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# Observing across scales: Broome Bird Observatory as a site of multiple exchanges

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### **Abstract**

*Roebuck Bay's waters and shoreline fringes in the Kimberley of Western Australia are host to nonhuman worlds of waders and bowerbirds. The Broome Bird Observatory (BBO) is the site of scientific investigations by professional ornithologists and amateur birdwatchers. Focussing on bird banding and the bowers of the Great Bowerbird, the author undertook fieldwork to investigate the nature of these points of exchange between nonhumans, scientists and artists. The imagery presented contrasts the dramatic colour and compositional elements of the environment with the more awkward and intimate details of human-animal encounters. Waders have worlds that span the globe, whereas male bowerbirds focus considerable attention on their bowers and the objects that they collect for them. Both bird banding and working with bowerbirds created sites of dialogue that mingled objective (scientific) and emotionally motivated processes in what Whitney calls 'emotional ecologies'. For both waders and bowerbirds the surrounding environment was a significant ecological participant that fleshed out and enriched the field of investigation. In the art and science project Green, Grey or Dull Silver small green objects were offered as part of a 'conversation' at bowers. With bowerbirds, the individuality of birds played an important role in creating more reciprocal and dynamic engagements. A mixture of interaction and inter-patience (Candea) was required to both 'speak' and listen to the conversation of others. This image essay, therefore, endeavours to convey the richness of the affective landscape of emotional and material exchange at BBO.*

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***Keywords:** image essay, Kimberley, Broome Bird Observatory, place, emotion, waders, Great Bowerbird, contemporary animal art, STS.*

*This image essay was written in response to the idea of exploring how animals and places interact. A visual intervention within the pages of this special themed issue, it is meant to convey the senses of space and scale at a particular location, the Broome Bird Observatory (BBO), in relation to nonhuman worlds. The observatory was founded in 1988 and has the twin aims of research and education. It is recorded as having the greatest diversity of shorebird species anywhere on earth (Broome Bird Observatory 'Australian Shorebirds Tours Research Broome Bird Observatory'). People can stay at the observatory in bush camp-style accommodation and take courses in wader identification. BBO is run by Birdlife Australia, a membership based organisation, which describes itself as a 'voice for Australia's birds' (Birdlife Australia). As an artist I visited BBO to interact with bowerbirds as part of the Green, Grey or Dull Silver project. I also took part in bird banding. I became interested in the ways birds shaped the day to day functioning of the bird observatory at the level of species and landscapes, in what kinds of relationships between animals and humans were engendered by the focus on scientific conservation, and to what extent the stability of relationships was unsettled by other (nonhuman) lives. Following the image essay, I outline some ideas and issues that run in parallel to the visual investigations.*



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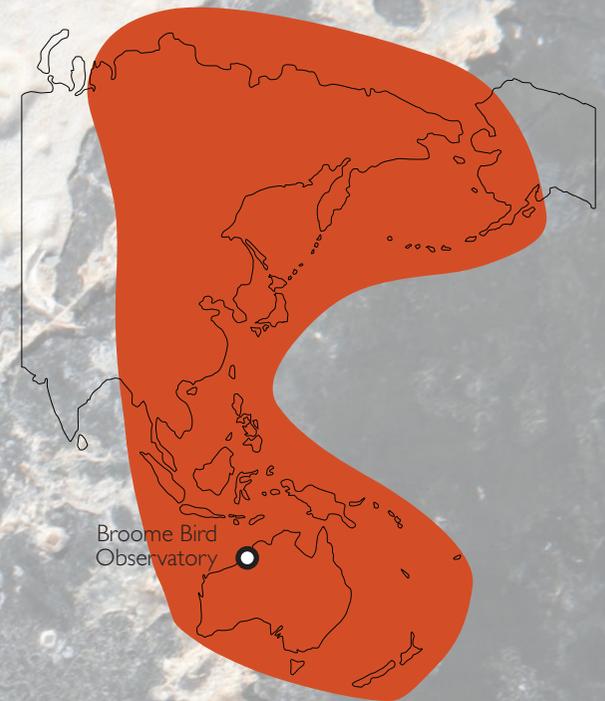
After being weighed and measured this Great Knot (*Calidris tenuirostris*) is being numbered and banded.

Bower 2 (*Spoon with a view*) on the cliff overlooking  
Roebuck Bay.

