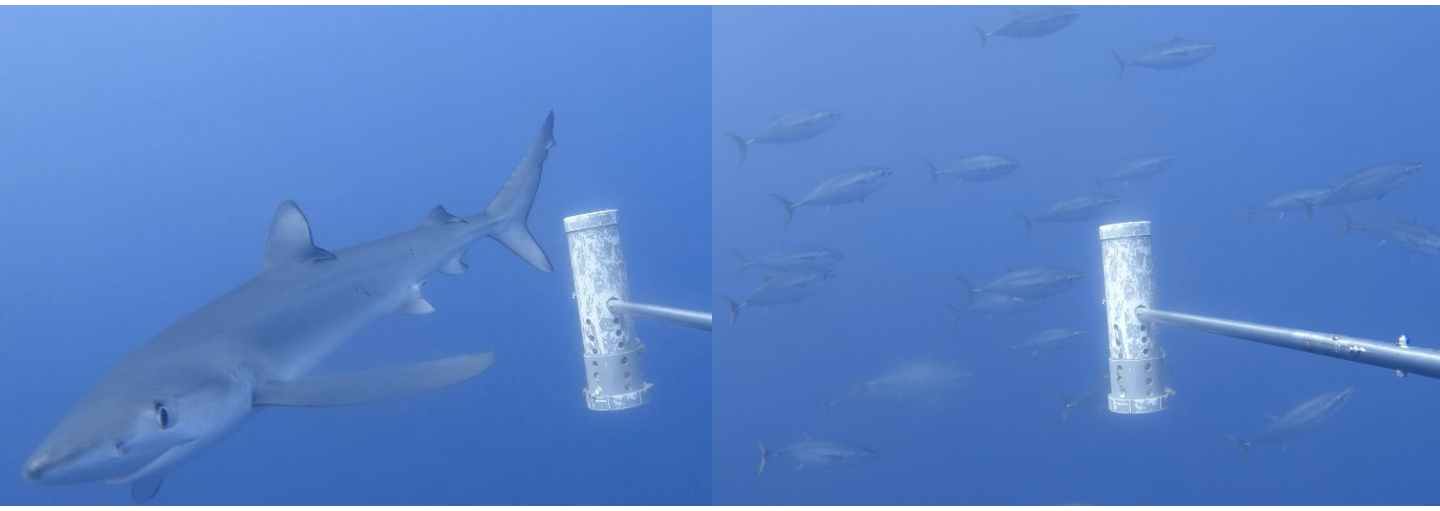
Understanding Ocean Wildlife at the Eastern Recherche Marine Park: An Expedition along the Great West Australian Transect

28th January to 17th February 2019

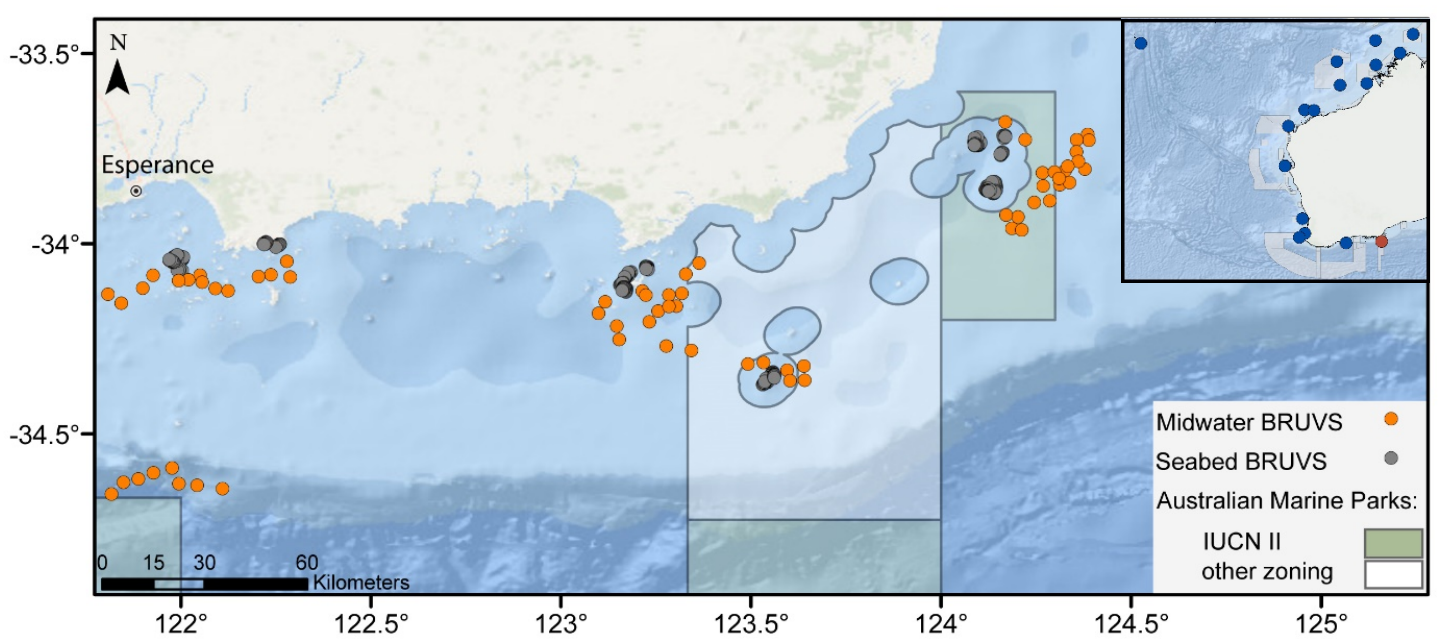


Baby blue shark (*Prionacea glauca*) (left) and bigeye tuna (*Thunnus obesus*) (right). See https://bit.ly/2VRGFTA for highlights of the Eastern Recherche Marine Park

