



# Star of the South

Community Advisory Group — Meeting #3

11 February 2021



StaroftheSouth

# 1. Welcome

We acknowledge the Traditional Owners of the lands on which we all meet today and pay our respect to their elders past, present and future.

In particular, we recognise the Gunaikurnai people as Traditional Owners of the area in which the Star of the South would be located.

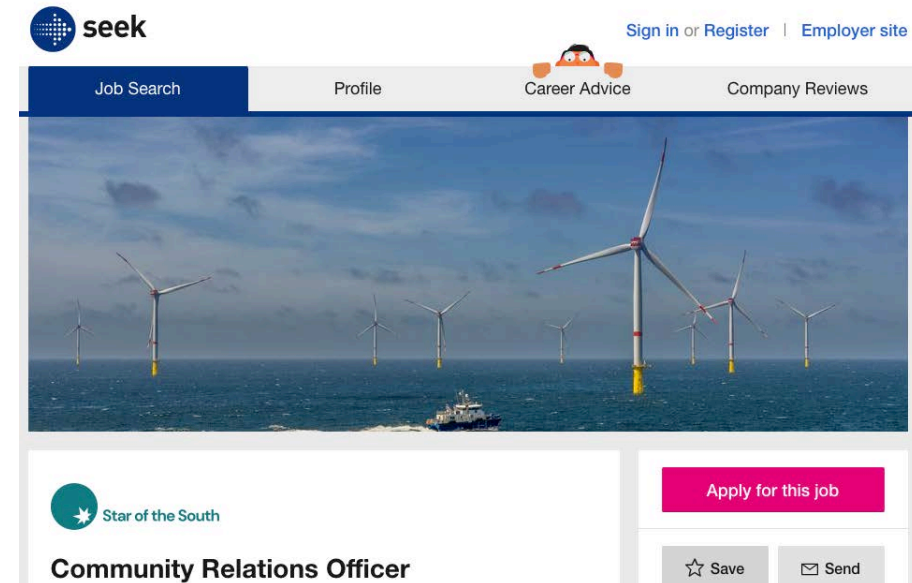
## 2. Standing items and actions from previous meeting

- Minutes
- Declaration of potential conflicts
- Previous actions and questions taken on notice

### 3. What's happening on the project

# Current activities and latest news

- Recruiting for a Community Liaison Officer
- Site investigations continuing
- Finalising transmission corridor selection – next step is to discuss with landholders
- Community presentations:
  - Yarram Rotary Club – December
  - Prom Area Climate Action Group – February
  - Traralgon Rotary Club (about the CAG) – February
- Government Technical Reference Group (TRG) has been convened to advise on preparation of the project's EIS/EES – first meeting December, second meeting next week
- Public comment period on draft requirements for EIS/EES expected Q2 2021
- Following broader government policy developments regarding offshore wind
- We'll be getting out and about in Gippsland during March/April



2021 looks set to be a busy year with ongoing investigations and work starting on impact assessments for our EIS/EES

## 4. What's happening in the community?

# What's happening in the community

- Important issues being discussed?
- Interest / questions / feedback on the project?
- Other projects, events, things happening locally?



What's  
going  
on?

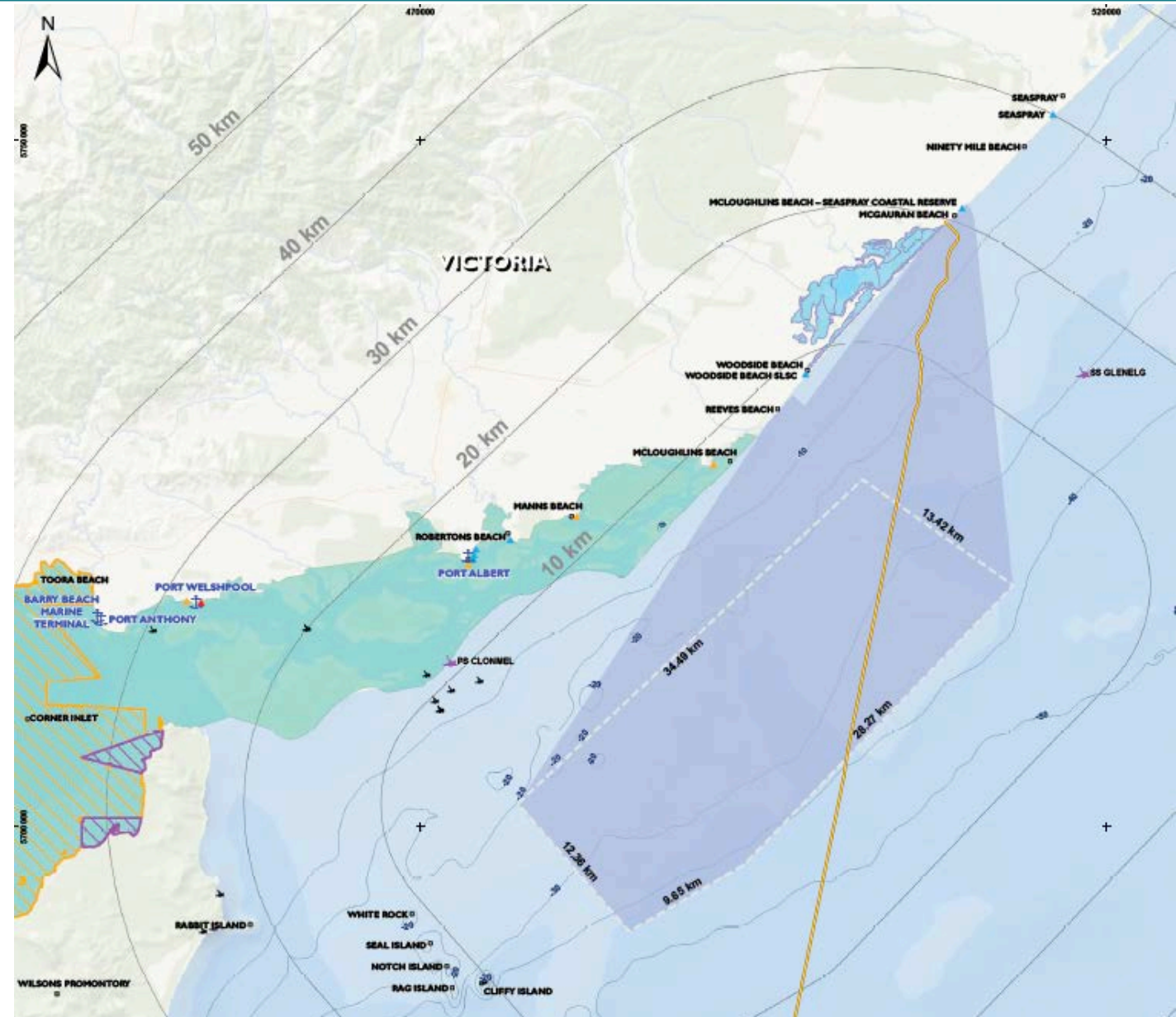
Break



## 5. Focus on: Marine Ecology Survey Program (MESp)

# What is the 'MESP'?

- Scientific marine and coastal studies focused in and around the proposed project area
- Objective is to establish robust baseline data which builds understanding of:
  - The ecological significance of the proposed project area for key species
  - Key species diversity, abundance, distribution and seasonality
  - Potentially sensitive areas or species



