

Eastern Curlew

Prospectus





Australian Government

This project received grant funding from the Australian Government's
Environment Restoration Fund

Introduction

Reef Catchments are the Natural Resource Management (NRM) group for the Mackay Whitsunday Isaac region. Our region is home to an abundance of iconic species and landscapes, with the Clarke Connors Range providing habitat for many endemic species, and the coastline a key habitat for migratory shorebirds and turtles.

Our region faces challenges from a number of issues including biodiversity loss, water scarcity and quality, invasive species, inappropriate urban development, and climate change. If allowed to degrade, restoration of these assets will be at a significant cost, with some impossible to replace.

The Mackay Whitsunday Isaac Region and Community

The Traditional Owners of the Land, Sea and Waters of the Mackay Whitsunday Isaac region include the Yuwi, Koinmerburra, Ngaro, Gia, Juru, Barada and Widi peoples.

Our productive agricultural land comprises sugar cane, cattle grazing and horticulture. The surrounding Central Queensland coalfields have influenced our region through the provision of vital infrastructure to support the mining industry, including one of the world's largest coal terminals at Hay Point.

The region is a gateway to the Great Barrier Reef and surrounding islands, drawing visitors from all over the world. The region has a population of more than 152,000 people, but this often swells further with domestic and international tourists, with 248,000 international tourists visiting the region from March 2018 to March 2019 (Tourism and Events Queensland, 2020), and it's likely that much of this was related to the Great Barrier Reef.



The Mackay region has been identified as a non-breeding roosting destination for the critically endangered eastern curlew (*Numenius madagascariensis*).

Reef Catchments have recently completed a project to determine levels of human disturbance on these sites to prioritise strategic in-situ community engagement, awareness and education. Similarly, the project has identified suitable sites for conservation interventions.

This project prospectus outlines several identified potential projects that are expected to generate significant conservation outcomes for eastern curlews visiting our region.





Background

The eastern curlew is Australia's largest shorebird and long-haul flyer.

With recent declines of up to 80% in their global population, this critically endangered shorebird is currently under significant threat.

Habitat destruction and reclamation of tidal mudflats are currently the biggest threats facing this and many other migratory species that depend on these staging grounds. Other threats include hunting, pollution, changes to water regimes, disturbance, and climate change on both their breeding and roosting grounds.

Many populations of eastern curlew also face direct conflict with humans and anthropogenic activities, which can greatly impact how the birds use the resources of these landscapes.

Research has consistently highlighted the importance of high-quality non-breeding habitats to migratory shorebirds like the eastern curlew. Therefore, understanding the habitat use and distribution of individuals across a landscape, along with influences of anthropogenic disturbance is fundamental to conserving this threatened species.



Project 1 - Off-leash dog compliance

The Threat:

Eastern curlews, like many shorebirds, require adequate time to feed, preen and rest. When these normal behaviours and activities are altered because of disturbance, it can greatly influence their longevity.

Many shorebirds and even some marine mammals are well documented as being heavily disturbed by dogs, more so by those which are off-leash.

As the human population and their companion dogs increase in number, so does the demand for dog access. Many Australians take their dogs to beaches, with the majority being unrestrained, regardless of whether dogs are permitted off-leash or not. Therefore, the desire for increased access and poor compliance monitoring becomes a major challenge for decision-makers who seek to balance the needs of multiple users of public spaces with environmental impacts.

The Project:

We propose a six-month project would see increased compliance monitoring by Local Laws Officers along the major beaches in the Mackay Local Government Area (LGA) at high-traffic times. The project aims to increase awareness of local laws, promote a greater understanding of sensitive shorebird populations and minimize anthropogenic disturbance along coastal Mackay's roosting sites.

The Project would have a primary focus on off-leash dogs, however, it is an opportunity to enforce compliance for a variety of activities such as illegally driving on the beaches where possible.

Project 1 - Off-leash dog compliance contd.

