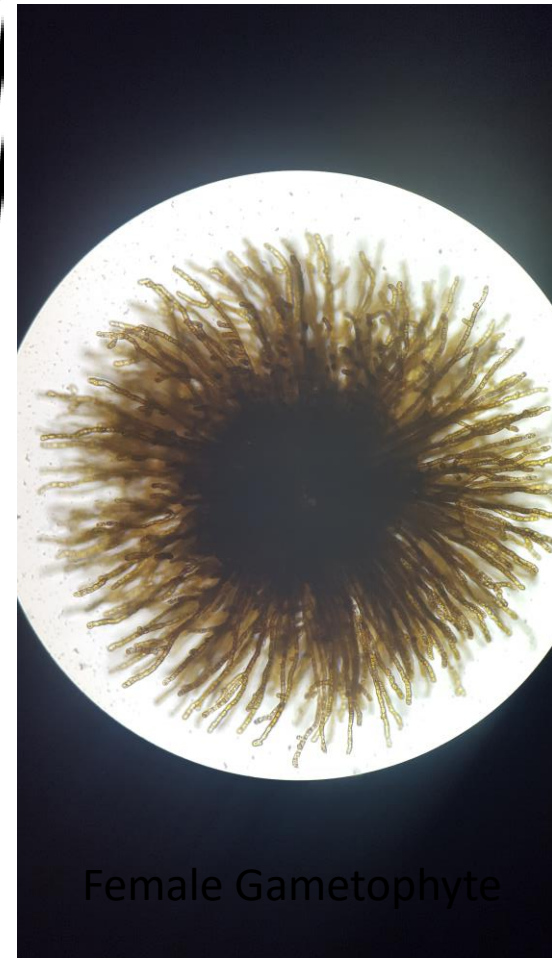
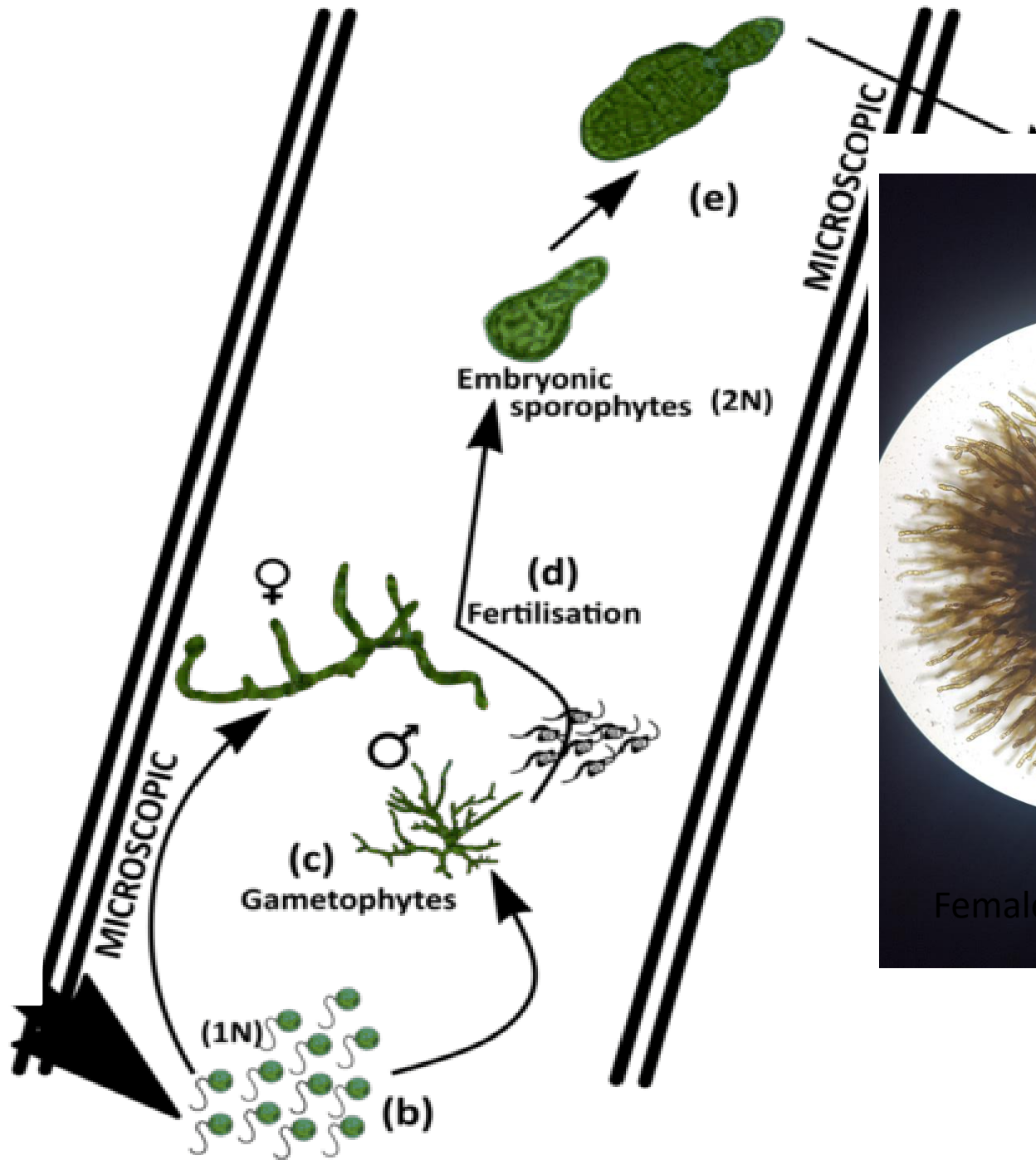
Ella Lis  
MSc student