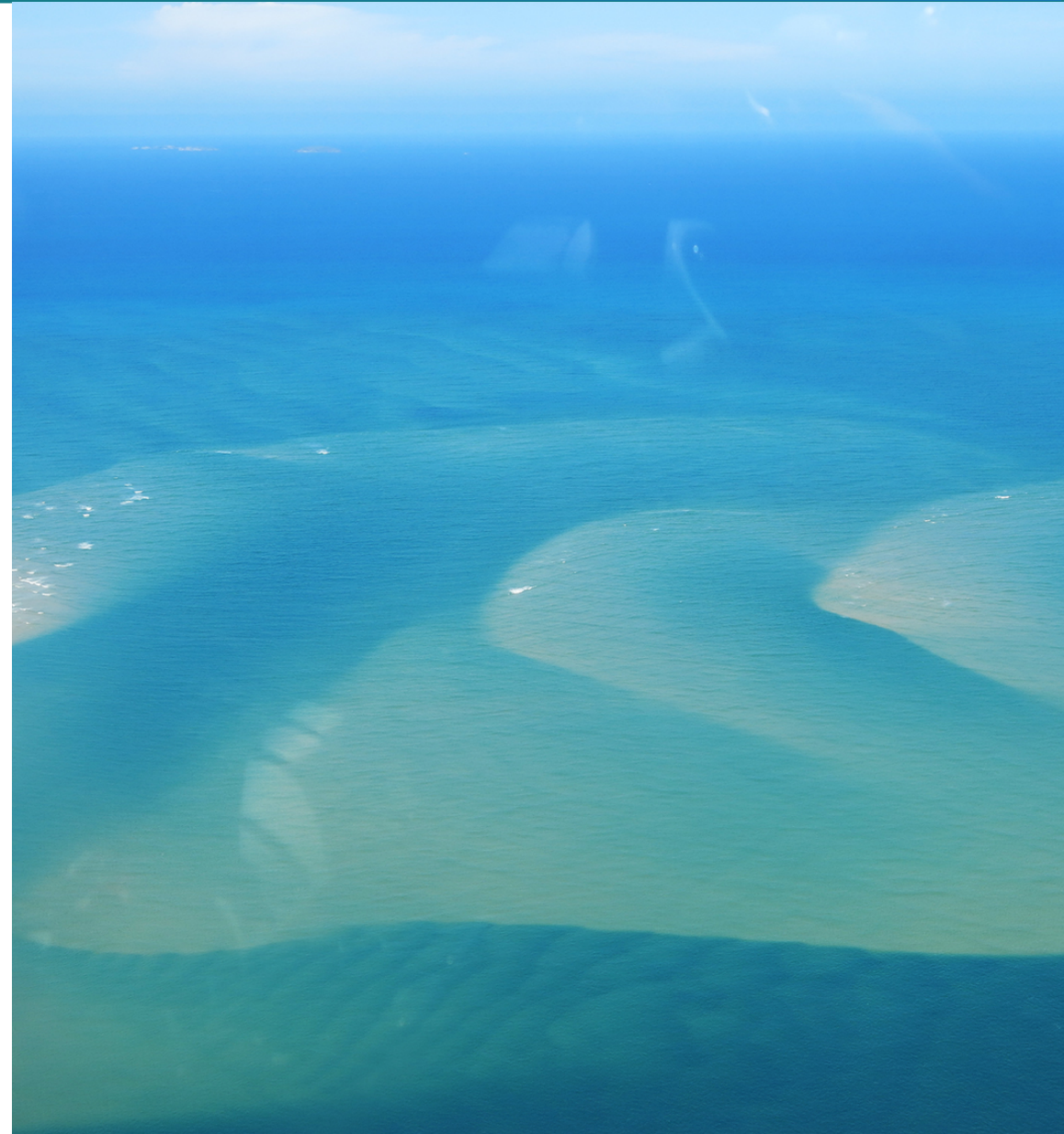
Project area (shaded blue)

# How is the data used?

- Informs impact assessments for the project's Environment Impact Statement (EIS) and Environment Effects Statement (EES)
- To develop and boost accuracy of predictive models (e.g. collision risk model, sediment movement and deposition model)
- Informs project design decisions
- To compare pre- and post-construction conditions
- To contribute to scientific knowledge of this area

**Data is collected, verified and analysed by subject-matter specialists. Findings will be publicly available in the project's EIS/EES.**

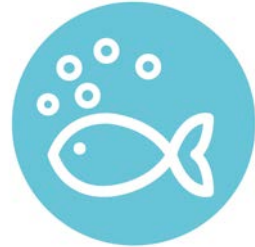
View from aerial survey plane





## Marine mammals

- Aerial surveys
- Underwater acoustic monitoring (hydrophones)
- Tagging (Fur Seals)
- Population counts (Fur Seals)



## Fish

- Underwater video surveys
- Scientific net surveys
- Underwater acoustic monitoring (White Sharks)



## Seabirds and shorebirds

- Aerial surveys
  - Tagging
- Population counts
  - Shorebird monitoring
- At-sea observations



## Benthic ecology

- Underwater video
- Sediment samples



## Costal processes

- Underwater acoustic monitoring (wave and current monitors)