Project outcomes:

- Identify high-traffic beaches for dog use in the Mackay LGA (in-situ and surveys)
- Greater compliance of dog walkers on popular Mackay beaches
- Engagement and education of the dog-walking community
- Identify beaches that could benefit from closures during certain periods (roosting periods)

Long-term outcomes

- Minimise disturbance to eastern curlew in the Mackay LGA
- Generate attitude change within the community regarding shorebird protection
- Contribute to the protection and conservation of shorebird and marine mammal populations

Potential species observing co-benefits:

- Marine turtle species
- Water mouse
- Endangered shorebirds (e.g., Red Knot, Australian Painted-Snipe, Lesser Sand Plover)

Potential partners:

- Mackay Regional Council – Local Laws
- Mackay Conservation Group
- Pioneer Catchment Landcare Inc.
- Reef Catchments Youth Ambassadors

Project activities:

- Identify high-traffic beaches in the Mackay LGA
- Patrol selected beaches during peak times (6-8 am and 4-6 pm) to enforce compliance
- Engage with the community on beaches to educate on the effects of disturbance on shorebirds during compliance monitoring

Recommended project timeframe: Six months.

Indicative project budget: \$90,000





Project 2 - Reducing pest threats on eastern curlew populations

The Threat:

Eastern Australia has long been known as a refuge for migratory shorebirds like the eastern curlew. Paramount to shorebird survival in Australia is the ability to find adequate food in order to build up sufficient resources to support the arduous return flight to breeding grounds located in China and Siberia.

Invasive species are negatively affecting coastal habitats, causing local species to be disturbed and displaced. Significant mortality can also be the result of predation by feral and wild animals. Foxes (*Vulpes vulpes*), cats (*Felis catus*) and dogs (*Canis lupus familiaris*) are the most common species to predate on shorebird species, and therefore their control is imperative to shorebird survival.



The Project:

This proposed five-year project could see Reef Catchments partnering with Mackay Regional Council and their Local Laws department to design and deliver a lasting feral animal (foxes and cats) control program across the Mackay LGA.

The first phase of the project would entail using a detector dog to survey locations where fox dens have previously been treated and other areas where fox sightings have been reported. Detection dogs have been successfully trained to locate any sign of foxes with great precision. If the dog indicates at an active den, the den is then treated with Dencofume (carbon monoxide fumigant).

The second phase of the project entails trapping around eastern curlew nesting sites (prioritized in urban areas) for feral cats (*Felis catus*). Any cats trapped during this project will be taken to the local animal management centre. Likewise, to complement trapping efforts, community awareness surrounding the laws of domestic cat ownership and the impact of feral cats will also be increased through signage and events to encourage responsible domestic cat ownership.



Project 2 - Reducing pest threats on eastern curlew populations contd.

Project outcomes:

- Identify highly impacted sites by feral animals in the Mackay LGA
- Reduction of threats posed by feral animals on shorebirds, including eastern curlews
- Greater collaboration on projects by relevant stakeholders in our region
- Determine the effectiveness of the different control methods used

Long-term outcomes:

- Improve our understanding of feral animal distribution in our region
- Minimise disturbance posed by feral animals on shorebirds
- Potential species observing co-benefits:
 - Marine turtle species
 - Water mouse
 - Endangered shorebirds (e.g., Red Knot, Australian Painted-Snipe, Lesser Sand Plover)

Potential partners:

- Landcare groups
- Mackay Regional Council
- Queensland Parks and Wildlife Service
- Southern Queensland Landscapes

Potential Funding partners

- Bulk Ports
- Great Barrier Reef Fund
- Natural Resource Recovery Program
- Department of Agriculture and Fisheries

Project activities:

- Synthesise all feral animal sighting data (iNaturalist, FeralScan etc.)
- Promote the project to the community, encourage feral sighting records and gather historical records from individuals
- Engage a contractor to provide detection dog surveys and control
- Complete field component, map all records and plan following year deployment based on results

Recommended project time-frame: Five years.