Associate Professor  
David Aguirre

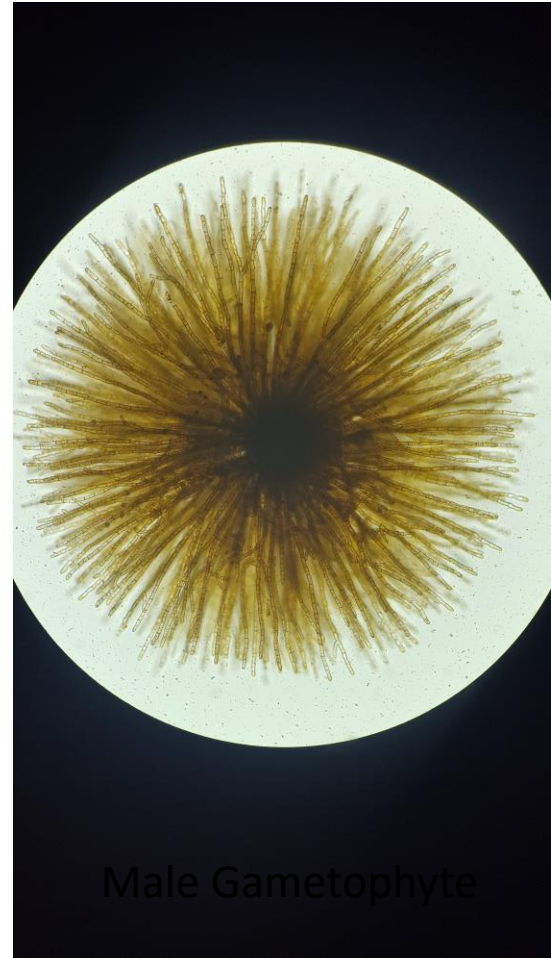
Photo credit: Irene Middleton

Zoology and Ecology School of Natural Sciences  
Massey University, Albany Campus