The Recherche Archipelago, located on Australia's southwestern edge, stretches 230 km from west to east and extends 50 km offshore. Comprised of some 105 islands, it forms part of Australia's Great Southern Reef. Remote from concentrations of human population, with only the town of Esperance (population 10,000) located at the western end of the Archipelago, this 4000 km^2 area is truly the closest we have to pristine along Australia's southwest coast. In recognition of its important conservation values, the Australian Government established the Eastern Recherche Marine Park in 2012, with zoning put in place in 2018.

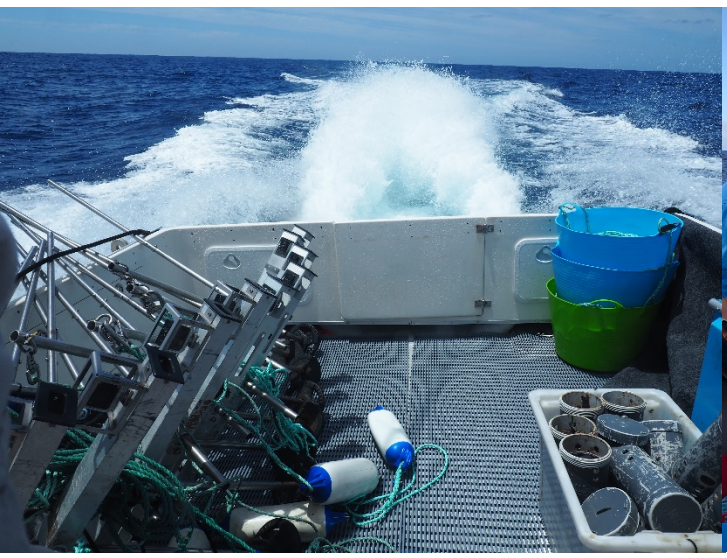
The archipelago was named by Rear-admiral d'Entrecasteaux in 1792 for one of the ships in his exploring fleet and translates as the Archipelago of Research. And indeed "research" is what we did.

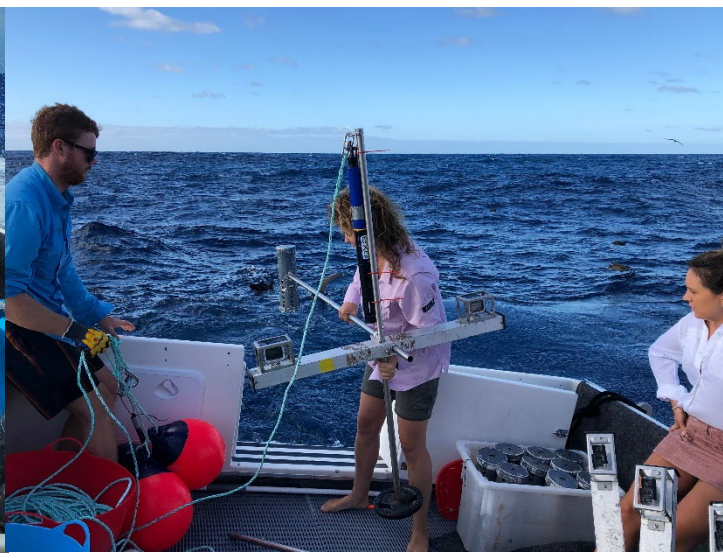
Our goal over this 21 day survey was to document the status of ocean wildlife in the open ocean areas of the new marine park, across the recently implemented zones. Specifically, we aimed to determine the diversity, abundance and size of marine species such as oceanic sharks and pelagic fishes to create a baseline for this park. We also took the opportunity to document the status of the animals associated with the shallow reef systems surrounding the islands. We focused our efforts on three zones: off Esperance, Middle Island and Israelite Bay as these locations may represent a gradient of declining fishing effort from west to east given the challenges of traveling east of Esperance.



Location of mid-water (orange) and seabed (grey) samples at the Eastern Recherche Marine Park by management zone; insert shows the park's location (red circle) in reference to other GWOT expeditions (blue).

The team deployed 330 mid-water baited remote underwater video systems (BRUVS) at six locations across the archipelago, including the worryingly named Termination Island. We also brought back 300 seabed BRUVS from across the region.





Mid-water baited remote underwater video systems(BRUVS) racked up *en route* to sampling location (left) and deployment of the BRUVS (right) at the Eastern Recherche Marine Park

Once image analysis is completed, these results will provide a baseline against which the Australian government will be able to assess the benefits of its management plans. Our results will also be used to provide input into the newly launched West Australian government's plans for a state-water marine park in the archipelago. Additionally, we will be able to assess to what degree biodiversity outcomes increase with distance from the regional population centre, Esperance.

For pelagic species, this brings the GWOT efforts to 2823 video samples over 25 expeditions at 11 locations along the West Australian coast and our global efforts to 5653 video samples over 51 expeditions 27 locations. We are truly pulling back the blue curtain.

Australian Marine Parks

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