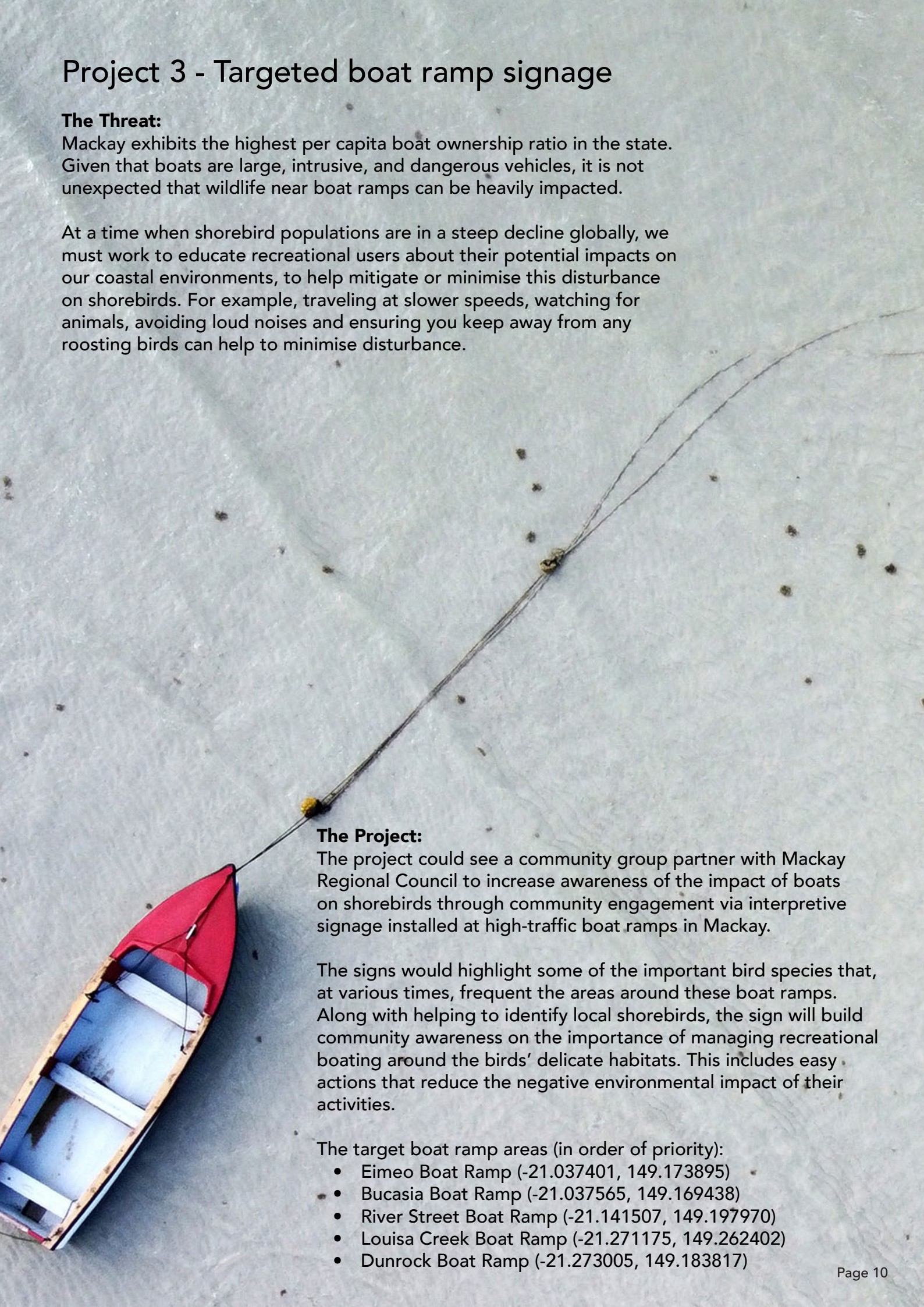
Indicative project budget: \$950,000

Project 3 - Targeted boat ramp signage

The Threat:

Mackay exhibits the highest per capita boat ownership ratio in the state. Given that boats are large, intrusive, and dangerous vehicles, it is not unexpected that wildlife near boat ramps can be heavily impacted.