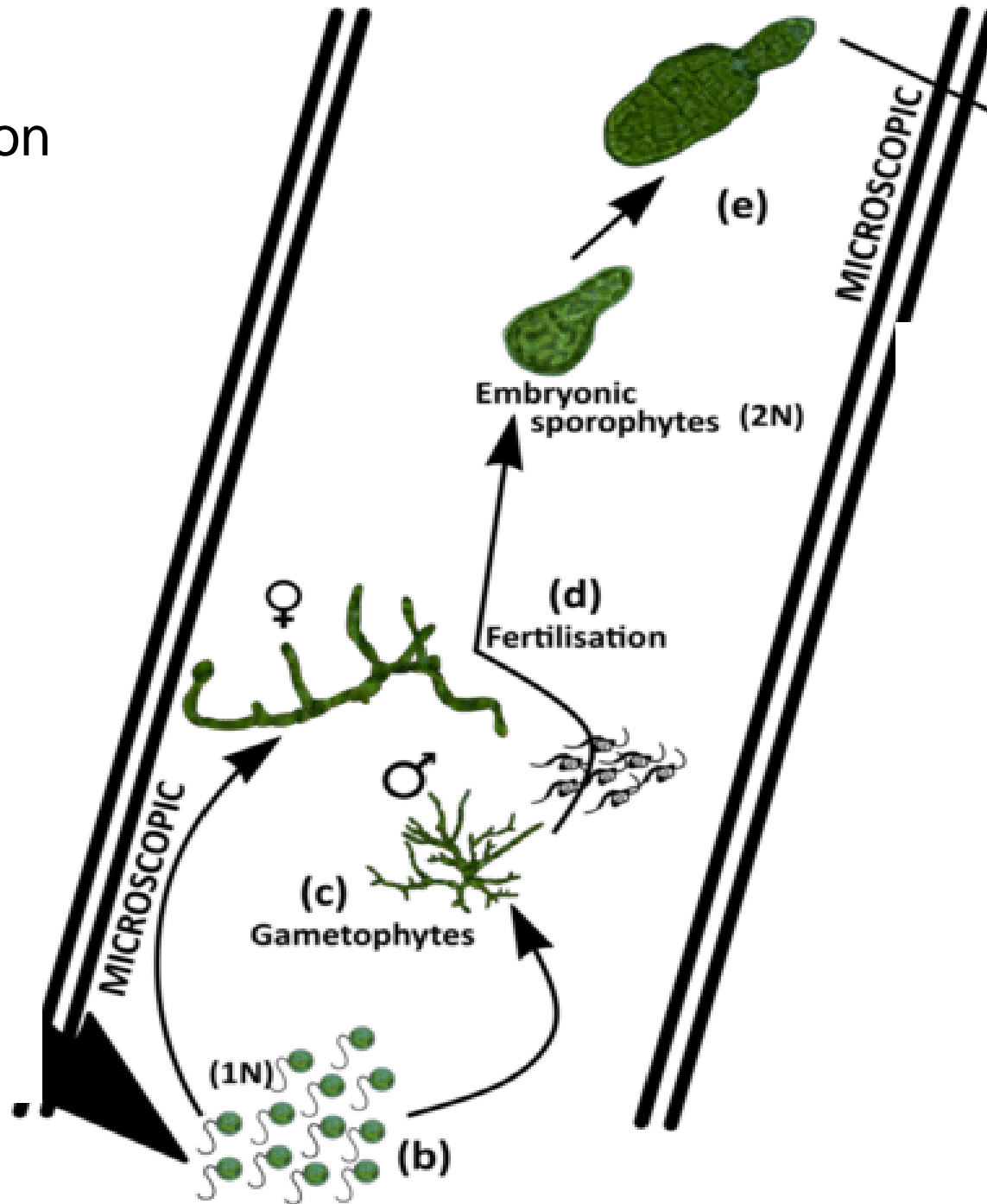
Female Gametophyte