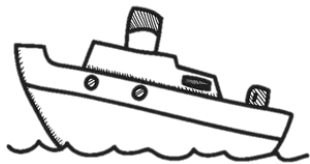
# Planning and collaboration

## Peer reviewers

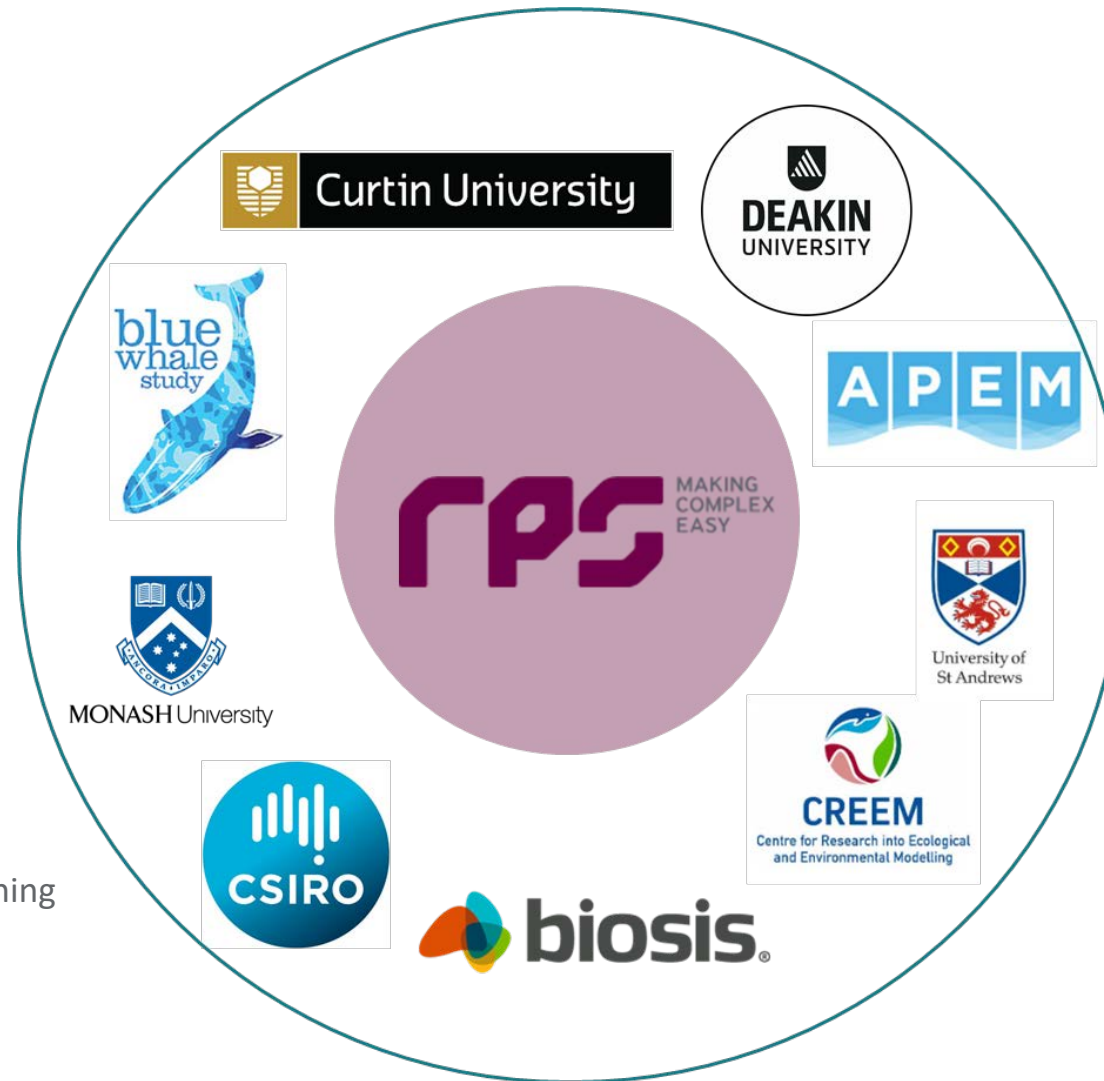


- Fish – Professor Steve Kennelly (ICIC)
- Benthic – Dr Jacquomo Monk (UTAS)
- Seabirds & seals – Associate Professor Mary-Anne Lea (UTAS)
- Marine mammals – Dr Tina Yack (EcoSound Bioacoustics)

## Vessels



- Seapride Charters
- Richey Services
- Deep Blue Shark Fishing
- AB Hunter. Fishing



Star of the South

We're partnering with some of Australia's leading scientists and research agencies

## Purpose

- Determine the ecological significance of the project area to marine mammals
- Determine the spatial and temporal distribution, including seasonality of marine mammal species within the Gippsland and project area
- Understand the key foraging and at-sea distributions for Australian and New Zealand Fur seals
- Estimate encounter rates, abundance and species diversity for key marine mammal species



Seals observed during surveys of Rag and Kanowa islands



## Visual aerial surveys

- Monthly surveys
- 16/40 surveys complete
- 2021 – two surveys/month planned
- Trained marine mammal observers
- Digital photography is reviewed, analysed and verified by specialists
- Aerial surveys are supplemented by boat-based and land-based observations and underwater acoustic monitoring
- What we're seeing in the project area so far (16 surveys, Dec 2019 to Dec 20)
  - Dolphins
  - Seals
  - Humpback Whales (Sep-Nov)
  - Southern Right Whales (Sep)
  - Other whale species.