Situated on the edge of Roebuck Bay in the Kimberley region in the north of Western Australia, the Broome Bird Observatory (BBO) was founded in 1988 by the voluntary organisation RAOU (now Birdlife Australia) for scientific research and education, with the aim of conserving visiting waders and endemic birds nearby. Roebuck Bay and nearby Eighty Mile Beach are premier wader bird locations with the greatest diversity of shorebird species anywhere on earth, with around 150,000 birds visiting annually (Broome Bird Observatory).

The largest numbers of wader birds (waders) are present over the southern summer months with a number of species migrating along the East Asian-Australasian Flyway to northern breeding grounds for the northern summer. Bird banding is conducted at BBO to determine the numbers and, in combination with research elsewhere, the subsequent distribution and survival of birds along the Flyway. Of concern are declining bird populations in the face of the human exploitation of marine resources and global climate change and, in particular, the loss of mudflat habitat along the shores of the Yellow Sea.

In February 2008 15 Bar-tailed Godwits (*Limosa lapponica* subspecies *menzbieri*) were fitted with satellite transmitting devices (PTTs or Platform Transmitter Terminals). GPS tracking programs confirmed that the subspecies used staging posts in common with other birds from New Zealand and Eastern Australia but nested in Siberia rather than Alaska (Global Flyway Network).



The East Asian-Australasian Flyway spans the northern and southern hemispheres.



Fishing float with barnacle colony beached on Roebuck Bay. The offshore waters are strongly influenced by the Indonesian Throughflow.

Roebuck Bay forms an important linkage in a global network of animal and human movements, including amateur birdwatchers and professional ornithologists. Keen (and often well-heeled) international birders fly into Broome to visit the relatively isolated observatory, especially when rare species are spotted.

The twice-daily tides of Roebuck Bay turn the turquoise water grey and expose 160 km<sup>2</sup> of mudflats and seagrass. Waders move in and out, roosting at high tide along the shores. Thus the best times and places for bird watching are determined by the tides and subsequent bird movements.

The bay sweeps round to form a comprehensive conservation landscape but is also important to the Yawuru traditional owners and recreational fishermen.



Asian Dowitcher *Limnodromus semipalmatus* wingspan over Roebuck Bay viewed from *Spoon with a view*-bower (tide out).



Great Knot *Calidris tenuirostris* with colour bands and yellow flag.

The cliffs of Pindan sands form the backdrop for cannon netting that is used to capture waders for banding. The setting of the net and cannons requires selecting the right ten metre stretch of beach where the target species will gather in sufficient numbers on a high tide later in the day. Twinkling (by one walker) is the delicate process of slowly herding birds in front of the cannon net without scaring them. The rest of the human party is hidden behind the cliff out of sight.

Once the cannons fire there is an adrenalin-filled run to the beach to set up the equipment. Experienced handlers carry out the task of removing birds from the net. Establishing the shaded holding pens is the next highest priority. The operation takes place with military precision.



Weighing, measuring, numbering, sampling, banding, releasing: a bird is both individualised and objectified in this process. Orthodox science tries to make 'thick boundaries' reinforcing 'Nature as a distant land', separate from human society (Hincliffe et al. 643). Captured birds must be held in a special gesture (the 'ringer's hold') that is controlling and yet firm and gentle at the same time: the shiver of living heat that you hold in your hands is a measure of your commitment to a world of continuing mutual existence.

Other 'sites' of conflict occur. The waders are most sensitive to disturbance when they gather in compact groups at high tide. They are vulnerable to raptors but also to humans, on foot and in vehicles, fishing and swimming in the high water. *Not* interacting with birds is equally important and this conservation message is emphasised by BBO wardens.



Cannon netting team processing waders. The birds are kept in the shaded holding pens on the right.

Packing up equipment at the end of the day.



Tide of birds glimpsed from the *Spoon with a*  
*view bower.*

Two Little Curlew *Numenius minutus* in the hand.

The pinkish sands of the northern Roebuck Bay beaches are marked by the transition from marine sediments to red desert soils. In contrast to the diverse microscopic and invertebrate communities of the mud, seagrass and mangroves fringes, the land is dominated by a mosaic of Pindan (wattle) scrub surrounding the low grassy flats. Fire and rain are the major drivers of ecosystem processes in this semiarid tropical monsoonal climate.



Ant hills, Pindan Wattle *Acacia tumida* and ash.



Above: cobwebs and dew. Background: Brolga *Grus rubicunda* lifting over Roebuck Plain. In the season of Wirlburu (around September) occasional mists roll in from the sea as the country warms towards summer.