Male Gametophyte

1000X magnification

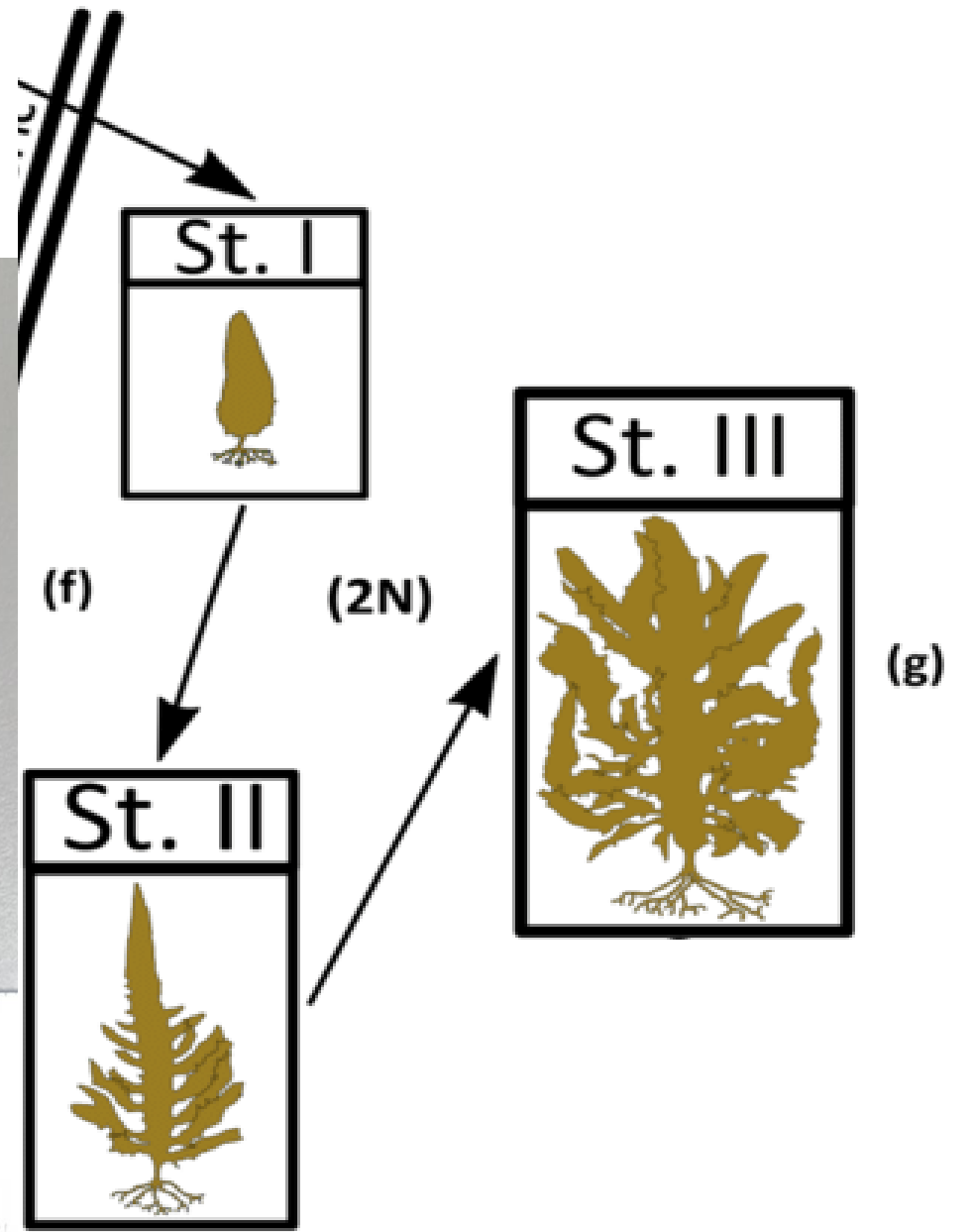