At a time when shorebird populations are in a steep decline globally, we must work to educate recreational users about their potential impacts on our coastal environments, to help mitigate or minimise this disturbance on shorebirds. For example, traveling at slower speeds, watching for animals, avoiding loud noises and ensuring you keep away from any roosting birds can help to minimise disturbance.

A red boat is beached on a sandy shore. A rope extends from the boat across the sand, with several yellow buoys attached. The background shows a vast, flat expanse of sand with some small dark spots.

The Project:

The project could see a community group partner with Mackay Regional Council to increase awareness of the impact of boats on shorebirds through community engagement via interpretive signage installed at high-traffic boat ramps in Mackay.

The signs would highlight some of the important bird species that, at various times, frequent the areas around these boat ramps. Along with helping to identify local shorebirds, the sign will build community awareness on the importance of managing recreational boating around the birds' delicate habitats. This includes easy actions that reduce the negative environmental impact of their activities.

The target boat ramp areas (in order of priority):

- Eimeo Boat Ramp (-21.037401, 149.173895)
- Bucasia Boat Ramp (-21.037565, 149.169438)
- River Street Boat Ramp (-21.141507, 149.197970)
- Louisa Creek Boat Ramp (-21.271175, 149.262402)
- Dunrock Boat Ramp (-21.273005, 149.183817)

Project 3 - Targeted boat ramp signage contd.

Project outcomes:

- Increase understanding of anthropogenic disturbances on shorebirds
- Facilitate behaviour change around recreational boating and shorebird roosts
- Greater collaboration on projects by relevant stakeholders in our region

Long-term outcomes:

- Minimise disturbance from recreational boating activities on shorebirds

Potential partners:

- Mackay Regional Council
- Signarama
- Mackay Conservation Group

Project activities:

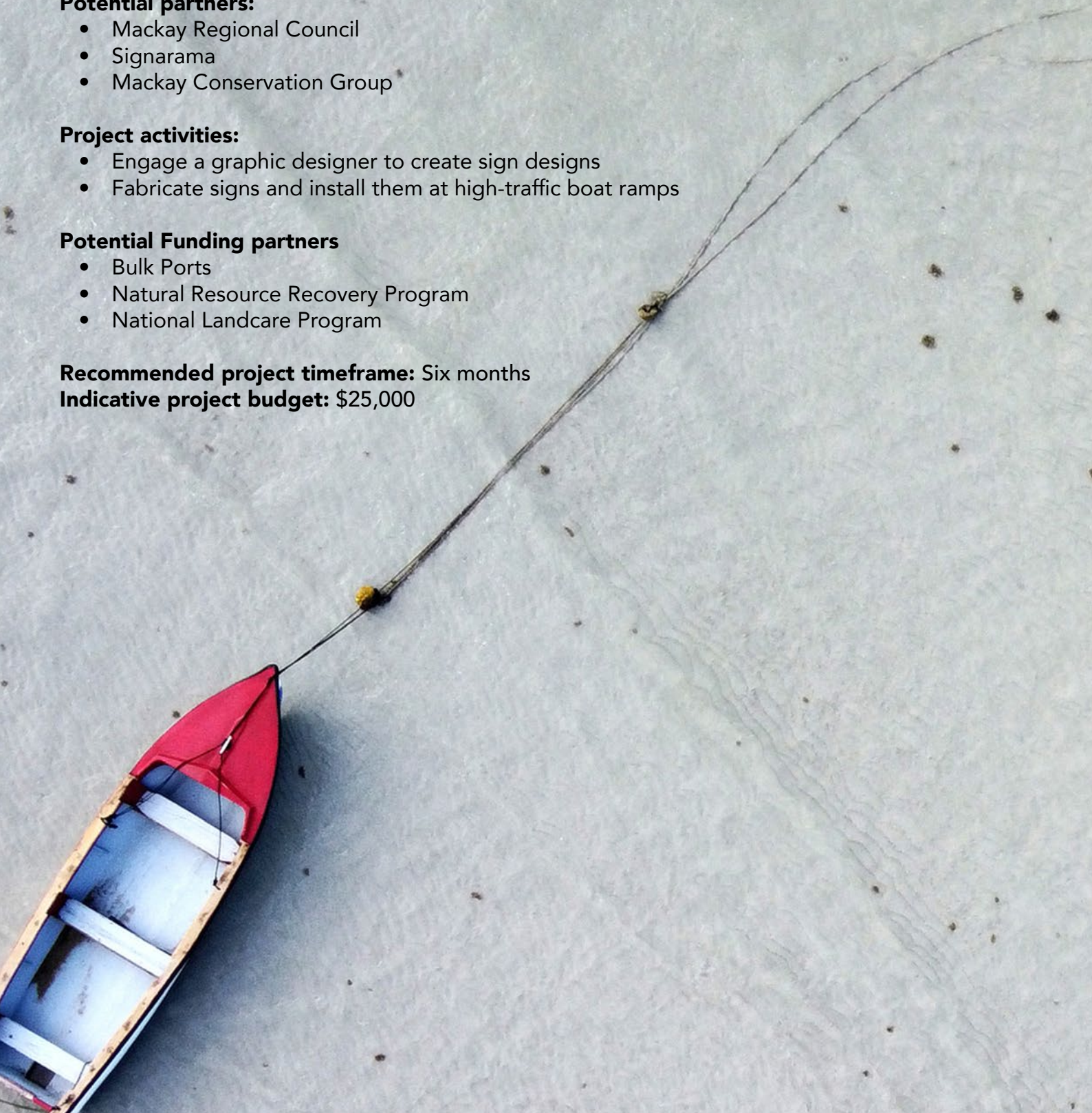
- Engage a graphic designer to create sign designs
- Fabricate signs and install them at high-traffic boat ramps