Humpback whale



Southern right whale



Bryde's whale



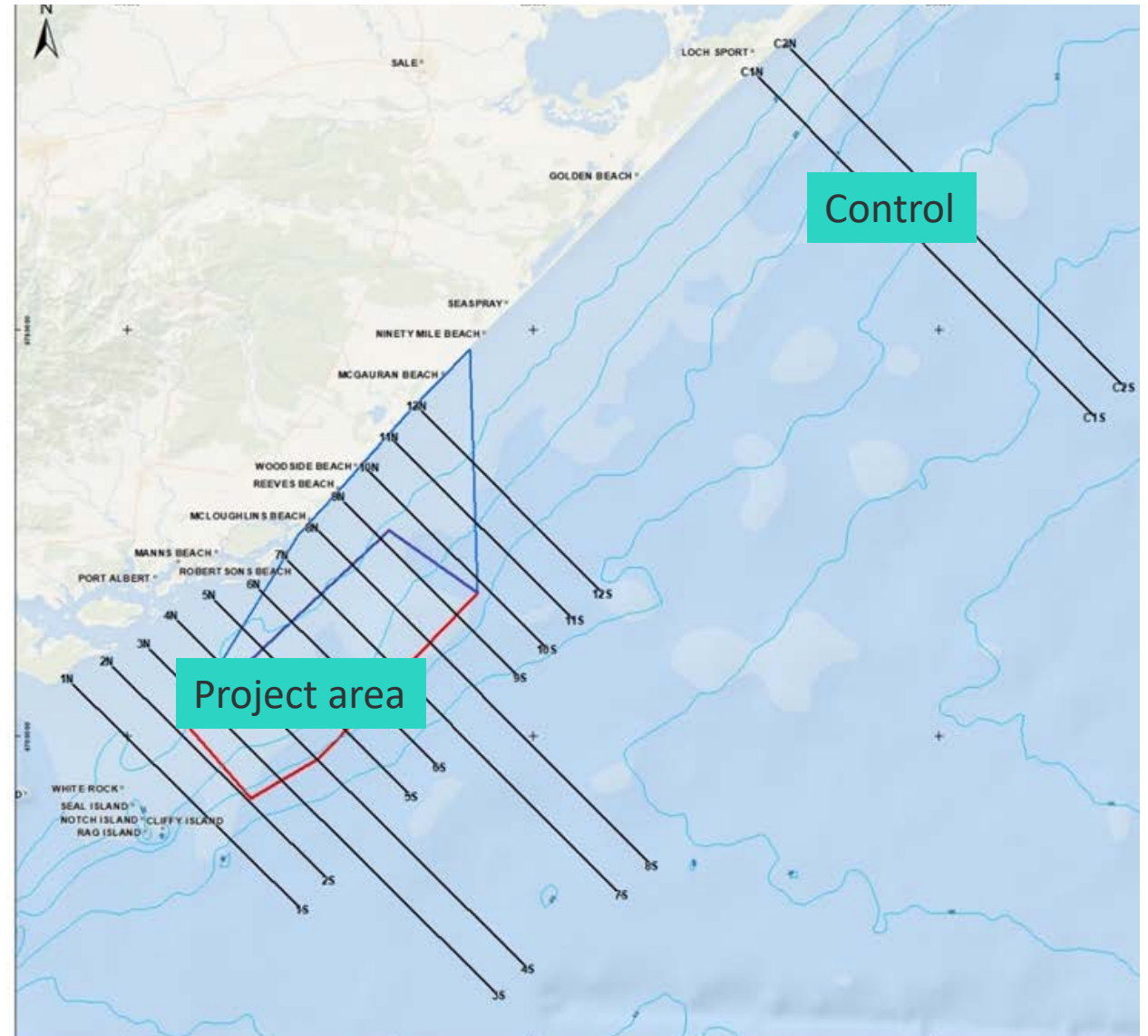
Humpback whale

# Marine mammals

## Visual aerial surveys



Survey aircraft and crew



Survey area and transects

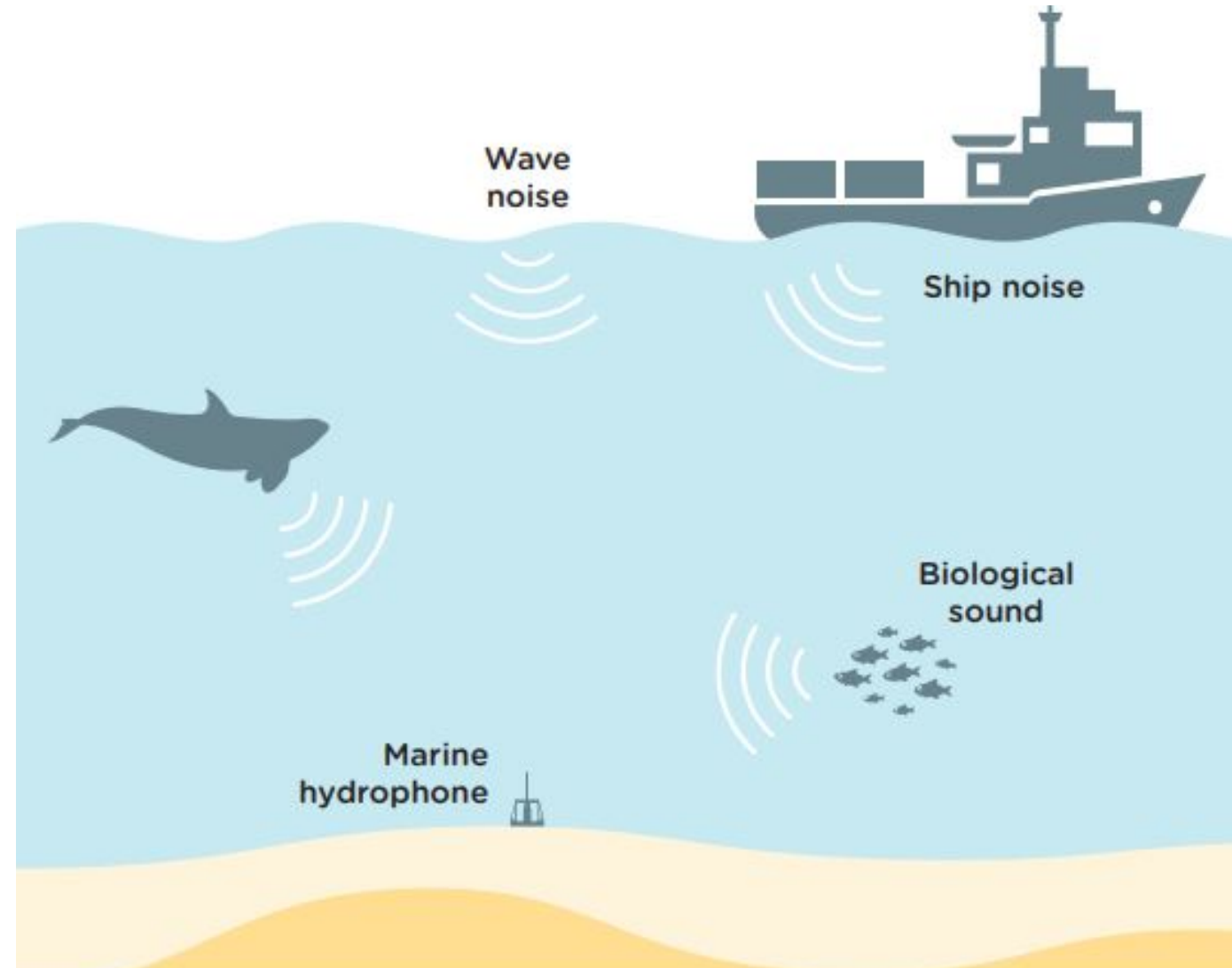




## Underwater acoustic monitoring



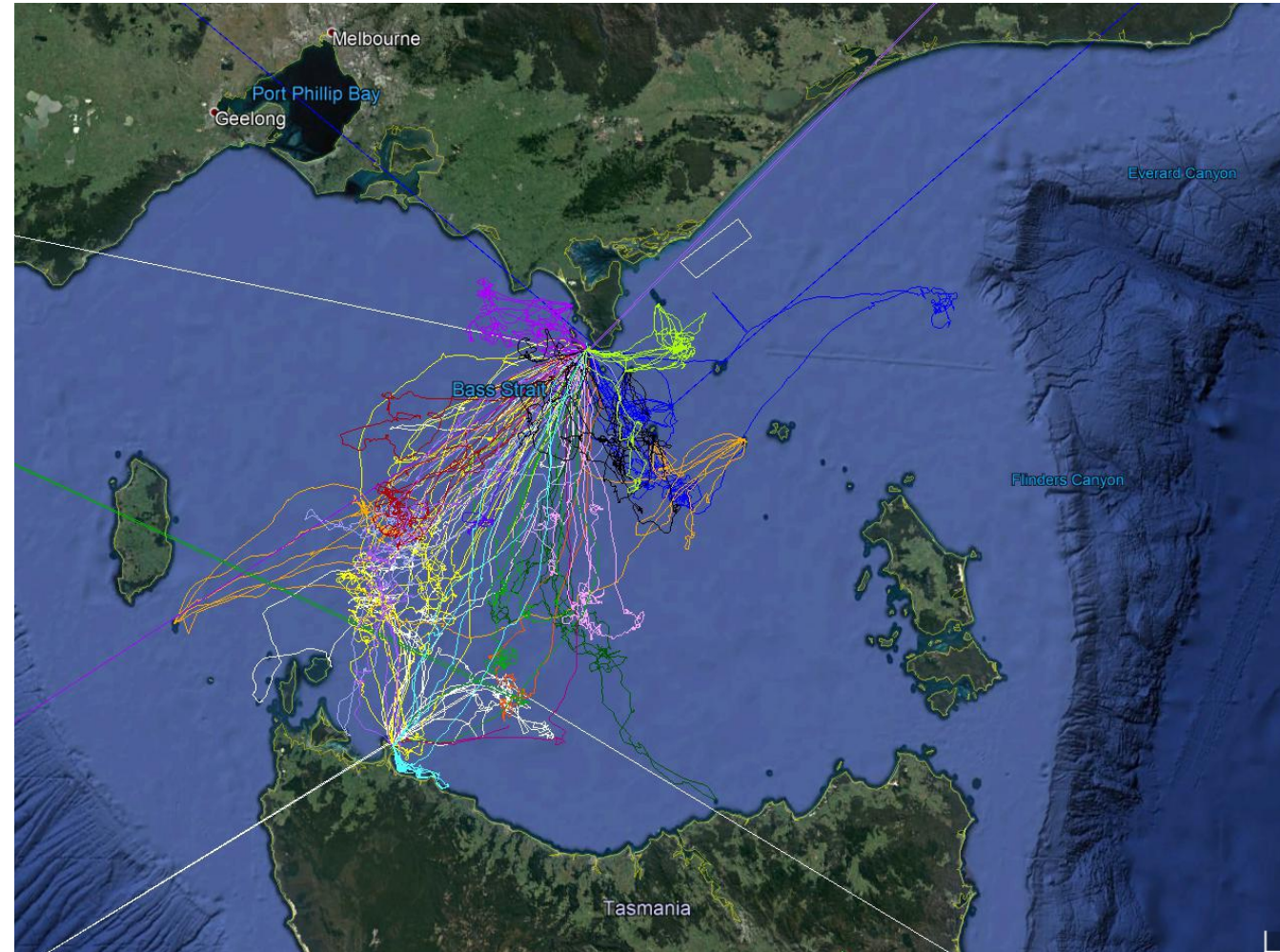
- 14 hydrophones anchored on the seafloor in 8 monitoring locations
- Deployed in March 2020
- Picks up the sounds of vocalising marine mammals
- Analysis of audio can identify species and behaviour (e.g. breeding, feeding, migrating)
- Over the first 6-months we heard:
  - Humpback Whales (most common, Jun-Sep)
  - Pygmy Blue Whales (small numbers)
  - Southern Right Whales (small numbers, Mar-Aug)
  - Antarctic Minke Whales (sporadic, Jul-Aug)
  - Dwarf Minke Whales (sporadic, Mar-Aug)
  - Fish chorus and snapping shrimp
  - Other sources including shipping and CCG seismic survey