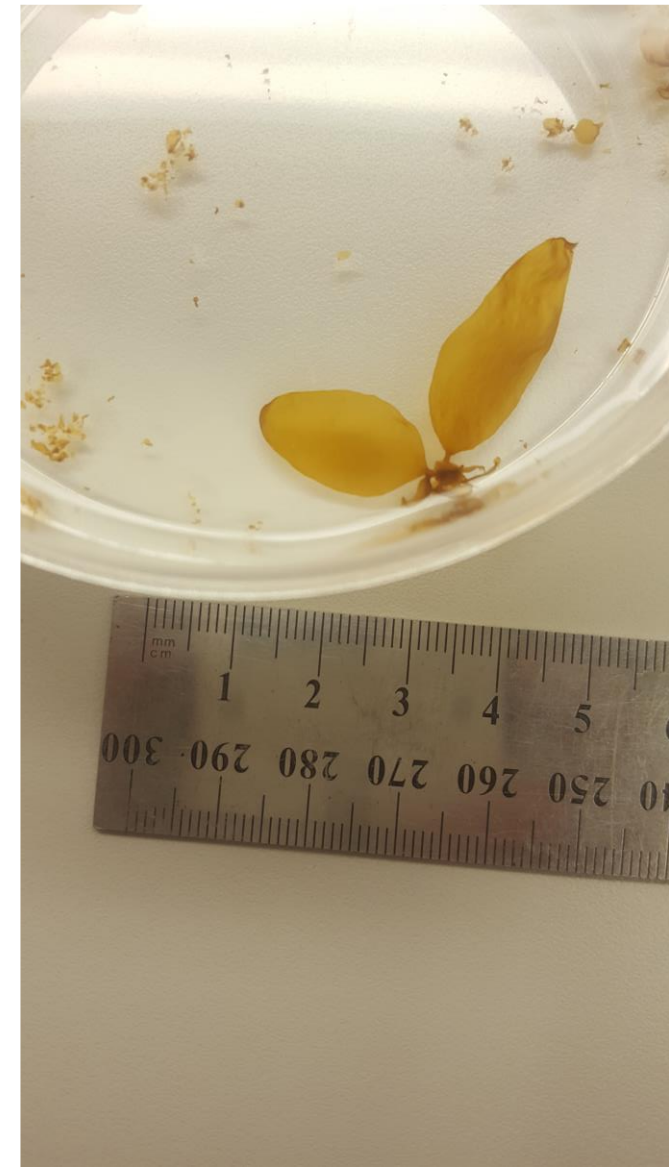
# Fertilisation