Potential Funding partners

- Bulk Ports
- Natural Resource Recovery Program
- National Landcare Program

Recommended project timeframe: Six months

Indicative project budget: \$25,000



Project 4 - Expansion of multi-criteria decision analysis across the entire Reef Catchments NRM region

The Threat:

The eastern curlew is a top 20 priority bird species listed as 'Critically Endangered' under the Environment Protection and Biodiversity Conservation Act 1999. The key threats impacting this threatened species include ongoing human disturbance (such as driving on beaches and sand dunes or unrestrained domestic dogs), coastal development, land reclamation, pollution and weed invasion.

The Project:

The purpose of this project is to collate and broaden historical monitoring data into a visual habitat prioritisation asset that overlays identified eastern curlew roost-sites and feeding zones with mapping of human disturbance over the whole of the Reef Catchments NRM region. The outcome of this project will be a GIS product to assist in the conservation of eastern curlews and other shorebirds. The multi-criteria decision analysis (MCDA) will compare and contrast the conservation value of known roosting sites with indicators of human disturbance, which will be used to guide future management of on-ground works.

Project outcomes:

- The MCDA will outline areas of high conservation value that are likely being impacted by anthropogenic factors. These sites will be of high importance for implementing on-ground works and community education.
- Areas of high conservation value that are not currently highly disturbed will be highlighted as sites of high importance for conservation.
- Greater collaboration on projects by relevant stakeholders in our region

Long-term outcomes:

- Further our current knowledge of eastern curlew non-breeding roost sites
- Minimise disturbance to shorebirds
- Increase community education and awareness in our region pertaining to shorebirds

Potential partners:

- Mackay Regional Council
- Signarama
- Mackay Conservation Group
- Birdlife Mackay

Project activities:

- Engage a graphic designer to create sign designs
- Fabricate signs and install them at high-traffic boat ramps

Potential Funding partners

- Natural Resource Recovery Program
- National Landcare Program

Recommended project time-frame: 18 months

Indicative project budget: \$180,000