Hydrophones pick up and record underwater sounds

## Fur seal tagging and surveys

- 30 Australian Fur Seals tagged across two colonies
- 10 New Zealand Fur Seals tagged from one colony
- Seals tagged post moult period (June-September) so tags will continue to transmit data via satellite until moulting
- On-the-ground and drone population counts
- Body condition assessments in Winter and Summer
- Data can be compared with historical datasets to identify trends in fur seal populations
- Further tagging to take place in 2021



Example tracking map showing tagged seal movements from Kanowna Island

## Purpose

- Determine the ecological significance of the project area to fish
- Document the distribution and abundance of fish species and habitat (species diversity)
- Allow a comparison of pre and post-construction conditions



Image captured by underwater video

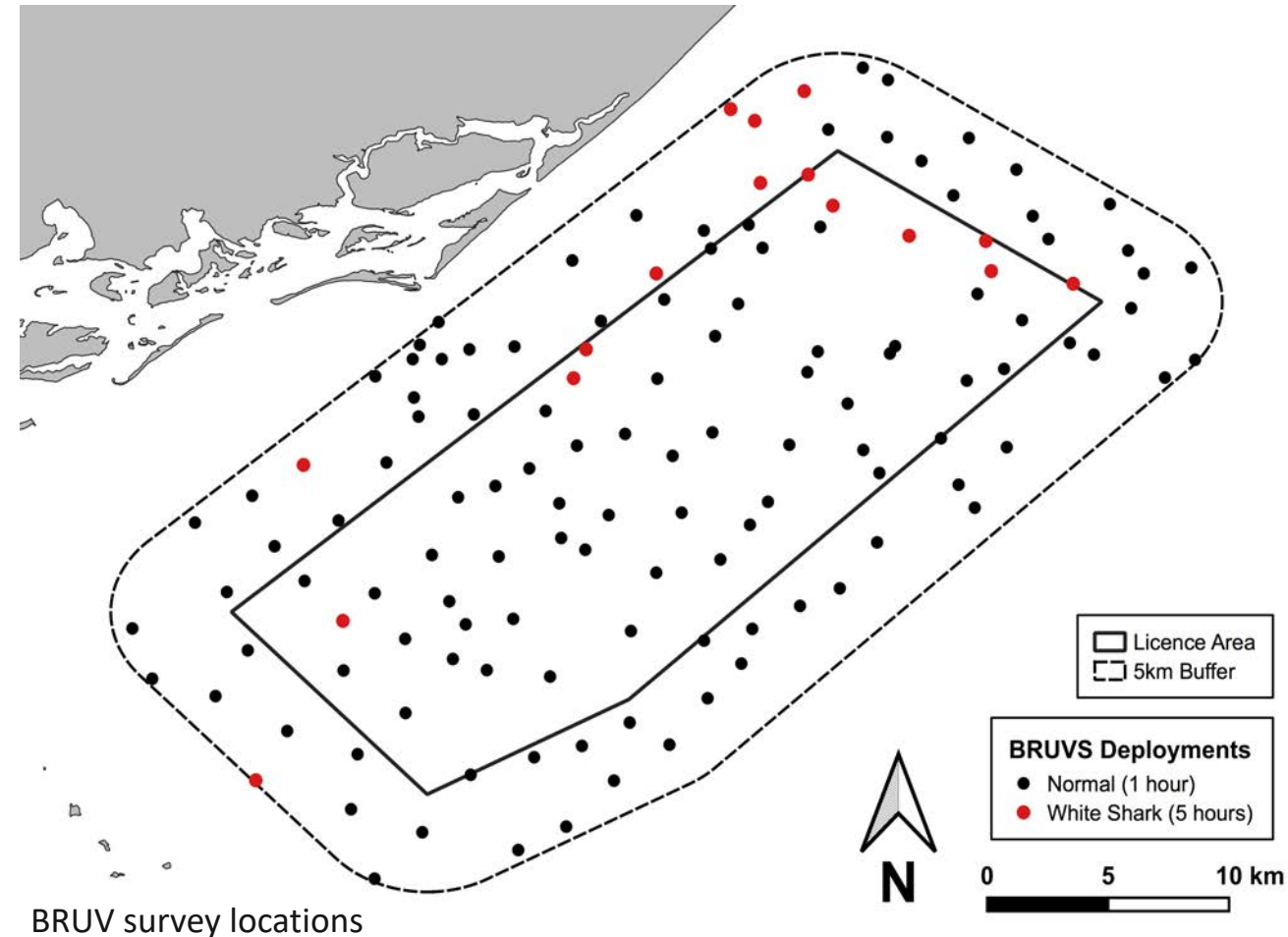


## Video and net surveys

- Spring/Summer and Autumn/Winter completed
- Scientific net surveys
  - Gillnet – 20 sites
  - Danish Seine – 30 sites
- Baited Underwater Remote Video (BRUV) survey – ~130 locations
- Data will be used alongside fisheries data and consultation