# Fertilisation of egg



# Sporophyte





# *Reproductive Ecklonia*

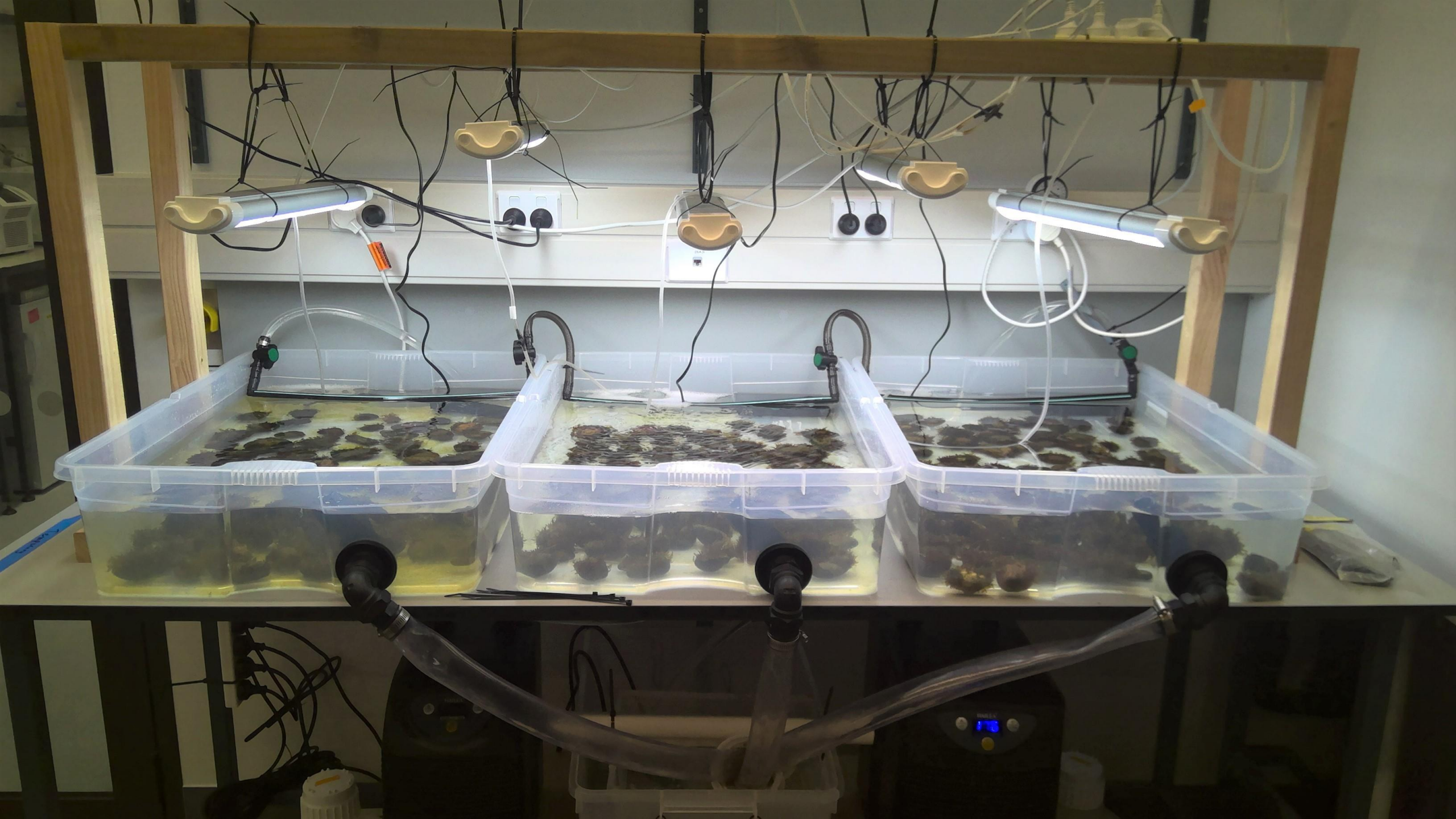
Sorus tissue on adult Kelp



# *Ecklonia Cultivation*







# Kina Removal

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# Our first “planting”

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# Cyclone Gabrielle

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# Our second planting

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# ***Ki Uta Ki Tai Wai repo Moemoeā***