Bower 5 showing green zone to the left of the bower entrance. High value objects are placed in the avenue which usually includes an arching cover of twigs.



In Bower 4 the collection is spread over a larger area. The bower itself is wide and open and over the course of the 2008 season it became less and less distinct as more and more twigs were snapped off at ground level. Who did this snipping?

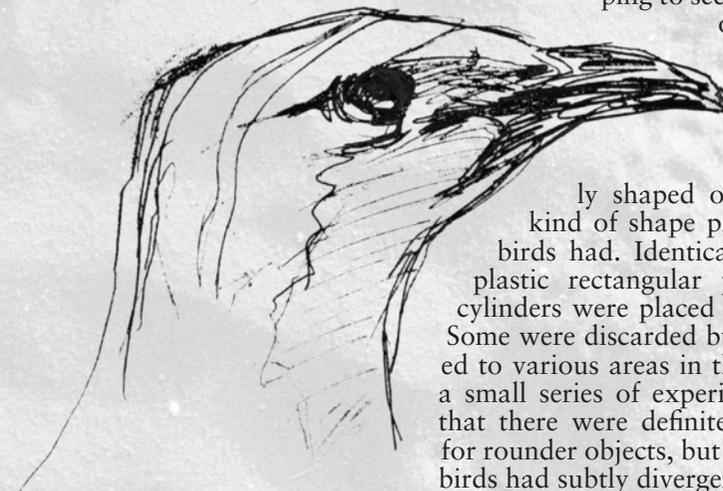
The land birds of BBO are representative of the Torresian species of northern Australia and a lesser focus of interest at the Observatory. From 2007 to 2008 I visited BBO working on the art and science project *Green, Grey or Dull Silver* where I observed and interacted with the common and largely sedentary Great Bowerbirds (*Chlamydera nuchalis*). Male bowerbirds spend considerable energy and time collecting display objects and building bowers. Each bowerbird species is specific about what colour object they collect. The bowerbird selection criteria are thought to be both genetically inherited and culturally learnt and transmitted (Madden). The Great Bowerbird accumulates piles of white shells and bones but in particular prize green, grey or dull silver objects. BBO birds come down to the bay shores to select shells and stones for their bowers.

The primary function of the bower is as a display space for the male to exhibit its evolutionary fitness to the female. Different types of objects are grouped in specific areas of the bower in a spatially organised collection. The resident male spends time each day renovating the avenue of sticks, arranging and rearranging his collection and wrecking and stealing from rival bowers.

The female inspects a number of bowers within a local area before choosing a mate. The male performs for the female by strutting, dancing and posturing. If interested by the performance, the female moves into the avenue of sticks. Flirtatiously hiding his bulk behind the avenue entrance, he picks up one of his collected objects, pops his beak just into view and rhythmically waves his prize at the female. All the while the male makes vigorous chirring noises as part of this performance.

As well as encouraging interest in the bowerbirds and helping with bowerbirds being banded, I mapped the distribution and characteristic of seven bowers, observing significant idiosyncratic variations. Some birds preferred to collect lumps of grey mud; some preferred bone to shells. The length and width of bowers, the amount they were closed over and the density of avenue walls, were specific and consistent to each bower. Once I saw evidence that a bird had painted green materials onto the inner surfaces of its avenue.

My interaction with the birds included mapping to see how much transfer of objects occurred between different bowers and providing 'gifts' in the form of special-



ly shaped objects to see what kind of shape preferences the male birds had. Identically weighted green plastic rectangular prisms, cubes and cylinders were placed near seven bowers. Some were discarded but others were added to various areas in the collection. From a small series of experiments I discovered that there were definite shape preferences for rounder objects, but also that individual birds had subtly divergent preferences.



Houdini (Bower 1) repairing his bower after it was damaged by a rival male. Photographed in 2007, Houdini was first banded as an adult at least 12 years earlier and his bower was much photographed by visitors to the BBO.