BRUV crew and equipment

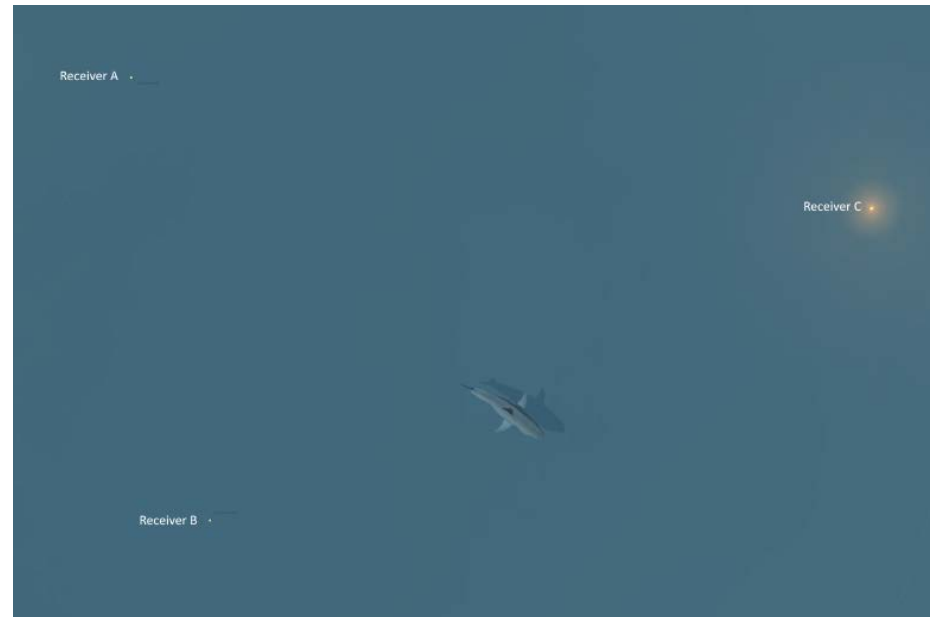




## White sharks acoustic monitoring



- 20 monitors anchored on the seafloor in and around the project area
- Picks up signals from CSIRO tagged White Sharks
- Deployed October 2020 to target the juvenile season
- Monitoring ongoing to January 2022
- More on White Shark research [csiro.au/sharks](https://www.csiro.au/sharks) – CSIRO has been collecting data since 2000



How the monitors work

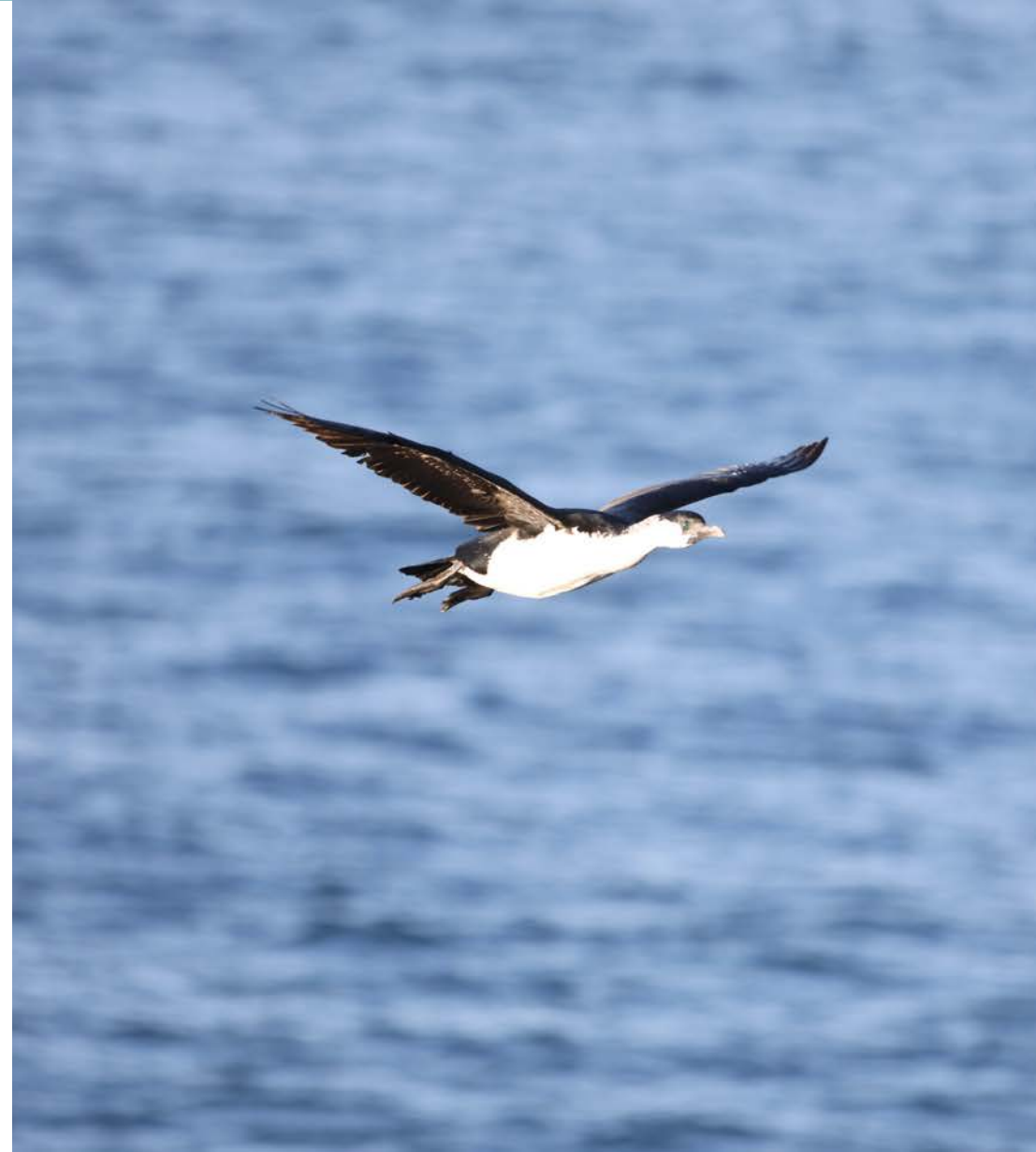


CSIRO white shark tagging



## Purpose

- Determine the ecological significance of the proposed project area to seabirds and shorebirds
- Document the distribution and abundance of species and habitat (species diversity)
- Determine the height at which birds fly to inform collision risk modelling
- Determine the foraging range and habitat use of locally breeding species



Black faced cormorant

# Seabirds and shorebirds

## Aerial digital survey

- Monthly surveys
- 13/24 surveys complete
- LiDAR technology to be used to capture accurate flight height data from aerial surveys
- Covers offshore area and 4 km buffer
- Digital photography is reviewed, analysed and verified by specialists