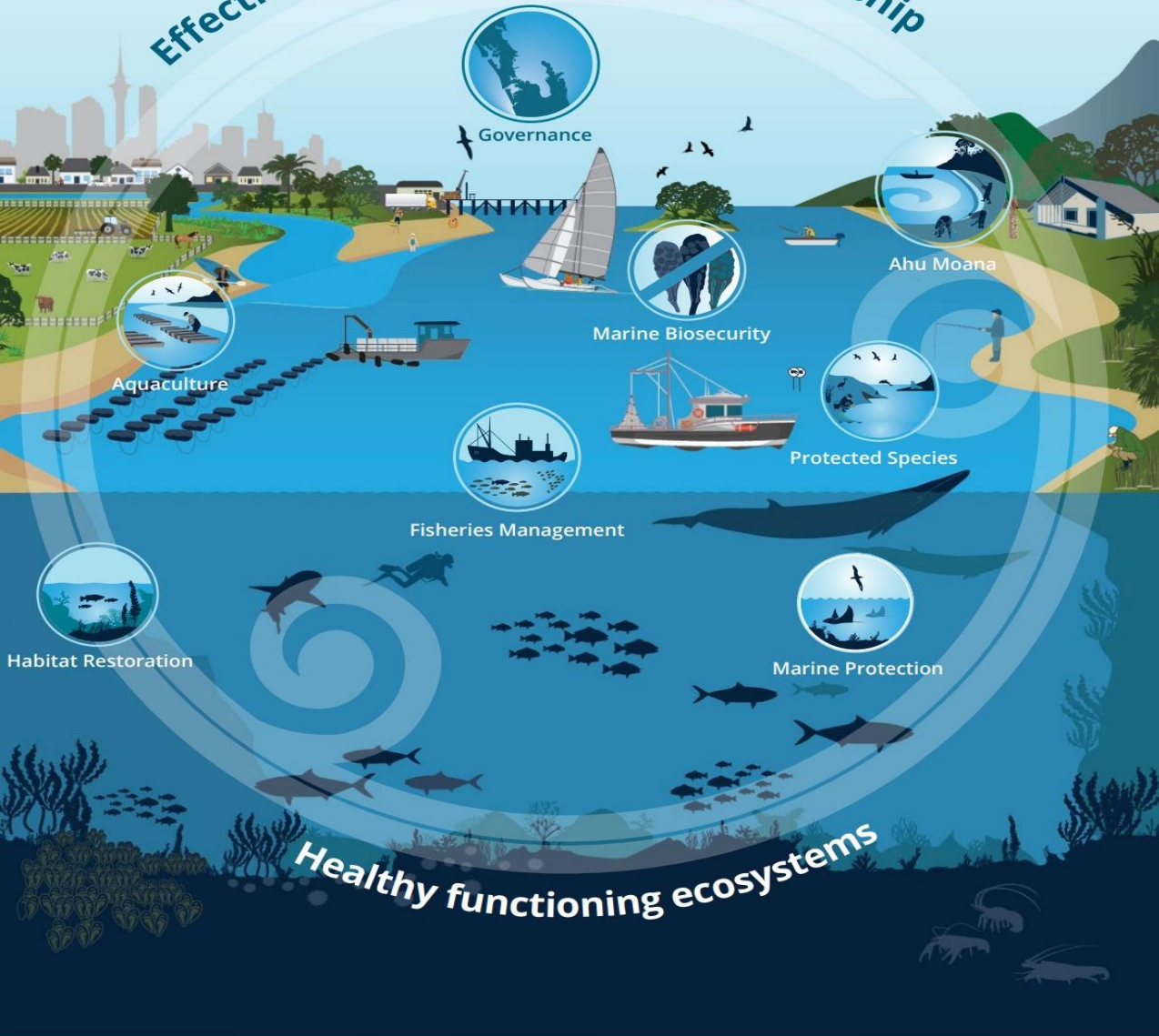
***Re-establishing a natural coastal wetland  
and incorporating regenerative agriculture  
to create a wetland food forest.***

# Ahu Moana

Effective kaitiakitanga and guardianship

Positive environmental changes in locally managed nearshore coastal areas

Effective kaitiakitanga and guardianship



# What is Ahu Moana?

**Mana whenua and community co-management areas –  
A mechanism designed to allow mana whenua and local communities  
to work together to manage their coastal areas.**

**The word ahu means to nurture or build up, and to move with purpose  
in a certain direction.**

**‘Ahu Moana’ therefore represents our intention of restoring our  
coastal fisheries and environments, and the shared determination of  
mana whenua and local communities to improve them for our children  
and grandchildren.**

# What's the purpose of this initial Ahu Moana pilot project?

## Proof of Concept

- Develop a working template for Ahu Moana by:
- Developing practical tools for informing collective management decisions (community-based monitoring).
- Evolving the Ahu Moana relationship between mana whenua and local communities.