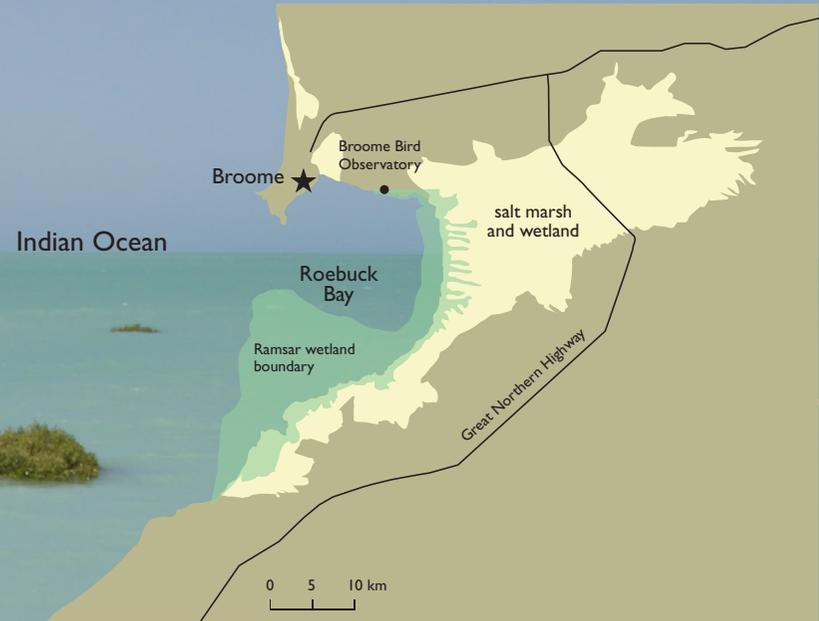
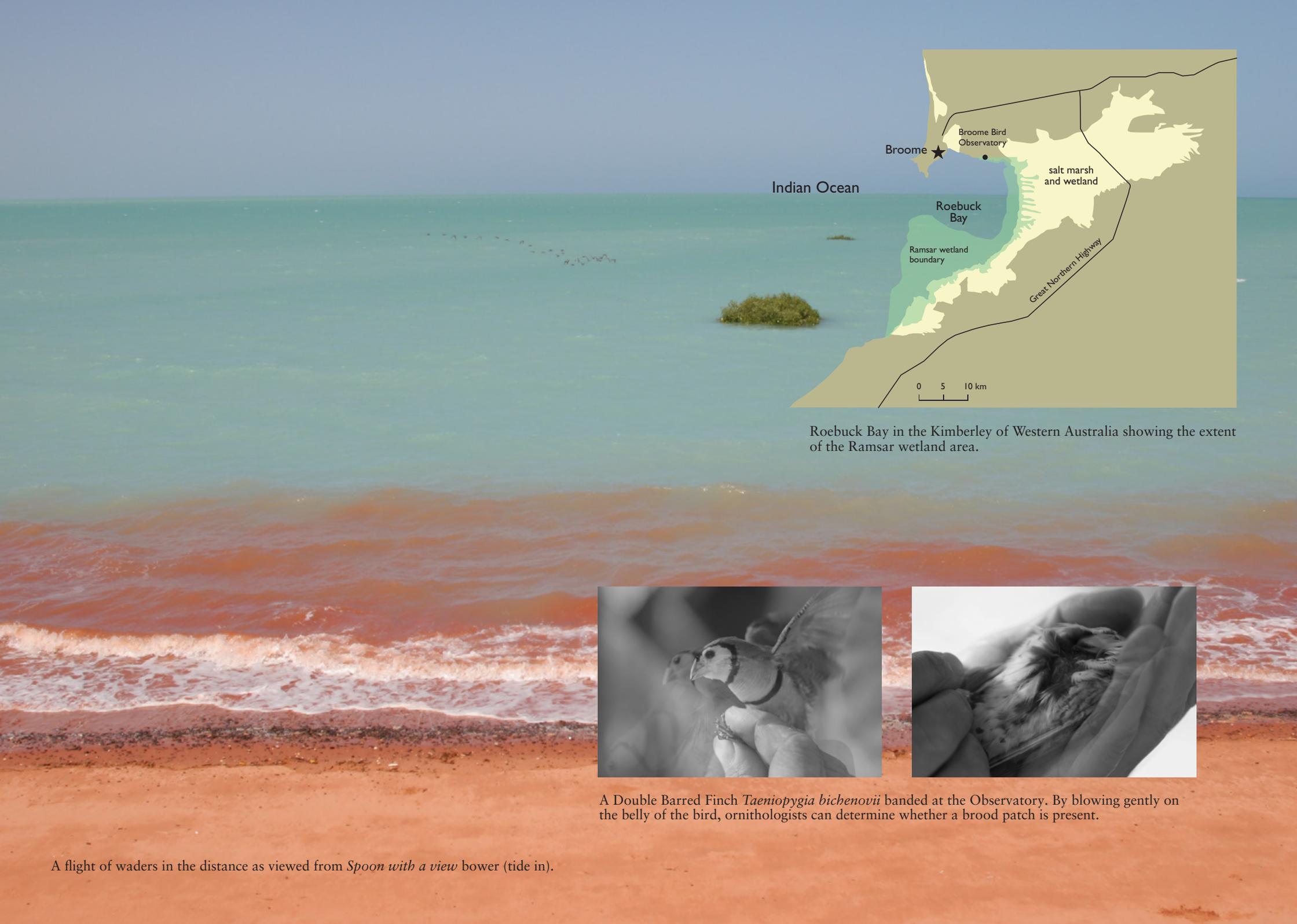
*Commando bower* showing asthma inhaler and other material gathered from a house nearby and numbered green glass nuggets as part of my interactions with the birds.