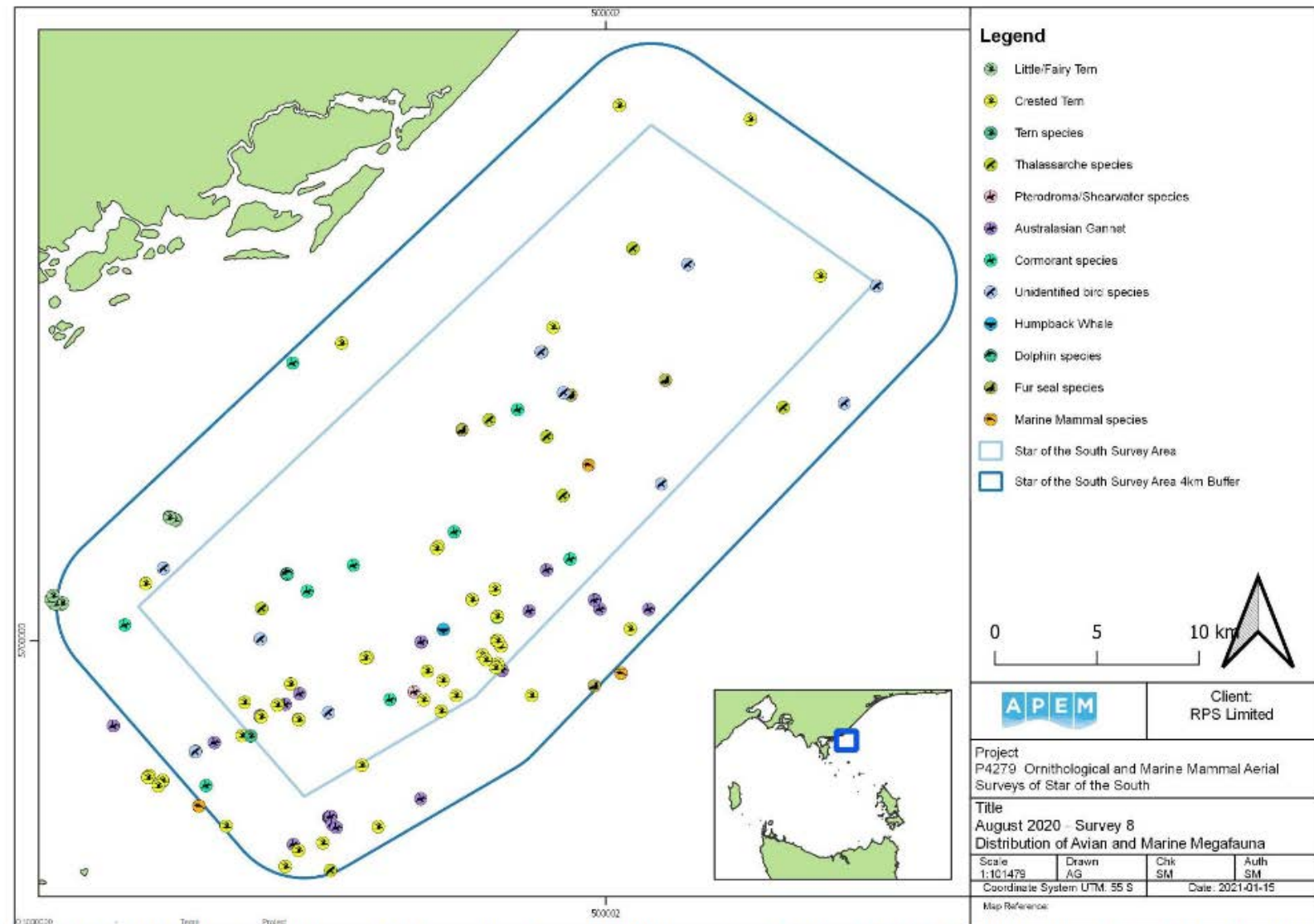
Digital photos captured from aircraft



# Seabirds and shorebirds

## Aerial digital survey

Example output from aerial digital survey in August 2020



**Figure 1** Distribution of all records from the August 2020 survey of Star of the South Survey Area plus 4 km buffer.

Note: Individuals may appear to overlap if they are in close proximity to each other.

## Tagging

- GPS tags collect data on foraging (distance, frequency, location, number of trips), habitat use, flight height and movement
- Locally breeding seabird species tagged:
  - Short-tailed Shearwaters
  - Fairy Prions
  - Common diving Petrels
  - Little Penguins
  - Black-faced Cormorant
  - Albatross and Gannet species (to be tagged in 2021)
- Data complemented by analysis of historical data from local seabird tagging, to determine differences in interannual variation



MONASH University



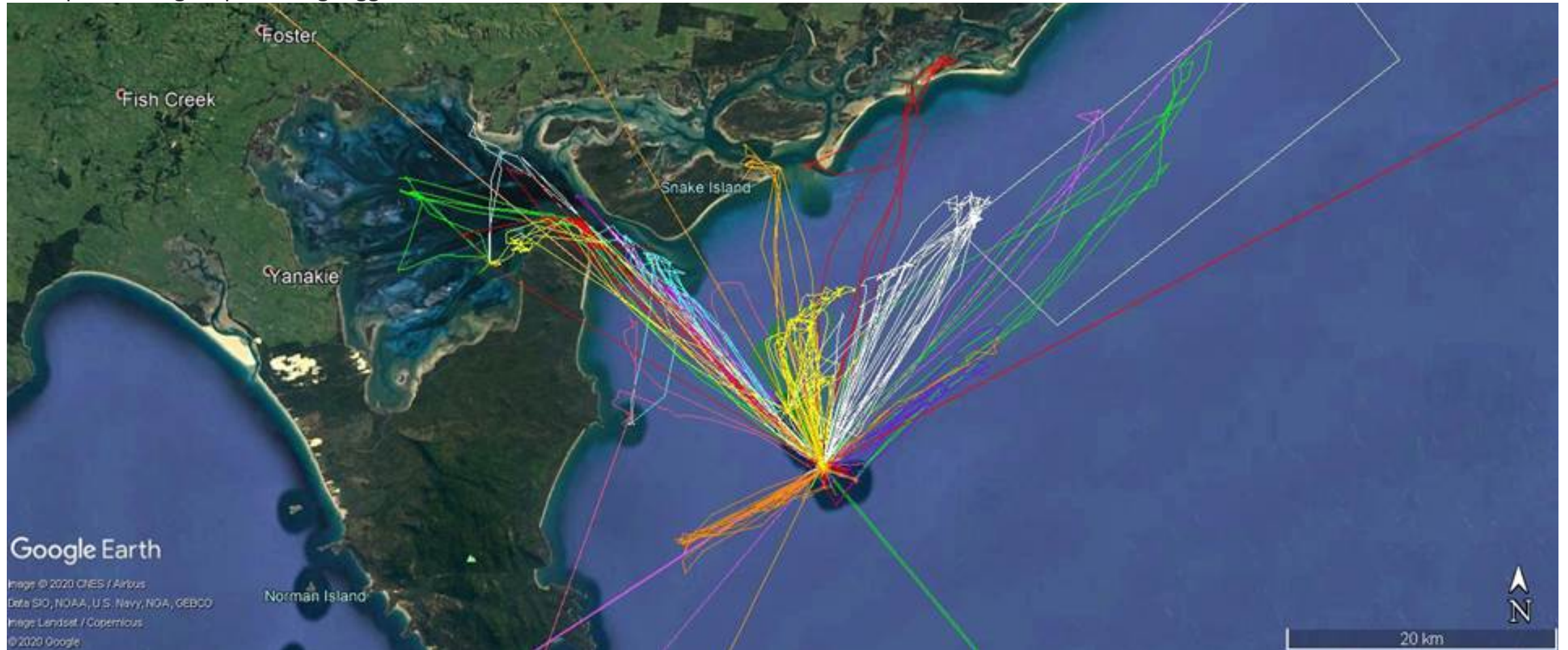
Tagging Short-tailed Shearwaters



# Seabirds and shorebirds

## Tagging

Example tracking map showing tagged Black Faced Cormorant movements



## Surveys and population counts

- At-sea observations of seabirds and flight heights
- Monthly shorebird surveys around McGaurans Beach and Reeves Beach (potential locations for subsea cable landfall)
- ‘Song meter’ acoustic recorders deployed to determine Short-tailed Shearwater colony breeding population size
- On-the-ground seabird surveys for:
  - Short-tailed Shearwater
  - Common Diving Petrel
  - Fairy Prion
  - Little Penguin
  - Black-faced Cormorant