# Ahu Moana

## Moana

Local marine ecosystems

Living agency  
Voices of the Moana

Whakapapa  
kaitiakitanga  
Mātauranga Māori

## Wider Community

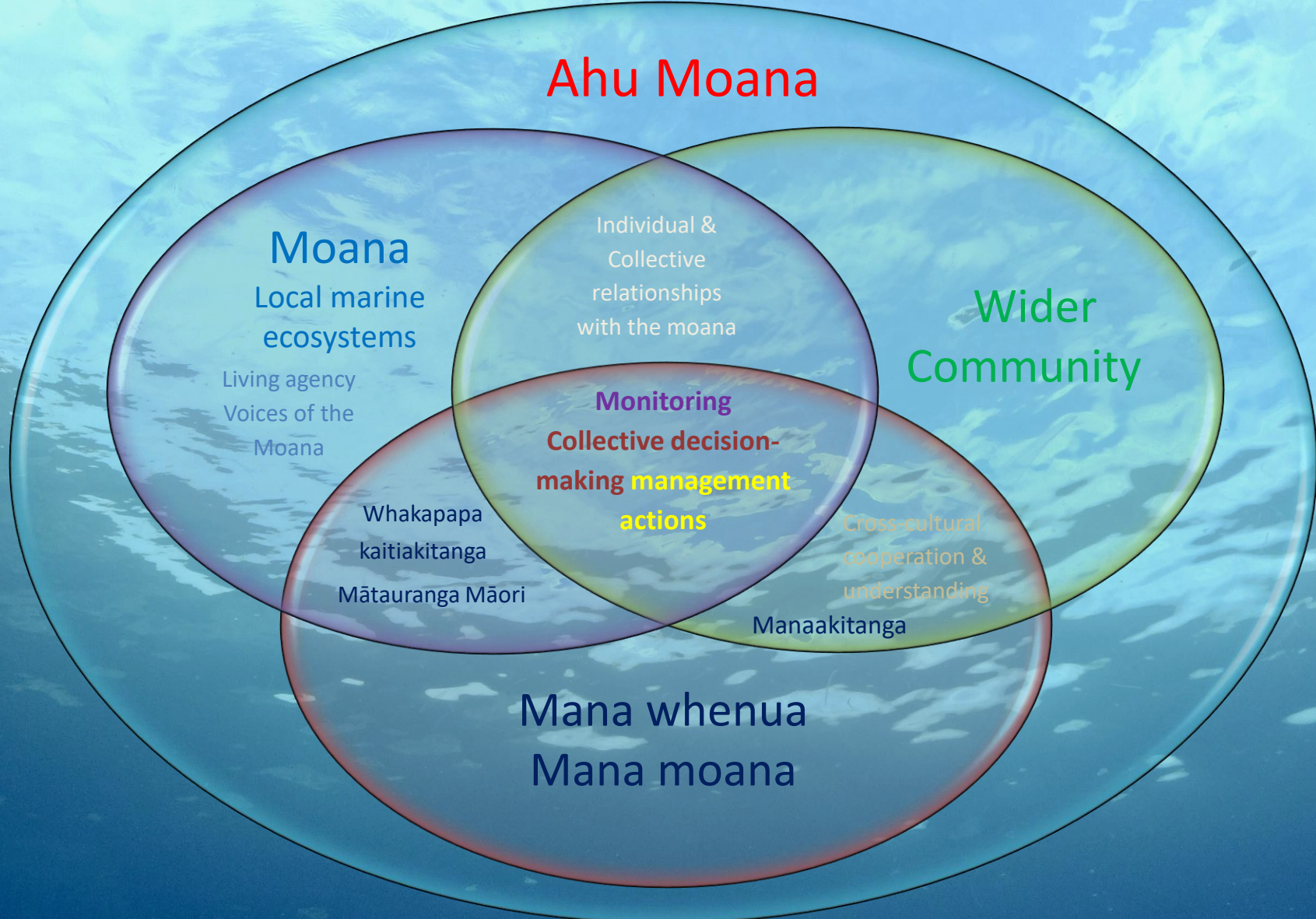
Cross-cultural  
cooperation &  
understanding

## Mana whenua Mana moana

Individual &  
Collective  
relationships  
with the moana

**Monitoring**  
**Collective decision-**  
**making management**  
**actions**

Manaakitanga



# A community-based “action research” approach to monitoring and management

Place-based ecological literacy:  
Informed decision making, grounded in deep relationship  
with place, that values all ways of knowing.

An underwater scene featuring a large school of small fish swimming in the upper half of the frame. In the lower half, there is a dense field of green seaweed. A larger fish is visible in the middle ground, swimming towards the left. The overall lighting is a deep blue, typical of an underwater environment.

# *Ocean Spirit*

**Te Wairua O Te Moananui**

## **OUR VISION**

***A healthy moana in which coastal ecosystems and human communities thrive  
in a harmonious, respectful and mutually beneficial relationship.***