Detail of the *Commando bower* (bower 8) with plastic toys and green glass. Aluminium foil is collected from abandoned campfires. Birds compete by stealing objects from neighbouring bowers.



Given a choice of cubes, rectangular prisms and cylinders of equal weight and colour, the occupant(s) of *Spoon with a view* (Bower 2) preferentially retrieve cylinders and transfer them to high status locations.



Roebuck Bay in the Kimberley of Western Australia showing the extent of the Ramsar wetland area.



A Double Barred Finch *Taeniopygia bichenovii* banded at the Observatory. By blowing gently on the belly of the bird, ornithologists can determine whether a brood patch is present.

A flight of waders in the distance as viewed from *Spoon with a view* bower (tide in).

## Commentary on the image essay

The shallow waters and savannah scrub of the BBO form differing but parallel spatial environments. Waders have worlds that span the globe, crossing borders, imbricating the localness of mudflat habitat loss along their flight route with the wider geopolitics of climate change. Focussing in on bird banding as a point of contact highlights the intertwining of humans and nonhumans, bringing encounters down to the scale of a human hand. The intimate and awkward images here could be interpreted as reinforcing a form of exploitation or ‘power-over’ by humans. Those who undertake bird banding justify it primarily on scientific terms because of the information that it provides about the distribution and habits of the waders over their entire range, as well as how populations are changing over time. Information collected at BBO has been used in conservation biology and environmental advocacy along the East Asian-Australasian Flyway. However as STS researcher Kristoffer Whitney has pointed out, there is more at stake in wader research than scientific facts. In his analysis of research at Delaware Bay on the east coast of the United States, Whitney unpacks the motivations of researchers and bird banders. He describes the field sites as social spaces of co-created ‘ecologies of emotion’. Here Whitney is broadening the term ‘ecology’ in a posthuman interpretation to indicate a more co-constitutive network of relationships between humans and nonhumans. In the case of bird banding, the act of handling birds (and the apparent calmness with which birds react) can be a powerfully affective experience, destabilising human objectivity and eliciting humility, wonder, empathy and protective emotions in those that undertake the banding: despite the inequalities of power in bird banding, *other lives* affect humans (Whitney). The scientific process is not impervious to the effects of nonhumans and these effects have ongoing consequences. Similar activities of birdwatching and bird banding take place at Roebuck Bay leading me to contend that similar emotional territories exist.

As a conservation facility the BBO both ‘collects’ birds (in photographs and by counting and banding) and discourages exploitation through its conservation ethic. By means of its education campaigns, visitors are encouraged to feel the wonder of birds (Broome Bird Observatory, ‘Australian Shorebirds | Supporting the BBO’) but also to take practical action such as refraining from walking or driving on roosting beaches at high tide. Thus there are conflicts between the handling of birds and an ethic of non-interference. There is also a shift in

scale between banding as individualising birds and the tallying of mass flocks. More widely, the region is marketed as a wilderness destination, yet increased development affects the viability of wader populations. As the ‘voice’ for the birds, BBO is caught between allowing human access to see birds, but not disturbing them too much.

Much of the conservation rhetoric at BBO is undoubtedly preservationist in nature. Are there ways that we can re-imagine more posthuman relationships between animals and places? Certainly, in light of acute effects such as habitat destruction and long-term effects such as climate change and sea level rises, the uncertain future of waders demands that we take their needs seriously. Humans are put in a difficult position with regards to any *darker* ecology, as outlined by Timothy Morton (Morton).