Cormorant colony



Surveys underway on 90 Mile Beach



# Benthic ecology

## Purpose

- Determine the ecological significance of the proposed project area to benthic ecology
- Document the distribution and abundance of species and habitat (species diversity)
- Determine the likely sensitivity of habitats/assemblages to potential impacts from the project

## Underwater video and sediment sampling

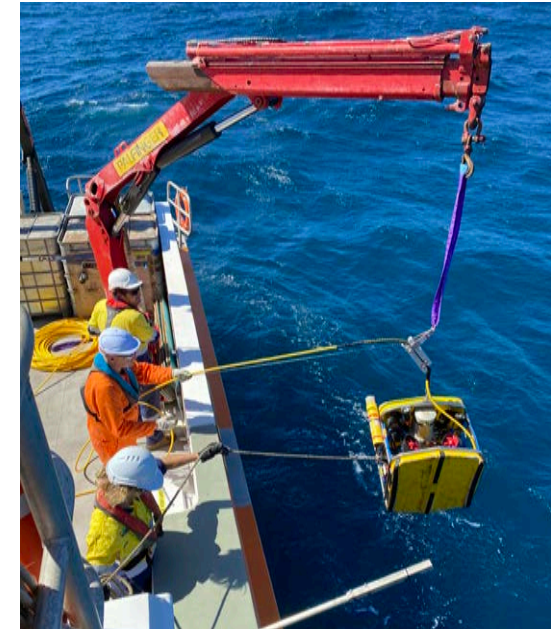
- Documents the location and abundance of species and habitat on the seafloor
- Survey undertaken in December 2020 – 14 days at sea
- Video taken at 80 sites
- 135 infauna samples collected



Pseudogorgia godeffroyi



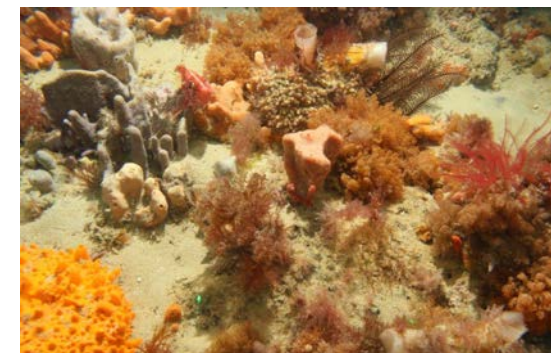
Luidia Australe



Deploying survey equipment



Invertebrate garden



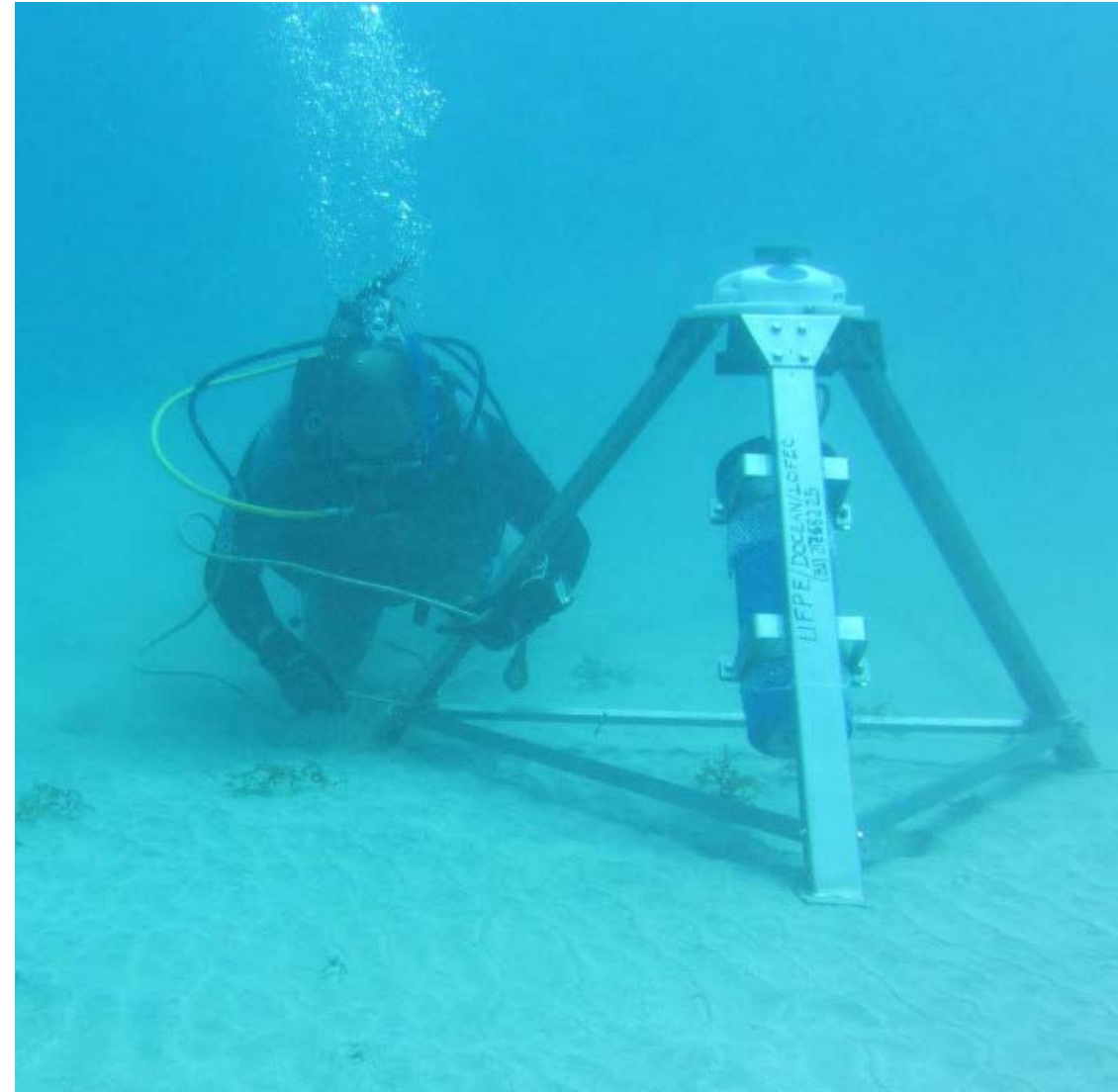
Sponge garden

## Purpose

- Determine local sediment transport and coastal processes
- Inform model of potential change in physical processes from project

## Underwater acoustic monitoring

- 2 wave and current monitors anchored on the seafloor near Snake Island and Kate Kearney entrance
- Measures wave and current regimes
- Collects data on local sediment transport and coastal processes
- Informs a model to predict potential changes in physical processes due to the project
- Installed November 2020



Installing wave and current monitor

## 6. Questions and discussion

- Has the 'MESP' presentation raised questions for you?
- What else are you hearing about in the community, or curious about yourself?

## 7. Other items

- Suggestions for future agenda items?
- Next meeting 11 March
- Suggestions for next meeting location?



Thank you