Specifically, does the reconsideration of nonhuman lives mean that we can re-imagine the aesthetics of our encounters with places? For example, mudflats are considered by many in Australian society as being undesirable places but are vitally important to the waders. They can be re-imagined as part of a flattened space: all species and spaces existing within a mesh of Morton’s ‘thinking of interconnectedness’ (Morton 7). But does it necessarily follow that pollution itself should be detoxified (i.e. *loved*: see Garrard) or that habitat destruction can be *elided* as part of a flattened world of differences between human and nonhumans? This is a problem of relativism discussed succinctly by geographer Steve Hinchliffe where ‘there is a fear of flattening everything out, producing a world where everything is related to everything else, with no tools available for differentiating matters of importance, political or otherwise (*Geographies of Nature* 55).’ If we ‘love’ the ugliness of mud might that possibly lead into problems of ‘loving’ examples of actual pollution as well – which might just look and smell like mudflats? By flattening down the aesthetic ‘terrain’ might we learn to ‘love’ habitat destruction too, to the detriment of nonhumans such as the waders?

On the other hand, when scientific arguments are taken to the spheres of environmental governance, ‘the bureaucratic ecology of emotion ... favours the “invasive” virtues of economic rationality at the expense of *all others*’ (Whitney 7; emphasis added). A ‘flat’ ethical terrain does not appear to exist and, despite the fragmentation, forward movement or change to create better outcomes for human and nonhumans is still required. Elsewhere I have advocated a style

of action that is ‘unassuming but critical, accommodating of incompleteness and vitally attentive to place’ (Phillips 103).

In contrast to the more specialised and relatively flighty and vulnerable waders, Great Bowerbirds are common and unthreatened. A sedentary, social species, they are more readily habituated to human interactions. The Great Bowerbird is adaptable and has fared well even in built-up areas. Bowerbirds are excellent vocal mimics of elements of both ‘natural’ and human soundscapes. The male birds freely avail themselves of human-made objects as long as they fit certain criteria of colour, size and roundness. For example, I recorded a light bulb, plastic toys, marbles, a teaspoon, golf balls, aluminium foil and the asthma puffer pack pictured in the image essay.

Whilst utilising scientific methods and materials, *Green, Grey or Dull Silver* allowed more room to investigate the limits of art and science. An important objective of this work was to ask myself how I might change in response to the world of another. Hinchliffe notes that ‘any form of bird watching is about more or less subtle movements and making oneself available ... in order to find appropriate responses to the world of the bird’ (‘Where Species Meet’ 34). Matei Candea contrasts *interaction* with *inter-patience*, or waiting for others (nonhumans) to act. In the case of *Green, Grey or Dull Silver*, the emphasis was on attentive listening by the artist and less direction and control of the exchange between humans and nonhumans. I have taken from Ric Spencer’s conversational aesthetics the idea that art is an informal co-constitutive conversation between the artist and their surroundings. By offering my green objects as material intermediaries, they acted as ‘conversations’ with the male bowerbirds. I aimed to challenge representational strategies and to take as my subject matter the way nonhumans actively inscribe themselves upon *our* world. The image essay attempts to give a sense of the nature of these performative acts of interaction with the male bowerbirds.

Whether my ‘conversations’ were going to have long-term effects on bowerbird behaviour was raised as part of a university ethics procedure. This led to the situation where I restricted my visits to the bowers to the minimum period of time and only recorded the after-effects of the performative interactions. Fortunately males returned to their original behaviour within minutes of my departure from their bowers. As discrete organisms they carry around an individual perceptual world (Umwelt) within which things ‘fit’. Their behaviour in taking and

discarding human objects on their own terms indicates that they do not think of us as unique or special entities: there was both push and pull in our exchange.

In comparing the two situations, the relationship between humans and bowerbirds was therefore qualitatively different to the way waders were engaged with – the former exchange had less intimate contact between the bowerbirds and the artist, but was more relational and more energetic – with more pulling *to* and *fro* between the different worlds of the participants. It was more *emplaced* in the sense that all of the activity took place at the scale of metres, but also more dynamic. The bowers themselves are long lasting and the collected objects (including many accumulated from the human world) represent a library, a measure of the surrounding environment and of individual discernment that are catalogued, coveted, loaned (stolen) and discarded. They are repositories of places and exchanges: human and nonhumans are ‘already enacted within and through many ‘knots’ of becoming, and place is enacted as part of this process’ (Hinchliffe, ‘Where Species Meet’ 34). Like a bower, places are assembled and subject to interaction, variation and change.

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